2P15 BERLIN

European Sustainable Phosphorus Conference Programme

NOTE certain speakers are invited and not yet confirmed to date

www.phosphorusplatform.eu/espc2/

5th & 6th March 2015
Berlin

European Sustainable Phosphorus Platform

Brings together companies, knowledge institutes, public establishments, NGOs, agricultural organisations, to:

- Define a long-term vision for phosphorus sustainability in Europe
- Promote P use efficiency, reduce P losses, develop P-recycling and reuse
- Facilitate phosphorus value-chains, collaborative actions
- Create green jobs in a circular economy

Members to date:
Biorefine, DEFRA – Environment Agency, Ecophos, Fertilizers Europe, Flanders Nutrient Platform (Belgium), FHNW, Highlands & Islands Enterprise, ICL, Italmatch, Lancaster Uni., Kanton Zurich, Kemira, KWB, Netherlands Nutrient Platform, NuReSys, Ostara, Outotec, OVAM, PAPA (Cefic), Science Campus Rostock, Phos4Ever, SEI, Severn Trent, Thames Water, United Utilities, Wetsus, WssTP

Join to participate and benefit:

- Dialogue, networking, information exchange, expertise
- Innovation, business cases, benchmarking
- Develop projects, capacity building
- Define policy proposals and address regulatory questions:
  P reuse & recycling, fertilisers, chemicals/REACH, compost/digestate, waste and wastewater treatment, agriculture, food quality and contaminants, EU raw materials strategy ...
- Phosphorus knowledge agenda:
  define R&D priorities, avoid duplication, connect to EU Horizon 2020 and EIPs
- Communications and visibility (including in SCOPE Newsletter)

@phosphorusfacts
www.phosphorusplatform.eu

Deutsche Phosphor-Plattform

The Deutsche Phosphor-Plattform DPP e.V., established as a registered association since 12th February 2015, is the national institution for a sustainable phosphorus management in Germany. The DPP has the objectives to

- support networking of phosphorus related stakeholders from agriculture, engineering, science, policy and municipalities,
- create interdisciplinary understanding,
- develop guidelines and recommendations on best practices for policy makers,
- provide data on mass flows and qualities of phosphorus in Germany,
- accompany and to coordinate projects,
- establish meetings, seminars and workshops to focused P-related topics,
- disseminate knowledge and needs of a sustainable phosphorus use to the public.

To become a member fill in the membership application directly on the conference or contact us:
info@deutsche-phosphor-plattform.de
www.deutsche-phosphor-plattform.de

European Sustainable Phosphorus Conference 2015
Taking P to the next level!

Moderator: **Sonja van Renssen** (freelance journalist Climate, Energy & Environment)
Venue: **Scandic Berlin Potsdamer Platz, Gabriele Tergitpromenade 19, D-10785 Berlin, Germany**

Following the successful first edition of the ESPC (European Sustainable Phosphorus Conference) in Brussels in 2013, and the launch of the European Sustainable Phosphorus Platform, Berlin this March will be the stage for ESPC2. Leading experts and decision makers in the field of phosphorus management will come together to exchange knowledge and experiences and take action. Join us for two days of inspiration and motivation in taking P to the next level!

The conference will showcase phosphorus management success stories and business cases, with presentations and parallel sessions covering the themes below, and working round-tables to enable participants to meet and discuss joint actions and projects.

The organizers would like to thank the following organisations for their substantial financial support of the conference:

Bundesministerium für Umwelt, Naturschutz und Reaktorsicherheit

Government of the Netherlands

European Commission

DEUTSCHE PHOSPHOR PLATTFORM

European Sustainable Phosphorus Platform

Plenary opening session

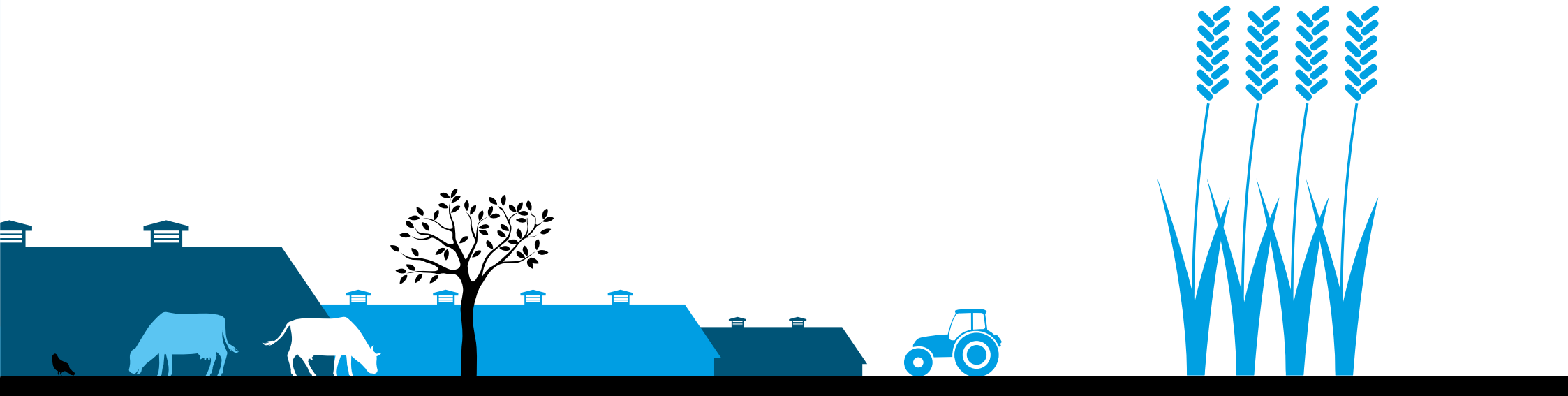
09:00 - 09:10	**Intro/Welcome** • Short welcome from conference organisers • Introduction of moderator Sonja van Renssen	• **Stefan Gäth**, Board of the German Phosphorus Platform • **Arnoud Passenier**, President of the European Sustainable Phosphorus Platform ESPP
09:10 - 09:30	• Germany's approach to phosphorus as a Critical Raw Material • German policy on phosphorus recycling from sewage • Taking knowledge into implementation.	• **Florian Pronold**, Parliamentary State Secretary for the Environment (BMUB)
09:30 - 09:40	• Länder actions on sustainable phosphorus and circular economy	• **Martin Kneisel**, Ministry of the Environment, Climate Protection and the Energy Sector Baden- Wuerttemberg

What since 2013?

09:40 – 10:00	• Why the Netherlands are committed to support P sustainability in Europe and worldwiwde – Netherlands a frontrunner in innovation • Why a European Sustainable Phosphorus Conference • Outcomes of the first European Sustainable Phosphorus Conference (2013): conclusions, actions since	• **Arnoud Passenier**
10:00 – 10:20	• EU work on the sustainable use of phosphorus	• **Pia Bucella**, EC DG Environment
10:20 – 10:40	• Fostering research and innovation in support of circular economy	• **Luisa Prista**, EC DG Research & Innovation
10:40 – 11:00	• Sustainable phosphorus management; meeting the needs of civil society	• **David Sears**, European Economic & Social Committee
11:00 – 11:30	Press conference and Coffee break in exhibition and poster area	

Success stories

11:30 – 12:30 *8 - 10 success stories x 5 mins each*	• **Rosanna Kleemann** (UK), Thames Water Utilities, Struvite recovery from wastewater • **Alexander Schitkowsky** (DE), Berlin Water, Berliner Pflanze – A value chain from production to market • **Carl Dewaele** (BE), NURESYS – From P recovery to fertilizer production • **Cecilia Bertholds** (SE), Käppala WWTP, Sewage biosolids reuse in agriculture • **Philippe Becquet** (CH), DSM, development of phytase in animal feed • **Xiangyang Chen** (CN), Tianshui Sweetest Apples Company, Urine use in fruit production • **Viooltje Lebuf VCM** (BE), Manure management in Flanders • **Ottilia Thoreson** (SE), WWF, Baltic farmers prize (video)
12:30 – 13:00	Panel discussion of success stories and Q&A. Panellists = the success story presenters
13:00 – 14:00	Lunch in restaurant



Parallel sessions I

14:00 – 15:30

1 ½ hours
= 3 x 15" talks
plus 45" discussion

P in the environment – Reducing phosphorus losses: big returns on big investments

- Moderator: **Ottilia Thoreson**, WWF
- Rapporteur: **Rostock P Campus**

Actions and projects addressing eutrophication, river, coastal and marine eutrophication
Marine conventions and watershed management
Success stories in eutrophication restoration
Opportunities for nutrient recovery from eutrophic ecosystems
Solutions for farm level nutrient management and soil erosion prevention

- **Mathias Bergman** (FI), Baltic Sea Action Group: Cost efficient and profitable ways to counteract eutrophication
- **Beata Jurga** (PL), Institute of Soil Science and Plant Cultivation, Polish P index
- **Peter Leinweber** (DE), Rostock P Campus,
- **Kuno Kasak** (EE), Univ. of Tartu (Estonia) Prevention of P losses from agriculture

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P from farm to fork – Phosphorus sustainability and innovation in the agricultural supply and the food industry

- Moderator: **Rainer Schnee**, Budenheim
- Rapporteur: tbc

- **Will Brownlie** (submitted) meat in diet and P sustainability
- **Rob de Ruijter**, EcoPhos, From Ash to fertilizer
- **Frank de Ruijter**, Wageningen University and Sustainability Consortium

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Phosphorus, global food security, planetary boundaries
Geopolitical issues, international cooperation, global nutrient governance

- Moderator: **Oene Onema**, Wageningen UR
- Rapporteur: **Kimo Van Dijk**, Wageningen University

- **Felix Ekardt**, P Science Campus Rostock
- **Arno Rosemarin**, SEI Stockholm Environment Institute
- **Helena Kahiluoto**, LUKE Natural Resources Institute Vantaa

15:30 – 16:00 Coffee break

Parallel sessions II

16:00 – 17:30

1 ½ hours = 3 x 15" talks plus 45" discussion

Agricultural phosphorus efficiency and sustainable intensification

- **Allan Buckwell,** RISE Foundation Sustainable intensification
- **Debbie Mc Connell**, ECIP European Cattle Innovation Partnership
- **Javier Brañas Lasala,** Fertiberia

- Moderator: **Stephanie Fischinger**, Bioland
- Rapporteur: **Kurt Möller**, Univ. Hohenheim

Skill development for closing the P cycle

After a brief presentation that sets the scene of the skill development challenge related to greening the economy and establishing a circular economy, participants will be split in small groups to discuss how to translate this general skill development challenge to « skill development for closing the phosphorus cycle ».

- **Sofie Bouteligier**, OVAM (and on behalf of OECD)
- **Dirk Halet,** VLAKWA

- Moderator: **Stefan Gäth**, DPP
- Rapporteur: **Sofie Bouteligier**, OVAM

Regions implementing sustainable phosphorus management

National & regional sustainable P policies

- **Sébastien Homo**, Cooperl, France
- **Anders Nättorp**, FHNW/P-REX, Switzerland
- **Linda Bagge**, Danish EPA

- Moderator: **Diane Duncan**, Scotland – Highlands and Islands Enterprise
- Rapporteur: **Anders Nättorp**, FHNW and P-REX

17:30 – 19:00 Network drinks in exhibition and poster area – Possibility of side-sessions for company presentations

17:30 – 18:30 **Announcement of establishment of the German Phosphate Platform (DPP) as a not-for-profit association (eV) and election of board**

19:00 – 22:00 Network dinner at Scandic Hotel — Dinner speech – tbc

Theme discussions

8:30 – 10:00 and 10:30 – 12:00

Tables with c. 15 participants, enabling people to meet and discuss different themes face-to-face and allowing contacts between suppliers and users of expertise, technology, recycled phosphorus products.
Each table lasts 1 ½ hours then participants move to a new table and same themes are discussed by new participants
3 oral presentations x 5 mins max. No beamer, but presenters can distribute photocopies of slides, then discussion
Presenters make their talk twice, to two tables of different participants.

	Topic	Short oral intro speakers	Rapporteur	Moderator & convenor
1	**Awareness raising**	**Marissa de Boer**, SUSPHOS Video project	**Marissa de Boer**, VU Amsterdam	**Annemiek Strijker**, NWP
2	**Legal and economic policy options to foster sustainable nutrient management in Europe**	**Felix Ekardt**, FNK, Leipzig/P Campus Rostock **Sirja Hukari**, FHNW/P-REX policy brief	**Stephen Hinton,** SSEF (Swedish Sustainable Economy Foundation)	**Francesco Presicce**, EC DG ENV
3	**Bridging the gap between recovery and recycling**	**Christian Kabbe**, Value chains and the eMarket for recovered nutrients **Jan Neuber**, Otto A. Müller Recycling	**Dirk Halet**, VLAKWA (Flanders Knowledge Center Water)	**Christian Kabbe**, P-REX/KWB
4	**Perspectives for biological nutrient removal in municipal wastewater and synergy with P recovery**	**Bernd Heinzmann**, Berliner Wasserbetriebe **Wim Moerman**, NuReSys	**Wouter de Buck**, Dutch NP	**Christian Schaum**, IWA Resource Recovery Group
5	**Nutrient recycling in composts and digestates**	**Fabrizio Adani**, (Univ. Milano) **Adrie Veeken**, (ECN) fertiliser value of digestates	**Nico Vanaken**, OVAM	**Stefanie Siebert**, European Compost Network
6	**Sustainable manure management**	**Tarja Haaranen** – Ympäristö – from manure to fertilizer factory	tbc	**Viooltje Lebuf**, VCM

	Topic	Short oral intro speakers	Rapporteur	Moderator & convenor
7	**Recovering nutrients in biorefineries and biofuels production**	**Mette Dam Jensen**, Krüger – Denmark biorefinery concepts	**Eric Liégeois**, EC DG GROW	**Erik Meers**, UGent/ Biorefine
8	**Nutrient and energy recovery from chicken manures, animal residues**	**Michael D'Arcy**, BHSL, Ireland **Gregory Krupnikovs**, Rika Biofuels Ltd, UK **Edward Someus**, Terra Humana/Refertil, HU	**Emilie Snauwaert**, VCM	**Ludwig Hermann**, Outotec
9	**Nutrient recycling in organic farming**	**Michael Jedelhauser**, Ludwig Maximilians Univ., acceptance of recycled P by organic farmers **Ola Palm**, JTI, food waste P for agriculture with full acceptance	**Kurt Möller**, Univ. Hohenheim	**Stephanie Fischinger**, Bioland e.V.
10	**White Phosphorus – a strategic raw material and an opportunity for P recycling?**	**Carlos Galeano**, Phos4Ever User industries	tbc	**Willem Schipper**, WS Consulting
11	**Phosphorus efficiency, what does it mean**	**Cathal Buckley**, TEAGASC, Ireland, P efficiency in 150 N Ireland farms	**Laetitia Six**, Fertilizers Europe	**Antoine Hoxha**, Fertilizers Europe
12	**Plant availability of recovered P products**	**Bengt Hansen**, Kemira, long term availability of iron phosphate **Ruben Sakrabani**, Cranfield Univ., plant availability of biosolids	tbc	tbc

	Topic	Short oral intro speakers	Rapporteur	Moderator & convenor
13	**Research integration and implementation agenda for P sustainability – what process to define one (NOT defining research priorities, but method to define them)**	**John Ingram**, Oxford University, Priority research questions for the UK food system **Sylvain Pellerin**, INRA France, Trends in Phosphorus research over the last four decades – a bibliometric analysis 2013	**Tomáš Turecki**, EC DG Research & Innovation	**Suzanne Faber**, Isle Utilities
14	**Financial instruments to foster sustainable nutrient management**	**Vittoria Paramithiotti** for European Investment Bank	EIB	**Vittoria Paramithiotti**, European Investment Bank (EIB)
15	**Sound data alliance – MFAs, MSAs, nutrient flow analyses – data, action hotspots, criticality**	**Marijn van der Velde**, JRC, monitoring and modelling **Johan Selenius**, EUROSTAT, Agriculture and Fisheries	**Ottavia Zoboli,** TU Vienna	**Kimo van Dijk,** Wageningen University
16	**LCA methodology aspects**	Joana Rocha, Chemical Institute, Prague, Czech Republic	**Lukas Egle**, TU Vienna	**Christian Remy**, KWB/ P-REX
17	**Phosphorus resources, supply and demand**	**Roland Scholz**, Global TraPs, Fraunhofer IGB **Arno Rosemarin**, Stockholm Environment Institute **Friedrich Wellmer**, retired president of the Federal Institute of Geosciences and Natural Resources (BGR) **Joost Edixhoven**	**Rob de Ruiter,** [RBC]2 consultancy for EcoPhos	**Roland Scholz,** Global TraPs, Fraunhofer IGB

08:30 – 12:00 **Closed session** Working meeting for ESPP members producing or using struvite. REACH (art 2(7)d) registration exemption for recovered substances, waste/product status, elaboration of struvite quality and safety criteria to propose for consideration in the EU Fertiliser Regulation

12:00 – 13:00	Lunch in restaurant – conclusions of tables on paperboards in exhibition area

International perspective

13:30 – 13:50	A success story of international cooperation (EU countries plus Russia) to protect and restore the Baltic	**Monika Stankiewicz**, HELCOM (Baltic Sea Commission)
13:50 – 14:10	Global policy experience with nitrogen: INI, Our Nutrient World, UN GPA ... why not also phosphorus?	**Will Brownlie** on behalf of **Mark Sutton**, CEH / INI (International Nitrogen Initiative)
14:10 – 14:30	P sustainability research coordination and emerging networks: a North American view	**Helen Rowe**, NAPPS (North American Partnership for Phosphorus Sustainability)

Conclusions from sessions, contributions from workshops

14:30 – 14:45	Presentation of conclusions of R&D projects workshop (4th March) by DG Research and how this can fit into H2020 and DG Research orientations	**Tomáš Turecki**, EC DG Research & Innovation
14:45 – 15:30	Presentation of key conclusions of parallel sessions = 6 x 5 mins	tbc
15:30 – 15:45	Phosphorus Grand Challenge – A $ 10 million prize	**Melodie Naja**, Everglades Foundation
15:45 – 17:00	**Panel – questions – discussion – conclusions and outcomes** Questions: • What are the priority areas: social, food, farm, efficiency, eutrophication, reuse /recycling…? • What policies? • What structures for action? • What skills have to be developed and how?	• **Max Schulman**, MTK/ Copa-Cogeca • **Eric Liégeois**, EC, DG GROW • **David Sears**, EESC • **Sofie Bouteligier**, OVAM • **Ottilia Thoreson**, WWF • **Mika Saariaho**, Outotec • **Luc Bossyns**, Aquafin • **Jacob Hansen**, Fertilizers Europe
17:00 – 17:15	Closing statement	tbc
17:15 – 17:30	Acknowledgements. Messages and actions. ESPC3 and Closure.	**Arnoud Passenier**, ESPP

Posters will be displayed throughout the conference inside and outside the plenary conference room. Authors will be available for discussion by their poster during breaks

Title	Author	Institute
Uranium in phosphate fertilizers	Michaela Achatzw	Federal Office for Radiation Protection (BfS), Germany
Crossing the valley of death for phosphorus	Priyanka Banerjee	VU Amsterdam
P dynamic in sediments of the Darß-Zingst-Bodden chain	Franziska Bitschofsky	University of Rostock
Scenarios for future agricultural phosphorus stocks and flows	Benjamin Bodirsky	Potsdam Institute for Climate Impact Research
Putting a Phosphorus Bounty on Society's Bad Behaviour	Will Brownlie	Centre for Ecology & Hydrology, Edinburgh
Reactive materials for P control in outdoor pools and bathing ponds	Agnieszka Bus	Warsaw University of Life Sciences SGGW
Reactive filter for phosphate control in backyard pond	Agnieszka Karczmarczyk	Warsaw University of Life Sciences SGGW
PhosFarm: sustainable P recovery from agricultural and food residues	Alejandra Campos Cuellar	Fraunhofer IGB Stuttgart
Phosphorus recovery from pig slurry and digestate in Flanders	Jennifer Bilbao	Fraunhofer IGB Stuttgart
Urine use in fruit production	Xiangyang Chen	Tianshui Sweetest Apples Company
Phosphorous valorization by modification of zeolites produced from flying ashes	Jose Luis Cortina	Barcelona TECH, Universitat Politècnica de Catalunya, Barcelona
Sustainable P management in Spanish agricultural irrigated systems	Farida Dechmi	Unidad de Suelos y Riegos, Zaragoza
Phosphate and ammonium removal by modified natural zeolites	Guaya Diana	ETSEIB, Universitat Politècnica de Catalunya, Barcelona
Eutrophication mitigation and phosphorus harvesting via PhosphoReduc technology	Aleksandra Drizo	Heriot-Watt University, Edinburgh, UK
New possibilities for modelling dissolved phosphorus losses from agricultural areas	Peter Fischer	Leibniz-Institute of Freshwater Ecology and Inland Fisheries (IGB), Berlin
Phosphorus recovery with carbonized sewage sludge	Kevin Friedrich	University of Applied Sciences, Bingen
Criticality Assessment of Phosphorus regarding Specificity and Functionality	Oliver Gantner	Augsburg University, Germany
Luckily enough, green plants haven't studied phosphorus chemistry	Bengt Hansen	Kemira
Phosphorus recycling using amorphous calcium silicate hydrates.	Ohtake Hisao	Osaka University
Impact of zeolite and soil moisture on P uptake	Amir Hossein Shokouhi	University of Tehran, Iran
P-Supplies of soils to meet sufficiency, efficiency, consistency	Klaus Isermann	Bureau of Sustainable Nutrition, Land Use and Culture (BSNLC), Hanhofen
Relative phosphorus availability in biosolids prediction model	Alfred Jaouich	Université du Québec à Montréal

Title	Author	Institute
Losses and efficiencies of phosphorus on a national level	Michael Jedelhauser	Ludwig-Maximilians-Universität, München
Transdisciplinary P research driven by a participative scientific comic	Jens Kirstein	Free University of Berlin
Phosphorus recovery from wastewater: local & national effects	Rosanna Kleeman	Surrey University, UK
Implementing agricultural phosphorus strategies to combat eutrophication	Peter Kleinmann	USDA-ARS, Pasture Syst. And Watershed Management Research Unit
Data structure in MFA and its effects on results: a comparison of P in Denmark and Austria	Manfred Klinglmair	Technical University of Denmark, Kongens Lyngby
Arbuscular mycorrhiza fungi along forest soil sequences differing in P-availability	Josef Kohler	Freie Universität Berlin
Phosphorus from wastewater in agriculture - a risk assessment	Fabian Kraus	Kompetenzzentrum Wasser Berlin and P-REX
Adsorptive phosphate recovery in decentralized wastewater treatment	Marco Kunaschk	Technische Universität Dresden
Policies for transition to sustainable P and N: Netherlands and Finland	Anna Kuokkanen	Lappeenranta University of Technology (LUT), Finland.
Sediment of agricultural constructed wetland as site amendment	Johanna Laakso	University of Helsinki
The Swedish way to a cleaner sludge	Kersti Linderholm	Silver Mountain Environmental Engineering
Enhancing the bioavailability of phosphorus from organic wastes	Jaakko Mäkelä	Natural Resources Institute Finland (Luke), Vantaa
Chemical precipitation of phosphorus in water and wastewater samples	Mitrakas Manasis	Aristotle University of Thessaloniki
Phosphorus use and acquisition efficiency of Solanum tuberosum L.	Verena Pfahler	University of Rostock
Phosphates in groundwater under grassland in Poland	Stefan Pietrzak	Institute of Technology and Life Science, Falenty, Poland
Polonite® & Sorbulite®: calcium silicate/hydrate for P removal & recovery	Gunno Renman	KTH Royal Institute of Technology, Stockholm
A new biosolids derived fertiliser supports crop yields	Ruben Sakrabani	Cranfield University, UK
P externalities from EU agriculture	Nikolinka Shakhrmanyan	University of Lüneburg, Germany
Potential and value of recycled phosphate from organic wastes	Stefanie Siebert	European Compost Network ECN
In line: waste - biochar - phosphorus fertilizer	Gerhard Soja	AIT Austrian Institute of Technology, Tulln
Animal bone biochar concentrated organic phosphorus fertilizer	Edward Someus	REFERTIL
Structure liming reduces phosphorus leaching from clay soils	Annika Svanbäck	Stockholm University Östersjöcentrum
Digestate as source of P renewable fertilizer	Fulvia Tambone	Ricicla Group, University of Milan
Chemical precipitation of phosphorus: the role of water components	Athanasia Tolkou	Aristotle University of Thessaloniki
From Pee to P: role of civil society in nutrient recycling	Karoliina Tuukkanen	Global Dry Toilet Association of Finland

Title	Author	Institute
Innovation of phosphorus-efficient crop production and phosphorus cycling	Marinus van des Maas	Wageningen UR
Biogas digestates - effects on phosphorus supply to plants	Telse Vogel	University of Rostock
Waste water products as P fertilizer - An evaluation in the field	Telse Vogel	University of Rostock
Simultaneous P removal and recycling with Polonite multipurpose reactive filters	Anders Norén	Bioptech
Bavarian Phosphorus Strategy	Sonja Wiesgickl	Fraunhofer UMSICHT, Sulzbach-Rosenberg
Global stakeholder platforms for sustainable phosphorus governance	Masaru Yarime	University of Tokyo and University College London
National phosphorus flows in the Czech Republic	Joana Rocha	Institute of Chemical Technology, Prague
Up-flow velocity influence on struvite particle size distribution	Maël Ruscalleda	LEQUiA - University of Girona, Spain
Microbial recovery: a natural solution for phosphate demands	Mohammad Ali Malboobi	SWede Green Biotech, Stockholm,
Polish P-Index - characterization of P-risk model's crucial components	Beata Jurga	Institute of Soil Science and Plant Cultivation IUNG-PIB, Poland
Phosphorus management and recovery from wastewater as struvite	Laura Pastor	Depuración de Aguas del Mediterráneo (DAM)
ICL: Your partner to use recovered P	Kees Langeveld	ICL Fertilizers Europe
Nutrient recovery and recycling in European agriculture	Allan Buckwell	RISE Foundation
Outotec Modular Energy and Phosphorus Recovery Processes	Ludwig Hermann	Outotec
The Role of Struvite from Sewage Sludge in a regional Phosphorus Flow Analysis	Jürgen Kern	Leibniz-Institute for Agricultural Engineering Potsdam-Bornim e.V.
TL-BIOFER: twin-layer system for microalgae biofertilisers production in wwtps	José Maria Gómez Palacios	TL-BIOFER Consortium (LIFE+)
Plant availability of P in sludges and manures	Kari Ylivainio	Natural Resources Institute Finland (Luke)
Responses to various dietary P-levels in growing pigs	Christian Polley	Leibniz Science Campus Phosphorus Research Rostock
Thermochemical treatment of sewage sludge ash for P-fertilizer production	Hannes Herzel	BAM Federal Institute for Materials Research and Testing, Germany
90% of the phosphorus removed from pig farms through scraping"	Sébastien Homo	Cooperl-Arc-Atlantique - French pig cooperative group
Manufacture of organic fertilizers from livestock manure : examples in Brittany	Bertrand Convers	The association IF2O (Organic Fertilizers for inter West France)
Engineering the Economy with dividend-bearing pollutant surcharges	Stephen Hinton	The Swedish Sustainable Economy Foundation
Nutrients (N & P) recovery optimisation through composting process: the REFERTIL results	José Maria Gómez Palacios	REFERTIL Consortium (FP7)
IWA Resource Recovery Cluster	Hong Li	International Water Association
Nutrient and energy recovery in WWTPs by pre-concentration and adsorption processes	Carme Garcia-Belinchón	Cetaqua, Water Technology Center.

Please visit our stand at the exhibition area.

Animal Bone bioChar as concentrated organic Phosphorus fertilizer

Biochar is plant and/or animal biomass by-product based stabile carboniferous substance with well defined/controlled quality, manufactured under reductive thermal conditions. "ABC" Animal Bone bioChar is made of food grade category-3 bones, having ~30% P2O5 nutrient composition with controlled release fertilization effect and applied as organic P fertilizer/ growing media/adsorbent. The ABC is highly macroporous, optimized for significant enhancing of soil microbiological life, having high water holding and macromolecular organic nutrient retention capacity. The high quality output ABC products aiming to reduce the use of mineral fertilizers and intensive chemicals in agriculture; enhancing the environmental, ecological and economical sustainability of food crop production. The ABC is manufactured by the advanced "3R" zero emission carbon refinery technology, which technique and advanced product has been developed under several EU co-financed applied RTD and industrial engineering development programmes since 2002. Since 2011 the REFERTIL project developed a new-generation zero emission industrial scale biochar technology for safe, economical and ecological nutrient recovery process, most importantly Phosphorous, for conservation agriculture. The REFERTIL converted applied Phosphorus recovery science into validated and market competitive technology. The REFERTIL project also provides strong policy support to the European Commission for Fertiliser-Regulation-revision safe biochar/compost products use.

http://www.refertil.info Contact: Edward Someus biochar@3ragrocarbon.com
Skype: edwardsomeus

REFERTIL
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Hitachi Zosen Corporation

Our business domains are Green Energy and Social Infrastructure Development & Disaster Prevention. In the area of energy issues, we are providing energy-from-waste, wind farm, photovoltaic/solar thermal power generation and other technologies, and expanding our business as "The Environmental Hitachi Zosen" in aims of becoming number one in the world. We are also focusing our efforts on everything from constructing seawater desalination plants to solve global water shortages and performing maintenance on aging social infrastructure. We are also accelerating our efforts to establish locations overseas in order to expand our business domain. The Hitachi Zosen Group aims to deliver satisfaction to our stakeholders and contribute to society based on our corporate philosophy, which states, "We contribute to a prosperous future by leveraging technology to create value useful to society." We look forward to your continued support as we continue to develop and grow. Founded: 1881. Net sales 2014: 333 billion yen. Capital 45 billion yen. Employees: 9,039. Address: 7-89, Nankokita 1-chome, Suminoe-ku, Osaka 559-8559, Japan.

Website and contact form: http://www.hitachizosen.co.jp/english/index.html

Hitz
Hitachi Zosen

Flanders' Nutrient Platform

Flanders' Nutrient Platform brings together all relevant stakeholders needed to close nutrient cycles. Government, industry, research and knowledge institutes and civil society together make possible the transition towards the sustainable phosphorus use and management. The stand at the 2nd European Sustainable Phosphorus Conference highlights the main projects and successes in Flanders.

Contact Sofie Bouteligier (OVAM): sbouteli@ovam.be

Dutch Nutrient Platform

The Nutrient Platform is a cross-sectoral network of Dutch organizations that believe in a pragmatic approach towards nutrient scarcity. Frontrunners from the water sector, agriculture, waste sector and chemical industry have joined forces to close nutrient cycles. Together with the government, knowledge institutes and NGOs we accelerate the transition towards sustainable nutrient management by creating a market for recycled nutrients.

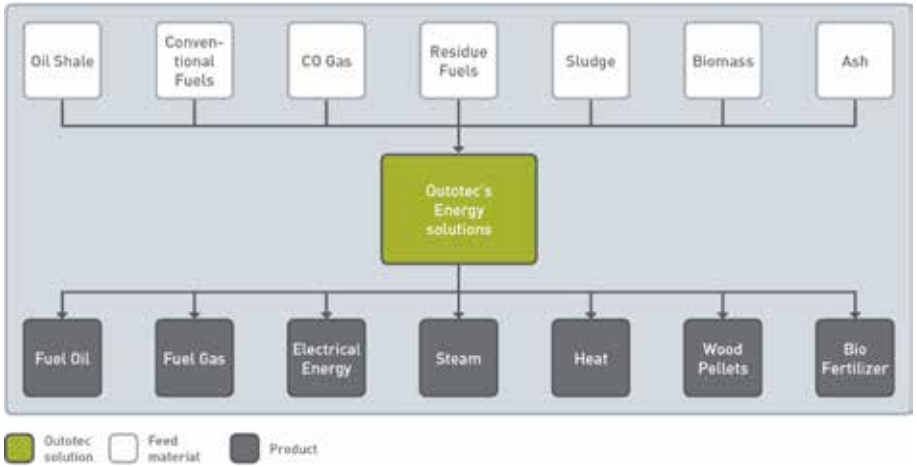
Above all, the Nutrient Platform aims to turn the surplus of phosphorus in the Netherlands into an opportunity. This surplus causes environmental problems. By recovering phosphorus from our 'waste' streams and turning it into valuable new products, not only the environment is improved but also the phosphorus cycle is closed.

Contact Wouter de Buck: w.debuck@nutrientplatform.org

Outotec Modular Energy and Phosphorus Recovery Processes

Outotec offers value-adding technologies and services to the energy industry with a view to renewable resources. After decades of providing expertise and innovation to the mining and metallurgical industries, Outotec realized that its capabilities, technologies and proprietary equipment could be expanded to include the energy sector. Our offerings include combustion and gasification technologies for various fuels, such as biomass, industrial side-products and sludge, as well as unconventional oil winning and thermal processing of conventional fuels.

http://www.outotec.com/en/Products--services/Energy/
Contact: ludwig.hermann@outotec.com



KUBOTA Surface Melting Furnace for Phosphorus Recovery

KUBOTA Surface Melting Furnace(KSMF) is unique and commercialized technology which can recover safety phosphorus from sewage sludge with high recovery ratio (more than 80%).

www.kubota-global.net Contact fumiki.hosho@kubota.com

For Earth, For Life
Kubota

Leibniz ScienceCampus Phosphorus Research Rostock

The Leibniz-ScienceCampus Phosphorus Research Rostock focuses on the exploration of the essential and irreplaceable element phosphorus and its diverse chemical compounds. We investigate specific modes of action in agricultural and environmental systems as well as in technical and industrial processes. The overall aim of the interdisciplinary collaboration is to find solutions to counteract the limited phosphorus availability envisaged in the foreseeable future by means of focused thematic networking. This task is a challenge to science, agriculture and economy as a whole.

Cooperation partners of the ScienceCampus Phosphorus Research Rostock are the Leibniz Institute for Baltic Sea Research Warnemünde, the Leibniz Institute for Catalysis, the Leibniz Institute for Farm Animal Biology, the Leibniz Institute of Plant Genetics and Crop Plant Research, the Leibniz Institute for Plasma Science and Technology and the University of Rostock (with 4 faculties).

The ScienceCampus Phosphorus Research is divided into four areas of research (clusters):
I. Phosphorus cycles and fluxes in the environment
II. Sufficiency and efficiency of phosphorus utilisation, phosphorus recycling
III. Phosphorus as an element in and as a result of catalytic processes
and as a cross-sectoral topic: The development of advanced phosphorus analysis methods

www.sciencecampus-rostock.de/
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SCIENCE CAMPUS
PHOSPHORUS RESEARCH
ROSTOCK

Biorefine Cluster Europe – Energy & Nutrient Cycling for a Sustainable Economy

The Biorefine Cluster Europe interconnects projects and people within the domain of nutrient and energy cycling. As such, the Cluster aims to contribute to a more sustainable resource management, both from an economic and ecologic point of view. The cluster finds its origins in the EU INTERREG IVB NWE project BIOREFINE on the recovery of inorganic minerals from agro- and bio-industrial waste streams. The main goal of the Biorefine Cluster Europe is to increase the interaction between its participating projects and consequently leverage the projects' impact on stakeholders as well as on the development of policies, business and research projects. Although the Biorefine Cluster Europe only emerged early 2014, it is currently in full growth, welcoming new projects and their consortia, applying for membership at increasing pace. At the moment, the cluster contains 19 projects, with 163 partnering entities, spread over 20 EU member states and a combined working budget of 55 million euro. While the projects continue to operate autonomously, their association to the cluster increases their impact by exchange of information, interlinking working plans wherever mutually opportune and organizing joint events, publications, position papers, new proposals and the BioRefine Bulletin, newsletter of the Biorefine Cluster.

www.biorefine.eu

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BIOREFINE CLUSTER EUROPE

BIOREFINE

Investing in Opportunities
INTERREG IVB

NuReSys recovers P & N from liquid waste streams

Nutrients Recovery Systems technology allows to make the available PO4-P and NH4-N react with the added Mg to form struvite crystals. NuReSys knows how to make these crystals grow to struvite prills (2 to 3 mm) which can easily be harvested for re-use. As crystals are pure by nature, these struvite prills are for 99% pure and heavy metals content is far below the allowed values. The first NuReSys phosphorus recovery system was built in 2006. Since then a vast experience was gathered. In Flanders several plants were built at potato processing plants which have high volumes and high concentrations of ortho-phosphate. Because the Opex to remove and recover P & N through struvite recovery is far below the cost for P precipitation into the sludge using FeCl3, the ROI showed to be extremely interesting and so several plants were built. Recently two plants were installed to treat the concentrate of sludge on Municipal WWTPs. NuReSys technology was also successfully applied directly on the sludge at the exit of the digester. Bringing down the PO4-P was no problem; however we have some doubts upon the origin and the volumes of the recovered struvite. We are further investigating this point.

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