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Soil and Water Sciences Department

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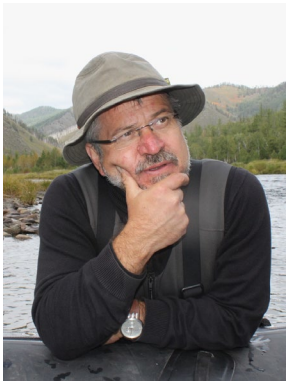
Soil and Water Sciences Department
Distinguished Speaker Seminar



Speaker: **Dietrich Borchardt, Ph.D.**
Head of the Dept. of Aquatic Ecosystem Analysis and Management
UFZ – Helmholtz Centre for Env. Research
Magdeburg, Germany

Title: **Trajectories toward Global Water Security**

Date: Monday, March 11, 2019

Time: 3:00 pm – 4:00 pm

Location: McCarty Hall A, Room G186

Water is the fundamental resource for multiple human demands such as drinking water supply, food production and energy provision. The world is facing major challenges regarding water security, because pressures and impacts on water quantity, water quality and aquatic biodiversity already exceed safe boundaries or carrying capacities in many regions of the world. These imprints will intensify in the near future, mainly driven by the global population growth from approximately 7 billion today to more than 9 billion people in 2050. The majority of this growth is expected to occur in developing countries, accompanied by migration from rural to urban areas. Consequently, major land use changes are expected with expanding urban areas, and agricultural intensification, manifesting in deforestation and the conversion of natural or extensively used land into highly productive cropland for food production. All these dynamics will be accompanied by regionally varying climate change patterns.

In this context the seminar will consider the concept, methods and findings of a data and model driven assessment resulting in a contemporary snapshot of the world´s water quality. With this background, the seminar will extend on how to approach key scientific questions to be addressed in the near future in order to mechanistically (i) backcast multi-decadal hydro-ecological trajectories of basins, (ii) disentangle the contributions of natural variability, human pressures, and the capability of river basins to buffer them, and (iii) reliably forecast pathways to achieve or safeguard water security under changing natural and anthropogenic forcings based on the mechanistic understanding derived from the observed patterns.

This seminar can be viewed via live or watched later via this link: **Dr. Dietrich Borchardt**. Viewers of the live stream may now ask questions by clicking on the message icon at the bottom. Questions will be read at the end during the question and answer portion. In addition, all seminars are archived for viewing on our **SWSD Seminar Page**.