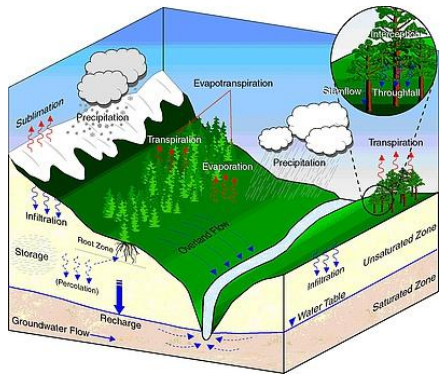


Background

Terrestrial water resources are coupled hydrosystems with compartments reaching from the atmosphere to aquifers. Their sustainable management requires predictive models simulating all relevant hydrological and (biogeo)chemical processes. The related processes are uncertain; they are affected by heterogeneity, and undergo change.

The Research Training Group "Integrated Hydrosystem Modelling" of the Universities of Tübingen, Hohenheim, and Stuttgart targets multi-disciplinary, cross-compartmental modelling of flow and reactive transport under uncertainty.



Style of the Conference

16 internationally renowned specialists in various aspects of integrated hydrosystem modelling will give keynote lectures on recent issues in modelling coupled systems.

All other participants will present posters in one of the two extensive poster sessions, facilitating in-depth exchange of ideas and expanding the discussions started in the keynote-lecture debates.

We particularly encourage young researchers to attend the conference and discuss their work with distinguished specialists and peers.

Registration and Deadlines

Please register online at:

www.uni-tuebingen.de/hydromod2018

Deadline for abstracts 15th February 2018

Deadline for registration 15th March 2018

Registration fee 150 Euro



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Contact

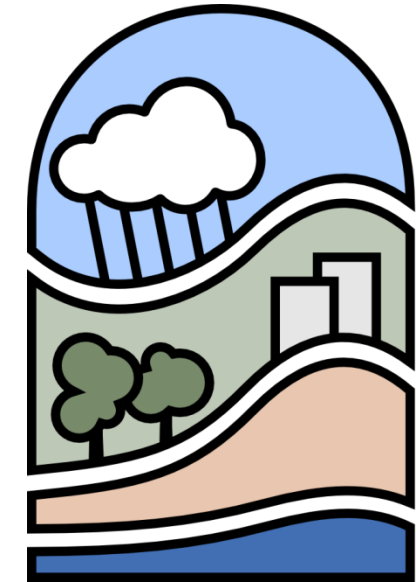
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Integrated Hydrosystem Modelling 2018

*How Complex Should Integrated
Models Be?*



Conference 3-6 April 2018
Tübingen, Germany

EBERHARD KARLS
UNIVERSITÄT
TÜBINGEN



Tuesday, 3 April

How Important is Realistic Geology in Hydrological Modelling?

Spatial variability in flow-and-transport models often hardly resemble geological features. Does this matter? And how should uncertainty of geology be addressed?

Philippe Renard University of Neuchâtel

Does Geological Realism of Heterogeneous Aquifers Pay Off?

Florian Wellmann RWTH Aachen

Accounting for Geological Uncertainty in Subsurface Modelling

Jesus Carrera IDAEA, Spanish National Research Council

Can Hydrogeological Models Work without Geology?

Icebreaker

Wednesday, 4 April

Controls of Reactive Transport on Scales Relevant for Management

Which processes control the behaviour of reactants on the catchment scale? How detailed should be the geochemistry in our models? And how can we make use of modern biological measurement techniques?

David L. Rudolph University of Waterloo

Wrestling with Recharge: Quantifying Surficial Mass Flux for Diffuse Pollution Problems

Nandita Basu University of Waterloo

Modelling Nutrient Legacies and Dynamics in Human Dominated Catchments

Bayani Cardenas University of Texas at Austin

Water Cycling across Aquatic Interfaces: How it Works and why it Matters from the Pore to the Continental Scale

Li Li Pennsylvania State University

Model Complexity and Simplicity from a Reactive-Transport Perspective: When, where, and why does Mechanistic Biogeochemistry Matter?

Nicholas Bouskill Lawrence Berkeley National Laboratory

Informing Reactive Transport Models with Molecular-Biological Data: Opportunities and Challenges

Poster Session I

Guided Tour Palaeontological Museum

Thursday, 5 April

Modelling Soil-Plant Interactions

How do soils and biota interact in water and nutrient cycling at the land surface?

Daniel Wallach INRA, French National Institute for Agricultural Research

The Accuracy of Crop Model Predictions. Understanding, Evaluating, Improving

Philippe Baveye AgroParisTech

Physical-Microbiological Interactions in Soils and Upscaling of Micro-Scale Spatial Heterogeneity

Anke Hildebrandt University of Jena

It is in the Soil! Revealing the Impediments to Root-Water Uptake in Complex Models Using Thermodynamics

Travel-Time Based Modelling of Transport in Hydrological Systems

Travel and exposure times have been identified as powerful predictors of solute concentrations in hydrological systems. How do these approaches function?

Vladimir Cvetkovic KTH Royal Institute of Technology

Pathway-Based Water Travel-Time and Age Distributions from Aquifers to Catchments

Gianluca Botter University of Padova

Age Distributions to Model River Hydrochemistry: Theory and Lessons Learned from 5 Years of Applications

Poster Session II

Conference Dinner

Friday, 6 April

PDE-Based versus Conceptual Integrated Models

Should integrated hydrosystem models couple partial differential equations of flow and transport in all compartments, or should they rely on simpler conceptualizations of hydrological subsystems?

Günter Blöschl Vienna University of Technology

Is Finer Better? Challenges with Model Complexity in Hydrology

René Therrien Laval University

Is Simpler Better? Making a Case for PDE-Based Simulation of Coupled Surface and Groundwater Flow

Henrik Madsen DHI, Danish Hydraulic Institute

Integrated Hydrological Modelling – a Flexible Process Based Framework