

From small scales to large scales –The Gulf of Finland Science Days 2017

9th -10th October, 2017

Estonian Academy of Sciences, Kohtu 6, Tallinn, ESTONIA



Day 1: Monday, 9th October

9:30-10:00 *Coffee and registration*

Welcome speeches

10:00-10:10 Tarmo Soomere, President, Estonian Academy of Sciences

10:10-10:20 Marko Pomerants, Chair of the Constitutional Committee, Riigikogu (Parliament of Estonia)

Plenary: Chair Tarmo Soomere

10:20-10:30 Kai Myrberg: *Notes from the Trilateral Collaboration*

10:30-11:00 KEYNOTE Efim Pelinovsky: *Modelling of the Internal Waves in the Baltic Sea*

11:00-11:20 Laura Tuomi: *Progress in the modelling of surface waves in the Gulf of Finland and the Baltic Sea*

11:20-11:40 Vivi Fleming-Lehtinen: *Assessing the sea together – HELCOM HOLAS II eutrophication assessment*

11:40-12:40 *Lunch break*

Plenary: Chair Kai Myrberg

12:40-13:00 Georg Martin: Estonian Marine Institute, University of Tartu: *Challenges of mapping and assessment of status of benthic habitats*

13:00-13:20 Urmas Lips: Marine Systems Institute, Tallinn University of Technology: *Monitoring of eutrophication: observations and recommendations emerging from the GOF assessment work and the most recent data*

13:20-13:35 Andrei Lappo: *Social aspects of maritime spatial planning*

13:35-13:50 Leena Laamanen: *Baltic Sea Pressure and Impact indices and their potential for Marine Spatial Planning*

13:50-14:05 Mihhail Fetissov: *Ecosystem-based Maritime Spatial Planning – impact on navigational safety from offshore renewable energy developments*

14:05-14:20 Anneliis Peterson: *Environmental vulnerability profile and HELCOM Baltic Sea Pressure Index as tools in site selection of offshore wind farms*

14:20-15:00 *Coffee break*

Afternoon parallel session

Session A, Chair Efim Pelinovsky

15:00-15:15 Robert Aps: *Systems approach based maritime traffic safety management in the Gulf of Finland (Baltic Sea)*

15:15-15:30 Jani Häkkinen: *Developing the guidelines for the ecological post-spill monitoring of the accidental chemical spills*

15:30-15:45 Walteri Niemilä: *The intensity of leisure boating and services for sailors – does the supply meet the demand?*

15:45-16:00 Dmitriy Burkov: *The state and environmental consequences of pollution air pool of the Gulf of Finland transport emissions*

16:00-16:15 Andrey Tronin: *Nitrogen dioxide over the Gulf of Finland*

16:15-16:30 Natalia Lemeshko: *Greenhouse Gas Inventory as the first stage of reducing energy consumption in the Leningrad region*

16:30-16:45 Day 1 - discussion

16:45-17:45 **Poster session**

19:30- **Reception in the Embassy of Finland in Tallinn, Kohtu 4**

Session B, Chair Urmas Lips

15:00-15:15 Aleksandr Antsulevich: *Development of the program for combined restoration of European pearl mussel and salmonid fishes local populations in two rivers inflowing to the Gulf of Finland in nature protected areas of Leningrad Oblast*

15:15-15:30 Susanna Jernberg: *Retrospective analysis of biodiversity indicators in the Gulf of Finland*

15:30-15:45 Mikhail Verevkin: *Aerial estimating abundance of ringed seals in the Russian part of the Gulf of Finland on April 2017*

15:45-16:00 Jonne Kotta: *Assessing the environmental impacts and nutrient removal potential of mussel farms in the north-eastern Baltic Sea*

16:00-16:15 Alexey Maximov: *Interannual and long-term changes in the benthic communities: analysis of 30-years data series from the eastern Gulf of Finland*

16:15-16:30 Anu Kaskela: *EMODnet Geology – Geological data from the European marine areas*

Day 2: Tuesday, 10th October

Morning parallel session

Session A, Chair Daria Ryabchuk

- 9:00-9:15 Veronica Tarbaeva: *HELCOM hot spots. Current status and plans for elimination. Russian overview from the catchment area of the Gulf of Finland*
- 9:15-9:30 Yulia Polyak: *Toxic cyanobacteria of the Eastern GoF: their ecology, toxicological effects, and control*
- 9:30-9:45 Sergei Golubkov: *Contribution of the carbon from green tides in the coastal food webs in the eastern Gulf of Finland: stable-isotope estimate using Bayesian mixing model*
- 9:45-10:00 Yulia Gubelit: *Green tides in the eastern Gulf of Finland: factors affecting the biomass accumulation and its consequences for the coastal zone*
- 10:00-10:15 Mikhail Golubkov: *Influence of weather conditions on midsummer primary production and mineralization of organic matter in the Neva Estuary (eastern Gulf of Finland, Baltic Sea)*
- 10.15-10.30 Ekaterina Voyakina: *Phytoplankton structure in eastern part of the Gulf of Finland*

Session B, Chair: Laura Tuomi

- 9:00-9:15 Olga Vähä-Piikkiö: *Modelling surface Stokes drift in the Baltic Sea*
- 9:15-9:30 Jan-Victor Björkqvist: *A spatially extensive validation of three different wave models in the Helsinki coastal archipelago*
- 9:30-9:45 Andrea Giudici: *Patchiness of the sea surface under the combined effects of winds and currents*
- 9:45-10:00 Nadia Kudryavtseva: *Non-stationary extreme value modeling of trends in extreme water levels in the Gulf of Finland*
- 10:00-10:15 Vladimir Ryabchenko: *Coastal erosion caused by storm surges and protection measures for the Kotlin Island's coastline in the Gulf of Finland: data analyses and modeling*
- 10.15-10.30 Germo Väli: *Eulerian and Lagrangian sub-mesoscale coherent structures on the sea surface driven by coastal upwelling: a case study for the Gulf of Finland*

10:30-11:00 Coffee Break

Plenary: Chair Robert Aps

- 11:00-11:30 KEYNOTE Jan Harff: *What determines the dynamics of Baltic Sea coasts?*
- 11:30-11:45 Kristjan Herkül: *Spatial overlap of nature values, protected areas, and human uses in the Baltic Sea*
- 11:45-12:00 Petri Ekholm: *Reducing agricultural phosphorus load by gypsum: results from the first year after amendment*
- 12:00-12:15 Jouni Lehtoranta: *Iron–manganese concretions contribute to benthic release of phosphorus and arsenic in anoxic conditions in the Gulf of Finland*
- 12:15-12:30 Darya Ryabchuk: *Sedimentary processes and pollution history of Neva Bay bottom sediments (eastern Gulf of Finland, Baltic Sea)*

12:30-13:30 Lunch break

Plenary: Chair Jan Harff

- 13:30-13:45 Tatyana Kuznetsova: *Development of a new approach in the assessment of biological effects of pollution in the Gulf of Finland*
- 13:45-14:00 Elena Mikhailova: *Implication of genetic approaches for biosystem state and dynamics survey of the Gulf of Finland*
- 14:00-14:15 Alexandr Rybalko: *Facies features (geodiversity) of sedimentation in the Eastern Gulf of Finland and their use for proper assessment of the results of geochemical monitoring of hazardous substances*
- 14:15-14:30 Evgenii Daev: *Preliminary assessment of water and sediment pollutions in littoral zone of the Kotlin Island*
- 14:30-14:45 Grigory Frumin: *Dynamics of water quality of the transboundary River Narva*
- 14:45-15:00 Jaakko Mannio: *Towards harmonisation of monitoring hazardous substances*
- 15:00-15:15 Henry Vallius: *Sediment quality in Estonian western Gulf of Finland*
- 15:15-15:25 Day 2 - discussion, concluding remarks
- 15:30 Closing the Science Days

The event is co-organized by the Estonian Academy of Sciences, Finnish Environment Institute and Estonian Marine Institute, University of Tartu and financially supported by the Estonian Environmental Investment Centre.



ENVIRONMENTAL INVESTMENT CENTRE

Posters:

E. Balushkina*, S. Golubkov	Water quality and biodiversity of benthic animals in the Neva Estuary under anthropogenic stress
L. Barabanova*, E. Mikhailova, S. Galkina	Cytogenetic characteristics of amphipoda <i>Gmelinoides fasciatus</i> – biodiversity component of the Gulf of Finland.
J. Bublischenko*, M. Verevkin	Aerial survey of waterfowl spring stopovers in the Russian part of the Gulf of Finland
A. Lappo, L. Danilova*, E. Milenina	MSP Law in the Russian Federation: a place in the system of strategic planning documents. Suggestions
A. Demchuk*, A. Uspenskiy, S. Golubkov	Feeding patterns of the abundant coastal fish species in the eastern Gulf of Finland
T. Eremina*, E. Lange, A. Ershova	Influence of temperature and salinity variability on late-summer phytoplankton structure in the eastern Gulf of Finland
E. Glazkova*	<i>Melica Picta</i> in the Baltic region: distribution and habitats
A. Jolma*	SmartSea toolbox for Maritime Spatial Planning
N. Kamardin*	Using of the microcosm method to determine the pollution of the shores of the eastern part of the Gulf of Finland
N. Kovalchuk*	Mass occurrence of “brown” macroalgae mats on eastern part of the Gulf of Finland (EGoF)
O. Liashenko*, E. Svetashova, S. Ekimova, A. Ponomarenko	Toxicological investigation of the bottom sediments of the Gulf of Finland
E. Litina*, E. Zakharchuk, N. Tikhonova	The relative contributions of advection, turbulent diffusion, and the components of the freshwater balance in the salinity changes of the Gulf of Finland
N. Odegova*, E. Kuprina, A. Jakkola, A. Naumova	Dynamics of bacterioplankton development of the Neva Bay, Gulf of Finland
E. Pankova*, A. Brodsky, D. Safronova	Littoral communities monitoring in the Neva river estuary: case study of Zelenogorsk and Olgino
M. Polyak*	Web-based geographic information system for analyzing and visualising biological monitoring data from the Neva Bay and the eastern part of the Gulf of Finland
V. Sukhachev*, E. Zakharchuk, U. Lips, N. Tikhonova, I. Suhhova	Currents of the Gulf of Finland: instrumental measurements and numerical hydrodynamic modeling
A. Uspenskiy*	Distribution of invasive gobies in the eastern Gulf of Finland

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