8th GLOBAL NITROGEN CONFERENCE

30 MAY – 3 JUNE 2021 | ONLINE

Draft program, as of 29 March 2021

SUSTAINABLE DEVELOPMENT GOALS

Umwelt Bundesamt

Federal Ministry
for the Environment, Nature Conservation
and Nuclear Safety

The 8th International Nitrogen Initiative Conference

INI2021 will take place online from 30 May to 3 June 2021

Reactive nitrogen compounds are a key resource for food production in the light of a growing world population. At the same time, human activities through multiple processes result in losses of reactive nitrogen to all environmental media. The increased abundance of reactive nitrogen in the biosphere leads to numerous effects on the environment, human health, climate and biodiversity. Pressure on the planet's resources and ecology is steadily increasing. The amount of reactive nitrogen compounds emitted into the environment is far too high and already exceeds the "safe operating space" for future life on our planet. Most of the UN Sustainable Development Goals (SDG) are closely interlinked with the nitrogen cycle. This demonstrates the crucial importance of solutions for this complex problem, which must fit the framework conditions in the respective region. Meeting these goals in parallel is dependent on spreading knowledge on effective nitrogen management, increasing the efficiency of nitrogen use in food production and decreasing unwanted nitrogen emissions to the biosphere. The recent resolution of the fourth session of the UN Environment Assembly (UNEA-4) on sustainable nitrogen management recognizes the multiple pollution threats resulting from anthropogenic reactive nitrogen, including air pollution, with adverse effects on the terrestrial, freshwater and marine environments. The resolution supports the exploration of options through which the SDGs could be achieved, including the sharing of assessment methodologies and relevant best practices.

The 8th conference of the International Nitrogen Initiative (INI2021) will be the meeting point for scientists from all over the world who are dealing with reactive nitrogen compounds in agriculture, industry, traffic, soil, water and air. It will be the place to exchange results, ideas and visions to improve future holistic management of reactive nitrogen in order to further reduce hunger and poverty and at the same time avoid further hazards for human health, biodiversity and environmental media. It will be a perfect opportunity to engage with important policy makers and other relevant stakeholders. A joint conference declaration based on the latest scientific knowledge might stimulate further policy action towards effective integrated nitrogen management.

INI conferences are held every three years on different continents. After the first conference in the Netherlands in 1998, INI2021 is now being organized from Europe again: Germany, the place where about 100 years ago scientists Fritz Haber and Carl Bosch invented industrial ammonia fixation, a major source of today's reactive nitrogen circulating through the biosphere, is proud to be the organizer of a major online conference.

At INI2021, scientists and delegates are invited to present findings on:

- Sustainable agriculture, food and nutrition systems, in relation to effective nitrogen management
- Threats for health, environment and biodiversity and solutions to combat these nitrogen-driven effects
- Observations of global challenges, nitrogen fluxes and interactions between different drivers and pressure
- Closing the nitrogen cycle through innovations for sustainable N management
- Integrated nitrogen science and policy approaches

INI2021 is hosted by Germany's Federal Environment Agency (Umweltbundesamt – UBA) with the support of the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety. Co-organizer is the International Nitrogen Initiative.

Welcome to Berlin – it would have been a pleasure for us!

It is our great pleasure to host the 8th Global Nitrogen Conference of the International Nitrogen Initiative in 2021 (INI2021) as an entirely online conference. As President of the German Environment Agency, I would like to invite you most warmly to join the conference under the overarching theme – “Nitrogen and the United Nations Sustainable Development Goals”.

The theme of the INI2021 highlights the relevance of a sustainable nitrogen management within the UN 2030 Agenda, of which the Sustainable Development Goals (SDGs) are the heart. An urgent call for action.

While an increasing supply of nitrogen is a prerequisite for combating hunger in some parts of the world, we simultaneously have to reduce nitrogen emissions significantly in order to sustain diverse ecosystems on land and below water (in rivers, lakes and oceans), to improve and preserve human health and to tackle climate change. Recognizing these direct linkages, the Fourth United Nations Environment Assembly recently agreed on a resolution on “Sustainable Nitrogen Management”.

In order to further substantiate and advance these high-level processes, the global “reactive nitrogen community” is asked to enhance the understanding of the impacts of reactive nitrogen, its interdependencies with other environmental phenomena and related tipping points. Additionally, it will be crucial to further develop integrated N-mitigation measurement portfolios and to cultivate scenarios leading to appropriate amounts of reactive nitrogen within the system. This will help to inform policies, push innovative industries, refine education and will ultimately contribute to a transformation towards a more sustainable consumption and production.

The German Environment Agency is convinced that an integrated approach, connecting the different environmental endpoints and nitrogen emitting sectors, fosters synergies and trade-offs and is thereby most beneficial for the solution of the various problems related to excess nitrogen emissions.

In this spirit, INI2021 is a unique opportunity to bring together scientific and political representatives of the large global “reactive nitrogen community”. The virtual get-together is being organized by the country where Professor Fritz Haber and Dr. Carl Bosch invented the industrial ammonia synthesis more than a century ago. I am confident that the conference will be a valuable experience for all participants and an excellent opportunity to exchange knowledge and experiences that will help find sustainable solutions for reactive nitrogen management on the international and national level.

It now rests with you to supplement the conference outline with your research and visions in the form of lectures, poster presentations and contributions to discussions.

We look forward to learning from you at INI2021!

Professor Dirk Messner – President of the German Environment Agency

INI goes fully virtual – we would have loved to meet in Berlin!

It is our great pleasure to invite you to attend the 8th Conference of the International Nitrogen Initiative (INI2021) online from 30 May – 3 June 2021. Since 1998, these international nitrogen conferences have been a unique platform to highlight nitrogen’s role as an essential resource and a major environmental threat. They provide a forum and catalyst for interdisciplinary nitrogen research, bringing together scientists from a range of disciplines – from atmospheric science to economics, from plant biology to policy analysis. They have also been an important opportunity to engage with other important stakeholders, including civil society, national governments, international organizations and fertilizer companies, among others.

Previous conference declarations as well as INI-sponsored nitrogen assessment reports across national and regional scales have contributed significantly to increasing calls for international action. These efforts culminated in the adoption of an intergovernmental resolution on sustainable nitrogen management at the UN Environment Assembly in March 2019 – a watershed moment in global nitrogen governance. It is therefore very fitting that the German Environment Agency is the main organizer of INI2021, with the support of the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety. This is the first time a government body has taken an organizing role, and a reflection of nitrogen’s increasing importance to policymakers.

The overarching theme of INI2021 is the Sustainable Development Goals – the 17 UN-sanctioned targets for social, environmental and economic outcomes to be achieved by 2030 – with nitrogen central to 16 of them. How humanity manages its relationship with nitrogen over the coming decade will be critical in determining whether we meet these goals. Some, such as ending hunger and poverty, will require better access to nitrogen. Others, such as protecting life on land and below water as well as climate action, will require reducing nitrogen pollution. All will benefit from better nitrogen management and more effective policies. And while we are confident INI2021 will mark an important step in advancing nitrogen science and policy further, its success will depend on you – your work, your ideas, and ultimately, your participation.

We look forward to seeing you online. Welcome and herzlich willkommen!

Prof. N. Raghuram (Chair of the International Nitrogen Initiative)
Prof. David R. Kanter (Vice-Chair of the International Nitrogen Initiative)

Monday, 31 May 2021 - Oral Sessions

Part 1

12.00 a.m. CEST

Opening Session

Welcome from the organizers
Nitrogen matters! | Nandula Raghuram, David Kanter
Nitrogen and German Policy | Svenja Schulze
Nitrogen in the EU | Virginijus Sinkevičius
Nitrogen in context of UNEP | Joyce Msuya
Nitrogen in context of FAO | Maria Helena Semedo (tbc)
Nitrogen and Air Quality | Anna Engleryd
Nitrogen and SDG in Africa | Caroline Makasa

Panel Discussion

1.40 p.m. CEST - BREAK

Part 2

2.00 p.m. CEST

Key-Note Session Day 1

Nitrogen: of planetary importance for Earth resilience | Johan Rockström
Vision for future N management | David Kanter
Ecologic intensification - new approaches to increase nitrogen use efficiency in dairy farming | Friedhelm Taube
New Trends in Nitrogen Management: Africa Perspective | Vincent Aduramigba-Modupe
Improving plant NUE: From phenotype to genotype | Nandula Raghuram
INMS Project introduction and overview | Mark Sutton

Plenary Panel Day 1

Panel Discussion Day 1

Tuesday, 1 June 2021 - Oral Sessions

Part 1

12.00 a.m. CEST

Key-Note Session Day 2

Nitrogen in India | Tapan Adhya
Nitrogen and Air Pollution | Anna Engleryd
Digital Agriculture and Nitrogen: Science, Implementation and Policy | Harold van Es
Nitrogen in livestock systems including regional characteristics and inequalities | Aimable Uwizeye
How Nitrogen influences meeting UN SDG for Africa | Caroline Makasa

Panel Discussion Day 2

2.15 p.m. CEST - BREAK

Parallel Discussion Sessions, watching prerecorded talks the week before is obligatory.

Part 2

2.30 p.m. CEST

1b - Responsible consumption and production and feedbacks in the N cycle

The groundwater diet: trade-offs and benefits of healthy dietary choices in the context of nitrate pollution | Martine Hoogsteen
Sustainable food systems from a nitrogen perspective | Adrian Leip
Evidence-based Nitrogen Indexes for Sustainable Agro-food Systems | Xia Liang
Assessing future nitrogen fertilizer demand and use for the shared socioeconomic pathways | J M Mogollon
Nitrogen and phosphorus hotspots in Dutch diets | Reina E Vellinga
Nutrient-extended input–output analysis for food nitrogen footprint | Azusa Oita

2a - Livestock production and nitrogen emissions

Sources of nitrous oxide from intensively managed pastures | Johannes Friedl
Effect of nitrogen-reduced diet on NH_3 and N_2O emissions of dairy cows on pasture | Christof Ammann
Effects of lime application management on nitrous oxide emission and nitrogen use efficiency: An example from an Irish intensive grassland system | Ognjen Zurovec
Long-term measurement of ammonia and nitrous oxide emissions from Australian feedlots | Mei Bai
High animal comfort and low emissions in a new housing system for pigs - conceptual study and first results from pilot farms and laboratory experiments | Helmut Döhler

5a - Climate feedbacks (incl. N_2O-emissions)(1)

Increased nitrous oxide emissions by application of organic amendments may largely offset the carbon benefits | Minghua Zhou
Impact of nitrogen additions on greenhouse gases emissions at different stages of plant residue decomposition | Muhammad Sanaullah
The Global N_2O Database - Open & collaborative science for addressing epic N_2O issues | Chris Dorich
Effect of crop residue management on N_2O emissions in European cropping systems | Marco Carozzi

5b - Biogeochemical N Cycle (ammonia / deposition)

Standing on the shoulders of giants - Research infrastructures as modular platforms for reactive nitrogen deposition monitoring | Frederik Schrader
Modelling Nitrogen Deposition in Germany from 2000-2015 | Martijn Schaap
Modelling Atmospheric Ammonia using Agricultural Emissions with Improved Spatial Variability and Temporal Dynamics | Xinrui Ge
Satellite monitoring of ammonia:from point sources to long-term trends | Martin Van Damme
The dynamics of ammonia bi-directional exchange above agricultural crops | Alexander Moravek

Special Session: Nitrogen Use Efficiency and Sustainable Nutrient Management - ANIMAL / MIX

Nitrogen indicators for characterizing farm performance in European case studies | Miguel Quemada
A simple and easy-to-communicate framework for analyzing Nitrogen Use Efficiency (NUE) in agriculture and food systems | Lars Stoumann Jensen
Indoor breeding or full-grazing dairy management? A farm system analysis of Nitrogen Use Efficiency | Philipp Löw
Guidance Document on NUE indicators of the INMS | Luis Lassaletta
Modelling nitrogen use efficiency by world poultry production systems in 2050 under contrasting production and dietary scenarios | Fernando Estellés Barber
Nitrogen use efficiency in global animal production systems 1970 - 2015 | K.W. van der Hoek
Nitrogen use efficiency indicators designed for the diversity of global dairy production systems | Sharon Aarons

3.10 p.m. CEST - BREAK

Part 3

3.20 p.m. CEST

2a - Livestock production and nitrogen Balance and nutrient Cycle

Nutrient cycle count as indicator for system circularity | Hein ten Berge
An integrated approach to nutrient management on dairy farms | Shabtai Bittman
Integrated Nitrogen Balance in Livestock Sector: Case Study of Latvia | Inga Grinfelde
Influence of soil properties on N_2O and CO_2 emissions from excreta deposited onto tropical pastures in Kenya | Zhu Yuhao
Sulfuric acid modified expanded vermiculite cover for reducing ammonia emissions from animal slurry storage | Yue Wang

2b - Optimizing the efficiency of nitrogen use in crop production (fertilizers)

Release dynamics and crop recovery of Controlled Release Fertilizers (CRF) | Cristina Martinez
Sustainable plant nutrition and nitrogen | Tom Bruulsema
Slow but sure: the potential for slow-release nitrogen fertilizers to increase crop productivity and reduce environmental damage in Nepal | Naba Raj Pandit
Assessing nitrogen availability in biobased fertilizers: effect of vegetation on mineralization patterns | Hongzhen Luo
Optimizing the management of poultry litter in Australian cotton production | Wendy Quayle
Improving organic amendment use in Australian vegetable production | David Riches

5a - Climate feedbacks (incl. N_2O-emissions)(2)

Food security and greenhouse gas emissions for cereals in sub-Saharan Africa towards 2050 | Martin van Ittersum
Long-term trajectories of the carbon footprint of nitrogen use in Mediterranean agriculture (Spain, 1860-2016) | Eduardo Aguilera
Impact of fertilizer additives on N_2O emissions for contrasting corn growing seasons in Canada | Alexander Moravek
Inventory reporting of livestock emissions: the impact of the IPCC 1996 and 2006 Guidelines | Gültac Cinar

5b - Biogeochemical N Cycle (N Budget)

Spatial characterization of reactive N flows in the agro-food system of a semiarid Mediterranean region | Frederik Schrader
Surface Nitrogen Budgets for Cropland and Pastureland on a Global Grid - Opportunities and Challenges | Katrin Kaltenegger
How well can we simulate continental-scale N losses for croplands in Africa? | Kathrin Fuchs
The global nitrogen cycle from 1965 to 2010 | Benjamin Leon Bodirsky
Are German Forest Soils a Source or Sink for reactive Nitrogen? Model-aided Evaluation of Large-Scale Ground-based Observations | Stefan Fleck
Mitigating Reactive Nitrogen Loss and Associated Environmental Damage: Opportunities from Changes in Food Production and Consumption Practices in China | Yixin Guo
Is Nitrogen the Next Carbon? | Viney Aneja

Special Session: Nitrogen Use Efficiency and Sustainable Nutrient Management - CROP 1

Is Early Sowing of winter cereals as effective as Catch Crops in Increasing Nitrogen Use Efficiency in Cropping Systems? | Iris Vogeler
Effect of conservation agriculture and integrated soil fertility management on urea nitrogen use efficiency in contrasting agro-ecological regions in Kenya | Eunice Annah Mutuku
Coffee plants have low NUE | Felipe Santinato
Increasing nitrogen use efficiency by new designed cropping systems in an intensive agricultural region of China | Chong Zhang
Changed crop type and crop rotation as a measure to increase N use efficiency and achieve reduction targets for N leaching | Tommy Dalgaard

Tuesday, 1 June 2021 - Poster Sessions

Poster Sessions

11.00 a.m. - 12.00 a.m. CEST & 4.00 p.m. - 5.00 p.m. CEST

Take note: Poster Sessions will be held twice due to different time zones!

Assessment of nitrogen flows at farm and regional level when developing the manure management system for large-scale livestock enterprises | Natalia Kozlova
Optimising N recovery from livestock waste for multiple production and environmental benefits | Clayton Butterly
P budget calculations of German farmland and resulting manure surpluses in livestock hotspot regions | Helmut Döhler
Modelling Greenhouse Gas and Nitrogen Emissions from Ruminant Farming Systems and Influence of Feed Management Decisions on Downstream Emissions | Latifa Ouatahar
Reduction of Near Ground Ammonia Emissions from Pig Barns by Roof Design | Qianying Yi
Using plantain to reduce emissions of nitrous oxide from cattle urine in livestock grazed systems | Jiafa Luo
Mitigation of greenhouse gas and nitrogen emissions from livestock systems, establishment of a database and inventory refinement | Barbara Amon
Long-term nitrogen fertilization can increase the availability of residual phosphorus in arable soil | Jaroslav Záhora
Impact of N-fertiliser reduction on agronomic parameters and quality aspects for drinking water | Insa Kühling
Gaseous nitrogen losses from a subtropical sugarcane cropping system | Johannes Friedl
Changes in nitrogen agricultural practices to increase farm sustainability - tomato production | Soraia Cruz
Indices of crop water stress from UAV images precisely map residual nitrogen and risk of nitrate leaching spatial variability | Jan Haberle
Nitrogen use efficiency of maize and cotton in 1.32 Mha of commercial farms in Brazil | Heitor Cantarella
Exploring the limitations of first-order kinetics in modelling net N mineralization from plant residue at low and variable temperatures | Jorge Federico Miranda-Vélez
Effect of application rate on nitrogen fertilizer recovery in an irrigated cotton cropping system | Clemens Scheer
Effect of urease and nitrification inhibitors on N2O emissions, ammonia volatilization and crop yield in a rape crop | Mónica Montoya
Urease inhibitor still active at low concentration | Heitor Cantarella
Nitrogen recycling in mango orchards from litterfall and pruning biomass | David Rowlings
Biogas Residues in substitution for Chemical Fertilizers: Mitigation of agricultural nitrogen pollution | Bella Tsachidou
Algae extracts as a sustainable nitrogen-containing fertilizer | Lin Du
Composting and nutrient cycles in Tanzania | Anika Reetsch
Nitrogen use efficiency in long and short-term experiments of the Russian Federation | M.V. Belichenko
Land preparation and maize-based multiple cropping on nitrogen content of two agreological zone of southwestern nigeria | Fademi Ibukunoluwa Oladapo
Wheat productivity at various N-levels and future predictions under changing climate | Abdul Wakeel
Nitrogen and water use efficiency of maize in long-term field experiment | Agnieszka Rutkowska
Exploring the Impact of Nitrogen Sources on Yield, Partitioning and Nitrogen Use Efficiencies of Irrigated Lowland Rice Fields | Ntinyari Winnie
Delayed N timing for maize reduced N2O emissions and drainage [NO3-] while increasing yield | Peter Scharf
Comparing yield, nutritional quality, water and nitrogen use efficiencies of deficit drip and flood irrigated sorghum (Sorghum bicolor) and corn (Zea mays) subjected to different nitrogen rates | R. K. Brar
Identification of a new N-heterocyclic core structure with nitrification inhibition activity in Australian soils | Bethany Taggert
Effect of nitrification inhibitors and soil pH on N2O emissions | Ximena Huérfano
Effect of elevated atmospheric CO2 on the quantities and communities of microbes and their relationship with soil carbon and nitrogen in a typical summer maize field in North China | Liping Guo
Root system architecture variability and nitrate reductase activity in wheat genotypes for nitrogen use efficiency | Aysha Kiran
N2O, N2 and NH3 emissions following different slurry and digestate application techniques in growing crops | Caroline Buchen-Tschiskale
Minimizing ammonia loss due to urea application - Benefits of twin-stabilization | Thomas Kreuter
Detection of nitrogen in winter wheat based on Sentinel-2 data | Gretelerika Vindeker
Liquid Hog Manure Nitrogen Conservation and Concentration Technology | Alison Deviney
Design of biodegradable polymer coatings for development of enhanced efficiency organic fertilizers | Evelien Vermoesen
Ammonium volatilization from urea and its inhibition by urease inhibitor Limus: Methods for sensual perception as tools to foster environmental awareness. | Barbara Nave
Sensor technologies for detection of urine patches in livestock-grazed pastures | Jiafa Luo
Alternative fertilizers from nutrient-rich wastes for organic crops | Beatriz Góme-Muñoz
NIRS sensing for organic fertilizers: a chance for an efficient manure management in the EU? | Jörg Rieger

Wednesday, 2 June 2021 - Oral Sessions

Part 1

12.00 a.m. CEST

Key-Note Session Day 3

The history and future perspectives of Baltic Sea Eutrophication | Maren Voss
Nitrogen and water pollution in China | Chaoquing Yu
Interrelationships between soil organisms – biology of the Nitrogen circle | Sophie Zechmeister-Boltenstern
How increased nitrogen availability has influenced biodiversity of terrestrial ecosystems | Carly Stevens
Effects of reactive Nitrogen on Biodiversity – insights from the IPBES Global Assessment | Josef Settele

Panel Discussion Day 3

2.15 p.m. CEST - BREAK

Parallel Discussion Sessions, watching prerecorded talks the week before is obligatory.

Part 2

2.30 p.m. CEST

2b - Optimizing the efficiency of nitrogen use in crop production (crop production & nitrogen emissions)

Low nitrate leaching determined by threshold for cover crop biomass | Chiara De Notaris
Reducing N runoff during irrigated cotton production | Graeme Schwenke
Winter N2O accumulation in sub-boreal grassland soil depends on clover and pH | Peter Dörsch
Nitrogen leaching from paddy field with different nitrogen and water managements practices | Niveta Jain
Fate of 15N-nitrogen fertiliser applied in high rainfall zone dairy pastures of southern Australia | Helen Suter
Ammonia volatilization and nitrous oxide emissions from organic fertilizers applied to arable soils in the North China Plain - possible trade-offs and mitigation approaches | Marco Roelcke

2b - Optimizing the efficiency of nitrogen use in crop production (fertilizer and water application)

Effect of irrigation frequency and water quality on N losses from vertisols | Shahar Baram
Fertilizer nitrogen use efficiency in irrigated cotton cropping systems | Clemens Scheer
Impact of banding enhanced efficiency nitrogen fertilizers on nitrogen use efficiency in agriculture | Chelsea Janke
Allelopathic crop residue mulches improve nitrogen use efficiency and productivity of wheat | Sardar Alam Cheema
Optimizing Water and Nitrogen Use Efficiency (WUE & NUE) with Airjection® Irrigation | D. Goorahoo

2b - Optimizing the efficiency of nitrogen use in crop production (grain production)

Improving nutrient management recommendation for maize in Africa and India using the Nutrient Expert® Tool | Shamie Zingore
Rice genotypes for higher nitrogen use efficiency in lowlands | Dinesh Kumar
Information on Seasonal and Varietal Differences Provide Opportunities for Improving Nitrogen Use efficiency and Nitrogen Management in Irrigated Paddy Rice in Kenya | Joseph Gweyi-Onyango
N-response and N-Use Efficiency in rice: Phenotype to genotype | Nandula Raghuram
Thirty-years long-term rice-rice-rape rotation optimizes 1,2-benzenediol concentration in rhizosphere paddy soil and improves nitrogen use efficiency and rice growth | Xinhua He
Sustainable nitrogen management in rice cultivation under stress prone areas in Asia | Yam Kanta Gaihre

2b - Nitrification & Inhibitors; microbes

Microbial communities and functional genes of nitrogen cycling in the rhizosphere of rice | B. Ramakrishnan
Investigating the fate and behaviour of nitrification inhibitors in soil systems | Parvinder Kaur Sidhu
Regulating effects and mechanisms of biological nitrification inhibitors, crop straw and biochar on N transformation in alkaline soil-crop system | Ting Lan
The efficacy of 3,4-dimethylpyrazole phosphate on N2O emissions is linked to niche differentiation of ammonia oxidizing archaea and bacteria across four arable soils | Xiaoping Fan
Rhizosphere functional microbiomes drive N availability to wheat | Gupta, Vadakattu

4a - Threats for terr. Biodiversity1

Towards critical levels for ammonia - a fumigation study using endangered nitrogen sensitive plant species | Jürgen Franzaring
Critical Nitrogen Loads in nitrogen-sensitive Forest Associations - Results from Baden-Württemberg, south-western Germany | Marina Roth
Mapping potential future developments of forests due to climatic change and nitrogen deposition | Winfried Schröder
Accumulation of Atmospheric Nitrogen Deposition in Mosses | Winfried Schröder
Dose-effect Relations for Habitat types and Nitrogen deposition | Wieger Wamelink
Nitrogen budget and critical load estimate in a semi-arid grazed ecosystem | Claire Delon

4b - Threats for aquat. Biodiversity (inland)

Excessive N inputs elevate nitrate concentrations of shallow and deep well groundwater along the Indus River floodplain aquifer in Pakistan | Muhammad Riaz
High-resolution simulation of nitrate leaching from agricultural land across Germany | Claas Nendel
Mapping nitrate concentrations in upper groundwater using Random Fores | Job Spijker
Sources of nitrogen in rivers worldwide: exploring linkages to sustainable development goals | Maryna Strokal
Precising target NO3 concentrations to limit green algae blooms in Brittany | Durand Patrick

Special Session: Nitrogen Use Efficiency and Sustainable Nutrient Management - CROP 2

Assessment of required increases in nitrogen use efficiencies in agriculture to comply with water and air quality objectives in EU27 | Wim de Vries
Optimising Nitrogen release in an agroforestry system | Adejoke Olukemi Akinyele
The challenge to improve nitrogen-use efficiency in broadacre dryland farming of Western Australia | Andreas Neuhaus
Improving genetical controlled crop nitrogen use efficiency | Guohua Xu

3.10 p.m. CEST - BREAK

Part 3

3.20 p.m. CEST

2b - Optimizing the efficiency of nitrogen use in crop production (conventional management)

N source and tillage management: Effect on nitrous oxide emissions and barley yields in a rainfed Mediterranean area | Guillermo Guardia
Effect of catch crops on nitrogen leaching losses following cool season forage crop grazing in New Zealand | Brendon Malcolm
Fertigation of Orchards - Spatial Variability in N Usage and Losses | Shahar Baram
Mining soil nitrogen threatens Australian wheat | Shu Kee Lam
Nitrogen management in direct seeded rice, agronomic, physiological and economical perspectives | Hafeez ur Rehman

2b - Optimizing the efficiency of nitrogen use in crop production (crop production & nitrogen emissions)

Quantification and mitigation of ammonia emissions from paddy fields in subtropical central China | Jianlin Shen
Mitigation of N2O emissions by soil pH management (MAGGE-pH): growing evidence | Peter Dörsch
Gaseous nitrogen losses from a subtropical sugarcane cropping system | Clemens Scheer
Mitigation of nitrous oxide emissions from horticultural crops and implications for the Montreal Protocol | Ian Porter
Leaching of dissolved nitrogen and carbon from winter cover crop in Mediterranean Central Chile | Osvaldo Salazar
Interactive effect of nitrogen and potassium on nitrogen use efficiency in wheat under saline conditions | Rubaq Iqbal

2b - Optimizing the efficiency of nitrogen use in crop production (technological management)

Sensitivity of hyperspectral bands to N concentration at different growth stages in winter wheat | Jose Luis Pancorbo
Predicting N status in maize with clip sensors: choosing sensor, leaf sampling point, and timing | Jose L Gabriel
In-situ real-time NIR monitoring of nitrogen in irrigated cotton northern NSW, Australia | Tim Weaver
The GxExM interaction and effect on nitrogen uptake in Australian cotton | Tim Weaver

3b - Reduction of nitrogen in wastewater to ensure clean water and sanitation

Assessing nitrogen fluxes: From human food intake over urine and faeces to wastewater treatment and disposal | Ina Koerner
Reducing nitrogen pollution in water systems in China: implications for the Sustainable Development Goals | Mengru Wang
Global Accounting of Reactive Nitrogen in Municipal Solid Waste | David Meng-Chuen Chen
Regional nitrogen soil surface budgets Germany | Uwe Häußermann
The Nitrogen Legacy: Long-term effects of water pollution on human capital | Esha Zaveri

4a - Threats for terr. Biodiversity2

Nitrogen availability along an elevational transect in a tropical montane forest - Rwenzori, Uganda | Joseph Okello
Nitrogen oligotrophication in forests: An emerging global trend? | Peter Groffman
Impacts of invasive plants on Nitrogen cycling in a montane tropical grassland | Manaswi Raghurama
Impacts of nitrogen deposition on forest mineral -soil biogeochemical processes, across a trans-European gradient, investigated using a tool kit of stable isotope methods | Rebecca Hood-Nowotny
Nitrogen deposition increases drought sensitivity in Swiss forests | Sabine Braun

4b - Threats for aquat. Biodiversity (off shore)

Nitrogen, Water and Global Change - an Integrated Modeling Perspective | Carolien Kroeze
Effects of vegetation structure on nutrient outflows from a montane tropical Forest-Grassland mosaic | Manaswi Raghurama
Geographical targeted landscape management for reduced N pollution from agriculture | Tommy Dalgaard
Nitrogen impacts on the Wadden Sea and adjacent Elbe Estuary (Europe): ecosystem degradation, recovery and ongoing impacts | Justus van Beusekom
Reducing nutrient pressures on aquatic ecosystems in Europe | Bruna Grizzetti
The history and future perspectives of Baltic Sea Eutrophication | Maren Voss

Wednesday, 2 June 2021 - Poster Sessions

Poster Sessions

11.00 a.m. - 12.00 a.m. CEST & 4.00 p.m. - 5.00 p.m. CEST

Take note: Poster Sessions will be held twice due to different time zones!

Physiological Nitrogen release from human population. A case study within East Europe | Volodymyr Medinets
Assessment of the efficiency of nitrogen removal from municipal wastewater | Monika Suchowska-Kisielewicz
Effects of available nitrogen on numbers of native herbaceous plants in Aomori, Japan | Mitsuhisa Baba
Nitrate accumulation in an intensive small agricultural catchment: challenges and solutions | Jianbin Zhou
Simulating 50 years of land management and groundwater flow to explain today's nitrate concentrations in Flemish surface waters | Jeroen De Waele
Nitrate accumulation in semiarid apple orchard on the Loess Plateau of China | Guo Shengli
Nitrate Leaching Potential for Drip Irrigated Cauliflower (Brassica oleracea var. Botrytis) Grown on a Sandy Loam Soil | F. Cassel
Reducing future nitrogen pollution in rivers of the Bay of Bengal | Masooma Batool
Improving eutrophication indicators based on nitrogen transport and retention in watersheds | J Zhou
Nutrient enrichment changes water transport structures of savanna woody plants in Brazil | Lucas Silva Costa
Evaluation of changes in landscape loading of total nitrogen to U.S. waters using monitoring results from the National Aquatic Resource Surveys | Jiajia Lin
Historical N load from land to East-China sea and riverine N_2O emission in East-Asia | Kazuya Nishina
Precipitation chemical composition and atmospheric nitrogen deposition in the lake Victoria catchment (East Africa) | Baka Yoko
Assessment of Nitrogen and Carbon compounds emission as aftermath of wildfires in Dniester Delta (Ukraine) in 2010-2019 | Volodymyr Medinets
Atmospheric nitrogen deposition budget in the wet savanna of LAMTO in Côte d'Ivoire | Money Guillaume Ossohou
Validation of nitrogen dry deposition modelling above forest using high-frequency flux measurements | Pascal Wintjen
Numerical analysis of agricultural emissions impacts on PM2.5 in China using a high-resolution ammonia emission inventory | Meigen Zhang
Seasonal NH_3 emission estimates for the Eastern United States based on ammonium wet concentrations and an inverse modeling method | Hanna Malchykhina
An open-path QCL-based sensor for fast-response and high-sensitivity measurements of atmospheric ammonia | Yin Wang
High-resolution maps of ammonia concentration and nitrogen deposition for Baden-Württemberg | Gauger, Thomas
Variability of atmospheric ammonia and its sources over Indian region | Saumya Singh
Nitrogen budget estimation in the East Europe: A case study for Dniester and Prut catchments | Sergiy Medinets
National nitrogen flows in Germany | Martin Bach
Nitrogen Balance of Latvia | Inga Grinfelde
Reactive nitrogen flows between pool "Energy and Fuel" and the Atmosphere in the Eastern European | Lidiya Moklyachuk
Characterization of reactive nitrogen emissions from turfgrass systems | Viney Aneja
Temporal dynamics of reactive nitrogen fluxes over different ecosystems | Christian Brümmer
Characterization of Atmospheric Reactive Nitrogen Emissions from Global Agricultural Soils | Viney Aneja
Global estimates of N_2O emissions associated with plant- and animal-based food production | Atul K Jain
The global distribution of soil nitrification and the fraction of associated N_2O emission by using stochastic gradient boosting models | Baobao Pan
Nitrous oxide emissions from Soddy podzolic sandy loam soil after long-term fertilizer and manure | Sergei Lukin
Effect of organic carbon and nitrogen addition on the emission of nitrous oxide in aggregates from straw-incorporated soil | Yin Junhui
Oxygen regulates nitrous oxide production directly in agricultural soils | Xiaotong Song
Weakened growth of cropland-N_2O emissions in China associated with nationwide policy interventions | Ziyin Shang
Impact of climate change on nitric oxide and nitrous oxide emission from typical landuses in Scotland | Sergiy Medinets
The potential of ryegrass as cover crop to reduce soil N_2O emissions and increase the population size of denitrifying bacteria | Haitao Wang
Nr management in current Brazilian policies | Gisleine Cunha-Zeri
Application standards vs Nitrogen Surplus in regulation in the EU - Nitrogen regulation in Germany, The Netherlands and Denmark | Brian H. Jacobsen
Cost curves for ammonia mitigation measures in German livestock systems | Helmut Döhler
Measures and scenarios for the implementation of the reduction targets set by the NEC directive (2016/2284/EU) for agriculture | Uwe Häußermann
A Nitrogen Footprint Tool for Communities: A Case Study for Baltimore, MD, USA | Elizabeth Dukes
The US nitrogen footprint: An updated approach and comparison | Allison Leach
Nitrogen footprint of protein-free products | Kentaro Hayashi
Reducing nitrogen footprint of Portuguese wine | Soraia Cruz
A nitrogen footprint perspective for Brazilian water sector | Camille Nolasco
Nitrogen footprint calculator for Germany | Martin Bach
The Portuguese nitrogen footprint, a challenge in a Mediterranean country | Cláudia Marques dos Santos Cordovil
Indonesian Nitrogen Footprint Assessment of Food Sector | Azusa Oita

Thursday, 3 June 2021 - Oral Sessions

Part 1

11.30 a.m. CEST

INI South Asia Award

12.00 a.m. CEST

Key-Note Session Day 4

Air Pollution Health Effects | Annette Peters
Managing Nitrogen for sustainable agriculture production: Integrating Social and Ecological Perspectives | Xing Zhang
N matters – turning risk communication into agenda setting | Norbert Taubken
Nitrogen Strategy in Germany | N.N.

Panel Discussion Day 4

1.10 p.m. CEST - BREAK

Parallel Discussion Sessions, watching prerecorded talks the week before is obligatory.

Part 2

1.15 p.m. CEST

3a - Health Effects

Reactive nitrogen compounds and their influence on human health | Rolf Nieder
Particulate organic nitrogen at an agricultural region in South Africa | Pieter Gideon Van Zyl
Projecting future nitrogen pathways and their impacts: the GLOBIOM-GAINS framework | Wilfried Winiwarter

4a -Special Session Forests

Nitrogen impacts on forest mycorrhizas and functions. | Martin Bidartondo
Tree nutrition increasingly imbalanced in European forests | Inken Krueger
Nitrogen deposition and leaching in European forests | Elena Vanguelova

6a - Closing the N cycle: Innovations for sustainable N management (better Management of dairy and crop systems)

Decoupled aquaponics - Innovative food production systems for a sustainable nitrogen management | Hendrik Monsees
Reducing ammonia volatilization and nitrous oxide emissions from agricultural soils | Craig Drury
Soil Nitrogen Storage and Availability to Crops are Increased by Conservation Agriculture Practices in Rice-based Cropping Systems in the Eastern Gangetic Plains | Md. Khairul Alam
Balancing nitrogen inputs for China\'s green agricultural development | Liu Xuejun
Sustainable Nitrogen Cycling: Using Human Bio-solids in Cropping Systems to Manage Soil N | Nimesha Fernando

7a - From science to policy (economic issues) 1

Monetary Valuation of Reactive Nitrogen - Relevance for Policy and Data Gaps | Astrid Matthey
Socioeconomic barriers of agricultural nitrogen use for sustainable development | Baojing Gu
Costs of regulating ammonia emissions from livestock farms near Natura 2000 areas - Analyses of case | Brian H. Jacobsen
Cost-benefit analysis of reactive nitrogen for Germany | Bettina Schäppi
The social cost of nitrogen - with examples from Germany | Bernd Hansjürgens
Developing a global economic valuation function for nitrogen impacts on coastal and marine ecosystem services | Rute Pinto

7b - Educational aspects, public awareness, risk communication (communication)

A scheme to relate nitrogen loads to characteristic plant species of FFH habitat types in Germany | Sonja Winter
Integrated evaluation of changes in agriculture in view of climate, biodiversity and water goals | Hans Kros
Nitrogen balances in urban areas: purpose and potentials | Wilfried Winiwarter
A revised planetary boundary for agricultural nitrogen use | Lena F. Schulte-Uebbing
Linking Nitrogen Forms, Quantifications, and Epistemologies: A Science-Policy Interface Issue | William San Martin
National nitrogen budgets of Japan in 2000s | Kentaro Hayashi
Governing Nutrient Pollution Beyond Farmers | David Kanter

7b - Educational aspects, public awareness, risk communication (policy) 1

A national nitrogen target for Germany | Markus Geupel
The political ecology of manure export in Lower Saxony: an ethnographic case study | Friederike Gesing
How the Dutch nitrogen policy failed and led to serious nitrogen deposition reduction | Jan Willem Erisman
Comparison of regulatory approaches for determining application limits for mineral nitrogen fertilizer use in Germany | Philipp Löw
Towards a Credit System to Solve Agriculture induced Nitrogen Pollution Globally | Deli Chen
The Dutch story of an Integrated Approach to Nitrogen, all things come and go | Mark Wilmot
Evaluation and comparison of nitrogen mitigation measures across sectors | Bettina Schäppi

Special Session on Nitrogen Footprints 1

Towards a practical environmental footprint tool | Allison Leach
Expanding the Nitrogen Footprint Pathway | James N. Galloway
Input-output analysis of reactive nitrogen flows in industry and industrial nitrogen footprint: the case of Japan | Kiwamu Katagiri
Trends in the food nitrogen and phosphorus footprints for China, India, and Japan | Azusa Oita
Nitrogen-neutrality Fosters More Sustainable Meetings | Xia Liang

1.55 p.m. CEST - BREAK

Part 3

2.05 p.m. CEST

5b - Biogeochemical N Cycle (N2O / denitrification / water)

Hydrological N export from tropical forests in the Congo Basin | Simon Baumgartner
Integrated control and Modelling of Denitrification in Agricultural Soils at various scales (DASIM) - first | Reinhard Well
Managing reactive nitrogen in agricultural systems under future conditions in Austria | Bano Mehdi
Terrestrial denitrification and nitrous oxide emissions: global estimates and uncertainties | David Pelster
The use of nitrogen compounds from organic waste | Daniel Pleissner
Quantifying landscape-level annual nitrous oxide fluxes in the Tibetan Plateau | Lei Ma

6a - Closing the N cycle: Innovations for sustainable N management (technologies and nutrient recovery)

Ground level and aerial sensors to detect crop N status and adjust fertilizer application | María Dolores Raya-Sereno
Catalytic Conversion of Nitrogen Oxide to Ammonia | Tetsuya Nanba
Recovery of gaseous ammonia released from livestock farms by recyclable adsorbent | Tohru Kawamoto
Innovative explorations of subsurface redox conditions for future targeted N regulation | Birgitte Hansen
Plasma treatment of dairy slurry increases grass yields and nitrogen use efficiency | Nick Humphries

7a - From science to policy (economic issues) 2

Trends in nitrogen induced costs due to impacts on human health, climate and ecosystems in Europe | Wim de Vries
A reflexive policy approach for designing a Farm-Gate Nitrogen Surplus Tax | Luisa Stuhr
A reflexive policy approach for designing a Farm-Gate Nitrogen Surplus Tax | Xiuming Zhang
Cost-effective nitrogen load reductions to Danish coastal areas – comparison of three economic models | Berit Hasler
Willingness to pay for improvements in surface water quality in Northern Europe: A meta-regression | S. B. Olsen

7b - Educational aspects, public awareness, risk communication (policy) 2

Nitrogen balance and Water contamination risk assessment - The Castelo de Bode watershed example | Maria Vale
The first global nitrogen policy database | David Kanter
Natura 2000 as a strategic element of Nitrogen reduction policy | Rudolf Uhl
How Danish farmers have doubled N efficiency already & how to reach ambitious future targets | Wibke Christel
The Dutch integrated approach to monitor and calculate nitrogen deposition in Natura 2000 areas | Roy Wichink Kruit
How Germany's national air pollution control programme contributes to reduced emissions of reactive nitrogen into the atmosphere | Marcel Langner

Special Session on Nitrogen Footprints 2

Environmental footprint family to address local to planetary sustainability and deliver on the SDGs | Davy Vanham
Campus Nitrogen Footprints: How Institutions can Manage Their Impact | Elizabeth Castner
The N-Footprint of the agricultural research station at Aarhus University in Denmark utilizing an N-Institution calculator | Morten Graversgaard
The nitrogen footprint of Denmark - Applying Danish virtual nitrogen factors to estimate losses from food production | Morten Graversgaard
The Nitrogen Footprint for INI2020 | Markus Geupel
Indian food nitrogen footprint towards 2050: Religious dietary perspective | Azusa Oita

2.45 p.m. CEST - BREAK

2.55 p.m. CEST

Closing Session

Notes from the organizers - summary and documentation including „Nitrogen Footprint of the Berlin Declaration
Farewell by the INI Chairs

Panel Closing Session

Organizing and Advisory Committees

The Organizing committee is responsible for the organizational preparation and realization of the conference. The Advisory boards support the organizing committee with proposals and scientific recommendations for the program structure, program focuses, special sessions and possible keynote speakers. In close cooperation all three groups decide about the final conference program. The advisory boards help to dessimenate most relevant information about the conference.

Organising Committee

Markus Geupel
Umweltbundesamt, Germany

Prof. Dr. Henning Friege
N³ Thinking Ahead Dr. Friege & Partners, Germany

Svenja Sophie Jürgens
Akademie Dr. Obladen GmbH, Germany

David Obladen
Akademie Dr. Obladen GmbH, Germany

Simone Richter
Umweltbundesamt, Germany

Dr. Stefanie Wolter
Bundesministerium für Umwelt, Naturschutz und nukleare Sicherheit, Germany

Local Advisory Committee

Prof. Dr. Barbara Amon
Leibniz Institute for Agricultural Engineering and Bioeconomy (ATB), Germany
University of Zielona Góra, Poland

Dr. Klaus Arzet
Bavarian Ministry of Environment and Consumer Protection Department of Water Management and Soil Protection National and international River Basin Management, Germany

Dr. Benjamin Bodirsky
Potsdam Institute for Climate Impact Research, Germany

Prof. Dr. Martin Diekmann
Universität Bremen FB 02 Institut für Ökologie, Germany

Prof. Dr. Barbara Hoffmann
Universität Düsseldorf, Institut für Arbeits-, Sozial- und Umweltmedizin, Germany

Dr. Henning Meesenburg
Nordwestdeutsche Forstliche Versuchsanstalt, Germany

Dipl.-Ing. Bernhard Osterburg
Johann Heinrich von Thünen-Institut, Germany

Dr. Markus Salomon
Sachverständigenrat für Umweltfragen, Germany

Dr. Wolfgang Sprenger
Bayer. Landesamt für Umwelt, Germany

Prof. Dr. Friedhelm Taube
Univ. Kiel, Inst. F. Pflanzenbau u. Pflanzenzüchtung, Germany

Prof. Dr. Maren Voss
Leibniz-Institut für Ostseeforschung Warnemünde, Germany

International Advisory Committee

Prof. Dr. Tapan Adhya
Kalinga Institute of Industrial Technology (KIIT), India

PhD Vincent O. Aduramigba-Modupe
Institute of Agricultural Research & Training Obafemi Awolowo University, Nigeria

Christopher Cox
UNEP, Kenya

Prof. Dr. Jan Willem Erisman
Louis Bolk Institute, Netherlands

Dr. Cameron Gourley
Future Farmin Research Div., Dpt. Prim. Industries, Australia

Dr. Kevin Hicks
Stockholm Environment Institute, UK

Dr. Clare Howard
Centre of Ecology and Hydrology, UK

Prof. Dr. Xiaotang Ju
China Agricultural University, China

Prof. David Kanter
USA

Dr. Adrian Leip
European Commission - Joint Research Centre, Italy

Dr. Cargele Masso
International Institute of Tropical Agriculture, Nigeria

Prof. Dr. Jean Ometto
Brazilian National Institute for Space Research, Brazil

Prof. Dr. Cheryl Palm
University of Florida - Institute for Sustainable Food Systems, USA

Prof. N. Raghuram
University School of Biotechnology, India

Prof. Dr. Mark Sutton
Centre for Ecology and Hydrology , UK

Prof. Dr. Wilfried Winiwarter
Institut für Applied System Analysis, Austria

Scientific Committee

The Scientific Committee is responsible for reviewing submitted papers and deciding on the acceptance of the presentations submitted. This Committee consists of numerous members of the International and the Local Advisory Committees as well as additional experts from academia, administration, scientific associations, and industry.

Prof. Dr. Tapan Adhya
Kalinga Institute of Industrial Technology, India

PD Dr. Barbara Amon
Leibniz Institute for Agricultural Engineering and Bioeconomy (ATB), Germany
University of Zielona Góra, Poland

Dr. Klaus Arzet
Bavarian State Ministry of the Environment and Consumer Protection, Germany

Dr. Martin Bach
Giessen University, Germany

Dr. Sabine Banzhaf
Freie Universität Berlin, Germany

Johannes Biala
University of Queensland, Australia

Dr. Benjamin Bodirsky
Potsdam Institute for Climate Impact Research, Germany

Prof. Dr. Peter Bruckmann
Germany

Dr. Christian Brümmer
Thünen Institute, Germany

Dr. Marijana Curcic
University of Belgrade, Serbia

Andreas Eisold
German Environment Agency, Germany

Prof. Dr. Jan Willem Erisman
Louis Bolk Institute, Netherlands

Prof. Dr. Henning Friege
N³ Thinking Ahead Dr. Friege & Partners, Germany

Dipl.-Ing. Nils Friege
Düsseldorf District Government, Germany

Prof. Dr. Jim Galloway
University of Virginia, USA

Markus Geupel
German Environment Agency, Germany

Dr. Cameron Gourley
State Government Victoria, Dept. Agriculture, Australia

Patrick Heffer
International Fertilizer Association, France

Dr. Kevin Hicks
University of York, Stockholm Environment Institute, UK

Prof. Dr. Barbara Hoffmann
Heinrich Heine University Düsseldorf, Institute for Occupational, Social and Environmental Medicine, Germany

Dr. Max Hofmeier
German Environment Agency, Germany

Prof. Dr. Xiaotang Ju
China Agricultural University, China

Prof. Dr. Alexander Kekulé
Martin Luther University Halle-Wittenberg, Institute of Medical Microbiology, Germany

Dr. Till Kuhn
University of Bonn, Institute for Food- and Resource Economics, Germany

Dr. Luis Lassaletta
Technical University of Madrid, Spain

Adrian Leip
Joint Research Centre – European Commission, Germany

Prof. Dr. Borhane Mahjoub
Ministry of Higher Education and Scientific Research, Tunisia

Dr. Henning Meesenburg
Northwest German Forest Research Institute, Germany

Dr. Barbara Navé
BASF, Germany

Stephan Nordmann
German Environment Agency, Germany

Dr. Malte Oehlmann
Adelphi, Germany

Prof. Dr. Jean Ometto
Brazilian National Institute for Space Research, Brazil

Dipl.-Ing. Bernhard Osterburg
Thünen Institute, Germany

Dr. Anne-Katrin Prescher
Thünen Institute, Germany

Dr. Andreas Prüeß
State Institute for Environment, Measurements and Nature Conservation Baden-Württemberg, Germany

Simone Richter
German Environment Agency, Germany

Dr. Markus Salomon
German Advisory Council on the Environment, Germany

Dr. Alberto Sanz Cobena
Technical University of Madrid, Spain

Lisa Schlesinger
German Environment Agency, Germany

Dr. Frederik Schrader
Thünen Institute, Germany

Dr. Wolfgang Sprenger
German Environment Agency, Germany

Prof. Dr. Friedhelm Taube
Kiel University, Institute of Crop Science and Plant Breeding, Germany

Dr. Hans van Grinsven
PBL Netherlands Environmental Assessment Agency, Netherlands

Prof. Dr. Maren Voß
Leibniz Institute for Baltic Sea Research, Germany

Dr. Gabriele Wechsung
German Environment Agency, Germany

Prof. Dr. Wilfried Winiwarter
International Institute for Applied Systems Analysis, Austria

Prof. Dr. Alexander Wissemeier
BASF, Germany

Prof. Dr. Reinhard Zellner
University of Duisburg-Essen (ret.), Germany

Asst. Prof. Dr. Xin Zhang
University of Maryland Center for Environmental Science, USA

Coordination:

German Enviroment Agency
Mr. Markus Geupel
markus.geupel@uba.de
Wörlitzer Platz 1
06844 Dessau-Roßlau
Germany

Organisation:

Academy Dr. Obladen GmbH
Ms. Svenja Sophie Jürgens
office@ini2020.de
Katharinenstr. 8
10711 Berlin
Germany