European Sustainable Phosphorus Platform

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Benguerir
Morocco
24-26 November
2026

ESPC6

European Sustainable Phosphorus Conference

Sustainable Phosphorus: Innovation, Efficiency And Circularity

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Venue: University Mohammed VI Polytechnic (UM6P), Benguerir, Morocco

Pre-Conference

Young Phosphorus Day - Monday, 23 November

09:30 – 09:45	Welcome address by the organizers
09:45 – 10:30	**"Pitch your Phosphorus"** 180 seconds, 3 slides, 10–15 speeches
10:30 – 11:00	**Coffee Break & Phosphorus Memes** Anonymous meme presentation and voting
11:00 – 11:30	**Innovation & Poster Marketplace** Expo-style space with ECR posters, startups, pilot projects and industry demonstrations
11:30 – 12:30	**Panel discussion with experts** Increasing the impact of phosphorus research
14:30 – 16:00	**"Phosphorus without borders": thematic working groups** Emphasis on Africa–Europe perspectives and resource-constrained contexts
16:00 – 16:15	**Coffee break**
16:15 – 16:45	**Panel discussion:** **Sustainable Phosphorus Perspectives: Bioeconomy, Circularity and Sustainable Value Chains**
16:45 – 17:00	**Closing Remarks**
19:00	**Networking & Cocktail Dinner** (exclusively for participants of the Young Phosphorus Day)

Benguerir Morocco 24-26 November 2026 | ESPC6 | European Sustainable Phosphorus Conference

Day 1 — Tuesday, 24 November

08:00 – 09:00	Registration & Welcome Coffee
09:00 – 09:20	**Opening and housekeeping -** Manal Bernoussi, Moderator **Keynote and welcome remarks** Opening addresses: - Mohammed VI Polytechnic University (UM6P) - Hicham El Habti, President - European Sustainable Phosphorus Platform (ESPP) - Robert Van Spingelen, President - OCP Group - Meriem El Asraoui, Chief Global Affairs Officer
09:20 –09:50	**Keynote on food security and the importance of Nutrients** - International Atomic Energy Agency (IAEA) - Najat Mokhtar, Deputy Director General - International Fertilizer Development Center (IFDC) - Henk van Duijn, President and Chief Executive Officer
09:50 – 10:45	**Morning Plenary —The Strategic Role of Phosphorus** - European Commission, DG Agriculture and Rural Development (DG AGRI) - Stephanos Kirkagaslis - International Fertilisers Association - Achim Dobermann - CRU International - Maria Gamboa
10:45 – 11:15	**Coffee Break**
11:15 – 12:45	**Parallel Sessions A** **Session 1** — Closing the Phosphorus Loop: Recovery and Recycling [I] **Session 2** — Climate Change & Phosphorus **Session 3** — Phosphorus Management and Applications *(see Parallel Sessions — Detailed Programme, below)*

12:45 – 13:45	**Networking Lunch & Poster exhibition**
13:45 – 15:15	**Parallel Sessions B** **Session 1** — Phosphorus for Sustainable and Resilient Food Systems **Session 2** — Closing the Phosphorus Loop: Recovery and Recycling [II] **Session 3** — GPI Session / Phosphorus Stewardship in Action: African Experiences and Global Perspectives *(see Parallel Sessions — Detailed Programme, below)*
15:15 – 15:45	**Coffee Break**
15:45 – 17:00	**Afternoon Plenary — Phosphorus applications: challenges and perspectives** - Willem Schipper, Phosphate Industry Expert - European Centre for Research and Teaching in Environmental Geosciences (Cerege) - Daniel Nahon - RagnSells Group - Pär Larshans
17:00 – 17:30	**Innovators' Pitch: Sustainable Phosphorus Solutions from:** BETA, Emter GmbH, NuReSys, Prayon, OCP-Al Moutmir, Re-Cord, Wetsus
17:30 – 18:30	**Reception and poster exhibition**
19:00	**Networking Dinner in Ben Guerir- UM6P Campus (at the Student Center)**

Day 2 — Wednesday, 25 November

08:00 – 09:00	**Welcome Coffee**
09:00 – 10:40	**Morning Plenary — Phosphorus and the Environment: From Science to Action** - European Commission Joint Research Centre - Elise van Eynde - OCP Nutricrops - Leonardus Vergutz - German Federal Environment Agency (UBA) - Andrea Roskosch - University Mohammed VI Polytechnic (UM6P) - Joann Karen Whalen - BDO Trade & Customs, jointly with SILC Fertilizzanti - Paola Levato
10:40 – 11:10	**Coffee break**
11:10 – 12:50	**Morning Plenary — Phosphorus Reuse and Recycling: Scaling Circularity** - European Commission Joint Research Centre - Lukas Egle - Ramboll - Manon Cavagna - EFCI, Notified Body for the EU Fertilising Products Regulation - Simonetta Gallerini - European Biogas Association - Lucile Sever
12:50 – 14:00	**Networking Lunch and Poster exhibition**
14:00 – 15:30	**Parallel Sessions C** **Session 1** — Closing the Phosphorus Loop: Recovery and Recycling [III] **Session 2** — Climate, Soils and Phosphorus Dynamics **Session 3** — Aligning Innovation and Industry **Session 4** — African Plant Nutrition Institute (APNI) session: Phosphorus Stewardship for Food Security and Environmental Sustainability
15:30 – 16:00	**Coffee Break**
16:00 – 17:00	- Reports from the parallel sessions - Announcement of Poster Awards - Statements on the ‘Young Phosphorus Day’ outcomes: Key Research Priorities for the Phosphorus Value Chain
17:00 – 17:15	**Closing Statements by the conference organizers — ESPP & OCP**

Parallel Sessions — Detailed Programme

Parallel Sessions A - Day 1, 11:15 – 12:45

Closing the Phosphorus Loop: Recovery and Recycling [I] Day 1 11:15 – 12:45	**Jouke Boorsma (Aquaminerals)** Unlocking the value of vivianite from wastewater: bridging product quality, market uptake and regulatory barriers **Hugo Quintana (Cetaqua)** Circular phosphorus recovery from residual streams: development of a cascade precipitation technology for fertiliser valorisation **Joan Antoni Baeza Labat (Universitat Autònoma de Barcelona)** Phosphorus Recovery Potential from Municipal Wastewater via Side-Stream Enhanced Biological Phosphorus Removal **Andreas Kolb (University of Braunschweig)** Results from the first full-scale trials of struvite precipitation following biological phosphorus remobilisation at two municipal WWTPs **Philip Demling (RWTH Aachen)** Creating commercial incentive for phosphate recycling: Biotechnological production of high-value polyphosphates with baker's yeast
Phosphorus Management and Applications Day 1 11:15 – 12:45	**Xiu Gao (KTH)** Phosphorus Flows Driven by the Seaweed Industry in China: A Multi-Decade Analysis with AI-Based Scenario Exploration **Jan Weigand (TU Dresden)** From Phosphate Rock to Chemicals: Redox-Neutral Pathways for a More Sustainable Phosphorus Value Chain **Lucia Zuin (Canadian Light Source)** Why would you want to use a Synchrotron for your Phosphorus study? **Xiao Yang (Westlake University)** Production of high-purity white phosphorus in molten CaCl2 **Zhengyang Zhang (Tohoku University)** Phosphorus Flows in Emerging Battery Technologies
Climate Change and Phosphorus Day 1 11:15 – 12:45	**Soufiane Ayoube (UM6P)** Global climate change impacts on phosphorus and carbon biogeochemical cycles and phosphate deposition **Nathan Schunk (North Carolina State University)** Projecting the Global Consequences of Phosphorus Scarcity: Comparing Price Shocks and Supply Constraints in Agricultural Systems **Solvita Kostjukova (University of Latvia)** Natural Mineral Sorbents for Phosphorus Recovery from Open Water Systems and Circular Reuse in Agriculture

Parallel Sessions B — Day 1, 14:15 – 15:45

Phosphorus for Sustainable and Resilient Food Systems, incl. Fertilizers Day 1 13:45 – 15:15	**Nicolai Jablonowski (FZ Jülich)** Sustainable Plant Production via Improved Sulfur/Phosphorus Fertilization: Development of Multifunctional Composite Fertilizers for Enhanced Nutrient Use Efficiency **Yahaya Mohammad Yusuf (UM6P)** How the Rhizosphere Chemistry Explains the Effectiveness of Radish in Reclaiming Legacy Phosphorus Compared to Maize **Paulo Pavinato (University of São Paulo)** Long-term phosphorus management enhances crop productivity and improves its availability under no-tillage in the Brazilian Cerrado **Henrique Raniro (University of Copenhagen)** Improving recycled phosphorus fertilizer efficiency through (bio)acidification and targeted application strategies
Closing the Phosphorus Loop: Recovery and Recycling [II] Day 1 13:45 – 15:15	**Alba Ceballos-Escalera (University of Girona)** Pilot plant for phosphorus recovery from wastewater sludge: Electrochemical crystalliser for efficient struvite formation **Michael Renz (Polytechnic University of Valencia)** Recovery of phosphorus from the Organic Fraction of Municipal Solid Waste and its classification according to EU regulation of fertilizing products **Yuwei Huang (Wetsus)** Post-regeneration neutralization stabilizes phosphorus recovery from Ca- and NOM-rich waters **Yariv Cohen (EasyMining)** Building the world's first Ash2Phos plant in Schkopau, Germany **Mohamed Takhim (TTBS)** From Waste to Resource: Pilot Validation and Industrial Upscaling of the RubiPhos® Circular Phosphorus Recovery Technology
Global Phosphorus Institute (GPI) session: **Phosphorus Stewardship in Action: African Experiences and Global Perspectives** Day 1 13:45 – 15:15 GPI GLOBAL PHOSPHORUS INSTITUTE	Moderator: **Ede Ijjasz** **1**4:15–14:20 | Opening remarks and session framing, **Mamou Ehui, Executive Director, GPI** 14:20–15:00 | From Evidence to Strategic Choices **Speakers:** • **Alliance for a Green Revolution in Africa (AGRA)** — Tilahun Amede • **Danube University** — Gerald Steiner • **International Fertilizer Development Center (IFDC)** — Henk van Duijn 15:00–15:40 | From African Priorities to Regional and Global Cooperation **Panelists:** • **European Sustainable Phosphorus Platform (ESPP)** — Hermann Ludwig • **African Phosphorus Platform for Food Security (APPFS)** — to be confirmed • **Sustainable Phosphorus Alliance (SPA)** — Matthew Scholz • **Africa Fertilizer Industry Development Association (AFIDA)** — Innocent Okuku 15:40–15:45 | Synthesis and closing reflections

Parallel Sessions C — Day 2, 14:00 – 15:30

Climate, Soils and Phosphorus Dynamics Day 2 14:00 – 15:30	**Ingeborg Pedersen (Aarhus University)** Improving Phosphorus Fertilization Decisions in Acid Sandy Soils: The Value of $CaCl_2$-Extractable P Beyond Olsen-P **Berta Singla (Beta)** Effect of carbon availability, phosphorus and soil water content on GHG emissions: insights from a soil incubation study **Khaled Alotaibi (King Saud University)** Phosphorus Management in Arid Soils: Integrated Approaches for Sustainable P Use
Aligning Innovation and Industry Day 2 14:00 – 15:30	**Andrey Stephan Siahaan (Tohoku University)** RinPhos Process: Progress and Implementation toward Circular Phosphorus Economy **Hanae Zouiti (UM6P)** Three dimensions for evaluating circular economy transition in the phosphate mining value chain: A review **Aalaa Moussaid El Idrissi (UM6P)** Conversion of Phosphogypsum into value-added products **Axel Yakub (TechnoPhos) & Kevin De Bois (Prayon)** Smart Mining Solutions for Cadmium and Organic Matter Reduction in Phosphate Rock: a collaborative technology development by TechnoPhos and Prayon Technologies
Closing the Phosphorus Loop: Recovery and Recycling [III] Day 2 14:00 – 15:30	**Christina Zipp (University Kaiserslautern)** Experimental and Model-Based Design of Phosphate Recovery in Fixed Beds **Andrea Salimbeni (Re-Cord)** Extraction of phosphorus from pyrolysis char: comparison of two innovative processes (pending administrative confirmation) **P. de Jaeger (Aquacare)** Pilot study: high-performance phosphorus removal from WWTP effluents using the BioPhree® technology **Alexandre Galí (BETA)** Assessment of phosphorus extraction and recovery strategies from agrowaste digestate.

African Plant Nutrition Institute (APNI) session:

Phosphorus Stewardship for Food Security and Environmental Sustainability

Day 2
14:00 – 15:30

This session examines phosphorus as a strategic issue for context food security, soil health, resource access and environmental quality.

The discussion will draw on experience from both regions to identify shared research needs and priorities for investment, data systems and policy, with solutions adapted to local conditions.

The discussion will conclude with priorities for research, investment, data and policy action to support sustainable phosphorus use across Africa.

Poster Exhibition

1. **High-precision cadmium isotope analysis in phosphate fertilizers: A new tool for source tracing and environmental monitoring**
   Fatiha Abrar (UM6P)
2. **Strategic Valorization of Marl Waste from Phosphate Mining for Sustainable Agricultural Applications**
   Taha Afar (UM6P)
3. **Machine Learning-Assisted Genome Screening to Identify Microbial Candidates for Phosphorus Recovery From Wastewater stream**
   Wedad Ahmed (Helmholtz Centre for Environmental Research – UFZ)
4. **Multifunctional and sustainable agricultural inputs through the co-integration of phosphorus and biomass**
   Asmae Ait Sidi Ali (UM6P)
5. **Effects of Long Term Phosphorus Fertilization and Liming on Grain Yield, Macro- and Micronutrient Uptake, and Nutrient Use Efficiency in the Acidic Soils of Livada, Romania**
   Ursan Andrei (A.R.D.S. Livada), presented by Driss Touhami
6. **Interventions for Phosphorus cycling in Arid Cropping Systems Codesign and Soil Health Stewardship: On Targets and Misses**
   Dennis Ashilenje (UM6P)
7. **Response-Aware Agronomic Representation Learning for Similarity-Based NPK Recommendation**
   Ismail Ben Seddik (UM6P)
8. **Bacterial consortia inoculation drives stage-specific benefits to enhance soil fertility and crop productivity in cereal-legume intercropping systems under low water and P-availability**
   Bouchra Benmrid (Aarhus University)
9. **From Phenotyping to Molecular Signaling: Mapping Pathways of Wheat Adaptation to phosphorus Deficiency**
   Ghalia Bouaoui (UM6P)

10. **Innovative Nutrient Recycling through Black Soldier Fly (Hermetia illucens) Rearing: Comparison of three Organic Waste Substrates—Vegetable scraps, dried bread, and their Mixture**
Moussa Bouray (UM6P)

11. **Evaluation of Olive Pomace–Derived Biochar as an Adsorbent for Phosphorus Recovery**
Moussa Bouray (UM6P)

12. **RUSALKA: An information system for phosphorus balance assessment in fishpond management**
Jakub Brom (University of South Bohemia)

13. **Phosphate solubilizing microorganisms modulate stage-specific microbiome dynamics to enhance the agro-physiological and symbiotic performance of chickpea plants under low-P conditions**
Hicham Chaouki (UM6P)

14. **Rhizosphere-Mediated Mobilisation of Legacy Phosphorus by Legume-Cereal Intercropping and Nitrogen Fertilisation**
Oliver Lindunda Daka (Aarhus Universitet)

15. **Ecological extraction of rare earth elements from Moroccan phosphogypsum: a multi-step approach**
Hassan Drif (UM6P)

16. **Native Plant Rhizospheres as Reservoirs of Functional Actinobacteria for Phosphorus Recovery and Carbon Stabilization in Post-Phosphate Mining Soils**
Hicham El Hasni (UM6P)

17. **Spatially Constrained Machine Learning for PRISMA-Based Lithological Mapping of Phosphate Mine Waste Rocks**
Abdelhak El Mansour (UM6P)

18. **Modeling nutrient release kinetics in controlled release fertilizers**
Saloua Fertahi (UM6P)

19. **Simultaneous aerobic stabilisation of sewage sludge and chelator-assisted removal of toxic metals in a closed-loop process**
Barbara Fojkar (University of Ljubljana, Biotechnical faculty)

20. **NPK Agent: A hybrid agentic system for structured NPK recommendation and yield prediction**
Conité Gbodogbe (UM6P)

21. **Assessment of the Potential for Phosphate Recycling from Sewage Sludge in Wastewater Treatment Plants (WWTPs) in Israel**
Faina Gelman (Geological Survey of Israel)

22. **Foliar acquisition of dust-derived phosphorus in crops: the role of leaf-surface traits and phyllosphere bacteria**
Elnatan Golan (Volcani Institute; Ben Gurion University of the Negev)

23. **Evaluating phosphorus leaching and crop productivity following application of biochars in two common Danish soil types**
Asbjørn Grønbæk (University of Copenhagen)

24. **Towards Circular Moroccan Phosphate Rock Processing through the Nitric Acid Route**
Khaoula Homir (UM6P)

25. **Integrated use of compost, phosphate solubilizing bacteria, and phosphate rock enhances blue panicgrass growth and phosphorus availability under salinity stress.**
Maryame Itbouih (African Sustainable Agriculture Research Institute)

26. **An Alternative HF-Based Route for the Production of High-Purity Phosphoric Acid from Phosphate Rock**
Abdessamad Jouira (UM6P)

27. **Polyphosphate fertigation as a strategy to reduce jelly seed disorder in mango fruit**
Adi Kushmero Bier (ARO - Volcani Institut)

28. **Design and Synthesis of Novel Bioactive Nucleoside Analogues Integrating Heterocyclic Scaffolds.**
Nouhayla Lamrani (UM6P)

29. **Optimization of TSP Triple Superphosphate quality through advanced catalytic approaches**
Salma Ltarche (Materials Science & Nanoengineering (MSN)

30. **Phosphate-Mediated Fluorine Transfer from Fluorosilicic Acid**
Bohe Maouloud (UM6P)

31. **Development of Bioactive Organo-Phosphorus Compounds: Expanding Morocco's Phosphate Applications in Medicinal Chemistry.**
Jawad Ouhsa (UM6P)

32. **Overview of recent developments and insights in vivianite formation and recovery**
Thomas Prot (Wetsus)

33. **Nitrogen forms and phosphorus sources modulate differently P-related rhizosphere processes in maize and white lupin under low-P alkaline soil**
Salma Qetrani (UM6P)

34. **Impact of phosphorus application rate and harvest time on phosphorus bioavailability and efficiency of bio-based fertilizers recovered from pig slurry**
Ana Robles (BETA)

35. **Rethinking phosphorus and nitrogen recovery in wastewater treatment using regenerative adsorption**
Elizaveta Romanenko (Wageningen University & Research and Wetsus)

36. **Managing reactive silica reduces the need for phosphorus fertilizer and improves sustainable crop production**
Joerg Schaller (Leibniz Centre for Agricultural Landscape Research (ZALF))

37. **Recovered phosphorus as struvite combined with treated wastewater for sustainable forage production in semi-arid agriculture**
Bouchra Taouil (UM6P)

38. **Green microalga (Coelastrella sp.) cultivated in wastewater is an effective phosphorus biofertilizer**
Natalie Toren (Agricultural Research Organization, Ben Gurion Uni)

39. **Functional Monomers for Poly(Organo-phosphinates) Enabled by Redox-Neutral Phosphate-to-Phosphinate Conversion**
Mohamed Touaizi (UM6P)

40. **Combining Insect Frass and TSP Can Enhance Phosphorus Use Efficiency and Mitigate Salt Stress in Maize**
Driss Touhami (UM6P)

41. **Microplastics and litter decomposition: consequences for phosphorus cycling and soil microbial communities in agricultural soils**
Driss Touinssi (UM6P)

42. **Global Land-Use Dynamics Driven by Phosphate Mining: A Remote Sensing Assessment**
Gideon Vunase (Tohoku University)

43. **Identifying Global Hotspots of Phosphate Tailings Burdens**
Binze Wang (Tohoku University)

44. **Phosphorus Levels and Forms in Treated Wastewater Used for Irrigation: A National-Scale Analysis (Israel 2021-2024) and Field Survey**
David Yalin (ARO - Volcani Institut)

45. **Valorization of Very-Low-Grade Phosphate through Selective Enrichment**
Mohammed Zehmoune (UM6P)

46. **Assessment of Agri-waste mulching in buffering soil temperature during extreme heat events and in enhancing phosphorus, nitrogen and carbon mulch-soil transfer**
Iris Zohar (Tel-Hai University of Kiryat Shmona in the Galilee)

WELCOME TO ESPC 6