

## EDITORIAL

From 24 to 27 March 2015 the international trade fair and congress for water management WASSER BERLIN INTERNATIONAL will open its doors once again. Due to its particular combination of trade fair and congress, WASSER BERLIN INTERNATIONAL has been and remains worldwide unique. As a member of the Programme Committee, we have done our bit for the selection of topics to be presented at this important meeting of the water industry and, like all partners involved, we are confident that this water event will again be a complete success.

Visit us at the joint stand of the Berlin-Brandenburg water sector in Hall 2.2/200. If you are interested in the results of research projects geared to user needs, we recommend taking part in the session "Science meets Practice" to be held on 26 March in the Congress Forum. Following this, we will present an initiative of several research institutions which aims to improve the transfer of research findings to industrial end users.

In addition, we would like to invite you to join the discussion meeting "Talk of the Town" on 25 March about "The blue River Spree – What is going to happen to Berlin's river?" which will address possible conflicts arising from the implementation of the European water legislation. We look forward to meeting you at BERLIN WASSER INTERNATIONAL.

Andreas Hartmann, Edith Roßbach  
Berlin Centre of Competence for Water, Managing Directors



Photos © ESPC2

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With the tagline "Taking P to the next level", the 2<sup>nd</sup> European Phosphorus Conference (ESPC2) was held on 5 and 6 March 2015 in Berlin. The event was organised by the German Phosphorus Platform DPP together with the European Phosphorus Platform ESPP. More than 350 stakeholders, experts and decision makers from industry, academia and politics met for the exchange of lessons learnt, presented phosphorus management success stories

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## LATEST NEWS



NaWaM INIS

Photos © TU HH



## Challenges for Urban Water Management

### BMBF Programme INIS: Project Meeting in Hamburg

In the scope of the programme „Smart and Multifunctional Infrastructural Systems for Sustainable Water Supply, Sanitation and Stormwater Management“ (INIS) which is funded by the German Federal Ministry of Education and Research (BMBF), the representatives of all 13 collaborative projects met for a two-day colloquium in Hamburg. With more than 150 participants, the event was very well attended. The excellent organisation contributed to a positive working environment. First research results were exchanged and further cross-cutting issues were identified and developed.

Selected INIS projects are presented in the stand of the German Federal Ministry for Education and Research (BMBF) in Hall 5.2/202 at this year's WASSER BERLIN INTERNATIONAL. → [www.bmbf.nawam-inis.de](http://www.bmbf.nawam-inis.de)

## Phosphorus Recovery in Europe

Berlin conference on sustainable management of phosphorus with more than 350 participants

*Phosphorus is essential for life. It is therefore one of the major components of fertilisers. Since phosphorus is available only to a limited extent on the global market, it is becoming an increasingly dominant feature of our food security. For this reason, the recovery of phosphorus from wastewater is more necessary than ever. In 2014, the European Commission added phosphate rock to the critical raw materials list.*

# NEW PERSPECTIVES FOR BERLIN-BASED WATER RESEARCH

INTERVIEW WITH EDITH ROßBACH, HEAD OF FINANCE AND ADMINISTRATION AT TECHNOLOGIESTIFTUNG BERLIN AND MANAGING DIRECTOR AT THE BERLIN CENTRE OF COMPETENCE FOR WATER (KWB) SINCE DECEMBER 1, 2014. MRS ROßBACH HAS GRADUATED IN SOCIOLOGY.



Photo © Technologiestiftung Berlin

*Mrs Roßbach, in December 2014 you were appointed as Managing Co-Director of the Berlin Centre of Competence for Water. Can you give us some background information on this appointment?*

KWB was set up in 2002 in the course of the partial privatisation of Berlin's water utility BWB. Its mission is to promote water related science and research & development, and to strengthen Berlin-based science and business activities. Following the remunicipalisation, KWB's major partner so far will leave the shareholder group. Even if KWB is undoubtedly a successful institution, this is a not a small issue. On the other hand it is an opportunity to strengthen the focus on topics with a special relevance for Berlin.

Technologiestiftung Berlin and Berliner Wasserbetriebe are co-founders of KWB and have also been shareholders since that time. They will reinforce their commitment in the wake of KWB's restructuring. My activities as Managing Director underline the commitment of Technologiestiftung Berlin and ensure the continuity of work.

*As a result of the combination of your executive positions in KWB and Technologiestiftung Berlin, both institutions will cooperate even closer. What will be the effects on the Berlin research landscape?*

According to their statuses, both institutions focus on the promotion of science and research within a Berlin-related context. Technologiestiftung Berlin is well-positioned in terms of a broad professional qualification: It identifies and evaluates technology-related topics with a high relevance for Berlin and commits itself to their development. KWB focuses on water research, has excellent expert knowledge, creates project consortia and implements projects.

We expect the closer co-operation to ini-

tiate new research topics and projects, to optimise the networking of the players and finally to increase the external funding of application-based water research within the region.

*The Year of Science 2015 which has been announced by the Federal Ministry of Research is dedicated to the "City of the Future". Taking your point of view: Will KWB with its activities be able to contribute to the creation of such a City of the Future?*

The future viability of a city will depend on the extent to which it will be able to organise its central infrastructure services, for instance water supply, in a way that they are economically efficient but at the same time ecologically compatible and socially acceptable.

The water schemes for private households will have to become smart but also the processes of the peri-urban industry should be designed in accordance with economic and resource efficiency. In addition we in Berlin pay special attention to surface waters and their recreational value – "bathing in the river Spree?"

Smart water management is a central topic of public services but is also a locational advantage with regard to the region's competitiveness.

KWB together with its partners has already developed a range of future-oriented solutions to smart water management issues in the scope of many different projects.

The CARISMO project is an excellent example in this context. The concept study shows how the energy potential contained in wastewater can be used for wastewater treatment and also be made available for the general energy balance. The project was amongst the TOP3 of the German Sustainability Award 2014. Based on the CARISMO study, further projects will follow. The idea is not the end of the story. The new findings are also to be applied in Berlin.

And new questions will arise if water research wants to keep pace with new developments. For instance if the Industry 4.0 programme with its new smart industrial manufacturing processes brings production back into the city: What approaches are suitable to facilitate the provision of the necessary resources without impairing the quality of life? Should supply networks be organised in a more decentralised form? In my opinion, KWB is in a position to make valuable contributions to many subjects, far beyond the Year of Science "City of the Future".

*What issues are you particularly dedicated to? Which fields of research should be examined more intensively in future?*

Projects such as the award winning CARISMO make obvious that issues in general become increasingly complex. Wastewater treatment with simultaneous energy recovery is an attractive vision which illustrates how exciting topics can be identified at the interface between water management and the energy sector. I look forward to the closer relationship between Technologiestiftung and KWB, which will stimulate the rapid and precise identification of Berlin-related topics and simplify the pooling of suitable project partners. The implementation of project results gained in the field of sustainable water supply and resource protection will bring about direct benefits for the Berliners in terms of cost savings or price stability. ●

*Thank you very much for this interview. Bodo Weigert asked the questions*

# WATER RESEARCH IN BERLIN AND BRANDENBURG

## Decentralised Treatment of Roadway Runoffs

Against the background of increasingly polluted traffic areas, the direct entry of stormwater leads to rising pollution loads of surface waters. At present, diffuse source contamination is a critical factor for water stress in Germany. To minimise this problem, decentralised treatment schemes have been developed in recent years which can be assembled directly into the storm pits.

In the scope of the research project which is managed by the TU Berlin, new data covering the treatment performance, reliability and operating costs of such facilities during real operation are gathered and evaluated. At the Clayallee test site in Berlin-Zehlendorf four different treatment schemes have been examined since summer 2014.

Preliminary measurement data have revealed that the treatment performance of the schemes tested varies considerably. The average phosphorus retention rate was around 40%. The average discharge values amounted to 0,62 mg/l total phosphorus. The operating and maintenance expenditures largely depend on the construction. Monthly visual inspections and regular maintenance work are carried out in the scope of the project which will be running by the end of 2015.

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Photo © Abwasserverband Braunschweig

## Treated wastewater in agricultural irrigation

Despite climate change, water supply in Germany is considered safe. Nevertheless, regional conflicts during extended periods of drought cannot be excluded. Water reuse measures could be the solution to possible regional water stress.

Against this background, the German Adaptation Strategy states that the reuse of treated wastewater is a potential measure for coping with possible regional water stress. However, a risk-benefit assessment of water reuse has not been established for Germany so far.

The project is financed by the German Federal Environment Agency in the scope of the Environment Research Programme (UFOPLAN) of the Federal Ministry of Environment. It aims at conducting a risk and benefit analysis of water reuse in agriculture on the basis of a literature review and the merge of existing information. First project outcomes are expected to be available mid-2015. The project is managed by KWB and carried out in cooperation with TU Darmstadt, The University of Applied Sciences and Arts Northwestern Switzerland (FHNW) and the Leibniz Centre for Agricultural Landscape Research (ZALF).

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Photo © KWB

## Relevance of trace organic substances in Berlin stormwater runoffs

In the scope of the research project OgRe, KWB examines the relevance of stormwater runoff as potential source of trace organic substances discharged into surface waters.

In a monitoring programme, the stormwater of five catchment types featuring different urban structures and a section of the Panke River will be sampled and analysed for trace organic pollutants, thus describing the status of all locally important micropollutants occurring in Berlin's stormwater runoff. Annual loads of relevant micropollutants discharged via stormwater runoff into receiving waters are estimated and compared with relevant pollution loads originating from other entry paths (e.g. micropollutant loads in effluent of Berlin WWTP). First results have revealed that the catchments in parts vary considerably in terms of the concentrations measured. By the current state of knowledge, the average concentrations of individual substances amount to 10 µg/L for organic trace substances (phthalate) and to 1500 µg/L for inorganic trace substances (heavy metals). The project is financed by the Land Berlin and the European Union (UEP II) and by Veolia.

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Senatsverwaltung für Stadtentwicklung und Umwelt | **berlin** Berlin



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>> continuation of page 1 (Phosphorus Recovery)

and business cases and discussed the necessary measures to achieve a more sustainable phosphorus management.

In his welcome address, the Parliamentary State Secretary at the German Federal Ministry for the Environment, Florian Pronold, emphasised that the sustainable use of phosphorus and its recovery from sewage sludge and wastewater were first important steps to respond to the shortage of this vital raw material which is expected in the longer term. He further signalled that his Ministry would speedily bring forward the according legal regulations.

Through its coordination of the European research project **P-REX** the Berlin Centre of Competence for Water plays an active part in the development of phosphorus management strategies. Just in time for the ESPC2 the Policy Brief which had been developed in the scope of this project, was published. ●

→ <http://phosphorusplatform.eu>

Photo © ESPC2



Conference participants at phosphorus recycling plant at WWTP Wassmannsdorf operated by Berliner Wasserbetriebe

Photo © KWB



## EVENTS

Meet us at the following upcoming events:

24-27 March 2015  **WASSER BERLIN INTERNATIONAL**

**Trade Fair and Congress WASSER BERLIN INTERNATIONAL**

Hall 2.2/Stand 200

Congress Forum Hall 2.2:

Science meets Practice, Watershare® – Knowhow transfer from science to utilities, 26 March 2015, 10:00 -13:45 h,

Hall 5.2: Blue River Spree – What is going to happen to Berlin's river?

25 March, 17:00-21.00 h

28-30 April 2015

**Cities of the Future Conference**

Organiser: IWA Cities of the Future Programme and the European collaborative TRUST project

Venue: Mülheim an der Ruhr

→ [www.kooperation-international.de/detail/info/-o8fb69ea48.html](http://www.kooperation-international.de/detail/info/-o8fb69ea48.html)

21 May 2015

**5<sup>th</sup> Municipal Experience Exchange Meeting on Rainwater Management – Challenges, Risks, Solutions**

Organiser: Abwasserverband Gelsenkirchen, WSW Energie & Wasser AG, Dr. Pecher AG

Venue: Schloss Berge, Gelsenkirchen

→ [monika.fenster@pecher.de](mailto:monika.fenster@pecher.de)

→ [www.pecher.de](http://www.pecher.de)

30 May – 3 June 2015

**12<sup>th</sup> IWA Leading Edge Conference on Water and Wastewater Technologies**

Venue: Hongkong, VR China

→ [www.let2015.org](http://www.let2015.org)

13 June 2015

**Long Night of the Sciences**

Venue: TU Berlin

→ [www.langenachtderwissenschaften.de](http://www.langenachtderwissenschaften.de)

17-18 June 2015

**6. WRHC Conference – Water Interfaces**

Organiser: Water Science Alliance Conference e.V.

Venue: Berlin, Botanical Garden

→ [www.watersciencealliance.org](http://www.watersciencealliance.org)

18 June 2015

**38<sup>th</sup> Berlin Water Workshop – Energy from Wastewater**

Organiser: Kompetenzzentrum Wasser Berlin

→ [www.kompetenz-wasser.berlin](http://www.kompetenz-wasser.berlin)



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Our annual report in the web.

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## about us

The Berlin Centre of Competence for Water (Kompetenzzentrum Wasser Berlin, KWB) is a public-private partnership company. Its associates are the Technologiestiftung Berlin, the Berliner Wasserbetriebe, the Berlinwasser Holding and Veolia. The KWB stands as a network node to strengthen the position of Berlin as an international centre in the field of water economy and technology. Partners and actors are scientific facilities, public institutions, companies as well as multipliers from public and private sectors.

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## OBITUARY

We mourn the passing of **Jürgen Wituschek** who died unexpectedly in November 2014. In his capacity as a staff member of the Berlin Senate Department for Economics Jürgen Wituschek was significantly involved in the launch of Kompetenzzentrum Wasser Berlin in 2001, and he had been a member of our supervisory board for many years. Mr Wituschek had always committed himself to the development and the cross-linkage of Berlin's water sector. His passing leaves a void and a profound sense of loss.