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> **WHAT CAN WE LEARN
FROM N₂O ISOTOPE DATA?**

Online Archiv

23. October, 12:30 24. October 2019, 17:30

Empa Dübendorf



ISOTOPE

Scope and focus

The main objective of this user workshop is to foster knowledge exchange and collaboration among experts from multiple research fields, related to the N₂O cycle. This includes research topics like advanced analytical methods, reaction kinetics and theory of isotope effects of N₂O up to data interpretation by applying up-to-date modelling approaches. The following scientific questions will be addressed:

Which analytical techniques should I select for my experiment?

Provide information on state of the art techniques, pros and cons and their benchmark performance.

What are the reaction mechanisms responsible for N₂O production / destruction?

Provide know-how on reaction pathways, intermediates and associated isotope fractionation effects.

Which experimental design/modelling approach will answer my research questions?

Provide an overview on natural abundance and ¹⁵N tracer techniques as well as modelling approaches.

Introductory Presentation

Naohiro Yoshida / Tokyo Institute of Technology: N₂O isotope researches from bulk d¹⁵N and d¹⁸O to clumped D⁴⁵⁸, D⁵⁴⁸, D⁵⁵⁶

Invited Presentations

Sakae Toyoda / Tokyo Institute of Technology: N₂O isotopocule analysis by IRMS to detect and interpret long-term trends in atmospheric N₂O

Stephen Harris / University of New South Wales: Performance of state-of the art laser spectroscopy for N₂O isotopes

Margareta R. A. Blomberg / University of Stockholm: Mechanism for N₂O generation by bacterial NO reductase

Matthew Johnson / University of Copenhagen: Isotopic fractionation in N₂O photolysis in the stratosphere

Nathaniel Ostrom / Michigan State University: Understanding the conservative and non-conservative behavior of stable isotopes as tracers of microbial N₂O production pathways

Registration and Oral/Poster Presentations

Participants may register until August 31, 2019. Please follow [this link](#) to proceed with registration. You will be forwarded to Xing Events.

If you would like to present your research in a talk or a poster, please submit a one-page abstract, available via N2Oworkshop@empa.ch. Please also send the completed form to N2Oworkshop@empa.ch until August 31, 2019.

Fees and Payment

The workshop fee of CHF 130.– will cover lunch, Fondue dinner event and snacks during coffee breaks. Unfortunately the number of participants for the Fondue event is limited to 50 and will be handled on a first come / first served base, so be quick!

For cancellations after August 31, 2019, 50% of the fee will be charged. After October 2, 2019, or in case of non appearance, we will charge the full fee. A substitute will be accepted anytime

Accommodation

Overnight accommodation should be arranged individually. Hotels around the Empa campus can be found via [this link](#). Please mention your participation at the Empa workshop to get a discount.

Scientific Committee:

Dr Joachim Mohn / Empa
Prof. Johan Six / ETH Zürich
Prof. Moritz F. Lehmann / University of Basel

Key Dates

April 15, 2019 Start of registration
August 31, 2019 Deadline abstract submission to N2Oworkshop@empa.ch
August 31, 2019 Deadline registration
October 23 – 24, 2019 Workshop

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