

Gegründet im Jahre 1869 von H. Hlasiwetz, J. Loschmidt, J. Petzval und J. Stefan



## **EINLADUNG**

zum virtuellen Vortrag von

## Prof. Dr. Wilfried Winiwarter

IIASA, Pollution Management Research Group

## The environmental nitrogen cycle in different spatial dimensions – science aspects and policy challenges

am

Dienstag, 16. November 2021, um 17:30 Uhr

https://tuwien.zoom.us/j/97075143324?pwd=OTh2bEpqaEVEOTVGNHFiaEEvMnBtdz09 Meeting-ID: 970 7514 3324, Passwort: 4P5rMRR6

## **Abstract**

Reactive nitrogen, i.e. all nitrogen compounds except molecular N2, in the environment has been described as a cascade of events, changing pools or media and also changing composition while contributing to different adverse effects before being converted into the stable molecular form. Formation requires considerable energy, but for the remainder of its lifetime mass conservation is a good descriptor. Hence, nitrogen budgets, which cover mass balances at different environmental pools, help to assess, quantify and compare nitrogen flows at relevant environmental intersections. In this presentation I will provide examples of use cases for nitrogen budgets in different spatial resolutions, pointing out the different environmental effects observed from nitrogen pollution and also the intervention points that would allow to reduce pollution and the associated effects. With agriculture being a main reason for the global doubling of nitrogen fixed (Haber-Bosch process taking the largest share), the need of food production to nourish humanity needs to find consideration in any scientifically sound approach to tackle the nitrogen problem. Interactions between scientific guidance and policy needs help work out tradeoffs and co-benefits of measures that do not directly tackle an immediate problem, but help resolve a range of impacts simultaneously.