

MSMM22 Workshop for Young Scientists

Sunday 12th June 2022

Konventum * Ejler Jensens Vej 1 * 3000 Helsingør * Tlf +45 49 28 09 00

Sunday, 12th June 2022

13:00 - 14:00 Workshop registration beside the Reception (Konventum Plan 2).
Please note that the hotel check in is possible first after 15:00 at the Reception.

Damgaardssalen (Konventum Plan1)

- 14:00 - 14:30 Introduction to MSI and mass spectrometry
Aaron JC Andersen, PhD, Metabolomics Core Manager, CeMiSt, DTU Bioengineering, Lyngby, Denmark
- 14:30 - 15:00 The timsTOF fleX: MALDI, MALDI-2, TIMS... and much more!
Andras Kiss, PhD, Field Application Support Engineer, Bruker Austria GmbH, Vienna, Austria
- 15:00 - 15:15 **Coffee break,**
Foyer Damgaardssalen (Konventum Plan 1)
- 15:15 - 15:45 MALDI imaging of microorganisms on agar
Scott Jarmusch, Postdoc, CeMiSt, DTU Bioengineering, Lyngby, Denmark
- 15:45 - 16:15 Applications of MALDI imaging
Manuel Liebeke, Dr, Group Leader, Max Planck Institute for Marine Microbiology, Bremen, Germany
- 16:15 - 16:45 Applications of DESI and MALDI imaging
Christian Janfelt, Associate Professor, University of Copenhagen, Copenhagen, Denmark

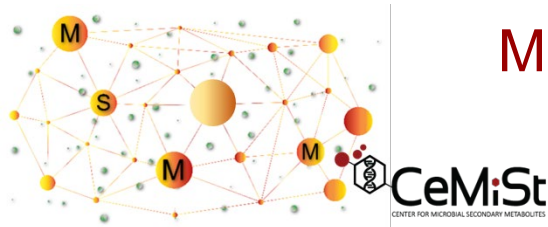
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Microbial Secondary Metabolites in Microbiomes 2022

Sunday 12th to Tuesday 14th June 2022

Konventum * Ejler Jensens Vej 1 * 3000 Helsingør * Tlf +45 49 28 09 00

Sunday, 12th June 2022

17:00 - 17:40 Conference registration beside the Reception (Konventum Plan 2)
Hotel check-in at the Reception

Opening lecture, Damgaardssalen (Konventum Plan1)

18:00 - 19:00 Hologenomics - why should we care, and are we getting there?
Tom Gilbert, Professor, Director, Center for Evolutionary Hologenomics, University of Copenhagen,
Copenhagen, Denmark

Welcome reception, Restaurant (Konventum Plan 2)

19:00 - 21:00 Welcome reception and dinner buffet

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Monday, 13th June 2022

08:15 - 08:45 Conference Registration beside the Reception (Konventum Plan 2)

09:00 - 09:10 Welcome, Damgaardssalen (Konventum Plan 1)
Lone Gram, Professor, Center Leader, CeMiSt, DTU Bioengineering, Lyngby, Denmark
Bjarke Bak Christensen, Head of Department, DTU Bioengineering, Lyngby, Denmark

Session 1. Roles of microbial secondary metabolites in interactions Damgaardssalen (Konventum Plan 1)

Chairpersons: Ákos T. Kovács, Professor & Shengda Zhang, Assistant Professor

09:10 - 09:20 CeMiSt: Foundation, realization and goals
Lone Gram, Professor, Center Leader, CeMiSt, DTU Bioengineering, Lyngby, Denmark

09:20 - 09:50 Roles and controls: exploring secondary metabolism in *Streptomyces* bacteria
Marie A Elliot, Professor, Chair of the Biology Department, McMaster University, Hamilton, Canada

09:50 - 10:20 Coffee break,
Foyer Damgaardssalen (Konventum Plan 1)

10:20 - 10:50 Swift and smelly: the role of volatile compounds in microbial interactions
Paolina Garbeva, Dr., Researcher, Netherlands Institute of Ecology, Wageningen, The Netherlands

10:50 - 11:20 Triggering natural product formation in microbial symbionts
Christine Beemelmans, Professor, Head of Chemical Biology of Microbe-Host Interactions, Leipzig University, Leipzig, (previously at Leibniz Institute for Natural Product Research and Infection Biology, Hans Knöll Institute, Jena), Germany

11:20 - 11:40 Wood ants and their associated microorganisms inhibit plant pathogens
Ida Cecilie Jensen, PhD Student, Section for Microbiology, Terrestrial Ecology, Department of Ecoscience, Aarhus University, Aarhus, Denmark and Department of Biology, Aarhus University, Aarhus, Denmark

11:40 - 12:00 Tropodithietic acid prepares the producer, *Phaeobacter piscinae* S26, for colonization
Laura Louise Lindqvist, PhD Student, CeMiSt, DTU Bioengineering, Lyngby, Denmark

12:00 - 13:00 Lunch,
Restaurant (Konventum Plan 2)

Session 2. Discovery and detection of microbial secondary metabolites, Damgaardssalen (Konventum Plan 1)

Chairpersons: Charlotte Held Gotfredsen, Associate Professor & Michael Scott Cowled, Postdoc

13:00 - 13:30 Taking a Microscale Look at Symbiotic Interactions: Discovery of New Metabolites from the Host–Microbe Interface
Manuel Liebeke, Dr, Group Leader, Max Planck Institute for Marine Microbiology, Bremen, Germany

13:30 - 14:00 Mass spectrometry imaging by DESI and MALDI of drugs, metabolites and natural products
Christian Janfelt, Associate Professor, University of Copenhagen, Copenhagen, Denmark

14:00 - 14:30 Coffee break,
Foyer Damgaardssalen (Konventum Plan 1)

14:30 - 15:00 Changing paradigms in natural product discovery: a molecule to microbe approach
Paul Jensen, Professor, Scripps Institution of Oceanography, UC San Diego, Gilman, US

- 15:00 - 15:20 Accurate *de novo* identification of biosynthetic gene clusters with GECCO
Martin Larralde, Predoctoral Fellow, Structural and Computational Biology Unit, European Molecular Biology Laboratory, Heidelberg, Germany
- 15:20 - 15:40 Co-expression-based functional inference irons out desferrioxamine biosynthesis in *Streptomyces coelicolor*
Zachary Reitz, Postdoc, Bioinformatics Group, Wageningen University, Wageningen, The Netherlands
- 15:40 - 16:00 A new member of the Mutactimycin family isolated from a *Saccharotrix* found in the Atacama Desert
Rishi Vachaspathy Astakala, PhD Student, Marine Biodiscovery Centre, Department of Chemistry, University of Aberdeen, Aberdeen, UK
- 16:00 - 18:15 Group photo, posters, drinks and network
Foyer Damgaardssalen (Konventum Plan 1)
- 19:00 Dinner, after dinner drinks, discussions
Restaurant (Konventum Plan 2), Salonerne (Konventum Plan 1)

**Session 3. Biotransformation and biointeractions (cross chemistry) of microbial secondary metabolites,
Damgaardssalen (Konventum Plan 1)**

Chairpersons: Lars Jelsbak, Professor & Adele Kaltenyte, PhD Student

09:30 - 10:00 Bioactive natural products from interacting microorganisms

Pierre Stallforth, Professor, Dr., Head of the Department Paleobiotechnology, Leibniz Institute for Natural Product Research and Infection Biology, Hans Knöll Institute, Jena, Germany

10:00 - 10:30 A Functional metabolomics toolbox to study the role and fate of small molecules within microbial communities

Daniel Petras, Dr., New PI, Cluster of Excellence- Controlling Microbes to Fight Infections, University of Tübingen, Tübingen, Germany

10:30 - 11:00 **Coffee break,
Foyer Damgaardssalen (Konventum Plan 1)**

11:00 - 11:20 Ecological role of archetypal class I lasso peptide, siamycin, against relevant Gram-positive environmental bacterial isolates

Scott Jarmusch, Postdoc, CeMiSt, DTU Bioengineering, Lyngby, Denmark

11:20 - 11:40 A semi-synthetic microbial community resists *Pseudomonas*-invasion by community-level resistance towards *Pseudomonas*-produced secondary metabolites

Morten L. Hansen, Postdoc, CeMiSt, DTU Bioengineering, Lyngby, Denmark

11:40 - 12:00 The key to a good relationship: inter-kingdom communication in a fungal-ant nutritional symbiosis

Benjamin Conlon, Postdoc, University of Copenhagen, Copenhagen, Denmark

12:00 - 13:00 **Lunch,
Restaurant (Konventum Plan 2)**

**Session 4. Evolution and dynamics of biosynthetic gene clusters in microbes and microbial communities,
Damgaardssalen (Konventum Plan 1)**

Chairpersons: Mikael Lenz Strube, Associate Professor & Matiss Maleckis, PhD Student

13:00 - 13:30 Evolutionary processes shaping secondary metabolism across the fungal kingdom

Jason C. Slot, Associate Professor, The Ohio State University, Columbus, US

13:30 - 14:00 Evolution and resurrection of ancient megasynthases

Nadine Ziemert, Professor, Dr.,

¹ Interfaculty Institute of Microbiology and Infection Medicine Tübingen,

² German Centre for Infection Research (DZIF), Partner Site Tübingen, University of Tübingen, Tübingen, Germany

14:00 - 14:30 **Coffee break,
Foyer Damgaardssalen (Konventum Plan 1)**

14:30 - 14:50 The landscape of recombination events that create natural product diversity

Martin Baunach, Postdoc, University of Potsdam, Potsdam-Golm, Germany

14:50 - 15:10 Exploring the uncharted biosynthetic diversity of marine sponge holobionts

Catarina Loureiro, PhD Student, Laboratory of Microbiology, Wageningen University, Wageningen, The Netherlands

15:10 - 15:30 Biofilm succession and microbial secondary metabolite dynamics in natural marine community
Nathalie S. E. Henriksen, PhD Student, CeMiSt, DTU Bioengineering, Lyngby, Denmark

15:30 - 16:00 Discussion and closing remarks,
Damgaardssalen (Konventum Plan 1)

Lone Gram, Professor, Center Leader, CeMiSt, DTU Bioengineering, Lyngby, Denmark.

16:00 - 18:00 Networking and farewell,
Foyer Damgaardssalen (Konventum Plan 1)