

16th Symposium of Aquatic Microbial Ecology (SAME16)
1st — 6th September 2019 Potsdam, Germany

Sunday, September 1st 2019

14:00 REGISTRATION

17:00 SAME16 WELCOME Hans-Peter Grossart
Florian J. Schweigert, vice president for international affairs, University of Potsdam

Session Chairs: **Daniel Sher and Anupam Sengupta**

17:30 Keynote: **Mary Ann Moran** **Metabolites of the marine microbiome**
18:00 Keynote: **Shinichi Sunagawa** **The global ocean microbiome through the lens of meta'omics**

18:30-21:00 WELCOME MIXER

Monday, September 2nd 2019

MICROBIAL INTERACTIONS

Session Chairs: **Silke Van den Wyngaert and Meinhard Simon**

08:45 Keynote: **Thomas Posch** **Effect of lake warming on protists and microbial food web dynamics**
Aquatic fungi

09:15 Anushree Sanyal Fungi in aquatic ecosystems
09:30 Mariana Kluge Accessing poorly studied fungi from a thermokarst site in Abisko, Sweden, by culture and isolation
09:45 Ramsy Agha Chytrid fungal parasitism at the base of pelagic food webs: Direct and indirect effects on trophic transfer
10:00 Alena Gsell Long-term phytoplankton host- chytrid parasite dynamics in Lake Müggelsee
10:15 Michael Daniels Species interactions in a chitin degrading community

10:30 COFFEE BREAK

Session Chairs: **Silke Van den Wyngaert and Meinhard Simon**

Phytoplankton

11:00 Mariana Câmara dos Reis The microbiome of the cosmopolitan coccolithophore *Emiliana huxleyi* in culture is stable over time and highly diverse
11:15 Vincent Deneff Algal microbiomes alter competitive interactions between their hosts
11:30 Ahmed Shibl *Roseobacteria* dominate interactions between a cosmopolitan diatom and its microbiome
11:45 Constanze Kuhlisch Revealing the chemical vocabulary that mediates algal bloom demise in the ocean
12:00 Nina Heinzmann Phages are a mortality factor of bacterial key groups during marine spring phytoplankton blooms
12:15 Falk Eigemann Untangling distinctive tasks of different cyanobacterial species and associated heterotrophic bacteria in carbon as well as nitrogen fixation and cycling in a Baltic Sea bloom

12:30 LUNCH

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Session Chairs: **Mina Bizic and Jakob Pernthaler**

14:00	Keynote: Oded	Béjà	The search for new ways to harvest light using functional metagenomics Viruses and Bacteria
14:30	Falk	Zucker	<i>Ascunsovirinae</i> , a new <i>Microviridae</i> subfamily, infects <i>Alphaproteobacteria</i> from terrestrial and marine environments
14:45	Yusuke	Okazaki	Metagenomic exploration of viral diversity and virus-host interactions in a deep freshwater lake
15:00	David Kamanda	Ngugi	Genome-centric metagenomics view of freshwater virosphere in lake Constance
15:15	Heike	Freese	Extrachromosomal replicon diversity, exchange and ecological importance in marine surface-associated bacteria
15:30	Rhiannon	Mondav	Identifying common goods and black queens in lakes
15:45	COFFEE BREAK		

Session Chairs: **Mina Bizic and Jakob Pernthaler**

Viruses and Bacteria

16:15	Angel	Rain-Franco	Frequent pulse disturbances affect microbial community interactions and functioning: experimental evidence using chemostats
16:30	Cong	Fei	Quorum Sensing regulates 'swim-or-stick' lifestyle in phytoplankton-associated bacteria
16:45	Ayelet	Dadon-Pilosof	"Teflon" bacteria? The most abundant bacterium in the ocean evades predation by ubiquitous mucous filter feeders
17:00	Peter	Deines	Fitness effects of host-bacterial interactions – the microbial perspective
17:15	Ian	Hewson	Key insights into the etiology of sea star wasting from bacterial + archaeal and viral community variation during syndrome progression.

17:30 - 19:30 **POSTER SESSION**

Beers and Snacks

Tuesday, September 3rd 2019

AQUATIC INTERPHASES

Session Chairs: **Jason Woodhouse and Josep M. Gasol**

08:45	Keynote: Colin	Murrell	The role of bacteria in the biogeochemical cycling of isoprene, a much-neglected climate active gas Environmental Gradients
09:15	Paul	del Giorgio	Bacterioplankton community reassembly along steep environmental gradients
09:30	Christina	Fasching	Linking functional gene composition of stream microbial communities to dissolved organic matter and inorganic nutrients
09:45	Masumi	Stadler	Unravelling the successional patterns and community assembly of bacterioplankton along a soil-hydrological continuum
10:00	Michaela	Salcher	Evolution in action: Habitat transition from sediment to pelagial leads to genome streamlining in <i>Methylophilaceae</i>

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10:15 Susheel Bhanu Busi Biofilms: a metagenomic perspective of alpine glacier-fed streams

10:30 **COFFEE BREAK**

Session Chairs: Jason Woodhouse and Josep M. Gasol

Environmental Gradients

11:00 Kimberley Bird Complex physicochemical influences on the sea surface microlayer and bacterioneuston communities in the open ocean

11:15 Janina Rahlff Sea foams represent ephemeral microbial hotspots at the ocean's surface

11:30 Brittan Scales Does a Plastisphere across aquatic systems really exist?

11:45 Anders Andersson Ecosystem-wide metagenomic binning enables prediction of ecological niches from genomes

12:00 Moritz Buck Recycling bins: making sense of the whole metagenome

12:15 Massimo Ciro Pernice Message in a bubble: role of extracellular vesicles in microbial community

12:30 **LUNCH**

Session Chairs: Danny Ionescu and Sandi Orlic

14:00 Keynote: **Christian Griebler** **Carbon cycling in groundwater ecosystems - what do we know and what is missing?**

Aquatic boundaries

14:30 Clara Ruiz-González Low heterotrophic activity but high growth potential of bacteria from coastal Mediterranean groundwater aquifers

14:45 Martina Herrmann Complex food webs in groundwater coincide with high genetic potential for chemolithoautotrophy

15:00 Dandan Shen Metatranscriptomics reveals metabolic plasticity of bacteria crossing marine-freshwater boundaries in microbial microcosms

15:15 Francisco Rodriguez-Valera Marine-freshwater prokaryotic transitions require extensive changes in the proteome

15:30 Claudia Maturana-Martínez Freshwater influence on the bacterioplanktonic community structure under contrasting characteristics: Case study of Fjords Yendegaia and Pia (Chilean Sub Antarctic Region).

15:45 **COFFEE BREAK**

Session Chairs: Danny Ionescu and Sandi Orlic

Community structuring

16:15 Ellen Decaestecker Environmental bacterial community shaped through a keystone species microbiome

16:30 Alizée Le Moigne Importance of stochastic processes in shaping community structure and function.

16:45 Susanne Kraemer Land use structures lake bacterial communities across Eastern Canada

17:00 Danza Francesco Phytoplankton foraging under ecological constraints

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17:15 Daniel Herlemann Long-term experiments artificially enrich bacteria with specific physiological characteristics

17:30 - 19:30 **POSTER SESSION**

Beers and Snacks

Wednesday, September 4th 2019

MODELLING

Session Chairs: Luca Zoccarato and Takeshi Miki

08:30 Keynote: **Elisa Thebault** **Ecological networks of diverse interaction: implications for community dynamics and ecosystem functioning**

09:00 Takeshi Miki Feedback between bacterial community assembly and refractory carbon accumulation in aquatic ecosystems

09:15 Kerstin Günther From empirical data to food web models – investigation of dynamic features of freshwater communities based on major energy pathways

09:30 Jorma Kuparinen Episodic autumnal upwelling event creates a low efficiency pelagic food web with no top-down control but tightly coupled dynamics in the microbial food web in the northern Baltic sea

09:45 Helmut Fischer To swim or not to swim - simulating microbial transport and loss processes for recreational water use in a complex urban river system

10:00 **COFFEE BREAK**

Session Chairs: Luca Zoccarato and Takeshi Miki

10:30 Yoav Lehahn Intensification of fine-scale (1-100km) phytoplankton blooms by horizontal stirring

10:45 Ferdi Hellweger Dynamic, Molecular-level modeling of the intracellular functioning Microcystin in *Microcystis*

11:00 Luis Alberto Villalba Rubio Phenotypic plasticity drives success of opposing bacterial lifestyles in predator-prey systems

11:15 Chun Wei Chang Ecosystem-level stabilizing effects of biodiversity via nutrient-diversity feedbacks in multitrophic systems

11:30 - 21:00 **TOURS**

Thursday, September 5th 2019

BIOGEOCHEMISTRY

Session Chairs: Werner Eckert and Veljo Kisand

08:45 Keynote: **Bo Barker Jørgensen** **Depth and time scales in seabed biogeochemistry!**
General biochemistry

09:15 Jakob Pernthaler Homoeostatic regulation of dissolved labile organic substrates by consumption and release processes in a freshwater lake

09:30 Cristiana Callieri *Synechococcus* spp. living in the mesopelagic anoxic realm of the Black Sea

09:45 Meinhard Simon Genomic traits and biogeographic pattern reflect adaptation of the Atlantic Ocean microbiome to Nitrogen availability and acquisition

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10:00	Anna J.	Székely	Microbial insights of DOM ageing in boreal aquatic ecosystems: exploring the link between water residence time and microbial function
10:15	Veljo	Kisand	Immediate response of gene expression to riverine DOM and nutrients by pelagic bacteria community in the Baltic Sea

10:30 **COFFEE BREAK**

Session Chairs: Werner Eckert and Veljo Kisand

Environmental change

11:00	Gaëtan	Martin	Chemotrophy fuels carbon fixation in oxygen stratified boreal lakes
11:15	Máté	Vass	Warmer climate, not so warm welcome: temperature- and dispersal-dependent priority effects in aquatic bacterial communities
11:30	Greta	Giljan	Seasonal changes in 'selfish' polysaccharide uptake off Helgoland
11:45	Mia	Bengtsson	Heatwaves cause long-term restructuring of freshwater bacterioplankton communities mediated by dispersal and zooplankton grazing

12:00	Keynote: Milucka	Jana	Methane oxidizing bacteria in anoxic waters - activity and interactions
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12:30 **LUNCH**

Session Chairs: Jonna Teikari and Michal Koblížek

14:00	Keynote: Ruben	Sommaruga	Where it all began: microbial ecology of glacier-fed lakes
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Metabolic processes

14:30	Elias	Broman	Inhibition of methanotrophs sustains high methane emission from coastal sediments
14:45	Paula	Reis	Extremely high relative abundance of methane-oxidizing bacteria mitigates methane emissions from tropical reservoir and downstream river
15:00	Franziska	Klotz	A single <i>Thaumarchaeon</i> drives nitrification in deep oligotrophic Lake Constance
15:15	Eyal	Geisler	Aquatic aggregates as hotspots for heterotrophic diazotrophy

15:30 **COFFEE BREAK**

Session Chairs: Jonna Teikari and Michal Koblížek

Metabolic processes

16:00	Francisco M.	Cornejo-Castillo	Hopanoid lipids may facilitate aerobic nitrogen fixation in the ocean
16:15	Nestor	Arandia-Gorostidi	Quantifying nitrogen assimilation in the deep ocean: urea is an important nitrogen source for bathypelagic microbial communities
16:30	Jose	Gonzalez	Dynamics of genes and taxa that respond to dimethylsulfoniopropionate (DMSP) additions in natural bacterial communities
16:45	Michael	Pester	Pyrite formation from FeS and H ₂ S: a novel microbial energy metabolism in reduced sediments
17:00	Sarahi	Garcia	Global distribution and niche specialization of the Class <i>Chlorobia</i>

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17:15 Tinkara Tinta Microbial processing of jellyfish detritus in the ocean

20:00 - 01:00 **GALA DINNER ON A CRUISING BOAT**

Friday, September 6th 2019

FRONTIERS AND NEW HORIZONS

Session Chairs: Ellen Decaestecker and Paul del Giorgio

09:00 Keynote: **Maiko Kagami** **Swimming fungi: potential drivers of aquatic food webs and biogeochemical cycles**

09:30 Natalia Krempaska Small-scale variability of freshwater bacterioplankton

09:45 Federico Baltar Lifting the Lid: the microbial ecosystem under the Ross Ice Shelf

10:00 Ester Eckert Microplastic, zooplankton, and coins: hot-spots for the persistence of anthropogenic pollution markers in aquatic habitats

10:15 Kasia Pivosz How much sense do amplicon data make?

10:30 **COFFEE BREAK**

Session Chairs: Ellen Decaestecker and Paul del Giorgio

11:00 Keynote: **Amelia Elena-Rotaru** **Electroactive methanogens in aquatic environments**

11:30 Marta Royo-Llonch Revealing keystone arctic microbial genomes

11:45 Eric Capo A glance at the history of lake aquatic microbial communities: a sedimentary-DNA based metabarcoding approach to characterize 10000 years records from Swedish mountain lakes

12:00 Gianluca Corno Antibiotic resistance in water, the impact of anthropogenic activities and the role of ecology

12:15 Tatiana Shabarova Drama in four acts: extreme hydrological events cause cyclic succession of plankton communities

12:30 Anupam Sengupta Fluctuation induced emergent traits in motile microbes

12:45 **FINAL REMARKS**

13:00 **CLOSING OF THE CONGRESS**