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**Twenty years of Ecological Microbiology at Radboud University, Nijmegen, NL, December 1<sup>st</sup>, 2020, 1315-1900h, celebrating**

**Fascinating discoveries in microbial Nitrogen and Methane cycles**

Program

- 1315h Mike Jetten, opening  
1330h **Laura van Niftrik** Radboud University, Nijmegen, NL **“The energy-conserving organelle of anammox bacteria”**  
1400h **Thomas Barends** MPI Heidelberg, Germany, **“Inside the anammoxosome - buildup of anammox redox proteins and their superstructures”**

Mini break

- 1435h **Marcel Kuypers**, MPI Bremen, Germany, **The marine Nitrogen cycle**  
1505h **Michael Wagner** Vienna, Austria **“25 years of research on nitrifying microbes and still continually surprised“**.

Break-out rooms with speakers

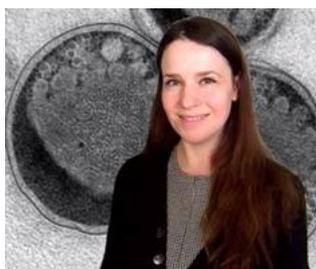
- 1600h **Cornelia Welte** Radboud University, Nijmegen, NL, **Fascinating new discoveries in anaerobic methane microbiology**  
1630h **Caroline Slomp** Marine Biogeochemistry, Utrecht University, NL **Marine methane cycle**  
1700h **Colin Murrell** U East Anglia Norwich UK, **The role of facultative methanotrophs at natural gas seeps**

Mini break

- 1735h **Marc Strous**, U Calgary Canada, **“From alkaline soda lakes to climate change, from microbial mats to Gatorade”**  
1805h **Lisa Stein** U Edmonton, Alberta, Canada **“Connecting Methane and Nitrogen Cycles”**

1835-1900h concluding remarks, and closure

**Short CV and background of speakers**



**Prof. dr. Laura van Niftrik**, Radboud University, NL, is an expert on linking structure to function in non-model microorganisms with a focus on anammox bacteria. Her team tries to elucidate microbial structures at a range of (sub)cellular levels: from the population, to the cell, the organelle, and protein using advanced (cryo-)electron and light microscopy, omics toolboxes, and molecular and biochemical methods. She is a laureate of VENI and VIDI NWO-grants.

<https://www.ru.nl/microbiology/department/people/laura-van-niftrik-prof-dr/>



**Dr. Thomas Barends**, MPI Heidelberg, is an expert on elucidating protein structures using automated and advanced X-ray, free laser and cryo-EM methods. Most famous examples are the hydrazine synthase of anammox bacteria and lanthanide containing methanol dehydrogenase of volcanic methanotrophs. ERC consolidator laureate.

<https://www.mr.mpg.de/14096622/barendsev>



**Prof. dr. Marcel Kuypers**, MPI Bremen, Germany, studies the pathways, interactions and environmental regulation of microbial processes that control oceanic nutrient cycling using a combination of chemical, molecular, microbiological and mathematical modelling techniques are used. Single cell technology enables us to link the identity of microbial cells in a complex microbial community to cellular uptake rates and determine nutrient fluxes. <https://www.mpi-bremen.de/en/Marcel-Kuypers.html>



**Prof. dr. Michael Wagner**, DOME, U Vienna, Austria, studies the hidden world of microbes directly in their natural environment. He and his team are interested in all aspects of nitrification with a particular focus on the biology of ammonia-oxidizing archaea and bacteria as well as comammox Nitrospira. Furthermore, we continuously develop innovative single cell tools for investigating the identity and function of individual microbial cells within their natural habitats. Wittgenstein and ERC AG laureate.

<https://dome.csb.univie.ac.at/people/michael-wagner>



**Dr. Cornelia Welte**, Radboud University, NL, is an expert on anaerobic microbiology with emphasis of methane biology, insect microbiomes and micropollutant removal. Her team tries to understand the methane cycle in selected ecosystems like wetlands, permafrost and urban water ways using advanced bioreactor, physiology, -omics toolboxes, and molecular and biochemical methods. She participates in the SIAM and NESSC gravitation grants. In addition, she has coordinated the master microbiology and is Biology lecturer of the year 2018 at Radboud University.

<https://www.ru.nl/microbiology/department/people/cornelia-welte-dr/>



**Prof. dr. Caroline Slomp** Utrecht University, NL, is an expert on marine biogeochemistry and modeling of fluxes in sediments. Her team tries to understand the methane, iron, and phosphorus cycle in selected marine ecosystems using advanced biogeoscience methods. She participates in the NESSC gravitation grant, and she is a laureate of VIDI and VICI NWO-grants, and ERC consolidator and synergy grants.

<https://www.uu.nl/en/organisation/faculty-of-geosciences/caroline-slomp>



**Prof. dr. J. Colin Murrell** U East Anglia, Norwich UK, investigates the environmental microbiology of key biogeochemical cycles using a wide range of techniques. The research spans the physiology, biochemistry, molecular biology/genetics, genomics and ecology of bacteria that grow on one-carbon (C1) compounds, especially methane, and trace gases such as isoprene. ERC AG Laureate.  
<https://www.jcmurrell.co.uk>



**Prof. dr. ir. Marc Strous'** research group U Calgary Canada, is focused on the development of new bioprocesses for renewable energy and environmental mitigation in the energy and agricultural industry. Their goal is to pioneer unexplored microbiology processes and techniques to help advance transition to cleaner energy systems.

<https://www.ucalgary.ca/research/scholars/strous-marc>



**Prof. dr. Lisa Stein** U Alberta Edmonton Canada, research focuses on the numerous and diverse pathways of inorganic nitrogen and single carbon metabolism in bacteria and archaea. Using the tools of comparative genomics, molecular biology, physiology, and biochemistry we study how microorganisms process nitrogen and methane at the molecular, whole-cell, and ecosystem levels. Our goals are to track the evolution of nitrogen metabolism, predict how and when deleterious nitrogen oxide products are released to the environment, and define linkages between methane and nitrogen metabolism.

<https://apps.ualberta.ca/directory/person/stein1>

## Local organizers and scientific staff RU



**Prof. dr. ir. Mike Jetten**, Radboud University, NL, studies the ecology of (anaerobic) chemolitho-autotrophic micro-organism in the nitrogen and methane cycle in a variety of ecosystems using a complementary array of methods. He is a Spinoza prize winner, ERC AG and Synergy laureate and national PhD supervisor of the year 2017. He is scientific director of the SIAM gravitation grant ([www.anaerobic-microbiology.eu](http://www.anaerobic-microbiology.eu)).

<https://www.ru.nl/english/people/jetten-m/>



**Prof. dr. Huub Op den Camp**, Radboud University, NL, studies the microbiology of volcanic ecosystems with an emphasis on the conversion of hydrogen, methane and sulfur compounds using a complementary array of molecular and physiology methods. He is an ERC AG laureate and Biology lecturer of the year 2017.

<https://www.ru.nl/personen/camp-h-op-den/>



**Dr. Sebastian Luecker**, Radboud University, NL, is an expert on the microbial nitrogen cycle with emphasis on nitrite-oxidation, comammox and anammox. His team tries to understand the nitrogen cycle in selected ecosystems such as wastewater treatment plants, and drinking water facilities, and oxygen minimum zones using advanced bioreactor, physiology, -omics methods. He participates in the SIAM and NESSC gravitation grants. He is a REI, VENI and VIDI laureate.

<https://www.ru.nl/microbiology/department/people/sebastian-luecker-dr/>



**Dr. Robert Jansen**, Radboud University, NL, develops and applies novel mass spectrometry-based untargeted metabolomics methods to discover the function of uncharacterized enzymes and metabolites with a focus on uncharacterized enzymes and metabolites in anammox bacteria, and stress response metabolites in *Mycobacterium tuberculosis*.

<https://www.ru.nl/microbiology/department/people/robert-jansen-dr/>