

PROGRAMME



19-23 AUGUST
STOCKHOLM
SWEDEN

Baltic Sea Science Congress 2019
Making connections for the future

WELCOME

Welcome to Stockholm and the 12th Baltic Sea Science Congress 2019

In the Royal National Park, neighbouring the archipelago, Stockholm University gathers the marine research community for discussions on the last ten years of Baltic Sea research. After a long period of intense Baltic-wide collaborations, there is a need for a synthesis phase to sum up the knowledge gained.

This time we seek to provide new insights from the interlinked processes in the catchment and the coastal zone as growing research foci. The congress will present advances in our understanding of biogeochemical cycles in the open Baltic Sea as well as new approaches addressing genomics, population structure and function, evolutionary changes and how climate change and human impact changes the system.

Making connections for the future!

Christoph Humborg and the Scientific Steering Committee

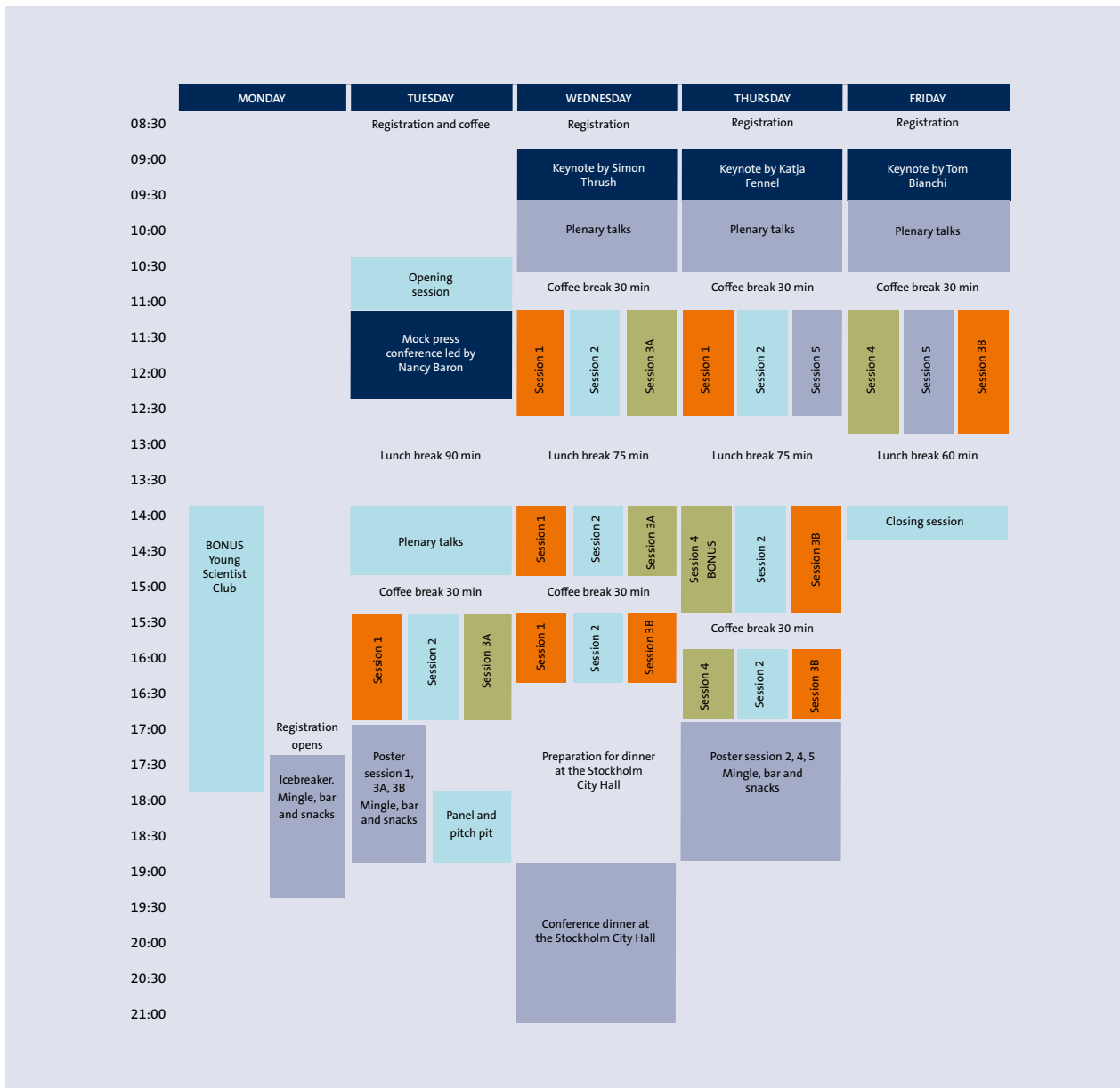


Aula Magna, Universitetsvägen 11 (Taxi entrance: Frescativägen 6)

De Geer lecture hall, Svante Arrhenius väg 14

Vivi Täckholm lecture hall, Svante Arrhenius väg 20

PROGRAMME OVERVIEW



MONDAY

Registration opens	17.00 Aula Magna floor 4
BONUS Young Scientist Club	14:00 - 18:00 Vivi Täckholm lecture hall
Icebreaker Mingle, Bar and snacks. Bring your drink ticket.	17:30 - 19:30 Aula Magna floor 5

TUESDAY

08:30 - 10:30
Aula Magna floor 4-5

Registration and coffee

10:30 - 11:15
Aula Magna left hall

Opening session

Christoph Humborg, Scientific Director of the Stockholm University Baltic Sea Center
Astrid Söderbergh Widding, Stockholm University Vice-chancellor
Isabella Lövin, Swedish Minister for Environment and Climate
Video greeting from Karmenu Vella, European Commissioner for Environment, Maritime Affairs and Fisheries

11:15 - 12:30
Aula Magna left hall

Mock press conference led by Nancy Baron

12:30 - 14:00
Aula Magna floor 5

Lunch break

14:00 - 15:00
Aula Magna left hall

Plenary talks

Ulrich Bathmann: Challenges for Baltic marine science
Jacob Carstensen: The synergies of human pressures driving coastal acidification
Johan Eklöf: The stickleback wave: a spatially propagating regime shift in the Baltic Sea
Olga Kovaleva: Coastal erosion of the Eastern Gulf of Finland and influence of natural factors

15:00 - 15:30
Aula Magna floor 5

Coffee break

15:30 - 17:00
Aula Magna left hall

Session 1: Change and Impacts of External Forcing

Session chair: Anda Ikauniece

Markus Meier: Uncertainties of future projections of the Baltic Sea
Camilla Liénart: Can isotope composition of primary producers and consumers reflect basin-specific environmental changes in the Baltic Sea?
Matthias Gröger: Consistent hydrodynamic changes in the Baltic Sea and North Sea as revealed by a coupled atmosphere ocean model ensemble
Johan Wikner: Freshwater discharge and terrestrial DOM as a drivers of marine productivity: challenging the role of mineral nutrients
Magnus Huss: Resolving climate change effects by integrating responses to multiple stressors over life history
Norbert Wasmund: Phytoplankton reacts on climate change: extension of the vegetation period in the western Baltic Sea

15:30 - 17:00
Aula Magna right hall

Session 2: Coastal Seascapes and Dynamics

Session chair: Alf Norkko

Georgia Destouni: Coastal water quality interactions, changes and solution pathways
Maren Voss: Fate of dissolved organic matter in four Baltic Sea estuaries
Agnes ML Karlsson: Nitrogen fixed by cyanobacteria is incorporated in filamentous algae and associated fauna in seagrass beds
Xiaole Sun: Methane and carbon dioxide flux patterns during autumn overturn following a summer heat wave in the Baltic Sea
Marcin Stokowski: The characteristics of the carbonate system in the estuary of the vistula river (Poland)
Laura Kaikkonen: Distribution of ferromanganese concretion bottoms in the Norther Baltic Sea

Session 3A: Fluxes and transport

Session chair: Inga Koszalka

15:30 - 17:00

De Geer lecture hall

Pekka Alenius: Water exchange between the Baltic Sea Proper and the Åland Sea**Emil Vassilev Stanev:** Dynamics of the Baltic Sea Straits via Numerical Simulation of Exchange Flows**Hans Burchard:** The Knudsen theorem and the Total Exchange Flow analysis framework applied to exchange flow in the Baltic Sea**Simo-Matti Siiriä:** The future of Gulf of Bothnia: Long term hydrodynamic and wave scenarios**Tatiana Bukanova:** Spring cold/saline intrusions in the Baltic Proper: in search of the mechanism for formation of the cold intermediate layer**Kai Myrberg:** Salinity Dynamics of the Baltic Sea**Poster sessions – Session 1, 3A and 3B**

Mingle, bar and snacks. Bring your drink ticket.

17:00 - 19:00

Aula Magna floor 5

”Thinking Story Like a Journalist” Panel and Pitch Pit

18:00 - 19:00

Mezzaninen

Posters in poster session 1

Displayed in Aula Magna floor 5 between 17:00-19:00 during the mingle, bar and snacks

1 Thomas André

SEASIDE - A multidisciplinary study of maritime environmental history

2 Arunas Balciunas

Marine litter pollution at the Lithuanian open sea and coastal areas

3 Marcin Białow

Occurrence of microplastics in commercial fish of the Baltic Sea

4 Maiken Hemme Bro-Jørgensen

Ancient genomics of Baltic grey seals

5 Thorger Brüning / Fabian Schwichtenberg

The operational model system of the BSH for German coastal waters – status, products and outlook

6 Laura Dzintare

Cardiovascular medication occurrence in surface waters and effluents in Lielupe River catchment area, Latvia

7 Moa Edman

Estimation of the impact from regulated river discharge on the coastal environment

8 Georgia May Gamble

FIGAERO-CIMS analysis of Baltic Sea Spray Aerosol

9 Nikolaus Groll

The South-Western Baltic coast storm surge event Axel in a climate perspective

10 Joakim Hansen

Effects of recreational boating on aquatic vegetation

11 Gisela Horlitz

Fate of hydrophobic organic contaminants in sediment cores from a deep sea trench

12 Fernando Jaramillo

The BalticSeaFellows Initiative: Cross disciplinary research for integrated science and management of the Baltic Sea Basin

13 Franziska Klaeger

Residual Monomer Content Affects the Interpretation of Plastic Degradation

14 Andrey Kozelkov

Supercomputer simulations to assess the impact of waves on the coastal infrastructure

15 Ineta Liepiņa

Evaluation of most common pharmaceutically active compound environmental faith in Gulf of Riga, Latvia

16 Daniele Miranda

Vertical and Spatial profiles of per- and polyfluoroalkyl substances (PFASs) in the Tropical Atlantic Ocean

17 Monika Nausch

Spatial and seasonal variation of phosphorus concentrations and composition along the river Warnow in Germany's northeastern catchment area of the Baltic Sea

18 Monika Nausch

Spatial and temporal variation of phosphorus emission from a tile drain outlet in the Warnow catchment (northeastern Germany)

19 Lena Norbäck Ivarsson

Drivers of ecological changes in the Baltic Sea coastal zone during the last 1000 years

20 Vita PlivčaEffect of individual APIs surface water and waste water concentrations on *Desmodesmus subspicatus* growth inhibition**21 Ieva Putna-Nimane**

Human medicine consumption and environmental levels of active pharmaceutical ingredients in Latvia

22 Gabrielle Quadra

Pharmaceuticals in tropical aquatic ecosystems

23 Teresa Radziejewska /**Brygida Wawrzyniak -Wydrowska**

Responses of benthic communities (meio- and macrofauna) to changes in the southern Baltic inshore sedimentary habitat produced by dredging spoil dumping

24 Arturas Razinkovas-Baziukas

Future ecosystem services of the Curonian lagoon: climate change perspective

25 Andrei Sokolov

Revisiting particularity in calibration of the spectral wave model MIKE SW against directional waverider buoy data

26 Elena Tyatyushkina

Three-dimensional LOGOS simulations of a Chelyabinsk-like meteorite fall into the Baltic Sea

27 Barbara Urban

Effect of microplastics on common Baltic bivalves -Malinga

28 Johan Wikström

Comparison of in situ sediment remediation techniques with Polonite, activated carbon and aluminium: effects on benthic fluxes of nutrients, methane and contaminants

29 Lisa Winberg von Friesen

An efficient and gentle enzymatic digestion protocol for the extraction of microplastics from marine biota

30 Olena Vinogradova

Late Holocene land-use history in the Baltic Sea Proper coastal area, southeastern Sweden

31 Li Zhao

Impact of elevated dissolved organic matter on pelagic microbial community composition

Posters in poster session 3A

Displayed in Aula Magna floor 5 between 17:00-19:00 during the mingle, bar and snacks

32 Christian Baresel / Mikael Olshammar

Microplastics discharge from sanitary sewer overflow events

33 Terry Bidleman

Dynamics of Natural Bromoisoles in Northern Baltic Estuaries

34 Henry Bittig

Seasonal evolution of the spring bloom in the Gotland Deep in the years 2013-2018

35 Clare Bradshaw

Does bottom trawling release contaminants from sediments to the water column?

36 Olga Broclawik

Iron speciation in sediments of the Gdańsk Basin (Southern Baltic)

37 Aleksandra Brodecka-Goluch

Temporal and spatial variations of methane concentration in sediments of the Gdańsk Basin (Southern Baltic) over a period of 10 years (2009-2019)

38 Volker Brüchert / Julia Steinbach

An autonomous profiler for extended monitoring and sampling of the turbulent benthic boundary layer

39 Zhanna Stont / Tatiana Bukanova

Some characteristics of air temperature variations over coastal waters of the south-eastern Baltic Sea for 2004-2017

40 Aymeric Chancel

Microplastic load in Baltic Sea invertebrates

41 Yuanying Chen

Coastal-marine solute spreading from different Baltic coastlines

42 Aira Dubikaitienė

Implication of grain-size trend analysis in sediment transport pathways determination (Southeastern Baltic Sea)

43 Nikolaus Groll

Marine ensemble hindcasts for the Baltic Sea

44 Per Hall

Particle shuttling and oxidation efficiency of sedimentary organic carbon in contrasting brackish marine environments

45 Per Hall

Enhanced sedimentary phosphorus release following a natural oxygenation event

46 Johanna Hedberg

Effects of endobenthic meiofauna on sediment profiles (O₂, H₂S & pH) and bacterial community structure

47 Jakub Idczak

Acoustic and geochemical survey of the MET1 site – an active pockmark field located in the central Gulf of Gdańsk (Southern Baltic)

48 Dovile Karloniene

Lithological and geochemical anomalies on the Baltic Sea coast (Curonian Spit, Lithuania)

49 Laura Kauppi

Increasing densities of an invasive polychaete enhance bioturbation with variable effects on solute fluxes

50 Silvie Lainela

The influence of the Major Baltic Inflows on the sub-halocline pH variability

51 Taavi Liblik

Synoptic scale assessment of oxygen depletion in the Gulf of Finland

52 Taavi Liblik

Winter re-stratification events and their consequences in the NE Baltic Sea

53 Britta Munkes

Cyanobacteria blooms in the Baltic Sea: A review on models and facts

54 Inna Nybom

Vertical profiles of hydrophobic organic contaminants (HOCs) in the sediment-water interface – assessing the impact of organic carbon cycling on HOC fate in the marine environment

55 Daniel Rak

Dissolved oxygen variability (2013-2018) in the Southern Baltic Sea and its impact on the Baltic cod

56 Oleg Savchuk

Do we need a new definition for MBI if we can do with the old one?

57 Oksana Vladimirova / Oleg Savchuk

Accounting for dissolved organic nutrients reduces uncertainty in forcing

Posters in poster session 3B

Displayed in Aula Magna floor 5 between 17:00-19:00 during the mingle, bar and snacks

58 Serena Albert

Structural and functional response of microbenthic communities under different organic matter settling scenarios

59 Anders Andersson

An extensive catalogue of Baltic Sea bacterioplankton genomes

60 Terry Bidleman

Bromoanisoles and Methoxylated Bromodiphenyl Ethers in Macroalgae from Nordic Coastal Regions

61 Elmira Boikova

Comparison of The assessment of the coastal waters of the Gulf of Riga by microbial food web and macrophyte communities

62 Elias Broman & Stefano Bonaglia

Combining meta-omics and geochemical tools to study microbial diversity and function in Baltic Sea hypoxic sediments

63 Elena Esiukova / Tatiana Bukanova

Littering of marine coasts after severe storms

64 Elena Kudryavtseva / Tatiana Bukanova

Phytoplankton production alongside the Sambia Peninsula and the Curonian Spit (the Baltic Sea) during the end summer vegetation period 2018

65 Anna Demchuk

Distribution and feeding of abundant coastal fish species in the eastern Gulf of Finland

66 Hebe Dionisi / Sara Sjöling

What distinguishes Baltic Sea coastal sediment microbial ecosystem functions and community structure – global comparative metagenomics of cold polluted sediments from high latitude

67 Heli Einberg

Multidecadal dynamics of the Arctic copepod *Limnocalanus macrurus* in relation to the environmental variability in the Baltic Sea

68 Elena Ezhova

Aquatic alien species in the Russian waters of the Eastern and South-Eastern Baltic Sea

69 Anete Fedorovska

Mercury content in European perch (*Perca fluviatilis*) as a function of the food source

70 Julie Garrison

Effect of organic sediment content on gut microbiome of gravid *Monoporeia affinis*: an experimental approach

71 Yulia Gubelit

Can the “green tides” affect the metal distribution in the coastal sediments? A case study in the eastern Gulf of Finland, Baltic Sea

72 Sven Iburg

Effects of PAH contamination on benthic microbial and meiofauna communities in the Baltic Sea

73 Kaarina Kauhala

Reproductive rate of grey seals as an indicator of Baltic Sea environment

74 Halina Kendzierska

Functional diversity of macrozoobenthos under adverse oxygen conditions

75 Marta Konik

Multi-year dynamic of the algae blooms in the Baltic Sea during the MODIS era

76 Evelina Griniene / Jurate Lesutiene

Functional diversity of zooplankton in the SE Baltic Sea

77 Saara Mäkelin

Spatial variation in elemental stoichiometry of benthic consumers

78 Iris Orizar

Intraspecific traits variability and plasticity of *Alexandrium ostenfeldii* and *Skeletonema marinoi* at different salinity levels

79 Martin Paar / Irmgar Blindow

Which effect has submerged vegetation on food web characteristics in shallow coastal lagoons?

80 Patryk Pezacki

Daily and seasonal variation of spatial distribution of biological objects in the Puck Bay (southern Baltic Sea).

81 Tiina Salo

Diversity strikes back: Does functional diversity enhance resilience in vegetated benthic habitats?

82 Iina Salonen

Metabarcoding successfully tracks temporal changes in eukaryotic communities in coastal sediments

83 Ellen Schagerström

Associated fauna and flora of the red-listed free-living *Fucus vesiculosus* habitat in the Baltic Sea

84 Grzegorz Siedlewicz / Lilianna Sharma

Effects of oxytetracycline and sulfamethoxazole on growth and chlorophyll a fluorescence in green algae (*Chlorella vulgaris*), diatom (*Phaeodactylum tricorutum*) and cyanobacteria (*Microcystis aeruginosa* and *Nodularia spumigena*)

85 Sergei Skarlato

Translational Aquatic Ecology approach discloses effects of potentially toxic dinoflagellates in the Baltic coastal ecosystems

86 Natalia Sukhikh

On coexistence of native *Eurytemora affinis* and invasive *Eurytemora carolleeae* in the Baltic Sea

87 Natalia Sukhikh

Morphological and genetic differences in two sister species of *Eurytemora affinis* group in the Baltic Sea

88 Eva Sörenson

Interactions between prokaryotes and eukaryotes in a coastal late summer Baltic Sea community.

89 Marta Tykarska

Does the non-indigenous talitrid *Platorchestia platensis* have the same ecological role as indigenous *Talitrus saltator*?

90 Isa Wallin

A gut full of gobies? Predation on an introduced fish by native predators in the Baltic Sea

91 Markku Viitasalo

Biodiversity inventories in support of conservation and sustainable use of marine areas – highlights of the Finnish VELMU Programme

92 Monika Winder

The annual cycle of zooplankton in the Baltic Sea

93 Helmut Winkler

Feeding relationships of piscivorous fish and birds in the Pomeranian Bay

94 Elena Ezhova / Alexandra Volodina

Communities of macrophytobenthos in the Cape Taran area, South-Eastern Baltic Sea

WEDNESDAY

09:00 - 09:45
Aula Magna left hall

Keynote by Simon Thrush

Topic: Cumulative stressors reduced the self-regulating capacity of coastal ecosystems and increase the risk of crossing tipping points

09:45 - 10:45
Aula Magna left hall

Plenary talks

Helle Ploug: CO₂ and inorganic nitrogen fluxes associated to diatoms and cyanobacteria in the Baltic Sea
Emma Undeman: Characterizing the urban chemical mixture: an inventory of micropollutants in wastewater released in the Baltic Sea catchment
Urmaz Lips: High-frequency automated observing systems to meet the monitoring and assessment needs in the Baltic Sea
Charlotte Angove: Plant traits and ecosystem processes in the northern Baltic Sea

10:45 - 11:15
Aula Magna floor 5

Coffee break

11:15 - 12:45
Aula Magna left hall

Session 1: Change and Impacts of External Forcing

Session chair: Karin Limburg

Elinor Andrén: Paleocological trends and synchronicity between the open and coastal Baltic Proper
Aikaterini Glykou: Seal exploitation in the Baltic Sea during the mid- and late Holocene
Anne Soerensen: The impact of climate change and other anthropogenic pressures on mercury in the Baltic Sea
Jonas Gunnarsson: Sediment remediation in situ with reactive sorbents, a cost-effective and sustainable technique to counteract polluted sediments in the Baltic Sea
Caroline Raymond: Do benthic community composition and ecological indices respond to contaminant concentrations in sediment?
Kristina Enders: Tracing microplastics in aquatic environments based on sediment analogies

11:15 - 12:45
Aula Magna right hall

Session 2: Coastal Seascapes and Dynamics

Session chair: Francisco Nascimento

Eva Ehrnsten: Biomass and carbon processing of benthic fauna in response to organic matter supply – a modelling study from the coastal Baltic Sea
Charlotte Berkström: Knowledge gaps in connectivity and ecological coherence of MPA networks in the Baltic Sea
Karine Gagnon: Can co-restoring seagrass and bivalves increase restoration success and revitalise coastal biodiversity and ecosystem services
Johanna Gammal: Spatial variability in benthic macrofauna communities and associated ecosystem functions across coastal habitats
Aarno Kotilainen: Threatened habitat types in the Baltic Sea
Lena Kautsky: Monitoring and restoring fucoids in the Baltic Sea – a synthesis and knowledge gaps

11:15 - 12:45
De Geer lecture hall

Session 3A: Fluxes and transport

Session chair: Karol Kulinski

Eero Asmala: Accumulation of recalcitrant autochthonous organic matter in eutrophic coastal environment
Erik Gustafsson: Future acidification of the Baltic Sea – a sensitivity study
Martti Honkanen: Diurnal cycle of the carbon dioxide in the Baltic Sea
Erik Jacobs: Enhanced surface concentrations and air-sea fluxes of methane and carbon dioxide in the Baltic Sea caused by coastal upwelling
Nadezhda Berezina: Effect of benthic animals on the phosphorus flux at the sediment-water interface in the eastern Gulf of Finland
Claudia Morys: Trait-based insights in typical bioturbation patterns

12:45 - 14:00
Aula Magna floor 5

Lunch break

Session 1: Change and Impacts of External Forcing 14:00 - 15:00
 Session chair: Emma Undeman Aula Magna left hall

Clare Bradshaw: Effects of bottom trawling on benthic sedimentary processes and seafloor integrity
Max Lindmark: Warming alters the effect of fishing on the size spectra of an exploited temperate food web
Karin Limburg: Through the heads of fishes: Consequences of Baltic Sea hypoxia exposure in cod and flounder revealed by otolith chemistry
Yvette Heimbrand: Canaries in the Baltic Sea "Coal Mine": Fish earstones indicate changing environment

Session 2: Coastal Seascapes and Dynamics 14:00 - 15:00
 Session chair: Johan Eklöf Aula Magna right hall

Ingrida Purina: Biological values behind the Ecosystem services
Ida Maria Bonnevie: Assessing synergies and conflicts between marine human activities in close spatial-temporal proximity
Laura Uusitalo: Fuzzy cognitive mapping of Baltic Archipelago Sea food webs reveal no cliqued views of the system structure between stakeholder groups
Elina Kari: Measurements of light transfer through sea ice in the northern Baltic Sea

Session 3A: Fluxes and transport 14:00 - 15:00
 Session chair: Marcus Meier De Geer lecture hall

Anders Stigebrandt: Prediction of the eutrophication of the Baltic proper in the period 2020-2050
Kevin Vikström: Environmental management of oxygen; a new perspective using baseline respiration as a concept
Per Hall: Particle shuttling and oxidation efficiency of organic carbon – In situ sediment observations in contrasting brackish marine environments
Lucas Porz: Fine-grained sediment dynamics driven by dense bottom currents in the South-West Baltic Sea: Combination of oceanographic and geological data with numerical modelling

Coffee break 15:00 - 15:30
 Aula Magna floor 5

Session 1: Change and Impacts of External Forcing 15:30 - 16:30
 Session chair: Michelle McCrackin Aula Magna left hall

Linda Kumblad & Emil Rydin: Regaining good ecological status in a eutrophied coastal bay of the Baltic Sea
Guillaume Vigouroux: Dominant hydro-climatic effects on eutrophication management efficiency in a Swedish coastal bay
Nils Hedberg: Mussel farming – a measure against eutrophication in the Baltic Sea?
Bärbel Müller-Karulis: Legacy nutrients in the Baltic Sea drainage basin – how long will past inputs affect nutrient loads?

Session 2: Coastal Seascapes and Dynamics 15:30 - 16:30
 Session chair: Hans Burchard Aula Magna right hall

Elina Miettunen: Evaluating transports and water renewal in the Archipelago Sea
Nadezhda Kudryavtseva: Non-stationary modeling reveals strong connection between extreme water level changes and NAO along the Baltic Sea coast
Nicole Delpêche-Ellmann: Hidden secrets of transverse coastal upwelling jets revealed using a synergy of data in the Gulf of Finland, Baltic Sea
Jani Särkkä: Sea level extremes simulated from atmospheric reanalyses in the Baltic Sea

Session 3B: Baltic Sea Ecosystem Structure and Functioning 15:30 - 16:30
 Session chair: Monika Winder De Geer lecture hall

Maciej Tomczak: State, structure and regulatory drivers in a Large Marine Ecosystem: the Central Baltic Sea case
Susa Niiranen: Climate change challenges food web stability in the Baltic Sea
Ulf Bergström: Death comes in many shapes - factors regulating populations of coastal predatory fish
Yosr Ammar: Emergence of novelty in the Anthropocene: the Baltic Sea case

Congress Dinner at the Stockholm City Hall 18:45 - 21:00
 Stadshuset, Hantverkargatan 1. Bring your Invitation card. Stockholm City Hall

THURSDAY

09:00 - 09:45
Aula Magna left hall

Keynote by Katja Fennel

Topic: Biogeochemical controls on coastal hypoxia – A global synthesis and selected case studies

09:45 - 10:45
Aula Magna left hall

Plenary talks

Maria Laamanen: Developments in the policy and management landscape supporting the recovery of the Baltic Sea

Katharina Kesy: Vibrio abundances in early bacterial assemblages on microplastics along a 2000 km Baltic Sea coastline

Henrik Svedäng: Centennial life-history changes in the eastern Baltic cod (*Gadus morhua*) stock in relation to hydrography, benthos and stock size

Gregor Rehder: Unusual observations of productivity patterns during the spring bloom 2018 in the Central Baltic Sea suggest vertical nutrient shuttling and the potential for climate-induced changes

10:45 - 11:15
Aula Magna floor 5

Coffee break

11:15 - 12:45
Aula Magna left hall

Session 1: Change and Impacts of External Forcing

Session chair: Fernando Jaramillo

Sami Jokinen: Trace metal sequestration mechanisms in a human-impacted boreal estuary in the northern Baltic Sea

Florian Eveleens Maarse: Long-term changes in the marine macrophyte community of an isolated, Baltic coast

Franziska Bitschofsky: Phosphorus dynamics and P retention potential of lakes and lake sediments in the catchment of the lowland River Warnow (Germany, Mecklenburg-West Pomerania)

Frank Janssen: The Projection Service for Waterways and Shipping (ProWaS) - a tool for planning, design and assessment of mitigation measures

Jakob Walve: Contribution of sewage, sediments and fresh- and seawater inflow to surface water phosphorus concentrations and cycling in the inner Stockholm archipelago, a stratified Baltic Sea estuary

E. Douglas Nilsson: How changes in wind and water temperature drives sea spray aerosol emissions, based on laboratory tank experiments and Baltic Sea Eddy Covariance fluxes

11:15 - 12:45
Aula Magna right hall

Session 2: Coastal Seascapes and Dynamics

Session chair: Ellinor Andrén

Klaus Hinsby: Locating and investigating submarine groundwater discharge in the Horsens Fjord estuary, Denmark

Joonas Virtasalo: A submarine groundwater discharge at the Hanko Peninsula, south Finland

Zrinka Mendas: Coastal forest ecosystems: a cross-regional approach

Grzegorz Uścińowicz: Geohazard assessment of the coastal zone – examples from the southern Baltic Sea

Donatas Pupienis: Assessment of spatial fluctuations in rhythmic shoreline patterns related to sediment magnetic characteristics

Viktoras Karaliūnas: Beach-foredune sediment budget response to sea level fluctuation. Lithuanian Curonian Spit coast.

11:15 - 12:45
De Geer lecture hall

Session 5: Policy and Management/Assessment Strategies

Session chair: Gun Rudquist

Marie Löf: Building university-based boundary organisations that facilitate impacts on environmental policy and practice

Thorsten Blenckner: Assessing ocean health and recovery

Lena Bergström: Application of the ecosystem-based approach in Baltic Sea marine policies

Sofia A. Wikström: Developing ecosystem-based management of the Baltic Sea – Swedish experiences

Katarina Elofsson: The role of water quality for local environmental policy implementation

Rene Friedland: Towards an integrated model-based assessment of scenarios for the North-Western European Shelf

12:45 - 14:00
Aula Magna floor 5

Lunch break

Session 4: BONUS Science technology workshop 14:00 - 15:30
 Session chair: Regine Labrenz Aula Magna left hall

Mats Lindegarth: BONUS SEAM – Towards streamlined Baltic Sea environmental assessment and monitoring
Kristian Meissner: FUMARI BONUS – What new technologies are needed to advance the Baltic Sea monitoring and status assessment
Steffen Assmann: Chemical sensors for ocean science
Rudolf Bannasch: Designing and testing Autonomous Underwater Vehicles for locating and monitoring Submarine Groundwater Discharge
Thomas Helzel: Ocean Radar WERA System
Stefand Raimund: Sailing meets science - Innovative Ocean Monitoring

Session 2: Coastal Seascapes and Dynamics 14:00 - 15:30
 Session chair: Erik Gustafsson Aula Magna right hall

Inga Koszalka: Surface turbulent transport processes and eddy diffusivity in the central Baltic Sea inferred from modeled Lagrangian trajectories
Tuomas Kärrnä: Towards coupled circulation-wave modelling of the Baltic Sea
Joanna Staneva: GCOAST Model System: coupling of ocean and atmosphere through a dynamic wave interface
Olga Vähä-Piikkiö: Importance of Stokes drift in modelling the drift of substances and objects in the Gulf of Finland
Laura Tuomi: Wave-induced bottom shear stress in the Gulf of Bothnia
Fatemeh Najafzadeh: Baltic Sea wave climate variability and its connection with climatic indices deduced from Empirical Orthogonal Functions

Session 3B: Baltic Sea Ecosystem Structure and Functioning 14:00 - 15:30
 Session chair: Maren Voss De Geer lecture hall

Roxana Preston: The origin and regeneration of free-living populations of *Fucus vesiculosus* in the Baltic Sea
Iván F. Rodil: Macrobenthic respiration rates and secondary production across shallow habitats of the Baltic coast
Tiina Salo: Warming modifies predator effects on traits further down in the benthic food web
Christian Sommer: Changes in sediment bacterial community composition and diversity patterns following a major inflow event into the Baltic Sea
Anna Villnäs: Changes in macrofaunal trait groupings across estuarine gradients – implications for the coastal nutrient filter
Bengt Karlson: Distribution and size structure of cyanobacteria and other plankton in the Baltic Sea and the Kattegat-Skagerrak investigated using a multi-method approach

Coffee break 15:30 - 16:00
 Aula Magna floor 5

Session 4: Monitoring, Observations and Assessment systems 16:00 - 17:00
 Session chair: Kai Myrberg Aula Magna left hall

Susanne Kratzer: Inorganic suspended matter over the Baltic Sea derived from satellite data indicates coastal influence
Pekka Alenius: ITT Baltic+ Salinity Dynamics: Evaluating quality and usability of SMOS SSS fields in the Baltic Sea
Sampsa Koponen: Monitoring of carbon fluxes and eutrophication in the Baltic Sea with Sentinel satellites
Sander Rikka: Radar remote sensing of the wind and wave field parameters in the Baltic Sea

Session 2: Coastal Seascapes and Dynamics 16:00 - 17:00
 Session chair: Sofia Wikström Aula Magna right hall

Diana Vaičiūtė: Advantage of hyperspectral airborne imagery for spatial and temporal heterogeneity of water quality in the Curonian Lagoon (the Baltic Sea)
Alexander Sokolov: On hydrodynamic modelling of coastal areas with complex coastline
Karol Kulinski: Seasonal variability of the CO₂ system in the mouth of the Vistula River and in the Gulf of Gdansk
Mari Joensuu: Seasonal variation in sediment erodibility and resuspension in shallow coastal environments of the Baltic sea

Session 3B: Baltic Sea Ecosystem Structure and Functioning 16:00 - 17:00
 Session chair: Gregor Rehder De Geer lecture hall

Jenny Hieronymus: Modeling cyanobacteria life cycle dynamics and historical nitrogen fixation in the Baltic Sea
Andreas Novotny: Key trophic links of micro- and mesozooplankton evaluated with selective DNA metabarcoding
Irena Telesh: Harmful planktonic invaders and their impact on the Baltic coastal ecosystems
Lisa Rönspieß: Different phosphorus fractions – how bioavailable are they?

Poster session – Session 2, 4 and 5 17:00 - 19:00
 Mingle, bar and snacks. Bring your drink ticket. Aula Magna floor 5

Posters in poster session 2

Displayed in Aula Magna floor 5 between 17:00-19:00 during the mingle, bar and snacks

1 Aurelija Armoškaitė

How to link ecosystem benefits and values to ecosystem components and functions providing them? A communication support tool.

2 Åsa Austin

The role of aquatic vegetation for ecosystem multifunctionality

3 Ines Bartl

Hydrodynamic properties of the shallow Bay of Gdansk and implications for the coastal filter function

4 Jan-Victor Björkqvist

Validating WAM, SWAN and WAVEWATCH III in the Helsinki archipelago

5 Martynas Bucas

Impressions from the use of unmanned aerial vehicle for mapping of macrophytes in the Curonian Lagoon

6 Aleksander Babakov / Boris Chubarenko

Alongshore variations of shore cliff height and beach width in relations to morphodynamic type of the shores of South-Eastern Baltic

7 Elena Esiukova / Boris Chubarenko

Geosynthetic debris on the beaches of Kaliningrad Oblast – result of systematic assessment of 2018

8 Valentina Bobykina / Boris Chubarenko

Rate of recession of shoreline in the South-Eastern Baltic in different time scales

9 Christian Dieterich

Record breaking sea levels in Baltic Sea projections

10 Karolina Eriksson

Aquatic ecosystems at risk for occurrence of pathogenic bacteria

11 Elena Ezhova

Cape Taran area – coastal seascapes of unique complexity in the Southeastern Baltic: approaches to conservation

12 Vilnis Frishfelds

Pollution transport in coastal Baltic sea - Liepaja port – Liepaja lake system

13 Rasa Janušaitė

The influence of multiple sandbar system behavior on coastal erosion and accretion, Curonian Spit, Lithuania

14 Milla Johansson / Jani Särkkä

Correlation of wind waves and sea level variations on the coast of the seasonally ice-covered Gulf of Finland

15 T.I. Kahma

A triple-isotope study of the diet of *Macoma balthica*, *Marenzelleria spp.* and *Mytilus edulis*

16 Hedi Kanarik

Effect of surface currents on modelled wave fields in the Baltic Sea

17 Alexej Korkin

Features of the natural-technogenic system in the area of industrial extraction of amber on the Baltic Sea coast (Kaliningrad region of the Russian Federation)

18 Tomasz Wolski / Halina Kowalewska-Kalkowska

The differentiation of the sub-basins of Baltic Sea due to the occurrence of extreme sea levels

19 Halina Kowalewska-Kalkowska

The extent of storm surges in the Odra River mouth area (the southern Baltic Sea)

20 Halina Kowalewska-Kalkowska

Modelling of coastal upwelling in the southern Baltic Sea using the high-resolution PM3D model

21 Andrey Kurkin / Ayrat Giniyatullin

Impact of IW-induced currents on submersed construction elements for hydrological conditions of the Baltic Sea shelf

22 Jurate Lesutiene

Application of floating wetlands for nutrient removal, enhancement of biodiversity and cultural services in coastal lagoons

23 Urmas Lips / Irina Suhhova

Linking the development of stratification with the variability of velocity profiles in the Gulf of Finland

24 Jovita Mėžinė

Is sediment resuspension important in benthic-pelagic coupling in the largest Baltic lagoon?

25 Urszula Paćzek

Offshore large scale bedforms and related shoreline changes on southern Baltic

26 Jolita Petkuvienė

Multiple drivers of cyanobacterial blooms in a large estuary: the role of phosphorous

27 Henna Rinne

Community composition of the rocky bottoms across the Finnish marine area using HELCOM HUB -classification

28 Ekaterina Rouvinskaya / Ayrat Giniyatullin

On an impact of rotation and dissipation in modeling of internal gravity waves in the Baltic Sea

29 Aurelija Samuilovienė

Atmospheric nitrogen fixation in the largest Baltic lagoon: evidences from metagenomic analysis

30 Jan Scholten

Submarine Groundwater Discharge along the shorelines of the Eckernförde Bay, Baltic Sea

31 Jan F. Schröder

Deep Submarine Groundwater Discharge in the Eckernförde Bay, Western Baltic Sea

32 Andrei Sokolov

Parametrization of coastal sources of geosynthetic pollution in the SHYFEM model based on the random walk algorithm

33 Marta Szubska

Spatial distribution of arsenic in Baltic Sea bottom sediments

34 Beata Szymczycha

SGD as a source of pharmaceuticals to the Bay of Puck, southern Baltic Sea

35 Sander Varbla / Nicole Delpeche-Ellmann

Utilising airborne laser scanning and geoid model for examining marine processes

36 Irma Vybernaite-Lubiene

Variable loads of N, Si and P affect algal blooms and functioning of a large estuary

Posters in poster session 4

Displayed in Aula Magna floor 5 between 17:00-19:00 during the mingle, bar and snacks

37 Victor Alari

A device for measuring wind waves in the marginal ice zone

38 Saeid Aminjafari

Using hydrogeodesy to understand changes to water resources in the Baltic Basin

39 Steffen Aßmann

Chemical sensors for ocean science

40 Jenni Attila

Sentinel satellite possibilities for the status assessment of Northern Baltic Sea

41 Marta Barone

Composition and distribution of marine litter in Gulf of Riga

42 Vadim Paka / Maria Golenko

Technology for measuring the fine structure of water from a moving vessel

43 Dalia Grendaitė

Atmospheric correction uncertainty in mapping chlorophyll-*a* concentration in lakes using Sentinel-2 data

44 Simon Jandt

Development of a common toolbox to validate forecast products and reanalysis within the Baltic CMEMS group

45 Maria Kahlert

BONUS FUMARI – Improving Baltic Sea monitoring: gaps between requirements and praxis

46 Joachim Kuss

Preliminary results on the analysis of novel methods as standard routines in Baltic Sea monitoring in the frame of Bonus-SEAM – IOW contributions

47 Leoni Mack

BONUS FUMARI – Improving Baltic Sea monitoring: Novel monitoring methods

48 Biljana Macura

Ecotechnologies for the recovery and reuse of carbon and nutrients from wastewater and agriculture: findings from two systematic maps

49 Valeriy Nabatov / Maria Golenko

Improvement of Tilt Current Meters (TCM) (for multipurpose use)

50 Henrik Nygård / Mats Lindegarth

Development of benthic monitoring strategies in the Baltic Sea

51 Magdalena Pawlik

Possibilities of measurements for pine pollen grains in the waters of the southern Baltic Sea

52 Sander Rikka

A method for Significant Wave Height Estimation from Circularly Polarized X-band Coastal Marine Radar Images

53 Fabian Schwichtenberg

Recent developments of the biogeochemical CMEMS-Baltic Sea Forecast products

54 Lena Viktorsson

Monitoring for research, surveillance and management

55 Alexandra Volodina

Red algae in hard bottom communities of the northern coast of the Sambian Peninsula (South-Eastern Baltic Sea)

Posters in poster session 5

Displayed in Aula Magna floor 5 between 17:00-19:00 during the mingle, bar and snacks

56 Elin Almroth-Rosell / Matthias Gröger

Climate change additions to cumulative impact assessment in Swedish marine waters

57 Lena Bergström

Coastal fish communities in the Baltic Sea - Current state of indicators and assessment methodologies

58 Boris Chubarenko

Potential use of beach wrack for coastal protection measures in the South-Eastern Baltic

59 Kari Eilola

EMODnet Chemistry – developing data products and services of relevance for the Marine Strategy Framework Directive

60 Berit Hasler

Towards a socioeconomic action plan for the Baltic Sea

61 Susanna Kihlman

Multiscale maps- compiling seabed substrate data for European maritime areas

62 Erik Kärrman

Sustainability analysis of scenarios for circular systems for nutrients and carbons

63 Hanna Luhtala

Stakeholder involvement practices in the MSP processes of the Baltic Sea countries

64 Lotta Maack

Confidence of spatial data for use in marine planning and management

65 Daniel Mattson

Standardised Swedish marine data published via the European Marine Observation and Data Network (EMODnet)

66 Michelle McCrackin

Showing progress in recovery from eutrophication in the Baltic Sea

67 Johan Näslund

Benthic habitat mapping of the Swedish Baltic Sea

68 Kevin Parnell

Coastal processes and changing process drivers in the Baltic Sea: What communities and local policy makers need to know

69 Marcus Reckermann

Baltic Earth Assessment Reports (BEAR) – Making regional Earth system knowledge available

70 Samaneh Seifollahi-Aghmiuni

Stakeholder perspectives on sustainable coastal development: A Baltic coast case study

71 Harri Tolvanen

Impact of maritime traffic and marine tourism on non-profit recreational activities in the Baltic Sea coast of SW Finland

72 Nina Tynkynen

Are institutional change and the implementation of the ecosystem approach such strange bedfellows? A case study of HELCOM and the Baltic Sea Action Plan

73 Marlene Ågerstrand

Transparency within REACH?

FRIDAY

09:00 - 09:45
Aula Magna left hall

Keynote by Tom Bianchi

Topic: Carbon processing in aquatic critical zones: Biogeochemical challenges in the 21st century

09:45 - 10:45
Aula Magna left hall

Plenary talks

Daniel Conley: The Baltic Sea – fixing eutrophication and hypoxia

Mindaugas Zilius: Invertebrate-bacteria associations as hotspots for benthic nitrogen cycling processes in estuarine ecosystems

Jenny Ask: Allochthonous organic matter supports benthic but not pelagic food webs in shallow coastal ecosystems

Agnetta Andersson: Evaluation of the efficiency of DNA metabarcoding to complement microscopic analysis of phytoplankton: case study in the coastal Bothnian Sea

10:45 - 11:15
Aula Magna floor 5

Coffee break

11:15 - 13:00
Aula Magna left hall

Session 4: Monitoring, Observations and Assessment systems

Session chair: Jacob Carstensen

Petra Roiha: Argo floats in the northern Baltic Sea: focus on hydrography and ice

Waldemar Walczowski: An increasing role of Argo floats in Baltic Sea oceanographic observations

Joachim Kuss: An approach for a bottom water oxygen indicator for shallow open-sea waters – the Arkona Sea as an example

Johan Näslund: eDNA-metabarcoding for biodiversity monitoring

Margus Rätsep: Ship wake analysis using an array of nearbed sensors

Inga Lips: The first overview of the microplastic pollution in the Estonian waters in the Gulf of Finland, Baltic Sea

11:15 - 13:00
Aula Magna right hall

Session 5: Policy and Management/Assessment Strategies

Session chair: Henrik Hamrén

Tua Nylén: Improving practices for spatial data analysis in Maritime Spatial Planning

Antonia Nyström Sandman: IMAGINE - Implications of Alternative Management Strategies on Marine Green Infrastructure

Meeli Roose: Multi-step model to establish the roles of scientists and politicians in creating spatial data for MSP

Andreas Kannen: Using a BowTie Approach for policy risk assessment in marine planning

Hedvig Hogfors: MOSAIC – a new framework to facilitate an ecosystem based and adaptive spatial management at multiple scales of governance

Karina Barquet: Drivers and barriers for phosphorus reuse in the Baltic Sea Region

Ta-Kang Liu: Port state control strategy for reducing the impact of ships' ballast water utilizing an expert opinions based risk model

11:15 - 13:00
De Geer lecture hall

Session 3B: Baltic Sea Ecosystem Structure and Functioning

Session chair: Anna Sobek

Per Hedberg: Effect of increased cyanobacteria blooms on benthic macrofauna in the Baltic Sea

Marie Plambeck Ryberg: Effects of the seal-associated cods liver worm (*Contracaecum osculatatum*) on the health status of Eastern Baltic cod

Philip Jacobson: Population- and size-specific distribution of Atlantic salmon in the Baltic Sea with implications for management

Susanne Kortsch: Linking structure and function in past and present Baltic Sea food webs: the Gulf of Riga case study

Josefine Larsson: A population genomic analysis of blue mussels identifies genomic regions associated with sewage treatment plant effluents in the Baltic Sea

Francisco Nascimento: Soft-sediment biodiversity along environmental gradients of the Baltic Sea

Leena Virta: The diversity of benthic diatoms supports productivity across spatial gradients in the Baltic Sea

13:00 - 14:00
Aula Magna floor 5

Lunch break

14:00 - 14:30
Aula Magna left hall

Closing session



In 2001 the very first Baltic Sea Science Congress was held in Stockholm. The idea to join the separate conferences of Baltic Sea biologists, geologists and oceanographers into one, was an immediate success. Since then the BSSC has travelled around the countries surrounding the Baltic Sea to numerous places important for the marine science. Now, the 12th Baltic Sea Science Congress is held in Stockholm again.

In these years, Baltic Sea research has embraced new interdisciplinary approaches and scientific disciplines, filling gaps in crucial knowledge. We are happy to announce that 362 persons has registered to Baltic Sea Science Congress 2019. A total of 147 persons will hold oral presentations and there will be 166 poster presentations. Together with renowned keynote speakers, five different sessions and a focus on scientific outreach, all bodes well for a great week.