**Between global and local challenges:**

**water resources and their management will shape our future**

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Abstract

Water, vapor and soil moisture fluxes and stocks are intricately interconnected in a single global water cycle. Yet, water is often considered as an eminently local problem for which mainly local solutions are sought. Irrespective of the scale (local, basin scale, continental etc.) of the individual water problems their multitude and universal occurrence adds up to an issue of global relevance.

No doubt that the human induced stresses on the water cycle are increasing as population growth, water supply and sanitation needs, increasing living standards, food security needs and nutritional choices but also economic activities and recreational requirements exert their influence on water resources. Their uneven temporal and spatial distribution further aggravates the problems and call for storage reservoirs with their well-known impacts on nature and society.

Climate change is often described as the biggest challenge of the 21st century. While carbon may be the key to mitigation, the name and essence of climate change adaptation is water. The Sustainable Development Goals (SDGs) as adopted by the governments of the world in 2015 define 17 binding goals and 169 targets with their respective aspiration levels. Many, if not all of them explicitly or implicitly related to water.

Neither the uncertainties, nor the exigencies are well recognized or/and acted upon in the political arena. Funding, but capacity development (both of professionals but also that of institutions and governance structures) are lagging behind.

What are the biggest challenges water scientists and professionals should be prepared to respond to? The lecture will highlight the intricacies of the water, energy and food security nexus, the mounting water quality challenge, increasing disaster losses, but also the short-sightedness of the hitherto practiced “impair first, then repair” paradigm which menaces ecosystem integrity, biodiversity, but also human health.

Water is more than a resource. Its ethical dimension is intertwined with technical, economic but also social solutions. These call for holistic approaches and solutions. We need “out of the box”, or rather “out of the bucket” thinking. This also implies that it is due time for institutions of higher learning to review and revise their curricula for water relevant educational programmes.

Asia is experiencing unprecedented social and economic changes. Solving its water problems in the global, but also regional context will be crucial to secure development for all and ultimately sustainability.