

Preliminary Program

Antibiotics and Antibiotic Resistance course

Hjortviken Konferens, 4-8 April 2022

DAY 1 - Monday

Registration and welcome

- 10:00 - **Registration and poster mounting**
- 12:15-13:15 **Lunch**
- 13:15-14:15 **Welcome and one-minute introductions by course participants**
Michael Koomey, University of Oslo, Norway (IBA)
Debra L Milton, Umeå University, Sweden (NDPIA)

Introductory lectures

- 14:15-15:15 **Resistance from a microbe perspective**
Diarmaid Hughes, Uppsala University, Uppsala, Sweden
- 15:15-15:30 **Coffee**
- 15:30-16:15 **Clinical importance of resistance**
Thomas Tängdén, Uppsala University and Uppsala University Hospital, Uppsala, Sweden
- 17:00-17:45 **Real world antibacterial resistance: *M. tuberculosis***
Stefan Niemann, Research Center Borstel, Borstel, Germany
- 18:30-20:00 **Dinner**
- 20:00- **Antibiotic development at small and average sized companies**
Sven N. Hobbie, Juvabis Therapeutics and University of Zurich, Zurich, Switzerland

DAY 2 - Tuesday

Modes of action and mechanisms of resistance of existing classes: Ribosomes

08:30-09:15 **Ribosome structure and function**
Nora Vazquez-Laslop, Center for Biomolecular Sciences,
University of Illinois at Chicago, Chicago, USA

09:15-10:00 **Macrolides-Lincosamides-Streptogramins,
pleuromutilins, oxazolidinones**
Nora Vazquez-Laslop, Center for Biomolecular Sciences,
University of Illinois at Chicago, Chicago, USA

10:00-10:15 **Coffee**

Modes of action and mechanisms of resistance of existing classes: Cell wall

10:15-11:00 **Cell wall structure, biosynthesis, and targets**
Felipe Cava, MIMS, UCMR, Umeå University, Sweden

11:00-11:15 **Break**

11:15-12:15 **β -lactams, β -lactamases and β -lactamase inhibitors**
Ørjan Samuelsen, University of Tromsø, Norway

12:15-14:15 **Lunch**

14:15-15:15 **Poster session I**
3 poster walks in groups (5 min presentation + 5 min questions
in parallel)

15:15-16:00 **Free poster viewing of “posters of the day”**

16:00-16:15 **Coffee**

16:15-17:00 **Glycopeptides, lipopeptides, lipoglycopeptides**
Georgina Cox, University of Guelph, Canada

18:15-20:00 **Dinner**

20:00- **Evening talk: Genetics behind antibiotic resistance**
Didier Mazel, Pasteur Institute, Paris, France

Day 3 - Wednesday

Modes of action and mechanisms of resistance of existing classes: Nucleic acid synthesis, replication, transcription

- 08:30-09:15 **Aminoglycosides: Mode of action and resistance**
Georgina Cox, University of Guelph, Canada
- 09:15-10:00 **Quinolones**
Diarmaid Hughes, UAC, Uppsala University, Sweden
- 10:00-10:15 **Coffee**
- 10:15-11:00 **Targeting bacterial membranes**
Klaas Martinus Pos, Goethe University Frankfurt, Germany
- 11:00-11:45 **Structure-function of efflux systems and inhibitors**
Klaas Martinus Pos, Goethe University Frankfurt, Germany
- 11:45-13:45 **Lunch**

Diagnostics and Resistance detection

- 13:45-14:30 **Diagnostics and detection of novel resistance genes**
Johan Bengtsson-Palme, University of Gothenburg,
Gothenburg, Sweden
- 14:30-15:15 **Detection of resistance mechanisms**
Christian Giske, Karolinska Institutet, Stockholm, Sweden
- 15:15-15:30 **Coffee**
- 15:30-16:15 **Rapid diagnostics – Antibiotic susceptibility testing**
Christer Malmberg, Gradientech AB, Uppsala Science Park,
Uppsala, Sweden
- 16:15-17:15 **Poster session II**

Origins of resistance genes, selection, biological cost and compensation

- 17:15-18:00 **Natural products**
Mark Brönstrup, Department of Chemical Biology, Helmholtz
Centre for Infection Research, Braunschweig; Germany
- 18:15-20:15 **Dinner**
- 20:15- **Free poster viewing of “posters of the day”**

DAY 4 – Thursday

Origins of resistance genes, selection, biological cost and compensation cont.

- 08:30-09:15 **The role of the environment in the development of antibiotic resistance**
Joakim Larsson, CArE, University of Gothenburg, Sweden
- 09:15-10:00 **Mutations, selection (including co-selection), biological cost, compensation**
Diarmaid Hughes, UAC, Uppsala University, Sweden
- 10:00-10:15 **Coffee**
- 10:15-11:00 **The challenges of discovering new antibiotics active on Gram negative bacteria - part I**
Heinz Moser, Novartis Institutes for BioMedical Research, Emeryville, California, USA
- 11:00-11:45 **The challenges of discovering new antibiotics active on Gram negative bacteria - part II**
Heinz Moser, Novartis Institutes for BioMedical Research, Emeryville, California, USA
- 11:45-13:45 **Lunch**
- 13:45-14:45 **Poster session iii**
- 14:45-15:30 **Free poster viewing of “posters of the day”**
- 15:30- 15:45 **Coffee**
- 15:45-16:30 **Targeting virulence**
Fredrik Almqvist, UCMR, Umeå University, Sweden
- 16:30-17:15 **Ethics in antibiotic resistance management**
Christian Munthe, CArE, University of Gothenburg, Gothenburg, Sweden
- 18:15-20:00 **Dinner**

DAY 5 – Friday

08:15-09:00 **Antibiotic use and behaviour modification (online)**
Cecilia Stålsby Lundborg, Karolinska Institutet, Stockholm,
Sweden

Antibiotic development and alternative treatment strategies

09:00-09:45 **Developing pharmacokinetic and pharmacodynamic models
for novel antibiotics**
Elisabet Nielsen, Uppsala University, Uppsala, Sweden

09:45-10:30 **Persister cells and tolerance to antibiotics**
Sanna Koskiniemi, Uppsala University, Uppsala, Sweden

10:30-10:45 **Coffee**

10:45-11:30 **Microbiome based strategies for decolonization of
multidrug resistance and infection prevention (online)**
Reetta Satokari, University of Helsinki, Finland

11:30 -12:15 **Alternative approaches: vaccines, phage therapy**
Andrew Camilli, Tufts University School of Medicine, Boston,
USA

12:15-13:15 **Lunch (short lunch)**

13:15-14:00 **Future perspectives on infection prevention and
alternatives to antibiotics**
TBC

14:00-14:30 **Concluding remarks and online evaluation**
Michael Koomey, University of Oslo, Norway (IBA)
Debra L Milton, Umeå University, Sweden (NDPIA)

15:00 **Departure, bus to Landvetter airport (ca. 15 min)**