

# **ICoN4: Conference Schedule**

## **University of Alberta, Edmonton, Alberta Canada**

### **Saturday, June 27, 2015**

- 7:00–10 pm Welcome reception for workshop attendees and early arrivals (**Aurora Room Lister Hall**)  
Workshop registration with room check-in (**Lister Hall**)

### **Sunday, June 28, 2015**

- 7:30-8:30 am Breakfast for workshop attendees only (**CCIS PCL Lounge**)  
9:00 am-4:00 pm Early Career & Graduate Student Workshop (**Biol. Sci. M145**)  
4:00-8:00 pm ICoN4 on-site Registration & Poster Set-up (**CCIS PCL Lounge**)  
6:00-7:00 pm Dinner (**CCIS PCL Lounge**)  
7:00-7:10 pm Opening Remarks & Welcome – **Lisa Stein (CCIS L1-140)**  
7:10-7:20 pm Introduction to Session: *N-cycle Ecogenomics*  
Session Leaders: **Christa Schleper & Jim Prosser**  
7:20-8:00 pm **Keynote: David Stahl (University of Washington, Seattle USA)**  
**Ammonia-oxidation: Past, present, future**  
**Sung-Keun Rhee** (Chungbuk National University, South Korea)  
Genomic properties of new ammonia-oxidizing archaea enriched from deep marine sediments  
8:20-8:40 pm **Kerim Kits** (University of Alberta, Canada)  
Function, diversity and modularity of denitrification in aerobic methanotrophic bacteria  
8:40-9:00 pm **Graeme Nicol** (University of Lyon, France)  
Growing up in a tough neighbourhood: adaptations of ammonia oxidising archaea enabling growth at low pH  
9:00-9:30 pm **Christa Schleper** (University of Vienna, Austria)  
Proteo-Genomics of *Nitrososphaera viennensis*

### **Monday, June 29, 2015**

- 7:30-8:30 am Breakfast (**CCIS PCL Lounge**)  
8:00-10:00 am ICoN4 on-site Registration & Poster Set-up (**CCIS PCL Lounge**)  
9:00-9:10 am Introduction to Session: *N-Cycle Ecology & Niche Differentiation*  
Session Leaders: **Jeanette Norton, Riks Laanbroek & Hongyue Dang (CCIS L1-140)**  
9:10-9:35 am **Hongyue Dang** (Xiamen University, China)  
Comparison of the anammox and nitrogen-fixing microbial communities among three environmentally-distinct marginal seas of the Western Pacific Ocean  
9:35-10:00 am **Eva Spiek** (University of Hamburg, Germany)  
Distinct kinetics and physiology of nitrite oxidizing bacteria reflect diverse adaptation strategies to separate ecological niches  
10:00-10:25 am **Yiyong Zhou** (Chinese Academy of Sciences, China)  
Varying trends of nitrification and denitrification across trophic gradients in sediments of shallow Chinese lakes  
10:25-10:50 am Coffee break  
10:50-11:15 am **Annette Bollmann** (Miami University, USA)  
Niche differentiation between ammonia oxidizers in freshwater Environments  
11:15-11:40 am **Jeanette Norton** (Utah State University, USA)  
Agricultural nitrogen management affects response to ammonium and ammonia oxidizer communities  
11:40-12:05 am **Riks Laanbroek** (Netherlands Inst. of Ecology, The Netherlands)  
Archaea dominate ammonia oxidation in Icelandic grassland soils, or not?  
12:05-12:30 pm **David Myrold** (Oregon State University, USA)

Defining the niche space for nitrification by ammonia-oxidizing archaea and bacteria in soil

12:30-3:30 pm Lunch/working groups (**meet & take lunch off-site**)

3:00-5:00 pm Poster sessions (**CCIS PCL Lounge**; light snacks, wine/beer)

5:00-6:00 pm **Poster talks selected from submitted abstracts (CCIS L1-140)**

6:00-7:00 pm Dinner (**CCIS PCL Lounge**)

7:30-7:40 pm Introduction to Session: *Biotic/Abiotic Processes in the N-Cycle*

7:40-8:10 pm Session Leaders: **Frank Löffler** and **Jennifer Glass (CCIS L1-140)**  
**Nicolas Brüggemann** (Forschungszentrum Jülich, Germany)  
 The hole-in-the-pipe model revisited: Are we looking at the right compounds and reactions

8:10-8:40 pm **Xia Zhu** (University of California, Davis, USA)  
 The role of iron in nitrous oxide production in soil and aquatic ecosystems

8:40-9:00 pm **Jenny Onley** (University of Tennessee, USA)  
 Gene Content Fails to Predict N Metabolism in *Anaeromyxobacter dehalogenans*

9:00-9:30 pm **Nathaniel Ostrom** (Michigan State University, USA)  
 The enigmatic nitrogen biogeochemistry of Lake Vida, Antarctica: an isolated brine cryoecosystem

**Tuesday, June 30, 2015**

7:30-8:30 am Breakfast (**CCIS PCL Lounge**)

9:00-9:10 am **Holger Daims** (University of Vienna, Austria) **CCIS L1-140**  
 Introduction to Session: *Diversity & Modularity of the N-cycle*

9:10-9:40 am **Sara Hallin** (Swedish University of Agricultural Sciences, Sweden)  
 Modularity of the denitrification pathway and phylogenomics of *nir* genes reveal the many facets of denitrification

9:40-10:05 am **Sebastian Lüscher** (Radboud University, The Netherlands)  
 Expect the unexpected – physiological versatility in nitrite-oxidizing bacteria

10:05-10:30 am **Naomi M. de Almeida** (Radboud University, The Netherlands)  
 Role of nitrite oxidoreductase in the anammox bacterium *Kuenenia stuttgartiensis*

10:30-10:50 am Coffee break

10:50-11:15 am **Holger Daims** (University of Vienna, Austria)  
 Flexible friends or foes: Recent insights add fresh paint to our picture of nitrite-oxidizing bacteria

11:15-11:40 am **Brett Mellbye** (Oregon State University, USA)  
 Identification of acyl-homoserine lactone autoinducers produced by the nitrite-oxidizing bacterium *Nitrobacter winogradskyi*

11:40-12:05 pm **A. Andrew Pacheco** (University of Wisconsin, Milwaukee, USA)  
 The chemistry of biological ammonia-nitrite interconversion: insights from studies of cytochrome c nitrite reductase

12:05-12:30 pm **Jessica Kozlowski** (University of Alberta, Canada)  
 Comparison of pathways and intermediates required for aerobic ammonia-dependent chemolithotrophy in Bacteria and Archaea

12:30-3:00 pm Lunch/working groups (**meet & take lunch off-site**)

3:00-5:00 pm Poster sessions (**CCIS PCL Lounge**; light snacks, wine/beer)

5:00-6:00 pm **Poster talks selected from submitted abstracts (CCIS L1-140)**

6:00-7:00 pm Dinner (**CCIS PCL Lounge**)

7:30-7:40 pm Introduction to Session: *Engineered Environments*

7:40-8:10 pm Session Leaders: **Kartik Chandran** and **Barth Smets (CCIS L1-140)**  
**Satoshi Okabe** (Hokkaido University, Japan)  
 Ecophysiology of anaerobic ammonium-oxidizing bacteria in engineered systems

8:10-8:40 pm **Susanne Lackner** (Karlsruhe Institute of Technology, Germany)  
 Microbial community composition and dynamics in mainstream partial nitrification/anammox systems

- 8:40-9:00 pm **Ariane Brotto** (Columbia University, USA)  
Updates to nitrous oxide production by autotrophic ammonia oxidizing bacteria in engineered systems
- 9:00-9:30 pm **Akihiko Terada** (Tokyo University of Agriculture and Technology)  
Identification of a predominant nitrous oxide production pathway from a partial nitrifying bioreactor: A <sup>15</sup>N tracer study

**Wednesday, July 1, 2015**

- 7:00-8:20 am Breakfast (**Wildrose Room, Lister Centre**)
- 8:30-8:40 am Introduction to Session: *Anaerobic Processes of the N-cycle*  
Session Leaders: **Sara Hallin, Bongkeun Song, Jidong Gu (Wild Rose Room, Lister Centre)**
- 8:40-9:10 am **Bess Ward** (Princeton University)  
Nitrogen loss in oxygen minimum zones in the ocean
- 9:10-9:40 am **Ji-Dong Gu** (University of Hong Kong)  
Distribution of anammox bacteria along an anthropogenic nitrogen-input gradient from the Pearl River Delta to the South China Sea
- 9:40-10:00 am **Sukhwan Yoon** (University of Tennessee, USA)  
Nitrous oxide reduction kinetics suggest niche separation of bacteria harboring class I (typical) or class II (atypical) nitrous oxide reductase genes
- 10:00-10:20 am Coffee Break
- 10:20-10:40 am **Samik Bagchi** (King Abdullah University of Science & Technology, Saudi Arabia)  
Temporal and spatial metatranscriptomics reveals gene expression diversity in the granular anammox process
- 10:40-11:10 am **Bongkeun Song** (Virginia Institute of Marine Sciences)  
Metagenomic comparison of nitrate respiring communities in New River Estuary, USA
- 11:10-11:40 am **Marc Strous** (University of Calgary)  
Marine *Arcobacter*: poised between syntrophy and symbiosis
- 11:40-12:00 pm **Jessica Lisa** (Virginia Institute of Marine Sciences)  
Distribution of denitrifying communities in response to environmental factors as revealed through *nirS* gene microarray analysis
- 12:00-12:10 pm Group photo (**Location TBA**)
- 12:10-4:45 pm Canada Day Lunch BBQ (**Wildrose Patio**) & Free time
- 4:00 pm Snacks & Bar Open (**Wild Rose Room, Lister Centre**)
- 5:00-6:00 pm Business meeting & Conference evaluation (**Wild Rose Room, Lister Centre**)
- 6:00-7:30 pm Closing Banquet (**Wild Rose Room and Lister Patio**)
- 7:30-7:40 pm Introduction to Final Session: **Yuichi Suwa** (Chuo University, Japan)
- 7:40-8:20 pm Keynote: **Michael Wagner** (University of Vienna, Austria)  
Nitrifiers revisited: Unexpected physiologies and interactions
- 8:20-8:40 pm Closing remarks (**Lisa Stein**); Welcome to ICoN5 (**Michael Wagner & Christa Schleper**)
- 9:00 pm on Canada Day Festivities & Fireworks: Organizers will lead people to Legislature or other venues

**Thursday, July 2, 2015**

- 7:00-8:30 am Breakfast (**Wildrose Room, Lister Centre**), Check-out & Departure

**THANK YOU FOR ATTENDING! SEE YOU IN VIENNA, 2017!**