

An aerial photograph of a wide river, likely the Elbe, with a long dam or bridge structure crossing it. The surrounding landscape is green and hilly, with some buildings visible in the distance under a cloudy sky.

7th Water Research Horizon Conference

Water quality in a changing world

**Drivers of change
Adaptation and responses**

28th/29th June 2016

Umweltbundesamt Dessau-Roßlau

Water Science Alliance e.V.

in cooperation with the

**German Environment Agency
(UBA)**

Water quality in a changing world

Sufficient supply of water with an appropriate quality is fundamental for health and well-being of humans and ecosystems. Degradation of water quality translates directly into social, economic and ecological impacts. Shifts in climate, land use and human population are drivers for water quality development in a rapidly changing world. This requires adequate responses and adaptation strategies in management, policy and technology in order to achieve our water quality targets in an effective way.

The 7th Water Research Horizon Conference will focus on the effects of global change on water quality, on the aquatic systems responses, and on options for adaptation. The soundness of scientific knowledge to predict cause-effect relationships, the suitability of policies to achieve good water quality, their effectiveness and flexibility in the face of changes as well as the opportunities of existing and advanced technologies to reach these goals will be discussed.

The Water Research Horizon Conference

The Water Research Horizon Conference offers an open platform addressing scientists from a wide range of water-related disciplines as well as practitioners and decision-makers. It intends stimulating the exchange of knowledge and the development of new ideas for providing scientific input as well as interdisciplinary approaches to solve water problems. This foresight conference aims at finding new approaches, initiate cross-disciplinary and cross-institutional activities that help promoting a new generation of young scientists with innovative ideas for solving some of the major challenges facing water, the environment and society today and in the future.

‘Open Space Workshops’ are organised by interested conference participants offering room for in-depth discussions and initiating new research activities beyond the existing disciplinary and institutional boundaries.

This year’s conference includes the Kurt Eberhard Bode foundation’s award ceremony and the 4th general meeting of the Water Science Alliance e.V. on the eve of the conference, Monday, 27th June ’16.

The Water Science Alliance

The Water Science Alliance creates a platform providing efficient structures for integrated water research at the national and international level as well as bundling the existing water research competences along the lines of the most pressing challenges. The Water Research Horizon Conference with the Open Space Workshops was established as an important instrument of the Water Science Alliance, which is organised in cooperation with the Senate Commission on Water Research of the German Research Foundation (DFG-KoWa) and for the upcoming conference in 2016 with the German Environment Agency (UBA).

SESSIONS • WORKSHOPS • 1st Day

Tuesday, 28th June 2016

9:30 Registration (Foyer) & welcome coffee

Great Hall

10:00 Welcome at the German Environment Agency (UBA)

10:10 Opening of the conference by the Water Science Alliance

10:20 Introductory perspectives of the BMBF | BMUB | DFG

11:00 Water resilience for global sustainability
Johan Rockström, SRC (Sweden)

11:40 Introduction to the open space workshops of day 1

12:00 Lunch Break (Foyer)

Sessions

13:00	Great Hall	Exhibition room	Room 0.172
	<p>Climate change and water quality</p> <p><i>characterising the impacts of climate change on water resource quality</i></p>	<p>Water quality and standards</p> <p><i>meeting water quality targets by addressing multiple objectives and relevant key factors</i></p>	<p>Water quality and ecosystem functioning</p> <p><i>exploring the mechanisms between water quality and ecosystem performances</i></p>

15:00 Coffee break (Foyer) and change of rooms

Workshops

15:30	Great Hall	Exh. room	Room 0.172	Room 0.163
	<p>Many chemicals – high risk: challenges for effect analysis</p> <p><i>Univ. Heidelberg et al.</i></p>	<p>Water quality and standards</p> <p><i>UBA Dessau et al.</i></p>	<p>Water quality in the tropics and subtropics</p> <p><i>UNU-EHS Bonn et al.</i></p>	<p>COP21 – its relevance for future water research</p> <p><i>GERICS Hamburg et al.</i></p>

17:00 Time to get some fresh air

17:15 Kurt Eberhard Bode foundation's ceremony award (Great Hall)

18:30 Conference Reception (Foyer)

SESSIONS • WORKSHOPS • 2nd Day

Wednesday, 29th June 2016

08:30 Registration (Foyer)

Great Hall

09:00 Outcomes of the open space workshops (day 1)

The power of the past:

09:30 Using environmental histories to assess water quality changes

John Smol, Queen's Univ. (Canada)

10:10 Introduction to the open space workshops of day 2

10:30 Coffee Break (Foyer)

Sessions

11:00

Great Hall

Exhibition room

Room 0.172

Land use change
and water quality

identifying critical links between deteriorating water quality and land use changes

Water quality and
resource recovery

re-thinking water reuse and wastewater treatment as a resource and its perspectives

German-Brazilian research
cooperation in water science

analysing, understanding and managing water resources in a changing environment

13:00 Lunch break (Foyer)

Workshops

14:00

Great Hall

Exh. room

Room 0.172

Room 0.163

Co-design
of research
for guidelines

Univ. Bonn et al.

Long-
term
monitoring

UBA Dessau et al.

German-Brazilian
research
cooperation in
water science

Univ. Potsdam et al.

Green liver system
Phyto Tec: using
macro-phytes for
sustainable water
purification

UNU-EHS Bonn et al.

16:00 Coffee break (Foyer)

16:30 Outcomes of the open space workshops (day 2)

18:30 Outlook and closure of the conference

Conference topics | day 1

Tuesday, 28th June 2016 | 13:00 – 15:00

Keynote (11:00 – 11:40)

Water resilience for global sustainability

Johan Rockström, SRC, Stockholm (Sweden)

Sessions (simultaneously, 13:00-15:00)

Climate change and water quality

(Convener: Joseph Alcamo, Univ. Kassel)

European-scale patterns of climate change impacts on water quality

Martina Floerke, Univ. Kassel

Methods of climate change impact assessment on river water quality: results from the Elbe river

Cornelia Hesse, PIK Potsdam

Preparing for climate change impacts to water resource quality - a perspective from California

Peter Ode, CDFW, Sacramento (USA)

Water quality and standards

(Convener: Lilian Busse, UBA)

Addressing multiple objectives while meeting water quality standards - a need for innovative concepts

Jörg Drewes, TU München

Identifying key factors for the implementation of water quality guidelines – an international perspective

Jan Leentvar, UNESCO-IHE, Delft (The Netherlands)

Standards and alternative policy approaches in light of emerging water quality challenges

Florence Metz, Univ. Bern (Switzerland)

Water quality and ecosystem functioning

(Convener: Klement Tockner, IGB Berlin)

From vision to action: novel genetic tools to assess aquatic biodiversity and ecosystem function

Florian Leese, Univ. Duisburg-Essen

Lament, declare, ignore: moving beyond 'Aquatic conservation for Lemmings'

Kenneth Irvine, UNESCO-IHE, Delft (The Netherlands)

Managing water quality as real-world experiments

Christian Stamm, EAWAG, Dübendorf (Switzerland)

Tuesday, 28th June 2016 | 15:30 – 17:30

Workshops (simultaneously)

Many chemicals – high risk: challenges for effect analysis

(Moderator: Thomas Braunbeck, Univ. Heidelberg)

Water quality and standards

(Moderator: Lilian Busse, UBA Dessau)

Water quality in sub/tropical developing countries - knowledge gaps and useful approaches

(Moderator: Zita Sebesvari, UNU-EHS, Bonn)

COP21 – its results and relevance for future water research

(Moderator: Daniela Jacob, GERICS Hamburg)

Conference topics | day 2

Wednesday, 29th June 2016 | 11:00 – 13:00

Keynote (09:30 – 10:10)

The power of the past: Using environmental histories to assess water quality

John Smol, Queen's Univ. (Canada)

Sessions (simultaneously)

Land use change and water quality

(Convener: Dietrich Borchardt, UFZ Leipzig)

Human populations in river corridors and water quality

James Jarwitz, Univ. of Florida, Gainesville (USA)

Global biomass production potential and water quality

Wolfram Mauser, LMU München

Land use changes and their impacts on water and solute fluxes at catchment scales

Nicola Fohrer, Univ. Kiel

Water quality and resource recovery

(Convener: Peter Krebs, TU Dresden)

From wastewater treatment to resource recovery management - potential and opportunities

Christian Schaum, TU Darmstadt

Wastewater treatment and its potential for recycling management

Bettina Rechenberg, UBA Dessau

Socio-economic aspects of water reuse - opportunities and challenges

Martin Zimmermann, ISOE, Frankfurt/M.

German-Brazilian Research Cooperation in Water Science

(Moderator: Axel Bronstert, Univ. Potsdam)

(extended Workshop, continuation in the afternoon)

Wednesday, 29th June 2016 | 14:00 – 16:00

Workshops (simultaneously)

Co-design for research of guidelines for freshwater ecosystem health

(Moderator: Janos Bogardi, Univ. Bonn)

Long term monitoring, its perspectives and funding possibilities

(Moderator: Ingrid Chorus, UBA Berlin)

German-Brazilian Research Cooperation in Water Science

(Moderator: Axel Bronstert, Univ. Potsdam)

Side event (workshop) – introduction of the 'green liver system'

(Moderator: Stephan Pflugmacher, TU Berlin)

For any further questions, please contact:

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Conference fee

Price categories	until 24 June 2016	On-site
Regular	EUR 150	EUR 180
Members of Water Science Alliance e.V.	EUR 100	EUR 130
Young Scientists, students etc.	EUR 80	EUR 100

Venue

Umweltbundesamt (UBA)
German Environment Agency
Wörlitzer Platz 1
06844 Dessau-Roßlau

<http://www.umweltbundesamt.de/en/the-uba>

How to find us



We recommend using the public transport due to the limited on-site parking – however, if you arrive by car, there are possibilities to park around the Umweltbundesamt along Hans-Heinen-Straße, Humpendinkstraße and Unruhstraße!

