DAAD مصر

Deutscher Akademischer Austauschdienst
الهيئة الألمانية للتبادل العلمي

PROGRAMME

# Sustainable Water Solutions: Securing Supply and Enabling Agriculture in Arid Zones

DAAD Science Symposium

**23 November 2025**

# Contents

# Concept Note

Water scarcity and sustainable water management represent critical challenges for arid regions around the world, with profound implications for agriculture, food security, and community livelihoods. In Egypt, where the Nile River and limited groundwater resources form the backbone of economic and social development, ensuring a reliable and resilient water supply is of paramount importance. Addressing these challenges requires innovative technologies and integrated approaches to optimize water use, reduce environmental impact, and transform wastewater into a valuable resource.

Scientific research and practical technological solutions play a central role in developing sustainable water systems. Innovations in wastewater treatment, water recycling, and brine management can enhance water availability while supporting agricultural productivity and environmental sustainability. International experiences demonstrate how advanced treatment processes and resource recovery approaches contribute to more efficient and resilient water governance.

The DAAD Regional Office Cairo is organizing this event to highlight such innovative approaches and foster collaboration between Egyptian and international experts. The event will feature **Prof. Dr.-Ing. Sven-Uwe Geissen** from TU Berlin, a mechanical and chemical engineer with extensive expertise in wastewater treatment, water recycling, and brine management. Prof. Geissen has worked in both industry and academia and will explore technological solutions for water supply and wastewater reuse, the concept of wastewater as a resource, and strategies to manage brines from desalination and recycling processes. His insights highlight how global best practices can inform sustainable water management strategies in Egypt and other arid regions.

Through this event, the DAAD aims to strengthen scientific exchange, promote knowledge transfer, and foster collaboration between researchers, policymakers, and practitioners. By showcasing innovative solutions and international expertise, the event seeks to support sustainable water management, enhance resilience to climate variability, and contribute to long-term environmental and socio-economic development in Egypt and similar arid regions.

# Agenda

6.00 P.M. –6.15 P.M. **Opening Remarks**

**Fatma Soliman**
*Deputy Director of the DAAD Regional Office Cairo*

**Hannah Brandt**
*Head of Science and Protocol, German Embassy to Cairo*

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6.15 P.M. –6.45 P.M. **Presentation I**
**Water scarcity – Which Technologies can save the Water Supply in Egypt?**

**Prof. Dr.-Ing. Sven-Uwe Geissen**
*Head of Chair of Environmental Process Engineering at TU Berlin*

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6.45 P.M. –7.15 P.M. **Presentation II**
**Innovative Water Solutions Driving Sustainable and Affordable Food Production in Arid Regions**

**Prof. Dr. -Ing. Wael Khairy**
*Dean of the Faculty of Engineering at Heliopolis University for Sustainable Development*

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7.15 P.M. – 8.00 P.M. **NETWORKING DINNER**

# Speakers

### Prof.Dr.-Ing. Sven-Uwe Geissen

Head of Chair of Environment Process Engineering at TU-Berlin

Prof. Sven Uwe Geissen is a mechanical and chemical engineer with extensive experience in advanced wastewater treatment, water recycling, and resource recovery. Over the course of his career, he has worked both in industry and academia, beginning at TU Clausthal before joining TU Berlin, where he serves as Professor at the Chair of Environmental Process Engineering.

His research focuses on innovative treatment technologies, the removal of emerging pollutants, and sustainable water management strategies. Prof. Geissen has coordinated and contributed to numerous international research projects and collaborations aimed at addressing global water challenges.

In recognition of his contributions to the field, he has received several prestigious awards, including the IWA Resource Recovery Award, the German-African Innovation Incentive Award, and the Willy-Hager Medal.

### Prof. Dr.-Ing. Wael Khairy

Dean of the Faculty of Engineering at Heliopolis University for Sustainable Development

Prof. Khairy is an environmental engineer with more than 35 years of professional experience across Egyptian government institutions, Nile Basin development initiatives, and various academic settings. Throughout his career, he has contributed extensively to the fields of water resources engineering, wastewater treatment technologies, and the management of transboundary waters, and he is also experienced in negotiation processes related to shared water systems.

He earned his B.Sc. (1990) and M.Sc. (1995) in Civil/Environmental Engineering from Cairo University, followed by a Ph.D. from the University of New Orleans, Louisiana, USA. His academic work reflects a strong commitment to sustainable water management and capacity building in the region.

Currently, Prof. Khairy serves as the Dean of the Faculty of Engineering at Heliopolis University for Sustainable Development in Cairo, Egypt, where he plays a key role in shaping engineering education and promoting sustainability-driven research and innovation.

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