

## NATIONAL MODELLING SEMINAR – NEW MODELS & BETTER DECISION

100-year old Finland needs efficiency and better decisions in environmental management now more than ever. New technologies, development of computational methods and open data offer new tools and possibilities for environmental monitoring and to support decision making. The theme of the seminar this year is “Models for supporting decision making”. We welcome everyone working with environmental modelling, monitoring and restoration to participate to this seminar in Oulu! Joint dinner will be organized after seminar.

**Time:** 31 October 2017 at 9.15–16.00

**Place:** Tellus Innovation Arena, University of Oulu

**Organizer:** Hydrology division (Water Association Finland) and Water Resources and Environmental Engineering Research Unit (University of Oulu)

**Target group:** Doctoral students, researchers and experts working with mathematical modelling in atmospheric, geoinformatics, forestry, environment and water related studies.

### Registration:

- Registration is possible until 26 October. Use the following link to register:  
<https://www.webropolsurveys.com/S/AB0500D1403B481F.par>
- The event is free of charge, lunch and dinner at own cost
- Poster presentations are still welcome

### Program

- 9:15 Foreword, Hannu Marttila, University of Oulu  
**Session I – New modelling methods and technologies**, Chair: Hannu Marttila
- 9:20 Key note: Jari Silander, Finnish Environment Institute – Future possibilities and challenges with modelling
- 9:50 Johanna Korhonen, Finnish Environment Institute - Hydrological monitoring and long term records - essential for modelling and decision making
- 10:10 Poster Pitching (1 min per poster), Chair: Kersti Haahti, Aalto University
- 10:30 Coffee & Poster Session
- Continue of Session I**, Chair: Anna-Kaisa Ronkanen
- 10:50 Jeffrey Welker, University of Oulu and University of Alaska Anchorage – Patterns and processes governing water isotope patterns in the Arctic
- 11:10 Pertti Ala-Aho, University of Oulu – Tracer-aided hydrological modeling in northern snow-influenced environments – potential and challenges
- 11:30 Anna Jaros, University of Oulu - Modelling groundwater-surface water interactions in boreal mires using fully-integrated physically-based software HydroGeoSphere
- 11:50 Lunch break
- Session II –Supporting land/water use decisions**, Chair: Pertti Ala-Aho
- 13:00 Olli Karjalainen, University of Oulu - Circumpolar mapping of permafrost degradation related geohazards
- 13:20 Turo Hjerpe, Finnish Environment Institute - Systematic analysis of the usability of the decision support systems in river basin management
- 13:40 Katri Rankinen, Finnish Environment Institute - Phosphorus reactions in soil are complicated. How detailed model we need to cover them?
- 14:00 Coffee & Poster Session
- Continue of Session II**, Chair: Pekka Rossi
- 14:30 Uzair Khan, University of Oulu - Modelling geochemical and hydraulic processes in treatment wetlands: Background, considerations and application for mining industry
- 14:50 Kaisa Mustonen, University of Oulu - Combining climate-, hydrological, and biological models to predict the future of boreal river communities

- 15:10 Leena Stenberg, Aalto University - Spatial description of tree stand in distributed hydrological modeling of a drained peatland forest
- 15:30 Justice Akanegbu, University of Oulu - Overcoming data limitations in boreal regions using less complex water-balance model with physical based parameters.
- 15:50 Final discussion
- 16:00 Closing of Seminar, Björn Klöve

After seminar brainstorming for 2018 activities for Hydrology Division and joint dinner.