

Announcement of lecture in summer semester 2023

Modeling Hydro- and Environmental Systems

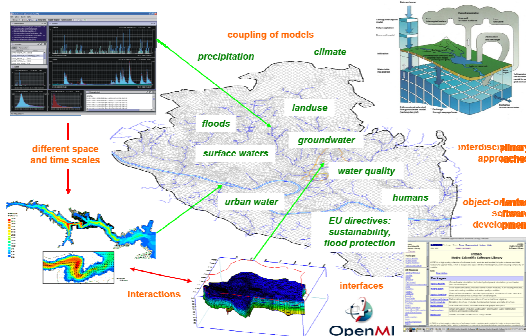
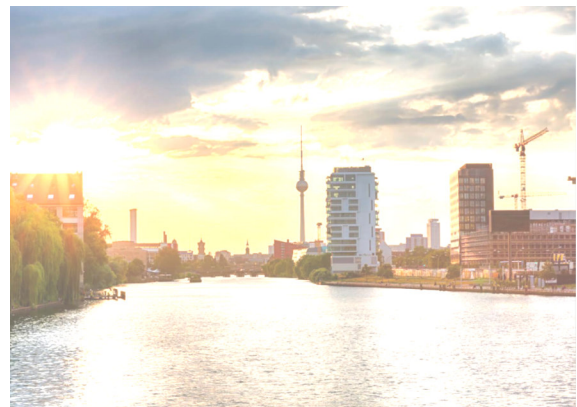
Wednesdays from 10:00 am – 01:15 pm starting April 19th, 2023 in TIB13b 566

(TIB area, Wedding), Gustav-Meyer-Allee 25, 13355 Berlin

Registration: e-mail to Lena Birke or directly via ISIS:

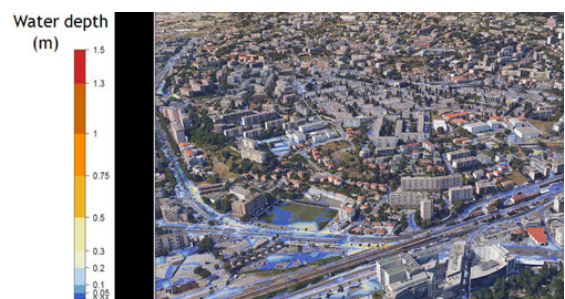
<https://isis.tu-berlin.de/course/view.php?id=33955#section-0>

In recent years *numerical modeling* has strongly gained importance in hydro- and environmental sciences. It is chosen as *prediction tool* to investigate impacts of climate change and adaptation measures, flood protection and water scarcity, river restoration and engineering measures, spreading of contaminants and water quality. Overall, such models together with using new possibilities of *digitalization* have become an important basis for *sustainable water management* and *smart water solutions*.



The lecture deals with modeling of flow and transport processes in *groundwater* and *surface water systems*. It addresses advanced hydro-mechanics, model concepts, *numerical methods* (Finite-Difference, Finite-Element and Finite-Volume Methods), pre- and post-processing, modeling systems and computer exercises with engineering applications. Basic knowledge in hydromechanics and mathematics is desirable, however not mandatory.

The lecture (6 ECTS, 4 SWH) belongs to the competence field *Hydrosciences* in the master program *Civil Engineering (Bauingenieurwesen)*. In the master program *Environmental Technologies (Technischer Umweltschutz)*, it can be chosen as a complementary lecture (Ergänzungsfach) and in other programs as elective course.



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