**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
8:00–8:20 pm  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
Session Leaders: Frank Löeffler and Jennifer Glass (CCIS L1-140)
7:40-8:10 pm 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 Tennesee, 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 Lücker (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
Session Leaders: Kartik Chandran and Barth Smets (CCIS L1-140)
7:40-8:10 pm 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 nitritation/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 15N 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
10:40-11:00 pm 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!