



4th Global TraPs Workshop: Date and Location determined

The 4th Global TraPs workshop will take place on 17th – 18th March 2012 in El-Jadida, Morocco. Participants may additionally participate in a field visit to a phosphate production complex including a phosphate rock mining site on 16th March 2012. Dr. Terrab (CEO of OCP) will provide an evening lecture on 18th March 2012.

Day	Time	Activities
16.3.2012	All day	Field visit to production sites, including a phosphate rock mine
17.3.2012	8.30 – 12h	Plenary
Conference Day 1	13.30 – 18h	Node meetings
	18.30 – 19.30	Evening presentation Dr. Terrab: Title to be announced
18.3.2012	8.30 – 13h	Group and Plenary
Conference Day 2	14h – 17h	Steering Board, Special Interest groups, Cross-Nodal Issues
19.–21.3.2012		Phosphates 2012 Conference

The workshop is of utmost importance for the Global TraPs project. It will provide a first comprehensive (rough) initial picture of the whole supply-demand chain of P use and management. This initial picture should facilitate identification of critical aspects of P use on multiple levels. The workshop will also deal with a first step of priority setting on sustainable transitions. This means identification of most challenging issues in the supply-chain to initiate short-term, medium-term and long-term transitions. In addition, the 4th Global TraPs workshop will be an important stage in preparing the first World Conference in January 2013. The 4th workshop will also discuss the role of policy makers.

Last but not the least, the workshop will allow for defining a set of transdisciplinary (case) studies, which are needed to fill knowledge gaps and explore options of sustainable P management.

The soon-to-be published SpringerBriefs book(let) will be a basis of the discussion. According to our plan all attendances will receive the complete (and already reviewed) last version before the 4th workshop. The workshop will allow improving on the draft document.

Moreover, Phosphates 2012 (global conference of Phosphorus/ Phosphate industry) will take place immediately following the 4th Global TraPs workshop at the same location (El-Jadida, Morocco) from the 19th – 21st of March 2012.

Registration for the 4th Global Traps Workshop in El-Jadida

You will receive a registration form in early January by e-mail. Please book at least March 17th – 18th in your agenda.

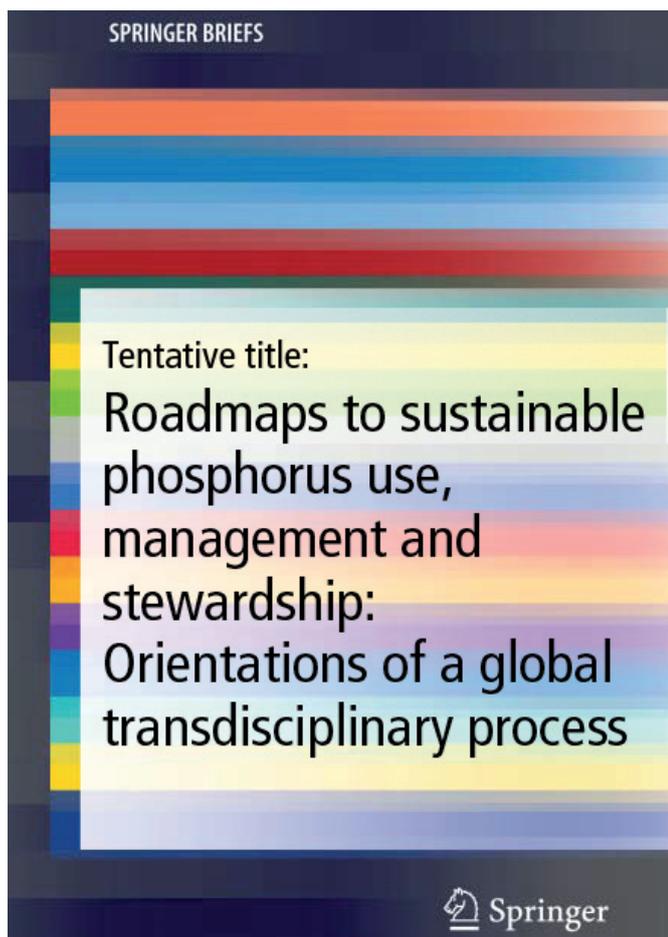
Funding for scientists to join the 4th Global TraPs Workshop

Currently, we are exploring opportunities to secure funding to support travel and lodging expenses of scientists, NGOs and farmer organizations that may not have funds to support their participation in the workshop. We will inform you about the progress of securing funding by mid of January.



Photo: © OCP

SpringerBrief: Objectives, Content and Time Plan



Based on the previous project documents, we will produce a small book. This book presents the view of the Global TraPs on the 'human induced' P cycle and needed improvements in relation to the environmental, business and social perspective. The proposed title of the book:

Roadmaps/pathways to sustainable P use, management and stewardship

The book will be a short (min. 50 – max. 150 pages) *Springer-Brief*.

Content (preliminary)

The SpringerBrief will consist of three main components:

- *Why is P a key issue of food security and sustainable development:* State-of-the-art knowledge on of P resources, use, recycling, flows etc. and transdisciplinary processes (15 pages written by the Scholz, Roy et al.)
- *P as an essential element for human development:* A human-environment system perspective on sustainable P management (about 25 pages written by Scholz, Roy et al.)

- *Critical aspects of P use, management and the supply chain:* node reports on critical questions, knowledge gaps, critical aspects and wanted case studies; outline of critical actors in the nodes, current work in the node, linkages within and links with other nodes, central aspects with respect to sustainability (about 6 pages for each node written by the 'node leaders et al.' and an introduction of the project design). One additional section on cross-sectoral aspects, such as energy and water, should also be reflected. Please contact Roland Scholz, if you would like to contribute to this section.

The Springer Brief will serve on the one hand as a communication platform of the entire Global TraPs team and the Knowledge Integration Unit. On the other hand it is meant for a broader public outside the project in order to spread the knowledge about the global importance of Phosphorus and the on-going Global TraPs initiative.

Time table

The editorial team will have a meeting via Skype on December 27th 2011. Subsequently, the management team will organize meetings of the editorial team with the node leaders in early January 2012. We expect the input of the node leaders by January 15th 2012.

Processing Node – Some Reflections from Ludwig Hermann

As of December 2011, the processing node team reviewed two out of three relevant questions and identified a sequence of tasks to be conducted within the framework of the first TD case study: Large scale recycling and processing of P at the European level. A fast and superficial analysis of the tangible P-resources in Europe showed that only 5% are of primary origin. A review of P processing in Europe without consideration of the huge secondary P flows does not look like a meaningful option. The diversity of stakeholders controlling the different secondary resource flows, their dispersion in terms of physical and chemical characteristics and the potential antagonism of the local population and activists towards large scale technical processes provide an attractive scenario for a TD case study. At present the team is working on the methodological approach and the structure of the related scientific and technical work.



Phosphogypsum has been discarded as subject for a TD case study because of its below average P concentration and the volume of scientific studies undertaken in recent years investigating its re-use and the potential hazards related to its handling or disposal. While revisiting phosphate rock processing, however, extraction of rare earth and other critical elements may merit additional studies.

Oberursel, December 19, 2011/lh

Fraunhofer-Gesellschaft has joined Global TraPs



Fraunhofer-Gesellschaft is the largest application-oriented research organization in Europe: having numerous research centres and representative offices in USA, Asia and in the Middle East. With more than 18,000 employees, research efforts are aimed at people's needs – health, security, communication, energy and the environment.

Being head of the Fraunhofer project group 'material cycles and resource strategies', as well as holding the chair for resource strategy at university Augsburg, Germany, Prof. Dr. Armin Reller makes the link between Global TraPs and Fraunhofer-Gesellschaft. Within Global TraPs he is the science leader of the Processing Node.

Steve Van Kauwenbergh presented at University of Uberlandia, Brazil

S. J. Van Kauwenbergh (IFDC) was invited by the Chemical Engineering Faculty of the Federal University of Uberlandia to participate in a recent workshop on current fertilizer technologies. The workshop, co-sponsored by the Centre of Excellence for Fertilizers, was held October 20-21 2011 in Uberlandia, Brazil. Based on several previous IFDC studies and the recently completed IFDC publication "World Phosphate Rock Reserves and Resources", Mr. Van Kauwenbergh was asked to give a presentation entitled "Phosphate Reserves and Resources: How Deep Can We Dig?". This presentation gave an overview of phosphate rock geology, mineralogy, mining and beneficial practices, phosphate fertilizer production and economics of production. There were over 100 participants in the workshop coming from various backgrounds such as university students and faculty, Brazilian fertilizer industry representatives, and government officials.

ETH Master Thesis on Recycling System Switzerland – Japan

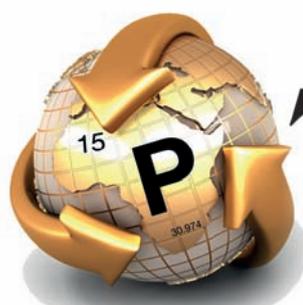
For her Master's thesis, Devon Wemyss will collaborate with the members of the Global TraPs project to expand on the technical possibilities in the recycling node. Within the global material cycle of phosphorous, recycling makes economic and environmental sense, but few are currently implementing it at a significant scale. However, Japan, for example, does recycle municipal waste water in order to extract an appreciable amount of phosphorous for recycling and reuse. The political, economic and social conditions in Japan make this feasible and well-accepted. The question remains whether this case can be repeated or provide clues for other countries and cities interested in recovering phosphorous.



Looking closer to home - namely Switzerland - the department of Waste, Water, Energy and Air (AWEL) of the canton of Zurich has begun to investigate recovering phosphorous in combination with the 2015 implementation of a mono-incinerator for Zurich's municipal wastewater. AWEL has partnered with Global TraPs in order to explore the technical possibilities and enabling environment for efficient phosphorous removal. As well, the engineering company Outotec has joined bringing expertise in phosphorous recovery from wastewater, biogas sludge and meat processing plants.

Under the supervision of Prof. Roland Scholz, as well as colleagues Prof. Hisao Ohtake, and Masaro Nareem of Japan and Osaka University, Devon will analyze the motivations, efficiency and feasibility of the Japanese wastewater recycling technology and the context in Zurich and Switzerland. Within this Td project, stakeholder interviews and a sustainability potential analysis will be completed in order to further the understanding around city-scale phosphorous recovery.

Last but not least the whole Global TraPs management and coordination team sends you season's greetings and wishes all a Happy New Year! We are convinced that 2012 will be a successful year for the Global TraPs project pushing phosphorus use towards a sustainable future.



GLOBAL TraPs

TRANSDISCIPLINARY PROCESSES FOR SUSTAINABLE PHOSPHORUS MANAGEMENT

Contacts

To inquire about involvement in Global TraPs, please contact the Global TraPs management team:

- Science leader

Roland W. Scholz, Tel. +41 44 632 58 91

E-mail: roland.scholz@env.ethz.ch

- Science manager

Fridolin Brand, Tel. +41 44 632 44 98

E-mail: fridolin.brand@env.ethz.ch

- Practice leader

Amit Roy, Tel. +1 256 381 6600

E-mail: ARoy@ifdc.org

- Practice manager

Debbie Hellums, Tel. +233 246 634 216

E-mail: dhellums@ifdc.org

For updates about the Global TraPs effort, visit our website: »» <http://www.uns.ethz.ch/gt>

This newsletter has been produced by Sandro Bösch, Fridolin Brand, Vera Grubenmann, Debbie Hellums, Leo Jancso, Pius Krütli, Amit Roy, Roland W. Scholz, Michael Stauffacher, and Andrea Ulrich. © 2011 ETH-NSSI & IFDC