



Innovation in Groundwater Management

A webinar lecture series on zoom

Topics of lectures

- A system for sustainable groundwater management, 1hr
- Groundwater monitoring technology, 2hrs
- Groundwater modelling and decision support tools, 6hrs
- Policy feedback and public awareness, 2hrs

Free participation, book your dates

December 8-10 and 14-16, 2020, 10:00 -12:00 CET

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Swiss Agency for Development
and Cooperation SDC



Lecturers



**Prof. Wolfgang Kinzelbach,
emeritus of ETH Zurich**

Prof. Dr. Kinzelbach is known worldwide for his work in the field of sustainable groundwater management. He is AGU fellow and recipient of the EGU Darcy Medal as well as other awards. He contributed substantially to the development of groundwater modelling, including real time modelling and the use of remote sensing data in modelling. He has been leading the Sino-Swiss cooperation project “Rehabilitation and management strategies of over-pumped aquifers in a changing climate” since 2014.



**Prof. Jinxia Wang
CCAP, Peking University**

Prof. Dr. Jinxia Wang is a world renowned scientist in rural environmental policy studies. She is the recipient of an Outstanding Young Scientist Award from the National Natural Science Foundation of China. She is consultant for more than 10 international organizations such as UNDP, World Bank and ADB. Her research focuses on agricultural water management, institutions and policy, evaluation of impact and adaptation strategies concerning climate change, as well as rural environmental policy.



**Dr. Lu Wang
ETH Zurich**

Dr. Lu Wang obtained her PhD from Delft University of Technology in 2015. She has a research background in hydrology, water resources engineering and flood risk analysis. Her interest is in climate change impacts and adaptation in water resources, statistical downscaling, water-energy nexus and groundwater monitoring.



**Dr. Silvan Ragetti
hydrosolutions Ltd.**

Dr. Ragetti is a senior environmental engineer at hydrosolutions Ltd. He is specialized in remote sensing for land cover mapping and monitoring and hydrological modelling at various spatial and temporal scales. He is a prime user of Google Earth Engine and is a developer of various Apps for Google Earth Engine.



**Dr. Ning Li
ETH Zurich**

Dr. Li obtained her PhD from ETH Zurich in 2013. She is an experienced hydrogeologist and focuses on sustainable water resources management. She specialized in integrated hydrological modelling of flow dynamics and solute transport, in quantifying the uncertainties of coupled hydrological models and in improving the forecast of management outcomes using ensemble methods.



**Dr. Beatrice Marti
hydrosolutions Ltd.**

Dr. Beatrice Marti works as a Senior Environmental Engineer for hydrosolutions Ltd. She has a PhD in real-time groundwater modelling and control from ETH Zurich and specializes in groundwater monitoring, advanced water, solute and heat balance modelling as well as data assimilation. Her interest is in water resources management under water scarcity.



**Dr. Yu Li
ETH Zurich**

Dr. Li obtained his PhD from Politecnico di Milano. His research interest focuses on the modelling of coupled human-water systems and their analysis under climate change. Dr Li is interested in hydro-informatics, including multi-objective optimization, decision support systems, visual analytics, machine learning and big data analysis as applied in water systems analysis.



Lecture schedule

December 8, 2020

10:00-10:05

Opening remark from SDC Global Programme Climate Change and Environment

10:05-11:10

From overpumping to sustainable groundwater management: A case study of Guantao County, North China Plain
Lecturer: Prof. Wolfgang Kinzelbach, ETH Zurich

December 9, 2020

10:00-10:50

Satellite remote sensing for crop mapping and fallowed land monitoring
Lecturer: Dr. Silvan Raettli, hydrosolutions Ltd.

11:00-12:00

Monitoring groundwater pumping using electric energy as proxy
Lecturer: Dr. Lu Wang, ETH Zurich

December 10, 2020

10:00-10:50

A box model for water balance analysis of Guantao shallow aquifer
Lecturer: Dr. Lu Wang, ETH Zurich

11:00-12:00

A distributed groundwater model for a county: case study in Guantao
Lecturer: Dr. Ning Li, ETH Zurich

December 14, 2020

10:00-10:50

Real-time groundwater modelling
Lecturer: Dr. Ning Li, ETH Zurich

11:00-12:00

A data driven model for prediction of groundwater levels
Lecturer: Dr. Ning Li, ETH Zurich

December 15, 2020

10:00-10:50

Estimating irrigation water demand in Guantao and the North China Plain
Lecturer: Dr. Beatrice Marti, hydrosolutions Ltd.

11:00-12:00

Online Integrated Decision Support System for groundwater management
Lecturer: Dr. Yu Li, ETH Zurich

December 16, 2020

10:00-11:00

Pilot project of seasonal land fallowing in North China Plain: implementation status, effects and challenges
Lecturer: Prof. Jinxia Wang, CCAP, Peking University

11:00-12:00

The groundwater serious game "SavetheWater": a tool for public awareness raising and policy testing
Lecturer: Dr. Yu Li, ETH Zurich

Link to join the Webinar : <https://ethz.zoom.us/j/97780534880>