



# 8th Sustainable Phosphorus Summit Africa

Accra, Ghana

Sep 30<sup>th</sup> - Oct 3<sup>rd</sup>, 2025



**AFRICAN PLANT NUTRITION INSTITUTE (APNI) SPONSORED SESSION**

## **Enhancing Global Phosphorus Efficiency Along the Mining-Use-Recovery Pathway**

The African Plant Nutrition Institute (APNI) has organized this special session to foster discussions amongst stakeholders in research, industry, and policy development on state-of-art knowledge in P-value chain innovations, accelerate sustainable P use in global agricultural systems, and appraise the interventions needed to address knowledge and implementation gaps.

The continent presents unique prospects for leapfrogging to high-efficiency systems, enabled by cost-effective technological innovations. Increasing P fertilizer use in balanced nutrient formulations is essential for narrowing yield gaps in African crop production systems. Accelerating increased application of P and improving its management to enhance the agronomic, economic and environmental efficiency will require a combination of cost-effective P fertilizer sources, novel and adapted management practices, innovative diagnostic and decision support tools, digital advisory services, public-private partnerships, market development investments and enabling policies.





## SESSION STRUCTURE AND AGENDA

### Day 3 - Thursday 2nd Oct (8:30-10:00)

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| <b>8:30</b>       | MODERATOR'S OPENING<br><b>Dr. Kaushik Majumdar</b> , APNI, Morocco   |
| <b>8:35-8:50</b>  | GLOBAL PHOSPHATE DEMAND AND SUPPLY: A FOOD SECURITY NUANCED FUTURE OUTLOOK<br><b>Dr. Gerald Steiner</b> , Danube University, Krems |
| <b>8:50-9:05</b>  | INNOVATIONS IN EFFICIENT PHOSPHATE MINING AND PROCESSING<br><b>Dr. Mostafa Benzaazoua</b> , UM6P, Morocco                          |
| <b>9:05-9:15</b>  | GLOBAL FERTILIZER PHOSPHORUS USE AND AGRONOMIC EFFICIENCY<br><b>Dr. Rob Mikkelsen</b> , North Carolina State University, USA       |
| <b>9:15-9:25</b>  | OPTIMIZING GLOBAL PHOSPHORUS MANAGEMENT WITH 4RS<br><b>Dr. Leonardus Vergutz</b> , OCP Nutricrops, Morocco                         |
| <b>9:25-9:35</b>  | INNOVATING LOCALLY ADAPTED SOLUTIONS FOR SUSTAINABLE PHOSPHORUS USE IN AFRICA<br><b>Dr. Shamie Zingore</b> , APNI, Morocco         |
| <b>9:35-9:55</b>  | PLENARY DISCUSSION AND SYNTHESIS   |
| <b>9:55-10:00</b> | CONCLUDING REMARKS<br><b>Dr. Kaushik Majumdar</b> , APNI, Morocco  |



# SPEAKER BIOGRAPHIES



## DR. KAUSHIK MAJUMDAR

Director General, African Plant Nutrition Institute, Benguéir, Morocco

Dr. Kaushik Majumdar is the Director General of the African Plant Nutrition Institute based in Morocco. He was the Vice President and Coordinator of the Asia and Africa Programs of the International Plant Nutrition Institute (IPNI) before joining APNI. Dr. Majumdar has a Ph.D. in Soil Mineralogy/Soil Chemistry from Rutgers University, U.S.A. His current research interest is in precision crop nutrition for climate resilience and soil health in smallholder production systems, and how better plant nutrition can translate to better human health outcomes. Dr. Majumdar has co-authored over 100 peer-reviewed publications, book chapters, scientific and popular articles.



## DR. GERALD STEINER

Professor, Danube University, Krems, Austria

Professor Gerald Steiner is Co-Chair of the *Transdisciplinary Laboratory for Sustainable Mineral Resources* and Chair of the Department for Knowledge and Communication Management at Danube University Krems. His research focuses on the global phosphorus supply chain, with a special focus on the dynamics of supply and demand and pathways for sustainable, innovation-driven development. He has served as Schumpeter Professor at Harvard University's Weatherhead Center for International Affairs and co-initiated the *Transatlantic Research Lab on Complex Societal Challenges*. Professor Steiner is a member of the European Academy of Sciences and a leading voice in advancing transdisciplinary

approaches to mineral resources and food security.



## DR. MOSTAFA BENZAAZOUA

Professor, Mohammed VI Polytechnic University, Benguéir, Morocco

After 25 years of an academic career mainly at the University of Quebec (UQAT, Canada), Mostafa joined Mohammed VI Polytechnic University in Morocco as Full Professor. He is acting as the Director of the Geology and Sustainable Mining Institute (GSMI). Mostafa held a Canada Research Chair for Mine Waste Integrated Management and co-hold the International IDRC Research Chair on Mine and Industrial Waste Management. He obtained his Ph.D. in Environment & Geosciences at the Geology School of the University of Lorraine, Nancy - France. His background covers applied mineralogy and geochemistry. His main research topics are mining environment, ore and waste processing, mine waste management/valorization, mining site rehabilitation, and renewable energy developments.

He developed several sustainable solutions (TRL 1 to 9) for the mining industry.



## DR. ROBERT MIKKELSEN

Professor, North Carolina State University, Chapel Hill, USA

Dr. Rob Mikkelsen received his PhD in Soil Chemistry from the University of California. He worked for the U.S. government as a Fertilizer Research Chemist at TVA in Alabama, as a Soil Science professor at North Carolina State University, as Vice President of the International Plant Nutrition Institute, and Director of the African Plant Nutrition Institute. Rob recently retired as the Director of Agronomy for Yara. He has served as adjunct professor at Univ Calif Davis, NC State Univ, and UM6P in Morocco. He has served on multiple editorial boards and received professional recognition from leading scientific organizations. Promoting improved plant nutrient management through scientific knowledge has been his consistent theme.



## SPEAKER BIOGRAPHIES (cont'd)



### **DR. LEONARDUS VERGUTZ**

**Chief Science Officer, OCP Nutricrops, Casablanca, Morocco**

Dr. Leonardus Vergutz is Chief Science Officer for OCP Nutricrops based in Morocco. Previously he was professor and soil scientist within the Chair of Soil Science at Mohammed VI Polytechnic University. He is an agronomist with MSc and DSc in Soil Science and Plant Nutrition and has great experience with the highly weathered and acidic soils commonly found in the tropics. Before arriving in Morocco, he was a professor in Brazil and has been studying the mechanisms controlling the fate and behavior of elements in the soil-plant continuum aiming to build more sustainable and productive agricultural systems.



### **DR. SHAMIE ZINGORE**

**Director of Research and Development, African Plant Nutrition Institute, Benguéir, Morocco**

Dr. Shamie Zingore is an internationally recognized expert in soil fertility. He pioneered the 4R Nutrient Stewardship program in Africa. With over two decades of research, he has advanced innovations in nutrient management, use efficiency, and smallholder farming systems, shaping major R&D investments and policies on food security, land restoration, and climate resilience. Previously Regional Director at the International Plant Nutrition Institute and scientist at CIAT, he holds a PhD from Wageningen University. He has published 60+ peer-reviewed papers, book chapters, and extension resources.