**Session Proposal**

# Session Title

Novel fertilizer research and industrial development

# Session Organizers

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* Lili Zhang, Institute of Applied Ecology, Chinese Academy of Sciences, [llzhang@iae.ac.cn](mailto:llzhang@iae.ac.cn)

# Session Description

The symposium will provide a scope for novel fertilizer research and industrial development, including controlled-release fertilizer, organic fertilizer, stable fertilizer, microbial fertilizer and micronutrient fertilizer. The excessive and inefficient use of chemical fertilizers has led to soil acidification, water eutrophication and greenhouse gas emissions. Novel fertilizers not only provide a more balanced nutrient supply and promote healthy crop growth, but also improve the physical, chemical and biological properties of the soil. The novel fertilizer reduces the loss and volatilization of nutrients through precision fertilization technology and slow-release mechanism, thereby reducing the negative impact on the environment. The popularization and use of new fertilizers is an important means to realize the green development of agriculture. The symposium will provide a networking opportunity for domestic/early-career soil scientists, companies, as well as established international soil scientists.

# Relevance

This session is highly relevant to the congress’s theme of soil fertility and plant nutrition as different kinds fertilizers can directly supplement the nutrients lacking in the soil, such as nitrogen, phosphorus, potassium and micronutrients, thereby improving the nutrient supply capacity. Organic fertilizers can increase the organic matter content of the soil, improve the physical structure of the soil, improve the water and fertilizer retention capacity of the soil, and promote the reproduction and metabolic activities of microorganisms, and thus enhance the ecological function of soil.

# Format

Oral presentations and panel discussions.

# Proposed Speakers

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|  | **Name** | **Affiliation** | **Contribution** |
| Novel fertilizer research | | | |
| 1 | Alain Marty | Toulouse Biotechnology Institute | Principal Investigator at Toulouse, a leading expert in the field of biotechnology and bioengineering. |
| 2 | Yuechao Yang | Shandong Agricultural University | A leading expert in the field of bio-based controlled-release fertilizer and humic acid fertilizer. |
| 3 | Herbert J. Kronzucker | University of Western Australia | A leading expert in the field of nutrient acquisition in rice. |
| 4 | Ping He | Institute of Agricultural Resources and Regional Planning, CAAS | A leading expert in the field of nutrient expert system. |
| 5 | Changwen Du | Institute of Soil Science, Chinese Academy of Sciences | An expert in the field of controlled release fertilizer, Soil fertility and evaluation. |
| 6 | John A. Duxbury | Cornell University | A leading expert in the field of soil and crop sciences. |
| 7 | Lili Zhang | Institute of Applied Ecology, Chinese Academy of Sciences | A leading expert in the field of nitrogen stabilization fertilizer. |
| 8 | Patrick du Jardin | University of Liège | A leading expert in the field of biostimulants. |
| Mechanism research | | | |
| 9 | James M. Tiedje | Michigan State University | A leading expert in the field of microbial community structure and function. |
| 10 | Ruifu Zhang | Nanjing Agricultural University | A leading expert in the field of rhizosphere microorganisms and biofertilizers. |
| 11 | Xu Zhao | Institute of Soil Science, Chinese Academy of Sciences | An expert in the field of Soil nitrogen cycle. |
| 12 | Zed Rengel | University of Western Australia | A leading expert in the field of mechanisms and relationships among nutrients in soil and plants. |
| 13 | Lin Zhang | China Agricultural University | An expert in the field of plant-soil interaction and efficient utilization of phosphorus. |
| 14 | Shengke Tian | Zhejiang University | An expert in the field of plant nutrition diagnosis and fertilization. |
| 15 | Youssef Rouphael | Lebanese University | A leading expert in the field of biostimulants. |
| 16 | Yuanyuan Yao | Shandong Agricultural University | An expert in the field of stress resistance of crops to promote growth and fulvic acid fertilizer. |
| Crop application and evaluation | | | |
| 17 | Xinping Chen | China Agricultural University | A leading expert in the field of integrated management of nutrient resources of main crops. |
| 18 | Cakmak Ismail | Sabancı University | A leading expert in the field of micronutrient fertilization. |
| 19 | Zhaohui Wang | Northwest A&F University | A leading expert in the field of wheat nutrition regulation. |
| 20 | Paul E. Fixen | International Plant Nutrition Institute | A leading expert in the field of managing water and fertilizer for sustainable agricultural intensification. |
| 21 | Xiaokun Li | Huazhong Agricultural University | A leading expert in the field of special crop fertilizer and modern fertilization technology. |
| 22 | Yuanmao Jiang | Shandong Agricultural University | A leading expert in the field of mineral nutrition and fertilization of fruit trees. |
| 23 | Suresh Kumar Chaudhari | Indian Council of Agricultural Research | A leading expert in the field of agricultural water and fertilizer management. |
| 24 | Qiang Gao | Jilin Agricultural University | A leading expert in the field of new fertilizer research and rational application technology. |
| Fertilizer industry development | | | |
| 25 | Karl Wyant | Canada ESN | A leading company in the field of controlled release fertilizer in Canada. |
| 26 | Qiang Zhang | Kingenta | A leading company in the field of novel fertilizer manufacturer and planting industry solution management in China. |
| 27 | Anup Kothari | BASF | A leading company in the field of Chemical engineering and fertilizer in Germany. |
| 28 | Sanzhou Tang | YONFER | A leading company in the field of high concentration compound fertilizer and phosphorus chemical industry in China. |
| 29 | MITSUYOSHI  KYO | Japan Stifle Fertilizer | A leading company in the field of novel fertilizers in Japan. |
| 30 | Rodrigo Santos | Bayer crop science | A leading company in the field of crop protection solutions in Germany. |
| 31 | Bin Su | Syngenta Group | A leading company in the field of seed, plant protection and crop nutrition, agronomic solutions in Switzerland. |
| 32 | Fangjun Ding | NDFY | A leading company in the field of humic acid fertilizer in China. |