

The Gulf of Finland Science Days 2021

“New start for the Gulf of Finland co-operation”

Estonian Academy of Sciences, Tallinn, 29-30 November 2021



Programme

Day 1: Monday, 29 November

9.30–10.00 Coffee and registration

10.00–10.20 Opening Session

- **Professor Tarmo Soomere**, President of the Estonian Academy of Sciences
- **Annely Akkermann**, Estonian Parliament

10.20–11.30 Plenary Session Keynote

Chair: Prof. Tarmo Soomere

- **Comprehensive monitoring of nutrients and their loads is essential for GOF state evaluations**
Heikki Pitkänen, Seppo Knuuttila, Jouni Lehtoranta, Mika Raateoja, *Finnish Environment Institute*
- **Gulf of Finland coastal systems: Holocene development and human impact**
Darya Ryabchuk, *A.P.Karpinsky Russian Geological Research Institute*
- **Current knowledge about past and future climate changes in the Gulf of Finland region**
Markus Meier, *Leibniz Institute for Baltic Sea Research Warnemünde and University of Rostock*

11.30–11.50 Coffee

11.50–13.00 Session 1. Marine spatial planning

Chair: Kai Myrberg

- **Russian MSP Roadmap as an instrument for enhancing participation of Russia in the Pan-Baltic MSP process**
Larisa Danilova, Andrei Lappo, *Institute of Maritime Spatial Planning Ermak NorthWest*
- **Finland's Maritime Spatial Plan 2030**
Riku Varjopuro, *Finnish Environment Institute*
- **MSP in Estonia. Practical experiences from the process**
Eleri Kautlenbach, *Estonian Ministry of Finance*
- **A geomorphic perspective on paradigms, history and coastal spatial planning in the Gulf of Finland**,
Kevin E. Parnell, Tarmo Soomere, *Tallinn University of Technology*
- **Tools for the implementation of ecosystem-based approach in Maritime Spatial Planning in the eastern part of the Gulf of Finland**,
Tatyana Eremina, Michael Shilin, Oksana Vladimirova, Vera Semeoshenkova, Alexandra Ershova, *Russian State Hydrometeorological University*

13.00–14.00 Lunch

14.00–15.15 Session 2. Marine litter

Chair: Kevin E. Parnell

- **The fate and effects of small plastic debris in the northern Baltic Sea seafloor**
Pinja Näkki, Aino Ahvo, Eeva Eronen-Rasimus, Samuel Hartikainen, Hermann Kaartokallio, Harri Kankaanpää, Arto Koistinen, Kari Lehtonen, Emil Nyman, Janina Pažusienė, Sirpa Peräniemi, Erika Sainio, Milda Stankevičiūtė, Raisa Turja, Outi Setälä, Maiju Lehtiniemi

- **Beached litter and microplastics in the coastal zone of the Russian part of the Gulf of Finland**
Alexandra Ershova, Tatyana Eremina, Irina Makeeva, Anastassia Kuzmina, Natalya Loginova, *Russian State Hydrometeorological University*
- **Marine litter in remote islands of Estonian coastal sea**
Tiiu Möller-Raid, Maria Põldma, *Estonian Marine Institute, University of Tartu*
- **Microplastics in urban stormwaters – designing a method to evaluate the microplastic discharges via stormwaters**
Julia Talvitie, *Finnish Environment Institute*
- **Microplastics abundance and composition in fishes and macrozoobenthic organisms of the NE Baltic Sea – list of potential target species for microlitter contamination assessment**
Maria Põldma, Kaire Torn, Lauri Saks, *Estonian Marine Institute, University of Tartu*

15.30–15.45 Break

15.45–17.00 Session 3. Ecosystem studies

Chair: Darya Ryabchuk

- **FINMARI Research Infrastructure – an integrated platform for Baltic marine research and observation**
Katri Kuuppo, Maiju Lehtiniemi, Jari Haapala, Aarno Kotilainen, Ari Leskelä, Joanna Norkko, Jari Hänninen, Martin Snickars, *Finnish Environment Institute*
- **Exploring the potential of autonomous technologies for achieving sustainable Gulf of Finland**
Victor Bolbot, Ahmad BahooToroody, Sunil Basnet, Osiris V. Banda, *Aalto University*
- **The stratification in winter and its consequences**
Taavi Liblik, Germo Väli, Inga Lips, Madis-Jaak Lilover, Villu Kikas, Jaan Laanemets, *Tallinn University of Technology*
- **Climate impact on runoff and nutrient removal for the GoF tributaries (results of SEVIRA Project)**
Sergey A. Kondratyev, Marina V. Shmakova, Ekaterina V. Ivanova, *Institute of Limnology Russian Academy of Sciences*

17.00–18.00 Poster Session

19.00 Evening reception in the Embassy of Finland

Day 2: Tuesday, 30 November

9.00–10.15 Session 4. Technics and physic

Chair: Heikki Pitkänen

- **The HAZLESS project: assessment of the transboundary issue of chemical pollution in the eastern Gulf of Finland**
Ivan Kuprijanov, Andrey Sharov, Nadezhda Berezina, Kari Lehtonen
- **Seals in the Gulf of Finland – a status review and perspectives**
Mart Jüssi, *ProMARE NGO*, Mikhail Verevkin, *University of St Petersburg*
- **Ecosystem services in the Gulf of Finland – the approach of MAREA project**
Susanna Jernberg, *Finnish Environment Institute*
- **Linking marine natural values and underwater cultural heritage to promote sustainable blue eco-tourism in the Gulf of Finland (Baltic Sea)**
Robert Aps, Jonne Kotta, Mihhail Fetissof, Kristjan Herkül, Liisi Lees, *Estonian Marine Institute, University of Tartu*
- **Perspectives for Integrated Multitrophic Aquaculture in the Gulf of Finland**
Georg Martin; Jonne Kotta; Jack Hall, *Estonian Marine Institute, University of Tartu*

10.15–10.45 Coffee

10.45–11.45 Session 5. Early Career Scientists

Chair: Aleksandra Ershova

- **Microplastics in the northern Baltic Sea bottom sediments: distribution and method development**
Jyri Tirroniemi, Outi Setälä, Maiju Lehtiniemi, *Finnish Environment Institute*
- **Spatial and Temporal Distribution of Microplastics in the Gulf of Finland**
Arun Mishra, Natalja Buhhalko, Kati Lind, Inga Lips, Urmas Lips, Taavi Liblik, Germo Väli, *Tallinn University of Technology*
- **In search of relations between factors of underwater landscapes in the Eastern Gulf of Finland (the Baltic Sea) using GIS and statistics**
Filipp Leontev, Marina Orlova, Daria Ryabchuk, Alexander Sergeev, *A.P. Karpinsky Russian Geological Research Institute*
- **Methodological approaches to the establishment of regulations for the use of aquatorial zones of the maritime spatial plan in the Russian Federation**
Natalie Nosenko, Anastasia Anisimovets, *Scientific and Research Institute of Maritime Spatial Planning Ermak NorthWest*

11.45 Closing words Kai Myrberg (SYKE) and Tarmo Soomere (Estonian Academy of Sciences)

12.00–12.45 Light lunch

Poster Presentations:

	Title	Authors
1	Physiologic-biochemical responses of benthic invertebrates exposed to hazardous substances (copper & organotin)	Nadežda Berezina, Yulia Gubelit, Zoja Zhakovskaya, Andrey Sharov
2	Bird and marine mammal fauna on the islands along the route of the Nord Stream 2 Gas Pipeline during its construction in the Russian Part of the Gulf of Finland	Julia Bublichenko, Andrew Bublichenko
3	Airborne: tracing threespine stickleback in a diet of Baltic seabirds	Anna Demchuk, Evgeniy Genelt-Yanovskiy, Ksenia Smirnova, Dmitry Lajus
4	Sandy beach evolution in the low-energy microtidal Baltic Sea: attribution of changes to hydrometeorological forcing	Maris Eelsalu, Kevin Parnell, Tarmo Soomere
5	Devil's beggarticks (<i>Bidens frondosa</i> L.) in the Gulf of Finland: distribution and invasive status	Elena Glazkova
6	The use of macroalgae of the eastern Gulf of Finland as indicators of the water quality	Yulia Gubelit, Tatiana Shigaeva, Valentina Kudryavtseva, Nadezda Berezina
7	Determining the Accuracy of Sentinel-3A and Sentinel-6 Satellite Altimetry Data in the Gulf of Finland using a synergy of data	Lenne-Liisa Heinoja, Nicole Delpeche-Ellmann and Artu Ellmann
8	The Production of Dissolved Organic Carbon by Macroalgae and its Consumption by Marine Bacteria: Implications for Coastal Ecosystems	Jack R. Hall, Federico Baltar, Gerli Albert, Christopher D. Hepburn, Georg Martin
9	Microplastics research as an important aspect of international cooperation	Ekaterina Ivanova
10	Analysis of background pollution in the eastern part of the Gulf of Finland of the Baltic Sea using macrozoobenthos animals	Nikolai Kamardin, Nadežda Berezina, Andrey Sharov
11	Trophic transfer of microplastics in a Baltic Sea littoral zone community	Anna Kangas, Outi Setälä, Maiju Lehtiniemi, Laura Kauppi
12	Bioindication of the ecological state (health) of coastal waters based on the use of automated bioelectronic systems	Sergei Kholodkevich, Tatyana Kuznetsova, Olga Rudakova, Vassily Lyubimtsev, Alexandra Manvelova, Olga Susloparova
13	CLAIM – Cleaning Litter by developing and Applying Innovative Methods in european seas	Villu Kikas, Kati Lind, Natalja Buhhalko, Nelli Rünk, Stella-Theresa Stoicescu, Madis-Jaak Lilover, Inga Lips, Polina Turov, Urmas Lips

14	Modeling nutrient export from the catchment using GIS-technologies for a transboundary river in Russia and Finland	Ksenia Korobchenkova, Alexandra Ershova
15	Transformation of the sea-bottom extraction areas at the Eastern Gulf of Finland (Baltic Sea)	Olga Kovaleva, Vladimir Zhamoida, Alexander Sergeev, Darya Ryabchuk, Leonid Budanov
16	Diversity of the European River Lamprey <i>Lampetra fluviatilis</i> in watersheds of the Russian part of the Gulf of Finland	Aleksandr Kucheryavyy, Aleksandr Zvezdin, Nataliya Polyakova,
17	Implementation of microplastic, chemical and biochemical analyses and caging approach to monitor the level of pollution across the northern coast of the Gulf of Finland.	Ivan Kuprijanov, Natalja Buhhalko, Natalja Kolesova, Kai Künnis-Beres, Maarja Lipp, Fred Buschmann
18	Experience in assessing functional characteristics of freshwater mussel (<i>Unio pictorum</i>) from Narva River, heavy metals content in mussel's soft tissues and metals in sediments and surface water	Tatiana Kuznetsova, Alexandra Manvelova
19	Sustainability manifesting as a multi-material network effect - a case study on boat-sourced sewage management facilities in Finnish small ports	Annikka Lehtinen, Renne Vantola, Emilia Luoma, Tuuli Parviainen
20	Exposure of Great Cormorants to marine litter in the Gulf of Finland	Anni Jylhä-Vuorio, Outi Setälä, Pinja Näkki, Seppo Knuuttila, Pekka Rusanen, Pekka Kotilainen, Maiju Lehtiniemi
21	Polychaetes/Amphipods ratio is perspective method for the assessment of sediment quality in the Gulf of Finland	Alexey Maximov, Nadezhda Berezina
22	24 Years Sea Level Trend of Gulf of Finland Using Resampled Machine Learning Satellite Altimetry Data	Majid Mostafavi, Nicole Delpeche-Ellmann, Artu Ellmann1
23	Microplastics in benthic invertebrates in Gulf of Finland	Anna-Riina Mustonen, Maiju Lehtiniemi, Pinja Näkki, Outi Setälä, Emilia Uurasjärvi
24	Purification of water by the electrosynthesised ferrate (VI)	Daria Navolotskaya, Ekaterina Semenova, Ani Petkova, Sergey Ermakov
25	Contaminants in commercially caught Baltic Sea fish in 2018–2020	Marek Nurmik, Mailis Laht, Eve Usin, Lauri Saks, Arvo Tuvikene, René Freiberg
26	European River Lamprey <i>Lampetra fluviatilis</i> in watersheds of the Russian part of the Gulf of Finland: habitats and interactions	Nataliya Polyakova, Aleksandr Kucheryavyy, Aleksandr Zvezdin
27	Microplastic ingestion by small coastal fish in Finland	Erika Sainio, Maiju Lehtiniemi, Outi Setälä
28	Intraspecific diversity of the common whitefish <i>Coregonus lavaretus</i> sensu lato in the eastern part of the Gulf of Finland	Dmitry Sendek, Aleksandra Borisovskaya
29	Cadmium in the Eastern Gulf of Finland: concentrations and effects on the mollusk <i>Limecola balthica</i>	Andrey Sharov, Nadezhda Berezina, Ivan Kuprijanov, Svetlana Sladkova, Nikolai Kamardin, Tatyana Shigaeva, Valentina Kudryavtseva, Sergei Kholodkevich
30	Feeding interactions between threespine stickleback (<i>Gasterosteus aculeatus</i> L.) and other fish species in the coastal area of Gulf of Finland, Baltic Sea	Ksenia Smirnova, Anna Demchuk, Michail Ivanov, Tatiana Ivanova, Dmitry Lajus
31	Piloting seafloor macrolitter monitoring in Finland	Sanna Suikkanen, Pekka Kotilainen, Outi Setälä
32	Microplastics research in the Ladoga Lake and the Gulf of Finland.	Daria Tikhonova
33	Analysis of the Gulf of Finland ecosystem state during abnormal summer 2021	Tatyana Eremina, Oksana Vladimirova, Evgeniya Lange, Ekaterina Bubnova, Viktor Krechik
34	Intestinal microbiota of mollusks as an indicator for the assessment of the eastern Gulf of Finland health	Yulia Polyak, Nadezhda Berezina, Andrey Sharov
35	Spatial heterogeneity of the non-indigenous round goby population in the eastern Gulf of Finland	Anastasia Yurtseva, Anton. Uspenskiy