



ESTONIAN
ACADEMY OF SCIENCES
YEAR BOOK

XVIII (45)

2012

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ESTONIAN
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YEAR BOOK

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ESTONICAE

XVIII (45)

2012

TALLINN 2013

ESTONIAN ACADEMY OF SCIENCES

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FOREWORD

2012 witnessed the ongoing process of amelioration of the aggregate showing of membership of the Academy: we elected new members to bring up to the date the choice of specialties covered, to optimise the average biological age of members and to enhance visibility of the Academy in the society. Impact of the depression starting in 2008 has not yet subsided, and the recent changes in budgetary policies have left the Academy in the all-time low of the economic crisis. Due to scarcity of the budget, the Academy had perforce to take a keen look at future – as a result, the General Assembly, held in spring adopted the conceptual bases of the Academy Development Plan 2014-2020. The rationale behind introduction of that Plan is to embark, in the short time perspective, on nurturing offshoots of the Institute of Advanced Studies, and in the long time perspective, on creating the Estonian Academy of Sciences Foundation, after the example of veteran academies, with a view to consolidating the Academy's financial independence in the draughts of political and economic decisions.

The shortfalls in support of the main activities notwithstanding, the Academy obtained the budgetary means for renovation of the tin roof on its House, rusted through and leaking for years; at tender of Euro-moneys we were lucky to get support for a token improvement of fire safety of and access to the House. The pre-crisis funding designed for annual maintenance of the House and replacement of the amortised equipment has however not yet been restored.

To affect development of research in Estonia, the Council of Centres of Excellence in Research was instituted upon initiative of the Academy, to collect and deliver to decision-makers the opinions of top scientists related to organisation of research.

As can also be seen in the text of the Yearbook, the social alertness of the scientific community has grown, which has, nevertheless been effectively dismissed by decision-makers, for the best part.

Besides the currently operative standing committees, the Academy has also set up the Cyber Security Committee, amalgamating the specialists of different domains of influence on a neutral ground, in furtherance of mutual exchange of information and

coordination of international communication and research related to cyber security.

Success of the Academy is part and parcel of the success of its members. Jaan Einasto was awarded the Viktor Ambartsumian International Prize for fundamental contribution in the discovery of dark matter and large-scale structure of the Universe. Achievements of lesser scope attained by Members of the Academy are presented herein, for every reader to look at.

Leo Mõtus

CHRONICLE

January 22-28 – Member of the Board Peeter Tulviste attended as representative of the Academy the General Assembly of the Union Académique Internationale in New Delhi.

January 23 – Board at its meeting discussed the Academy's calendar schedule of events for 2012 and Development Plan for the period 2011-2015. The topics on the agenda included consideration of submitting to the Nobel Committee of the Royal Swedish Academy of Sciences the nomination of Jaan Kaplinski for the 2012 Nobel Prize in Literature. The Board decided to appoint Martin Zobel to represent the Academy in the Working Group Horizon 2020 at the Ministry of Education and Research, and Jakob Kübarsepp (Member of the Academy) in the Board of Tallinn Science and Technology Centre. Supplementary appointment of Toomas Asser (Member of the Academy) and Ralf Allikvee (Chairman of the Board, East-Tallinn Central Hospital) to the Standing Committee on Medical Science and Health Strategy was approved. Candidates to the Evaluation Council of the Estonian Research Council were presented.

January 23 – Vice-President Jüri Engelbrecht participated in the launch event "The European Research Area: Priorities for research universities" organised by the League of European Research Universities (LERU) in Brussels.

January 27 – AHHA Science Centre in Tartu was the venue for an extended meeting of the Academy's Committee on Phylogeny and Taxonomy.

February 8-9 – Assistant Secretary General Galina Varlamova visited Riga and attended a meeting organised by the Latvian Academy of Sciences, which was dedicated to strategic activities regarding the EU FP for Research and Innovation Horizon 2020.

February 20 – Board at its meeting considered the initial materials for the Academy's Development Plan (2011-2015) which had been prepared on ground of propositions received from Heads of Divisions and determined a time schedule for adoption of the Development Plan. The Board heard information about the visit of the Russian Academy of Sciences delegation to Estonia, a prospective partnership programme between the Academy's Division of Informatics and Engineering (DIE) and Tallinn University of Technology, the intended elections of new Members and Foreign Members to the Academy.

February 20 – Members and staff of the Academy took part in a group visit organised to the Museum of Estonian Architecture in Rotermann Salt Storage, where they made a tour round the commemorative exhibition "Coastal town, mushroom-shaped balcony and liquor cabinet" dedicated to the 130th anniversary of the birth of Pärnu Town Architect Olev Siinmaa. An inspiring lecture

was given by Mart Kalm (Member of the Estonian Academy of Sciences). Among visitors of the exhibition were Members of the Academy Georg Liidja, Leo Mõtus, Urmas Varblane, Mihkel Veiderma and Richard Villems.

February 22-23 – Secretary General Leo Mõtus and Head of the Academy’s Division of Informatics and Engineering Tarmo Soomere participated in the kick-off meeting of FuturICT Nordic Hub in Helsinki. The ultimate goal of the FuturICT flagship project is to create a cooperation platform in the area of Complexity Science. FuturICT is involved in fundamental studies and creating methods and instruments of information and communication technologies (ICT) in order to understand and manage complex, global, socially interactive systems.

February 29 - March 1 – Vice-President Jüri Engelbrecht attended the 5th anniversary events of the European Research Council (ERC) in Brussels.

March 2 – Vice-President Jüri Engelbrecht participated in a follow-up meeting of partners in the FP6 project European Network of Funding Agencies – Coordination of National Complexity Research and Training Activities (Complexity-NET) discussing possible common actions for the future. Collaboration with FuturICT was the main issue under consideration. The event was held in Brussels.

March 13 – Vice-President Jüri Engelbrecht participated in a session of the Advisory Board for the FP7 specific programme “People” in Brussels.

March 14 – Academy House was the venue for the first event under the title “Power Industry” in a roundtable series FROM SCIENCE TO ENTREPRENEURSHIP jointly organised by the Academy and the Estonian Association of Engineers.

March 19 – Board at its meeting considered variant options of the Academy’s Development Plan and heard judgments expressed by Members of the Board. The Board decided to present the conceptual principles of the Academy’s Development Plan 2014-2020 for approval to the General Assembly. The governance of the Academy was assigned to find from among members of the Academy a project manager tasked to initiate the process for establishing the Institute for the Advance Studies. The Board approved the Academy’s financial report 2011 and budget 2012, and decided to present them for approval to the General Assembly. It was determined to confer the Karl Schlossmann Memorial Medal on Ain-Elmar Kaasik (Member of the Academy). The Board further resolved to announce the Student Research Paper Contest 2012 and authorised the composition of the prize jury. The agenda for the General Assembly meeting on 18 April 2012 was approved. Enn Tõugu proposed to establish a Standing Committee on Cyber Security at the Academy.

March 22-23 – Foreign Relations Manager Piret Press participated in a Bridgeheads Meeting of the European Network of Service Centres EURAXESS

in Brussels. Key issues discussed were Researcher's Visa problems and responses to Europe wide poll of researchers.

March 30 – Academy House hosted a meeting between the Board of the Academy and delegation of the Russian Academy of Sciences (RAS). Vice-President Nikolay Laverov and Academician-secretary of the Department of Earth Sciences Alexander Gliko represented RAS. Vice-President Jüri Engelbrecht, Secretary General Leo Mõtus and Head of the Division of Informatics and Engineering Tarmo Soomere participated on the part of Estonia. Speeches were also given by Professor Sergey Zilitinkevich (Finnish Meteorological Institute) and Member of the Academy Dimitri Kaljo. A memorandum of co-operation in earth sciences was signed between the Academies.

April 4 – Academy House was the venue for the public academic lecture “Trends in high-performance energy” by Enn Lust.

April 11-12 – Vice President Jüri Engelbrecht attended the General Assembly of the European Federation of National Academies of Sciences and Humanities (ALLEA) in Rome. Professor Günter Stock of the Berlin-Brandenburg Academy of Sciences and Humanities was elected President of ALLEA for the period 2012-2014. Prof. Göran Hermeren from Sweden was elected Chair of the Standing Committee on Science and Ethics. The General Assembly approved the ALLEA declaration “Open Science for the 21st century”.

April 18 – activities of the Academy in 2011 were summarised at the annual meeting of the General Assembly. Heads of Divisions Jaak Aaviksoo, Tarmo Soomere, Ilmar Koppel and Urmas Varblane presented reports on the activity of their corresponding Divisions, whereas President Richard Villems considered issues of common impact. The General Assembly approved the 2011 Report of the Academy. Secretary General Leo Mõtus presented a report on the financial activities of the Academy in 2011 and introduced the 2012 budget. The audience was acquainted with new Members of the Academy elected in 2011. Professor Emeritus of the University of Tartu Heidi-Ingrid Maaros delivered a scientific paper. The Karl Schlossmann Memorial Medal was conferred on Member of the Academy Ain-Elmar Kaasik. President Richard Villems briefly presented to the General Assembly the Board's proposal to elect five new Members and four Foreign Members to the Academy in 2012. The document “Development Plan of the Academy 2014-2020: conceptual principles” was approved.

April 24 – Chairman of the Academy's Committee on Marine Sciences Tarmo Soomere participated in a meeting of the Environment Steering Panel of the European Academies Science Advisory Council (EASAC) in Brussels.

April 24-27 – Assistant Secretary General Galina Varlamova attended a Policy Stakeholders' Conference in Kiev.

April 27 – Seminar “How sustainable is Estonian medicine?” was conducted by the Academy on the premises of Tallinn University of Technology.

May 3 – Academy Science Day was held in Rapla County.

May 10-11 – Secretary General Leo Mõtus attended a session of the European Academies Science Advisory Council (EASAC) in Dublin.

May 15-16 – Chairman of the Academy’s Committee on Marine Sciences Tarmo Soomere participated in a plenary session of the European Marine Board in Southampton (United Kingdom).

May 16 – Academy House was the venue for the public academic lecture “The meaning of life” by Agu Laisk.

May 17 – Heads of Estonian Centres of Excellence in Research met at the Estonian Biocentre in Tartu. The Council for Estonian Centres of Excellence in Research was established and Jüri Engelbrecht (Member of the Academy) was elected Chairman. The Council is working under the auspices of the Estonian Academy of Sciences.

May 28-29 – Academy Hall was the venue for the conference “Complexity and Crisis Management in Society and Environment” in the series NEW TRENDS IN SCIENCE.

May 30 - June 1 – Margus Lopp (Member of the Academy) participated in the international conference “Inquiry-based Science Education” and a successive meeting of ALLEA Working Group on Science Education in Helsinki.

June 2-6 – Academy was visited by President of the Academy of Sciences of the Republic of Tajikistan Mamadsho Ilolov and Rector of the Tajik National University Hayet Odinaev, who had a meeting with Members of the Board of the Estonian Academy of Sciences. The parties signed agreements of cooperation. The guests also paid a visit to Tallinn University of Technology and the University of Tartu.

June 4 – Board at its meeting drew a conclusion to announce five vacancies for membership of the Academy and prepared a time schedule for elections. Heads of Divisions were tasked with nominating candidates for Foreign Members on the part of Divisions. The statutes and composition of the Standing Committee on Cyber Security were authorised. Vice-President Jüri Engelbrecht informed the Board about the establishment of the Council for Estonian Centres of Excellence in Research.

June 18-22 – President Richard Villems attended a scientific conference “Modern problems in psycho-chemical biology” held at the Institute of Biochemistry and Genetics of the Ufa Science Centre at the Russian Academy of Sciences in Ufa. An agreement of cooperation was renewed by the Estonian Academy of Sciences and the Academy of Sciences of Bashkortostan.

June 22 – Presentation of the book “Eesti Vabariigi teaduspreemiad 2012” (National science prizes 2012) was held at the Academy House.

June 29 – Academy was visited by a parliamentary delegation of the Republic of China, who had a meeting with Jüri Engelbrecht and Leo Mõtus. J.Engelbrecht spoke about the Estonian Academy of Sciences and research in Estonia on a broader level, whereas L.Mõtus focused on cyber security issues.

July 9-15 – Vice-President Jüri Engelbrecht participated in the Advisory Board meeting of the EU FP7 specific programme “People” and the Euroscience Open Forum (ESOF) 2012 in Dublin.

September 7-9 – Vice-President Jüri Engelbrecht attended as an invited speaker the conference “The dream of a global knowledge society” in Dubrovnik, Croatia.

September 10-14 – Member of the Board Enn Tõugu participated in an annual meeting of Academia Europaea and delivered a paper at the seminar “New frontiers in informatics”.

September 17 – Board at its meeting decided to register as candidates for the announced membership vacancies in the Academy 17 researchers and intellectuals, and to present their candidacy to the General Assembly for election. Likewise, approval was granted to four candidates for foreign membership, whose candidacy was also to be presented to the General Assembly for election. The Board passed a resolution to establish the Harald Keres Memorial Medal and approved its statutes. Margus Lopp was appointed to represent the Academy in the Sustainable Development Committee of Estonia. Leo Mõtus informed the Board that the Standing Committee of Cyber Security had commenced activities and provided an account of the earnings of the Estonian Academy of Sciences subsidiary foundation of the Estonian National Culture Foundation. The Board heard the news presented by Tarmo Soomere concerning the location selection process of the LNG terminal, a new survey permit request by Nord Stream AG, participation of the Academy in international projects in science and organisation of research, and information provided by President of the Estonian Naturalists’ Society Tõnu Viik on the near-future events of the Society.

October 3 – Board held a meeting performed as a poll, whereby it resolved to announce a call for applications for research professorships and to elect three Research Professors at its meeting of 17 December. It was decided to form an appraisal panel to evaluate the candidates.

October 15-17 – Chairman of the Academy’s Committee on Marine Sciences Tarmo Soomere attended a plenary session of the European Marine Board in Texel (the Netherlands).

October 23 – Chairman of the Academy’s Committee on Marine Sciences Tarmo Soomere participated in a meeting of the European Academies Science Advisory Council (EASAC) Environment Steering Panel in Brussels.

October 24 – Academy House hosted the seminar “Doctoral studies from the viewpoints of separate interest groups”.

November 8 – Vice-President Jüri Engelbrecht participated in the Advisory Board session of the EU FP7 project NETWATCH in Brussels.

November 8-9 – Secretary General Leo Mõtus attended a meeting of the European Academies Science Advisory Council (EASAC) in Vilnius.

November 9 – Boards of the Estonian Academy of Sciences and the Estonian Association of Engineers made a common journey to Sillamäe. Their tour comprised visits to the Molycorp-Silmet facility, port, industrial park and thermal power plant in Sillamäe.

November 12 – Academy House was the venue for the Conference of the Student Research Paper Contest Winners. Delivery of papers by laureates was followed by conferral of diplomas.

November 15 – Academy House hosted a commemorative seminar under the title “A century long life journey of Harald Keres, Member of the Estonian Academy of Sciences”, dedicated to the 100th anniversary of the departed Member of the Academy Harald Keres.

November 22-23 – Foreign Relations Manager Ülle Raud participated as representative of the Academy in a Bridgeheads Meeting of the European Network of Service Centres EURAXESS in Brussels. Key issues were European wide initiatives, incl. pan-European Pension, researcher’s mobility projects ImpactE, Tandem and We-B, followed up by an overview of EURAXESS activities outside Europe.

November 30 – Vice-President Jüri Engelbrecht attended the conference “Open horizons – a revolution in open science” in Brussels, which was dedicated to the 10th anniversary of the League of European Research Universities (LERU).

December 12 – Academy House was the venue for a meeting of the Advisory Board for the Estonian EURAXESS network. With helpful guidance from foreign researchers working in Estonia the attending officers contemplated the best possible options as to when and how they should communicate EURAXESS services and activities to incoming researchers.

December 17 – Board at its meeting confirmed Rein Ahas, Anu Realo and Tõnis Timmusk as Research Professors for the period 2013-2015. The fourth year work reports of Research Professors Tiina Nõges, Pärt Peterson and Martti Raidal were heard and approved. They were requested to submit their final research reports on the Research Professor period. President R.Villems

informed Members of the Board about current status of the preparatory phase concerning the regulation “Conditions and procedure for applying for, awarding and amending the amount of personal research funding” of the Ministry of Education and Research and about nominating experts in the area of social sciences and humanities (Jüri Allik, Mart Kalm) to Horizon 2020.

December 28 – Senate Hall of the University of Tartu was the venue for the conference “The Hundred Years of Language Renewal” celebrating the 85th birthday of Huno Rätsep.

MEMBERSHIP OF THE ACADEMY

The General Assembly on 7 December elected to previously announced vacancies of the Academy membership four new members:



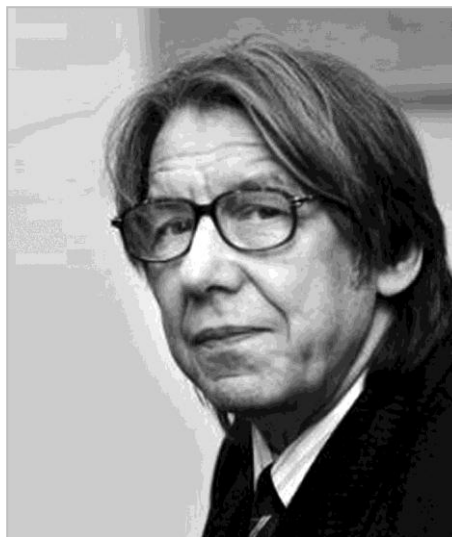
Ergo Nõmmiste
in exact sciences



Jaak Vilo
in informatics

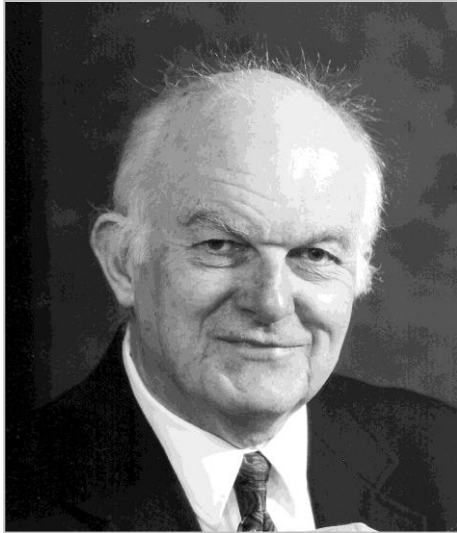


Tõnu-Andrus Tannberg
in history



Hando Runnel
in literature

and four Foreign Members:



Alar Toomre
in applied mathematics



Steven R. Bishop
in nonlinear dynamics



Pekka T. Männistö
in pharmacology



Yuri Berjozkin
in ethnography

During 2012 three members have passed away from the membership, among them Members of the Academy Erast Parmasto on 24 April (see p. 178–179), Raimund Hagelberg on 17 July (see p. 180–181), and Foreign Member Henn-Jüri Uibopuu on 21 November (see p. 182–183).

As of February 2013 the Estonian Academy of Sciences numbered 75 Members and 19 Foreign Members, who distributed among four divisions as follows:

DIVISION OF ASTRONOMY AND PHYSICS

(17 Members, 5 Foreign Members)

Members: Jaak Aaviksoo (Head of Division), Jaan Einasto, Ene Ergma, Vladimir Hižnjakov, Arvi Freiberg, Georg Liidja, Ülo Lumiste, Tšeslav Luštšik, Ergo Nõmmiste, Eve Oja, Martti Raidal, Enn Saar, Peeter Saari, Mart Saarma, Arved-Ervin Sapar, Gennadi Vainikko, Richard Villems.

Foreign Members: Richard R. Ernst, Charles Gabriel Kurland, Jaan Laane, Jaak Peetre, Alar Toomre.

DIVISION OF INFORMATICS AND ENGINEERING

(18 Members, 5 Foreign Members)

Members: Olav Aarna, Hillar Aben, Jüri Engelbrecht, Ülo Jaaksoo, Lembit Krumm, Valdek Kulbach, Jakob Kübarsepp, Rein Küttner, Ülo Lepik, Enn Lust, Enn Mellikov, Leo Mõtus, Arvo Ots, Tarmo Soomere (Head of Division), Enn Tõugu, Raimund-Johannes Ubar, Tarmo Uustalu, Jaak Vilo.

Foreign Members: Steven R. Bishop, Antero Jahkola, Gérard A. Maugin, Grigori Mints, Michael Godfrey Rodd.

DIVISION OF BIOLOGY, GEOLOGY AND CHEMISTRY

(22 Members, 5 Foreign Members)

Members: Toomas Asser, Jaak Järv, Ain-Elmar Kaasik, Dimitri Kaljo, Mati Karelson, Ilmar Koppel (Head of Division), Urmas Kõljalg, Hans Küüts, Agu Laisk, Ülo Lille, Margus Lopp, Udo Margna, Jüri Martin, Andres Metspalu, Anto Raukas, Valdur Saks, Martin Zobel, Hans-Voldemar Trass, Raivo Uibo, Mart Ustav, Eero Vasar, Mihkel Veiderma.

Foreign Members: Carl-Olof Jacobson, Pekka T. Männistö, Matti Saarnisto, Helmut Schwarz, Jānis Stradiņš.

DIVISION OF HUMANITIES AND SOCIAL SCIENCES

(17 Members, 4 Foreign Members)

Members: Jüri Allik, Mihhail Bronštein, Raimund Hagelberg, Mart Kalm, Arvo Krikmann, Armo Kõörna, Valter Lang, Karl Pajusalu, Arvo Pärt, Jaan Ross, Hando Runnel, Huno Rätsep, Karl Siilivask, Peeter Tulviste, Jaan Undusk, Urmas Varblane (Head of Division), Haldur Õim.

Foreign Members: Yuri Berezkin, Els Oksaar, Päiviö Tommila, Endel Tulving, Henn-Jüri Uibopuu.

Affiliation of Endel Lippmaa to the Division of Astronomy and Physics was suspended starting 14 December 2010 pursuant to his application.

During 2012 the majority of Members of the Estonian Academy of Sciences proceeded with their research and academic activities as leading experts in their fields of study.

Ene Ergma continued as President of the Riigikogu Jaak Aaviksoo as Minister of Education and Research.

Many Members of the Academy were acting as experts and advisers complementary to their principal occupation. The following Members of the Academy are involved in the work of experts panels and councils of national significance:

- President's Academic Advisory Board – Peeter Saari, Richard Villems;
- Board of the Cultural Foundation of the President of the Republic of Estonia – Jaan Undusk;
- Research and Development Council to the Government of the Republic – Jaak Aaviksoo, Mart Saarma, Richard Villems;
- Research Competency Council to the Ministry of Education and Research – Rein Küttner, Eero Vasar;
- Evaluation Council of the Estonian Research Council – Enn Mellikov, Martti Raidal, Jaan Ross, Eero Vasar, Jaak Vilo;
- National Science Prize Committee – Richard Villems (Chairman), Jaak Järv, Valter Lang, Ergo Nõmmiste, Martin Zobel, Enn Tõugu, Jaan Undusk, Urmas Varblane.

Richard Villems sits on the Committee for Sustainable Development reporting to the Government of the Republic of Estonia.

Olav Aarna and Jakob Kübarsepp (Head) are members of the Quality Assessment Council of the Estonian Higher Education Quality Agency.

Jaak Aaviksoo (Chairman), Leo Mõtus and Urmas Varblane are members of the Research Policy Advisory Committee to the Ministry of Education and Research. Jüri Engelbrecht is a member of the Steering Council for the Internationalisation of Estonian Higher Education and Research. Several Members of the Academy are involved in the Steering Committees of National R&D Programmes: Peeter Saari – “Supporting Terminology in Estonian (2008-2012)”, Jaan Undusk – “Estonian Language and Cultural Memory (2009-2013)” and Ain-Elmar Kaasik – “Compilation and Publishing of Textbooks in Estonian for Higher Education (2008-2012)”. Dimitri Kaljo was Chairman of the Expert Council on Science Collections (up to 29 January 2012). Ene Ergma (Chairman) and Ülo Jaaksoo are members of the Estonian Space Policy Working Group.

Ülo Jaaksoo, Mart Ustav and Richard Villems are members of the Innovation Policy Committee at the Ministry of Economic Affairs and Communications; Ülo Jaaksoo is also a member of the Informatics Council.

Eero Vasar is a member of the Gene Technology Committee at the Ministry of the Environment.

Estonian Centres of Excellence in Research are headed by nine Members of the Academy: “Centre for Integrated Electronic Systems and Biomedical Engineering” by Raimund-Johannes Ubar, “Frontiers in Biodiversity Research” by Martin Zobel, “Centre of Excellence for Translational Medicine” by Eero Vasar, “Estonian Excellence in Computer Science” by Tarmo Uustalu, “Centre of Excellence in Cultural Theory” by Valter Lang, “Mesosystems – Theory and Applications” by Vladimir Hižnjakov, “High-technology Materials for Sustainable Development” by Enn Lust, “Dark Matter in (Astro)particle Physics and Cosmology” by Martti Raidal and “Centre for Nonlinear Studies” by Jüri Engelbrecht.

Jaan Ross is Director and Chairman of the Council of the Graduate School of Culture Studies and Arts at the Estonian Academy of Music and Theatre; Karl Pajusalu is Chairman of the Council of the Doctoral School of Linguistics, Philosophy and Semiotics at the University of Tartu; Eve Oja is Chairman of the Council of the Estonian Doctoral School in Mathematics and Statistics.

Ain-Elmar Kaasik is Chairman of the Registration Committee of the State Agency of Medicines.

Quite a few members of the Academy are involved in the activities of international scientific organisations as well as on editorial boards of scholarly journals.

Ülo Lumiste was awarded the National Science Prize for Long-standing Achievements in Research and Development (see p. 64), the yearly prize in the category of the humanities was bestowed on Mart Kalm (see p. 65).

Likewise, many Members of the Academy were in 2012 given recognition by various associations and organisations in the form of awards and honorary titles as well as by being elected a Fellow, Foreign or Honorary Member:

Jaan Einasto was granted the Viktor Ambartsumian International Prize, which is awarded to outstanding scientists of any nationality having significant contribution in astrophysics and those fields of physics and mathematics in which Ambartsumian had contributions. Jaan Einasto gained the prize for his fundamental contributions to the discovery of dark matter and the cosmic web. The Prize is being awarded once each two years, starting with 2010. The Laureates for 2012 were announced during a press conference at the Armenian National Academy of Sciences on 21 July 2012. The official Award Ceremony was held on 18 September in Yerevan.

Valter Lang received the University of Tartu medal;

Jüri Martin was granted the Anniversary Medal of Euroacademy;

Arvo Pärt was named Honorary Doctor of the Faculty of Theology by the University of Lugano (Switzerland);
Anto Raukas received a Letter of Appreciation from the Shota Rustaveli National Science Foundation (Georgia) and from Euroacademy;
Huno Rätsep was elected Honorary Member by the Johannes Aavik Society;
Peeter Saari received a Letter of Appreciation from the Optical Society of America (OSA);
Tarmo Soomere was elected 2011 Scientist of the Year by Tallinn University of Technology;
Raimund Ubar was awarded the Gold Medal of the Ukrainian Academy of Radio Electronics;
Mihkel Veiderma was given the “Spent Shaler” Honorary Title (deserved for oil shale booster activities of long duration) by the US National Oil Shale Association.

Foreign Members continued participating in the activities of the Academy and research institutions of Estonia in compliance with time-honoured collegial relationships, scientific collaborations and research alliances.

GENERAL ASSEMBLY, BOARD, DIVISIONS, COUNCILS, COMMITTEES

GENERAL ASSEMBLY

The General Assembly of the Academy convened twice in 2012:

- April 18 Annual Meeting
- Scientific paper by Heidi-Ingrid Maaros “Avenues of gastroenterology in medicine of the 21st C.”
 - Reports by Heads of Divisions Jaak Aaviksoo, Tarmo Soomere, Ilmar Koppel, Urmas Varblane and President Richard Villems “Activity of the Academy in 2011”
 - Report by Secretary General Leo Mõtus “Financial activities of the Academy in 2011 and budget for 2012”
 - Announcing new vacancies for the Academy membership
 - Change of Regulations for Election of Foreign Members
 - Discussion and adoption of “Development Plan 2014-2020: conceptual principles”
 - Assigning of fees to Members of Academy for the period 1 May 2012 - 30 April 2013
- December 5
- Election of new Members
 - Election of new Foreign Members

The first session of the General Assembly was held as an annual meeting of the Academy. The session customarily focused on summing up the activities of the Academy in 2011. Detailed data on the activities of the Academy in the reporting year were made available in the “Estonian Academy of Sciences Year Book” XVII (44), which had been previously mailed to all Members.

New Members elected in December 2011 – Martti Raidal, Jakob Kübarsepp, Toomas Asser, Urmas Kõljalg, Margus Lopp, Karl Pajusalu and Arvo Pärt were presented at the beginning of the meeting. President Richard Villems handed over the diploma of membership to Karl Pajusalu. The President also handed over the Karl Schlossmann Memorial Medal to Ain-Elmar Kaasik.

The scientific paper on the topic “Avenues of gastroenterology in medicine of the 21st C.” was delivered by Heidi-Ingrid Maaros, Professor Emeritus of

the University of Tartu, a Laureate of the National Science Prize for long-standing achievements in research and development for 2012.

The reports on the activities of the Academy in 2011 by Heads of Divisions Jaak Aaviksoo, Tarmo Soomere, Ilmar Koppel and Urmas Varblane were based on the activities of their respective Divisions. The summary was made by President Richard Villems. According to the reports supported by materials presented in the Year Book and upon proposal by Secretary General, the General Assembly approved the report of the Academy for 2011.

Secretary General Leo Mõtus submitted an overview on execution of the 2011 budget and presented the 2012 budget, which was approved by the General Assembly.

President Richard Villems presented to the General Assembly a proposal of the Board for election of five new Members in 2012. The resolution to open vacancies for the Academy membership was approved by raising hands.

President Richard Villems explained the need for revision of regulations for electing foreign members and the General Assembly approved amendments to the Regulations for Election of Foreign Members. The announcement of elections for new Foreign Members and holding of elections at December session of the General Assembly was decided.

President Richard Villems explained the need for the Development Plan of Academy and presented the conceptual bases of the Development Plan elaborated by Board. During the discussion opinions were expressed by Members of Academy Endel Lippmaa, Valdek Kulbach, Mihkel Veiderma, Anto Raukas, Dimitri Kaljo, Jüri Engelbrecht, Udo Margna, Jüri Allik, Enn Tõugu, Peeter Saari, Ain-Elmar Kaasik, Tarmo Soomere and Eero Vasar. The “Development Plan of the Academy 2014-2020: conceptual principles” was approved following discussion (see pp. 184-186).

Secretary General Leo Mõtus presented to the General Assembly the Members’ allowances payment plan for the period from 1 May 2012 to 30 April 2013. Questions were posed by Dimitri Kaljo, Anto Raukas, Endel Lippmaa, Enn Tõugu, Arvo Ots and Richard Villems, who also made several proposals. The General Assembly, reckoning with the opinions of Members of the Academy, decided to distribute the allocated amount of Members’ allowances for the period from 1 May 2012 to 30 April 2013 equally between all Members of the Academy.

Jüri Engelbrecht and Mihkel Veiderma gave short speeches during discussion.

Election of new Members to the announced 5 vacancies of Academy membership from among 17 candidates nominated by higher educational and research institutions was the key item on the agenda of the second session of the General Assembly on December 5. Voting by ballot gave the following results:

Ergo Nõmmiste was elected in exact sciences (candidates Jaan Janno, Kaupo Kukli, Ergo Nõmmiste and Toomas Rõõm); Jaak Vilo in informatics (candidates Peeter Laud, Mart Min and Jaak Vilo); Tõnu-Andrus Tannberg in history (candidates Ivar Leimus and Tõnu-Andrus Tannberg); Hando Runnel in literature (candidates Jaan Kaplinski, Doris Kareva, Hando Runnel, Jüri Talvet and Mats Traat). All three candidates nominated in geosciences (Volli Kalm, Ülo Mander and Siim Veski) did not get the necessary number of votes and thus the vacancy in geosciences went unoccupied.

Enlargement of the Academy's membership by 4 new Foreign Members was the second item on the agenda. The results of voting by secret ballot showed that all four candidates submitted by Divisions: Alar Toomre, Steven R. Bishop, Pekka T. Männistö and Yuri Berezkin, were elected.

In his concluding remarks President Richard Villems characterised the change in average age of the Academy's membership resulting from election of new Members over the previous three years. He congratulated Jaan Einasto on winning the Viktor Ambartsumian International Prize.

BOARD

The Board of the Estonian Academy of Sciences worked in 2012 in the following composition:

President	<i>Richard Villems</i>
Vice-President	<i>Jüri Engelbrecht</i>
Vice-President	<i>Mart Ustav</i>
Secretary General	<i>Leo Mõtus</i>
Head, Division of Astronomy and Physics	<i>Jaak Aaviksoo</i>
Head, Division of Informatics and Engineering	<i>Tarmo Soomere</i>
Head, Division of Biology, Geology and Chemistry	<i>Ilmar Koppel</i>
Head, Division of Humanities and Social Sciences	<i>Urmas Varblane</i>
Non-Executive Members	<i>Ene Ergma</i>
	<i>Ain-Elmar Kaasik</i>
	<i>Mati Karelson</i>
	<i>Endel Lippmaa</i>
	<i>Enn Mellikov</i>
	<i>Peeter Saari</i>
	<i>Peeter Tulviste</i>
	<i>Enn Tõugu</i>

The Board held 6 working meetings in that year. Once, the decision was passed under the procedure of electronic poll.

At the beginning of the year the Board, reckoning with the proposals of the Divisions, considered and approved the Academy's calendar schedule of events for 2012.

On several occasions the Board discussed the Academy's draft plan of development drawn by a respective working group by taking into account the proposals made by Members of the Board and Heads of Divisions. As a result of discussion the Board decided to submit the Conceptual Development Plan of the Academy (2014-2020) for approval to the General Assembly.

In view of the Academy Act amendments relating to the maximum number of Members of the Academy, the Board decided to continue increasing membership in the Academy by electing new Members in 2012 and to submit a proposal to open five membership vacancies, of which one in every Division and an additional specific one in the area of culture, for approval by the General Assembly. The Board repeatedly considered various issues involved with filling the vacancies. Particular subject areas of vacancies were approved in June according to proposals from the Divisions. In September, 17 candidates were registered to the announced five vacancies for the upcoming elections during the General Assembly meeting of December 5.

As election of Foreign Members to the Academy was scheduled for the reporting year as well, it was a frequently discussed issue at Board meetings. Forthcoming elections brought about the necessity for introducing slight amendments to the Academy's Regulations for Election of Foreign Members. The Board discussed amendment proposals and submitted the revised version of Regulations for approval by the General Assembly at its annual meeting. The Board at its meeting in September approved the candidates for foreign membership presented by Divisions and submitted their candidacy for approval by the General Assembly at its session of December 5.

In spring the Board resolved on announcing the Student Research Paper Contest and approved the composition of the prize panel (chaired by Georg Liidja). On November 12 Georg Liidja informed the Board about the results of the contest. The meeting was followed by a conference with five prize-winning papers delivered by laureates and conferral of diplomas.

The completion of the fiscal year implied that the fourth working year of three current Research Professors was drawing to a close. The Board decided on announcing a call for new Research Professors in October. The Board at its meeting in November approved a respective Appraisal Panel (chaired by Vice-President Mart Ustav), which examined the received applications and submitted its preferences to the Board. At its final meeting of the year the Board discussed the proposals of the Appraisal Panel and took them into consideration when making a decision to elect three new Research Professors, namely Rein Ahas, Anu Realo and Tõnis Timmusk. The Board also heard and approved the fourth-year reports of all three current Research Professors – Tiina Nõges, Pärt Peterson and Martti Raidal.

Discussion and decision-making with regard to topical issues in management formed a considerable part of the Board's work. In April the Board examined

the execution of the consolidated 2011 budget of the Academy and the budget for 2012, and submitted for approval by the General Assembly. The Board approved the candidates of the Academy to the composition of the Evaluation Council of the Estonian Research Council.

Margus Lopp (Member of the Academy) was appointed to represent the Academy in the Sustainable Development Committee.

The Board took notice of information about nominating Martin Zobel (Member of the Academy) to represent the Academy in the Working Group Horizon 2020 at the Ministry of Education and Research, and Jakob Kübarsepp (Member of the Academy) to represent the Academy in the Board of Tallinn Science and Technology Centre. Likewise, the Board approved supplementary appointment of Toomas Asser (Member of the Academy) and Ralf Allikvee (Chairman of the Board, East-Tallinn Central Hospital) to the Standing Committee on Medical Science and Health Strategy. The Board regarded the positions of the Academy's Committee on Marine Sciences concerning Nord Stream AG surveys. A decision to establish the Harald Keres Memorial Medal to be granted on Estonian scientists for outstanding achievements in the areas of astronomy, physics and mathematics was made in commemoration of the departed Member of the Academy Harald Keres, and the Statutes of the Medal approved. The Board decided to award the Karl Schlossmann Memorial Medal to Ain-Elmar Kaasik (Member of the Academy). The Board heard an overview on the activities of the Energy Council in 2011-2012 presented by Arvi Hamburg, Chairman of the Council. The Board also gave attention to information on the establishment of the Council for Estonian Centres of Excellence in Research (Chairman Jüri Engelbrecht) with a view to consolidate the experience of top-level scientists and promote excellence in research. The Council is composed of Heads of all current Centres in Estonia. The Board heard information concerning the use of investment earnings of the Estonian Academy of Sciences sub-foundation of the Estonian National Culture Foundation, supported the NGO Spe Fretus programme for preserving the memory of famous seafarers born in Estonia, approved the agendas for forthcoming General Assembly meetings.

On the proposal of Enn Tõugu, the Board set up under the auspices of the Academy the Standing Committee on Cyber Security, its statutes and composition (Chairman Leo Mõtus) were approved in June. At the following session in September L.Mõtus informed the Board about launching the activity of the Committee and about questions discussed at the initial meetings.

Speaking at Board meetings, Tarmo Soomere deliberated on possible participation of the Academy in the EU FutureICT Flagship Project in research and technology and ERA-NET in marine biotechnology. The Board considered information on the location selection process for the LNG terminal and recommended that the Division of Informatics and Engineering coordinate, if

necessary, the opinion formation process of the Academy in various critical aspects of the LNG terminal site selection, incl. environmental impact, use of sea, etc. The Board supported the NGO Spe Fretus programme, dedicated to preserving the memory of famous seafarers born in Estonia.

DIVISIONS¹

DIVISION OF ASTRONOMY AND PHYSICS

Four regular meetings were held by the Division of Astronomy and Physics in 2012, discussing various questions related to the Division. The meetings were held on May 25, September 7 and November 15-16. Urgent decisions in the interim periods between meetings were considered and adopted electronically.

The Division presented Mario Kadastik, Researcher of the Institute of Chemical Physics and Biophysics to the 2012 Young Scientist Scholarship, which is awarded by the Estonian Academy of Sciences sub-foundation of the Foundation of Estonian National Culture.

November 15 – memorial seminar dedicated to the 100th anniversary of Harald Keres, a deceased Member of the Academy, where the Division announced its decision to establish the Harald Keres Memorial Medal. An exposition of the life and work of Harald Keres was arranged in cooperation with the University of Tartu Library. It was displayed on November 15 at the Academy House and successively on November 30 at the University of Tartu Library.

In 2012 Ergo Nõmmiste, Professor of the Institute of Physics at the University of Tartu was elected to membership in the Academy affiliated with the Division of Astronomy and Physics, whereas Alar Toomre, Professor Emeritus of Massachusetts Institute of Technology was elected a Foreign Member.

DIVISION OF INFORMATICS AND ENGINEERING

Two meetings were held by the Division in 2012. One extended meeting was organised within partnership framework between the Academy and Tallinn University of Technology. Electronic discussion and voting was conducted to determine preferred candidates for foreign membership in the Academy.

March 7 – extended meeting of the Division held in the Council Hall at Tallinn University of Technology (TUT) was aimed at TUT Management team and mid-level executives. Discussions were attended by 13 members of the Division, TUT Rector Andres Keevallik, Vice-Rector for Research Erkki

¹ Composed according to materials submitted by Heads of Divisions Jaak Aaviksoo, Tarmo Soomere, Ilmar Koppel ja Urmas Varblane.

Truve, several Deans and Directors of Institutes. Two Members of the Academy affiliated with other Divisions – Jaak Järv and Mart Kalm, participated as guests. The meeting was preceded by multiple negotiations among the most active members of the Division, TUT Management team as well as representatives from other Divisions of the Academy. The parties pointed out that TUT and the Academy appeared to be logical key partners to one another in all aspects. Common problems and challenges are detectable both in the context of academic community and younger generation of research personnel as well as higher education in general. Regardless of the different roles acted by TUT and the Academy in the Estonian research landscape as to a number of domains they still have adjacent or overlapping areas of responsibility. Earlier cooperation between universities and the Academy had enabled solving several important issues in scientific life, for instance problems related to the need for subscribing to e-journals or payment of scholarships to PhD students. A.Keevallik provided an overview on the structure and means of TUT, potentials of technology development centres, innovation-oriented developments of the previous year, incl. establishment of interdisciplinary laboratories (the so-called MeKTory's). J.Engelbrecht discussed the provisions in the Statutes of the Academy which are specifying the definition and responsibilities of its Members and serving as the basis of considering candidates for membership in the Academy. E.Truve presented a vision on shaping Tallinn University of Technology into a research university. M.Kalm provided an overview of the historical formation of contemporary training in architecture and its various models. J.Kübarsepp delivered a report on the quality of PhD studies as visualised by different interest groups. Partnership between TUT and the Academy was considered logical, requisite and beneficial to both parties. In a number of issues with a visible intersection reaching out with a concerted voice or message would have much stronger conveying capacity and impact than the message of one institution separately.

June 21 – regular meeting of the Division discussing the working plan for 2012, specification of the vacancy for Academy membership, election of Foreign Members and issues regarding partnership between TUT and the Academy. In relation to establishing the Council of Estonian Centres of Excellence in Research, where the Division has a significant role, it was considered expedient to transform the initially planned seminar of the leading Centres of Excellence headed by members of the Division into a wider organisation, embracing all Estonian Centres of Excellence. Discussions over the topic of new vacancy led to a conclusion to discard in some aspects the previously followed tradition e.g. cease to link the specialties of Members aged over 75 with new vacancies. The Division reached a decision to submit to the Board a proposal to open the vacancy in informatics, whereas the successive vacancy should be opened in engineering. The opportunity to enhance the visibility of the Academy outside Estonia by electing top research-

ers of today was reckoned among the most decisive criteria for selecting a Foreign Member. Possible candidates were given a short consideration. The meeting looked into the feasibility of enlarging the joint events within the Academy-University partnership framework.

August 7-26 – electronic discussions over candidates for foreign membership, their role and principles of election. According to e-voting results of August 27-28 Professor Steven Bishop was presented as a candidate to foreign membership in the Academy.

November 12 – scientists running for the vacancy in informatics – Peeter Laud, Mart Min and Jaak Vilo gave their presentations at the meeting of the Division. All three candidates were found eligible to be elected to membership in the Academy. The Division decided on giving their preference as the candidate for the vacancy in informatics to Jaak Vilo. The meeting also discussed candidates to the vacancy in exact sciences whose area of expertise was partially overlapping with the competence of the Division. The candidacy of Jaan Janno in exact sciences was unanimously supported.

The Standing Committee on Cyber Security with participation of L.Mõtus (Chairman), Ü.Jaaksoo and E.Tõugu was established at the Academy upon the initiative of several members of the Division.

April 4 – E.Lust delivered the academic lecture “Trends in high-performance energy” at the Academy House. The Division (T.Soomere, J.Engelbrecht) organised a visit to the Estonian Academy of Sciences of a delegation from the Russian Academy of Sciences including Vice-President N.P.Laverov, Academician-secretary of the Earth Sciences Department A.O.Gliko and Head of the Foreign Projects Department Y.K.Shiyan. A joint seminar “Challenges in Earth Sciences” was held within the framework of that visit on March 30 together with an outing to the Molycorp-Silmet facility in Sillamäe and signing of a Memorandum of Understanding relating to research in earth sciences.

May 28-29 – conference “Complexity and Crisis Management in Society and Environment” was held at the Academy House, organised by the Division (T.Soomere, L.Mõtus) in cooperation with Latvian and Lithuanian teams of the FP7 Pilot FuturICT Flagship Project.

October 24 – seminar “Doctoral studies from the viewpoints of separate interest groups” held at the Academy House was focused on the quality of PhD studies (main organiser J.Kübarsepp, moderator T.Soomere).

The public forum “Liquefied natural gas: options and possibilities” (Tallinn, Nordic Hotel Forum, 7 November 2012) was organised in cooperation with the Faculty of Power Engineering at Tallinn University of Technology, while the visit to Molycorp Ltd and Port of Sillamäe (9 November 2012) together with other Divisions and the Estonian Association of Engineers. From March 24 to April 1 Tallinn hosted the top conference in computer science

ETAPS “European Joint Conferences on Theory and Practice of Software” organised by T.Uustalu. “The Nordic-Baltic region – an area for strategic cooperation within knowledge triangle”, a joint conference of NORDTEK (network of Nordic Universities within technology) and BALTECH (network of Baltic Universities within technology), held on June 16 (Steering Committee Member J.Kübarsepp) was vested with key significance with respect to higher engineering education in the Baltic region.

The Division likewise participated in organising several other international scientific events in Estonia, e.g. international winter school EWSCS’12 “17th Estonian Winter School in Computer Science” at Palmse from February 26 to March 2 (main organiser T.Uustalu); symposium DDECS’12 “The IEEE Symposium on Design and Diagnostics of Electronic Circuits and Systems” on April 18-20 (Honorary Chairman R.Ubar); 8th international conference DAAAM “Baltic, Industrial Engineering” April 19-21 (Steering Committee Members R.Küttner and L.Mõtus) and “Baltic Electronics Conference” BEC’12 on October 3-5 (Organising Committee Member R.Ubar). The Institute of Cybernetics hosted on June 11-13 the 12th Glass Stresses Summer School (organised by Institute of Cybernetics at Tallinn University of Technology and OÜ GlasStress, Chief Organiser H.Aben) and on September 24 the mini-conference “Intense Day on Waves in Fluids” (T.Soomere). J.Kübarsepp was Steering Committee Member of the International Physics Olympiad IPhO 2012 (Tallinn-Tartu) held on July 15-24.

Members of the Division were similarly among initiators of several events held abroad: April 10-13, 13th IEEE “Latin American Test Workshop” LATW’12, Quito (Organising Committee Member representing the Eastern Europe Region R.Ubar); March 24, “8th Workshop on Fixed Points in Computer Science”, FICS’12, Tallinn (Programme Panel and Steering Panel Member T.Uustalu); May 14-17, 4th International Conference “Radiation Interaction with Material and its Use in Technologies 2012”, Kaunas (Organising Committee Member E.Mellikov); June 3-6, “21st International Conference on Fluidized Bed Combustion”, Naples (Organising Committee Member A.Ots); September 14-17, “10th East-West Design and Test Symposium” EWDTs’12, Kharkiv (Organising Committee Vice Chair R.Ubar); May 16-17, “Denville Glass Stress Summer School”, Rudolph Instruments, Inc Denville, NJ, USA (Chief Organisers Glasstress and H.Aben); August 28-30, Summer School of the graduate school “Functional materials and technologies” at the University of Tartu and Tallinn University of Technology “Science at the Leading European Large Scale Facilities” (CERN, ESS, MAX-IV Lab) (Co-organiser E.Lust); September 25-28, “27th European Photovoltaic Solar Energy Conference”, Frankfurt (Scientific Committee Member E.Mellikov); October 1-3, Euromech Colloquium 540 “Advanced Modelling of Wave Propagation in Solids”, Prague (Scientific Committee Member J.Engelbrecht); October 31-

November 2, “24th Nordic Workshop on Programming Theory”, NWPT’12, Bergen (Programme Panel Member T.Uustalu).

Members of the Division participated in the work of editorial boards of several journals – Estonian Journal of Engineering (Editor-in-Chief J.Engelbrecht), Estonian Journal of Earth Sciences (Editor for Oceanology T.Soomere), Oil Shale, Thermal Science, Power Engineering = Energetika, Journal of Marine Systems, Oceanologia, Boreal Environment Research, Journal on Integrated Computer Aided Engineering, Journal of Universal Computer Science, Akadeemia, etc.

Members of the Division continued their activities in research as well as in organisation of science, incl. in various organisations and assemblies for administration and funding of R&D activities at national as well as European level, see “Membership” and “International Foreign Relations”.

DIVISION OF BIOLOGY, GEOLOGY AND CHEMISTRY

In 2012 three extended meetings of the Board of the Division and three meetings of the Division (one of them electronic) were held.

The meeting of the Division on January 11 was preceded by an extended Board meeting in the electronic form, attended by practically all members of the Division. They discussed the report for 2011, the working plan for 2012 and the positions of the Division regarding the new Development Plan of the Academy under preparation. The report of the Division for 2011 was approved by the electronic meeting of January 9. The schedule of major events of the Division for 2012 and the proposals for complementation of the Development Plan were approved at the following meeting of the Division, attended by 12 Members in person (the others via electronic voting).

May 2 – extended Board meeting of the Division was dedicated to forming common position on the specialty of the new vacancy in the Division. According to vote results preference was given to ‘earth sciences’. Also, a decision was made to recommend Pekkä Männistö to the foreign membership vacancy associated with the Division.

November 15 – meeting of the Division with hearing the reports of candidates affiliated with the Division. A round of questions and discussion was followed by ballot voting for preference concerning researchers in the range of specialty areas covered by the Division (V.Kalm, Ü.Mander, S.Veski) as well as candidates belonging to other Divisions. The preferences of absentees had been sent prior to the meeting by e-mail or letter. Preference among the candidates of the Division was predominantly given to V.Kalm. From candidates of other Divisions recommendation for candidacy was given to E.Nõmmiste, M.Min, T.Tannberg, while J.Kaplinski and H.Runnel drew pra-

ctically equal support. Nevertheless, at the General Assembly of the Academy the vacancy of the Division went unfilled.

Members of the Division organised several events: an extended session of the Academy's Committee on Phylogeny and Taxonomy in Tartu on January 27 (U.Kõljalg), international conference "*Balticum Organicum Syntheticum*" in Tallinn on July 1-4 (M.Lopp), "Gene Forum" in Tartu on June 8-9 (A.Metspalu) and seminar "How sustainable is Estonian medicine?" in Tallinn on April 27 (E.Vasar). The public academic lecture "The meaning of life" was delivered by A.Laisk at the Academy House on May 16.

Ain-Elmar Kaasik was awarded the Karl Schlossmann Memorial Medal for outstanding achievements in development of medicine. The medal was handed over at the General Assembly of the Academy on April 18.

Members of the Division represented the Academy on several decision-making bodies for science administration (see "Membership"). The Standing Committee on Medical Science and Health Strategy, the Committee on Meteoritics and the Committee on Nature Conservation proceeded with their activities under the auspices of the Division.

DIVISION OF HUMANITIES AND SOCIAL SCIENCES

Five meetings held by the Division in 2012, were arranged by using various forms, e.g. traditional, phone contacts, Skype. The main topics included discussion of possible members to the Evaluation Council of the Estonian Research Council, determining the specialties for Academy membership candidates, nominating a Foreign Member candidate and other issues related to everyday work of the Division.

The Division continued the tradition of giving talks to high school students at their schools, among others several lectures were held by Urmas Varblane at Tartu Hugo Treffner Gymnasium, which were also disseminated via Internet.

January 25 – celebration of the 70th anniversary of Haldur Õim (Member of the Estonian Academy of Sciences) with a public seminar jointly organised with the Estonian Mother Tongue Society.

February 7 – conference to celebrate the 85th anniversary of Raimund Hagelberg (Member of the Academy) was held together with the Faculty of Economics and Business Administration at the University of Tartu. In the programme of the event the first faculty pathfinders' memorial plaque was opened in honour of R.Hagelberg.

February 20 – Mart Kalm presented the exhibition "Coastal town, mushroom-shaped balcony and liquor cabinet – Pärnu Town Architect Olev Siinmaa 130" in Rotermann Salt Storage.

May 3 – Science Day organised by the Division in Rapla County. After the official part in the Rapla County Government building, a visit was made to Gildemann Dolomite Designs workshop located at Jalase, the Järvakandi Glass Museum and Glass Studio.

December 5 – General Assembly at its meeting elected Tõnu-Andrus Tannberg Member of the Academy in history and Hando Runnel in literature, Yuri Berezkin was elected Foreign Member.

December 28 – conference “The Hundred Years of Language Renewal” to celebrate the 85th birthday of Huno Rätsep (Member of the Academy).

As the native house of the first President of the Academy Karl Schlossmann located at Pikknurme and marked with a memorial plaque had burnt to the ground in a fire, the Division resolved to make an effort towards remediation of the damage by establishing in his home yard a memorial stone with a plaque. The plan was executed in June.

Members of the Division represented the Academy on several decision-making bodies for science administration (see “Membership”).

COUNCILS, COMMITTEES

COMMITTEE ON METEORITICS

Set up in 1954

Chairman Jüri Plado, PhD

In Estonia research in meteoritics is carried out at the University of Tartu, Tallinn University of Technology and Eesti Geoloogiakeskus OÜ. The main objects explored in 2012 include:

- Osmussaar’s sediment vein (analysis of chromite grains with shock properties of veins and the enclosing rock – Kalle Kirsimäe and team; detailed micro-paleontological and shock trace (PDF) analyses – Leho Ainsaar and team);
- Neugrund shock crater (naval geo-physical (seismic) surveys – Kalle Suuroja and team), in summer the structure was explored by side looking sonar sensor and seismic methods, problem places were explored by the the agency of diving;
- Kaali craters (search and study of material melt at impact – (Anto Raukas and team);
- Suavjärvi (Russia) structure (Jüri Plado in cooperation with researchers from the University of Vienna and St.Petersburg State University), in July an expedition was organised, in the process of which samples were taken for geophysical and mineralogical analyses;

- Keurusselkä (Finland) structure surveys (Jüri Plado in cooperation with the University of Helsinki).

In the reporting year two Master's theses on meteoritics were defended at the University of Tartu: Siim Sepp on the topic "Origin of the Conglomerates from the Southern Coast of Osmussaar" (supervisors K.Kirsimäe, J.Kirs) and Rudolf Välja on the topic "Mineral composition of fallout suevites at Bosumtwi impact crater, Ghana" (supervisor K.Kirsimäe).

PhD student of the Department of Geology at the University of Tartu Kairi Põldsaar spoke at the conference "30th Nordic Geological Winter Meeting" delivering a paper "Middle Ordovician L-chondritic meteorite shower and clastic sedimentary facies in Baltoscandian carbonate shelf: are these related?" At the same conference, Kalle Kirsimäe delivered a paper "The origin of alteration fluids at the Ries crater, Germany: boron isotopic composition of secondary smectite in Suevites".

In the period from June to August Reet Tiirmaa offered guided tours to visitors of the Kaali Meteorite Crater Field, presenting the Kaali craters and history of their research.

COMMITTEE ON NATURE CONSERVATION

Set up in 1955

Chairman of the Board Professor Urmas Tartes

In 2012, the activities of the Committee were largely involved in celebrating the 100th anniversary of the founder of the Committee and its long-time Chairman Eerik Kumari. Several events were organised to mark that event. In cooperation with the Ministry of the Environment a colour-printed booklet "Eerik Kumari 100" was released. The jubilee conference was held on March 8, with Linda Kongo, Urmas Tartes, Vilju Lilleleht, Kaja Lotman and Tiit Sillaots speaking. Two expositions were organised to commemorate Kumari: "Eerik Kumari and Matsalu" by Kaja Lotman and "A hundred years – a hundred pictures" by Vaike Hang. Vilju Lilleleht and Vaike Hang were speaking in the birthday broadcast on Radio Kuku. On April 7 Puhtu witnessed a seminar dedicated to the anniversary of Kumari, organised by the State Forest Management Centre with Urmas Tartes speaking on the topic "Kumari as a scientist and nature conservation expert". On April 22 the Baer House hosted a public seminar "Kumari as a nature conservation expert" of the Estonian Society for Nature Conservation. An exposition was arranged on Kumari's life and activities (compiled by V.Hang). On May 3 Urmas Tartes participated in the work of the panel assigning the Kumari Prize in Tallinn. The 2012 Laureate of the Kumari Prize was Taivo Kastepõld – a well known ornithologist, Kumari's associate and successor in research as well as in preservation of the Matsalu bird reserve he had initiated. The topic of the 50th public seminar held at the visiting centre of the University of Tartu Botanical

Gardens on May 23 was “Whether or not the current nature conservation is better than it used to be”, recollecting the first public seminar held on January 14, 1956 on ground of archival materials, where 11 papers were presented.

Other expositions displayed at the Baer House were: “Incipient co-operative activities in Estonia at the beginning of previous century (on the example of Tõstamaa Parish)”, “Vaike Hang 80” and “Toomas Jüriado 65”.

Due to serious transgressions in nature conservation prescriptions for Taevaskoda and structural changes in environmental administration carried out three years ago (nature conservation reform), rather cumbersome and over-complicated, the Committee has the following proposals to the State Forest Management Centre:

- To provide starting from 2013 sufficient money to the budget of the State Forest Management Centre in order to enable stable and flexible fulfilment of its obligations with regard to carrying out nature conservation works and organisation of protected natural objects;
- To form a team in its structure, who would after necessary training be continuously engaged in nature conservancy works as well as building, maintenance and renovation of a requisite infrastructure for affording visits to objects of nature.

In 2013 the Committee will tackle and discuss this problem in greater detail.

ENERGY COUNCIL

Set up in 1998

Chairman Professor Arvi Hamburg

Four meetings were held by the Energy Council in 2012: March 14, June 20, October 23 and November 14.

March 14 – Energy Council's plan of activities for 2012 was approved, whereby increasing practical input of research outcomes to energy management was announced the year's priority. The Council heard a report about separation of ownership to the transmission network of natural gas from other activities of Eesti Gaas Group made by Tiit Kullerkupp, Chairman of the Board of Eesti Gaas Group, a report on possibilities of using renewable energy given by Leo Saluste, Board Member of NGO Virumaa Biogaas and a report about the supply security and efficiency of Estonian power networks presented by Are Veski, a management expert. The Council called attention to the fact that an arbitrary decision, not substantiated by economic analysis, to change the owner of transmission network of natural gas may deteriorate supply security for Estonian consumers. Concerning the use of renewable energy, a decision was reached to support dissemination of information on biogas and complex development of the whole sphere. The Council also noted that the topics of supply security and efficiency of power networks deserve deeper analysis with a view to preparing the national energy policy. Basic

principles for updating the power economy development plan was another issue discussed at the meeting. Members of the Council admitted that strategic decisions in power energy tended to be made on the basis of biased information caused by lack of scientifically substantiated power policies that would ensure sustainable development. The Council decided to support in principle the construction of a new oil shale energy block applying up-to-date technology at the Narva Power Plants and suggested that the Ministry of Economic Affairs and Communications analyse the impacts produced by large-scale burning of wood by the power plant from the viewpoint of the whole complex, compose an electricity balance sheet for Estonia and our market area in the next 30 years, and estimate the consumption volumes, resources of the existing production capacities, usable oil shale reserves and the quantity of atmospheric emissions. The Council recommended the Ministry of the Environment to compose a national strategy for oil shale excavation and use, and a consumption-based development plan.

June 20 – the main topic discussed at the meeting held at Tallinn University of Technology was current status of the energy technology programme. Tõnu Lehtla, having been representative of higher educational institutions at the start of the programme, spoke his thoughts. A following interview was led by representatives of ESTIVO, a company providing consultation and project management services: Jüri Kleesmaa, Business and Development Manager, Janika Laht, Specialist and Eduard Latõšov, Consultant. Members of the Council answered their questions on the current situation and future vision of the Energy Technology Programme. Members of the Council also visited the plants of Harju Elekter at Keila, where they were met by Endel Palla, Chairman of the Supervisory Board and Andres Allikmäe, Managing Director. A detailed overview on the historical development of the company, its performance and future perspectives was given to the guests, who also presented additional questions about product development, sales strategy, labour force and other topics. While walking around the territory of the plants, a closer look was given to two plants – AS Harju Elekter Elektrotehnika and AS Draka Keila Cables.

October 23 – a project for upgrading the national development plan of the energy sector was presented by an invited speaker Peep Siitam, Director of Energy and Green Development Economy at the Estonian Development Fund. Main issues under consideration were: an LNG-focused energy forum and matters related to the opening electricity market jointly organised by the Division of Informatics and Engineering and the Faculty of Power Engineering at Tallinn University of Technology. The Council also analysed its earlier decisions with regard to power production and concluded that completion of a new oil shale power plant with a capacity of 300MW is required to guarantee electrical energy and balancing capacity. Urgent determining of the second energy block construction with the same capacity was found necessary.

November 14 – visit of the Energy Council together with the Board of the Estonian Association of Engineers to the power company KH Energia-Konsult with a meeting on the topic “R&D works to provide for sustainability of energy”. Participating as representatives of the company were Heino Harak, Director General, Rein Pilt, Development Director and Tõnis Tasa, Director for Engineering. They expressed the company's opinions regarding necessary development works for securing the competitiveness of the company. The following items were included in the agenda: preparing the national development plan of the energy sector, participation in the R&D working group, potentials of the Energy Technology Programme, cooperation between universities and areas of responsibility, compliance of a three-level higher education curricula with labour market needs, alumni of Tallinn University of Technology as indicators of the quality of engineers and engineer’s vocational qualification.

Members of the Energy Council also participated in a joint outing of the Academy and the Estonian Association of Engineers to Sillamäe on November 9 and in a conference “Knowledge based economy: Estonian opportunities and challenges” on December 10.

COMMITTEE ON PHYLOGENY AND TAXONOMY

Set up in 2007

Chairman Member of the Academy Urmas Kõljalg

January 27 – visit of the Academy to the AHHA Science Centre in Tartu. A meeting with a following discussion “National Digital Archives in Biodiversity and Geosciences² – Problems and Solutions” were organised by the Committee on Phylogeny and Taxonomy. A review and short reports were given about academic and national digital repositories. Reports were presented by: 1) Olle Hints (Tallinn University of Technology, a member of the Humanities and Natural Sciences Collections Expert Panel at the Ministry of Education and Research) “The role and impact of natural science collections in creating digital archives”; 2) Andres Vimb (Chief Specialist of the Analysis and Planning Department at the Ministry of the Environment) “National digital archives in biodiversity and geosciences”; 3) Ivar Puura (University of Tartu Natural History Museum) “Scientific and scholarly digital archives as a footing for e-tuition” and 4) Urmas Kõljalg (Chairman of the Committee on Phylogeny and Taxonomy) “What is the necessity of creating the National Digital Archives in Biodiversity and Geosciences?”. A short summary of the meeting is: the number of annual researches in biodiversity and geosciences conducted in Estonia is not precisely known, but it can certainly be measured by hundreds of funded researches. In the process the researchers and

² Digital archives stand for an infrastructure comprising hardware, software, data collections, i.e. databases, web-outputs and personnel.

government officials create a large amount of data, out of which, to all evidences only a small part reaches the digital archives. In the majority of cases the data are entered into databases by a working group/institution or, at worst, they get stuck in different types of files and printed reports. Therefore, the records which as a rule are characterised by high value and quality might be hard to access or unavailable. Such wasteful conduct is already presenting an obstacle to proper estimation of changes in Estonian natural environment and its current status, while the situation is changing for the worse with every passing year. However, Estonia is no exception as other countries are harassed by the same problem. In view of the smallness of our country combined with its IT-related strengths, Estonia can be a pioneer in that realm and among the first to put an end to such a wasteful attitude. A public platform has to be created to meet that goal, which would afford recording information related to biodiversity and geosciences in central digital archives. When building central digital archives, the pivotal question besides hardware and software solutions, is how to secure the arrival of data and databases into the archives. Apparently, specific prescriptions are required from funding agencies of the project as to what data and in which manner should be entered into central archives. Reports were followed by talks, alternately moderated by Members of the Academy Dimitri Kaljo, Tarmo Soomere, Martin Zobel and Urmas Kõljalg. The idea of creating a unified digital archive in biodiversity and geosciences for Estonia was totally supported by all participants in talks. Its purpose should be recording, streamlining and making available to public data resulting from the studies conducted by research institutions and universities and created in the process of national monitoring and other projects. A conclusion was drawn that in order to create digital archives of that kind, national and academic institutions have to work in close collaboration. Issues involved with recording of unpublished or otherwise sensitive materials produced by researchers were highlighted as a separate problem. Those data must sometimes be inaccessible to other users. How long they should be unavailable is to be decided by data owners (e.g. researchers) on the one hand, and funding agencies of the project on the other hand. The idea of initiating the digital archives in biodiversity and geosciences on the basis of the Estonian Research Infrastructures Roadmap project “Natural History Archives and Information Network (NATARC)” was considered sensible by the attending parties. In its frame-work a unified information system for recording and storage of data will be created on the basis of three universities (University of Tartu, Tallinn University of Technology and Estonian University of Life Sciences).

The Committee on Phylogeny and Taxonomy represented Estonian natural history archives in the international organisation Consortium of European Taxonomic Facilities (CETAF). The CETAF secretariat office was opened on the premises of the Royal Belgian Institute of Natural Sciences in Brussels in

2012. Its task is to represent the interests of European natural science archives, incl. natural history museums and intervene, if necessary, to development of European legislation in the sphere of natural environment.

Members of the Committee on Phylogeny and Taxonomy were actively involved in the work of the Estonian Research Infrastructures Roadmap project NATARC. Urmas Kõljalg, Chairman of the Committee is concurrently Chairman of the NATARC Council. Olle Hints is another member of the Committee belonging to the NATARC Council. Members of the Committee also participate in the work of the Humanities and Natural Sciences Collections Expert Panel at the Ministry of Education and Research.

COMMITTEE ON MARINE SCIENCES

Set up in 2007

Chairman Member of the Academy Tarmo Soomere

One electronic meeting and one opinion poll were held in the reporting year. Information concerning plenary sessions of the European Marine Board was provided to members of the Committee on the need to know basis. In 2012 no specific recommendations or proposals were formulated for submission to the Marine Board.

Possible participation of Estonia in the planned ERA-NET marine biotechnology programme was on the agenda of an electronic opinion poll (30.08-30.09.2012). Irrespective of rather moderate feedback, a principled agreement was reached with the Estonian Research Council that the Academy might be the representative of Estonia in the programme.

The electronic meeting (22.09-04.10.2012) was dedicated to forming the Academy's opinion concerning a new survey permit request submitted to the Estonian Ministry of Foreign Affairs by Nord Stream AG. It was found that: (i) the suitability of Nord Stream's pipelines to the Baltic Sea as a particularly sensitive sea area is questionable in principle; (ii) the environmental impact of the planned facilities is extremely difficult to assess adequately due to the complex nature of processes occurring at sea, scarcity of respective data, inadequateness of models and restricted possibilities of field works; (iii) while executing earlier similar plans Nord Stream has failed to show itself as a reliable partner; (iv) the use of vibro-probes, also known as vibro-drills in Estonian specialist literature, has been planned as one type of device in the process of geotechnical survey; (v) it is not clear how laying of the pipeline in the proximity of Estonian economic zone might affect the Estonian sea areas. The Committee reached a conclusion that Estonia should observe a conservative policy with regard to management and nature conservation in the Baltic Sea as an especially vulnerable sea area and refrain from issuing the permit.

Tarmo Soomere (Chairman of the Committee) participated in the spring plenary session of the European Marine Board in Southampton on May 15-16

and the autumn plenary session in Texel (Holland) on October 15-17, the spring session of the EASAC Environmental Panel in Brussels on April 24 and the autumn session on October 23. He was elected Vice-Chair of the Executive Committee of the Marine Board-ESF (European Marine Board since autumn 2012) during the plenary session in Southampton.

Tarmo Soomere and a member of the Committee Urmas Lips gave reports on the Nord Stream issues at the session of the Environment Committee of Riigikogu on March 12. The Committee was actively involved in organising the public forum “Liquefied Natural Gas: Options and Possibilities” which was jointly held by the Faculty of Power Engineering at Tallinn University of Technology and the Academy's Division of Informatics and Engineering.

The Committee participated in sustainable development analysis of seas and oceans organised by EASAC and consultations in issues concerning the launch of marine biotechnology related ERA-NET “Marine Biotech”. The Committee organised a joint seminar of the delegations of the Estonian and Russian Academies of Sciences in Tallinn, where the protocol of cooperation was signed between the Academies.

Tarmo Soomere delivered an invited talk “A future technology of environmental management for the Gulf of Finland” at a planning seminar for the Gulf of Finland Year 2014 held at the Finnish Environment Institute on February 29 and a paper “FuturICT panels and challenges for Estonia” at the international seminar “Complexity and Crisis Management in Society and Environment” at the Estonian Academy of Sciences on 28 May. The tasks of the Committee are indirectly reflected in the lecture “Towards a new generation of techniques for environmental management of maritime activities” delivered by Tarmo Soomere at an international symposium “Environmental Security of the European Cross-border Energy Supply Infrastructure” funded by NATO Science for Peace and Security Programme (Moscow, Sergeev Institute of Environmental Geoscience, Russian Academy of Sciences, 30-31 October 2012).

The Committee has continually fulfilled its main tasks, representing Estonian marine sciences in the European Marine Board and excellence in marine sciences in the European higher education and research landscape, forwarding messages about the marine science to the society and, if necessary (also proactively), counselling the government of Estonia. The reporting year proved groundbreaking for activities in the direction of Europe: election of T.Soomere as Member of the Executive Committee and Vice-Chair of the European Marine Board opens significantly wider opportunities to influence and shape European policies relating to marine sciences, enhance the visibility of marine science in countries bordering the Baltic Sea and in Estonia and definitely reinforces the position of Estonian marine and coastal sciences.

STANDING COMMITTEE ON MEDICAL SCIENCE AND HEALTH STRATEGY

Set up in 2011

Chairman Member of the Academy Eero Vasar

The most influential event for the Committee was the seminar held in Tallinn University of Technology on April 27 “How sustainable is Estonian medicine?”. During the meeting several vital issues were raised, which might be in focus among the activities of the Committee in 2013:

- More efficient cooperation between medical centres in Tartu and Tallinn in order to enhance the quality of medical aid, offer better training for future physicians, dentists and pharmacists, boost the international competitiveness of medical research in Estonia.
- Preparation of a long-term development plan to secure the sustainability and funding of R&D activities in healthcare. This issue (above all composing a frame of reference) was discussed at a meeting of the Committee at the Biomedicum in Tartu on December 28.

COUNCIL FOR ESTONIAN CENTRES OF EXCELLENCE IN RESEARCH

Set up in 2012

Chairman Member of Academy Jüri Engelbrecht

Conceptual principles for a Development Plan of the Academy (2014-2020) feature within the array of proximate objectives establishment of the Council for Estonian Centres of Excellence in Research. The Heads of 12 Centres of Excellence gathered at the Estonian Biocentre in Tartu on May 17, 2012 and signed a constitutive act of the Council (hereinafter ETTKN). Promotion and enhancement of research excellence in Estonia and delivery of the opinions of top scientists to the Government of the Republic and the public were set as the main goals. J.Engelbrecht was elected Chairman of the ETTKN. The above-mentioned 12 Centres of Excellence, which are funded through the EU Structural Funds and whose Heads constitute the ETTKN are the following:

- Centre of Excellence in Biodiversity Research (M.Zobel);
- Centre of Excellence in Genomics (M.Remm);
- Centre of Excellence for Translational Medicine (E.Vasar);
- Centre of Excellence in Computer Science (T.Uustalu);
- Centre of Excellence in Chemical Biology (T.Tenson);
- Centre of Excellence in Cultural Theory (V.Lang);
- Centre for Integrated Electronic Systems and Biomedical Engineering (R.Ubar);
- Centre of Excellence in Research in Environmental Adaptation (Ü.Niinemets);

Centre of Excellence in Mesosystems – Theory and Applications
(V.Hižnjakov);
Centre of Excellence High-Technology Materials for Sustainable
Development (E.Lust);
Dark Matter in (Astro)particle Physics and Cosmology (M.Raidal);
Centre for Nonlinear Studies (J.Engelbrecht).

The Council contemplated drafting a vision on the role of the Centres of Excellence in the planned new strategy Knowledge Based Estonia III, which should be harmonised with the new EU Horizon 2020 Programme. In a letter to the Estonian Research Council, the ETTKN called attention to an inherently dangerous situation rising from uncertainty as to how institutional and personal research funding instruments were entangled. The Estonian Research Council in its reply recited all dates (incl. call for the round of applications March 15, submission of applications April 30 and approval of evaluation guidelines May 25). What to think of it all depends on a person's discretion.

The ETTKN has also formulated its recommendations to the Ministry of Education and Research as well as the Research and Development Council for continuation of the Centres of Excellence programme with a view to the Estonian Strategy "Horisont 2020" under preparation. The estimated funding under the Scheme of Centres of Excellence was considered to constitute up to 20% of research funding from budgetary allocations, i.e. total financing amount of institutional and personal research grants. Further Centres of Excellence programmes should gradually transfer to state-budget funding to secure sustainability and decrease dependence on the Structural Funds.

When the Estonian Research Council was launched, resounding words were uttered on the researcher's career pattern, which in fact are not revealed in the existing documents. Clarity was sought on the issue at the autumn meeting which was presided over by the new Head of the Estonian Research Council.

With the passage of time the rules still remained inexplicitly specified even in December 2012. Thus, the ETTKN sent a letter to the Minister of Education and Research striving to voice, prior to the following session of the Research Policy Committee, its concern about amendments to regulations concerning application for institutional research funding, which had not been subjected to discussion and hereby presented a hidden threat of possible administrative redistribution of funding. Also discussed were problems relating to delayed providing of guidelines for evaluation and for applying, and the ambiguities concerning indeterminate employment contracts of researchers.

Exchange of opinions on many sore points has evolved on the website of the ETTKN. Most crucial to funding are the essential issues, such as: the analysis of the system as an integral entity is required; the research career model calls for attention; the needs resounding as phrases devoid of meaning in docu-

ments are to be specified; evaluation rules must be distinctly clarified and introduced beforehand; assessment should provide evidence of whether the initiated competition is promoting development of science. Criticism was levelled against reviewing of applications. The questions about reckoning with depreciation and inflation, etc. were raised with a view to the future. The professed goal should be the stability of funding, the guiding principle – money should be invested in people.

The ETTKN jointly with the Academy plans to hold a meeting on topics of excellence, which are similarly in focus all over the world, not just here. As the ETTKN works under the auspices of the Academy, the Academy has applied for support to hold a conference on excellence in 2013 under the state programme “Internationalisation of Science”. The response was negative regardless of the support from the Estonian Research Council. The motivation of the Ministry of Education and Research deserves repetition, “When reaching a decision to refuse, the Ministry of Education and Research has drawn on the Programme Advisory Board principle that holding of this conference is in the first place associated with the interests of the Centres of Excellence concerned and could be organised by using the funds allocated to them earlier”. However, we still hope to hold the conference in October 2013.

To increase the visibility of Centres of Excellence, a booklet with reviews “Estonian Centres of Excellence in Research” appeared as a result of our common effort and supported by the Foundation Archimedes. Pursuant to an offer from “Eesti Päevaleht”, a special issue “Estonian Centres of Excellence in Research” was released on August 2012 with a general outline and accompanying views on the issues expressed by Heads of all 12 Centres of Excellence. Thus, an agreement was reached with “Eesti Päevaleht” for publication of further success stories, with an emphasis on younger scientists. Although some things have been actualised, there is still much potential for progress.

STANDING COMMITTEE ON CYBER SECURITY

Set up in 2012

Chairman Member of Academy Leo Mõtus

The Board of the Academy approved on June 4, 2012 the composition of the Standing Committee on Cyber Security: Leo Mõtus (Chairman), Raul Rikk (Vice Chairman), Arne Ansper, Ülo Jaaksoo, Johannes Kert, Agu Kivimägi, Markko Künnapu, Jaan Priisalu, Margus Püüa, Rain Ottis, Tiit Tammiste, Enn Tõugu, Toomas Vaks.

Members of the Standing Committee represent, besides the Academy the ministries of Estonia important from the position of Cyber Security (Ministry of Justice, Ministry of Defence, Ministry of Economic Affairs and Communications, Ministry of the Internal Affairs) and institutions (Estonian Information System’s Authority, EMT, AS Cybernetica, Trustcorp, Institute of Cyber-

netics at Tallinn University of Technology) and NATO Cyber Defence Centre.

The goal of the Standing Committee is to analyse as an impartial and competent expert body the development of cyber security strategy in the world and Estonia, estimate practical steps for providing cyber security in Estonia by focusing on international cooperation aimed at ensuring cyber security, necessary both in training of the cyber defence specialists and promoting of relevant scientific research and developing of general cyber security related competence in Estonian society. Results of the work are released as comparative analyses, recommendations and estimates.

In 2012 the Standing Committee held four meetings:

- June 14 – setting down principles for internal organisation of work at the Standing Committee, deriving from the sensitive character of several issues considered; coordination of the initial working plan; admitting that the need for cyber security has not yet received adequate reflection in the State Defence Strategy.
- August 30 – session of the Standing Committee at Kõue manor, hearing and discussion of a report by Toomas Vaks on implementation of cyber security strategy in 2008-2012. Preliminary discussion of principal strategy positions for 2014-2020. The second half of the session dealt with experiences presented by representatives of Cyber Defence League about implementation of cyber security at Spring Storm exercises.
- September 27 – Standing Committee started hearings on research in cyber security conducted in Estonia – three reports were given by representatives of AS Cybernetica (Ü.Jaaksoo – general presentation, P.Laud – research and A.Ansper – implementation of research results). E.Tõugu spoke about research at the Institute of Cybernetics and NATO Cyber Defence Centre. Every report was followed by a discussion. It was decided to continue hearings on research issues at the following meeting. The Standing Committee also discussed new recommendations for the content of 2014-2020 Cyber Security Strategy.
- November 29 – continued hearing of reports on research issues – cyber security in banking (on the example of SEB, P.Leis), research at NATO Cyber Defence Centre in greater detail (R.Ottis) and analysis of the testing results for security of web applications (M.Hakkaja). The following discussion indicated a need for urgent improvement of the measures to control and provide the quality and security requirements for software used in Estonia – Estonia has reached a stage in its development, where it would be reasonable to lay down the quality and security standards to be followed by software producers in their products, which should be obligatory for certain applications.

ACADEMY EVENTS

CONFERENCES

May 28 – Academy Hall hosted the conference COMPLEXITY AND CRISIS MANAGEMENT IN SOCIETY AND ENVIRONMENT.

Introductory speeches were given by Vice-President of the Academy Jüri Engelbrecht and Professor Steven Bishop

Conference papers included:

Mediated interactions for creating self-aware architecture

Leo Mõtus, Estonian Academy of Sciences (EAS)

FuturICT: The FET Flagship proposal that will help understand and manage our globally connected world

Steven Bishop, University College London, FuturICT team

Applications of complex systems in social sciences

Robert Kitt, CENS/Swedbank

A new metric for the economic complexity of countries and products

Luciano Pietronero, ISC-CNR/University Sapienza, Rome, Italy

Latvian ICT Research and FuturICT

Egils Ginters, Vidzeme University of Applied Sciences, Latvia

Environment, society and human minds in terms of coherence managed by the synchronization processes

Darius Plikynas, Academy of Management and Business, Lithuania

FuturICT teams and challenges for Estonia

Tarmo Soomere, EAS

Integrated risk management for health and dependability

Raimund Ubar, EAS

Skype and FuturICT – why are we here

Filipp Seljanko, Skype/Quality Tools & Services, Estonia

Engineering socio-technical systems – one of the foundations of FuturICT

Kuldar Taveter, Tallinn University of Technology

Mobile positioning based solutions for emergency management

Rein Ahas, University of Tartu

Presentations were followed by a panel discussion with Marek Tiits (Institute of Baltic Studies), Jüri Engelbrecht (Institute of Cybernetics and CENS), Atis Kapeņieks (Riga Technical University), Andre Karpištšenko (MarineXplore), Marlon Dumas (Software Technologies and Applications Competence Centre).

November 7 – Energy Forum LIQUEFIED NATURAL GAS: OPTIONS AND OPPORTUNITIES, jointly organised by the Academy's Division of Informatics and Engineering and the Faculty of Power Engineering at Tallinn University of

Technology, was held in the Capella Hall of the Nordic Hotel Forum Conference Centre. The Forum was attended by energy experts, entrepreneurs, researchers and local authority representatives. Pros and cons of various development projects with reference to the prospective liquefied natural gas (LNG) terminal in Estonia were under discussion. Members of the Academy Mihkel Veiderma, Jüri Martin and Tarmo Soomere provided an insight into manifold aspects pertaining to the construction of the LNG terminal. Energy sector experts Roman Bogdanovitš (Estonian gas distribution grid operator EG Võrguteenus), Annette Berkhahn and Richard Sarfield-Hall (consulting company Pöyry) presented their positions. The forum was moderated by Dean of the TUT Faculty of Power Engineering Arvi Hamburg.

November 12 – Academy House was the venue for the CONFERENCE OF THE STUDENT RESEARCH PAPER CONTEST WINNERS and the award ceremony. The Academy has established monetary awards to acknowledge talented students for outstanding accomplishments in research and to encourage their independent science efforts in the future. As a tradition, the opening remarks were made by President of the Academy Richard Villems and the event was moderated by Georg Liidja, Chair of the contest jury.

Five prize winning papers were delivered at the conference:

S.Sildever University of Copenhagen, Influence of the surface layer salinity gradient to the structuring of biological communities in the Baltic Sea

A.Loot University of Tartu, Characterising surface plasmons and thin gold film by Kretschmann configuration

L.Veski University of Tartu, National psychology in the writings of Ilmar Tõnisson

R.Paromonov Tallinn University, Tallinn taxi owners and drivers. The meaning, impact and linkages of taxis to society in 1920-1940

M.Luhakooder Tallinn University of Technology, Regulation of subcellular localisation of human NFAT proteins by neuronal activity

December 28 – Senate Hall of the University of Tartu was the venue for a conference “The Hundred Years of Language Renewal” celebrating the 85th birthday of Huno Rätsep.

The following papers were presented to the audience:

Huno Rätsep, Language planning attempts in Estonian undertaken by Johannes Aavik in 1913

Kristiina Ross, Old renewals in South and North Estonian languages

Martin Ehala, The bounds and analogies of language renewal

Karl Pajusalu, Language renewal in Estonian and its dialects

SEMINARS

April 27 – University Council Chamber at Tallinn University of Technology was the venue for a seminar organised by the Academy’s Standing Committee on Medical Science and Health Strategy under the title HOW SUSTAINABLE IS ESTONIAN MEDICINE? Participants of the seminar were offered an opportunity to take a preliminary look around the new Technomedicum premises. During the guided tour a visit was paid to the Department of Clinical Medicine presented by Head of Department Rutt Sepper and to the Department of Biomedical Engineering with talks given by Director of Technomedicum Kalju Meigas and Head of Department Ivo Fridolin.

Introductory remarks were made by President Richard Villems, the following papers were presented:

Estonian healthcare funding: current status and potential options

Andres Võrk, Praxis Centre for Policy Studies

Interdependencies in health and social care, their impact on the development of society

Ain Aaviksoo, Praxis Centre for Policy Studies

Selections and omissions in Estonian health care system

Raul-Allan Kiivet, Faculty of Medicine, University of Tartu

Sustainability of medical education

Toomas Asser, Faculty of Medicine, University of Tartu

The meeting was concluded by a lively discussion attended by Minister of Social Affairs Hanno Pevkur.

October 24 – Academy House hosted the seminar DOCTORAL STUDIES FROM THE VIEWPOINTS OF SEPARATE INTEREST GROUPS. The papers included:

Hotspots of PhD studies in Europe and good supervisory practices in Estonia

Liisa Parv, PhD Student, Tallinn University of Technology (TUT)

Concerns and delights of a PhD student

Friedrich Kaasik, PhD Student, University of Tartu (UT)

Social and financial position and performance of PhD students in the educational sphere

Margus Pedaste, Professor, UT

The life of a young Estonian scientist through supervisor’s eyes

Marko Vendelin, Senior Reseacher, TUT

PhD studies in Estonia – challenges and trouble spots on the example of the University of Tartu

Marco Kirm, Vice-Rector for Research, UT

The role of graduate schools in forwarding PhD studies

Raul Eamets, Professor, UT

PhD studies from the standpoint of the Eesti Energia Group

Indrek Aarna, Head of R&D Department, Enefit

The quality of PhD studies from the angle of interest groups

Jakob Kübarsepp, Member of the Estonian Academy of Sciences

The following discussion was moderated by Tarmo Soomere, Member of the Estonian Academy of Sciences.

November 15 – Academy House was the venue for a commemorative seminar dedicated to the 100th anniversary of the departed Member of the Academy Harald Keres A CENTURY LONG LIFE JOURNEY OF HARALD KERES. Several papers were presented by Members of the Academy –“Harald Keres – a classic example of a scientist in exact disciplines ” by Richard Villems, “The life and ethical world view of Harald Keres against the background of changeable times” by Jüri Engelbrecht, “Creative contributions in the research and pedagogical career of Harald Keres” by Arved-Ervin Sapar, “Harald Keres Memorial Medal and its regulations” by Jaak Aaviksoo. Two presentations were made by the daughters of Harald Keres – “Remembering my father’s principal views on science” by Piret Kuusk and “A slideshow of father at home and engaged in science” by Sirje Keevallik. Kalju Luts, a renowned schoolman and educator, gave a talk, which was titled “Recollections of Harald Keres in the role of a classical music practitioner”.

An abundantly illustrated exposition reflecting the life and work of Harald Keres was displayed in the hall of the Academy.

PUBLIC ACADEMIC LECTURES

Two public academic lectures were delivered in 2012:



April 4
Enn Lust
“Trends in high-performance energy”



May 16
Agu Laisk
“The meaning of life”

MEETINGS, DISCUSSIONS

January 27 – extended meeting of the Academy’s Committee on Phylogeny and Taxonomy was held at the AHHA Science Centre in Tartu, where participants had an opportunity to take a look around the AHHA exposition and the planetarium.

The topic of the meeting and the following discussion was “National Digital Archives in Biodiversity and Geosciences – Problems and Solutions”. The papers presented at the meeting afforded to get a brief overview of available academic and national digital repositories:

The role and impact of natural science collections in creating digital archives
Olle Hints, member of the Humanities and Natural Sciences Collections
Expert Panel at the Ministry of Education and Research, Tallinn
University of Technology

National digital archives in biodiversity and geosciences
Andres Vimb, Chief Specialist, Analysis and Planning Department,
Ministry of the Environment

Scientific and scholarly digital archives as a footing for e-tuition
Ivar Puura, BalticDiversity, University of Tartu

What is the Necessity of Creating the National Digital Archives in Biodiversity and Geosciences?

Urmas Kõljalg, Member of the Academy, Chairman of the Academy’s
Committee on Phylogenetics and Systematics, University of Tartu

Members of the Academy Dimitri Kaljo, Tarmo Soomere, Martin Zobel and Urmas Kõljalg took turns moderating the section of discussions. Participants of the meeting fully supported the initiative to create for Estonia a unified digital deposit of biodiversity and geosciences collections.

March 14 – Academy House was the venue for the first event in a roundtable series FROM SCIENCE TO ENTREPRENEURSHIP jointly organised by the Academy and the Estonian Association of Engineers under the title “Power Industry”. Among the invited participants were power company executives, strategists, innovators, etc. Researchers were represented by members of the Academy’s Division of Informatics and Engineering, and Energy Council. The topics on the agenda were involved with the needs of entrepreneurs and opportunities of science.

May 3 – Academy Science Day in Rapla County. The tradition of holding science days was started in 1999 with a visit to Saaremaa. Thus, it was the thirteenth time that the Academy organised such an event.

The first part of the Science Day was held on the Rapla County Government premises. The opening speech was given by Rapla County Governor Tiit Leier, who addressed the audience with a welcome speech and a brief intro-

ductory report on Raplamaa. President of the Academy Richard Villems spoke about the history, membership and role of the Estonian Academy of Sciences in present-day society. He further expressed his contentment over the recently started rejuvenation process in the Academy membership. Critical determinants in heightening the Academy's influence in the society are according to him powerful representation of its members in various decision-making and advisory bodies of Estonia as well as growing leverage of its permanent committees. R.Villems emphasised the necessity to focus on research excellence while planning for the immediate future of the Academy.

Three papers presented by Members of the Academy were dedicated to topical issues in their research areas. Valter Lang gave a talk on an archeological expedition to the hill fort of Keava carried out during 2001-2006. It was one of the largest Viking Age settlements in Estonia and the secondly mentioned place name after Tartu in early Russian chronicles. In the course of fieldwork equal attention was dedicated to the fort-hill and settlements which had been known beforehand as well as to new artefacts recovered during test-excavations, incl. the second hilltop site at Võnnumägi, the third settlement site at Linnaaluste and birch bark pavement. Archeological excavations yielded an ample find assemblage and a bunchful of surprises. As many as four burn layers, a hidden gateway beneath the rampart and besieging traces of Crusader period were revealed at the hill fort of Keava. After completion of excavation works, both the hill fort, now wholly cleared of brushwood, and the reconstructed unique hidden gateway beneath the rampart are displayed for viewing and open for everybody.

Anto Raukas clarified his convictions with regard to climate changes and future energy trends. He expressed his doubt toward the human-caused global warming theory which is one of the fundamental principles of the EU climate policy. He reminded the audience that the climate had been perpetually changing over the last four billion years with warm periods alternating with cold ones at regular intervals. The climate of the Earth is primarily determined by astronomical and geological factors, whereas the influences of human activity on climate changes is minuscule. The second half of his speech was focused on energy crisis. A.Raukas emphasised that the world energy needs would double by 2050. China and India would have joined the United States in the league of energy giants. The resources of fossil fuels are limited and therefore transition toward harnessing renewable energy sources as well as nuclear energy is actually unavoidable.

Urmas Varblane spoke about the first year of the Euro in Estonia, illustrating his presentation with intriguing numerical indicators and comparisons derived from the economic and financial spheres. He characterised several rather divergent future forecasts showing both positive and negative development trends. The currently existing global economy growth scenarios, however, do

not manifest any signs allowing us to expect rapid economic recovery in the immediate future.

In the afternoon the Academy's delegation visited the Gildemann Dolomite Designs workshop at Jalase, the Järvakandi glass museum and glass studio.

The Science Day was attended by Members of the Academy Ain-Elmar Kaasik, Valter Lang, Ülo Lille, Anto Raukas, Enn Saar, Peeter Saari, Tarmo Soomere, Peeter Tulviste, Urmas Varblane and Richard Villems, two of whom – Ü.Lille and T.Soomere – were born in Rapla County.

November 9 – Board of the Estonian Academy of Sciences and the Estonian Association of Engineers made a common journey to Sillamäe. Their tour comprised visits to the Molycorp-Silmet facility, port, industrial park and thermal power plant in Sillamäe, where they discussed engineering issues. Among the receiving officials were: Tiit Vähi, Member of the Management Board (Molycorp-Silmet), David O'Brock, Chairman of the Management Board (Molycorp-Silmet), Jane Paju, R&D Director (Molycorp-Silmet), Tõnis Seesmaa, Member of the Board (Silport Real Estate), Ago Silde, Member of the Board (Sillamäe Thermal Power Plant), and several others.

The delegation included Members of the Academy Arvi Freiberg, Ain-Elmar Kaasik, Agu Laisk, Georg Liidja, Arvo Ots, Anto Raukas, Tarmo Soomere, Martin Zobel, Urmas Varblane, Richard Villems, Chairman of the Academy's Energy Council Arvi Hamburg and ten representatives of the Estonian Association of Engineers.

POPULARISATION OF SCIENCE

SCIENCE PROGRAMME “THE FALLING APPLE”

“The Falling Apple” (first transmitted in 2008 upon initiative of the radio Kuku and the Estonian Academy of Sciences) has been broadcast as a weekly science programme by the radio Kuku since 2010, in close cooperation with the Estonian Academy of Sciences, the University of Tartu and Tallinn University of Technology, presenting and popularising science and scientists. During the time it has been on the air, the programme has won renown and acknowledgement among the regular audience and scientific community alike. The editor and promoter of the programme is Margus Maidla.

The subject fields of the programme can be divided into the following larger thematic blocks:

- Science policy and organisation of science;
- Presentation of Estonian research institutions and scientists;
- Laureates of National Science Prizes;
- The youth in science – attainments and problems;
- Centres of Excellence in research;
- Successful Estonian researchers active at foreign scientific institutions;
- Comments of scientists on topical problems, having caused acute concern in the world – how and whether it affects our daily life?
- Development Centres of Technology and other researches of applied orientation;
- Ethics of science issues.

SCIENCE POLICY AND ORGANISATION OF SCIENCE

Interviews were held with Volli Kalm, Chair of the Estonian Research Council, Jüri Engelbrecht, Vice-President of the Academy and President of the European Federation of National Academies of Sciences and Humanities “All European Academies” ALLEA, Jaak Aaviksoo, Minister of Education and Research, Richard Villems, President of the Estonian Academy of Sciences.

PRESENTATION OF ESTONIAN RESEARCH INSTITUTIONS AND SCIENTISTS

The Estonian Academy of Sciences was represented on the programme by Members of the Academy Martti Raidal, Jakob Kübarsepp, Toomas Asser, Karl Pajusalu and Margus Lopp.

The University of Tartu (UT) – by Toomas Saat, Director of the Estonian Marine Institute and Eduard Parhomenko, Lecturer in History of Philosophy.

Tallinn University of Technology (TUT) – by Peeter Mürsepp, Professor of Philosophy of Science and Methodology of Science, Jaan Janno, Director

and Margus Pihlak, Associate Professor of the Department of Mathematics, Arvi Hamburg, Dean of the Faculty of Power Engineering, Rein Vaikmäe, Professor of Physical Geology, Jüri Elken, Director of the Marine Systems Institute, Mart Tamre, Director and Toomas Kübarsepp, Professor of the Department of Mechatronics.

The National Institute of Chemical Physics and Biophysics – by Raivo Stern, Director and Juhan Subbi, Senior Researcher.

The Estonian Literary Museum – by Janika Kronberg, Director.

PRESENTATION OF LAUREATES OF NATIONAL SCIENCE PRIZES

Broadcasts were attended by Heidi-Ingrid Maaroo, Professor Emeritus of UT, Peeter Laud, Director for Research of AS Cybernetica, Kai Kisand, Senior Researcher of the Institute of General and Molecular Pathology at UT, Ülo Mander, Professor, Kalle Kirsimäe, Professor and Jaan Liira, Senior Researcher of the Institute of Ecology and Earth Sciences at UT, Mart Loog, Senior Researcher of the Institute of Technology at UT, Eiki Berg, Professor of the Institute of Political Science and Governance at Tallinn University (TLU), Jaan Janno, Professor, Director of the Department of Mathematics at TUT.

THE YOUTH IN SCIENCE

Guests included: Jaak Kikas, Professor of the Institute of Physics at UT, Mart Noorma, Associate Professor and Jaan Kalda, Senior Researcher of the Institute of Cybernetics at TUT.

Programmes presenting CENTRES OF EXCELLENCE IN RESEARCH were attended by Jüri Engelbrecht, Vice-President of the Academy and Marko Vendelin, Senior Researcher of the Institute of Cybernetics at TUT, Ülo Niinemets, Professor of the Institute of Agricultural and Environmental Sciences at the Estonian University of Life Sciences (ELUS) and Hannes Kollist, Senior Researcher of the Institute of Technology at UT, Sulev Kõks, Professor of the Department of Physiology at UT and Ursel Soomets, Professor of Medical Metabolomics, Vladimir Hižnjakov, Member of the Academy and Ago Rinken, Professor of the Institute of Chemistry at UT, Enn Lust and Enn Mellikov, Members of the Academy.

TOPICAL PROBLEMS were commented by Peeter Mürsepp, Professor of Philosophy of Science and Methodology of Science at TUT, Ivar Puura, a renowned geologist and palaeontologist, Mati Pääsuke, Dean and Teet Seene, Professor Emeritus of the Faculty of Exercise and Sport Sciences at UT, Jaak Jürimäe, Professor and Jarek Mäestu, Research Fellow of the Institute of Sport Pedagogy and Coaching at UT, Lennart Raudsepp, Professor of Sport Psychology, Vello Hein, Associate Professor of Sport Pedagogy, Vahur Ööpik, Professor of Exercise Biology and Physiotherapy and Eve Unt, Senior Researcher of the Department of Cardiology at UT, Eero Vasar, Member of the Academy and Andres Võrk, Analyst of Labour and Social Policy at

PRAXIS Center for Policy Studies, Jaan Ross and Karl Pajusalu, Members of the Academy, Erkki Truve, Team Leader of the Centre of Excellence in Research on Adjusting to Environmental Changes at TUT, Edgar Karofeld, Professor and Managing Director of the Centre of Excellence Frontiers in Biodiversity Research (FIBIR) at UT, Enn Kaup, Senior Researcher of the Institute of Geology at TUT and Madis Metsis, Professor of the Competence Centre on Reproductive Medicine and Biology at TUT, Andres Metspalu, Member of the Academy and Sulev Kõks, Professor at the Centre of Translational Genomics (CTG) at UT, Üllar Lanno, Director and Marika Väli, Deputy Director of the Estonian Forensic Science Institute, Toomas Asser, Member of the Academy and Janika Kõrv, Senior Researcher of the Department of Neurology and Neurosurgery at UT, Hele Everaus, Head of the Haematology and Oncology Clinic at UT.

DEVELOPMENT CENTRES OF TECHNOLOGY AND OTHER RESEARCHES OF APPLIED ORIENTATION were presented by Jaan Raik, Senior Researcher of the Department of Computer Engineering at TUT, Jürjo Preden, Senior Researcher of the Research Laboratory for Proactive Technologies at TUT, Arvi Hamburg, Dean and Ivo Palu, Associate Professor of the Faculty of Power Engineering at TTU, Jarek Kurnitski, Professor of the Department of Structural Design at TTU, Ivo Fridolin, Director of the Department of Biomedical Engineering at TTU and Merike Luman, Head of the Department of Dialysis and Nephrology at the North Estonia Medical Centre.

ETHICS OF SCIENCE ISSUES were discussed by Agu Laisk, Member of the Academy, Lennart Raudsepp, Professor of Sport Psychology and Vello Hein, Associate Professor of Sport Pedagogy at UT.

The total number of broadcasts in 2012 amounted to 53.

Broadcast times:

- Originally on the air on Sundays from 15.00-16.00;
- Repetition at varying times.

According to the listening ratings of the programme the weekly average number of listeners reached 18 000, Podcast downloading – around 20 000 downloads per month.

RESEARCHERS' NIGHT 2012

Estonia participated for the seventh year in the series of the European Researchers' Night activities aimed at presenting researchers and science related issues to the public. National events were coordinated by Science Centre Foundation AHHAA, whereas the Academy was involved as project partner. It is a project-based undertaking, co-financed by the European Commission.

The objective is to arrange during one Friday (day-and-night) in September fascinating and attractive events designed for broad-based attendance: study visits to science centres and museums, science theatre shows, science cafes, workshops, playful activities for younger children, concerts with scientists as performers, etc. This time the Researcher's Night was held on September 28.

Similarly to earlier years, the Academy helped compose the plan of activities and coordinate the events in Tallinn. The aim was to open as many as possible laboratories, which were otherwise not accessible by ordinary citizens to both younger and older people keen on gaining knowledge. For that purpose the Academy attracted a number of cooperation partners – scientists from the National Institute of Chemical Physics and Biophysics, several institutions of Tallinn University of Technology (T.J. Seebeck Department of Electronics, Department of Chemistry, Department of Gene Technology, Department of Thermal Engineering and Department of Machinery) as well as TUT Museum to take part in organising various events. Likewise, Tallinn Botanic Garden offered free admission to its territory and collections for everybody interested. The townsfolk took a fancy to the science cafe located inside Tallinn Television Tower, where Andi Hektor and Martti Raidal (Member of the Estonian Academy of Sciences) spoke on particle physics, cosmology, dark matter and the Higgs boson.

A host of events were held as organised by Tallinn Centre of AHHA in Liberty Square and elsewhere all over the city. On top of Tallinn, events of the Researchers' night were held in Tartu and other Estonian towns. A live telecast was put on air by Estonian Television.

ACADEMY MEDALS, AWARDS

MEMORIAL MEDALS OF THE ACADEMY

In 2012 the Board of the Estonian Academy of Sciences decided to confer the Karl Schlossmann Memorial Medal on

Ain-Elmar Kaasik, Member of the Estonian Academy of Sciences.

The medal was handed over during the annual meeting of the General Assembly.

STUDENT RESEARCH PAPER PRIZES

78 research papers were received for the contest of Student Research Paper Prizes in 2012. The papers were examined by the Appraisal Panel of the Academy including Georg Liidja (Chair), Mati Karelson, Enn Tõugu, Jaan Undusk and Urmas Varblane as experts.

The Panel decided to grant 12 prizes (à 400,00 Euro) to the following papers:

Danel Ahman (University of Cambridge) MSc thesis “Computational effects, algebraic theories and normalization by evaluation”;

Tõnis Arroval (University of Tartu) MSc thesis “Influence of growth conditions and substrate material on atomic layer deposition of TiO₂”;

Sander Jürisson (Tallinn University) MSc thesis “Estonians in Brasil: migration and adaptation”;

Gerda Kosk (Tallinn University) BA thesis “Nostalgia and narcissism: Japanese school girl uniforms as ethnical symbols and icons of culture”;

Kaidi Kriisa (University of Tartu) MSc thesis “Lingua Latina sive sermo vernaculus noster? The relation between the Latin and vernacular languages in Disputations and Orations during the Academia Gustaviana Period (1632-1656)”;

Ardi Loot (University of Tartu) BSc thesis “Characterizing surface plasmons and thin gold film by Kretschmann configuration”;

Mirjam Luhakooder (Tallinn University of Technology) MSc thesis “Regulation of subcellular localisation of human NFAT proteins by neuronal activity”;

Sandra Mälk (Estonian Academy of Arts) MA thesis “New rural school-houses in Estonia 1920-1940. History, typology, values and preservation”;

Rasmus Palm (University of Tartu) BSc thesis “Influence of solvent addition on 1-ethyl-3-methylimidazolium tetrafluoroborate properties as electrical double layer capacitor electrolyte ”;

Riho Paramonov (Tallinn University) MA thesis “Tallinn taxi owners and drivers. Taxi’s meaning, impact and linkage with society in 1920-1940”;

Sirje Sildever (University of Copenhagen) MSc thesis “Influence of the surface layer salinity gradient to the structuring of biological communities in the Baltic Sea”;

Liisi Veski (University of Tartu) BA thesis “National psychology in the writings of Ilmar Tõnisson”.

ESTONIAN SCIENCE COMMUNICATION AWARD

The Estonian Science Communication Award is an annual state award that has been granted since 2006 for science communication activities aimed at Estonian audience. Funded by the Ministry of Education and Research, prizes are jointly awarded by the ministry, the Estonian Academy of Sciences and the Archimedes Foundation. The competition was held in 2012 for the seventh year.

The purpose of this award is to highlight popularisation of science, promote activities towards communicating research to the public and give recognition to individual researchers as well as research groups, who have succeeded in presenting research, science achievements and research efforts of scientists in a generally fascinating form as well as in rendering research understandable to a wider public, have accomplished to attract young people to the research realm and researcher’s profession. The Lifetime Achievement Award is since 2012 named after Tiiu Sild.

Candidates for the award were nominated in six categories. The Appraisal Panel of the competition chaired by Member of the Academy Enn Tõugu resolved to confer the awards as follows:

Tiiu Sild Memorial Lifetime Achievement Award for long-standing conscientious commitment to public communication of science and technology was granted to

Tullio Ilumets

Popularising science and technology through audiovisual and electronic media

- Grand Prize: television series “Rakett 69” (Rocket 69), production company Vesilind OÜ

- Motivation Prize: radio series “Eesti lugu” (Estonian Story), author Piret Kriivan (Responsible Editor, Vikerraadio)

Popularising science and technology through the written word

- Grand Prize: Tuul Sepp, children’s book “Putukad õhus, maas ja vees” (Insects in the air, on the ground and in water) and series of articles on the life of birds in the journal “Eesti Loodus” (Estonian Nature)
- Motivation Prize: Margus Maidla, series of individuals’ stories about Members of the Estonian Academy of Sciences in the cultural monthly “KESKUS”

Actions/series of actions for communication of science and technology

- Grand Prize: Tallinn University of Technology Virumaa College – Technology is cool!
- Motivation Prize: furthering of student science at Viimsi Secondary School and establishment of the Collegium Eruditionis science centre, student science coordinator Peeter Sipelgas

Best scientist, journalist, teacher popularising science and technology

- Grand Prize: Kaido Reivelt for popularising natural and engineering sciences among students and undergraduates
- Motivation Prize: Riin Tamm for presentations given at Estonian schools as Science Ambassador of the Year 2012

Best innovative action popularising science and technology

- Grand Prize: schoolchildren’s science-based summer camp “Teadus-malev” (Summer squad), tutor Mart Noorma
- Motivation Prize: Science City on Tartu Toome Hill 2012, University of Tartu History Museum

Letters of Appreciation were given to the following science communicators:

- Social Pedagogy Research Institute for long term raising of teachers’ awareness on pedagogical and other influential issues in school life
- Olle Arak, teacher of physics and head of hobby circle at Kuressaare Gymnasium, for popularisation of natural and engineering sciences
- Oskar Noorkõiv for popularisation of natural sciences (physics and astronomy)

The competition’s award fund in 2012 amounted to 21,500 Euro in total. The Lifetime Achievement Award was worth 6500 Euro, accompanied by a sculpture – Stanislav Netchvolodov’s “Möbius strip”. Winners in other categories received: Grand Prize – 2,500 Euro and Motivation Prize – 500 Euro. Results of the competition were announced and prizes were handed over during the Science Media Conference “Teadushimuline meedia” (Eager-to-learn media), held at Tallinn University on November 16.

PUBLICATIONS OF THE ACADEMY

Books published by the Academy in 2012:

- “Estonian Academy of Sciences Yearbook XVII (44)” in Estonian and in English
- The sixteenth book in the series “National Science Prizes” (in Estonian), providing an overview of the award-winning researchers in 2012 and their studies
- “Estonian Centres of Excellence in Research. Focus, aims, perspectives”
The compendium of articles offers a brief insight into the activities of Estonian Centres of Excellence in Research as they stand in 2012. The booklet was prepared through a joint effort of the Heads of Centres.

Electronic versions of all the publications are available at www.akadeemia.ee.

For information about scientific and scholarly journals published by the Estonian Academy Publishers, see p. 98-100.

INTERNATIONAL SCIENTIFIC RELATIONS

The Estonian Academy of Sciences represents Estonia in several international scientific organisations bringing together science community on cross-specialty issues at the level of top researchers and science policy makers.

The European Federation of Academies of Sciences and Humanities “ALL European Academies” (ALLEA; www.allea.org) was headed as President for two periods by Vice-President of the Estonian Academy of Sciences Jüri Engelbrecht. In his speech to the ALLEA General Assembly (April 2012) J.Engelbrecht gave a retrospective analysis of the past six years. He expanded upon the achievements (reinforcement of the secretariat, broadening of activities by more efficient involvement of member academies, closer contact with the European Commission as well as other European-wide organisations, contributing towards greater appreciation for independence of academies, etc.), which heightened the visibility and impact of ALLEA. On the other hand, he called attention to some tangible threats (e.g. rivalry *versus* cooperation at European level) and problems (funding) (see Appendix 2, pp. 187-191). Professor Günter Stock (Germany) was elected the new President of ALLEA. Raivo Uibo (Member of the Estonian Academy of Sciences) is a member of the ALLEA Standing Committee on Science and Ethics.

The European Academies’ Science Advisory Council (EASAC; www.easac.eu) is formed by the national science academies of the EU member states. A representative from each member academy sits on EASAC Council, wherein Estonia is represented by Secretary General Leo Mõtus. The great majority of EASAC activities are carried out by specific expert groups, the so-called panels. Chairman of the Committee on Marine Sciences at the Estonian Academy of Sciences Tarmo Soomere is working as an expert on the Environmental Steering Panel. He is also the contact person between the Panel and the ESF European Marine Board aiming to contribute towards harmonisation of their activity and exchange of information. The Academy’s Committee on Marine Sciences participated in an analysis organised by EASAC regarding the sustainable development of seas and oceans. In the Energy Steering Panel the Estonian Academy of Sciences is represented by Enn Lust.

The Academy is no longer a member of the European Science Foundation (ESF; www.esf.org). The ESF is passing through a process of significant change which is presumably leading to termination of its activities (2015), whereas the realisation of ongoing developments is not explicitly determined thus far. However, the Academy continues as a member of the European Marine Board working under the auspices of the ESF and keeps on supporting

the European Polar Board. The further work of both boards has been devised independent of the potential development scenarios for the ESF. In the European Marine Board the Academy is represented by T.Soomere, whose election to the position of its Vice-Chair in May 2012 has opened up considerably wider opportunities for inclusion of subjects essential for Estonia into the new framework programme.

Mandated by four Estonian institutions holding natural science collections, the Academy has entered the Consortium of European Taxonomic Facilities (CETAF; www.cetaf.org). Beside its other activities the CETAF is actively involved in developing EC environmental legislation, incl. in preparation of the so-called Nagoya Protocol. Chairman of the Academy's Committee on Phylogeny and Taxonomy Urmas Kõljalg is a member of the respective working group.

The Union Académique Internationale (UAI; www.uai-iaa.org) unites academies engaged in the 'soft' sciences and focuses its activity mainly on the humanities. The Academy is represented in the UAI by Member of the Board Peeter Tulviste, who has been entrusted with two permanent responsibilities: to act as a member of the UAI External Relations Committee and to maintain contacts between the UAI and International Social Science Council (ISSC), incl. participation in the ISSC sessions.

The Academy also takes part in the work of several other worldwide science organisations, such as International Council for Science (ICSU; www.icsu.org), InterAcademy Panel on International Issues (IAP; www.interacademies.net), etc. Close involvement of Estonian representatives in European and worldwide science organisations offers the Estonian research community a gateway to decision-making processes in issues that are dealt with at the European level and affords them to access international discussion forums with scientific approaches to issues vital for Estonia.

The Academy continued supporting the contacts of the Estonian scientific community with international scientific unions, whose mission is to provide a forum, synergy, strategy and voice in their areas of knowledge. The Academy gives priority to ICSU member organisations. By means of a targeted allocation from the Ministry of Education and Research the Academy organised payment of membership fees and supplied the Ministry with a review on the activities of respective national contact organisations (see the list in Appendix 3, p. 192-194). Participation in international scientific unions empowers Estonian scientists to influence the policies and strategies in their areas of expertise and affords them to clarify the positions of research in Estonia.

The Estonian Academy of Sciences similarly to multiple other European academies supports and finances international mobility of researchers through a SCIENTIFIC EXCHANGE PROGRAMME. Bilateral cooperation agreements

(full list of partners is presented in Appendix 4, p. 195) serve as the formal basis for exchange of scientists.

In 2012 cooperation agreements were signed with three new partners – the Georgian National Academy of Sciences, Academy of Sciences of the Republic of Tajikistan and Tajik National University. The latter two agreements were signed in Tallinn during the visit that the President of the Tajik Academy of Sciences Mamadsho Ilolov and Rector of the Tajik National University Hayet Odinaev paid to Estonia in June on the invitation of the Estonian Academy of Sciences. The cooperation agreement with the Academy of Sciences of the Republic of Bashkortostan was renovated in the cause of a business trip to Ufa made by President of the Estonian Academy of Sciences Richard Villems (likewise in June). In March Estonia was visited by Vice-President of the Russian Academy of Sciences Nikolay Laverov and Academician-secretary of the Department of Earth Sciences Alexander O.Gliko, who had a meeting with the executives of the Estonian Academy of Sciences. The attending parties provided reciprocal briefings on the current status of earth and marine sciences in their countries, followed by discussions on areas of potential cooperation. A Memorandum of Cooperation relating to a specific area of study was signed, which is now appended to the general agreement between the Academies.

Proceeding with their cooperation programme, the Estonian and Polish Academies of Sciences in 2012 announced a call for joint research projects. From among the received applications six were selected, on the basis of which reciprocal visits will be funded during the period 2013-2015. On the occasion of an analogical joint call held by the Estonian and Hungarian Academies of Sciences, five of the submitted project applications (similarly for the period 2013-2015) were considered successful by the Academies.

The activity of the scientific exchange programme is supervised by the Council for International Exchanges, comprising of representatives of the Divisions of the Academy and four major public universities – University of Tartu, Tallinn University of Technology, Estonian University of Life Sciences and Tallinn University. The Academy acts on the traditional cost-sharing principle (living expenses in the host country are covered by the receiving party) and gives preference over individual research to reciprocal visits within bilaterally accepted joint projects. As a rule, scientists to be nominated to the receiving Academy for funding are selected by the sending Academy.

The quantitative dimension of scientist exchange has for the third consecutive year been affected by inadequate funding effectuated by economic recession. The budget allocated for reception of visiting scientists did not afford to fully cover the expenses in the amount provided by agreements. For that reason the Academy was compelled to intercede in the selection of scientists nominated to Estonia by making suggestions to partner Academies towards cutting down

both the number and the duration of visits. The Academy in turn kept the nominating of Estonian scientists in acceptable limits for partners, regardless of the quotas rates provided by agreements. The analysis of trends based on statistical data would thus be invalid.

General figures are the following. In 2012 Estonian scientists made 79 study and conference visits (77 visits in 2011; further figures in brackets are also for the year 2011), using the total of 547 (634) days. The total sum of 22,551 (21,976) Euro was expended to cover the living expenses of visiting scientists. The number of hosted scientists was 83 (80), who worked at Estonian universities and research institutions for 562 (551) days in total. It proved possible to keep the average daily expenses at previous year's level – 40.13 (39.88) Euro. Larger Estonian universities (University of Tartu, Tallinn University of Technology) were the most frequent users of the scientist exchange scheme in both directions (outbound from Estonia – inbound to Estonia), whose share collectively constituted over 60% of the visits.

Although the list of cooperation agreements currently includes 32 partner organisations (as of 01.01.2013), the scientist exchange programme has actually been materialised with 13 partners, the largest quantity of visits was reached with Hungary, Poland and Russia. In view of the European Union Neighbourhood Policy the Academy has also focused its attention primarily on the Eastern direction (see also the lately signed new agreements). Consideration has to be given to the fact that nowadays opportunities for scientists to apply for travel grants have significantly multiplied (incl. FP7, programmes co-financed by Structural Funds, national mobility grants).

The Academy encourages direct contacts of young scientists with top actors in the world of science. For that purpose the Academy has signed a trilateral cooperation agreement with the Council for the Lindau Nobel Laureate Meetings and Foundation Lindau Nobelprizewinners Meeting. The mission of science forums which are organised once a year in the small town of Lindau (Germany) is to educate, inspire and connect. On the one hand, it is a meeting place for young talents (numbering around 500) and on the other hand, the older generation, at the same time the elite of the science world – Nobel Laureates (about twenty every year). In 2012 the Academy dispatched to the Physics Forum in Lindau Tiina Liimets, PhD student at the University of Tartu (conjointly Research Associate at Tartu Observatory) and Kristjan Kannike, Researcher at the National Institute of Chemical Physics and Biophysics (now Postdoctoral Scholar in Italy). In the autumn of 2012 the Academy held a contest to attend the 63rd Lindau Nobel Laureate Meeting (Chemistry) in 2013 and presented three best candidates to the Lindau organising committee.

Representatives of the Academy traditionally visited partner academies, attended scientific events, delivered lectures at international scientific forums as

invited speakers, met with delegations visiting the Estonian Academy of Sciences, etc. For greater detail see Chronicle (pp. 7-13).

Estonia is a natural part of the European Research Area. Under these conditions it is highly logical to lay emphasis on COOPERATION WITH THE EUROPEAN UNION RESEARCH INSTITUTIONS and on active participation in EU structures, programmes and projects. For instance, Vice-President Jüri Engelbrecht belongs to the Advisory Board of FP7 project NETWATCH. The goal of NETWATCH is to create the information platform and searching environment, which would allow analysing cohesion of national programmes implemented through the ERA-NET scheme to cross-border development and funding of collaborative research, to monitor the impact and efficacy of the scheme as compared to other cooperation programmes. J.Engelbrecht also belongs to the Advisory Group of the FP7 specific programme "People". The Academy was for the seventh year in succession involved as a partner in the FP7 Europe-wide project series "Researchers' Night" aimed at enhancing public recognition of researchers and scientific careers. For greater detail see p. 51.

The European Union regards as a matter of high importance to provide scientists with advantageous occupational and mobility opportunities as well as favourable conditions for moving from country to country for the purpose of research or study. Together with the Estonian Research Council (coordinator in Estonia), the Archimedes Foundation, the University of Tartu, Tallinn University of Technology, the University of Life Sciences and Tallinn University the Academy participates in the European Network EURAXESS. The Network was initiated by the European Commission with a view to advising researchers moving to another country, including those proceeding to work and/or embark on a PhD programme as well as their family members on administrative and practical issues. Service centres offer information on a broad range of topics, e.g. visas, residence and work permits, vacant research jobs, social insurance, availability of medical aid, local everyday utilities, etc. The European Commission organises to members of the Network trainings and conferences at the European level, attended among others by officers of the Foreign Relations Unit of the Academy (see <http://euraxess.ee>).

NATIONAL AWARDS TO MEMBERS OF THE ACADEMY

NATIONAL SCIENCE PRIZE

Based on nominations from the National Science Prize Committee, the Government of the Republic of Estonia by Ordinance of 9 February 2012 No. 69 awarded

THE SCIENCE PRIZE FOR LONG-STANDING ACHIEVEMENTS IN RESEARCH AND
DEVELOPMENT



Ülo Lumiste

“... research efforts in geometry are the particular area among my studies that has been considered worth rewarding. ...the latest summaries of my work are presented in two monographs: “Semiparallel submanifolds in space forms” (Springer, New York, 2009) and “Foundations of geometry, based on betweenness and flag-movements” (*Estonian Mathematical Society*, Tartu, 2009).”

National Science Prizes, 2012.

ANNUAL SCIENCE PRIZE
IN THE HUMANITIES

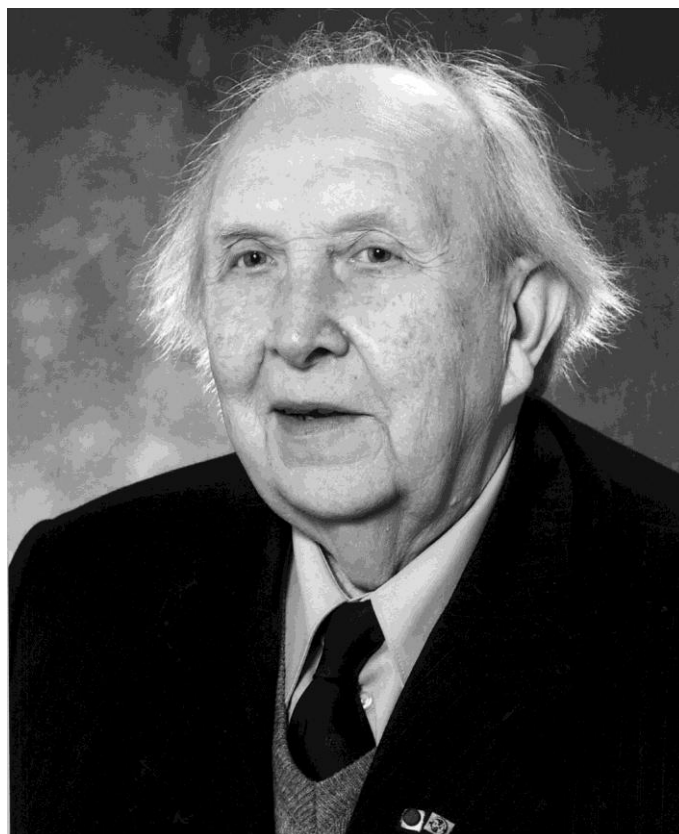


Mart Kalm

For series of studies “Võim ja arhitektuur. Eesti Vabariigi esindusarhitektuur 1918–1940” (Authority and architecture. Representational architecture in the Republic of Estonia 1918-1940).

ANNIVERSARIES

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Member of Academy *Valdek Kulbach*

Valdek Kulbach was born on 6 April 1927 to a farmer's family in the Joala village in Virumaa. In 1945 he graduated from Nõmme Gymnasium and considered as options for continuing his education either medicine studies in Tartu or engineering studies in Tallinn. Decisive influence on his final choice was effectuated by Professor Ottomar Maddison's lecture to undergraduates on bridges as media linking various countries and nations. In 1951 he graduated from Tallinn University of Technology holding an engineer's diploma in industrial and civil construction. He concluded postgraduate studies in the Hydro-Engineering Department of Leningrad Polytechnic Institute and de-

fended his PhD thesis “The impact of filtration on the stability of sand slopes” in 1955. In 1973 he defended his DSc thesis “Calculation of saddle-shaped hanging structures of deforming contour” at Tallinn University of Technology.

In 1948-1952 Valdek Kulbach worked in the design office Eesti Projekt as an engineer, senior engineer and head of the building group. Since 1955 his academic career was closely related to Tallinn University of Technology, where he worked in the positions of Assistant, Senior Lecturer, Associate Professor and Professor. In the years 1963-1975 he was Vice Dean of the Undergraduate Evening Studies Department and Dean of the Extension Studies Department, in 1975-1990 Head of the Chair of Building Structures, in 1990-1998 Professor of Steel Structures at the Building Design Institute, in 1994-1995 Dean of the Building Department. Since 1988 Valdek Kulbach has been Professor Emeritus of the Chair of Steel Structures.

In 1986 Valdek Kulbach was elected Member of the Estonian Academy of Sciences in mechanics.

Valdek Kulbach’s major areas of research have been the analysis of work of steel structures, filtration and slope stability problems, temperature stresses and calculation of cable structures. Besides his direct academic activities Professor Kulbach has also been concerned with estimation of states of building, bridge, reservoir and mast structure, and with drawing the materials strength proposals, as well as designing the technologically complicated infrastructure facilities (railway, highway and pedestrian bridges in Tartu, Pärnu, Narva and elsewhere, acoustic screens for the song festival tribunes in Tallinn and Tartu, and the Saaremaa Bridge).

Valdek Kulbach is a member of several science organisations and sub-organisations both in Estonia and abroad. He has supervised a great number of graduate, post-graduate and doctoral students, has been an opponent and reviewer of several theses. He has authored ca 150 research articles, two monographs and several textbooks in his profile.

Professor Kulbach’s work has been recognized with several author’s certificates and exhibition medals. He was awarded the Prize of Soviet Estonia (1970), National Science Prize (1995) and Order of the White Star, 4th Class (1999). In 2000, Valdek Kulbach was elected Engineer of the Year and in 2008 he was bestowed the national science prize for long-standing achievements in research and development.

According to his own words he likes to relax above all by doing engineering jobs. Besides that, he occupies his free time by collecting stamps and reading fiction.



Member of Academy *Huno Rätsep*

Huno Rätsep was born on 28 December 1927 in Tartu. In 1946 he graduated from Tartu Secondary School No.1 and in 1951 the University of Tartu majoring in Estonian philology. After taking the post-graduate course in Finno-Ugric languages he in 1954 defended his PhD thesis “Infinite forms in Finno-Ugric languages”. In 1974 Huno Rätsep defended his DSc thesis “Structure of simple sentences of the Estonian language: verb-centred sentence patterns”, to be published in 1978 also as the monograph “Types of simple sentences in the Estonian language”. For that work Huno Rätsep was awarded the Prize of Soviet Estonia.

In 1954 Huno Rätsep proceeded to work as a Lecturer at the University of Tartu, Chair of the Estonian language, where he first taught the history of Estonian and Finnish. In the 1960s he gained recognition for introducing the structural and generative linguistics in Estonia. Under the leadership of Huno Rätsep, a group of generative grammar was instituted at the Chair of, the

Estonian language in 1965, attracting a whole pleiad of younger faculty members – his students. Those researchers evolved into the research team of computational linguistics and the working group of language technology, both affiliated with the University of Tartu.

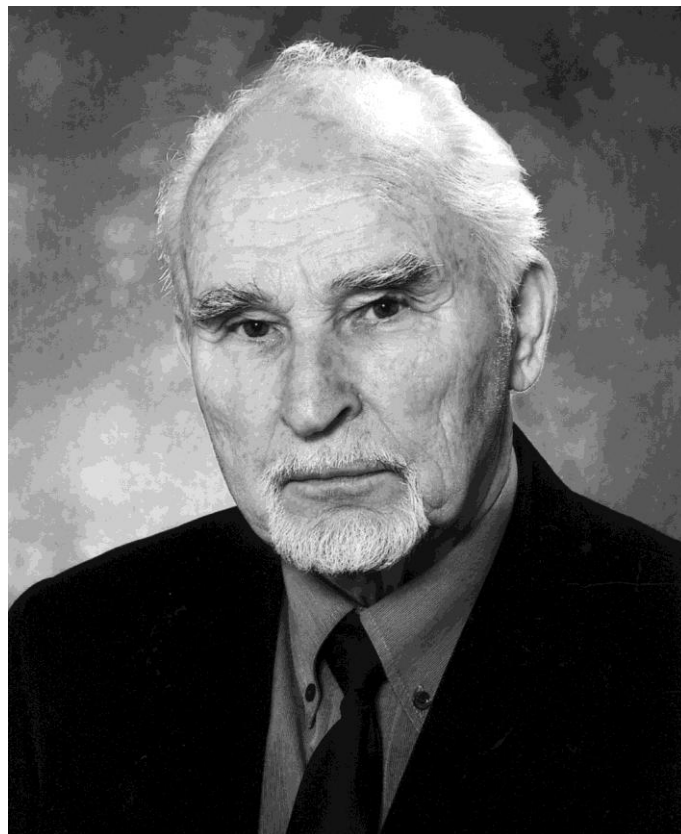
His work at the Chair of the Estonian language extended to over forty years. During 1975-1992 he was Head of Chair; in 1977 he was granted Professorship. Likewise, the Chair of the Estonian language eventually evolved into the Chair of General Linguistics largely thanks to his efforts. Huno Rätsep has been Professor Emeritus since 1994.

Huno Rätsep was elected Member of the Estonian Academy of Sciences in 1981 in the Estonian language.

Huno Rätsep has published over 200 research works, among others two monographs and two textbooks on the historical morphology of Estonian. He has additionally supervised a dozen theses as well as delivered lectures on the history and syntax of the Estonian language in Finnish and Swedish universities as well. Lately his research has been focused on the history of the Estonian vocabulary. He has also written mind-gripping popular articles to almost every issue of the magazine “Oma keel” (One’s own language).

In 1982-1989 Huno Rätsep led the whole of the Estonian language related activities as Chairman of the Mother Tongue Society. He belongs to the editorial board of the journal “Linguistica Uralica”, and is an Honorary Member of the Mother Tongue Society and the Finno-Ugric Society (Helsinki).

In 1998, Huno Rätsep was awarded the F.J.Wiedemann Language Prize and in 2001 he was bestowed with the Order of White Star 4th Class.



Member of Academy *Karl Siilivask*

Karl Siilivask was born on 20 January 1927 to a teachers' family in Veriora parish, Võrumaa. In 1940 he began his education at Võru Secondary School, where his studies were interrupted, due to military events and evacuation to the Soviet home front. In 1945 he passed the high-school exit examinations at Tallinn Secondary School No.9. In 1951 he graduated from the University of Tartu, Department of History. In 1954 he defended his PhD thesis and in 1968 his DSc thesis about the February and October Revolutions in Estonia.

During 1954-1974 Karl Siilivask was employed at the Chair of the Soviet Union History at the University of Tartu: as Senior Lecturer, Associate Professor and Professor (1969-1974). He was concurrently working as Head of Chair (1962-1974), Dean of the Faculty of History and Language (1962-1964), and Dean of the Faculty of History (1971-1973, 1973-1974). In the years 1974-1983 he was Director of the Institute of History of the Estonian Academy of Sciences, in 1984-1992 Head of Sector, in 1974-1992 con-

currently part-time Professor at the University of Tartu. Since 2004 Karl Siilivask has been working as Senior Researcher at the Estonian Union of the History and Philosophy of Science.

In 1977 he was elected Member of the Estonian Academy of Sciences in history.

Main directions of research by Professor Karl Siilivask have been the history of Estonia in the 19th and 20th centuries and the history of science. He has published over 200 scholarly works, among them ca. 40 monographs. He has compiled textbooks on the history of secondary and higher education institutions. His highlight work with regard to the history of science is certainly the compilation and editing of the three-volume "The University of Tartu history 1632-1982". He is the initiator of the series "Issues on the history of the University", of which over 30 volumes have been published. His work is reflected in the serial compendia "The history of science and the present time" "Glimpses on the history of science in Estonia" and Baltic History of Science conference materials (since 1977 "*Historiae Scientarum Baltica*"). Since 1995 Professor Siilivask has been the driving force and editor of the "Biographical Lexicon of Estonian Science", of which by now the 1st and the 2nd volumes have appeared. Preparation of the 3rd volume has been completed as well, while the 4th volume is currently in progress.

In his student years K. Siilivask has been Chairman of the students' scientific union and sports club. In 1971-1985 he was Chairman of the working group on the history of the University of Tartu and during 1974-2004 Chairman of the Estonian Union of the History and Philosophy of Science, in 1991-1993 and in 1999-2001 President of the Baltic Association of the History and Philosophy of Science and in 1993-1999 its Vice-President.

As to his hobbies, Karl Siilivask is known for his keenness on physical activities and sports. His favourite branches have been athletics, tennis and skiing.



Foreign Member of Academy *Endel Tulving*

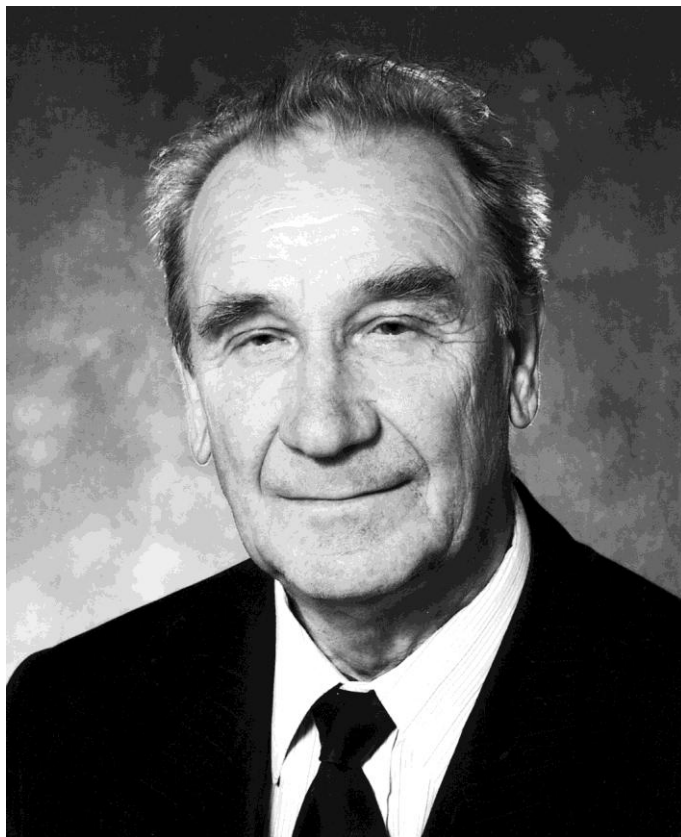
Endel Tulving was born on 26 May 1927 in Põltsamaa to a judge's family. His studies at Treffner Gymnasium in Tartu were interrupted due to war events. His education continued as a refugee at Geislingen Estonian Gymnasium in Germany. After emigration to Canada, he proceeded to study psychology at Toronto University, which he graduated from in 1954. Further studies took him to Harvard University, where in 1957 he obtained his PhD on experimental psychology. A year earlier, Endel Tulving had started his pedagogic career at Toronto University, where he ascended the academic career ladder from Lecturer to Professor (starting from 1965). He was simultaneously holding Professorship at Yale University (1970-1975) and California University (1994-1998). He also worked six years (1974-1980) as Dean of the Department of Psychology at Toronto University. In 1985 Endel Tulving was elected University Professor of Toronto University – an acknowledgement bestowed on a very limited number of individuals. After becoming Professor Emeritus in 1992 he committed himself to research at Rotman Research Institute at Baycrest Centre, as Head of the Cognitive Neuroscience Sector.

In 1960 Endel Tulving pioneered the research into processes, enabling to restore memories and extract information from memory. 40 years back he published an article, whose message – there is no single memory – triggered revolution in the area of memory research. Discoveries made by him and concepts created by him revolutionised the understanding how human memory works. The trajectory of the progress of researcher's thinking is best characterised by the following key-words: episodic memory, specificity of coding, priming, HERA and chronesthesia. Endel Tulving differentiates between at least two memory systems: episodic memory helps keep in mind personally experienced events, semantic (meaningful) memory, however, retains facts and knowledge of the world. He has also described one type of memory, presently known as priming, i.e. subliminal memory. Autobiographic memory – chronesthesia, presuming the capacity of perception and cognisance of time is, upon his assertion, unique to the human culture. Endel Tulving has authored several books and over 200 scientific articles. He has been an editorial board member of several scholarly journals. "Journal of Verbal Learning and Verbal Behavior" has become under his editorship one of the most influential titles worldwide in the area of psychology.

Being a memory researcher who has significantly changed and formed the present day image of psychology, Endel Tulving has, by advice and means, effectively helped his colleagues in the homeland. He has delivered lectures in Tartu and organised scientific events in Tallinn. In 1997 Tallinn for once became the capital of world memory research, when a memory research conference initiated by him brought to Estonia a significant part of top scientists in that field. Endel Tulving is Honorary Doctor of the University of Tartu (1989) and founder of the University of Tartu Toronto Foundation. In 2002 he was elected Foreign Member of the Estonian Academy of Sciences.

The list of academic recognitions bestowed on Endel Tulving is awe-inspiring. He is Foreign Member of academies in the USA and Europe, fellow of the Royal Societies of Canada and London, Honorary Doctor of several universities. His major honours and awards include the Howard Crosby Warren Medal (1982), Prize of the American Association of Psychologists (1983), Golden Medal of the American Union of Psychology (1994), Gairdner Prize (2005). Since 2000 he is the holder of the Order of White Star, 2nd Class. He has gained highest recognition quite recently, when in 2009 he was granted the Pasteur-Weizmann/Servier prize, which by the scientific community is regarded comparable to the Nobel Prize in terms of value.

The best known and most highly cited scientist of Estonian descent Endel Tulving is a witty and outspoken man, asserting that he has always considered standing up for the very elementary truths as the work of his life.



Member of Academy *Hans Kiiüts*

Hans Kiiüts was born on 20 December 1932 to a farmer's family in Suuremetsa village, Mooste parish, Põlvamaa. In 1951 he graduated from Tartu Secondary School No.1 and in 1956 from the Department of Agronomy of the Estonian Agricultural Academy (nowadays Estonian University of Life Sciences). Thereafter he worked until 1958 as agronomist on a collective farm at Erumäe in the vicinity of Elva.

In 1958 Hans Kiiüts was invited to work at Jõgeva Plant Breeding Station as Junior Researcher in barley breeding. In 1964 he became Head of the Breeding Department and in 1973 Director of the Plant Breeding Station (since 1992 Jõgeva Plant Breeding Institute), working in that position until 1998.

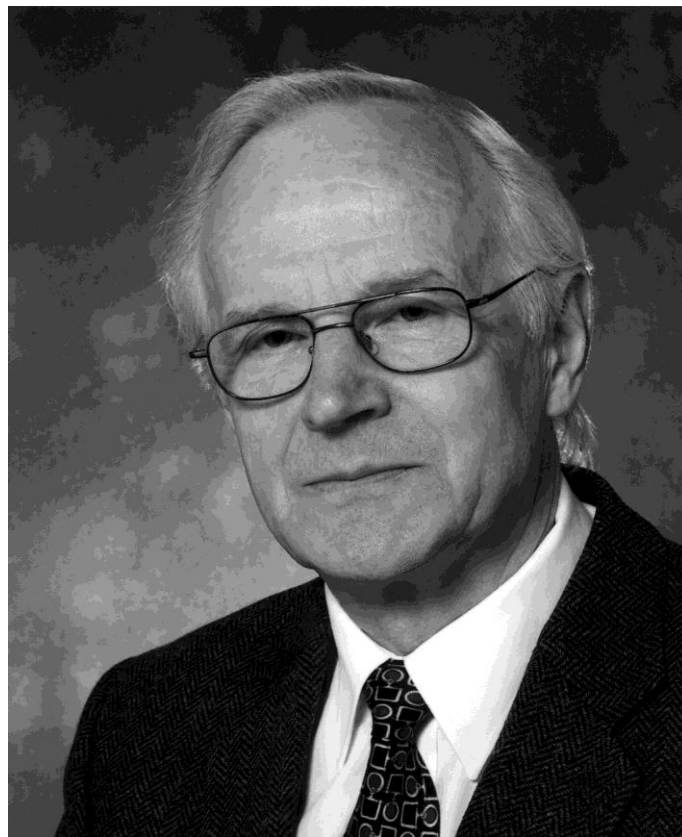
In 1968 Hans Kiiüts defended his PhD thesis "The best Estonian barley sorts and impact of nitrogen fertilisers on their yield and quality" in agriculture. During 1968-1970 he worked abroad at Svalöf Plant Breeding Institute in

Sweden, where he gained excellent theoretical and practical experience in barley breeding and established many valuable contacts. The main scientific interests of Hans Kiiüts included breeding of new barley sorts, growing the seed, and development of agrotechnics. He is the main author of seven barley sorts and co-author of two barley, six oat and two wheat sorts. Hans Kiiüts was granted the National Prize for plant breeding in 1987, the National Science Prize in bio- and environmental sciences in 1999 and the Lifetime Achievement Award by the Academic Agricultural Society in 2002.

In 1994 he was elected Member of the Estonian Academy of Sciences in agriculture.

Hans Kiiüts has been member of the European Association for Plant Breeders Research (EUCARPIA) since 1974. He has worked on the organising committee of international symposiums on barley genetics and breeding (1981-2000) and international symposiums on oat genetics and breeding (1989-1994). Since 1988 he is Foreign Member of the Research Council of Svalöf Plant Breeding Institute. During 1992-1995 Hans Kiiüts was Head of the Chair of Plant Breeding at the Estonian Agricultural Academy and Professor Emeritus afterwards. In 1997 he was awarded the Order of the National Coat of Arms, 5th Class. He is the Cavalier of Blazonry of Jõgevamaa since 2006.

Hans Kiiüts reckons himself a farmer to the core and feels proud of it. He has succeeded equally as a researcher and a manager. Presently, too he continues to work as Senior Researcher at the Department of Cereals of Jõgeva Plant Breeding Institute. Fishing has always been his greatest life passion to indulge in at leisure moments.



Member of Academy *Olav Aarna*

Olav Aarna was born on 4 November 1942 in Tallinn. His father Agu Aarna, was a chemical engineer, later Member of Academy and Rector of Tallinn University of Technology. In 1960 he graduated from Nõmme Gymnasium and in 1965 from Tallinn University of Technology majoring in automatics and telemechanics. In parallel with his studies, Olav Aarna worked as an assembling and regulating operator in the radio manufacturing plant “Punane RET”.

In 1965 Olav Aarna started his academic career at Tallinn University of Technology, where informatics became his primary field of study. His major area in research was the control and mathematical modelling of continuous technological processes (particularly in chemical industry). While working at the Chair of Automatics, he passed through all the stages of a faculty member’s career path from assistant to Head of the Chair (1983-1991).

In 1971 he defended his PhD thesis “Mathematical modelling of complex chemical-technological systems (on the example of oil shale gas-petrol process of pyrolysis)” in engineering at Tallinn University of Technology and in 1986 his DSc thesis “Models and methods of assessment of the state of continuous technological processes” at Kharkov Institute of Radioelectronics. The following year he received Professorship. He was Rector of Tallinn University of Technology for the period 1991-2000 and Rector of the Estonian Business School (EBS) for 2000-2003. He belonged to the composition of the 10th Riigikogu (2003-2007), where among other responsibilities he was Chairman of the Cultural Affairs Committee. Since 2007 Olav Aarna has worked as Visiting Professor at the Chair of Public Administration and Law of EBS. Since 2008 he has been Member of the Management Board of the Estonian Qualifications Authority Foundation.

Olav Aarna was elected Member of the Estonian Academy of Sciences in 1990.

The most outstanding research results of Olav Aarna belong to the research series carried out during the period 1975-1985 on models and methods of estimation of the state of continuous technological processes. Since 1990 he has been closely involved in reforming the Estonian education and research system, whereby he has proven himself as one of the most influential proponents of education and innovation policy at the beginning of the 21st century.

Olav Aarna is a member of numerous scientific organisations in Estonia and abroad. In 1991 he was elected Foreign Member of the Swedish Academy of Engineering Sciences in Finland, in 1996 Honorary Doctor of Tampere University of Technology and in 2003 Foreign Member of the Royal Swedish Academy of Engineering Sciences. He has been granted the Memorial Medal of the Estonian Academy of Sciences, the Medal of Helsinki University of Technology and the Order of the National Coat of Arms, 4th Class.

Coming from a music-loving home, Olav Aarna has cherished lifelong interest and admiration for music.



Member of Academy *Haldur Õim*

Haldur Õim was born on 22 January 1942 to a farmer's family in Helme parish, Valgamaa. In 1960 he graduated from Tõrva Gymnasium, where his interests verged towards the humanities. He enrolled in the University of Tartu, firmly convinced of taking up literature studies, however, in 1965 he got a diploma in mathematical and structural linguistics. In 1970 Haldur Õim defended his PhD thesis "Semantic structure of word groups related to person in Estonian" and in 1983 his DSc thesis "Theory of semantics and understanding language".

The life and work of Haldur Õim from then on have been bound up with the University of Tartu. In 1969-1977 he was Senior Researcher of the Legal Information WG at the Laboratory of Criminology (later Specialised Team on Legal and Economic Information, and then Laboratory of Artificial Intellect), in 1977-1983 Senior Lecturer at the Chair of the Estonian Language, in 1981-1992 Lecturer of Estonian, later Associate Professor and Professor at the

University of Helsinki. During 1991-1992 he was a Visiting Professor at the Computational Institute of Koblenz-Landau University in Germany. In 1992-2004 Haldur Õim was Head of the Department of the Estonian and Finno-Ugric Languages and Professor at the University of Tartu, in 2004-2007 Professor of General Linguistics, since 2007 Professor Emeritus.

In 1994 Haldur Õim was elected Member of the Estonian Academy of Sciences in the humanities and social sciences.

Major areas of research studied by Professor Õim include: methodology of linguistics, language theory, semantics, semantic fields in the Estonian language, computer models of natural language, computer processing of texts and links of linguistics with other sciences. He has been a spokesman of Estonian computational linguistics as well as a conspicuous and prolific writer of reviews and popular texts. Nine MA and eight PhD dissertations have been defended under his supervision. He is a member of the Mother Tongue Society, Association of Computational Linguistics, International Association of Cognitive Linguistics and an editorial board member of the journal "Keel and Kirjandus" (Language and literature).

The achievements of Professor Õim have been acknowledged by the Order of the White Star 4th Class in 2001 and the F.J.Wiedemann Language Prize in 2005.

Haldur Õim has a fancy for sports with a strong preference for swimming. He also likes listening to early music and passing leisure time in mushroom-rich forests.



Foreign Member of Academy *Jaan Laane*

Jaan Laane was born on 20 June 1942 in Paide. At the age of two he fled together with his parents from his homeland to Germany. In 1949 the family emigrated to the United States of America, where Jaan Laane graduated from the University of Illinois in 1964 with a BSc degree in chemistry and Kendall Award as Outstanding Senior in Chemistry and Highest University Honors (Bronze Tablet). He pursued his PhD studies in the area of synthesis of silicon organic compounds and oscillation spectra at Massachusetts Institute of Technology as US National Science Foundation and Woodrow Wilson Fellow. He was granted the PhD degree in 1967 together with Kodak Award as the Outstanding Graduate Student in Chemistry.

Since 1968 Jaan Laane has worked at Texas A&M University (since 1976 as Professor), where he has additionally fulfilled various administrative tasks – Chairman of the Division of Physical and Nuclear Chemistry, Associate Dean of Science (graduate studies), Chairman of Academic Council, etc. His orga-

nisational abilities have also been proven by establishment of the Texas A&M University campus in Japan. He has delivered as Visiting Professor lectures in numerous universities worldwide, incl. Japan (Waseda University in Tokyo), Spain (University of Valladolid), Germany (Universities of Bayreuth and Ulm), worked as Visiting Research Fellow at Los Alamos Research Laboratory (1964-1968). He has been Editor-in-Chief of the "Journal of Molecular Structure" since 1994. Professor Laane's laboratory has received numerous Postdocs and Visiting Professors. He has supervised over 40 PhD students and 50 MSc students and authored an impressive number of publications – over 250 titles, incl. 2 books and a dozen chapters in compendia. To top it all, a huge number of papers have delivered by him at spectroscopy conferences.

In research Jaan Laane has made an important contribution into experimental and theoretical oscillation spectroscopy alike. His main areas in research are related to spectroscopic methods applied to the study of molecular structure, and Raman difference spectroscopy. A significant number of new silicon organic and other cyclical compounds have been synthesised in his laboratory. Their oscillation spectra have been analysed in detail, whereas Professor Laane has been a pioneer in the area of respective computer programmes. He has advised several well-known institutions and companies like National Institute for Petroleum and Energy Research, Union Carbide, Petrotex and many others, he has been active in numerous scientific organisations, incl. American Chemical Society (ACS), American Physical Society (APS), Coblenz Union, American Association for the Advancement of Science (AAAS). Jaan Laane has maintained close scientific relations with researchers of the Institute of Physics at the University of Tartu. The opportunity for collaborative research projects at his laboratory offered by him materialised in 1990. A dozen articles have been published as a result of their joint work and several papers have been delivered at spectroscopy conferences.

Jaan Laane has been granted a number of memorial scholarships, prizes and honorary titles, the best known of which are probably the Humboldt Senior Scientist Award (1979) and Ellis R. Lippincott Award (2005). The scientific community in Estonia has also given recognition to Jaan Laane – in 1995 he was elected Foreign Member by the Estonian Academy of Sciences and in 2000 Honorary Doctor by the University of Tartu.



Foreign Member of Academy *Matti Saarnisto*

Matti Saarnisto was born on 11 November 1942 in Pietarsaari, Finland. In 1970 he defended at the University of Helsinki his PhD thesis *cum laude* in geology and palaeontology. He then worked as a Visiting Postdoc Researcher at Brock University in Toronto, Canada (1971-1973) and at Cambridge University in England (1973-1974).

In 1975 Matti Saarnisto proceeded to work as Associate Professor of Quaternary Geology at the University of Oulu. He continued his academic career by delivering lectures at the University of Helsinki as Docent of Physical Geography (1979-1991) and Professor of Geology and Palaeontology (1991-1992). Since 1988 until retirement in 2006 he was affiliated with the Geological Survey of Finland (GTK) in the positions of Senior Research Scientist (1988-1990), acting Research Professor (1991), Head of the Department of Quaternary Geology and Professor (1992-1996), Director for Research and Professor (1996-2006).

In the process of expeditions Matti Saarnisto has participated in field studies to the Arctic regions of Canada, northern part of Fennoscandia (incl. Kola Peninsula), Siberia (Wrangel Island) and elsewhere. He is the author of over 200 research publications and has written articles for wider readership as well. His main research areas are involved with the Quaternary environments – glacial geology, stratigraphy, paleohydrology, glacial isostasy, biostratigraphy, chronology, laminated sediments, etc. Some 15 PhD dissertations have been defended under his supervision.

Matti Saarnisto has been Member of the Finnish Academy of Science and Letters since 1995 and was Secretary General in 2000-2009. He has been a longtime Chairman of the Geological Society of Finland, member of the Finnish National Committee for Polar Research. A widely acknowledged expert in his area of knowledge, he has taken part in the work of numerous international scientific organisations and editorial boards of scholarly journals.

In 2008 Matti Saarnisto was elected Foreign Member of the Estonian Academy of Sciences in geology.

Other anniversaries in 2012:

65th birthday

Member of Academy *Jakob Kübarsepp*

55th birthday

Member of Academy *Jaan Ross*

Member of Academy *Tarmo Soomere*

Member of Academy *Martin Zobel*

MEMBERS OF THE ACADEMY

As of February 2013¹

Olav AARNA, born 4.11.1942, elected 1990, informatics. Tallinn University of Technology 1965. Member of the Board, Estonian Qualification Authority (2008); Mustamäe tee 16, 10617 Tallinn, ESTONIA, Tel: +372 679 1750, olav.aarna@kutsekoda.ee. HOME ADDRESS Nooruse 1-45, 76901 Tabasalu, Harku vald, Harju maakond, ESTONIA, Tel: +372 603 2060. Cohabitant, three sons and daughter.

Jaak AAVIKSOO, born 11.01.1954, elected 1994, exact sciences. University of Tartu 1976. Minister, Ministry of Education and Research (2011); Munga 18, 50088 Tartu, ESTONIA, Tel: +372 735 0120, Fax: +372 730 1080, jaak.aaviksoo@hm.ee. HOME ADDRESS Tähe 91a-7, 50107 Tartu, ESTONIA, Tel: +372 734 9000. Widower, two sons and daughter.

Hillar ABEN, born 3.12.1929, elected 1977, mechanics. Tallinn University of Technology 1953. Head, Laboratory of Photoelasticity, Institute of Cybernetics at Tallinn University of Technology (1987); Akadeemia tee 21, 12618 Tallinn, ESTONIA, Tel: +372 620 4180, Fax: +372 620 4151, aben@cs.ioc.ee. HOME ADDRESS Hiiu-Maleva 30-2, 11619 Tallinn, ESTONIA, Tel: +372 657 2407. Married, two sons.

Jüri ALLIK, born 3.03.1949, elected 2010, psychology. University of Tartu 1973. Professor of Experimental Psychology, Head, Institute of Psychology, University of Tartu (2002); Tiigi 78, 50410 Tartu, ESTONIA, Tel: +372 737 5905, Fax: +372 737 6152, juri.allik@ut.ee. HOME ADDRESS Palu tee 20A, 61505 Tartu, ESTONIA, Tel: +372 744 2119. Married, three children.

Toomas ASSER, born 14.07.1954, elected 2011, medical science. University of Tartu 1979. Professor of Neurosurgery, University of Tartu (1995); L.Puu-sepa 8, 51014 Tartu, ESTONIA, Tel: +372 731 8500, Fax: +372 731 8106, toomas.asser@kliinikum.ee. HOME ADDRESS Kastani 30a, 50409 Tartu, ESTONIA, Tel: +372 742 0215. Married, two sons and daughter.

Mihhail BRONŠTEIN, born 23.01.1923, elected 1975, agricultural economics. St. Petersburg State University 1949. Professor emeritus, University of Tartu (1993). HOME ADDRESS Kolde pst 104-44, 10316 Tallinn, ESTONIA, Tel: +372 5662 9275. Widower, son and daughter.

Jaan EINASTO, born 23.02.1929, elected 1981, astrophysics. University of Tartu 1952. Senior Researcher, Department of Cosmology, Tartu Observatory (2004); 61602 Tõravere, Tartu maakond, ESTONIA, Tel: +372 741 0110, Fax: +372 741 0205, einasto@aai.ee. HOME ADDRESS Observatooriumi 6-3, 61602 Tõravere, Tartu maakond, ESTONIA, Tel: +372 741 0151. Widower, son and two daughters.

¹ Research institutions and universities are referred to by their current names.

Jüri ENGELBRECHT, born 1.08.1939, elected 1990, mechanics. Tallinn University of Technology 1962. Vice-President, Estonian Academy of Sciences (2004); Kohtu 6, 10130 Tallinn ESTONIA, Tel: +372 644 2013, Fax: +372 645 1805, j.engelbrecht@akadeemia.ee. HOME ADDRESS Trummi 34J, 12617 Tallinn ESTONIA, Tel: +372 672 6045. Married, son and daughter.

Ene ERGMA, born 29.02.1944, elected 1997, exact sciences. Moscow University 1969. President, Riigikogu (Parliament) (2003), Lossi plats 1a, 15165 Tallinn ESTONIA, Tel: +372 631 6301, Fax: +372 631 6304, ene.ergma@riigikogu.ee. HOME ADDRESS Aleksandri 35-14, 51004 Tartu ESTONIA, Tel: +372 738 1874. Single.

Arvi FREIBERG, born 28.06.1948, elected 2009, exact sciences. Tallinn University of Technology 1971. Professor of Biophysics and Plant Physiology, University of Tartu (2003); Riia 142, 51014 Tartu ESTONIA, Tel: +372 5645 3175, arvi.freiberg@ut.ee. HOME ADDRESS Aardla 154-5, 50415 Tartu ESTONIA, Tel: +372 5645 3175. Married, daughter and son.

Vladimir HIŽNJAKOV, born 25.05.1938, elected 1977, physics. University of Tartu 1960. Senior Researcher, Institute of Physics at University of Tartu (2004); Riia 142, 51014 Tartu ESTONIA, Tel: +372 737 4759, Fax: +372 738 3033, hizh@fi.tartu.ee. HOME ADDRESS Aardla 154-6, 50415 Tartu ESTONIA, Tel: +372 747 5290. Married, son and two daughters.

Ülo JAAKSOO, born 16.04.1939, elected 1986, informatics. Tallinn University of Technology 1962. Chief Executive Officer, Cybernetica AS (1997); Mäealuse 2/1, 12618 Tallinn ESTONIA, Tel: +372 639 7991, Fax: +372 639 7992, ulo.jaaksoo@cyber.ee. HOME ADDRESS Mägri 6, 10917 Tallinn ESTONIA, Tel: +372 672 6009. Married.

Jaak JÄRV, born 05.11.1948, elected 1997, natural sciences. University of Tartu 1972. Professor of Organic Chemistry, University of Tartu (1992); Ravila 14a, 50411 Tartu ESTONIA, Tel: +372 737 5246, Fax: +372 737 5247, jaak.jarv@ut.ee. HOME ADDRESS E. Wiiralti 1, 51011 Tartu ESTONIA. Married, son and two daughters.

Ain-Elmar KAASIK, born 2.08.1934, elected 1993, neurology. University of Tartu 1959. Professor emeritus, University of Tartu (1999); L.Puusepa 2, 51014 Tartu ESTONIA, Tel: +372 731 8538; ain-elmar.kaasik@kliinikum.ee. HOME ADDRESS Ülase 14, 50412 Tartu ESTONIA, Tel: +372 742 5426. Widower, son.

Dimitri KALJO, born 12.10.1928, elected 1983, geology. University of Tartu 1953. Senior Researcher, Institute of Geology at Tallinn University of Technology (2008); Ehitajate tee 5, 19086 Tallinn ESTONIA, Tel: +372 620 3016, Fax: +372 620 3011, kaljo@gi.ee. HOME ADDRESS Raja 7A-6, 12616 Tallinn ESTONIA, Tel: +372 672 6551. Married, son and daughter.

Mart KALM, born 3.09.1961, elected 2010, art history. University of Tartu 1984. Vice-Rector for Research, Estonian Academy of Arts (2013); Estonia pst 7, 10143 Tallinn ESTONIA, Tel: +372 626 7302, Fax +372 626 7350, mart.kalm@artun.ee. HOME ADDRESS Ravi 19-13, 10138 Tallinn ESTONIA, Tel: +372 644 0846. Married, son and daughter.

Mati KARELSON, born 27.12.1948, elected 2007, natural sciences and medicine. University of Tartu 1972. Professor of Molecular Technology, University of Tartu, Tallinn University of Technology (2004); Ravila 14a, 50411 Tartu ESTONIA, Tel: +372 737 5255, Fax: +372 737 5264, mati.karelson@ut.ee, HOME ADDRESS Mõisatamme 27, Vahi, 60534 Tartumaa ESTONIA, Tel: +372 734 8399. Married, two sons.

Ilmar KOPPEL, born 16.01.1940, elected 1993, physical chemistry. University of Tartu 1963. Lead. Researcher, Ass. Director of Research, Institute of Chemistry at University of Tartu (2008); Ravila 14a, 50411, Tartu ESTONIA, Tel: +372 737 5263, Fax: +372 737 5264, ilmar@chem.ut.ee. HOME ADDRESS Kaunase pst 16-10, 50704 Tartu ESTONIA, Tel: +372 748 4351. Married, son.

Arvo KRIKMANN, born 21.07.1939, elected 1997, humanities. University of Tartu 1962. Senior Researcher, Estonian Literary Museum (2000); Vane-muise 42, 51003 Tartu ESTONIA, Tel: +372 742 0079, Fax: +372 742 0426, kriku@folklore.ee. HOME ADDRESS Kastani 59-2, 50410 Tartu ESTONIA, Tel: +372 742 0079. Married, three sons.

Lembit KRUMM, born 20.07.1928, elected 1987, power engineering. Tallinn University of Technology 1952. Senior Researcher, Institute of Electrical Power Development, Tallinn University of Technology (2004); Ehitajate tee 5, 19086 Tallinn ESTONIA, Tel: +372 620 3759, lembitkrumm@gmail.com. HOME ADDRESS Trummi 4-19, 12616 Tallinn ESTONIA, Tel: +372 672 6513, +372 564 4706. Married, two sons and two daughters.

Valdek KULBACH, born 6.04.1927, elected 1986, mechanics. Tallinn University of Technology 1951. Professor emeritus, Tallinn University of Technology (1998); Ehitajate tee 5, 19086 Tallinn ESTONIA, Tel: +372 620 2408, Fax: +372 620 2405, valdek.kulbach@gmail.com. HOME ADDRESS Rõõmu 14-9, 10921 Tallinn ESTONIA, Tel: +372 677 8207. Married, two daughters.

Urmas KÕLJALG, born 24.02.1961, elected 2011, biosystematics and ecology. University of Tartu 1988. Professor of Mycology (2001), Director of Natural History Museum (2005), University of Tartu; Ravila 14a, 50411 Tartu ESTONIA, Tel: +372 737 6235, Fax: +372 737 6222, urmas.koljalg@ut.ee. HOME ADDRESS Elva 6, 50404 Tartu ESTONIA. Married, son and three daughters.

Arno KÖÖRNA, born 2.02.1926, elected 1972, economics. University of Tartu 1955. Professor emeritus, Euroacademy (2005); Mustamäe tee 4, 10621 Tallinn ESTONIA, Tel/Fax: +372 650 5120. HOME ADDRESS A.Kapi 9-22, 10136 Tallinn ESTONIA, Tel: +372 662 0628, arno.koorna@mail.ee. Widower, son and daughter.

Jakob KÜBARSEPP, born 9.02.1947, elected 2011, materials engineering. Tallinn University of Technology 1970. Professor of Metals Engineering, University of Technology (1997); Ehitajate tee 5, 19086 Tallinn ESTONIA, Tel: +372 620 3354, Fax: +372 620 3480, jakob.kubarsepp@ttu.ee. HOME ADDRESS Rännaku pst 56, 10921 Tallinn ESTONIA, Tel: +372 672 2281. Married, four daughters.

Rein KÜTTNER, born 25.11.1940, elected 1997, technical sciences. Tallinn University of Technology 1965. Professor emeritus, University of Tartu (2010). HOME ADDRESS Mooni 107-58, 13424 Tallinn ESTONIA, Tel: +372 652 5503. Married, son.

Hans KÜÜTS, born 20.12.1932, elected 1994, agricultural sciences. Estonian University of Life Sciences 1956. Senior Researcher, Jõgeva Plant Breeding Institute (1999); Aamisepa 1, 48309 Jõgeva alevik, Jõgeva maakond ESTONIA, Tel: +372 776 6914, Fax: +372 776 6902, ylle.tamm@jpbi.ee. HOME ADDRESS Tihase 11, 48309 Jõgeva alevik, Jõgeva maakond ESTONIA, Tel: +372 772 1375. Married, three daughters.

Agu LAISK, born 3.05.1938, elected 1994, natural sciences. University of Tartu 1961. Senior Researcher of Plant Physiology, University of Tartu (2005); Riia 23, 51010 Tartu ESTONIA, Tel: +372 736 6021, Fax: +372 742 0286, agu.laisk@ut.ee. HOME ADDRESS Haagejärve 2, 61401 Tähtvere vald, Tartu maakond ESTONIA, Tel: +372 749 3228. Married, three sons.

Valter LANG, born 26.01.1958, elected 2010, historical sciences. University of Tartu 1981. Professor of Archaeology (1999), University of Tartu; Ülikooli 18, 50090 Tartu ESTONIA, Tel: +372 737 5652, Fax: +372 737 5345, valter.lang@ut.ee. HOME ADDRESS Kuu 12A-2, 50114 Tartu ESTONIA, Tel: +372 5291 1843. Married, son and daughter.

Ülo LEPIK, born 11.07.1921, elected 1993, mechanics. University of Tartu 1948. Professor emeritus, University of Tartu (1996); J.Liivi 2-426, 50409 Tartu ESTONIA, Tel: +372 737 5443, ulo.lepik@ut.ee. HOME ADDRESS Lunini 3, 50406 Tartu ESTONIA, Tel: +372 738 0023. Married, two sons and daughter.

Georg LIIDJA, born 4.08.1933, elected 1987, physics. University of Tartu 1957. Senior Researcher, National Institute of Chemical Physics and Biophysics (1982); Akadeemia tee 23, 12618 Tallinn ESTONIA, Tel: +372 639 8328, Fax: +372 639 8393, gli@kbfi.ee. HOME ADDRESS Kärberi 41-43, Tallinn, ESTONIA, Tel: +372 635 5878. Married, son and daughter.

Ülo LILLE, born 16.09.1931, elected 1983, biotechnology. Tallinn University of Technology 1955. Senior Researcher, Institute of Chemistry at Tallinn University of Technology (1997); Akadeemia tee 15, 12618 Tallinn ESTONIA, Tel: +372 620 4383, Fax: +372 620 2828, lille@chemnet.ee. HOME ADDRESS Trummi 32P, 12617 Tallinn ESTONIA, Tel: +372 672 6032. Married, two daughters.

Endel LIPPMAA, born 15.09.1930, elected 1972, chemical physics. Tallinn University of Technology 1953. Laboratory of Chemical Physics, National Institute of Chemical Physics and Biophysics (1980); Kohtu 6, 10130 Tallinn ESTONIA, Tel: +372 644 1304, elippmaa@nicpb.ee. HOME ADDRESS Sõbra 14, 10920 Tallinn ESTONIA, Tel: +372 677 7975. Married, two sons.

Margus LOPP, born 11.09.1949, elected 2011, chemistry. University of Tartu 1973. Professor of Organic Chemistry, Tallinn University of Technology (1997); Akadeemia tee 15, 12618 Tallinn ESTONIA, Tel: +372 620 2808, margus.lope@ttu.ee. HOME ADDRESS Trummi 32S, 12617 Tallinn ESTONIA, Tel: +372 672 6034. Married, son and two daughters.

Ülo LUMISTE, born 30.06.1929, elected 1993, mathematics. University of Tartu 1952. Professor emeritus, University of Tartu (1996); J.Liivi 2-427, 50090 Tartu, ESTONIA, Tel: + 372 737 6419, ulo.lumiste@ut.ee. HOME ADDRESS Turu 19-28, 51004 Tartu ESTONIA, Tel: +372 734 4280, +372 515 1664. Married, two sons.

Enn LUST, born 22.10.1956, elected 2010, energy technology. University of Tartu 1980. Professor of Physical Chemistry (1997), Director, Institute of Chemistry at University of Tartu (2008); Ravila 14a, 50411 Tartu ESTONIA, Tel: +372 737 5165, Fax: +372 737 5264, enn.lust@ut.ee. HOME ADDRESS Leesika 8, 50304 Tartu ESTONIA. Married, two daughters and son.

Tšeslav LUŠTŠIK, born 15.02.1928, elected 1964, solid state physics. St. Petersburg State University 1951. Extraord. Senior Researcher, Institute of Physics at University of Tartu (2005); Riia 142, 51014 Tartu ESTONIA, Tel: +372 737 4784, Fax: +372 738 3033, luch@fi.tartu.ee. HOME ADDRESS Aardla 130-7, 50415 Tartu ESTONIA, Tel: +372 747 6608. Married, son.

Udo MARGNA, born 18.11.1934, elected 1987, plant physiology. University of Tartu 1957. Lecturer of Pharmacy Department, Tallinn Health Care College (2008); Kännu 67, 13418 Tallinn ESTONIA, Tel: +372 671 1725, udo.margna@tk.ee. HOME ADDRESS Instituudi tee 16-10, 76902 Harku alevik, Harju maakond ESTONIA, Tel: +372 656 0630. Married, two daughters.

Jüri MARTIN, born 29.09.1940, elected 1990, ecology. University of Tartu 1964. Rector, Euroacademy (1997); Mustamäe tee 4, 10621 Tallinn ESTONIA, Tel: +372 611 5804, Fax: +372 611 5811, jmartin@euroakadeemia.ee. HOME ADDRESS Liiva tee 2, Rohuneeme, Viimsi vald, 74012 Harju maakond, Tel: +372 503 1794. Married, three sons and daughter.

Enn MELLIKOV, born 1.04.1945, elected 2003, technology of materials. Tallinn University of Technology 1968. Director, Department of Material Science at Tallinn University of Technology (2002); Ehitajate tee 5, 19086 Tallinn ESTONIA, Tel: +372 620 2798, ennm@staff.ttu.ee. HOME ADDRESS Silla 2-5, Saku 75501 Harjumaa ESTONIA, Tel: +372 604 1076. Married, two sons.

Andres METSPALU, born 11.03.1951, elected 2010, biotechnology. University of Tartu 1976. Professor of Biotechnology, University of Tartu (1992), Director of the Estonian Genome Center (2008); Riia 23b, 51010 Tartu ESTONIA, Tel: +372 737 5066, Fax: +372 744 0221, andres.metspalu@ut.ee. HOME ADDRESS Kalevi 65, 50103 Tartu ESTONIA, Tel: +372 734 3256. Married, four sons.

Leo MÕTUS, born 15.12.1941, elected 1993, informatics. Tallinn University of Technology 1965. Secretary General, Estonian Academy of Sciences (2004); Professor of Real-time Systems, Tallinn University of Technology (1992); Kohtu 6, 10130 Tallinn ESTONIA, Tel: +372 644 5810, Fax: +372 645 1805, leo.motus@akadeemia.ee. HOME ADDRESS Rooski 7, 10922 Tallinn ESTONIA, Tel: +372 672 4024. Married, two daughters.

Ergo NÕMMISTE, born 27.06.1956, elected 2012, physics, University of Tartu 1979. Professor of Electron Spectroscopy, University of Tartu (2009). Riia 142, 51014 Tartu, Estonia, Tel. +372 737 4606, Fax: +372 738 3033, ergo.nommiste@ut.ee. HOME ADDRESS Aardla 132-2, 50415 Tartu ESTONIA, Tel. +372 747 7832. Married, son and daughter.

Eve OJA, born 10.10.1948, elected 2010, mathematics. University of Tartu 1972. Professor of Functional Analysis, University of Tartu (1992); J.Liivi 2, 50409 Tartu ESTONIA, Tel: +372 737 6407, Fax: +372 737 5863, eve.oja@ut.ee. HOME ADDRESS Ropka 19-25, 50111 Tartu ESTONIA, Tel: +372 747 0795. Married, son.

Arvo OTS, born 26.06.1931, elected 1983, power engineering. Tallinn University of Technology 1955. Extraord. Senior Researcher, Tallinn University of Technology (2003); Kopli 116, 11712 Tallinn ESTONIA, Tel: +372 620 3904, +372 620 3900, Fax: +372 620 3901, aots@sti.ttu.ee. HOME ADDRESS Metsa 62B, 11620 Tallinn ESTONIA, Tel: +372 657 6034, +372 501 2217. Married, son and daughter.

Karl PAJUSALU, born 20.06.1963, elected 2011, linguistics. University of Tartu 1986. Professor of Estonian Dialectology and History of the Estonian Language, University of Tartu (2000); Lossi 3-321, 50090 Tartu ESTONIA, Tel: +372 737 6124, karl.pajusalu@ut.ee. HOME ADDRESS Nooruse 54, 50411 Tartu ESTONIA, Tel: +372 526 7733. Married, two sons and daughter.

Arvo PÄRT, born 11.09.1935, elected 2011, music. Estonian Academy of Music and Theatre 1963. Freelance composer in Estonia (2005); International Arvo Pärt Centre, Aliina, Laulasmaa 76702 Keila vald, Harjumaa ESTONIA, Tel: +372 604 0470, info@arvopart.ee. Married.

Martti RAIDAL, born 26.02.1968, elected 2011, exact sciences. University of Helsinki 1995. Research Professor, Estonian Academy of Sciences (2009); Rävåla 10, 10143 Tallinn ESTONIA, Tel: +372 645 4711, Fax: +372 644 0640, martti.raidal@cern.ch. HOME ADDRESS Vene 10-3A, 10123 Tallinn ESTONIA. Married, two sons.

Anto RAUKAS, born 17.02.1935, elected 1977, geology. University of Tartu 1958. Senior Researcher, Institute of Ecology at Tallinn University (2010); Uus Sadama 5, 10120 Tallinn ESTONIA, Tel: +372 619 9833, Fax: +372 619 9801, anto.raukas@mail.ee. HOME ADDRESS Trummi 32N, 12617 Tallinn ESTONIA, Tel: +372 672 6031. Married, two daughters.

Jaan ROSS, born 5.04.1957, elected 2003, humanities. Estonian Academy of Music and Theatre 1980. Professor of Musicology Department, Estonian Academy of Music and Theatre (1995); Rävåla pst 16, 10143 Tallinn ESTONIA, Tel: +372 522 6886, jaan.ross@gmail.com. HOME ADDRESS Koidu 122-61, 10139 Tallinn ESTONIA, Tel: +372 648 1544. Married, daughter.

Hando RUNNEL, born 24.11.1938, elected 2012, literature. Freelance writer (1971); katre@ilmamaa.ee. Married, five sons and daughter.

Huno RÄTSEP, born 28.12.1927, elected 1981, Estonian language. University of Tartu 1951. Professor emeritus, University of Tartu (1994). HOME ADDRESS Uus 36-74, 50603 Tartu ESTONIA, Tel: +372 742 3974, hunoratsep@gmail.com. Married, son and daughter.

Enn SAAR, born 04.03.1944, elected 2010, astronomy. University of Tartu 1967. Senior Researcher, Tartu Observatory (1995); Observatooriumi 1, Tõravere, 61602 Tartumaa ESTONIA, Tel: +372 5344 0899, saar@aai.ee. HOME ADDRESS Tiigi 2-2, Tõravere, 61602 Tartumaa ESTONIA, Tel: +372 741 0462. Widower, daughter.

Peeter SAARI, born 2.06.1945, elected 1986, physics. University of Tartu 1968. Professor of Wave Optics, University of Tartu (1997); Riia 142, 51014 Tartu ESTONIA, Tel: +372 737 5856, +372 737 4611, Fax: +372 738 3033, peeter.saari@ut.ee. HOME ADDRESS Fortuuna 1-45, 50603 Tartu ESTONIA, Tel: +372 510 9018. Married, two daughters.

Mart SAARMA, born 29.06.1949, elected 1990, molecular biology. University of Tartu 1972. Academy Professor (2009), Director, Finnish Centre of Excellence in Molecular and Integrated Neuroscience Research, Institute of Biotechnology, University of Helsinki (2008); P.O. Box 56, Viikinkaari 9, FI-00014, Helsinki, FINLAND, Tel: +358 9 191 59378, Fax:

+358 9 191 59366, mart.saarma@helsinki.fi. HOME ADDRESS Kulosaaren puistotie 38A4, FI-00570 Helsinki, FINLAND, Tel: +248 9 684 5721. Cohabitant, son and daughter.

Valdur SAKS, born 3.09.1943, elected 1993, biochemistry. Moscow State University 1967. Head, Laboratory of Bioenergetics, National Institute of Chemical Physics and Biophysics (1993); Akadeemia tee 23, 12618 Tallinn ESTONIA, Tel: +372 639 8363, Fax: +372 639 8313, saks@kbfi.ee. HOME ADDRESS Rävälä pst 13-3, 10143 Tallinn ESTONIA, Tel: +372 644 8643. Married, daughter.

Arved-Ervin SAPAR, born 7.02.1933, elected 1990, astrophysics. University of Tartu 1957. Senior Researcher, Department of Astrophysics, Tartu Observatory (2004); 61602 Tõravere, Tartu maakond ESTONIA, Tel: +372 741 0465, Fax: +372 741 0205, sapar@aai.ee. HOME ADDRESS Tiigi 6-6, 61602 Tõravere, Tartu maakond ESTONIA, Tel: +372 741 0335. Married, son and daughter.

Karl SIILIVASK, born 20.01.1927, elected 1977, history. University of Tartu 1951. HOME ADDRESS Näituse 22-13, 50407 Tartu ESTONIA, Tel: +372 5802 7190. Married, son.

Tarmo SOOMERE, born 11.10.1957, elected 2007, engineering and information technology. Moscow State University 1980. Professor of Coastal Engineering (2005), Lead. Research Scientist (2005), Head, Wave Engineering Laboratory (2009), Institute of Cybernetics at Tallinn University of Technology; Akadeemia tee 21, 12618 Tallinn ESTONIA, Tel: +372 620 4176, Fax +372 620 4151, soomere@cs.ioc.ee. HOME ADDRESS Trummi 30g, 12617 Tallinn ESTONIA, Tel: +372 502 8921. Cohabiter, two sons.

Martin ZOBEL, born 25.02.1957, elected 2010, ecology. University of Tartu 1980. Professor of Plant Ecology, University of Tartu (1992); Lai 40, 51005 Tartu ESTONIA, Tel: +372 737 6223, Fax: +372 737 6222, martin.zobel@ut.ee. HOME ADDRESS Vikerkaare 36, 51006 Tartu ESTONIA. Cohabitant, son and three daughters.

Tõnu-Andrus TANNBERG, born 22.09.1961, elected 2012, history. University of Tartu 1986. Professor of Estonian Recent History, University of Tartu (2013); Lossi 3, 51003 Tartu ESTONIA, Tel: +372 737 5650, Fax +372 737 5345, tonu-andrus.tannberg@ut.ee. HOME ADDRESS Pikk 90-9, 50606 Tartu ESTONIA, Tel: +372 748 1288. Married, son and two daughters.

Hans-Voldemar TRASS, born 2.05.1928, elected 1975, botany and ecology. University of Tartu 1952. Professor emeritus, University of Tartu (1994); Lai 38, 51005 Tartu ESTONIA, Tel/Fax: +372 737 6222. HOME ADDRESS Riia 13-39, 51010 Tartu ESTONIA, Tel: +372 742 0481, +372 529 6835, hans.trass@mail.ee. Married, son and daughter.

Peeter TULVISTE, born 28.10.1945, elected 1994, humanities and social sciences. Moscow State University 1969. Professor of Cultural Psychology, University of Tartu (1992); Tiigi 78, 50410 Tartu ESTONIA, Tel: +372 503 3659, peeter.tulviste@ut.ee. HOME ADDRESS Sihi 25, 50411 Tartu ESTONIA, Tel: +372 730 4706. Married, son and daughter.

Enn TÕUGU, born 20.05.1935, elected 1981, informatics. Tallinn University of Technology 1958. Lead. Researcher, Institute of Cybernetics at Tallinn University of Technology (2005); Akadeemia tee 21, 12618 Tallinn ESTONIA, Tel: +372 620 4212, tyugu@ieec.org. HOME ADDRESS Lossi 18/Soone 3-18, 12616 Tallinn, ESTONIA, Tel: +372 672 6526. Married, son and two daughters.

Raimund-Johannes UBAR, born 16.12.1941, elected 1993, computer science. Tallinn University of Technology 1966. Professor of Computer Engineering and Diagnostics, Tallinn University of Technology (2005), Raja 15, 12618 Tallinn ESTONIA, Tel: +372 620 2252, Fax: +372 620 2253, raiub@pld.ttu.ee. HOME ADDRESS Õismäe tee 45-77, 13514 Tallinn ESTONIA, Tel: +372 657 4732. Married, daughter.

Raivo UIBO, born 21.12.1948, elected 2003, medicine. University of Tartu 1973. Professor of Immunology, University of Tartu (1992); Ravila 19, 51014 Tartu ESTONIA, Tel: +372 737 4231, Fax: +372 737 4232, raivo.uibo@ut.ee. HOME ADDRESS Taara pst 28, 51006 Tartu ESTONIA, Tel: +372 742 1150. Married, two daughters.

Jaan UNDUSK, born 14.11.1958, elected 2007, humanities. University of Tartu 1982. Director, Under and Tuglas Literature Centre of Estonian Academy of Sciences (2000); Roosikrantsi 6, 10119 Tallinn ESTONIA, Tel: +372 644 3147, Fax: +372 644 0177, jaan@utkk.ee. HOME ADDRESS Lätte 5-10, 10116 Tallinn ESTONIA, Tel: +372 644 7565. Married, three daughters and son.

Mart USTAV, born 16.07.1949, elected 2001, biomedicine. University of Tartu 1972. Vice President, Estonian Academy of Sciences (2009); Kohtu 6, 10130 Tallinn ESTONIA, Tel: +372 645 2528, Fax: +372 645 1805, mart.ustav@ut.ee. HOME ADDRESS Jaama 58A, 50604 Tartu ESTONIA, Tel: +372 740 3312. Married, son and three daughters.

Tarmo UUSTALU, born 19.01.1969, elected 2010, computer science. Tallinn University of Technology 1992. Lead. Researcher, Institute of Cybernetics at Tallinn University of Technology (2009); Akadeemia tee 21, 12618 Tallinn ESTONIA, Tel: +372 620 4250, Fax: +372 620 4151, tarmo@cs.ioc.ee. HOME ADDRESS Kalda 60A-5, 10922 Tallinn ESTONIA, Tel: +372 672 1215. Married, son and two daughters.

Gennadi VAINIKKO, born 31.05.1938, elected 1986, mathematics. University of Tartu 1961. Professor emeritus, University of Tartu (2006); Liivi 2, 50409 Tartu ESTONIA, Tel: +372 737 5490, gennadi.vainikko@ut.ee. HOME ADDRESS Kivi 23-19, 51009 Tartu ESTONIA, Tel: +372 510 7101. Widower, two sons and daughter.

Urmas VARBLANE, born 20.07.1961, elected 2009, economics. University of Tartu 1984. Professor of International Business and Innovation, University of Tartu (2001); Narva mnt 4, 51009 Tartu ESTONIA, Tel: +372 737 6361, Fax: +372 737 6327, urmas.varblane@ut.ee. HOME ADDRESS A. Starkopfi 11-6, 51011 Tartu ESTONIA, Tel: +372 733 1006. Married, son and two daughters.

Eero VASAR, born 17.09.1954, elected 2010, medical sciences. University of Tartu 1979. Head, Department of Physiology (1991), Professor of Physiology, University of Tartu (1992); Ravila 19, 50411 Tartu ESTONIA, Tel: +372 737 4331, Fax: +372 737 4332, eero.vasar@ut.ee. HOME ADDRESS Hurda 27, 51005 Tartu ESTONIA. Married, four sons.

Mihkel VEIDERMA, born 27.12.1929, elected 1975, inorganic chemistry. Tallinn University of Technology 1953. Professor emeritus, Tallinn University of Technology (1997). mihkel.veiderma@akadeemia.ee. HOME ADDRESS Jääraku 54, 12015 Tallinn ESTONIA, Tel: +372 623 8757. Married, three daughters.

Richard VILLEMS, born 28.11.1944, elected 1987, biophysics. University of Tartu 1968. President, Estonian Academy of Sciences (2004); Kohtu 6, 10130 Tallinn ESTONIA, Tel: +372 644 2129, Fax: +372 645 1805, richard.villems@akadeemia.ee. HOME ADDRESS Pallase pst 126-3, 51013 Tartu ESTONIA. Married, son and daughter.

Jaak VILO, born 14.11.1966, elected 2012, informatics. University of Tartu 1991. Professor of Bioinformatics, University of Tartu (2007); J. Liivi 2, 50409 Tartu ESTONIA, Tel: +372 737 5483, Fax: +372 737 5468, jaak.vilo@ut.ee. HOME ADDRESS Kalevi 4-26, 50409 Tartu ESTONIA. Married, son and two daughters.

Haldur ÕIM, born 22.01.1942, elected 1994, humanities and social sciences. University of Tartu 1965. Professor emeritus, Extraord. Senior Researcher, University of Tartu (2007); Ülikooli 18, 50090 Tartu ESTONIA, Tel: +372 737 5941, +372 737 6143, Tel/Fax: +372 737 5224, haldur.oim@ut.ee. HOME ADDRESS Hiie 12, 51006 Tartu ESTONIA, Tel: +372 742 2272. Married, son and two daughters.

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Yuri E. BEREZKIN (Russia), born 27.12.1946, elected 2012, ethnography. Professor, Faculty of Anthropology, European University at St Petersburg, (1996); Head, American Department, Museum of Anthropology & Ethnography (Kunstkamera), Russian Academy of Sciences (2003). University Emb. 3, St.Petersburg 199034, RUSSIA, Tel: +7 812 328 0712, +7 921 352 7477, Fax: +7 812 328 0811, berezkin1@gmail.com. HOME ADDRESS Kazanskaia 23, apt. 29, St.Petersburg 190000, RUSSIA, Tel: +7 812 314 0603. Married, two daughters.

Steven Richard BISHOP (UK), born 18.10.1955, elected 2012, nonlinear dynamics. Professor of Nonlinear Dynamics, University College London (1984). Gower Street, London WC1E 6BT, UNITED KINGDOM, Tel: +44 207 679 3082, s.bishop@ucl.ac.uk.

Richard R. ERNST (Switzerland), born 14.08.1933, elected 2002, physical chemistry. Professor emeritus, Swiss Federal Institute of Technology, Zürich (1998). Laboratory of Physical Chemistry, ETH-Hönggerberg HCI, CH-8093 Zürich, Switzerland, Tel: +41 44 632 4368, Fax: +41 44 632 1257, ernst@nmr.phys.chem.ethz.ch. HOME ADDRESS Kurlistrasse 24, CH-8404 Winterthur, SWITZERLAND, Tel: +41 52 242 7807. Married, son and two daughters.

Carl-Olof JACOBSON (Sweden), born 24.04.1929, elected 1995, developmental biology. Professor emeritus, Uppsala University (1994). HOME ADDRESS N Rudbecksgatan 13, SE-75236 Uppsala, SWEDEN, Tel: +46 18 501 123, carl-olof.jacobson@ebc.uu.se. Married, two sons and daughter.

Antero JAHKOLA (Finland), born 05.02.1931, elected 1998, energy research. Professor emeritus, Helsinki University of Technology (1994). HOME ADDRESS Hiisikuja 4 D 24, FI-00730 Helsinki, FINLAND, Tel: +358 9 724 9144; +358 400 102302, antero.jahkola@elisanet.fi. Married, son and daughter.

Charles Gabriel KURLAND (USA/Sweden), born 14.01.1936, elected 1991, biochemistry. Professor emeritus, Uppsala University (2001), kurland@tele2.se. HOME ADDRESS Munkarpsv. 21, SE-24332 Höör, SWEDEN, Tel: +46 41 322 856. Married, three daughters.

Jaan LAANE (USA), born 20.06.1942, elected 1995, chemical physics. Professor, Texas A&M University (1976); Department of Chemistry, College Station, TX 77843-3255, USA, Tel: +1 979 845 3352, Fax: +1 979 845 3154, laane@mail.chem.tamu.edu. HOME ADDRESS 1906 Comal Circle, College Station, TX 77840, USA, Tel: +1 979 693 5171. Married, two daughters.

Pekka T. MÄNNISTÖ (Finland), born 18.12.1946, elected 2012, pharmacology and drug development. Professor emeritus, University of Helsinki

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Gérard A. MAUGIN (France), born 02.12.1944, elected 2002, mechanics. Director of Research at French National Centre for Scientific Research (1979); Head, Institute Jean Le Rond d'Alembert (Mechanics, Acoustics, Energetics), University of Pierre and Marie Curie (2007). Institut Jean Le Rond d'Alembert, Université Pierre et Marie Curie, Tour 65-55, Case 162, 4 Place Jussieu, F-75252 Paris Cedex 05, FRANCE, Tel: +33 1 4427 5312, Fax: +33 1 4427 5259, gerard.maugin@upmc.fr. HOME ADDRESS 6 Allée des Feuillantines, F-94800 Villejuif, FRANCE, Tel: +33 1 4958 2049. Married.

Grigori MINTS (USA), born 7.06.1939, elected 2008, computer science. Professor, Stanford University (1991). Department of Philosophy, Building 90, Stanford University, Stanford, CA 94305-2155, USA, Tel: +1 650 723 2964, Fax: +1 650 723 0985, gmints@stanford.edu. HOME ADDRESS 1045 McGregor Way, Palo Alto, CA 94306, USA, Tel: +1 650 493 7181. Married, daughter.

Els OKSAAR (Germany), born 1.10.1926, elected 1998, linguistics. Professor, University of Hamburg (1967); Institut für Allgemeine und Angewandte Sprachwissenschaft, Universität Hamburg, Bogenalle 11, D-20144, Hamburg GERMANY, Tel: +49 40 428 384 761, Fax: +49 40 428 383 595, HOME ADDRESS Parkberg 20, D-22397 Hamburg, GERMANY, Tel: +49 40 607 0803, Fax: +49 40 607 1795, oksaar@oksaar.com. Married, son.

Jaak PEETRE (Sweden), born 29.07.1935, elected 2008, mathematics. Professor emeritus, University of Lund (2000). Widower, cohabiter, two sons and daughter.

Michael Godfrey RODD (Great Britain), born 21.06.1946, elected 1995, process control and infotechnology. HOME ADDRESS 16 The Garlings, Aldbourne, Marlborough, Wiltshire SN8 2DT, UNITED KINGDOM, Tel: +44 1672 541 571, +44 783 186 0199, mrodd@btinternet.com. Married, son and daughter.

Matti SAARNISTO (Finland), born 11.11.1942, elected 2008, geology. Member, Finnish Academy of Science and Letters (1995). HOME ADDRESS Mikonkatu 22 D 46, FI-00100 Helsinki, FINLAND, Tel: +358 400 209 351, matti.saarnisto@saunalahti.fi. Married, son and daughter.

Helmut SCHWARZ (Germany), born 06.08.1943, elected 2002, chemistry. President, Humboldt Foundation (2008); Professor, Technical University of Berlin (1978). Institut für Chemie, Sekr. C 4, Technische Universität Berlin, Strasse des 17. Juni 135, D-10623Berlin, GERMANY, Tel: +49 30 3142 3483, Fax: +49 30 3142 1102, helmut.schwarz@mail.chem.tu-berlin.de. HOME ADDRESS Patschkauer Weg 15, D-14195 Berlin, GERMANY, Tel: +49 30 832 5246. Married, son.

Jānis STRADIŅŠ (Latvia), born 10.12.1933, elected 1998, physical chemistry and history of science. Chairman of Senate (2004), Latvian Academy of Sciences. Akadēmijas laukums 1, LV-1050 Riga, LATVIA, Tel: +371 67 213 663, Fax: +371 67 821 153, stradins@lza.lv. HOME ADDRESS K.Valdemara 99-7, Riga LV-1013 LATVIA. Married, two sons.

Päiviö TOMMILA (Finland), born 4.08.1931, elected 1991, history. Professor emeritus, University of Helsinki (1994), Fellow of the Academy of Finland (2004). HOME ADDRESS Kylätie 8 A, FI-02700 Kauniainen, FINLAND, Tel/Fax: +358 9 505 1523, paivio.tommila@aka.fi. Married, three sons and two daughters.

Alar TOOMRE (USA), born 05.02.1937, elected 2012, applied mathematics. Professor emeritus, Massachusetts Institute of Technology (2010). HOME ADDRESS 55 Hillside Avenue, West Newton MA 02465, USA, Tel: +1 617 969 9596, toomre@math.mit.edu. Married, two sons and daughter.

Endel TULVING (Canada), born 26.05.1927, elected 2002, psychology. Professor emeritus, University of Toronto (1992). HOME ADDRESS 45 Baby Point Crescent, Toronto, Ontario M6S 2B7, CANADA, Tel: +1 416 762 3736, tulving@psych.utoronto.ca. Married, two daughters.

ESTONIAN ACADEMY PUBLISHERS

Established in 1994

Address: Kohtu 6, 10130 Tallinn, ESTONIA

www.kirj.ee or www.eap.ee

Director: Ülo Niine, Tel: +372 645 4504,

Fax +372 646 6026, niine@kirj.ee



Estonian Academy Publishers continued in 2012 regularly issuing nine scientific journals, peer-reviewed and indexed and abstracted in international review publications and databases.

The Publishers' main mission has been to maintain a high standard as regards the contents of journals, their typographic performance, timely release and electronic version of all journals, besides hard copy.

In 2012 the journals were issued in the following volume:

Title	Number of issues per year	Total volume in printed sheet
Acta Historica Tallinnensia	1	10,0
Estonian Journal of Archaeology ¹	2 (3)	10.5
Estonian Journal of Earth Sciences	4	41.5
Estonian Journal of Ecology	4	18.9
Estonian Journal of Engineering	4	22.1
Linguistica Uralica	4	20.0
Oil Shale	4	25.3
Proceedings of the Estonian Academy of Sciences	4	41.5
Trames	4	23.9
Total	31	213.7

¹ The Publishers released the Supplementary Series, Vol. 1 to Estonian Journal of Archaeology, "KEAVA – 'The Hand of the Sun'", consolidating the outcome of excavations carried out by archaeologists of the University of Tartu in 2001-2006 in Keava site of ancient settlement and other antiquities of the surroundings. Keava is made mention of in ancient Russian chronicles of about 1054 and the research showed that it used to be a centre of considerable importance of that period. In the collection, altogether 12 authors from various universities of Estonia analyse the building residues, artefacts found at excavation of the Keava site, Võnnumäe and Linnaaluste settlements and other antiquities, and the development of the paleo-environment. They make an endeavour to place the discoveries made in site of research into a broader context.

Hard cover, 240 pp., incl. 115 illustrations.

Journals are internationally peer-reviewed and have international editorial boards. Seven journals belong to category 1.1 and two journals to category 1.2. Information on journals is electronically available at website of the Estonian Academy Publishers, starting from 2006, the website of the Publishers offers free access to full texts of all articles of all journals. Full texts of journals are available in well known electronic publishers: EBSCO, C.E.E.O.L., The Gale Group Inc., ProQuest LLC, H.W.Wilson (merged with EBSCO), Digital Publication with the Leading Asian Distributor (Airiti Inc.). The majority of journals are reviewed in Elsevier BV Bibliographic Database (SCOPUS®).

Texts of articles of earlier vintages of our journals have been digitised and placed in Internet through mediation of Google. Respective links have been made from the Publishers' website.

All scientific articles of the journals have been supplied with the doi-indexes (Digital Object Identifiers).

Such availability of full text in multiple places creates better opportunities for review of articles, increasing readership and rate of citation.

The articles published in journals are reflected in scores of international review journals, scientific websites and databases. In what follows are some of the most authoritative, we will highlight them one more time, because the Publishers keep receiving relevant questions. As of now, 7 journals among them are reflected in the ISI Web of Science databases:

- Acta Historica Tallinnensia
- Estonian Journal of Archaeology
- Estonian Journal of Earth Sciences
- Linguistica Uralica
- Proceedings of the Estonian Academy of Sciences
- Oil Shale (incl. Current Contents®)
- Trames. A Journal of the Humanities and Social Sciences

Articles of Estonian Journal of Ecology are reviewed in the database ISI Web of Knowledge.

Three journals are in the database ERIH:

- Acta Historica Tallinnensia
- Estonian Journal of Archaeology
- Linguistica Uralica

Eight journals are in Elsevier BV Bibliographic Database (SCOPUS®) and elsewhere.

In 2012 as usual several special issues of journals were released, however fewer than in 2011. It is an internationally recognised way to publish the materials of international conferences, providing an opportunity to document in a compacted way the results of research in certain problems related to Estonia.

There were the following special issues released:

1. Estonian Journal of Ecology 61/2: Special issue on the ecological status of marine communities. Guest editor Jonne Kotta.
2. Estonian Journal of Engineering 18/3: Selected papers of the 21st International Baltic Conference. Guest editor Priit Kulu.
3. Estonian Journal of Earth Sciences 61/4: Special issue dedicated to the 65th anniversary of the Institute of Geology at Tallinn University of Technology. Guest editors Atko Heinsalu, Olle Hints and Dimitri Kaljo.
4. Proceedings of the Estonian Academy of Sciences 61/3: Special issue on polymer science. Guest editor Andres Öpik.

In 2012, in total 220 pieces of writing were released in 31 issues of ten journals, of them 183 scientific articles and 31 short pieces of writing (23 of them in journal *Linguistica Uralica*). All journals in hard copy appeared under schedule. The electronic version appeared on average one month prior to the date set for the hard copy, actually meaning pre-posting of the electronic version.

The number of authors totalled 562, of whom 278 were Estonian authors and 284 foreign authors. The share of authors from abroad has increased. In journals on humanities one article has usually 1-3 authors, in other journals significantly more.

Besides journals, there appeared, as commissioned, four more publications:

- “Eesti mereteaduse ajalugu” [History of Marine Science in Estonia] by Evald Ojaveer (hard cover, 174 pp., in Estonian).
- Estonian Journal of Archaeology Supplementary Series, Volume 1. “Keava – ‘The Hand of the Sun’. Keava – päikese käsi”. Editor Valter Lang (paperback, 240 pp.).
- Estonia. Geographical Studies 11. Editors Anto Raukas, Kalev Kukk and Tiit Vaasma (paperback, 168 pp.).
- “Emakeele Seltsi aastaraamat” [The Yearbook of the Estonian Mother Tongue Society], Volume 57 (hard cover, 328 pp., in Estonian with abstracts in English).

Judging by achievements, the year of 2012 was successful in all aspects, the more so in view of several circumstances impeding work: construction of a new roof for the building at 6 Kohtu 6 Street and redecoration of two rooms. In connection with the repairs we introduced telecommuting (remote work), and our employees continue to work from home part of the time.

For the reason of scarce funding, the Publishers has stretched to the breaking point in their publishing effort, in jeopardy are acquisitions of soft- and hardware and other equipment.

UNDER AND TUGLAS LITERATURE CENTRE OF THE ESTONIAN ACADEMY OF SCIENCES

Established in 1993 (affiliate museum in Nõmme, the former Friedebert Tuglas Museum, established in 1971)

Personnel: 16, including 11 researchers

Address: Roosikrantsi 6, 10119 Tallinn, ESTONIA, utkk@utkk.ee

Museum: Väikesse Illimari 12, 11623 Tallinn, ESTONIA, tuglas@utkk.ee
www.utkk.ee

Director: Jaan Undusk, Tel: +372 644 3147, Fax +372 644 0177,
jaan@utkk.ee,

Academic Secretary: Riina Oruaas (until November 30, 2012),

Merlin Piirve (since December 3, 2012), Tel: +372 644 3147, merlin@utkk.ee

Head of the Museum Department: Eha Rand, Tel: +372 672 2847,
eharand@utkk.ee

Under and Tuglas Literature Centre of the Estonian Academy of Sciences is an institution of research and development of the Estonian Academy of Sciences. Its mission is to study Estonian literature and the local written culture in general, both in historical and theoretical perspectives, within the context of historically multilingual Baltic space as well as world literature. It promotes literary and cultural thought in line with contemporary trends in textual research (discourse analysis, rhetoric-narratological models of culture, post-colonial theory and the theory of cultural transfer, memory and gender studies). Under scrutiny beside fiction and theatrical texts are various historiographical, philosophical, publicist and scientific modes of self-expression in Estonian and German, insofar as they have played a decisive role in the Baltic literary space, as well as relevant texts of European history of ideas, which have influenced the course of thinking both in the universal embrace and in the Baltic. In this context, the history of certain basic concepts and models of thought of the whole of Europe is considered (tradition of antithetic thinking, the concept of infinity, decadence, soliloquy-style of writing, grotesque). Research work is performed by 11 regular researchers, since December 2012 Merlin Piirve is the Academic Secretary of the Literature Centre.

In the process of its development activities, Literature Centre publishes original researches and source materials of Estonian written culture, maintains the library and art collection of historical value, organises conferences, exhibitions and cultural events of general importance (the ceremony of Friedebert Tuglas` prize for the best Estonian short story, annual prizes of the literary

magazine *Looming*, events of the Scientists' House etc.). The Museum Department of the Literature Centre in Nõmme administrates the legacy of the writer F.Tuglas and other collections (incl. Tuglases' literary and art collection, and the library and art collection of Artur Adson and Marie Under, which arrived in Estonia in 1996, the art collection of the Estonian Cultural Foundation in the USA, Paul Reets' literary and art collection), as well as the house and garden of dendrological value attached to it, carries out lecture-excursions and serves individual researchers and visitors.

The major areas of research of the Literature Centre are:

- Estonian literature and culture in the 20th C. (including works of F.Tuglas, M. Under and A. Adson),
- Older Estonian and Baltic German written culture in the 13th-19th C., German legacy in the development of modern Estonian culture,
- Mechanisms of creation of identity of the Estonian written culture (spontaneous and transfer of culture),
- Baltic literary space and Estonian-Latvian literary relations,
- Rhetorico-narratological models for description of European and Estonian culture,
- Drama and theatre research.

Since 2008, Literature Centre has fulfilled the targeted financed research project "Autogenesis and Transfer: The Development of Modern Culture in Estonia" (2008-2013, project leader Jaan Undusk). In 2012, the activities in fulfilling the general aims of the project were continued as well as the individual scientific topics of researchers of the Literature Centre. The Centre is continually closely connected with the national programme "The Estonian language and cultural memory", in the frame of which Liina Lukas leads the project "History of the Baltic written culture", and Elle-Mari Talivee the project "Intellectual heritage of Friedebert Tuglas, Marie Under and Artur Adson".

In 2012, the team of ETF grant no. 8530 "Historical novel as Medium of Cultural Memory" (2011-2013) supervised by Eneken Laanes continued its work. Its task is to study and write the history of the genre of the historical novel in Estonian literature. Researchers consider the historical novel as a medium of cultural memory and bestow a glance also at the poetics of the historical novel. Involved in the work of the grant team, besides researchers of the Literature Centre (E.Laanes, J.Undusk, Aare Pilv) are also researchers of literature of the Estonian Literary Museum and Tallinn University. Since 2012 Ulrike Plath has held the ETF 4-year grant no. 9419 "History of Baltic Food Culture: Production, Consumption and Culture in the Light of Environmental History". The research team of the grant is concerned with the history of regional food culture in cross-national perspective. Innovative dimension of U.Plath's grant in treatment of the Baltic history consists in trimming the

history of environment with the food culture. The work of the grant team also has a perceptible international embrace, one of the directions of activity being strengthening of cooperation with international networks studying the food culture. Literature Centre and U.Plath in particular have also made a contribution to establishment of the Estonian Centre of Environmental History and in the development of its work (jointly with Tallinn University).

In 2012, Under and Tuglas Literature Centre organised several international conferences.

August 29-30 – within the framework of grant “History of Baltic Food Culture: Production, Consumption and Culture in the Light of Environmental History” the conference “Turning Points in Baltic and Central East European Food History – Knowledge, Consumption, and Production in Changing Environments” (U.Plath) was organised jointly with Tallinn University and the Marburg Herder-Institute. Speakers were from Poland, Finland, Latvia, Germany and Estonia.

October 11-12 – within the framework of grant “Historical Novel as Medium of Cultural Memory” the seminar “Novels, Histories, and Novel Nations: Finnish and Estonian Historical Fiction II” took place. Besides the members of the grant team, the event was also attended by representatives of Turku, Tampere and Oulu Universities.

October 16-17 – “Karl Ristikivi 100” which was held in common with Karl Ristikivi Society, Estonian Literary Museum and Estonian Information Centre of Literature. The organisers and speakers on part of the Literature Centre were E.-M.Talivee and J.Undusk. Taking the floor among various speakers were also translators of works by Ristikivi (in Russian, Swedish and French).

Several seminars of local importance were also held. Among others the seminar “Madis Kõiv and philosophy” (A.Pilv) which was organised in cooperation with Association of Estonian Researchers of Theatre on February 2, 2012. On March 8-9 the conference “Historical novel: poetics and politics” (E.Laanes) was successfully held together with colleagues from Tallinn University. In the framework of the conference there was also the roundtable of writers on history “Historical novel as benchmark of the time”. Delivering papers among others were L.Lukas, J.Undusk and A.Pilv. The 6th Seminar on Modern Estonian Literature on Karl Ristikivi’ “Diary of Rome” (1976)“ was held on May 18 in the Gallery of A.H.Tammsaare Museum (E.-M.Talivee, M.Hinrikus). On June 20 the series of seminars “Siuru spring” continued with the event “Johannes Semper 120” (E.-M.Talivee).

In 2012 regular theoretical seminars by researchers of Literature Centre continued in Roosikrantsi House and Museum Department. U.Plath carried out, with the help of Art Museum of Estonia, a seminar in KUMU titled “From research to exhibition. Vinum et panis. The motif of wine and bread in

the art of 16th –20th C.” (14.01). Anneli Mihkelev spoke on the topic “Literary text in creating identity II. Intertextuality, intermediality and Hamlet in Estonian culture” (28.03), M.Hinrikus together with Martin Carayol held a scientific seminar in Museum Department (07.06), the topics being canon of Estonian short story and Baudelairean modernity experience and its searches in Estonian culture of the beginning of the 20th C. The title of Piret Kruuspere’s seminar was “Images of national history in Estonian playwriting and theatre” (02.10). The last theoretical seminar of 2012 was held by Rein Undusk, the title of his paper being “Of the beginning and historical role of German philosophy: Albert the Great, Dietrich Freinergist, Meister Eckhart, Nicolaus Cusanus” (23.11).

The Museum Department witnessed continuation of traditional public lectures: on 03.02 i.e. Artur Adson’s anniversary was celebrated with the morning of dialectal poetry, with Lea Eermann speaking. On 12.04 Aarne Ruben spoke about Rome as cradle of European civilisation.

November 5-December 9 – the gallery of the Castellan House hosted the exposition “Out from the shadows. Lesser known works of well known artists from Under and Tuglas Literature Centre art collection”. Curator and designer was the art researcher Jüri Hain. The exposition presented 82 works. The catalogue of the exposition was composed by Eha Rand, and designed by Tiit Pirsko. The catalogue contains high standard reproductions of all works on display (photographer Toomas Tuul), introduced by J.Hain’s profound study of their cultural history background. The exposition was visited by 593 people.

In 2012 researchers of Literature Centre delivered 41 scientific papers, of which 18 at international scientific events. Among them were conferences “The Global Baltics. The Next Twenty Years. Conference of the Association for the Advancement of Baltic Studies (AABS)” in Chicago; “The Tenth Nordic Gender History Conference“ in Bergen; “Migration, Memory, Place” in Copenhagen; “Fugitive Knowledge. The Preservation and Loss of Knowledge in Cultural Contact Zones” in Rostock; “Global Semiotics: A Bridge Linking Different Civilizations. The 11th World Congress of Semiotics” in Naijing; “Symposium Umweltgeschichte des ländlichen Raumes in Wissenschaft, Museum und Schule, Projekt Mensch und Umwelt” in Osnabrück; “Die Sowjetzeit im Baltikum 1949 bis 1991: Alltag, nationale Prägung und deutsche Tradition unter roter Diktatur” in Lüneburg, “Archaeologies of the Future: Tracing Memories – Imagining Spaces. The International Association for Philosophy and Literature 36th annual conference” in Tallinn; “Risks and opportunities of languages of small nations” in Tallinn; “Do Texts Tell Lies? How to deal with unreliable sources” in Tallinn (The 4th Juri Lotman Days); “Schriftsteller und Diktaturen” at Tartu etc.

In 2012 researchers of Literature Centre authored 16 scientific articles in foreign languages and 17 in Estonian.

Researchers of Under and Tuglas Literature Centre are involved in cooperation with Estonian universities in supervising and reviewing BA, MA and PhD theses and delivering courses of lectures (E.Laanes, M.Hinrikus, U.Plath, P.Kruuspere, A.Mihkelev). They participate in the work of academic council of Academic Library of Tallinn University and in completion of the collections of the Library as well as these of the Estonian National Library, and they also participate in academic council of Estonian Literary Museum. Director of Literature Centre J.Undusk is member of Cultural Fund of President of the Republic of Estonia, member of Prize Panel of National Science Prizes and member of National Students' Papers Prize Panel and also member of steering committee of national programme "The Estonian language and cultural memory". The Centre participates in the work of several panels of works of fiction (F.Tuglas' novel prize, Jaan Kross' literature prize).

Within the framework of the national programme "The Estonian language and national memory" the Museum Department is fulfilling the scientific project "Intellectual Heritage of Friedebert Tuglas, Marie Under and Artur Adson" (2009-2013, E.-M.Talivee). In 2012, it composed and delivered for printing the 12th volume of F.Tuglas "Collected Works", containing Tuglas' two scientifically commented monographs on Juhan Liiv. E.-M.Talivee and E.Rand carried out, in the Museum Department the series of lectures "On life of M.Under, A.Adson and the Tuglases at Nõmme. Literary and cultural historical background." The theatre "Varius" staged in the Museum Department a play "Under the bare sky", topically focussing on the life of Under and Adson in 1943-1944. Lectures and plays were visited altogether by 1196 people.

The Literature Centre is now constantly presenting the heritage of the writers having resided in the house of the Museum Department. In 2012 there were added 1 975 entries into the database MuIS, altogether the data of 16 696 books and 1 166 works of art, besides photos of 163 works of art. Digi-database numbers the total of 17 901 units.

The Centre started taking inventory of Paul Reets' collection. Paul Reets (born in 1924) is an Estonian literature and art critic in exile having resided in Boston. Reets donated his collection on history of culture – art collection, the bulk of which is constituted by works of Estonian artists Epp Ojamaa, Rutt Tulving, Ilse Leetaru, Arno Vihalemm, Johann Naha and Eduard Rüga, a library of bibliophilic value (875 items of printed matter), speculative diaries in manuscript (22), photo collection and documents – to the Under and Tuglas Literature Centre. During 2012, a list of books from Reets' collection was drawn (437 units), 188 reproductions were measured and recorded in a list. Besides that, 47 books were donated to the Museum Department in that year.

In 2012, the archival holdings of the Museum Department were used for research by 87 people, and 2070 archival holdings were delivered to use. Besides that, book expositions were set up for the visiting groups, with 532 works on display. Using of archival holdings in total: 2 602. There were 157 individual visitors.

Since 2011, the Museum Department has been maintaining cooperation, with the aim to present the heritage of Tuglas, Under and Adson, with the NGO Association of Estonian Writers' Museum. It participates in Grundtvig project "Comparing learning opportunities in the field of Literary Heritage 2011-2013".

FINANCIAL ACTIVITIES

The budget of the Estonian Academy of Sciences for 2012
and its execution (EUR)

INCOME

ALLOCATIONS TO THE ACADEMY OF SCIENCES FROM THE STATE BUDGET	1 209 794
OTHER REVENUE	475 247
ALLOCATIONS TO UNDER AND TUGLAS LITERATURE CENTRE	261 920
TOTAL INCOME	1 946 961

EXPENDITURES

GENERAL BREAKDOWN

Main activities of the Academy (through Academy Office)	644 462
Estonian Academy Publishers	268 692
Fees of Members of Academy	253 090
Fees of research professors	100 662
Prizes, grants and medals	7 201
Scientific Societies	70 250
Incl. Estonian Naturalists' Society	26 800
Mother Tongue Society	6 700
Estonian Geographical Society	5 800
Society of Estonian Areal Studies	5 100
Estonian Union of the Philosophy and History of Science	4 890
Estonian Literary Society	4 890
Learned Estonian Society	4 890
Estonian Musicological Society	4 890
Estonian Physical Society	4 890
Estonian Association of Engineers	1 400
Membership fees to international science organisations	44 462
Renovation of the Academy's house roof	270 000
National Science Prize Committee	20 451
Under and Tuglas Literature Centre	259 445

TOTAL EXPENDITURES 1 939 548

ASSOCIATED INSTITUTIONS

Pursuant to “Estonian Academy of Sciences Act” passed by the Riigikogu in 1997, the research, development and cultural institutions and scientific societies outside the structure of the Academy, whose activities and objectives however conform to the activities and objectives of the Academy can associate themselves with the Academy. The association of institutions with the Academy is effected under bilateral agreements, which specify the purpose of association as well as the tasks and commitments for both parties.

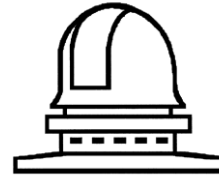
One form of cooperation between the Academy and the institutions associated with it is the reciprocal exchange of information. Surveys of the activities of the institutions associated with the Academy have been published in the Academy Year Book since 1998. Included reviews differ from one another by their structural composition, exposition and scope. They are practically presented in the same form as submitted, with minor modifications, suggested by the editorial board and kindly accepted by respective institution.

Reviews on the 2012 activities of the institutions associated with the Academy have been presented in the chronological order of their association date:

Tartu Observatory	109
Institute of Ecology at Tallinn University	112
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TARTU OBSERVATORY

Associated with the Estonian Academy of Sciences
8.05.1998



Founded: 1808

Personnel: 95, of whom 62 researchers, 10 engineers and technicians engaged in research work

Address: Observatooriumi 1, 61602 Tõravere, the Tartu County, ESTONIA,
aai@aai.ee, www.aai.ee

Director: Anu Reinart Tel: +372 741 0265, Fax +372 741 0205,
anu.reinart@aai.ee

Head of information team: Mare Ruusalepp, Tel: +372 741 0261,
mare@aai.ee

The working year now ended was essentially very multifaceted, with traditional directions of research complemented by realisation also of several new initiatives. However we did not as yet participate in the novel funding system of institutional research subsidies, because all target-financed topics carry on also in 2013:

- Dark energy, dark matter and formation of structure in the Universe (principal investigator E.Saar).
- Observational and theoretical investigation of stars and their envelopes during evolutionary phases (principal investigator T.Kipper).
- Quantitative remote sensing of vegetation covers (principal investigator A.Kuusk).

Published were 34 articles of ETIS category 1.1, and 8 more in other peer reviewed international journals or conference volumes.

Altogether in progress in Observatory in 2012 were 7 ETF, 3 post-doctor and mobility grants, 8 international cooperation projects, 11 different research apparatus and infrastructure development subsidies, 2 initiatives within framework of programme of internationalisation of Estonian research, participation in 5 environment protection and technology R&D projects, 1 science popularisation subsidy, 1 Centre of Excellence in Research project, and additionally 6 smaller Estonian and foreign agreements. In aggregate they allow the Estonian space scientists to pose as solid partners to the European Space Agency.

Within the framework of programme of internationalisation of Estonian research we considered the possibilities of accession to the European Southern Observatory (ESO) recorded on Roadmap of Infrastructure of Estonian Research. It has to be admitted however that regardless of broad support accorded to the idea by officials and regardless of its importance for our astro-

nomers, in the final analysis it is as yet too costly to us, whilst our work towards wider integration with international scientific organisations goes on.

In cooperation with the University of Tartu and Tallinn University of Technology we advise Ministry of Economic Affairs and Communications and Ministry of the Environment on matters of accession to European Space Agency (ESA) and taking to use systems of monitoring and safety of environment (EU Copernicus Programme).

Within the framework of environment protection and technology R&D we launched, jointly with partners from the University of Tartu, Tallinn University of Technology and Estonian University of Life Sciences the project and activities of Estonian Environment Observatory for development of water environment, forestry and land surface remote sensing methods, and for research of climatic changes and polar areas. We have managed at being successful in those projects funded through EU structural supports, regardless of the headway the bureaucracy is making.

It is gratifying to know that the work of researchers of the Observatory has been noticed and acknowledged both home and abroad. Member of Academy Jaan Einasto was awarded the Member of Academy Viktor Ambartsumjan International Prize granted by Armenian Academy of Sciences. Research work of the Centre of Excellence in Research “Dark matter (astro) particle physics and cosmology” jointly with Institute of Chemical and Biological Physics is certainly worthy of the task of carrying forward the ideas of J.Einasto.



Renovated building of the Observatory, photo by Kalju Annuk

Elected Professor in Astrophysics of the University of Tartu was senior researcher of the team of physics of galaxies Peeter Tenjes.

Recognition, bestowed on Mart Noorma with prizes for popularising the science is not surprising, as a matter of fact, because his enthusiasm and zeal at creation of the first Estonian satellite is shared by hundreds of students, colleagues and friends. The Order of the White Star, 5th Class obtained from the President testifies to the fact.

Doctoral student Tiina Liimets was elected, for excellent performance in international research work and ability to connect, one among 500 talented young scientists over the world, who participated at traditional Lindau meeting of young scientists and Nobel Prize winners.

Taavi Tuvikene defended in Brussels (Vrije Universiteit Brussels) the doctoral thesis “CCD photometry of variable stellar sources: Data reduction workflow, assessment of accuracy, case studies”.

It is our great pleasure to ascertain that our main building with fully renovated work premises together with the new space technology laboratory complex and visiting centre has been completed! On October 22, 2012 the builder AS YIT Ehitus transferred the renovated buildings. Contemporary work environment can now be enjoyed by ca. 90 researchers, engineers and students, and we have an opportunity to invite to work also the internationally renowned top researchers. We already have foreign researchers working at Observatory, coming from Germany, Finland, Latvia, Bulgaria, Czechia and Russia.

A thorough overview of activity of the Tartu Observatory has appeared in Yearbook 2012 and also in the traditional Observatory calendar.

INSTITUTE OF ECOLOGY AT TALLINN UNIVERSITY

Associated with the Estonian Academy of Sciences
16.06.1998



Founded 1992

Personnel: 33, of whom 25.5 researchers (estimate on the full-time basis)

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Scientific and Administrative Secretary: Ludmilla Krusta,
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In 2012, scientific research was carried out within the framework of 49 topics of different level and projects, incl. 1 target-financed topic by Ministry of Education and Research, 5 Estonian Science Foundation grants (incl. 1 Mobilitas grant) and 38 applied cooperation agreements. Research work was also carried out within framework of 6 doctoral theses.

The Institute participated in international cooperation projects and programmes, of which of wider scope were:

- II Post-POLLANDCAL – NordForsk Researcher network, a formal network of palynologists. 2005–
- IGBP (International Geosphere-Biosphere Programme) PAGES Focus4 PHAROS – Land Cover Working Group (leaders: M.-J.Gaillard, S.Mooney, and Shinya Sugita). June 2008-May 2023.
- COST Action ES0805: Terrestrial Biosphere in Earth System (TERRABITES). 2009-2013
- Forestry and Water Network (ECOREGION, SKOGSSTYRELSEN) 2011-...
- Research on forest carbon dynamics and forest stand development, Kyoto University, 2012-2016. Project coordinators Mihkel Kangur and Margus Pensa.

The main research effort of the Institute was carried out within the framework of the following target financed topic “Impact of disturbances on wetland ecosystems in Estonia”, (research topic leader Margus Pensa).

The main results of 2012: Research of movement by waves of the coastal sediments in the near-shore sea revealed that there is a close link between the wave breaking zone, boundaries of sediment abrasion from the sea bottom and underwater plant cover. On limestone plateaus of small slope (for instance Osussaar, Küdema etc.) the sediment abrasion on sea bottom and the sub-

sequent movement towards land occurs in two zones: 3-5 metres deep, where the depth of sea increases drastically and where the primary breaking of storm waves occurs, and 0-1 metre deep, where secondary breaking of waves occurs. Both areas are generally without plant cover and often separated from one another by a zone of plant cover.

In the process of rough storms the seawater reaching, under impact of storm waves, out to the coast may inundate the areas, which are 10-20% higher than maximum sea level registered in the process of those storms (for instance while in storm the sea level rises 1m over sea surface, upon impact of the waves the area landward from coastal formations may be inundated to the height of 1.2 metres, as was measured in Saaremaa in the past year).

Geo-radar research carried out in Hiiumaa on Tahkuna Peninsula showed that the majority of ancient near-shore embankments have come into being by naval accumulations due to onshore migration of sediments. The strata complexes sloping towards the sea bear witness to that surmise. Less recurrent are sediments of unclear stratification, implying the longshore migration of sediments or their aeolian accumulation. Contours of contact areas of mineral and mire sediments prove that lower near-shore embankments have been fully buried under peat, with the higher ones expected to fall victim to the same fate.

Tufa-forming spring fens are the most endangered habitats in Europe (habitat type *7220 according to Habitat Directive). The vegetation and hydrological conditions of over 60 South-Estonian spring fens were studied. Based on the results of these studies, four clusters of tufa-forming spring fens were differentiated according to the properties of vegetation. Two of them (*Molinia caerulea* – *Carex lasiocarpa* – *Carex davalliana* and *Schoenus ferrugineus* – *Carex lasiocarpa*) are characterised by a high, land-surface or near-surface water level and pH ca 7.1. Other two (*Cirsium oleraceum* – *Menyanthes trifoliata* – *Phragmites australis* and *Carex rostrata*) were of deeper water level and higher pH (ca 7.6). Tufas were formed when the electrical conductivity of the spring water was over 530 $\mu\text{S cm}^{-1}$ but in exceptional cases also within the range of 200-400 $\mu\text{S cm}^{-1}$. Lacking is the direct link between vegetation richness and precipitation of carbonate minerals.

Since 2012 the Institute of Ecology has participated in two projects of the Estonian environmental protection and technology programme (KESTA).

In the reporting year there was launched, as an object of the Estonian road map, the Estonian Environmental Research Observatory (KKOBS). In the process of its realisation the laboratory-base of North-East Estonian Branch of Institute of Ecology would be modernized, becoming available to all Estonian universities.

Institute of Ecology is involved as partner also in the work of two Centres of Competence, launched in 2012:

- Health Promotion and Rehabilitation Competence Centre at Haapasalu College of Tallinn University (TERE KK), with the Institute of Ecology engaged in re-establishing the curative mud research in Estonia, helping to equip the respective laboratory, and increasing thereby the laboratory base at disposition of the Institute;
- Estonian Oil Shale Competence Centre at Kohtla-Järve College of Tallinn University (PKK), focusing on development of oil shale excavation, chemical industry and energy generation technologies, with the Institute of Ecology vested with the task to supervise the organisation of environmental studies related to that area.

77 scientific articles were published by the staff members of the Institute in 2012, incl. 42 in peer reviewed international issues. Besides, 17 abstracts of conference, plus 1 popular science article came out. 35 papers were delivered at international conferences and meetings, 7 papers at national events and 30 papers at scientific seminars of the Institute. Released was the series no. 12 of publications of the Institute of Ecology “Jaan-Mati Punning and his time (1940-2009)”, dedicated to presentation of scientific legacy of the founder and long-time Director of Institute of Ecology.

The applied researches were traditionally focusing on advising the industrial enterprises how to adapt to environmental protection restrictions in North-East Estonia, and the problems of reclamation of different wetland types.

Researchers of the Institute were actively involved in teaching at universities – by giving lectures and supervising undergraduate and postgraduate students at Tallinn University as well as in Euroacademy, Tallinn University of Technology and the University of Tartu.

**ACADEMIC LIBRARY
OF TALLINN UNIVERSITY**



TALLINNA ÜLIKOOL
Akadeemiline raamatukogu

Associated with the Estonian Academy of Sciences
17.06.1998

Founded 1946

Personnel: 131, of whom 1 researcher

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www.tlulib.ee

Director: Andres Kollist, Tel: +372 665 9401, Fax +372 665 9400,
andres.kollist@tlulib.ee

Number of registered users: 47 094

Number of copies in the circulating collection: 2 624 704

2012 witnessed lively building and renovation activity in the Academic Library, however progress made in the area of technological development activity was also impressive.

Under Regulation no. 24 of Minister of Finance of 28.04.2011 “Conditions and procedure of use of the means, obtained from the fifth agreement made between the Republic of Estonia and Sumitomo Mitsui Banking Corporation on trading the units of emissions allowed by the State”, i.e. within the framework of the so-called CO₂ project, the Library was assigned 2 228 147 EUR for repair works, in order to make the Library building more energy efficient. In mid-May repairs started, with the aim to raising the energy efficiency of the building and increasing the convenience of its use. Facade was insulated, windows were replaced and the ventilation, electricity and heating system was renovated. Construction works were started also to build the digitising centre of the 6th floor of the Library. The whole building is expected to be completed in April 2013.

The process of composing the roadmap of infrastructures of Estonian research launched by Ministry of Education and Research and Estonian Academy of Sciences as early as in 2009 has had a successful continuation for the academic libraries. Upon initiative of the Academic Library of Tallinn University, the Council of Estonian Academic Libraries and the NGO Consortium of Estonian Libraries Network ELNET made a proposal to title the object of roadmap as the “Estonian E-repository and preservation of collections (the first stage)”. The goal is large-scale digitising of information stored in libraries and other memory institutions (both hard copy documents and audio-visuals), creation of conditions necessary for long-term preservation of the digitised information and providing access to those materials through common portal and search engine. Besides that a neutralisation centre will be

set up, in order to increase the preservation period of books printed on active (super-acidic) paper. On December 9, 2011 the approval was granted and the project was assigned 2 720 093 EUR, of which amount the share obtained by Library for development of digitising centre and completion of premises of the centre on the 6th floor is 844 001 EUR.

The Library finally got its long-awaited self-service system based of UHF RFID (Ultra High Radio Frequency Identification), the first in the Baltic, which was festively put into operation on February 16. RFID makes it possible to independently loan the documents, to return them, to prolong the time of use; besides, the system also operates as a security element. The system is designed primarily for expeditious and expedient servicing of the readers, leaving more time to the library operatives to counsel them. RFID is a burgeoning technology, which may enable in the future displaying supplementary information on books or localizing the books by smart-phone.

In March, a new unique digitising device was delivered to the Library. It is a fully automatic book scanner of superb workmanship, manufactured in Switzerland. The devices of that kind number about thirty in the whole world. This device Digitizing Line 3003 allows to scan in automatic mode both books and documents of large dimensions, e.g. newspapers and magazines in the format up to A1. If the device proves to be cost efficient, some more apparatus of that kind will be purchased for the Digitising Centre.

February 15 – the 7th Day of Bibliography, that year for the first time held as the memorial event in honour of the long-time chief bibliographer of the Library and the grand old man of Estonian national bibliography Endel Annus. Endel Annus studied history of Estonian calendar literature, history of A-B-C books and historiography of publication of Bible in Estonian however he etched his name in the history of Estonian culture by his persistent activities in composing and implementation of programme of Estonian retrospective national bibliography. Under his supervision and on his advice the Estonian Literary Museum continued, in the 40-ies of the past century, compilation of the master list of Estonian books, upon his initiative the Department of National Bibliography was committed to action at National Library, for decades thereafter engaged in analytical national bibliography. Academic Library, acting in cooperation with other libraries, embarked on preparing and publication in print of the volumes of Estonian retrospective bibliography, the eight representative volumes of which are awaiting supplementation by last volumes.

In May, the foyer of the Library was the scene of a Book Mart, with all works on sale for the token price of one euro. The mart ended with the rebate sale, with 2 books offered at the price of 1. On display were many books of fiction, memoirs, studies, books on arts etc. Eagerly bought were written-off duplicates of the scientific and study library. The remaining books were donated to

the Sillamäe library. When deciding on the beneficiary, the situation with the reading matter of the school was taken into account.

Recognized with the Prize for Merits of the Estonian Librarians' Union was Anne Valmas, whose work in librarianship has been extremely multifaceted and fruitful. Anne Valmas is promoter of Estonian librarianship, historian of books, bibliographer and researcher, whose scientific research focuses on topic of Estonians in exile. Starting from 1989 she has worked as Director in Academic Library of Tallinn University, head and researcher of Department of Estonian Literature in Exile. Since 2008 Anne Valmas has headed the Centre of Estonian Literature in Exile of Academic Library of Tallinn University, which has evolved from the Soviet-time classified archival collection of Estonian literature in exile and foreign literature. Anne Valmas has released collections of articles "Farthest Away from of the Home Turf" (1994) and "Reflections on books" (2006), collections composed in common with Vahur Mägi "Estonian researchers and engineers abroad" (2011) and "Estonian researchers in exile" (2009). She has put out numerous articles on culture and publishing activities of Estonians in exile and has delivered papers at a number of conferences. She participates in the work of team of archives of Estonians in exile and Programme of Archives Commission of Compatriots; she is member of Archival Museum of Estonian Pedagogy, member of councils of Harju County Library and editor in chief of biographical database of Estonian librarians.

International acknowledgement was bestowed on Master in Leather Arts working at Conservation and Digitising Centre Kadri Paloveer, winning the Grand Prize at competition held in Hong Kong DESIGN-ABAG 2012 with her master thesis "Child Carrier Pouch Sling "Tale"" Urban Super Fashion (for day time city life), in the category rating of designers.

The Baltica collection of the Library was replenished in the reporting year by two intriguing publications – the 19th C. Russian literature journal "Отечественные записки" issues 93, 94 and 95, and the travelogue of the French journalist and traveller Léouzon Le Duc "La Baltique" (1855). The journal "Отечественные записки" was published in St. Petersburg with short intervals in 1818-1884 and its carrying topics were Russian history, literature, way of life and customs. The journal is made valuable for Estonia by the travelogue released in several issues of 1828 as a sequel "И моя поездка в Ревель 1827 года", totalling over a hundred pages. The second book, "La Baltique", merits attention, as opined by Estonian historians, for a single important paragraph, located on penultimate page of the book. Namely, Léouzon Le Duc is allegedly the first person to have mentioned the idea of Estonian independence. That mind-blowing finding was written by the Scottish author Leitch Ritchie titled "A journey to St. Petersburg and Moscow through Courland and Livonia", which appeared in London in 1836 and where scores of pages are dedicated to describing the life in the yonder-time Estonia. The collection of

sources of history was replenished by a rarity – privileges granted by Queen of Sweden Christina issued on 1676 “Privilegia först Aff hennes Majestet Drottning Christina, Åhr 1650 vthi Stockholm giffne”.

Centre of Estonian Literature in Exile of the Library obtained valuable donations in 2012. The Estonian Archives in Australia endowed ca 10 000 reprints of research works of Estonian scientists in exile. Collection is important to Estonian culture, because such an aggregate of works by Estonian researchers in exile is not available in any Estonian library or archives of Estonians in exile. Received from England as an endowment were 57 issues of the newspaper “Eesti Hääl”. The newspaper has appeared in London since 1947. Academic Library is currently the sole holder of the full set of that newspaper in Estonia.

In 2012, the Library carried on with the earlier started research topics, on the basis of whereof several papers were delivered and publications released. As an output of research work by Rene Haljasmäe “Incunables. Ratio of damage and restoration in books printed in the 15th C.”, the autumn 2012 witnessed the completion of the e-study instructive material “Conservation binding”. The instructive material is designed for students of information science, leather art and restoration however librarians too can make recourse to it for getting practical aid in their daily work. Anne Valmas continued research of culture and publishing activity of Estonian in exile within the framework of the research topic “Exile book in Estonian cultural picture”, yielding several articles in conference collections, weekly “Sirp” and magazine “Tuna”. There were delivered papers and lectures on various topics. Kaja Tiisel continued research into history of the 19th C. mentality (supervisor Raimo Pullat).

Academic Library is member of international organisations Bibliotheca Baltica (Association of Libraries of Baltic Countries), CERL (Consortium of European Research Libraries), EAHIL (European Association for Health Information and Libraries), ICOM (International Council of Museums), IFLA (International Federation of Library Associations), LIBER (Association of European Research Libraries), HIBOLIRE (Nordic-Baltic-Russian Network on the History of Books) and NGO Consortium of Estonian Libraries ELNET.

INSTITUTE OF THE ESTONIAN LANGUAGE



Associated with the Estonian Academy of Sciences
11.05.1999

Founded 1947

Personnel: 79, of whom 22 researchers

Lexicographers, terminologists and language planners 33

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Senior researcher – Academic Secretary: Hille Pajupuu, Tel: +372 6177500,

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Institute of the Estonian Language has seven departments:

Department of History of Language and Linguistics, Head Urmas
Sutrop

Department of Language Technology, Head Arvi Tavast

Department of Finno-Ugric Languages and Dialects, Head Mari
Uusküla

Department of Language Planning, Head Peeter Päll

Dictionary Department, Head Margit Langemets

Terminology Department, Head Tiina Soon

Personnel and Administration Department, Head Kai Oro

DEPARTMENT OF HISTORY OF LANGUAGE AND LINGUISTICS

In 2012 it fulfilled the target funded research topic “Word and concept in the development of Estonian vocabulary and place names” (2010-2014), supervised by PhD Urmas Sutrop. Researchers studied the cultural vocabulary by considering the development of South Estonian biblical terminology and the situation with translations from 17th-20th C. They elucidated the factors forming the 17th C. orthography reform and analysed formation of two literary languages and their conflict. Researchers considered the theoretical issues relating to language tree theory and the role of scholars connected with Estonia Georg Stiernhielm, Karl Eduard Eichwald and Karl Ernst von Baer in creation of that theory. When studying the place names, researchers focussed on regularities and dissemination patterns of geographical propagation of place name ends, enabling dividing Estonia into areas by reference to place-name types. Researchers considered the loans strata of the cultural vocabulary in place names and attributed to several place names (e.g. Kirna and Kerna) new etymologies. They linked the study of colour and place names and

scrutinised the colour names black and white as being most recurrent in place names. In the study of colour names, the theory of base-colour name theory was complemented from the aspect of verbs derived from colour names. Researchers compared base-colour names in five Finno-Ugric languages and Estonian sign language. They considered and explained the diachronic reconstruction principles of colour names.

DEPARTMENT OF LANGUAGE TECHNOLOGY

In 2012 it fulfilled the target funded research topic “Modelling intermodular phenomena in Estonian” (2009-2014), supervised by Dr. Meelis Mihkla. The pivotal place was held in that year by fundamental researches for speech and emotion processing. Researchers studied connections with emotions of temporal features of words and manifestation of information structure in prosody and syntax of verbal speech. Researchers ascertained links between text type and its emotionality, studied vocabulary of emotional text and manifestation of emotionality in sentence prosody (intensity, speech rate, formants). Researchers clarified the role of body-based cognition in conceptualisation of word groups associating with man’s psychic activities (emotions, personal characteristics, thinking activity). There were released 15 publications.

Within the State programme “Estonian language technology (2011-2017)” there continued the projects:

- Statistical models of the emotionality of speech and written text, project leader Hille Pajupuu, see <http://peeter.eki.ee:5000/valence/>
- Interfaces of speech synthesis, project leader Meelis Mihkla, see <http://heli.eki.ee/synteas/>
- Software solution of wiring for sound (dubbing) and transmission on TV of subtitles, project leader Meelis Mihkla
- Modification of lexicographer’s workbench, project leader Arvi Tavast.

DEPARTMENT OF FINNO-UGRIC LANGUAGES AND DIALECTS

In March 2012, the “Estonian Etymological Dictionary” was released (editors Iris Metsmägi, Meeli Sedrik, Sven-Erik Soosaar). Researchers started compiling the new scientific etymological dictionary (2012-2017). Compilation and editing of Estonian dialects was started in the second half of 2012 in the lexicographer’s workbench EELex. Released at the beginning of 2012 was the 23rd fascicle of Dictionary of Dialects (*looma-lõpetama*) (editors Jüri Viikberg, Mari-Liis Kalvik, Mari Kendla, Tiina Laansalu), prepared for print was the 24th fascicle (*lõpetis-maaglema*), thenceforth the Dictionary of Dialects would only appear electronically. Researchers continued compilation of databases of Votic and Livonian and compilation of dictionaries of the Udmurt and the Mari languages. They replenished the archives of Estonian dialects and cognate languages, see Finno-Ugric database (http://www.eki.ee/~indrek/sugri_lint/) and database of Estonian dialects <http://www.eki.ee/~indrek/fonoteek/>). Department organised an international

seminar of Finno-Ugric languages, aimed to presenting the dictionary of Finnish dialects and Estonian dialects and to establishing contacts.

DEPARTMENT OF LANGUAGE PLANNING

The language planners released 18 pieces of writing on the topic Language Care, they delivered 35 papers. Over telephone, language advice was provided to 6006 referrals, supplied an answer was to 2310 e-mails and 10 regular letters. Language advice is also available at website <http://keeleabi.eki.ee/>. Teacher training continued with annual conferences on the topic. By anniversary of Tiiu Erelt, there appeared a dedication volume with international participation on common language planning, terminology planning and name planning (edited by Maire Raadik and Tiina Leemets). In cooperation with Valgus Publishers there was released the “Lexicon of Foreign Words” (edited by Tiina Paet, Tuuli Rehemaa, Argo Mund, Katrin Kuusik; technical work by Kaja Kruusmaa). Conjointly with the Terminology Department, staff training of the EU translators was organised in Luxembourg and Brussels. Updated was the Euro Language Care website <http://eurokeelehoole.eki.ee>, ongoing was participation at international clear communication project IC Clear.

Within framework of the State programme “The Estonian language and cultural memory” the Department started compilation of a reference dictionary for civil servants (project leader Tiina Paet), ongoing was the work on Estonian place name book (project leader Peeter Päll).

DICTIONARY DEPARTMENT

The Department continued compilation and editing of dictionaries of common Estonian. There appeared the word formation dictionary compiled by Silvi Vare “Estonian Word Families I-II” (2012, index in website <http://portaal.eki.ee/dict/spi/>). The dictionary contains 9000 entry words (family heads) and 120 000 words (family members).

Underway in the Department is: 1) the one volume (Explanatory) Dictionary of Estonian (to appear by 100th anniversary of the Republic of Estonia in 2018); 2) The Basic Dictionary of Estonian (to appear in spring 2014); 3) the basis of new words and meanings (in cooperation with lexicographers of the Department of Language Planning);

In progress is the EU joint project “Development of Estonian-Latvian and Latvian-Estonian dictionary [Eesti-läti/läti-eesti sõnaraamat].” Partners: Agency of the Latvian Language (Latviešu valodas aģentūra – LVA), Institute of the Estonian Language, project leader Arvi Tavast.

The Department organised the 11th Annual Conference of Applied Linguistics together with the Estonian Association of Applied Linguistics and Tallinn University in April 2012.

TERMINOLOGY DEPARTMENT

The Department was prevalently working in the project-based mode. A large part of work took place in terminology commissions or consisted in processing material for the commissions. The largest project was streamlining and elaboration of the military and security & defence policy terminology in cooperation with Ministry of Defence. After a considerable lapse of time the Department engaged with perseverance in improvement and renovation of terminology base Esterm: updated were 1278 entries and added were 150 new entries.

There continued the education terminology project in cooperation with Ministry of Education and Research and the aviation terminology project in cooperation with Ministry of Economic Affairs and Communications. Within the framework of Euro-terminology project, collections “Clear thoughts, clear language” and “Native-lingual euro-language” were released.

Links with the term consumers became more intimate: within the frame of the project of military and security & defence policy terminology, the Department continued cooperation with the Estonian National Defence College; representatives of Ministry of Defence and Ministry of Foreign Affairs, too have referred to the Department for advice on terms when composing nationally or internationally important documents or legal acts.

PERSONNEL AND ADMINISTRATION DEPARTMENT

In 2012, it concentrated mainly on issues related to renovation of the house of the Institute. Supported by financing from the sale of CO₂ quota, it had the roof of the house renovated, the heating system replaced and the ventilation system installed, and the house insulated. Within framework of the EU project “Modernisation of research apparatus and equipment of research and development institutions” it had scientific archives built in the basement floor. Within framework of the EU project “Study and work environment of higher schools and research and development institutions” it had a new elevator installed in the house, the fire safety system put into proper order and special paths and toilet room for persons with impaired mobility built.

Completed was the electronic database of books of Finno-Ugric languages and dialects.

Kai Oro represented the Institute at Institutional Human Resources Strategy Group of the European Commission, aimed at supporting the implementation of principles of the European Charter for Researchers and the Code of Conduct for the Recruitment of Researchers in research institutions, to improve the conditions of work of the researchers.

ESTONIAN LITERARY MUSEUM

Associated with Estonian Academy of Sciences
11.05.1999

Founded in 1909 as the Archive Library of the Estonian National Museum

Personnel: 103, of whom researchers 39, librarians and bibliographers 13

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Estonian Literary Museum consists of five structural units, of which three are based on collections important as regards the cultural history:

- Archival Library with Department of Bibliography – head Merike Kiipus;
- Estonian Cultural History Archives – head Vilve Asmer;
- Estonian Folklore Archives – head Risto Järv;
- Department of Folklore – head Mare Kõiva;
- Department of Ethnomusicology – head Triinu Ojamaa.

In 2012, carrying the brunt of the scientific activities of the Estonian Literary Museum were 5 target financed research topics, underpinned by seven grants. Besides that, efficient support was provided by the state programmes, Compatriot Programme and Foundation Unitas. The publishing projects were supported by Cultural Endowment of Estonia. Supported by structural funds, six large projects were implemented. Annexe to the Estonian Literary Museum, funded from the programme “Modernization of infrastructure of study and work environment of R&D institutions and higher schools” was completed, and it was issued the occupancy permit in June; thereafter, restoration of the old part of the house was tackled. The same programme combined with the programme “Modernization of scientific apparatus of research institutions” (TAP22) provided funds also for equipment with the functional sliding shelves of three storeys of the new file repository. The subsidy obtained from the programme “Study and work environment of higher schools and R&D institutions” made it possible to bring the fire safety of Museum into compliance with the requirements, and to renovate the gas-operated fire extinguishing system of depositories.

The efficiency of research work of the Estonian Literary Museum as an entity kept, in general outlines, on the level of 2011 both by the number and the quality of publications.

ARCHIVAL LIBRARY

The collections were steadily replenished in 2012 by way of receiving legal deposit copies and follow-up completing. A significant contribution was Mati Unt's personal collection and Hanno Lepik's collection of book plates consisting of 13017 units, which has been organised and electronically described. Office of President of the Republic donated, as a replacement for damaged printed matter, the half-leather issues of Gazette of Supreme Soviet of the ESSR, now available in the public reading hall. The State Information System Agency funded Estonian Red Book project ended; in its framework 1600 rare pieces of printed matter were digitised.

ESTONIAN CULTURAL HISTORY ARCHIVES

In the domain of Estonian Cultural History Archives two new grants were opened under supervision of Leena Kurvet-Käosaar and Marin Laak. They lay emphasis on research of controversial relations between the expatriate and the domestic Estonian culture, and biographical writings. Leena Kurvet-Käosaar and Rutt Hinrikus participated successfully in international Nordplus programme with the project "Family History: Facilitating Intergenerational and Intercultural Exchange". On biographical writings, a two-day seminar was held, attracting to Tartu internationally known leading theoreticians "Relationality (Re)visited: Gender and Life Writing". Organised by cultural theory working group of the Department in cooperation with Tallinn University, the annual conference of Association of Literature and Philosophy was held titled "The future archaeologies". There were organised quite a number of other seminars and conferences of local level. Of wider scope among events related to anniversaries of writers was the conference "Karl Ristikivi 100" in Tartu and Tallinn, on October 16-17, organised jointly with the Under and Tuglas Literature Centre, Estonian Writers' Union and Karl Ristikivi Society, attracting also estophiles and translators from several countries. The regular tradition of the Nüpli spring schools on history of culture continued.

Released from amongst pieces of printed matter prepared by the Department were "J.H.Rosenplänter's vernacular daybook" compiled and commented by Kristi Metste and Vello Paats, and monograph by Piret Viies "Postmodernism in Estonian Literary Culture" (in Peter Lang Publishers). Edited by researchers of working group on sources of cultural history, three scientific journals continued appearing: "Methis" (Editor-in-Chief Marin Laak), "Ariadne's Thread" (Editor-in-Chief Eve Annuk) and "European Journal of Life Writing" (L.Kurvet-Käosaar, editor of the special issue).

Of special notice among deposits in 2012 were Taavo Virkhaus' family daybooks from the USA and materials collected by Arvi Vainomäe from Australia, as well as the archive of Estonian Society from Argentina. Significant additions were received to archives of Ilse Lehiste, Vaino Vahing, Helga and

Enn Nõu, and Publishers “Eesti Raamat”; the art collection was replenished by Richard Kaljo’s book illustrations. The Department organised manuscript collections of Rein Marand, Leo Metsar, and Arvo Mägi, and plentiful photo matter. On the basis of archival materials, five expositions were staged, which were presented also outside the Estonian Literary Museum. The appeal by Association “Estonian biographies” to collect reminiscences of teachers added 30 biographies to the collection.

ESTONIAN FOLKLORE ARCHIVES

In 2012 the Estonian Folklore Archives celebrated its 85th anniversary. Released by jubilee was colourful and vivacious, convivial and yet practical “Old children games of Virumaa” by Mall Hiimäe.

Three larger conferences were organised, two of them international. The anniversary conference held in September titled “Archives and communities” (main promoters Ave Goršič and Risto Järv) considered the relations between archives and folklore collectors, issues related to digital archives and impact of different historical periods on evolution-formation of folklore collections and principles of collection. The seventh runosong conference held in November “Singing communities” (promoters Andreas Kalkun and Mari Sarv) considered in papers delivered different communities both from past and the present day. In January the local lore working group of the Archives (Jüri Metssalu, Kaisa Kulasalu, Pille Vahtmäe, Valdo Valper, Mari-Ann Remmel) organised the seventh winter conference of researchers of folklore, dedicated to 75th birthday of Mall Hiimäe. Token of recognition to the local lore working group was annual prize of national culture foundation of the Cultural Endowment of Estonia.

Released in print was the tenth volume of the opus magnum “Vana Kannel” (editors Otilie Kõiva and Janika Oras), containing runosongs of neighbouring parishes Paide and Anna together with voluminous introductory articles, commentaries and registers traditional to the series. The issue abides by the principle of the issuance of “Vana Kannel” put in place already by Jakob Hurt: we are dealing with runosongs collected from the people’s mouth, to be eventually returned to the people under the scientific publication principles – all texts will be presented unchanged and in dialectal language.

In the disc series of the Archives recordings, two comprehensive sets appeared – the “Estonian jews’ harp” consisting of instruction, music book and CD (compiler Cätlin Jaago, editor Janika Oras) and the “Songs of Siberian setos” consisting of two CDs and one DVD and printed matter (compilers Andreas Kalkun and Anu Korb). Mall Hiimäe compiled the manuscript of voluminous “Virumaa’s anthology” commissioned by the Viru Institute.

The external users of the Archives’ materials can rightfully rejoice that since 2012, wholly digitised and available in network is Jakob Hurt’s folklore col-

lection: altogether 162 volumes on 115 thousand pages. By today, deposited in database KIVIKE (<http://kivike.kirmus.ee>), out of collections of the Archives, are 13105 archival documents of various sizes.

Traditionally, lots of new matter was received: old sayings and proverbs put down in writing by long time collaborator of the Archives Hugo Lepik in 1960s, recollections and heritage materials of Ferdinand Mäe and Jüri Roosmann. In connection with compilation of the issue “Estonian jews’ harp” J.Oras and M.Sarv collected biographical data and reminiscences of harpers. Answers of students of the Kivilinna Gymnasium to questionnaire programme of school heritage collection contest, held earlier, and contributions by Russian kindergarten groups of kindergarten heritage contest were handed over by Piret Voolaid. The long time collaborator of the Archives Jaan Malin handed over 5 song notebooks from Muhumaa and 72 pages of web-folklore; the editorial board of *Uma Leht* handed over the contributions made to the Võro language story contest. Materials of Muhu dialect contest were handed over by Kadri Tüür. Especially impressive was the accrual of the Archives record collection, thanks to receipt of digitally recorded archival documents.

Main field works of the Archives were carried out in Estonia in the Matsalu National Park area and in places of habitation of Estonians and Setos in Krasnojarski krai. Upon initiative of the Archives, the researchers took an active part at international Museum Night (on the topic “In the Night is the Movie”) and at Researchers’ Night (the topic “End of the World”). For the first time in that year, the Literary Museum participated, with its events, also at Tartu Hansa Days.

DEPARTMENT OF FOLKLORE

Jubilarian – 65! – was also the Department of Folklore. As an outcome of the years-long work by Member of Academy Arvo Krikmann, completed was the data base of Estonian riddles. In the international plan, consummated was the 3-year cooperation project between the Estonian Academy of Sciences and the Polish Academy of Sciences (investigators Liisi Laineste, Wladislaw Chlopicki), focussing on cultural texts and genres of post-Socialist region. The first volume of the two-volume collection of articles “Jokes and their relations” appeared under the aegis of Estonian Literary Museum Publishers.

Collection of translated articles compiled by Reet Hiiemäe “What is common in Gilgamesh and genome studies?” continues presentation of German folklore studies and serves an example on the important role of researchers in the humanities, when it comes to the need to disentangle serious problems.

Researcher of Department of Folklore Nikolay Kuznetsov defended his doctorate on Komi linguistics. Lina Gergova, having worked as Fellow in Estonian Literary Museum completed her research on Estonian-Bulgarian-Slovak post-Socialist holidays system.

The peer-reviewed specialist journals of the Department “Mäetagused” and “Folklore: Electronic Journal of Folklore” made it both to the 52nd issue.

DEPARTMENT OF EHTNOMUSICOLOGY

As a result of the long-time archival work, at the end of year released from print was the monographic treatment by Triinu Ojamaa, Kanni Labi and Janika Kronberg of Estonian journalist and musician in Sweden “Harri Kiisk – mediator of Estonian culture in Sweden”.

**INSTITUTE FOR INTERNATIONAL
AND SOCIAL STUDIES
AT TALLINN UNIVERSITY**



Associated with the Estonian Academy of Sciences
28.01.2003

Founded: 1988

Personnel: 30, of whom 19 researchers

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Director: Airi-Alina Allaste, Tel: +372 619 9884, Fax +372 619 9860
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In the reporting year the Institute fulfilled 2 target-financed topics, 2 grants and 10 applied cooperation agreements. It participated in several international projects.

Ongoing among target financed topics were:

1. “Changes in the attitudes and lifestyles of Estonian population in 1985-2013: horizontal stratification” (principal researcher Airi-Alina Allaste), in the framework of which a book was compiled ““Back in the West’ Lifestyles in Transforming Societies”. Allaste, A.-A. (ed.) (2013) Peter Lang Publishers. While the social studies publications treating Eastern Europe have overwhelmingly analysed the society in transition from macro-perspective, the forthcoming book has focussed on research of everyday phenomena on micro-level. The articles of the book focus to the question of how the changes in society are connected to lifestyle and identities of people.

2. “The learner in the education system and labour market: inequality as shaping and being shaped by the external and internal boundaries” (responsible researcher Rein Vöörmann). Within framework of research, seminars were held in every county with local educationalists to obtain feedback from local level and for mapping the situation in Estonia as a whole. It was studied to which extent participation in life-long learning differs as per countries and to what extent those differences depend on institutional and political context.

In international cooperation programmes, there continued work with project of EU 7th framework programme MYPLACE (“Memory, Youth, Political Legacy And Civic Engagement, responsible researcher in Estonia”, Airi-Alina Allaste), in the framework of which the opinion poll considering political involvement of youth was carried out, as well as open-end interviews with the youth, the research on construction of history and memory in cooperation with KUMU and ethnographic studies on political activism. Ongoing too was

work with the project “Education as a Lifelong Process – Comparing Educational Trajectories in Modern Societies” (edu-LIFE, responsible researcher in Estonia Ellu Saar). The first stage of the project eduLIFE was dedicated to life-long learning and its impact on social inequality in various European countries. Completed within the framework of the project was the “Section titled Returns to Lifelong Learning and Social Inequalities in Estonia” (authors Ellu Saar, Marge Unt, Eve-Liis Roosmaa) in the omnibus volume to be released by Edward Elgar Publishers.

In the first half of the year, project of the EU 6th Framework Programme titled EUROSPHERE: “Diversity and the European Public Sphere. Towards a Citizens’ Europe” (responsible researcher in Estonia Eestis Mikko Lagerpetz) ended; ongoing was work with the project of programme PRIMUS “Labour Market Challenges to Higher Education: Estonia in European Context” (responsible researcher in Estonia Marge Unt) and the European project SHARE (“Survey on Health, Ageing & Retirement in Europe”).

Jointly with Austrian colleagues, an international research project was started aimed at studies of training of adults of the second Europe and at integrated analysis of the fourth research in training of adults at enterprises. Data of both researches were collected in 2010, and they belong under life-long learning statistics of the European Union. Analysis of the said data lays foundation for formation of policy of life-long learning in Europe, focussing on complementary education and training of adults. The goal is also promotion of wider use of those databases among policy designers and experts (personnel managers, trainers, researchers). That project was launched in autumn 2012 with solving administrative issues and it will gear up at beginning 2013.

In 2012, the Institute made two Estonian scientific research agreements with Integration and Migration Foundation “Our People” (MISA). Within framework of one agreement, a research into population of Estonia will be carried out in cooperation with Baltic Researches Institute, focussing on the problem range of equal treatment (project supervisor Maaris Raudsepp). The subject of the second comprehensive research is mapping the experiences of social groups and analysis in the area of integration (project supervisor Erle Rikmann). Both projects reached the launching phase at end 2012 and the work with them will go with a swing already at beginning 2013. The data of those researches is planned to be used as an input when drawing the national integration programme. Contributing to the projects is the post-doctoral student, fresh from training Larissa Kus, who defended the doctoral degree in New Zealand with the topic “Is There a Shared History? The Role of Contextual Factors in the Psychology of Inter-Ethnic Relations in Estonia”.

The Institute continued representation of Estonia in the work of international research consortium ISSP (International Social Survey Programme). The representative of Estonia was elected to working group planning the work orien-

tations research to be carried out in 2015 titled “Work Orientations”. The data collected on the basis of ISSP research in attitudes concerning social inequality carried out on the basis of questionnaire 2009 in Estonia (module Social Inequality) have by now successfully made it to the international research turnover.

The Institute started work with the international research project “Cooperation of education system and labour market in renovation of professional education”, in the framework of which, upon initiative of Cedefop, there is researched the build-up of reciprocal feedback system of the realm of labour and professional education in 15 European countries and its operation in the light of developments on the EU level. In that project, the Institute is vested with the responsibility for review of Central and East European countries, by coordinating the work of researchers, besides Estonia, also in Bulgaria, Hungary, Slovenia and Poland. Together with leading partners of the project from Austria and regional coordinators from England and Norway, it was found out which institutional conditions impinge on operation of feedback system in various countries. The researchers managed to isolate four ways, different on principle, how the professional education gets input and feedback from labour market in European countries; at beginning 2013 the work with their description and analysing will continue.

The researchers attended numerous scientific conferences, delivering papers, both in Estonia and abroad and they were active in science organisation events. Airi-Alina Allaste moderated the sessions of ISA (International Sociological Association) at the forum “Social Justice and Democratization” (Buenos Aires, Argentina, August 1-4, 2012) and participated at conference “Youth Cultures, Belonging, Transitions: Bridging the Gap in Youth Research” (Brisbane, Australia, November 22-24, 2012). Centre for lifestyles studies organised a public discussions within the framework of “Agoraa” on youth subcultures and the joint seminar together with Finnish youth researchers, with keynote speaker Professor Andy Bennett from Australia, a most famous contemporary theorist of subcultures.

Department of social stratification of the Institute organised, in cooperation with Estonian Cooperation Assembly the conference “Life-long learning in Estonia: shifting the borders”, attended by several experts from home and abroad delivering papers: Odd Bjorn Ure (Norway), Jörg Markowitsch (Austria), Peter Robert (Hungary), Ellu Saar, Marge Unt and others. The goal of the seminar was valuation of the principle of life-long learning.

Three members of personnel of the Institute defended their doctoral theses: “Taking Care of Children and Work in Estonian Society: Running out of post-Socialist Time?” (Triin Roosalu, defended with distinction), “Post-Socialist Masculinities, Identity Work, and Social Change: An Analysis of Discursive (Re)constructions of Gender Identity in Novel Social Situations” (Marion

Pajumets, defended with distinction) and “Construction of Civil Society in Estonia: Discursive and Institutional Changes” (Erle Rikmann). The last mentioned work was defended in Helsinki University.

In 2012, employees of the Institute published the total of 54 scientific articles, among which meriting especial note are Täht, Kadri; Mills, Melinda – the article “Nonstandard Work Schedules, Couple Desynchronization, and Parent-Child Interaction: A Mixed-Methods Analysis”, *Journal of Family Issues*, 33, 8, 1054-1087. Article, considering the problems of congruence of work and family life, attained in 2010 the final of annual prize of Rosabeth Moss Kanter (Purdue University) (among 12 best works).

Released was the successive (fourth) issue of the journal “Studies of Transition States and Societies”, compiled jointly by the Institute for State Sciences and the Institute for International and Social Studies of Tallinn University.

Cooperation was continued with several ministries of the Republic of Estonia (Ministry of Education and Research, Ministry of Social Affairs) and state institutions (Statistical Office).

ESTONIAN NATIONAL MUSEUM

Associated with the Estonian Academy of Sciences
21.12.2006



Founded in 1909

Personnel: 111, of whom researchers 16

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www.erm.ee

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Director for Research: Pille Runnel, Tel: +372 735 0413, pille.runnel@erm.ee

Academic Secretary: Reet Ruusmann, Tel: +372 735 0438,

reet.ruusmann@erm.ee

The year of 2012 was the year of transition for the Estonian National Museum, when the uncertain situation in which it was difficult to forecast the future of the Museum was solved positively, while one of the anchors of the development process, Krista Aru, who had managed the Museum as Director for seven years, stood down.

On June 21 Government of the Republic approved the plan of new real estate investments for 2013-2016, under which construction of the new building of the Museum was supported. A week later the Council of Estonian Cultural Endowment decided to finance the construction of the Museum in full amount the money, assigned to Cultural Endowment for nationally important building objects on the basis of Gambling Tax Act in the pending years. International state contract of building works of the new headquarters of the Museum was won by Fund Ehitus OÜ. The building works will start on 2013.

After Krista Aru gave notice effective as of November 10, 2012 the public competition was called to occupy the vacant seat of Director of Estonian National Museum. The competition was attended by 7 candidates. Elected new Director was former Member of Parliament Tõnis Lukas, who will take office in 2013. Thence we will briskly proceed into the new year.

The reporting period witnessed one more proactive benchmark for future development of the Museum – namely, the decision of one of the most renowned researchers in memory, Professor Emeritus of Toronto University Endel Tulving and his spouse, artist Ruth Tulving to transfer their archives and library to the Museum. The materials will be handed over starting from 2013 and, besides honour and recognition that is also a challenge to the Museum to make headway as a memory and research institution.

RESEARCH ACTIVITIES AND COOPERATION

The new building and planning of the Estonian and Finno-Ugric cultural-history permanent expositions, to be set up therein, inevitably constitutes the

background for research topics and field works of the Museum. Engaged in creation of subject matter of expositions are all researchers, involved in technical execution are both the photo laboratory and the film and video studio. Of impressive attendance were field works held in Avinurme commune in the first week of August, with the aim to looking at sustainability of the traditional woodworking skills and capacity for adapting to present day changed situation and demands. The researchers also documented the daily life of modern time. The field works were attended, beside personnel of the Museum also by researchers from the University of Tartu, Viljandi Academy of Culture of the University of Tartu and Tallinn University. In the process of field works carried out in Ruhnu island in July, the researchers studied the local furniture and recorded the celebrations of the 100th anniversary of the new church of Ruhnu. In October, field works in communities of Estonians in exile were carried out in Canada and the United States of America. Field works of Finno-Ugric research domain were carried out in September in Russia, Republic of Mari El (Yoshkar-Ola, Kozmodemjansk and villages of Sovetski, Morki and Yoshkar-Ola regions), primarily recording the present day culture.

The Museum supervises one Estonian target financed topic “Development of Museum’s communication in the information environment of the 21st C. (2009-2012, renewed until 2013)”. The main goal of the research project was and is research of the Museum’s communication, process of cultural involvement and audience in the Museum’s online and traditional environments. Beside the interdisciplinary theoretical and analytical levels of the project, the applied level is equally important, directed at development of the Museum as an organisation oriented to visitors through creating new practices of activities.

Researchers of the Museum also participated in fulfilling two grants and four target financed research topics supervised by the University of Tartu. Although cooperation in research between the Museum and the University of Tartu has been effective for years, June 5, 2012 was paradoxically the day, when we finally made it to concluding a reciprocal cooperation agreement. Researchers of the Museum participated also in six international cooperation projects, of which there should be highlighted, due to its excellent organisation, the project EuNaMus funded by the EU 7th framework programme (“European National Museums: Identity Politics, the Uses of the Past and the European Citizen”). Within the frame of that project, in 2011 the Museum performed a larger scale survey of visitors, on the basis whereof European survey reports were completed in 2012. Ongoing is a detailed scientific analysis and compilation of publications of the outcome of survey.

MUSEUM ACTIVITY AND ORIENTATION TO PUBLIC

As part of streamlining of the research activities, on May 25 the Folk Culture Training and Information Centre staffed with four persons was formed within

composition of the Research Department. The Centre will be responsible for organisation of popular science research, popular science counselling and training. In summer 2012 the seminal activity of the Centre was elaboration and implementation of the plan for summer workshops at Raadi.

For modernising the collection work of the Estonian National Museum, in co-operation between Department of Collections and Research Department there was elaborated the collections policy for 2013-2017. Within framework of development projects of museums, maintained by Ministry of Culture, the Museum initiated and supervised the inter-museums cooperation team, which analysed the collections of the Pärnu Museum, assessing on their example the integrity of Estonian regional legacy.

Related with collections is also their mediation to the public. The exposition on consuming opened as a temporary exhibition in 2012 "Shopping Fever: Consumer Culture in Estonia in the 1900s and 2000s" intertwined the acute topics of modern times (environment, consumer society, food and life). The Museum established the so-called Exhibition Laboratory, which provided an opportunity to develop the matters planned for the standing exhibition of the new building and to design a multifaceted programme: excursions, workshops, lectures, national participation actions, camps, conferences. Such format of an Exhibition Laboratory as an exhibition platform was unique in Estonia, enabling to convert the exhibition during its display into a museological testing ground, where exhibits, interpretation, space and target groups are in constant flux of transformation.

Exhibitions were also the motif of the traditional annual spring conference of the Museum held in 2012, where papers covered such areas of museology as exhibition production and design, museals and narratives and visitor experience at exhibitions. The said international conference was conferred the Science Prize of Estonian Year of Museums, in the category of the 2012 events.

JÕGEVA PLANT BREEDING INSTITUTE

Associated with the Estonian Academy of Sciences
23.09.2008



Founded 1920

Personnel: 104, including 24 researchers

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The main activities of the institute in variety breeding applied agricultural studies and preservation of plant genetic resources have been carried through in frames of projects financed from state programs “Agricultural Research and Development for 2009-2014” and “Program of plant breeding for 2009-2019” and development plan “Collection and Conservation of Plant Genetic Resources for Food and Agriculture in 2007-2013”.

In the frame of the Nordic Council of Ministries project “Public Private Partnership for pre-breeding in perennial ryegrass (*Lolium perenne* L.)” institute collaborates with Nordic Universities and plant breeding companies. The project is aimed at selection of suitable initial material for breeding winter-hardy and high quality varieties of perennial ryegrass using traditional and biotechnology methods. BALTORGPOTATO – “Baltic Organic Potato for the World markets” is an Estonian-Latvian cross-border cooperation project. Project BALTORGPOTATO focuses on provision of fruitful cooperation among organic potato growers, breeders, processors and scientific institutions in Latvia and Estonia involved in organic potato food production chain, aiming to promote and ensure recognition of organic potato products from Baltic region and increase the sales volume in global markets. Seminar on Integrated Pest Management organized together with Nordic Association of Agricultural Scientists was bringing together 80 participants from 13 countries.

The most notable national collaboration is the project “Resistance breeding of field crops” financed from the programme Support for Biotechnology R&D. The project lead by Department of Gene Technology of Tallinn University of Technology is aimed at development of resistance breeding technologies in two essential food crops – wheat and potato. Implementation of the project’s results would enable more efficient breeding of new varieties with enhanced productivity.

Five new collaborative projects with farmers and agricultural industry were started in the framework of the programme Collaboration in development of

new products, treatments and technologies in agricultural, food and forestry sectors of Rural Development Plan. These projects deal with adjustment of growing technologies of malting barley, baking wheat and grain for starch production; selection of soya bean genotypes for production of protein products of human consumption for Estonian climatic conditions; comparison and selection of organic fertilizers for vegetable production; implementation of decision support system for control of potato late blight based on site specific weather monitoring and development of measures for increasing productivity and quality in organic cereal production.

Practical variety breeding resulted in registration of four new varieties – winter wheat varieties Kallas and Nemunas, potato Teele and lupine Lupi. Fodder beet Jõgeva Eckendorf was included into list of conservation varieties what are meant for avoidance of plant genetic erosion. There are 77 varieties in the cultivation together with newly registered ones at the moment. Varieties bred in Jõgeva are popular not only in Estonia, but also in other Baltic countries, Scandinavia and Russia.

ASSOCIATED ORGANISATIONS

Organisations from outside the structure of the Academy, whose activities and objectives comply with the activities and objectives of the Academy, may associate with the Academy. Association is effected in the form of a bilateral agreement, specifying the purpose of association as well as the duties and commitments of both parties.

Reviews on the 2012 activities of the institutions associated with the Academy have been presented in the chronological order of their association date:

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ESTONIAN NATURALISTS' SOCIETY

Associated with the Estonian Academy of Sciences
23.01.1998



Founded 1853

Membership: 14 honorary members, 748 active members, 631 trustees

Subunits: 22

Location: Struve 2, 51003 Tartu, ESTONIA

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Estonian Naturalists' Society (ENS) has 22 subunits. Subunits that work as sections are as follows: the section of amateur meteorologists, of anthropology, of botany, of entomology, of forestry, of geology and of theoretical biology; the Commission of Lakes, the Estonian Malacological Society, the Estonian Mycological Society, the Estonian Teriological Society and the Jakob von Uexküll Centre. Commissions with special task focus on the history of natural sciences, the library, natural education, observation networks, terms of ecology and plant names, and botanical rarities. In addition, the Society has assemblies of ecology, of honorary members and the round table of nature conservation.

In 2012 eight General Assemblies with scientific presentations and one special meeting were held:

January 12 – seminar “Wolf, sheep and human”;

January 26 – Meelis Pärtel: “Secrete value of plant richness”;

February 28 – “The Baer day”, presentations by Michael von Lingen and Erki Tammiksaar;

March 29 – Rein Rõõm: “Physics of climate change”;

April 26 – Eero Vasar: “Research of LSAMP-gene”. The annual review of the activities in 2011 was presented.

September 27 – Ülo Mander: “Climate change and Estonia”;

October 25 – Ivar Ojaste: “Habitat requirements of Capercaillie”;

November 22 – 120th anniversary of Teodor Lippmaa. Presentations by Hans Trass: “Life and scientific activity of Teodor Lippmaa”, Martin Zobel: “Research of plant community ecology after Teodor Lippmaa”;

December 20 – Ülo Niinemets: “Stress hormones of plants and its impact to climate”.

Conference “100th anniversary of Eerik Kumari” was organised in rooms of ENS, March 8. The following reports were presented:

- Linda Kongo – “Life of Eerik Kumari and his activity in Estonian Naturalists’ Society”;
- Urmas Tartes – “Eerik Kumari as a scientist and nature conservationist”;
- Vilju Lilleleht – “Eerik Kumari as an ornithologist”;
- Kaja Lotman – “Eerik Kumari and nature conservation regulations in Matsalu National Park nowadays”;
- Tiit Sillaots – “Eerik Kumari Award”.

During the conference two exhibitions were presented in memory of Eerik Kumari: “Hundred years – hundred photos” (by Vaike Hang) and “Eerik Kumari and Matsalu” (by Kaja Lotman).

The 35th Naturalist’s Day was held at Tihemetsa, Pärnu County from June 30 to July 1.

The presentation of Charles Darwin’s book “The Origin of Species by Means of Natural Selection, or the Preservation of Favoured Races in the Struggle for Life” in the Estonian language took place on September, 20 in the University of Tartu, History Museum. The book was translated by Mart Niklus and edited by Mart Viikmaa, Ivar Puura and Oive Tinn. The book belongs to the series “Classics in Natural Science”.

The subunits of ENS organized their traditional and other events.

Meetings of SECTION OF GEOLOGY were held:

- On February 7, Sébastien Joannin “Lyon (France) – Beijing (China) by bicycle: The sport challenge and scientific expedition of a palaeontologist”;
- On March 9, Helje Pärnaste “Focus on trilobites” and Allan Selin “Nowadays insects”;
- On April 12, Alar Rosentau “Littorina Sea and the Stone Age on Bay Narva-Luuga”.

The 8th Autumn School of Geology “Catastrophes during the Earth history” took place at Nelijärve, Harju County, on October 5-7. The seminar was organised together with the Doctoral School of Earth Sciences and Ecology. During three days 18 scientific reports were presented.

JAKOB VON UEXKÜLL CENTRE organised a Summer School of Ecosemiotics at Karula, August 3-4. During those days 9 reports on biosemiotics, ecosemiotics and environmental humanities were presented.

Two exhibitions using the material of archive of Jakob von Uexküll Centre were organised: first to the participants of the conference “Gatherings in Biosemiotics 12”, Tartu, July 16-21. The second exhibition took place during the meeting of Jakob von Uexküll Centre at Struve 2, Tartu, on December 6, when the book about Jakob von Uexküll was presented.

Jakob von Uexküll Centre was co-organiser, together with the International Society for Biosemiotic Studies and the Department of semiotics, of the conference “Gatherings in Biosemiotics 12” in the University of Tartu.

The Spring School of the SECTION OF THEORETICAL BIOLOGY “Meaning and measurement of Biodiversity” took place at Roosta, Lääne County, September 28-30. The seminar was organised together with the Institute of Ecology and Earth Sciences of the University of Tartu and with the Doctoral School of Earth Sciences and Ecology. During three days 16 scientific reports were presented.

In the SECTION OF BOTANY three meetings were held:

- February 6, Mare Leis “Wherefrom do the new moss species come into the Estonian list?”;
- October 10, Ülle Reier “Known and unknown Mongolia”;
- November 21, Bellis Kullmann “Species of fungus – what is it?”

The new issue of the internet journal “Friend of mosses, 15” was compiled (www.botany.ut.ee/bruuloogia/). Gathering of the friends of mosses took place at Äntu Landscape Reserve, Lääne-Viru County, on June 2-3.

The observers’ network in the SECTION OF AMATEUR METEOROLOGISTS continued their work in 62 stations all over the Estonia. The data were analysed and most important agrometeorological indexes were found out. Observation results of those 62 stations were used together with data of Estonian Meteorological and Hydrological Institute to draw up different meteorological maps (www.sordiaretus.ee).

Gathering of amateur meteorologists and thunder observers took place at Alatskivi, Tartu County, on July 21. Six reports by scientists from the University of Tartu, Estonian Meteorological and Hydrological Institute and Jõgeva Plant Breeding Institute were presented.

ESTONIAN TERIOLOGICAL SOCIETY organised the 19th Autumn School “Mammalia” at Nigula Nature Reserve, Pärnu County, on October 12-14. During those days 12 scientific reports were presented and two workshops took place.

The SECTION OF ANTHROPOLOGY organised, together with Institute of History of Tallinn University and with NGO Centre of Archaeology the 6th Science Day dedicated to the 90th anniversary of Karin Mark “Eating is necessary – the food nowadays and old-time”, March 29. Four scientific reports were presented during the seminar.

Conference commemorating the 113th anniversary of Juhan Aul (1897-1994) was organised together with the Centre of Physical Anthropology of the University of Tartu. Five scientific reports were presented together with a new issue of the journal “Papers on Anthropology XXI”.

ESTONIAN MYCOLOGICAL SOCIETY organised two training courses on the determination of mushroom species in Lääne County, May 5-7 and September 24-27. Meeting of Mycological society "Actiones" took place on December 8, where five scientific reports were presented.

Together with the University of Tartu the new issue of *Folia Cryptogamica Estonica* was published (www.ut.ee/ial5/fce/index.html).

The SECTION OF FORESTRY had four scientific seminars during 2012:

- January 10, (together with the Department of Forest Management, University of Life Sciences), Allan Sims: "Managing data in ForMIS";
- March 29, Kalev Jõgiste: "Nine months in America as a scientist";
- October 17, Allar Padar: "Potential amount of logging residues, build-up and consumption";
- December 3, (together with Department of Forest Management, University of Life Sciences), Regino Kask: "The impact of growth condition on timber quality of Scotch pine (*Pinus sylvestris* L.)"

A monograph "Scotch pine in Estonia" (420 pp.) was compiled and edited by Malle Kurm.

The Society participated in fulfilling the projects funded by the Environmental Investment Centre, Tallinn Botanic Garden and the Environmental Board. ENS and the Estonian Environment Information Centre developed the Nature Observation Database (www.loodus.keskkonnainfo.ee/LVA/LVA.aspx).

In December 2012 there were 162 554 printed items in ENS library. Within a year the library acquired 84 new books and items of 226 periodicals. The publications were exchanged in the reporting year with 54 institutions and organisations from 18 countries.

PUBLICATIONS:

- Niklus, M. (translation), Viikmaa, M., Puura, I., Tinn, O. (eds.). Darwin, Charles. Liikide tekkimine loodusliku valiku teel ehk soodustatud rasside säilimine olelusvõitluses. Loodusteaduste klassikuid 2. Tartu, 2012, 548 pp.;
- Laanisto, L., Öpik, M., Vanatoa, A., Kull, K. (eds.). Elurikkuse mõte ja mõõt. *Schola Biotheoretica* XXXVIII. Tartu, 2012, 159 pp.
- Laumets, L., Lang, L., Truuver, K., Nemliher, R. (eds.). Katastroofid Maa ajaloos. *Schola Geologica* VIII. Tartu, 2012, 136 pp.
- *Folia Cryptogamica Estonica* 49. 2012, 98 pp. (with the University of Tartu; www.ut.ee/ial5/fce/index.html).

Internet journal: Ingerpuu, N., Vellak, K. (eds.) 2012. "Friend of mosses" 15. 2012, 40 pp. (www.botany.ut.ee/bruologia/Samblasober15.pdf).

ESTONIAN GEOGRAPHICAL SOCIETY



Associated with the Estonian Academy of Sciences
27.01.1998

Founded 1955

Membership: 213, 22 honorary members, 5 foreign members

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In 2012, three sections were active in the composition of the Estonian Geographical Society: section of school geography, section of natural geography and human geography and Tartu Department, and the Youth Club. Continuity of the activity of the Estonian Geographical Society is taken care of by the Youth Club, which has developed traditional activities, designed to invigorate involvement of the youth in the academic common activity and study of Estonian geographical conditions, in many cases complementing the practical sessions of work in the aspects, which the universities have not been able to provide.

In the reporting year the plan of research of the Society featured four problems:

- “History of Estonian cartography”. Topic: “Maps by A.J. von Krusenstern of the Pacific Ocean”, investigator Heino Mardiste;
- “Nature of Raplamaa”, investigator Tiit Petersoo;
- “History of Estonian geography”, topic leader Arvo Järvet;
- “Considering international environmental projects and issues in geography classes”, topic leader Ulvi Urgard.

Estonian Geographical Society has always emphasised propagation of knowledge in the area of geography both in Estonian and in foreign languages. For all congresses of International Geographical Union (IGU) the Society issues collections in English “Estonia. Geographical Studies”, which cover important geographical matters related to Estonia. Summaries of several congresses have highlighted the significant level of Estonian geographical scientific literature. For the congress held in the reporting year in Cologne (Germany), a collection was compiled too: Raukas, Anto; Kukk, Kalev; Vaasma, Tiit (eds.). Estonia. Geographical Studies 11. Estonian Geographical Society, Tallinn, Estonian Academy Publishers, 2012. 168 p.

In 2012 the activities of the Estonian Geographical Society were related to the “Year of Research 2011/2012”, announced by Ministry of Education and Re-

search, with the Society organising several topical papers and seminars. President of the Society, Doctor in Ecology Mihkel Kangur was Ambassador in the domain of geosciences of the “Year of Research”. February was the month of geosciences and M.Kangur delivered a public lecture in Tallinn University on paleogeography “Paleogeography as an instrument for studying the ‘memories’ of nature”, which was transmitted via Internet (vimeo.com/38554757) also to school teachers and other interested parties.

On February 15, in cooperation between Centre for Landscape and Culture of Estonian Institute of Humanities at Tallinn University and Estonian Geographical Society, within framework of the “Year of Research”, there was delivered a public paper by Professor Emeritus of Delaware University and visiting Professor of Latvian University Edmunds V.Bunkše. The paper was followed by presentation of book by Professor Bunkše “Geography and the Art of Life”, translated into Estonian by member of the Society Martin Kütim. The specialist literature on geography in Estonian is not available in abundance hence publication in Estonian of a book on geography having met with internationally high recognition is a notable achievement.

On March 5, 2012 was the 500th anniversary of the world famous Flemish cartographer Gerardus Mercator. In connection with that, on March 9 the Department of Geography at University of Tartu, the Estonian Geoinformatics Society and the Estonian Geographical Society held in Tartu a successive conference on cartography, besides Mercator also focussing on topical cartography.

Estonian Geographical Society, jointly with the Cultural Endowment of Tartu grants the memorial stipend of the late President of the Society Professor Jaan-Mati Punning, which can be vied for by undergraduates majoring in natural geography and related specialties, master students, doctoral students and young scientists enrolled in post-doctoral studies for achieving their research goals. The stipend of one thousand euro for this year was awarded to the doctoral student Sven-Erik Enno of Department of Geography at University of Tartu, as a token of appreciation for his outstanding research work in climatology. That subsidy for studies was handed over at annual meeting of the Society on April 13. Annual summaries of the Society and presentation of new plans was followed by a research paper by Professor Hannes Palang “Layered landscapes”.

Twenty years ago, in 1992, at the XXVII International Geographical Congress in Washington, the Estonian National Committee for Geography (represented by Board of the Society) became the fully fledged member of International Geographical Union. In this year, the international congress of IGU, held once in four years and the General Assembly (“32nd International Geographical Congress – Down to Earth”, Cologne, Germany on August 26-30) was attended by Academic Secretary of the Society, Doctor in Ecology Tiit Vaas-

ma, representing the Estonian geographers. In the process of the conference, besides delivery of the papers, there were several official meetings of representatives of nations, elections of leadership for the new four year period, drawing up the plans for the future, approval of reports and talks. Elected new President of IGU was the Russian geographer Professor Vladimir Kolossov.

Thanks to membership in IGU, in June, July and August the members of the Society's Youth Club participated, upon invitation of Russian Geographical Society, in the Republic of Tyva at geographical-archaeological expedition, which was part of Kyzyl-Kuragino project with the final goal to build a railroad linking the capital of Tyva and the Krasnoyarsk district. Before that, however the land area falling under the construction is to be investigated: namely, as one branch of the ancient silk way, it has revealed, in preliminary explorations, over 80 archaeological objects (cairns, cliff drawings etc.), among which the earliest date from Neolithic era. Therefore the decision was taken to continue researches, involving also the students in explorations. Grant is funded by the Russian Geographical Society and the studies are carried out by archaeologists of Institute of Archaeology and Ethnography of the Russian Academy of Sciences, St. Petersburg Institute of History, and Institute of the Humanities of Tyva. Beside Russia and Estonia, also represented were Ukraine, Belarus, Czechia, France, the USA and Taiwan.

The traditional autumn symposium of students in the specialty of geography of Tallinn and Tartu universities, this time bearing the name "Minuscule pictures of Estonia", was held in Jõgevamaa, Pala parish, at Kadrina manor on October 5-7. At the three-day symposium the youth provided a review of their research and discussed the issues of the domain of geography concerning Estonia and the Globe. The papers delivered at the autumnal symposium will again be published as a separate collection in the series of the Society publications.

On December 12 the Society organised, in Tallinn University the Estonian polar research seminar, presenting the scientific programme of polar research ("Estonian polar research programme 2014-2020") and interests of Estonia in connection with polar areas. Involved in said programme are many members of the Society, from amongst whom speaking at the seminar were PhD Erki Tammiksaar "Baltic German 'mobsters' in Russian polar research", project leaders, Doctor in Biology Enn Kaup "Researches in the Antarctic starting from 1957 and the ambitions for the future" and Professor Rein Vaikmäe "Modern researches and works planned in the Arctic".

The section of school geography of the Estonian Geographical Society comprises active teachers, who belong also to other subject associations: Society of Geography Teachers, subject sections of geography teachers and Union of Teachers of Natural Subjects. In the process of the development activity the

members solved the scientific and methodological problems of teaching geography, arising from transfer to the new basic school and gymnasium state curriculum and formative grading. The teachers organised basic school and gymnasium state examinations and national Geographical Olympiads. They participated in the work of commissions correcting state examination and Olympiad works, analysed the works and suggested the options for improvement. They compiled study materials for various publishers and reviewed them. The teachers coordinated sustainable international environmental projects. Teacher of geography and member of Board of the Society Ulvi Urgard stood up for Saue Gymnasium's environmental project "Sustainable development of the Baltic countries and comparison of natural and industrial development", carried out in cooperation with the Helsinki Alppila basic school, to obtain the recognition of the Ministry of the Environment "Small environmental deed 2012". The best of the 'small environmental deeds' are focused on providing natural science education to children and the youth.

Apart from the above there were traditional events: winter county excursion of young geographers to East-Harjumaa with a number of foreign students attracted; the Society's county excursion to Järvamaa; the island hike to Abru-ka and the bicycle trip in Tallinn and also from Türi to Pärnu, a successive section of a journey around Estonia. There were also other undertakings like attending seminars, the travelling-club nights and the bee "Let's do it". On April 12, Tiina Rahkama conducted a visiting tour of the house of the Estonian Academy of Sciences. That mind-opening excursion provided an excellent view of the solid house of the Ungern-Sternbergs. At club nights (titled Let's meet on the third Wednesday – KoKoKo) the travelling impressions of general interest were heard, as well as news in geography; members guided by Chief Specialist of Tallinn Board of Cultural Values Artur Ümar informed themselves as to the objects of artistic merit of the Tallinn Culture Kilometre.

SOCIETY OF ESTONIAN AREAL STUDIES

Associated with the Estonian Academy of Sciences
27.01.1998

Founded 1939

Membership: 220 members

Address: Kohtu 6, 10130 Tallinn, ESTONIA, ekus@ekus.ee
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Chairman: Andrus Ristkok, Tel: +372 5664 7806

Project leader: Ene Luka, Tel: +372 644 0475



For the fourth year, the Society managed to continue the follow-up project “Areal studies research and education programme 2012” under leadership of member of the Board of the Society Ene Luka. Deplorably so, the unforeseen monetary cuts of the programme funders (nearly by 60%!) imposed the need to cut back also the list of earlier planned events. However, all in all, the programme enabled, in three and a half years to significantly boost the areal studies movement and to organise more public events than theretofore.

A major public undertaking in the reporting year was the memorial conference of the first chairman of the newly founded Society of Estonian Areal Studies “Vello Lõugas – 75”. The conference was organised in cooperation with several societies and research institutions (Institute of History of Tallinn University, researchers of archaeology of the University of Tartu, Estonian Archaeological Society, and Estonian National Heritage Society) in Tallinn at Academy of Sciences on April 9. Vello Lõugas was an archaeologist of merit, who rendered great services in the areal studies, being as he was the pioneer in the areal studies of the newly regained independence period, valiantly standing up for starting and putting into operation of the Society in the complicated situation of advent of the newly independent republic.

Held as a major event on May 19 in Tallinn within the framework of the programme “Areal studies research and education programme 2012” was the 44th national conference on areal studies of the school students and the final round of the 21st national contest of young guides. There was also organised the instruction day of supervisors of young guides in Tallinn (02.03.2012), the competition of pieces of writing and works of art “Muinas-Julle” designed for invigorating the national heritage month for younger and middle-stage school youth and the common expedition of young guides and enthusiasts in areal studies “Läänemaa – Hiiumaa 2012” (June 21-23, 2012). Supported by the programme funds, there was

published the 29th successive volume “The school students’ areal studies works” and there was released the review issue “The 44th national conference on areal studies of the school students”. Member of Board of the Society, project leader E.Luka attended also the days of areal studies of the school students of Lääne-Virumaa, Viljandimaa, Pärnumaa and Järvamaa and the Heimtal day of areal studies (Viljandi county).

The Society’s General Meeting was held in Tallinn at Estonian National Library on March 28. The regular agenda was complemented by Ants Kraut with a paper on news in Estonian archaeology and Heiki Koov, presenting the database of monuments he had created.

On May 26 the Kohtla-Järve central library hosted the meeting of Board of the Society and the active members of the Society with enthusiasts in areal studies of Ida-Virumaa. The long programme of the day featured the reciprocal presenting papers; in premises of the library there was also staged a topical exposition (the updated Society’s anniversary exposition, completed in 2009 in the process of fulfilling the programme).

On September 13-14 the enthusiasts in areal studies of the Rapla county organised in Märjamaa the cooperation conference “Preservation of historical heritage in the village – Sillaotsa Farmstead Museum 30”. That grand local undertaking was supported by all surrounding parishes and the Rapla county government. The bulk of organisation work was shouldered by two museums of the county having celebrated their anniversary, upon initiative of members of the Society in employ there. On the second day, the participants of the conference had a chance to go and see the sights of the surroundings and to also visit the Järvakandi Glassware Museum.

Upon initiative of the Valga Society of Friends of Museum, an areal studies day with large attendance was organised in Valga Museum on November 20.

Vigorous as ever were enthusiasts in areal studies of Pärnumaa. The busy action plan of the Pärnumaa Society of areal studies is impressive. Besides a number of seminars, meetings with papers and talk-shops, the study trips are to be highlighted among their major undertakings: visits to Tallinn Orthodox and Methodist Churches and Jewish sacral institutions (April 22), visit to North-West Estonia on the route Keila-Paldiski-Padise-Nõva-Dirhami-Roosta-Noarootsi (June 9-10), to the Ruhnu island (August 8–10). On December 8, 2012 the hall of Pärnu Central Library witnessed the III Convention of the Pärnumaa Society of Enthusiasts in Areal Studies, seconded with a respective exhibition-display.

Members of the Society have notified the Society about quite a few on-the-spot public events in areal studies: numerous topical displays, documents recorded in written, reviews and studies as separate publications, articles in the periodical issues and small items of printed matter on various local events. Upon initiative and under organisation of members of the Society and enthusiasts in areal studies not affiliated to the Society, personal events and local-lore events were celebrated.

By March, the successive yearbook “Yearbook of the Society of Estonian Areal Studies 2011” was completed (in cooperation with National Heritage Society and Estonian Genealogical Society). It contains interviews dedicated to anniversaries of several reputed experts in and organisers of areal studies (Oskar Kuningas, Julius Põldmäe, Voldemar Miller, Hans Kruus, Vello Tarmisto, Kyra Robert), several personal stories, a methodological review on inventory-taking of cultural heritage and a piece of writing on F. Shalyapin and his contacts with Estonia. Like the practice of the recent years, the yearbook also contains a selection of photo recollections from 2011.

ESTONIAN MOTHER TONGUE SOCIETY

Associated with the Estonian Academy of Sciences
4.02.1998



Founded 1920

Membership: 355 active members and 12 honorary members
Address: Roosikrantsi 6, 10119 Tallinn, ESTONIA, es@eki.ee
www.emakeeleselts.ee

Chairperson: Helle Metslang, Tel: +372 522 5074

Academic Secretary: Killu Paldrok, Tel: +372 644 9331

Librarian: Annika Oherde, Tel: +372 644 9331

In the reporting year, the Society organised 4 conferences, 6 meetings with papers, a youth language camp and 11 language days, incl. the Estonian language days abroad (6). In that year, 107 papers were delivered.

Outside Estonia, with co-organisation of Ministry of Education and Research and local Estonian societies, 6 language days were held (in Sweden – Lund, in Holland – The Hague and Gouda, in Denmark – Copenhagen, in Lithuania – Vilnius and in Russia – Moscow). The topics of papers were widely different, in view of the proposals and expectations of local listeners. As usual, a review of the Estonian language policy belonged among papers, in that year also of the trends of the Estonian language policy abroad and juridical-political conflicts in Estonian linguistic life. Papers were also delivered about the Estonian literature, incl. the reading matter designed for school youth, development of linguistic and writing skills in children, changes in vocabulary, orthology, first names and place names, language acquisition, multilingualism, and issues of identity. Besides papers, language study seminars were held, and new interactive language study materials and language textbooks were presented. Altogether 23 papers were delivered at the Estonian language days abroad.

In 2012 the Society organised four conferences.

April 28 – Jointly with the Ministry of Education and Research the language conference at St. Petersburg Jaani Church “Estonians in multilingual and multicultural St. Petersburg”, with papers delivered by Vadim Mussajev, Tamara Smirnova, Tiiu Reimo and Aile Möldre, Veronika Mahtina, Tõnu Tannberg, Jüri Viikberg, Tiina Maiberg, Piret Meos, Lea Jürgenstein, Jüri Valge, Tiina Paet, and Maarja Hein and Anna Malkova.

January 26 – Jointly with Institute of Estonian and General Linguistics and Institute of Computer Science of the University of Tartu, in the white hall of Historical Museum of the University of Tartu, the conference dedicated to 70th anniversary of Member of Academy Haldur Õim, with papers delivered

by Renate Pajusalu, Tiit Hennoste, Urmas Sutrop, Ilona Tragel and Ann Veismann and Heili Orav, Neeme Kahusk and Kadri Vare.

June 27 – Tartu hosted the traditional J.V.Veski language conference. The topic of XLV J.V.Veski Day was “Regarding the rotary of languages, dialects and names. Valdek Pall 85”, with 5 papers on the agenda. The opening paper was delivered by Marja Kallasamaa on the topic “Following the steps of Valdek Pall and taking a minor step out of line”. Niina Aasmäe spoke about the works by Valdek Pall on Mordovian languages. Evar Saar deliberated about different types of Viru place names, Liina Lindström presented the archives of Estonian dialects and cognate languages of the University of Tartu and broadened possibilities of research into corpus of dialects, with Jüri Viikberg consummating the Day with a review on the topic “Dictionary of Dialects 1922-2012”.

September 21 – Annual student conference held in the University of Tartu to celebrate the Day of European Languages. Speaking about their language research works were bachelor and master programme students of Tallinn University and University of Tartu and students of gymnasiums, delivering altogether twelve papers. The papers were topically divided into four parts: “Several sightings of the linguist”, “Estonian sentence”, “Between two languages” and “Child and language”.

Ministry of Education and Research, in cooperation with the Mother Tongue Society organised the poll for the award of the Linguistic Feat 2011, eventually granted to Tanel Alumäe and Kaarel Kaljurand from Phonetics and Language Technology Laboratory of Institute of Cybernetics at Tallinn University of Technology, for voice identification applications designed for smart-phones. The Society co-organised the final event of the Linguistic Feat, held on March 14, 2012 in Haapsalu Wiedemann Gymnasium.

March 23 – Annual meeting of the Estonian Mother Tongue Society was held in J.V.Veski lecture hall in the main building of the University of Tartu, where Helle Metslang, Karl Pajusalu and Külli Habicht delivered an academic paper “On development of interrogative particles”. Report of the Society for its 92nd year of activities (2011) was presented by Academic Secretary Killu Paldrok.

Estonian Mother Tongue Society is one of the organisers of Ferdinand Johann Wiedemann prize, beside the Institute of the Estonian Language, Ministry of Education and Research, Language Inspectorate, Väike-Maarja Gymnasium and Väike-Maarja parish government. The language day was held on April 19 at Väike-Maarja. Laureate of the Wiedemann’s language prize for 2012, Mari Tarand delivered a paper “Home-language-bound” and candidate for the prize Heli Laanekask the paper “Wiedemann’s grammar in Estonian”. Student of Väike-Maarja Gymnasium Kätlin Kaare considered the understanding of pro-

verbs after the example of Väike-Maarja Gymnasium. Laureate of the language prize Mari Tarand planted a memorial tree in the language oak grove.

At six meetings with papers (five in Tallinn and one in Tartu) 17 papers were delivered.

February 16 – (cf. above annual meeting of Society of March 23) the meeting with papers focussing on old literary language, heard the paper by Kai Tafenau, Kristel Ress and Annika Kilgi.

May 2 – speaking at topical Finno-Ugric issues were Nikolay Kuznetsov, Valentina Semenova and Elena Ryabina.

May 17 – meeting with papers at Tartu on the topic “Literature at Mother Tongue Society“, with Hasso Krull, Lauri Pilter and Arne Merilai speaking. September 6 – Tallinn University in cooperation with the Mother Tongue Society celebrated 75th anniversary of Mati Hint with a meeting with papers, with Krista Kerge, Martin Ehala, Jüri Viikberg and Karl Pajusalu and Pire Teras speaking.

November 15 – meeting with papers on lexical relations, with Margit Lange-mets, Heili Orav and Asta Õim speaking.

December 6 – the last meeting with papers of the year “On international research project ELDIA (European Language Diversity for All)”, where outcome of research in the project was presented by Helle Metslang, Kadri Koreinik and Kristiina Praakli.

Estonian Mother Tongue Society successfully continued organisation of school language days restarted in 2009 upon initiative of Annika Kilgi. In 2012, there were 5 language days held with the total of 19 papers, from every educational institution 1-4 papers. Speaking at schools were Estonian philologists of different areas; the language days were directed in the first place at school students of periphery. At Tartu Catholic School the topic of the Day was multiple countenances of language, at Võru Kreutzwald gymnasium the linguistic etiquette. At Noarootsi gymnasium the Language Day was titled “Day of expressive landscape”. At Rapla Co-educational Gymnasium the topic was dynamics of Estonian, at Kunda Co-educational Gymnasium the language and emotionality. Papers were also delivered within framework of the Estonian language days abroad: at Estonian School in Holland on acquisition by child of Estonian, seconded by a seminar on language study games.

October 22-24 – three-day language camp at Piusa, designed for the youth and titled “Fascinating linguistics”. It brought together 18 gymnasium students and linguists from Mother Tongue Society, Institute of the Estonian language, Tallinn University and the University of Tartu, and representatives from Language Inspectorate and National Broadcasting Company. 9 papers were delivered: by Peeter Päll, Helle Metslang and Annika Kilgi, Arne Merilai, Reili Argus, Ilmar Tomusk, Katrin Kern, Tiina Leemets and Einar Kraut. There

was discussion on language issues, on study, preservation and valuation of language, besides that games requiring linguistic prowess were played, language quiz was organised etc.

Since March 23, 2012, head of Language Working Group of the Estonian Mother Tongue Society has again been Krista Kerge. Language Working Group comprises: Reili Argus, Külli Habicht, Reet Kasik, Katrin Kern, Einar Kraut, Helika Mäekivi, Urve Pirso, Peeter Päll, Maire Raadik and Arvi Tavast. The Language Working Group held 6 sessions, plus 1 field session and 8 e-discussions. It formed opinion with regard to details of Standard Estonian Dictionary ÕS 2013, adopted decisions concerning orthography, engaged in dispute with the public, released pieces of writing in newspapers and voiced opinions in radio, and answered the referrals by individuals and institutions.

Released in 2012 from print were:

- Estonian Mother Tongue Society Yearbook 57 (2011). Editor in Chief Mati Ereht, Editor Tiiu Ereht. Estonian Mother Tongue Society of the Estonian Academy of Sciences, Tallinn, 2012. 328 pp.;
- Language Magazine Oma Keel, N 1, 128 pp.;
- Language Magazine Oma Keel, N 2, 107 pp.;
- Collection "Heritage from Häädemeeste. Collection of dialectal texts from correspondents VIII". Edited by Helju Kaal, Eevi Ross. Tallinn, 2012. 361 pp.

The library of the Estonian Mother Tongue Society was replenished in the reporting year by 55 items of printed matter, obtained by exchange, donation and purchase. The library keeps on record 6 323 inventory items of printed matter.

ESTONIAN UNION OF THE HISTORY AND PHILOSOPHY OF SCIENCE

Associated with the Estonian Academy of Sciences
4.02.1998

Founded 1967

Membership: 61 active members, 8 honorary members, 6 collective members

Address: Baer's House, Veski 4, 51005 Tartu, ESTONIA

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Estonian Union of the History and Philosophy of Science associated with the Estonian Academy of Sciences is divided into Tallinn and Tartu branches. It is a member of the Baltic Association of the History and Philosophy of Science and a member of both autonomous divisions of the International Union of the History and Philosophy of Science, of which the first embraces the history of science and technology, and the other the logic, methodology, and philosophy of science.

The Board of the Union met twice. The general meeting was held in Tartu, in the Centre for Science Studies of the Estonian University of Life Sciences on April 13, 2012. The general meeting approved the activities report of the Union for 2011 and the working plan for 2012. The Union recognized a member of the Estonian Academy of Sciences Karl Siilivask for his contribution to research into the history of science and he was granted, upon the proposition of the Board of the Union and approval by the general meeting the title of honorary member of the Union. Concurrently, Karl Siilivask withdrew from the position of member of the Board of the Union.

Input into the Wikipedia environment of the "Biographical Lexicon of the Estonian Science" was not completed due to crowded schedule of Wikipedia Board members. In the future that project may be relaunched. Members of the Board of the Union decided to appeal to the Council of Rectors of Estonian Universities, requesting the means necessary for publishing the 3rd and the 4th volume of the Lexicon in order to print the Lexicon as a whole.

The Union initialized the establishment of a new journal *Acta Baltica Historiae et Philosophiae Scientiarum*, bringing together the historians and philosophers of science primarily of the Baltic countries and Eastern Europe. It is a scientific journal, published twice a year and considering the problems of history and philosophy of science. Its first issue is ready for print and it will be published in spring 2013.

The Union was represented mainly by philosophers of science at the 25th International Baltic Conference on the History of Science in Vilnius (03-06.10.12). 120 researchers from 12 countries took part in the conference. Organisers of the Conference published the collection *Historiae Scientiarum Baltica-2012*, containing the abstracts of papers. Materials of the Conference will be covered in a special issue of the journal *Acta Baltica Historiae et Philosophiae Scientiarum*, which will be published in summer 2013.

Peeter Mürsepp represented the Union at a conference of the European Society for the History of Science in Athens (01-03.11.12). A member of the Union Vahur Mägi also took part in the conference.

The annual conference of the University of Tartu History Museum “The Practical Application of Scientific Innovation over Times” took place on December 6, 2012. The Union supported the organization of the conference and the Union’s members took part in it.

ESTONIAN LEARNED SOCIETY IN SWEDEN

Associated with Estonian Academy of Sciences 19.03.1999

Founded 1945

Membership: 87 active members and 3 honorary members

Address: c/o Diana Krull, Stockholm University, Dept. of Linguistics, 106 91
Stockholm, SWEDEN

Chairman: Tõive Kivikas (till 7.2.2013)

Secretary: Diana Krull, Tel: +46 8 162 852, Diana.krull@ling.su.se

South-Sweden Division: 17 active members, 3 honorary members

Address: c/o Kristiina Savin, S. Esplanaden 20 D, 223 52 Lund, SWEDEN

Chairman: Nora Ausmees, Tel: +46 76 631 4049

Secretary: Kristiina Savin, Tel: +46 46 12 2945, kristiina.savin@kultur.lu.se

The Estonian Learned Society in Sweden assembles Estonian scholars in Sweden as a forum where they can present their work in Estonian.

In 2012, the Society organized in Stockholm the regular Annual meeting, six meetings with papers, a visit to the open air museum at Birka, and celebrated the 93rd anniversary of the Estonian University of Tartu. At the Annual meeting, Hendrik Penno MD delivered a paper titled: "The role of osteoprogenitor cells for bone metastases in prostate cancer". The rest of the papers presented in 2012 dealt with varying topics: the Livonian language (doctoral student Miina Norvik); stem cells (Andres Piirsoo, ScD); digitized information exchange in criminal processes (Sirle Sööt, lawyer); genetics (Kaarel Krjutškov, PhD); and new historical data on Piritä Convent (Ruth Rajamaa, PhD).

At the 93rd anniversary celebration, concert pianist Klarika Kuusk performed music by Merila, Marguste and Eshpai. Thereafter, doctoral student Helen Kõmmus presented a paper on the traditional instruments of Estonian folk music.

January 22 – annual meeting at South-Sweden Division of the Society.

Jointly with the Mother Tongue Society from Tallinn four meetings with papers were held:

- Riina Koolmeister "Trends abroad in Estonian language policy",
- Maire Raadik "Changes in Estonian vocabulary",
- Mart Velsker "On Estonian literature in the 21st C.",
- Anu Haak "Typically Swedish place names in Western Estonia and on islands".

November 25 – meeting with papers, with Ireen Koop-Lind (Akademiska sjukhuset, Uppsala) speaking on the topic "Spread and treatment of eating affective disorders".

ESTONIAN LITERARY SOCIETY

Associated with the Estonian Academy of Sciences
23.01.2001

Founded in 1907

Members: 290 members (incl. 39 lifetime members, 13 honorary members
and 21 regional representatives)

Address: Vanemuise 19, 51014 Tartu, ESTONIA

www.kirjandus.ee

Chairman: Toomas Liivamägi, Tel: +372 515 3274, toomas.liivamagi@ut.ee

Academic secretary: Marja Unt, Tel: +372 742 7079, eks@kirjandus.ee

In 2012 the activities of the Estonian Literary Society (hereafter Society) varied a lot and included both traditional events and carrying on previously initiated projects as well as new undertakings. The application for presenting Tartu as a candidate for the UNESCO cities of literature network was completed and translated into English while the Academic Secretary of the Society also participated in the conference of the cities of literature in Krakow, Poland. The project "Rongiluule" (Train Poetry) also continued: the fourth selection of poems was presented on the windows of the trains of Edelaraud-tee. The society also carried on collaboration with Y Gallery organising poet-ry nights there. The most notable new project initiated in 2012 was "Kirjanike hääled" (The Voices of Writers) – a long-term project in collaboration with the Estonian Literary Museum aiming to record Estonian writers reading their own works contributing thus to the Estonian Cultural History Archives. The society also releases CDs of these recordings

In the beginning of April the traditional session of the annual review of literature took place where the Estonian poetry, prose and drama of 2011 were discussed and in addition an overview of the Estonian e-books was given.

On April 23rd the Book and Rose day was celebrated in Tartu as a warm-up event for the literary festival Prima Vista. The programme included book presentations and discussions and the winner of the literary prize "Esimene samm" (First Step) was announced.

From 10th to 13th of May the 9th Tartu International Literary Festival Prima Vista took place taking its programme also to Elva for one day. The main organisers of the festival were the non-profit society Festival Prima Vista, Estonian Literary Society, the Tartu Department of Estonian Writers' Union, Tartu Public Library, and the Library of the University of Tartu. The slogan of the festival was RoomID and the patron of the festival was Mihkel Mutt. During the festival the traditional Park Library and Prima Vista Book Fair took place, the programme also included book presentations, lectures, discussions, concerts, exhibitions, films and various other events and programmes

organised by the partners of the festival. In addition to many Estonian writers, foreign authors from different countries also performed at the festival – the Russian writer and director Yevgeni Grishkovetz, the scriptwriter and author of many children's books Grigoriy Oster, the legendary German poet and singer Wolf Biermann, the culture critic Simon Raynolds, the Belgian poet Serge van Duijnhoven, the Flemish poet Frank De Crits, and the French band Varsovie.

In summer the society continued the collaboration with the University of Tartu and the Estonian Literary Museum organising seminars and summer schools: in June the traditional spring school for students of literature of the University of Tartu took place and in July the Society and the Estonian Literary Museum organised the summer school for literary scholars at Nüpli.

In autumn the interdisciplinary international festival "Hullunud Tartu / Crazy Tartu" took place for the 3rd time already, this time at the former printing house which presently hosts the Paper Museum. The initiator of the festival is writer Jaan Malin and the festival is organised in collaboration with Estonian Literary Society and Estonian Writers' Union. For the first time the Society also collaborated with the organisers of the Runoviikko poetry festival in Turku. The subtitle of this year's festival was "Cliche" and the programme brought once again together writers, musicians and artists. The participants of the festival were Estonian writers Aime Hansen, Matti Moguči, Indrek Koff, Triin Soomets, Luulur, Doris Kareva, Priidu Beier, Indrek Ryytle, Timo Maran, Jürgen Rooste, Helena Läks and Valdur Mikita; foreign guests Žygimantas Kudirka, Gabrielė Labanauskaite, Darius Jurevičius, DizzyLez, Esa Hirvonen, Juha Kulmala, Kalle Niinikangas, Katariina Vuorinen, Andy Willoughby, Bob Beagrie, Kev Howard and Anthony Flint. During the festival the works by Martiini, Peeter Krosmann, Andrus Peegel, Nadežda Tšernobai, Anne Rudanovski, Edward von Lõngus and Ahti Seppet were exhibited. In addition the world premieres of two musical pieces written especially for the festival took place: a choir piece "Hulluse hääbumine" (The Fading of the Madness) by Märt-Matis Lill and the piece "Demiurg" (Demiurge) by Monika Mattiesen.

In the beginning of December the 105th anniversary of the founding of the Society and also the 20th anniversary of re-establishing it was celebrated in Tartu. The events of the period of the re-establishment of the Society and also the activity of the past 20 years was recalled and analysed by Peeter Olesk, Katrin Raid and Krista Ojasaar. An exhibition introducing the activity of the society was presented at the Tartu Literature House and a few days later an exhibition introducing the history of the Tartu Literature House was opened at the Estonian Literary Museum. The programme of the anniversary celebration also included a reading of a composition of texts based on the documents' archive of the Society and the presentation of the first CD-s of the collection "The Voices of Writers".

LEARNED ESTONIAN SOCIETY

Associated with the Estonian Academy of Sciences
23.01.2001



Founded 1838

Membership: 108 active members, 15 honorary members. During the last year the honorary member, Hungarian linguist Gábor Bereczki (1928-2012) died

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www.ut.ee/OES

Chairman: Heiki Valk, Tel: +372 737 5653, heiki.valk@ut.ee

Vice-Chairmen: Tiit Rosenberg, Tel: +372 737 5650, tiit.rosenberg@ut.ee

Marju Luts-Sootak, Tel: +372 737 5396, marju.luts-sootak@ut.ee

The Learned Estonian Society is a scientific society operating at the University of Tartu to join humanities and sciences concerning Estonia. The aim of the Society is to present and disseminate the newest investigation results, to give scientists, including younger researchers, possibilities for public academic presentations and for publishing their investigation results.

In 2012, 14 meetings with 14 academic presentations were held; the total number of audience comprised 317 participants. The topics of the papers were as follows: history – 7 (in 2011 – 8), archaeology – 0 (4), philology – 4 (4), other areas – 3 (4).

The largest number of participants was attracted by Kaur Alttoa's paper "When was Toome Hill created? About the problems of topography and communication in medieval Tartu" (54 people) and by Tõnu Raid's paper "About the town plans of Tartu 1600-2000" (35 people).

The Society published its Yearbook, containing articles based on papers delivered in 2011. The prize of 160 EUR for the best article in the Yearbook of 2010 was awarded to Märt Uustalu for the article "About Semi-Manors and their Owners in Estland and Livland".

An essential event was preparing the Society's library for getting re-united. After closing the society in 1950, its library was divided between the Estonian Literary Museum and the Library of the Academy of Sciences in Tallinn. The last-named part that was returned to Tartu when the Society was re-established in 1988 and deposited temporarily to the Library of the University of Tartu in 1995, more than 30 000 volumes, was packed for moving into the new depository of Estonian Literary Museum. Packing of the library took place in the end of the year and it was coordinated by Kersti Taal, the librarian of the Society.

No archaeological field works were carried out in 2012. Archaeological activities of the Society were limited to cameral works related to the field work season of 2011.

ESTONIAN MUSICOLOGICAL SOCIETY

Associated with the Estonian Academy of Sciences
21.06.2004

Founded 1992

Membership: 81 active members (of whom 6 outside Estonia), 1 honorary member (Professor Emeritus of Lund University Folke Bohlin)

Address: Rävåla pst 16, 10143 Tallinn, ESTONIA, emts@hot.ee
www.muusikateadus.ee

Chairman: Toomas Siitan, Tel: +372 5299 117, tsiitan@estpak.ee

Estonian Musicological Society brings together researchers in music and people entertaining the interest to scholarly study of music and supports research in all fields of musicology in Estonia.

The achievement of 2012 was releasing the fourth issue of the musicological year book *Res Musica* dedicated to ethnomusicology, in cooperation with Department of Musicology of Estonian Academy of Music and Theatre. *Res Musica* is a periodical issue with international editorial board, publishing peer-reviewed scientific articles from all areas of musicology. The year book is open to international cooperation. The issue is prevalently in Estonian however it contains bulky resumes of articles in English or German.

February 2-4 2012 a conference "New Music in History Writing and New Approaches to Writing Music History" was organized in Tallinn by the Estonian Musicological Society and the Department of Musicology, Estonian Academy of Music and Theatre. The conference addressed two related issues: (1) how to integrate the survey of recent decades (approximately 1960 and after) with the discussion of earlier periods in writing music history and (2) recent changes in the thematic scope and methodological approaches used in studying and writing music histories. 24 papers were delivered, seven of them by Estonian musicologists. The keynote speaker was Prof. Jim Samson from Royal Holloway, University of London.

Upon organisation of the Society, every year there are regularly held two meetings with papers, in spring at Tartu and in autumn in Tallinn. At Society's Day of Tartu on 14.04.2012, papers were delivered by eight researchers from Estonian Academy of Music and Theatre and Estonian Literary Museum, the main speaker was Olli Väisälä from Sibelius Academy. The topics were related to music theory and ethnomusicology.

The autumn Leichter Day in Tallinn on 19.11.2011 united the regular annual meeting of the Society and meeting with papers, delivered by Mart Humal and Toomas Siitan.

Tradition of the Society is also organisation of culture-lore trip at the beginning of September. In 2012 the Society visited Lääne-Virumaa.

ESTONIAN PHYSICAL SOCIETY



Associated with the Estonian Academy of Sciences
14.06.2005

Founded 1989

Membership: 298 active members, 4 honorary members

Address: Tähe 4, 51010 Tartu, ESTONIA, efs@fi.tartu.ee

www.fyysika.ee/efs

Chairman: Kaido Reivelt, Tel: +372 737 4623, kaidor@fi.tartu.ee

Traditional Estonian Physics Days were held in the reporting year on March 23-24 in Dorpat conference centre at Tartu. The Physics Days were organised by Kaido Reivelt, Aile Tamm, and Riina Murulaid. Within framework of the Physics Days, the general meeting of the Society was held on March 23, approving the activities' and economic report of the Board of Society. The working day was consummated with the traditional Society night.

At Physics Days the annual prize of the Society was announced. It was awarded to Mario Kadastik (Institute of Chemical and Biological Physics) "for meaningful work at searches for the Higgs boson and dark matter". Certificate of honour of the Society was granted to the team of TV serial Rakett 69 for outstanding valour at popularising science. The student prize of the Society was assigned to Kees Vanmölder (Tallinn Gymnasium in Science and Humanities) for research "Comparison of dynamics of rail vehicles on tracks of different gauge", supervisors Mart Kuurme (Tallinn Gymnasium in Science and Humanities) and Hans Rämmal (PhD in acoustics, Tallinn University of Technology).

The Yearbook of Society 2011 appeared (www.fyysika.ee/fyysika/aastaraamat/, editors Anna Aret, Helle Kaasik and Piret Kuusk). The Society's list seltsid.efs@lists.ut.ee and the Society's website (www.fyysika.ee/efs) is administered by Kaido Reivelt.

March 10-11 – at the 59th Physics Olympiad of Estonian school youth the special prize of the Society (annual subscription to Scientific American) was granted to Jaan Toots (Tallinn Gymnasium in Science and Humanities).

Upon leadership of Alex Nõomaa the Science Bus Big Dipper continued its work. Four new performances were worked out – acoustics, atmospheric, energy and winter performances. There were 106 Science Bus trips with 13 different programmes. Within the framework of every trip, 1–10 schools or events were visited. Regularly engaged in science theatre performances were 35 students, visiting 107 schools. Upon initiative of the team of Science Bus, the Faculty of Natural Sciences and Technology of the University of Tartu was, for the fifth time the venue of course "Science in topical lectures", at-

tended by ca 40 and finished by 29 students of different specialties. Within the framework of that event the students gained first-hand experience in doing science theatre and popularising science.

In the summer vacation time we organised the traditional Family Days in the study building at 4 Tähe St, Tartu, in mid-December the winter snow-bound Family Days were held.

Within the framework of the Science Bus activities we also prepared the workshops for the use of the event Science Town. Workshops were held on June 20-21 at Tartu on Toomemäe.

March witnessed publication of the second part of physics textbook for higher schools in Estonian – David Halliday, Robert Resnick, Jearl Walker “Fundamentals of Physics”. Publication of the textbook is supported by the State programme “Compilation and issuing higher school textbooks in Estonian 2008-2012”, the University of Tartu and the Estonian Academy of Sciences. By now, the textbook has been taken to use at the University of Tartu, Tallinn University of Technology, Estonian University of Life Sciences and Tallinn University.

Work was carried on at publishing the physics textbooks on new curriculum of gymnasium. While 2011 witnessed publication of Indrek Peil’s “Mechanics”, by the beginning 2012 electronically available were also manuscripts of textbooks of physical world outlook (author Kalev Tarkpea) and electro-magnetism (authors Kalev Tarkpea and Henn Voolaid). Agreements have been made to release also the other four gymnasium textbooks under new curriculum. At publishing textbooks, we are maintaining steady cooperation with the Publishers Maurus.

The project of e-textbook of the Society has also started yielding tangible results, its first so-called industrial version executed by Mindworks Industries OÜ visible at address <http://õpik.füüsika.ee>. The Society looks forward to close cooperation with the School Physics Centre of the University of Tartu and other interested parties in Estonian physical education in development, by subject matter and form, of the e-textbooks.

The Society carried on with developing the physics portal (www.fyysika.ee). Promoted by editor-in-chief of the news portal (www.fyysika.ee/uudised) Aile Tamme, a team of translators/editors was set up (Stiina Kristal, Uku Pütsepp, Anu Mets), regularly mediating scientific news from foreign sources. Besides that we have managed to spur the Estonian scientists to write short articles reporting their research outcome, which have also appeared in the news portal.

The Society has organised, jointly with the Science School of the University of Tartu the science camps of the University (www.teaduslaager.ee). In 2012 the science camp was held in two shifts, from July 23-29 and from July 30-

August 5 in the Kloogaranna youth camp. Participating in the first shift were 111 5-7 form students, in the second shift 101 8-9 form students. In both shifts the students were distributed into five groups, every day featuring one topic. The topics were physics, chemistry, materials science, biology, and acoustics. Supervisors were undergraduates and graduate students of the University of Tartu. Giving a hand at preparing the camp were also doctoral students and researchers.

The Society, acting jointly with Department of Natural Sciences and Technology of the University of Tartu and Science School of the University continued the programme of workshops in physics, chemistry and biology, where smart and motivated students of 7-12 forms were offered special training basing on experiments in natural sciences (physics, chemistry and biology), to help make up for differences of possibilities of schools when providing natural science education. There were four programmes in progress (two in physics, one in biology and one in chemistry), every programme 8 x 4=32h. In 2012, over 400 workshops were held; involved were (total for two years of training) 100 groups, attended by ca 1 500 students.

Division of teachers of physics organised past year, within the framework of the Spring Days of the Society a teachers' session in Science Centre AHHA, with ~70 teachers attending. Calling for active joining in the deliberations were topics dealing with the 1st course of physics of the new curriculum (report by teacher of Saaremaa Co-educational Gymnasium I.Peil) and preparatory works for examination in major subject of the school (paper by teacher of Nõo Gymnasium P-M.Irdt). Re-elected Chairperson of Division of teachers of physics was Riina Murulaid, elected into Board were Virgi Roop (GAG), Siim Oks (HTG) and Enn Ööpik (the Tartu M.Reinik School).

June 26-28 – the 10th Summer Days of teachers of physics in Latvia, Ventspils were held. Teachers heard lectures by lecturers of Ventspils College; they visited the Irbene radio-astronomy centre and informed themselves as to the local educational life. The working language was Russian. Participating were 43 teachers.

That year too, the teachers of physics visited CERN, doing it thrice: at 3-week summer school (1 teacher) and at two-week training in October and December (altogether 18 teachers).

Within the framework of INNOVE funded project, training in two parts organised by Department of Physics on topics of gymnasium subject curriculum was held. In the first part, held on August 23-24 at Chemistry Building of the University of Tartu, the emphasis was laid on the 1st and the 3rd courses and in the second part, held on September 14-15 at the Tartu Poska Gymnasium, all obligatory practical works were done. The first part was attended by 85, the other part by 70 teachers. The network of teachers of physics is available on website (editor Jaan Paaver) www.fyysika.ee/vorgustik.

Estonian Physical Society organised, throughout the year the activities of GLOBE Estonia (www.globe.ee), using for that purpose the means of European Social Fund and fund of the project of Centre for Environmental Investments. Contest of GLOBE research works was carried out, on August 13-15 there was the GLOBE summer camp at Mändjala (with attendance of 150 teachers and school students) and on September 21-22, the students' conference at Keila School. During the whole year we carried out the Estonian air pollution measurement campaign (www.fyysika.ee/ohusaaste), within the framework of which students of 25 schools measured the NO₂, SO₂, NH₃, O₃ and black soot content in their native places. Coordinator of GLOBE Estonia Kaido Reivelt participated at GLOBE European and Eurasian annual conference in Holland, where it was decided to hold the following international conference in Estonia. The main drivers of the GLOBE programme have been Ketlin Reis and Karli Kütt. In 2012, closer cooperation was maintained with Muhu Basic School, Kivilinna Gymnasium and Keila School.

June 26-28 – twin event held in Viljandimaa, at Kopra farmstead, consisting of summer school in exact sciences of the Society and the energy academy of the University of Tartu. On October 26-28 there was Autumn School in exact sciences of the Society at Voore Guest House. Both events were attended by over 100 school students and young scientists from various corners of Estonia. They heard over 20 hours of lectures and seminars on philosophy of science, optics, biophysics, astrophysics, economy, non-linear processes, cyber defence, brain science, scientific journalism and seismology. The Autumn School was also the venue of meeting of the international team of Estonian Student Satellite. Organisers were Kaido Reivelt, Ketlin Piir, Agnes Vask and Sandhra-Mirella Valdma.

Upon initiative of students of physics of the University of Tartu, in spring 2012 new life was infused into the Society's Youth Department, by giving rise to Estonian Society of Physics Students.

Upon supervision of the Society of Physics Students, there was organised in summer jointly with LOTE Dean's Office of the University of Tartu, for physics freshmen of the University, the Mentor Programme, helping them quicker settle in the University life. Freshmen were divided into 3-4 member strong groups, every group having two senior course physicists as mentors (the work involved 34 undergraduate students). Main work of the Mentor Programme took place at meetings of mentors and respective freshmen, where they discussed different topics on physics, studies, student life and much more. There were over one hundred meetings, altogether.

In autumn semester, student seminars of the Society of Physics Students started. There were five magnet seminars: "Summer school of CERN and particle physics" Joosep Pata, "How to see through paper?!" Roland Matt, "Quantum mechanics" Hardi Veermäe, "Photon in superposition of particle and wave"

Andreas Valdmann, and “Physical-luminescence experiments of wide restriction zone materials with us and elsewhere” Marco Kirm. Besides magnet seminars there were also three seminars teaching methods of solution of tasks in physics, held by Kaarel Piip and Taavi Pungas.

Upon initiative of the Society of Physics Students, the students’ seminar room was put in order and given a new life on the fourth floor of the study building of physics, known among students as “Asylum of homeless students”. There were also established the information and communication networks bringing together Estonian students of physics (Society of Physics Students website fys.fyysika.ee). On December 20, the korp! Ugala was venue of common Christmas party of students of physics and materials science, attended by over fifty students and scientists.

In 2012, Estonian Physical Society was joined by 59 new members. The Society continued to retain its membership in the European Physical Society.

The Society concluded cooperation agreement with AS Eesti AGA, enabling the Society to procure at reduced price various gases, exempting us from paying the rental for carboys.

In 2012, the undertakings of the Society were supported by Institute of Physics of the University of Tartu, Institute of Chemical and Biological Physics, AS Eesti AGA, Estonian Academy of Sciences, Ministry of Education and Research, Tiger Leap Foundation, Centre for Environmental Investments, European Social Foundation, the University of Tartu, Tartu Observatory, and Institute of the Estonian Language. We appreciate all supporters and look forward to continuation of cooperation.

ESTONIAN ASSOCIATION OF ENGINEERS

Associated with
Estonian Academy of Sciences
23.09.2008



Founded 1921 Estonian Union of Engineers
Re-founded 10.12.1988 Estonian Association of Engineers
Membership: 15 members (legal entities), incl. 1400 individual members
Address: Liivalaia 9, 10118 Tallinn, ESTONIA
www.insener.ee
President: Arvi Hamburg, Tel: +372 620 3763, +372 523 6500,
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Estonian Association of Engineers is an NGO, acting in public interests. The Association is an umbrella organisation, bringing together the professional organisations of engineers, trainers of engineers and innovative employers, and all those interested in developing engineering knowledge and technology.

MISSION – promotion of Estonian engineering sciences and development, innovation, and respective educational policy

VISION – knowledge- and innovation-based society

In 2012, members of Association and representatives of member organisations (2012-2014) were:

- Estonian Society for Biomedical Engineering and Medical Physics, Kristjan Pilt;
- Estonian Association of Civil Engineers, Kaupo Koitla
- Estonian Society for Electrical Power Engineering, Aleksander Moltsar;
- Estonian Electronics Society, Priit Roosipuu;
- Estonian Association of Mechanical Engineers, Aigar Hermaste;
- Estonian Transport and Roads Association, Arno Aasma;
- Põlva Association of Engineers, Lea Leivo;
- Estonian Mining Society, Ingo Valgma;
- Estonian Association of Engineers for Heat Engineering, Uudo-Rein Lehtse;
- Estonian Association of Systems Engineers, Aleksander Grünstam;
- Tallinn University of Technology, Toomas Rang;
- Estonian University of Life Sciences, Margus Arak;
- KH Energia-Konsult, Rein Pilt;
- Viru Keemia Grupp AS, Priit Rohumaa;
- ÄF-Consuting AS, Jüri Alasi.

Priority of the activity of Estonian Association of Engineers in 2012 was:
Synergy of the value chain RESEARCH & ENGINEERING & ENTREPRENEURSHIP

Two new members joined the Association: Viru Keemia Grupp AS and ÄF-Consulting AS.

In 2012 the general meeting, 6 Board meetings, and one roundtable were held. Members of Association visited three enterprises.

I. Seminars, meetings and roundtable in cooperation with Division of Informatics and Engineering of the Academy of Sciences

9 February – Seminar “Popularising natural science and engineering specialities”

Goal: Suggestions for information and propaganda work and improvement of basic knowledge of the aspirants for higher education (potential for after-growth, selection of profession, analysis of popularising of the natural and exact sciences direction.

Outcome: Suggestions to those responsible for programmes Rakett 69 and At the Top of Pyramid put on air by the Estonian Broadcasting Company. Recommendations issued for more efficient change of selection of profession.

14 March – Talk-shop “From science to entrepreneurship”

Goal: To launch regular discussions on needs of entrepreneurship and possibilities of science (starting with energy).

Outcome: Practical output of research to entrepreneurship:

- Finding out about the needs of entrepreneurship and the possibilities of science,
- Possibilities to use the potential of science,
- Expectations of an entrepreneur vs. possibilities of researchers,
- Content of research (knowledge) based economy,
- Yield from the means invested into research.

25 October – Roundtable “Engineering culture in the single cultural space”

Goal: Valuation of the work of researcher and engineer, obtaining an overview of archival holdings and industrial landscapes.

Outcome: Activity for the purpose of finding out about industrial landscapes, cultural value of exhibits of engineering and technologies, and taking them under protection

2. Meetings

22 March – Meeting held to hear reports and elect new officials; seminar “Education in engineering and engineering science”

Goal: Optimum quality vs. quantity ratio in higher education and applications of engineering in labour market.

Outcome: Specification of principles of outlining the engineer's professional standard.

10 December – Engineering conference “Knowledge based economy: possibilities and challenges of Estonia”

Goal: Cooperation of the value chain Researcher & Engineer & Entrepreneur.

Outcome: Specification of roles, engineer's ethics.

3. Visits to enterprises

19 June – Visit to Harju Elekter AS

A listed company based on Estonian capital; investments, cooperation partners, and strategic goals of the company.

14 October – Joint outing with KH Energia-Konsult on the topic “R&D works for securing sustainable energy”

9 November – Silmet Grupp AS

Members of Association also visited the Sillamäe Power Plant, Port, and Technology Park.

Main topics discussed by Board

- Coordination of principles of professional standards. Drawing the engineer's professional standards used to be, and still is, the most important task today. Standards of domains of engineering are to be finalised by May 1, 2013. Thereafter the universities will have the opportunity to apply for the right to grant the start-up profession and to proceed to awarding professions in January 2014, at the latest.
- Systematising of Euro-engineers documentation with Fédération Européenne d'Associations Nationales d'Ingénieurs (FEANI).
- Participation at annual meetings of FEANI steering committees and at General Assembly of FEANI.
- Coordination of contribution to the engineering and production magazine *Inseeneria*, updating of *Gymnasium Special* to the magazine *Inseeneria*.
- Traditional celebration of the Engineers' Day (December 10), synopses of the 24th year of activities of the Association.
- Organisation of contest for Year's Engineer 2012 and Year' Engineering Student 2012 and selection. Year' Engineering Student 2012 is Siim Nõmme, graduate student of product development and production engineering of Faculty of Engineering of Tallinn University of Technology. Year's Engineer 2012 is Eimar Jõgisu – engineer of thermal energy.

Representation of Association in other organisations, councils and representative bodies:

President of the Estonian Association of Engineer's represents the Association as head of advisory council of Tallinn Engineering College, as chairman of Tallinn Polytechnic, and chairman of Kehtna School of Economy and Technology. The Association takes part in Archimedes programmes of Ministry of Education and Research for the purpose of popularising the natural sciences and engineering sciences, in programme TeaMe and as member of advisory chamber of programme of Energy Technology. Association is also represented at appraisal panel of national contest of students-inventors, at appraisal panel of the round of applications for complementary studies of engineers of Tallinn City Government and at committee of Tallinn Vision Conference.

ESTONIAN BIOCHEMICAL SOCIETY

Associated with the Estonian Academy of Sciences

13.11.2009

Founded 1959

Membership: 84 active members

Address: Akadeemia 15, 12618, Tallinn, ESTONIA, info@biokeemiaselts.ee
www.biokeemiaselts.ee

President: Peep Palumaa, Tel: +372 620 4410, peep.palumaa@ttu.ee

Academic Secretary: Vello Tõugu, Tel: +372 620 4411, vello.tougu@ttu.ee

The goal of activities of the Estonian Biochemical Society is research work, providing support to and promoting teaching effort in biochemistry, contributing to the related theoretical and applied scientific areas, raising public interest in those areas of science, and upholding and protection of scientific interests of members of the Society.

The Estonian biochemists have a long tradition to organise spring schools for members of the Society and the guests interested in the topic. In the reporting year that event was held in Viljandimaa, the Vanaõue Recreation Centre on May 11-12. According to the tradition of spring schools all participants make a report on results of his or her work or alternatively they consider a problem of general nature interesting to biochemists. Those outings are traditionally organised by Tallinn and Tartu biochemists in rotation. The spring school 2012 was dedicated to "Neurochemistry" and was held as a joint event with doctoral school in biomedicine and biotechnology. The curator of the spring school was professor Peep Palumaa of the Gene Technology Institute of Tallinn University of Technology and the executive organiser was doctoral student of the same Institute Katrina Laks (Kivimäe). The photo albums of the spring schools can be browsed on website of the Society.

The annual meeting of the Society was held in the electronic format.

The annual congress of the Federation of the European Biochemical Societies (FEBS), held in Seville in the reporting year, was attended with papers by 3 members of the Society. The work of the FEBS Council held at the end of the Congress was attended, as representatives of Estonia, by Chairman of the FEBS Advanced Courses Committee Jaak Järv and President of the Society Peep Palumaa.

With the aim to popularising the research activities among students and to spur on to greater efforts the best students, who have succeeded to publish their results even before obtaining master's degree, the Estonian Biochemical Society has awarded student science prizes since 2007 (guidelines of the contest are available on website of the Society). At contest of this year all prizes

went to the University of Tartu. The first prize was granted to Margot Hein. Karin Mardo and Katrin Kalind were also recognized with prizes.

As the result of the work of commission on terminology of the Society the publication on Society's website of the draft version of English-Estonian biochemical terms was updated and replenished.

Estonian Biochemical Society has been member of Federation of European Biochemical Societies since 1991.

ESTONIAN SEMIOTICS ASSOCIATION

Associated with the Estonian Academy of Sciences
22.12.2010



Founded 1998

Membership: 65 members

Address: Jakobi 2-318, 51004 Tartu, ESTONIA

www.semiootika.ee

Chairman: Katre Väli, Tel: +372 737 5933, katre.vali@ut.ee

Vice-chairman: Peeter Torop, Tel: +372 737 6155, peeter.torop@ut.ee

In 2012 the activities of Estonian Semiotics Association included seminars on semiotics and cultural theory; publication of the ninth issue of journal of Association *Acta Semiotica Estica*; and rewarding of the author of the best semiotic article in 2012. A new board of Association was elected at the general assembly for the following two years.

The general assembly of Association took place on the 9th of May. Daniele Monticelli and Silver Rattasepp delivered academic speeches at the meeting. The award “Semiotic trace” was bestowed on Silver Rattasepp for the best semiotic article in the year 2011 (in recognition of the publications in Estonian cultural journals of the laureate, and his translations). A new board of Association was also elected at the meeting for the years 2012-2014. Members of the new board are Katre Väli, Riin Magnus, Indrek Grigor, Maarja Saldre, and Peeter Torop. The new development plan of Association for the years 2012-2014, compiled by the former board, was also presented at the event. Included in the plans of activities of Association for the following two years were enhancing the capacity of Association to manage and deliver information, searching additional sources of funding, developing the heritage of Tartu-Moscow school of semiotics, and presenting the applications of semiotics in society.

In the spring 2012, Association organised a series of seminars on cultural criticism and journalism titled “Semiotics and cultural journalism”. At those seminars semioticians who are working as cultural journalists, as well as theoreticians in different fields of culture were deliberating about the situation with cultural criticism in Estonia as well as about the role of semiotics in the development of cultural criticism. The themes of the seminars embraced criticism of media, environment, theatre, literature, film and art. Among others, Peeter Torop, Johannes Tralla, Berk Vaher, Mihkel Kunnus, Sven Vabar, Kalevi Kull, Katre Väli, Alvar Loog, and Leenu Nigu were talking at the seminars.

Students of semiotics organised a seminar series “Semiosalon” with more than 10 seminars. The topics of the seminars ranged from mythical language to criticism, and tackled the analysis of different art projects. Aune Unt, Mihkel Kunnus, Hasso Krull, Kadri Tüür, Laura Toots and others took the floor at those seminars.

From the 3rd to the 4th of November, the autumn school of semiotics “Tartu semiotics 180” took place in Kääriku. The event was dedicated to the jubilees of three professors of semiotics at the University of Tartu: Ülle Pärli, Kalevi Kull and Mihhail Lotman. 65 people took part in the event, including 15 participants delivering papers. They were mostly former students of said professors, who delved into the multifarious research activities of their teachers and acclaimed their role as mentors and members of faculty.

In 2012 the 9th issue of the Association’s journal *Acta Semiotica Estica* was published. This is a special issue, dedicated to reflecting on and analysing political processes – the construction of identities, political communication, different mechanisms of power, the ideologies of journalism and literature and others, by reference to semiotic and other cultural theoretical paradigms. It includes articles by Ott Puumeister, Risto Heiskala, Remo Gramigna, Jaak Tomberg, Rein Ruutsoo and Peeter Selg, Mari-Liis Madisson and Andreas Ventsel, Juhan Saharov and Anu Haamer. In the section “Sightings” (*Märkamisi*) Igor Gräzin, Silvi Salupere, Andreas Ventsel and Ott Puumeister write about power as a semiotic phenomenon. The chronicle gives an overview of the major semiotic events in the year 2012.

ESTONIAN CHEMICAL SOCIETY

Associated with the Estonian Academy of Sciences
8.03.2011



Founded 1919

Membership: 97

Address: Akadeemia tee 15, 12618 Tallinn, ESTONIA

hppt://ecs.kbfi.ee

President: Margus Lopp, Tel: +372 620 2808, lopp@chemnet.ee

Secretary: Elvi Muks, Tel: +372 620 2816, Fax +372 620 2828,
muks@chemnet.ee

Estonian Chemical Society brings together academic chemists and industrial chemists. Society plays a significant role at organising common activities of the chemists and forming their common positions.

In the reporting year the following events were held, co-organised by the Estonian Chemical Society:

- “International Conference on Organic Synthesis” BOS 2012 (Balticum Organicum Syntheticum) 01.06-04.07 2012 in Tallinn. 350 participants from 27 countries.
- Roundtable meeting “Bioactive target molecules as objectives of organic synthesis” 28.06-30.06 at Kuressaare.
- Contact meeting of Estonian Association of Chemical Industry and universities at Tallinn University of Technology 25.04.2012.
- Annual conference of Faculty of Mathematics and Natural Science of Tallinn University of Technology 27.11.2012.

The Society started preparation of international conference “Molten Salts and Ionic Liquids” Tallinn, 2014. Support for that event was received from Enterprise Estonia Foundation and Federation of European Chemical Societies.

The Society participated in the work of Estonian Association of Chemical Industry. Margus Lopp was elected a Member of Board of the Association as representative of the Society.

Member of Board of the Estonian Chemical Society Mihkel Koel participated in Committee on Chemistry of COST, as national representative of Estonia at its meetings in Seville, Dublin and Brussels.

ESTONIAN SOCIETY OF HUMAN GENETICS

Associated with Estonian Academy of Sciences

5.04.2011



Established in 2000

Members: 131

Address: Riia 23, 51010 Tartu, ESTONIA, estshg@ebc.ee

www.estshg.ee

President: Andres Metspalu, Tel: +372 737 5029, andres.metspalu@ut.ee

Secretary: Maarja Kõiv, Tel: +372 522 9126, maarjakoiv@gmail.com

The board of the Estonian Society of Human Genetics includes: President Andres Metspalu and members of the board: Andres Veske, Ants Kurg, Aavo-Valdur Mikelsaar, Riin Tamm, and Tiia Reimand.

For already the 14th time, the EstSHG organized its annual conference. The conference took place on the 18th-19th of October at Haapsalu Kultuurikeskus at Haapsalu. The composition of the programme and the choice of speakers were again based upon the principle that the speakers should not have delivered papers for a minimum of two years. At this year's conference, the guest speaker with a captivating talk was Arnold Munnich. The slides of his talk are available at www.estshg.ee/Munnich_Lecture.pdf. The speakers included some of the best researchers from Estonia such as Krista Fischer, Lili Milani, Mart Kals, Katrin Gross-Paju, Inga Talvik, Tõnu Margus, Siim Sõber, Niilo Kladalu, Aavo-Valdur Mikelsaar, Andres Mäe, Sirje Värvi, Monika Karmin, Alla Piirsoo and Urmas Arumäe. Similarly to the previous year, some young researchers and PhD students presented their work: Liina Nagir-naja, Tarmo Mölder, Ann Tiiman, Kaja Kannike and Triinu Kõressaar. Preparations for the Conference 2013 were started, to be held on 18th-19th October at Narva College of the University of Tartu.

Among the most important events of the year, the wide array of collaborations with organizations from other fields in medicine and genetics need to be highlighted. The members of the society together with the medical geneticists and pediatricians established a working group in order to create a personalized medicine development plan in Estonia for the period of 2014-2020 and further on. Since personalized medicine is a topic for heavy discussions, the development of this document will continue in 2013 to ensure a good outcome. Additionally, an application was filed for an addition of exome sequencing to the list of services financed by the Estonian Health Insurance Fund.

**ESTONIAN SOCIETY
FOR THE STUDY OF RELIGIONS**



Associated with the Estonian Academy of Sciences
5.04.2011

Founded 2006

Membership: 55 members

Address: Ülikooli 16, 50090 Tartu, ESTONIA

www.eaus.ee

President: Madis Arukask, Tel: +372 737 5227, madis.arukask@ut.ee

Academic Secretary: Ülo Valk, Tel: +372 737 5310, ulo.valk@ut.ee

Estonian Society for the Study of Religions is bringing together researchers involved in academic religion studies in various fields. The Society is member of leading umbrella organisations in the area – International Association for the History of Religions and European Association for the Study of Religions. The main form of work of the Society is holding meetings with papers and conferences. It has become a tradition with the Society to organise topical series of lectures, basically in the University of Tartu. In recent years the Society has, through its undertakings, integrated with the activity of the Centre of Excellence in Cultural Theory.

In 2012, a series of lectures oriented to the public “A person in religion: roles and heroes” was carried out. Within the framework of the series there were held nine meetings with papers, related to topics of religious leaders and founders of religions, as well as different social roles in the world faiths. Speaking were Märt Läänemets (Confucius – teacher, saint, outcast), Ain Riistan (On possibility of the anthropological history after the example of the Galilee shaman dubbed Jesus), Anne Törnpu (Path to trickster and further on. Faith or theatre), Teet Toome (Buddha, his time and biographical details), Marko Veisson (Widow related rituals, and the changing status of widows in North Ghana), Peeter Espak (Sumerian epos “Death of Gilgamesh”: issues of hero’s essence and death in religion of ancient Mesopotamia), Tõnno Jonuks (Witches, seers or shamans. Can religious leaders be discovered in Stone Age?), and Laur Vallikivi (Missionary and convert: meeting of individuals and ideologies in the Nenets tundra).

June 8 – annual meeting of the Society, with Board delivering a report on achievements of the last reporting year.

November 16 – the Society together with Folkloristics Department of the Estonian Literary Museum, the University of Tartu and the Academic Folklore Society organised a symposium on 70th birthday of researcher of shamanism of indigenous people of Eurasia, folklorist and ethnologue of Hun-

gary Mihály Hoppál “Narrated Worlds of Belief”. Speaking were Mihály Hoppál (The Eurasia Concept: Myth and Reality), Ülo Valk (The Land of Dismembered Goddess: Notes on Place-Lore in Assam), Merili Metsvahi (Relationships between the brother and sister in Estonian and Karelian folk tales), Hasso Krull (Sister’s Metamorphoses: Shamanism with Animism), Ergo-Hart Västriik (How to portrait Votian nature spirits?), Judit Kis-Halas (Inherited objects – hereditary power. Persistence and change of a divinatory healing ritual), Liivo Niglas and Eva Toulouze (Studying religion through an individual: reflections on Yuri Vella’s spiritual practice), Mare Kõiva (The Witch of Äksi – Portrait of a Witch from Local Impressions).

December 7 – annual conference of the Society “A person in religion: roles and heroes”, summarising and complementing thematically the series of lectures of 2012, with delivery of the total of 11 papers. Speaking were – Judit Kis-Halas (“Let’s Cultivate Our Gardens!” Personal Strategies Imported for Eschatological Fears in a Village Magical Group), Irina Sadovina (Eco- and Egovillages: Jokes and Subversion in Slavic Vedic Communities), Kristel Kivari (Diggers and clairvoyance: authorities in popular engineering), Piret Koosa (American spy or God’s messenger – American missionary in interpretation of Evangelical Christians and Orthodoxes), Ain Riistan (Jesus in medical anthropological perspective), Enn Ernits (Murma Lazarios and the cloister established by him over the times), Marje Ermel (Remembering Krishna through personal experience: role of body and sound in creating the ‘holy’ feeling), Märt Läänemets (On the concept of Guru (*kalyā-ṇamitra*) in Mahayana Buddhism on basis of “Gaṇḍavyūhasūtra” and other sources), Laur Järv (On role of scholar in Tibetan Buddhism after and upon example of Sakya Pandita), Vladimir Sazonov (Role of Assyrian King in the official religion of Neo-Assyrian Empire. King as vice-regent of the chief god Ashur on Earth, and as the temple governor) and Amar Annus (Persons with the autism spectrum in the history of faiths: ascetics, monks, pillar saints?).

In connection with expiration of election period of Board, President and Auditing Committee an election meeting was held on December 7. Meeting re-elected Madis Arukask as President of the Society and the new Board comprising Tõnno Jonuks, Piret Koosa, Vladimir Sazonov and Ergo-Hart Västriik. Elected members of Auditing Committee were Erki Lind and Laur Järv.

ESTONIAN SOCIETY FOR ECONOMICS

Associated with the Estonian Academy of Sciences

16.06.2011

Founded 1930

Re-founded 2002

Membership: 121 individuals and 3 organisations

Address: Kreutzwaldi 1a, 51014 Tartu, ESTONIA

www.emselts.ee

President: Rando Värnik, Tel: +372 527 4808, rando.varnik@emu.ee

Member of Board: Maire Nurmet, Tel: +372 731 3825,

maire.nurmet@emu.ee

Member of Board: Inno Kalberg, Tel: +372 5649 3653, inno.kalberg@emu.ee

Estonian Society for Economics, re-founded in 2002, is a scientific society, engaged in promotion of economics in Estonia, and uniting Estonian economists. The Society was founded as a voluntary non-profit association.

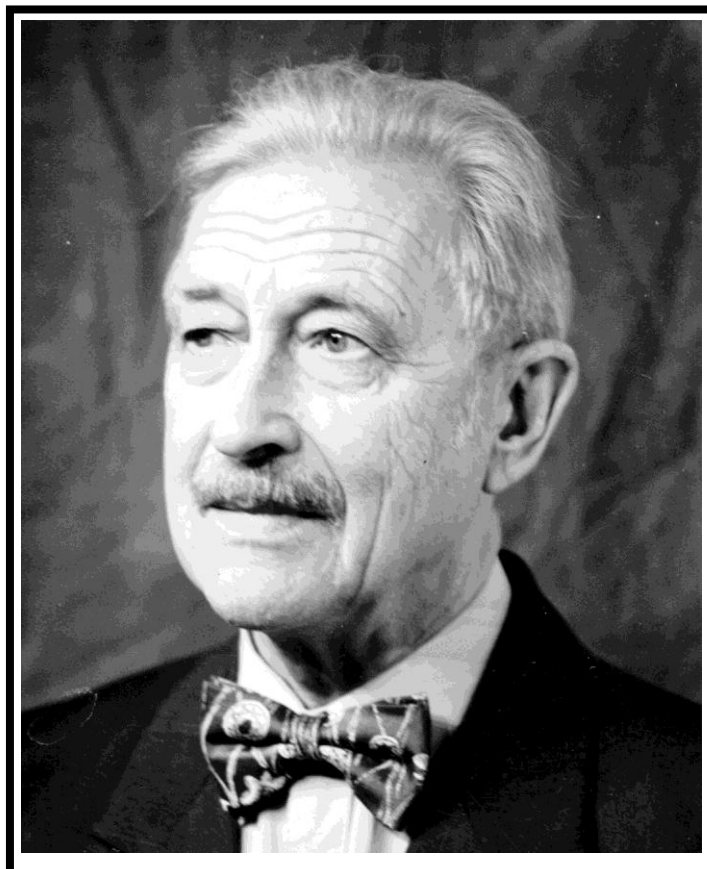
The Society continued also in 2012 fulfilling its goals – rendering more intimate the links between institutions providing higher education in economics, developing cooperation between universities in the area of higher education and research, raising awareness of importance of economics for the Estonian society.

For the purpose of attaining its objectives the Society organised the annual conference of the Society on topic “Food crisis and volatility of food prices” in Rakvere on January 27-28. Within framework of the conference, the Society scrutinized, with the participation of economists and representatives of food industry and analysts, the root causes of global food crisis, and elucidated the reasons of volatility of food prices and its consequences affecting the Estonian consumer. The main paper on the topic “Will food and oil prices walk hand in hand? Emerging linkage between agricultural and energy prices” was delivered by Director of Institute of Market Analysis and Agricultural Trade Policy Dr. Martin Banse from Germany. Debating at the ensuing podium discussion were: Ruve Šank (FAO), Ülo Kivine (TERE AS), Marje Josing (Estonian Conjuncture Institute), Tarmo Toomela (Rakvere Meatpacking Combine LTD) and Ants-Hannes Viira (Estonian University of Life Sciences).

The traditional overview of developments of the Estonian economy was delivered by Ülo Kaasik of the Bank of Estonia.

In 2012, the reform in higher education and its impact on Estonian higher education in economics evolved into a highly topical issue. Therefore the representative of Ministry of Education and Research Mart Laidmets was invited to deliver a special report on reform in higher education.

IN MEMORIAM



Member of Academy *Erast Parmasto*
23.10.1928–24.04.2012

Erast Parmasto was born on 23 October 1928 at Nõmme in Tallinn. In 1947 he graduated from Nõmme Gymnasium and in 1952 from the University of Tartu, Department of Biology. In 1952-1955 he was a postgraduate student at the Institute of Zoology and Biology of the Academy, where he defended his PhD in biology in the area of mycology. In 1969 Erast Parmasto earned his DSc degree in biology and in 1980 he was conferred Professorship in the area of botany. Erast Parmasto was elected Member of the Estonian Academy of Sciences in 1972.

The activity of Erast Parmasto was for most of the time related to the Institute of Zoology and Botany of the Academy of Sciences (presently the Institute of Agricultural and Environmental Sciences at the Estonian University of Life Sciences), where he held the positions of Senior Researcher, Scientific Secretary, Head of Sector, Head of Laboratory and Chief Researcher. He was Director of the Institute for the period 1985-1990 and Senior Researcher at the Department of Mycology afterwards.

In the years 1973-1982 Erast Parmasto was besides his principal occupation Head of the Division of Biology, Geology and Chemistry at the Estonian Academy of Sciences and in 1987-1995 Professor of the Chair of Botany and Ecology at the University of Tartu.

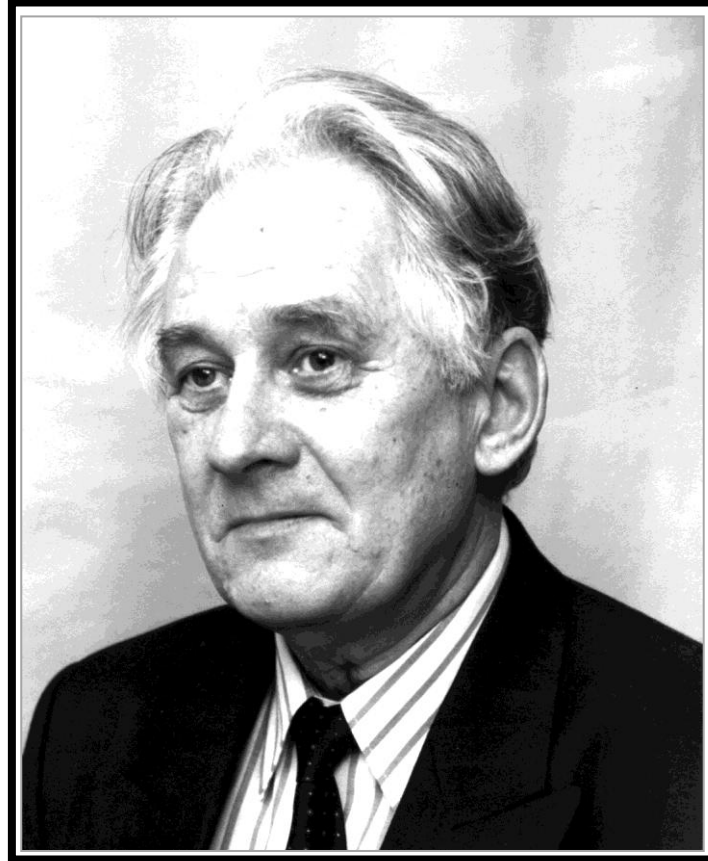
The main research directions of Erast Parmasto were phylogenesis and taxonomy of higher *Basidiomycota*, problems regarding the essence of species and genus, and general regularities in the morphological variability of *Hombasidiomycetae*. He published over 170 research works, incl. several monographs. Erast Parmasto was actively involved in elaboration of databases of Estonian fungal species and authored the first textbook on biosystematics in Estonian. In 1950 a fungal herbarium was established upon his initiative at the Institute of Zoology and Botany.

During 1990-2005 Erast Parmasto was a member of the IAPT (International Association for Plant Taxonomy) Permanent Nomenclature Committee for Fungi (Chairman 1994-1999). He was elected Honorary Member of the Mycological Society of America (1993), Polish Botanical Society (1995), German Mycological Society (2004) and European Mycological Association (2011).

Erast Parmasto was for years an advocate of nature conservation to wider public. He published over 200 popular writings on topical issues of nature conservation. He was Editor-in-Chief of the relaunched journal "Eesti Loodus" (Estonian Nature) in 1958-1960.

In 1998 Erast Parmasto was awarded the Order of the White Star, 3rd Class. The National Science Prize was bestowed on him twice – in 1994 and in 2002. He was elected Honorary Citizen of the City of Tartu in 2003 and received the Eerik Kumari Nature Conservation Award in 2008.

Erast Parmasto died on 24 April 2012 in Tartu.



Member of Academy *Raimund Hagelberg*
7.02.1927–17.07.2012

Raimund Hagelberg was born on 7 February 1927 in Tallinn. In 1946 he graduated from Tallinn Secondary Science School and in 1950 from Tallinn University of Technology (TUT) with a diploma in economics. He continued his postgraduate studies at TUT, where he defended his PhD thesis in 1954 and his DSc thesis in 1967, both dedicated to problems of banking and economic analysis.

In the years 1953-1954 Raimund Hagelberg worked as Junior Researcher at the Institute of Economics of the Estonian Academy of Sciences. During 1954-1982 he was affiliated with the University of Tartu in the position of Senior Lecturer at the Faculty of Economics, Associate Professor and Professor, since 1995 Professor Emeritus.

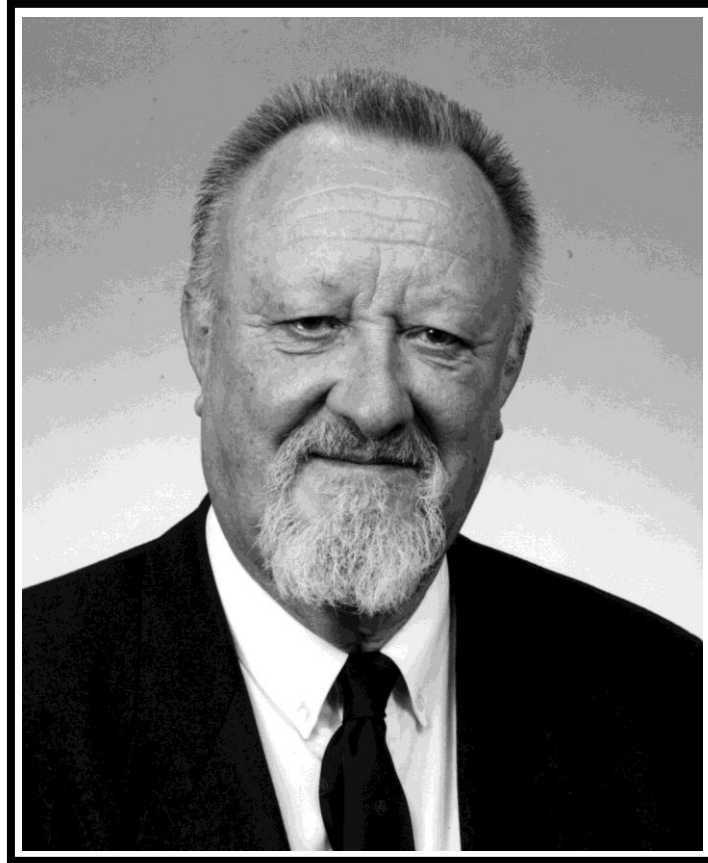
The range of research topics studied by Raimund Hagelberg included methods for economic analysis of an enterprise, financial theory, corporate finance, education, economics of science and higher education, general economic theory, banking and credit. He followed his path in science simultaneously with lecturing at the University of Tartu, where his specialty was corporate and public finance. It embraced all major areas of financial relations through the entire economic structure, called for estimation and analysis of causal relations and for application of methods to enable generalisation. All those elements could be used on a wider level both in teaching and research. Hence, Professor Hagelberg gave equal importance to his scientific activity and teaching at the University of Tartu, where he had started as early as in the 1960ies. He was among first scholars in Estonia who paid thorough attention to the philosophy, history and methodology of science.

In 1981 Professor Hagelberg was elected to membership in the Estonian Academy of Sciences in the area of economics. He was Secretary General in 1982-1989.

Raimund Hagelberg's comprehensive expertise produced good crops after restoration of independence in the Republic of Estonia. He was involved in the banking reform, re-establishment of the Bank of Estonia and reintroduction of the kroon in all the stages. In 1989-1992 he was Advisor for the Chairman of the Supreme Council. In 1990 he was elected Member of the Supervisory Board of the Bank of Estonia and was employed in that capacity until 1998. He then became Advisor for the Bank of Estonia.

In 2000 he was awarded the Order of the Coat of Arms, 3rd Class.

Raimund Hagelberg died on 17 July 2012.



Foreign Member of Academy *Henn-Jüri Uibopuu*
1.10.1929–21.10.2012

Henn-Jüri Uibopuu was born on 11 October 1929 in Tartu. He graduated from Hildburghausen Gymnasium (Germany) in 1946, studied law and the Russian language at the University of Graz (Austria) in 1964-1968 and defended his PhD theses in 1968.

The activities of Henn-Jüri Uibopuu from 1969 onwards were related to the University of Salzburg, where he began his academic career as Assistant and subsequently worked in the profession of Lecturer. In 1974 he was habilitated in the area of international constitutional law and constitutional law of the USSR. In 1977 he became Professor Extraordinary of International and Comparative Constitutional Law. During 1977-1995 Henn-Jüri Uibopuu worked as Head of Department at the Institute of International and Comparative Public

Law. Starting from 1995 he gave lectures as Honorary Professor of International and Comparative Law at the Faculty of Law.

He authored over 150 scientific works, among them five monographs, in the area of international law, human rights and the rights of refugees, contract law and comparative constitutional law.

After Estonia regained its independence, Professor Uibopuu was Advisor to President of the Republic of Estonia on lawmaking and a member of the Legal Expertise Panel on Constitution reporting to the Government of the Republic. He had been representing the interests of Estonia in Austria since 1992, acting in the responsibility of Honorary Consul of the Republic of Estonia.

In 1995 he was elected Foreign Member in the area of law by the Estonian Academy of Sciences.

The significant contribution of Henn-Jüri Uibopuu to his native country was in 1998 recognised by the Order of the National Coat of Arms, 4th Class.

Henn-Jüri Uibopuu died on 21 October 2012.

DEVELOPMENT PLAN OF THE ESTONIAN ACADEMY OF SCIENCES
FOR 2014-2020: CONCEPTUAL PRINCIPLES

The tasks and rights of the Academy have been established by the Statutes adopted by the General Assembly under the national legal acts. Our activities are aimed at promoting a significant substratum of the Estonian spiritual culture in its truly fundamental meaning, while ensuring the level and development of Estonian research in the perpetually changing world.

This development plan continues the directions laid down in previous development plans of the Academy. However, it embraces a longer period of time than hitherto – up to the year of 2020 incl. The lengthier time horizon enables more thorough preparation and implementation of the conceived measures, providing for better integration with national and international development plans being drawn.

Conspicuously unlike the former development plans, no paraphrasing (or just a minimal amount) of the general tasks assigned to us by the law has been included in the present development plan, because they are and will remain basically unaltered. A limited number of tasks are brought into focus as movement towards their fulfilment is a high priority issue.

ACADEMY AT THE END 2011

With regard to membership elections held in recent years, the Academy has improved its capacity for development and representation of Estonian science and culture. As a personal Academy, we have been successful as Heads of Centres of Excellence in Research and leaders of major research themes, participating in the work of decision-making authorities for research and development as well as the managing and administrative bodies of research institutions. The most recent example to be highlighted is the fact that Members of the Academy are likewise solidly represented in the newly formed Evaluation Council of the Estonian Research Council with vested responsibility for developing research in Estonia.

Nevertheless, the role of the Academy in supporting the social and economical development of the state calls for significant reinforcement. The Academy is drastically lacking an analytical capability to perform expert assessment and provide recommendations. This is particularly true with regard to situations, where thoroughly considered advice and conclusions

must be obtained within limited timeframe to afford putting those recommendations into practice. For successful propagation of scientific and, in a broader sense, knowledge-based outlook on life, it is above all necessary to intensify exchange of opinions between the Academy and the society at all possible levels.

In view of the fact that the previous development plan overestimated the actual capability of the Academy, which is primarily an organisation functioning as a personal Academy, to influence the ongoing tendencies in the society, this plan places in the foreground several practical steps to enhance the respective capability of the Academy.

PLANNED DIRECTIONS OF ACTIVITY FOR THE ACADEMY IN 2012-2020

It is the desire of the Academy to evaluate different options for moving ahead and to harmonise them with partners engaged in public and entrepreneurial sectors on as broad a basis as possible, ranging from 'academic grassroots' to lawmakers. An important touchstone for the Academy is the capability to analyse the progress of research and development activities, to estimate the opportunities and needs of Estonia for the future, while participating in the initiation process of the Estonian programme "Horisont 2020".

SCIENCE POPULARISATION

Communication of science has always been a high priority for the Academy. To ensure wider spread for popularising, it is expedient for the Academy, among others, to expedite cooperation with the AHHA Science Centre (Thunderbolt Thinking Centre) and to find an organisational form to that aim.

Academy is making a proposal to the Ministry of Education and Research that the activities related to popularising and based on scientific expert examinations, for instance granting by the state of students' research prizes, should be fully transferred to the competence of the Academy.

ACADEMY WILL CREATE ADDITIONAL STRUCTURES,

aiming to improve the capacity of the Academy to influence the dominating trends in the society. For instance:

INSTITUTE OF ADVANCED STUDIES OF THE ESTONIAN ACADEMY OF SCIENCES – institution of the Academy, whose tasks comprise:

- Performing support studies necessary for the work of standing committees at the Academy and for preparing analyses commissioned from the Academy;
- Formulating the directions for research and development activities calling for high scientific and engineering competence and owing special

significance for the state, planning the activities and finding ways to implement them in cooperation with public and private sectors, state institutions and at international level;

- Participating enthusiastically and proactively in the international division of labour in the area of science and technology, focusing on the directions applicable for the Institute of Advanced Studies, while making use of opportunities provided by the next EU FP Horizon 2020.

Institute of Advanced Studies is working in close cooperation with universities, research and development institutions, centres of analysis in Estonia and other countries, as well as with Estonian public and private law structures.

THE ESTONIAN ACADEMY OF SCIENCES DEVELOPMENT FOUNDATION
Institution of the Academy whose tasks comprise:

- Reducing the dependence of the Academy's activities from traditional budgetary subsidies to a degree allowing minimal functioning of the Academy as a public law institution;
- Enabling planning of the Academy's activities with a 10-15 year perspective, their implementation included;
- Maintaining, augmenting and distributing the targeted donations received by the Academy for its principal activities for the purpose of monitoring, analysing and channelling the processes in Estonian science, economy and politics.

The Academy's Development Foundation is an initiative of a very long perspective, whose beneficial effect could be in reality anticipated in 20 years at the earliest.

IMMEDIATE GOALS OF THE ACADEMY

Launching the Institute for Advanced Studies, estimating the needs and opportunities in relation to initiation of the Institute divided into two stages – up to 2015 and 2020. An Advisory Panel formed at the Academy with a view to analysing the possible developments of Estonian research and development activities will be integrated into the structure of the Institute for Advanced Studies.

Establishing the Council for Estonian Centres of Excellence in Research.

Making a proposal to the Ministry of Education and Research for regular growth in the number of elected Research Professors at the Academy, whereas the funds allocated for that purpose should see a significant increase.

Expanding activities targeted at popularising the scientific worldview.

Promoting publishing activities in Estonia with regard to scholarly and popular science publications combined with support to technological modernisation, foreseeing the future development towards e-publishing.

ALLEA General Assembly, Rome, 11.April 2012

Jüri Engelbrecht
ALLEA 2006-2011

Ladies and Gentlemen, dear colleagues!

In Madrid in 2008, I reported on ALLEA's activities from 2006 to 2008. At that time the President's address was the only overview of the previous period. Now the situation is completely different. The member academies have met more often for discussions, and the Executive Director will provide a detailed overview over activities in the past year as at previous General Assembly meetings. The President and the Vice-President have now more liberty to generalise and draw conclusions.

But so much has happened since 2008 that if speakers are not to lose the thread, they have the difficult task of choosing which topics to focus on, and which to set aside. I shall try to deal with rather general issues: namely on how ALLEA is organised, how ALLEA unites the voice of academies for the benefit of science and the community, and how ALLEA links up with our possible partners; last but not least, I shall touch briefly on general principles for the future.

The past Vice-President and I have set out many of our views in the book "The Sum of the Parts: ALLEA and Academies" published by ALLEA in 2011, of which you should have received a copy. But perhaps you will allow me to summarise some of the more important ideas and achievements of ALLEA over the period 2009-2011.

Let me start with 2008-2009 when we reorganised the Office, which was then ably supported by the staff of the KNAW. You all know that the previous Office was not very active: indeed the previous Executive Director is on record as saying "... it was not a position I felt committed to with heart and soul". As a result of internal pressures (member academies wanting more voice) and external ones (the need for more timely reaction to what was happening in Europe), the Presidency opted for strengthening the personnel and expanding activities. The appointment of a new Executive Director and Secretary injected fresh energy into the organisation, and their work was well supported by the Board. Certainly the KNAW funding over this period was essential. On the organisational side a few headlines show the improvement: more effective preparation of meetings, more links to the EC bodies and to academies, an active website with background documents, memos on meetings which have been used for Newsletters, etc. In many cases academies were asked for their opinions in order to formulate joint ALLEA statements. There is no doubt that thanks to the effective work of the ALLEA Office, the

flow of information has been immeasurably improved. In this context, some member academies have even said that too much input was being asked for from them. Given the constraints of time, I would like simply to pick up a number of important issues from the past few years which also serve as a basis for future work. For the EC and the wider community, the most important recent documents prepared by ALLEA include:

- the promotion of the European Code of Conduct for Research Integrity (2010) drafted by the ALLEA Standing Committee on Science and Ethics together with an ESF Working Group;
- the ALLEA Position Paper on the EC Green Paper (2011) which was the result of intensive discussions with member academies;
- the Statements on IPR by the relevant ALLEA Standing Committee (2011).

The discussions on the Green Paper led to an increased emphasis on the value of the Social Sciences and Humanities; the British Academy subsequently took the lead in collecting opinions and preparing conclusions for the EC. The Vice-President will dwell further on this action in his presentation. Other substantial activities include the evaluation of the research institutes of the Bulgarian Academy of Sciences, carried out jointly with the ESF, and the Science Education conferences in Stockholm (April, 2010), York (October, 2010) and Helsinki (this year). One should also not forget the activities of our Standing Committees and Working Groups, bodies which have been working well because of the dedicated people involved. Their efforts resulted in several statements and science policy documents as well as interventions in science diplomacy, as for example the activities aimed to engage Palestinian colleagues with the international community. The Report from the Standing Committees will elaborate on some of these achievements.

Let me now turn to more general aspects of ALLEA's life in Europe: links to the European Commission and partners in the community, links to academies, and joint activities of wider relevance. It seems to me that during the last three years contacts with the EC and other European official organisations have been more productive than in my first period as President. Indeed, the invitations to the EU Presidency conferences and other EC discussions have opened many opportunities for the presentation of the views of Academies. Furthermore on occasions the interests of Academies were represented not only by the President or the Vice-President but also by the Executive Director. Together with its other activities, ALLEA's presence at such meetings has contributed materially to the growing visibility of ALLEA and in general of academies in Europe.

The proposition advanced in Madrid that academies should henceforth meet more often than at the biannual General Assemblies has proved successful not only because it was supported by the academies, but also because of the desir-

ability of more frequent discussions of issues important for research policy in Europe, and of timely responses to the community's need for the opinions of academies. Consequently we now meet in plenaries such as this one on an annual basis for debates and discussions on European science policy and indeed on ALLEA policy. The Presidency and the Office have made every effort to meet the ambitions of the member academies and this has led to an almost exponential growth in activity. It is now for the academies to determine how to balance their wishes with the funding and staffing available.

The conferences organised by academies locally or regionally, whether on science policy issues or to mark anniversaries, all contributed to strengthening the academic community and the positions adopted by ALLEA. The concept of 'lead academies' in particular has proved to be successful. In practice, it means that one member academy takes the lead in an action which needs concerted efforts. While the present staffing and funding do not enable the ALLEA Office to support many activities, the lead academy can take advantage of all the ALLEA networks and links. Thus the range of activities has been extended: for example, the Working Group on Science Education is supported by Academie des Sciences, an Interest Group on SSH came into existence due to an initiative of British Academy, discussions are going on with Leopoldina on an Interest Group on Science and Human Rights.

Among the values that ALLEA actively promotes is the independence of academies. When this is under threat, particularly from political forces (as has happened in Bulgaria, the Czech Republic, Turkey, and Montenegro), ALLEA reacts in support of its member academies also by directly approaching the political authorities. We are not a political organisation, but at times of difficulty we can at least lend support to academies in difficulty in the name of all European Academies and remind politicians of the values of academies and independent opinions. It may well be that we should formulate a short statement on the values of independence, excellence, and the autonomy of academies, for we never know when our colleagues may not need it.

The academic community is multifaceted and its diversity needs to be understood. That is why partnerships are important to us; ALLEA has always stressed its wish to understand its partners, for that is in the backbone of academic dignity. As a consequence we tried to establish better links with those organisations with which we share approaches or have an overlapping or similar membership. There is a danger that there are too many academic organisations in Europe competing for members and spheres of influence when in fact what they should be doing is collaborating and complementing each other. Just a few words on this issue. First, about the ESF. As you all know, a number of ESF member organisations which either fund or perform research have launched a new organisation, ScienceEurope, membership of which is denied to academies which do not directly perform research. Academies participated actively in discussions within the ESF and defended certain

values of the ESF despite the likelihood that they would be abandoned, in particular in relation to the networking activities of the ESF for bringing researchers together. We managed to ensure the continuity on joint activities – for example, on research integrity – in discussions with the new organisation, but many academies simply left the ESF.

Second, a word about EASAC. My understanding is that academies should work hand in hand and with full understanding of the activities of their organisations. ALLEA and EASAC have distinctive features which show that they are carrying out largely complementary activities: ALLEA operates primarily in the fields of ‘policies for science’ and ‘science in society’; EASAC in specific domains of ‘science for policy’ (biomedical research/health, energy, and environment). Without any doubt, all these fields are important. In 2011 we organised a special meeting of ALLEA, EASAC and Academia Europaea, at which we agreed to issue a succinct joint Statement clarifying the activities and aims of each of these three institutions. Such a Statement should give the whole community – EC, academies, and the academic community – a clear understanding of the nature, activities and scope of the leading inter-academy institutions in Europe. Although many academies have very clearly stated that cooperation and mutual understanding between these institutions is needed, there is to date neither a joint Statement nor a regular flow of information between these potential partners. The efforts of the past Presidency in this direction did not meet with success. My feeling is that this might be more a personal problem rather than one of principles. At the same time it is true that there are also other potential partnerships, be it with ICSU or IAP, with LERU or WAAS, where there are prospects of collaboration in need of further development.

Let me finish with some general points. In the last few years ALLEA has spent a great deal of time looking ahead and we have had many debates about future strategy. There is no need to remind you of the history of our meetings and the crucial issues set out in strategy documents because tomorrow’s Session will be devoted to the discussion of the future. A key issue has always been, and will remain, understanding the identity of academies. If Ludwig Wittgenstein is right, identity is related to family resemblance. This is in fact what we discuss in Europe as a whole – trying to understand and to use a diffuse network of more or less interconnected activities or ideas. But nowadays we know much more about networks and hidden links and do not simply take resemblance as a primary notion. The complexity of society is now much better understood than the times of L. Wittgenstein. While in Europe there are many areas of activity that need consideration – economy, trade, currency, migration etc., in the academic world the activities most under scrutiny are related to the values of knowledge, shared knowledge and productive knowledge. These are the central ideas of our Strategic documents which were composed on the basis of proposals from academies. The first outline, discussed in

Stockholm in 2010, turned to be too exhaustive in the prevailing, and rapidly changing, circumstances and that is why the subsequent scaled-down document was presented in Amsterdam (2011). This document aimed to foresee in a nutshell the future activities of ALLEA with a view to connecting up scientific excellence for the benefit of European society. Such activities have, however, been overshadowed by budgetary constraints and lack of manpower. These are the issues which will need to be taken into account in the future, drawing on the experience we have derived from our debates, combined with the flexibility and the wisdom to find new solutions and opportunities.

ALLEA, which through its members unites the top scientists and scholars of Europe, is a superb blend of large and small academies, of older and younger academies from right across the continent. Our voice is needed in Europe, and has the added value that comes from working and acting together. We must not forget that in addition to scientific values, academies also bear cultural values in society. National academies all have an important role to fulfil in their countries; what ALLEA can contribute is to build the resulting national communities into a global whole. National experiences may feed into the work of the international community; international activities can enhance the reach of the national communities. Every academy is unique and together we can blend our values even into the much larger networks of Europe and of the global world.

Finally, from this rostrum I would like to thank all the ALLEA member academies for their support over the last six years – for me these have been the most interesting years in my life. It has been a special challenge to be involved in a much larger community than that composed of researchers in one's particular field of interest or in one's own academy. Thank you, Nicholas and Ruediger for the teamwork and friendship, thank you, all my friends and colleagues. I would also like to thank the Acting Presidency, Stefan and Marie-Therese for their recent work over the period before the GA meeting.

My own research will be moving forward, and as you will hear from Prof Luciano Pietronero, complexity issues are extremely interesting in science as well as in society.

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Estonian Physical Society (contact: Kaido Reivelt, efs@fysika.ee)	European Physical Society, EPS
Estonian National Geophysical Committee (contact Rein Rõõm, rein.room@ut.ee)	International Union of Geodesy and Geophysics, IUGG
Estonian National Committee for IGU (contact Mihkel Kangur, geograafiaselts@gmail.com)	International Geographical Union, IGU
Estonian National Committee for Geology (contact Dimitri Kaljo, kaljo@gi.ee)	International Union of Geological Sciences, IUGS
Estonian Association of Engineers/ Estonian Systems Engineering Society (contact Sven Nõmm, sven@cc.ioc.ee)	International Federation of Automatic Control, IFAC
Estonian Mathematical Committee (contact Mati Abel, mati.abel@ut.ee)	International Mathematical Union, IMU
Estonian Polar Research Committee (contact Rein Vaikmäe, rein.vaikmae@ttu.ee)	ESF European Polar Board, EPB
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Estonian Academy of Sciences (contact Jüri Engelbrecht, j.engelbrecht@akadeemia.ee)	European Federation of Academies of Sciences and Humanities ALLEA (ALL European Academies)
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Committee on Marine Sciences, Estonian Academy of Sciences (contact Tarmo Soomere, tarmo.soomere@cs.ioc.ee)	European Marine Board
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COOPERATION AGREEMENTS WITH PARTNER ORGANISATIONS
(in brackets, the date of signing the currently valid agreement)

1. Austrian Academy of Sciences (12.11.2007)
2. Academy of Sciences of Bashkortostan (23.06.2012)
3. British Academy (04.08.2011)
4. Berlin-Brandenburg Academy of Sciences and Humanities (16.05.2002)
5. Bulgarian Academy of Sciences (02.04.1996)
6. Georgian National Academy of Sciences (19.10/01.11.2012)
7. Royal Flemish Academy of Belgium for Science and the Arts (26.03.2004)
8. Chinese Academy of Sciences (26.05.2000)
9. Spanish Council for Scientific Research (19.06.2001)
10. Israel Academy of Sciences and Humanities (19.07.1995)
11. Italian National Research Council (23.04.2004)
12. Lithuanian Academy of Sciences (12.11.1991)
13. Council for the Lindau Nobel Laureate Meetings; Foundation Lindau Nobelprizewinners Meeting (21.12.2011)
14. Royal Society of London (30.10.1991)
15. Latvian Academy of Sciences (12.11.1991)
16. Macedonian Academy of Sciences and Arts (16.12.1996)
17. Montenegrin Academy of Sciences and Arts (17.10.2005)
18. Polish Academy of Sciences (17.06.1996)
19. French Academy of Sciences (22.03.1994)
20. Royal Swedish Academy of Letters, History and Antiquities (18.01.1995)
21. Royal Swedish Academy of Sciences (17.11.2005)
22. Slovak Academy of Sciences (28.11.1993)
23. Slovenian Academy of Sciences and Arts (28.04.1997)
24. Academy of Finland (04.01.2007-31.12.2012)
25. Finnish Academy of Science and Letters (10.03.1992)
26. Swiss Academy of Sciences (18.09.1989)
27. Academy of Sciences of the Czech Republic (10.04.1996)
28. National Academy of Sciences of Ukraine (02.10.2000)
29. Hungarian Academy of Sciences (20.06.1995)
30. National Academy of Science of Belarus (18.02.2002)
31. Russian Academy of Sciences (17.02.1993); additional memorandum on cooperation in earth sciences (30.03.2012)

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