**Session Proposal**

# Session Title

Plant nitrogen utilization: from cell to field

# Session Organizers

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2. Yufang Lu, Institute of Soil Science, Chinese Academy of Sciences, yflu@issas.ac.cn, primary contact person
3. Toru Fujiwara, The University of Tokyo, atorufu@g.ecc.u-tokyo.ac.jp
4. Herbert J. Kronzucker, The University of Melbourne, herbert.kronzucker@gmail.com
5. Eiko Kuramae, Netherlands Institute of Ecology, E.Kuramae@nioo.knaw.nl

# Session Description

This symposium will provide a scope for critical discussion about plant nitrogen utilization from cell to field, including the physiological and molecular mechanisms of nitrogen sensing, transport, uptake, and utilization in plants; the root-soil-microbe rhizosphere interactions on soil nitrogen transformation processes; and the fate, loss pathways, and mitigation strategies of nitrogen in agricultural systems. Green regulation strategies and technologies for improving nitrogen use efficiency and reducing nitrogen emissions will be shared extensively between experts and those interested in this field. The symposium will also provide a networking opportunity for domestic/early-career plant nutrition and soil scientists as well as established international scientists.

# Format

Oral presentations

# Proposed Speakers

* Toru Fujiwara, The University of Tokyo. Prof. Fujiwara is a leading expert in plant nutrition and fertilizer, and discovered the first boron transporter in the living system, and the first molybdenum transporter in eukaryotes, nutrient-dependent translational regulation, and sensing of nutrient by ribosome.
* Herbert J. Kronzucker, The University of Melbourne. Prof. Kronzucker is a Distinguished Professor and the Editor-in-Chief of the Journal of Plant Physiology. His research is on plant nutrition and ion transport in the world’s major cereal crops, in particular rice, with a focus on plant nitrogen relations, potassium homeostasis, sodium toxicity, micronutrients, and silicon.
* Eiko Kuramae, Netherlands Institute of Ecology. Prof. Kuramae is a leading expert in the field of soil microbial community interactions involved in the Nitrogen cycle. She focuses on climate-proof soils, nutrient recycling, microbial farming, and microbiome interactions with sorghum and rice exudates to improve nitrogen efficiency.
* Caixian Tang, La Trobe University. Prof. Tang’s research has focused on plant-soil-microbe interactions, soil and nitrogen management. He has worked on causes and management of the role of organic amendments in amelioration of soil acidity, effects of elevated CO2 on soil carbon and nutrient dynamics, and rhizosphere biochemistry and nutrient acquisition. He is an elected follow of Soil Science Australia.
* Zhenhua Zhang, Hunan Agricultural University. Prof. Zhang is an expert in soil fertility management for rice-rapeseed rotation systems and nutrient-efficient utilization in grain and oil crops.
* Wei Xuan, Nanjing Agricultural University. Prof. Xuan is a leading expert in plant root system development and soil nitrogen utilization. He focuses on the developmental patterns of plant root systems and the molecular mechanisms underlying their adaptation to soil environments.
* Chao Ai, Institute of Agricultural Resources and Regional Planning, Chinese Academy of Agricultural Sciences. Prof. Ai has been working in the field of soil nutrient cycling and fertility management, where he pioneered the rhizosphere nitrogen transformation processes under long-term fertilization, and developed high-efficiency nitrogen-fixing synthetic microbial communities.
* Zhi Quan, Institute of Applied Ecology, Chinese Academy of Sciences. Dr. Quan focuses on nitrogen cycling in agricultural ecosystems, especially the nitrogen transformation and fate in soil-plant systems, and nitrogen fertilizer use efficiency.