

NDPIA/IBA course on **Antibiotics and Antibiotic Resistance** at Hjortviken Konferens, 26-30 November 2018

Preliminary programme

Monday 26 November

Arrival, hotel shuttle from Landvetter airport at 11.00 (10-15 minutes trip)

- 10.00- **Registration and poster mounting**
- 12.00-13.00 **Lunch**
- 13.00-13.45 **Welcome and one-minute introductions by course participants**
- 13.45-15.15 **Introductory lectures on current infectious disease management and antibiotic use**
Antibiotic resistance in the developed and developing world
Diarmaid Hughes, Uppsala University / **Joakim Larsson**, University of Gothenburg / **Arnfinn Sundsfjord**, University of Tromsø
- 15.15-15.45 **Coffee**
- 15.45-17.15 **Introductory lectures continued**
Antibiotic resistance in Neisseria gonorrhoeae
Yonatan Grad, Harvard TH Chan School of Public Health, US
M. tuberculosis resistance
Tone Tønjum, Oslo University, Oslo University Hospital
- 17.15-18.30 **Get together/mingle**
Presentations of NDPIA/IBA and research centres
Michael Koomey Oslo University (IBA), **Åke Forsberg**, Umeå University (NDPIA), **Joakim Larsson**, Gothenburg University (CARE), **Diarmaid Hughes**, Uppsala University (UAC), **Jasper Littman**, Norwegian Institute of Public Health (CAR)
- 18.30-20.00 **Dinner.** Speakers in different groups with participants
- 20.15- **Evening talk**
Public awareness of antibiotic resistance and how media influence understanding and engagement
Adam Shehata, University of Gothenburg

Tuesday 27 November

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

- 08.30-09.15 *Ribosome structure and function*
Nora Vazquez-Laslop, Centre for Biomolecular Sciences,
University of Illinois at Chicago, US
- 09.15-10.00 *Tetracyclines*
Trudy Grossman, Biology & Pharmacology, Melinta Therapeutics,
New Haven, US
- 10.00-10.30 **Coffee**
- 10.30-11.15 *Aminoglycosides: Mode of action and resistance*
Gerry Wright, McMaster University, Canada
- 11.15- 12.00 *Macrolides-Lincosamides-Streptogramins, pleuromutilins,
oxazolidinones*
Nora Vazquez-Laslop, Center for Biomolecular Sciences,
University of Illinois at Chicago, US
- 12.00-14.30 **Lunch and poster session I**; Poster walk with speakers, posters
nr 1-13 from 12.45, coffee and snacks provided

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

- 14.30-15.15 *Cell wall structure, biosynthesis, and targets*
Felipe Cava, Department of Molecular Biology, MIMS, Umeå
University
- 15.15-16.00 *Glycopeptides, lipopeptides, lipoglycopeptides*
Gerry Wright, McMaster University, Canada
- 16.00-16.15 Short break
- 16.15-17.00 *β -lactams, β -lactamases, and β -lactamase inhibitors*
Örjan Samuelson, University of Tromsø
- 17.00- 17.45 *Rifampicin*
Gerry Wright, McMaster University, Canada
- 18.15-20.00 **Dinner**. Speakers in different groups with participants
- 20.00- **Evening talk/free time, TBD**

Wednesday 28 November

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

08.30-09.15 *Targeting bacterial membranes*
TBC

09.15-10.00 *Quinolones*
TBC

10.00-10.45 *Structure-function of efflux systems and inhibitors*
Klaas Martinus Pos, Goethe University Frankfurt, Germany

10.45-11.15 Coffee

11.15-12.00 *Efflux systems, additional examples*
TBC

12.00-14.30 **Lunch and poster session II;**
Poster walk nr 14-26 from 12.45, coffee and snacks provided

14.30-15.15 *Genetics behind antibiotic resistance*
Didier Mazel, Pasteur Institute, Paris, France

15.15-16.00 *Detection of resistance mechanisms*
Christian Giske, Karolinska Institutet

16.00-16.15 Short break

16.15-17.00 *Rapid diagnostics - Antibiotic susceptibility testing*
Johan Elf, Uppsala University, Sweden

17.00-17.45 *Omics in diagnostics/detection of novel resistance genes*
Erik Kristiansson, Chalmers technical University, Gothenburg

17.30-18.00 **TBD**

18.15-20.00 **Dinner.** Speakers in different groups with participants

20.00- **Evening talk**
Ethics in antibiotic resistance management
Christian Munthe, Professor in philosophy,
University of Gothenburg

Thursday 29 November

Origins of resistance genes, selection, biological cost and compensation

- 08.30-09.00 *Origins of resistance genes*
Joakim Larsson, CARE, University of Gothenburg
- 9.00-10.00 Mutations, selection (including co-selection), biological cost, compensation
Diarmaid Hughes, UAC, Uppsala University
Pål Johnsen, University of Tromsø
- 10.00-10.30 **Coffee**
- 10.30-11.15 *Epistatic interactions/mutations that confer resistance to commonly used antibiotics*
Isabel Gordo, Instituto Gulbenkian de Ciência, Oeiras, Portugal

Development of novel antimicrobials

- 11.15-12.00 Antibiotic discovery/development
Eric Baque, Sanofi R&D, Marcy l'Etoile, France
- 12.00-14.30 **Lunch and poster session III;**
Poster walk nr 1-13 from 12.45, coffee and snacks provided
- 14.30-15.15 *Natural products*
TBC
- 15.15-15.45 *Biofilm and targeting biofilm*
Ute Römling, Karolinska Institutet
- 15.45-16.15 *Targeting virulence*
Fredrik Almqvist, Umeå University
- 16.15-16.30 **Short break**
- 16.30-17.15 *Resistance inhibitors*
Pål Rongved, University of Oslo
- 17.15-18.00 *Development of novel antimicrobials acting in synergy with antibiotics*
Christina Stalling, Washington University, St Louis, US
- 18.15-20.00 **Course dinner.** Speakers in different groups with participants
- 20.00- **Evening talk**
EU Joint Programming Initiative on Antimicrobial Resistance (JPIAMR) and Swedish Research Council (VR) programme for funding AMR research 2019-2028 **TBC**

Friday 30 November

Antibiotic development and approval, key elements and optimizing leads

- 08.30-09.30 *Antibiotic development at small and average sized companies*
Ursula Theuretzbacher, Center for Anti-Infective Agents, Vienna, Austria (CEFAIA,) and
Sven Bergström, QureTechBio TBC
- 09.30-10.00 *Developing pharmacokinetic and pharmacodynamic models for novel antibiotics*
Lena Friberg, Uppsala University
- 10.00-10.30 *National infrastructures for screening and drug development in Sweden*
Erik Chorell, CBCS/LCBU, SciLifeLab, Umeå University
- 10.30-11.00 **Coffee**
- 11.00-11.30 *Persisters/microbial antagonism*
Sanna Koskiniemi, Uppsala University
- 11.30-12.00 *In vivo studies of transcriptional reprogramming during persistent infection-implications for resistance*
Maria Fällman, MIMS, Umeå University
- 12.00-12.45 *Panel discussion on persistence/resistance*
Sanna Koskiniemi and **Maria Fällman**
- 12.45-13.45 **Lunch** with speakers in groups
- 13.45-14.30 *Microbiome based strategies for decolonization of multidrug resistance and infection prevention*
Reetta Satokari, University of Helsinki, Finland
- 14.30-15.15 *Future perspectives on infection prevention and alternatives to antibiotics*
Marc Bonten, University Medical Centre Utrecht, the Netherlands
- 15.15- 15.45 **Concluding remarks and on-line evaluation**
- 16.15 Departure, hotel shuttle to Landvetter airport (10-15 minutes trip)