# Listening in on the chemical language of the ocean

***Symposium on marine microbial and chemical ecology***

| Date & Time | Location | Registration by 10 Oct |
|---|---|---|
| 14 Oct 2022 | Technical University of Denmark | rami@dtu.dk |
| 09:00-12:30 | Lyngby Campus, bldg. 101, M1 | |

**Natural products or secondary metabolites or specialized metabolites: A dear child has many names.** Many of these compounds have been well known for decades due to their importance as clinical drugs, such as anti-cancer or anti-bacterial compounds. However, these compounds are also the chemical language by which both eukaryotic and prokaryotic organisms communicate and shape the development of eco-systems. The **three invited talks** address different aspects of the ecological roles of this chemistry, and also provide evidence of how understanding the natural ecology can provide novel strategies for bioprospecting from novel niches. All talks focus on the marine environment for which the chemistry is far less explored compared to the terrestrial niches.

09:00-09:25 **Coffee, tea & networking**

09:25-09:30 **Welcome**
**Lone Gram**,
Professor, Center Leader, CeMiSt, DTU Bioengineering

09:30-10:15 **Chemical ecology of sponges on Caribbean reefs: Natural products shape natural systems**
**Joseph Pawlik**,
Frank Hawkins Kenan Professor of Marine Biology, University of North Carolina Wilmington

10:15-11:00 **Ecological approaches to natural product discovery from marine bacteria**
**Paul Jensen**,
Professor of Marine Biology, Scripps Institution of Oceanography, University of California San Diego

11:00-11:45 **Natural products make seagrass meadows the sweet spots in the sea**
**Manuel Liebeke**,
Group Leader, Max Planck Institute of Marine Microbiology, Bremen

11:45-12:30 **Drinks & networking**

Made possible by funding from the Danish National Research Foundation to CeMiSt & the Otto Mønsted Foundation Guest Professorships.

# Meet our invited speakers

**Joe**'s lab has been studying the chemical ecology of sponges on Caribbean reefs for over three decades, beginning with simple experiments to identify potential chemical defenses of individual sponge species against fish predators that led to wide-ranging field experiments to test ecosystem-level hypotheses. More recently, he has been collaborating with colleagues in Chemistry and Earth Sciences at UNCW to understand the impacts sponge pumping may have on dissolved organic matter in seawater. Joe is visiting his good friend Paul who is visiting CeMiSt as an Mønsted Guest Professor.
http://people.uncw.edu/pawlikj/index.html

**Paul**'s research interests lie at the interface of marine microbiology and natural products chemistry. His lab addresses fundamental questions such as which marine microbes produce natural products, where do they live, why do they make them, and how can they be exploited for useful purposes such drug discovery? While working with cultured microorganisms is an important aspect of this research, omic approaches are also used to provide insight into the extent of microbial diversity in marine habitats and how effectively it has been accessed for natural product discovery.
Paul is visiting CeMiSt as an Otto Mønsted Guest professor
https://pjensen.scrippsprofiles.ucsd.edu/

**Manuel**'s lab studies metabolic interactions between microbes and marine organisms living in symbiosis. His research group is using modern mass-spectrometry methods to understand how molecules are involved in host-microbe systems, which metabolites shape the community and also how the symbiotic partner respond metabolically to environmental changes. A key method, developed in his lab, is high-resolution mass-spectrometry imaging coupled to microscopy to reveal the spatial metabolome and community structure of microbial systems.
Manuel is visiting CeMiSt as an Otto Mønsted Guest professor
https://www.mpi-bremen.de/en/Manuel-Liebeke.html

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