

Croucher Advanced Study Institute

Global Water Security: Integrated Modeling and Adaptive Management

The Hong Kong University of Science and Technology

January 8 – 11, 2019

Programme

Day 1 – Tuesday, January 8

8:30 – 9:00	Registration
9:00 – 9:40	Opening Ceremony and Group Photo
9:40 – 11:00	<p>Lecture 1A (Chairman: P Goodwin) S Sorooshian, <i>Distinguished Professor, University of California, Irvine; Member, NAE; PSIPW[#] Awardee (2010)</i></p> <ul style="list-style-type: none"> - State-of-the-art of hydroclimate modeling for water resources applications: Challenges in predicting the future trends and extremes
11:00 – 11:20	Tea Break
11:20 – 12:40	<p>Lecture 1B (Chairman: P Goodwin) S Sorooshian, <i>Distinguished Professor, University of California, Irvine; Member, NAE; PSIPW[#] Awardee (2010)</i></p> <ul style="list-style-type: none"> - Hydrometeorological modeling requirements: Data and parameterization issues
12:40 – 13:40	Lunch
13:40 – 15:10	<p>Lecture 2* (Chairman: S Simonovic) J Hall, <i>Professor of Climate and Environmental Risks, Oxford University; Fellow, RAE; PSIPW[#] Awardee (2018)</i></p> <ul style="list-style-type: none"> - Water resources systems and climate risks to water supply
15:10 – 15:30	Tea Break
15:30 – 16:30	<p>Special Contributions 1 (Chairman: AW Jayawardena) <i>G Austin, Emeritus Professor, University of Auckland, New Zealand</i></p> <ul style="list-style-type: none"> - Urban rainfall measurement and prediction: uncertainties and opportunities
16:30 – 17:00	<p><i>V Nguyen, Chair Professor, McGill University, Canada</i></p> <ul style="list-style-type: none"> - A decision support tool for assessing the climate change impacts on urban water infrastructure design and management
17:00 – 17:30	<p><i>DH Bae, Professor and President, Sejong University, Korea</i></p> <ul style="list-style-type: none"> - Scientific & technical issues on climate change adaptation of Korean water resources
18:00 – 20:00	Welcome Reception

[#]PSIPW: Prince Sultan Bin Abdulaziz International Prize for Water

*Lecture co-sponsored by Institute for Advanced Study, HKUST

Day 2 – Wednesday, January 9

9:00 – 10:30	<p>Lecture 3 (Chairman: R Falconer) P Goodwin, Professor and President, University of Maryland Center for Environmental Science, USA</p> <ul style="list-style-type: none"> - Water security and ecosystem services
10:30 – 10:50	Tea Break
10:50 – 12:20	<p>Lecture 4 (Chairman: JHW Lee) GQ Wang, Professor, Tsinghua University; Member, CAS</p> <ul style="list-style-type: none"> - Sky River Study: Concept, theory and experiment
12:20 – 13:30	Lunch
13:30 – 15:00	<p>Lecture 5 (Chairman: K Fraedrich) Z Kapelan, Chair and Professor of Urban Water Infrastructure, Delft University of Technology</p> <ul style="list-style-type: none"> - Advanced Technologies for Smart Water and Wastewater Management in Future Cities
15:00 – 15:20	Tea Break
15:20 – 15:50	<p>Special Contributions 2 (Chairman: Z Kapelan) M Ghidaoui, Chinese Estates Professor of Engineering, Hong Kong University of Science & Technology</p> <ul style="list-style-type: none"> - Recent advances in leak detection methods for urban water supply systems
15:50 – 16:20	<p>K Yum, Professor, Sungkyunkwan University, Korea</p> <ul style="list-style-type: none"> - Smart water grid for water security – Korean experience
16:20 – 16:50	<p>ZY Wang, Professor, Tsinghua University, China</p> <ul style="list-style-type: none"> - Energy dissipation of stream flow and geo-hazard mitigation
16:50 – 17:20	<p>AW Jayawardena, Adjunct Professor, University of Hong Kong</p> <ul style="list-style-type: none"> - Conventional wisdom and artificial intelligence in Water Resources Management
17:50 – 18:30	Departure for dinner
18:30 – 21:00	Dinner (by invitation)

Day 3 – Thursday, January 10

9:00 – 10:30	<p>Lecture 6* (Chairman: A Mynett) R Falconer, Emeritus Professor, University of Cardiff, UK; Fellow, RAE.</p> <ul style="list-style-type: none"> - Integrated water resources modelling and management from cloud to coast
10:30 – 10:50	Tea Break
10:50 – 12:00	<p>Lecture 7 (Chairman: JHW Lee) <i>H Tiessen, Director Emeritus, Inter-American Institute for Global Change Research, Uruguay; Humboldt Science Awardee.</i></p> <ul style="list-style-type: none"> - Science and Policy from a sustainability perspective
12:00 – 13:00	Lunch
13:00 – 14:30	<p>Lecture 8 (Chairman: G Austin) K Fraedrich, Emeritus Professor, Max Planck Institute for Meteorology and University of Hamburg, Germany</p> <ul style="list-style-type: none"> - Analyzing land surface climates: change and attribution
14:30 – 15:00	<p>Special Contribution 3 (Chairman: G Austin) <i>G Stelling, Emeritus Professor, Delft University of Technology, the Netherlands</i></p> <ul style="list-style-type: none"> - Modelling the “Sponge City”: On the integration of rainfall, infiltration, overland flow, sewers and ground water
15:00 – 15:20	Tea Break
15:20 – 15:50	<p>Special Contribution 4 (Chairman: ZY Wang) <i>HW Tang, Professor and Council Chairman, Hohai University, China</i></p> <ul style="list-style-type: none"> - Water resources management of Huai River (TBC)
15:50 – 16:10	<p>Contribution Session 1 (Chairman: ZY Wang) <i>IW Seo, Professor, Seoul National University</i></p> <ul style="list-style-type: none"> - River Alarm System Against Hazardous Spill for Protection of Drinking Water Supply in Korea
16:10 – 16:30	<p><i>JJ Jiao, Professor, University of Hong Kong</i></p> <ul style="list-style-type: none"> - Submarine groundwater discharge and nutrient loading into Tolo Harbour
16:30 – 16:50	<p><i>CP Kuang, Professor, Tongji University, China</i></p> <ul style="list-style-type: none"> - Morphodynamic responses of Caofeidian channel-shoal system to different SLR processes
16:50 – 17:10	<p>Contribution Session 2 (Chairman: ZY Wang) <i>QW Chen, Professor, Nanjing Hydraulic Research Institute, China</i></p> <ul style="list-style-type: none"> - Urban runoff-diffusive pollution modeling by cellular automata
17:10 – 17:30	<p><i>W Zhou, Associate Professor, City University Hong Kong</i></p> <ul style="list-style-type: none"> - Historical change and future scenarios of sea level rise in Hong Kong and the adjacent waters
17:30 – 17:50	<p><i>MTF Chui, Associate Professor, University of Hong Kong</i></p> <ul style="list-style-type: none"> - Implementation of low impact development practices: from small-scale design to large-scale optimization

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Day 4 – Friday, January 11

8:30 – 10:30	<p>Lecture 9 (Chairman: J Hall) <i>S Simonovic, Professor, The University of Western Ontario, Canada</i></p> <ul style="list-style-type: none"> - A systems approach to modeling water-energy-food nexus – the ANEMI Integrated Assessment model
10:30 – 10:45	Tea Break
10:45 – 11:05	<p>Contribution Session 3 (Chairman: V Nguyen) <i>J Huang, Professor, Nankai University, China</i></p> <ul style="list-style-type: none"> - Spatiotemporal Trends Analysis for Precipitation in China and Its Implication for Water Security
11:05 – 11:25	<p><i>J Chen, Associate Professor, University of Hong Kong</i></p> <ul style="list-style-type: none"> - Global water security: socioeconomic drought and dam development
11:25 – 11:45	<p><i>A Mynett, Emeritus Professor, IHE Delft & Delft University of Technology, the Netherlands</i></p> <ul style="list-style-type: none"> - CEWP - China-Europe Water Platform: On the implementation of Sponge City concepts
11:45 – 12:15	Wrap up (Chairman: JHW Lee)
12:15 – 13:00	Transport to site visit (Sandwich provided)
13:00 – 18:00	<p>Field trip:</p> <ul style="list-style-type: none"> - Happy Valley Underground Storage Scheme - Hong Kong West Drainage Tunnel intakes - Smart urban water supply system field testing facility, Beacon Hill Intermediate Level Reservoir, Kowloon