Ze JIANG

Ph.D. Candidate

Water Research Center, University of New South Wales (UNSW), Sydney, Australia

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PROFILE

- Highly self-motivated researcher with demonstrated research expertise modeling hydro-climatology processes.
- Strong interpersonal skills with a good sense of teamwork.
- Programming Skills: R, C/C++, VBA, and Python.
- Rich experience in modeling and GIS, using MIKE, SWMM, DSSAT, and QGIS.

EDUCATION

University of New South Wales, Sydney, Australia
2018 – present
Ph.D. in Water Resources Engineering
June 2021 (expected), UNSW UIPA Scholarship

Erasmus Mundus Joint M.Sc. Degree
Newcastle University(UK)
Brandenburg University of Technology(DE)
University of Nice-Sophia Antipolis(FR)
2013 – 2015
EuroAquae - HydroInformatics and Water Management
GPA: 17.16/20, Awarded Excellent Graduate
European Erasmus Mundus Scholarship

Hohai University, Nanjing, China
2008 – 2012
B.Sc. in Environmental Engineering
GPA: 4.62/5.0, Awarded Most Outstanding Graduate

RESEARCH INTEREST

- Water resource engineering
- Hydro-climatological forecasting and downscaling
- Climate change impact on the water cycle (e.g. floods and droughts)

PROFESSIONAL EXPERIENCE

University of New South Wales, Sydney, Australia **(Feb. 2018 – present)** **Ph.D. Candidate**

- The sensitivity of hydro-climatological change detection methods to model uncertainty and bias
- Sustained drought characterization and prediction: A wavelet-based variance transformation approach
- Future drought risk assessment using GCM projections

TMSI (Tropical Marine Science Institute), National University of Singapore, Singapore **(Nov. 2015 – Feb.2018)** **Research Engineer**

- Impact of climate change on inland and coastal flooding in Singapore, Public Utilities Board Project.
- DSSAT crop modelling on future rice yield in Vietnam, Climate Change and Food Security Studies.

Ingenieurgesellschaft Prof. Dr. Sieker mbH, Berlin, Germany **(Mar. 2015- Sep. 2015)** **Intern**

- Involvement in a project in Saudi Arabia on flood modelling and mitigation of Hafar Al-Batin city.
- Development of a Time-Area Function Model based on QGIS environment for stormwater management.

PUBLICATIONS: https://scholar.google.com/citations?user=4iVouPYAAAAJ&hl=en

Selected Journal Publications

1. Jiang, Z., Rashid, M. M., Johnson, F., & Sharma, A. (2020). A wavelet-based tool to modulate variance in predictors: An application to predicting drought anomalies. Environmental Modelling & Software, 104907.
2. Hohl, R., Jiang, Z., Tue Vu, M., Raghavan, S. V., & Liong, S. Y. (2020). Using a regional climate model to develop index-based drought insurance for sovereign disaster risk transfer. Agricultural Finance Review.
3. Jiang, Z., Sharma, A., & Johnson, F. (2020). Refining Predictor Spectral Representation Using Wavelet Theory for Improved Natural System Modeling. Water Resources Research, 56(3), e2019WR026962.
4. Jiang, Z., Sharma, A., & Johnson, F. (2019). Assessing the sensitivity of hydro-climatological change detection methods to model uncertainty and bias. Advances in Water Resources, 134, 103430.
5. Jiang, Z., Raghavan, S. V., Hur, J., Sun, Y., Liong, S.-Y., Nguyen, V. Q., & Van Pham Dang, T. (2019). Future changes in rice yields over the Mekong River Delta due to climate change - Alarming or alerting? Theoretical and Applied Climatology, 137(1), 545-555.

TALKS

1. Jiang, Z., Sharma, A., & Johnson, F. Hydro-climatological forecasting: A view from the spectral domain. In ***AGU Fall Meeting 2020***. AGU.
2. Jiang, Z., Sharma, A., & Johnson, F. (2019). Refining predictor spectral representation using wavelet theory for improved natural system modelling, 23rd International Congress on Modelling and Simulation (***MODSIM***), oral presentation, Canberra, Australia, 6 December 2019.
3. Jiang, Z., Sharma, A., & Johnson, F. (2019). Drought prediction for improved water resource management: A wavelet-based system prediction approach, ***STAHY 2019***, oral presentation, Nanjing, Jiangsu, China, 20 October 2019.
4. Jiang, Z., Sharma, A., & Johnson, F. (2018). Assessing the impact of systematic biases in detection of hydrologic change across Australia, ***STAHY 2018***, oral presentation, Adelaide, South Australia, Australia, 18 September 2018.
5. Jiang, Z., Raghavan, S. V., Hur, J., Sun, Y., & Liong, S.-Y. (2017). Impacts of Climate Change on Rice Crop Yields in Vietnam, ***Asia Oceania Geosciences Society (AOGS) 2017***, oral presentation, Singapore, 11 August 2017.

BOOK CHAPTERS

1. Raghavan, S. V., Ze, J., Hur, J., Jiandong, L., & Ngoc, N. (2019). ASEAN Food Security under the 2 C-4 C Global Warming Climate Change Scenarios. In V. Anbumozhi, M. Breiling, & V. Reddy (Eds.), Towards a Resilient ASEAN: Disasters, Climate Change, and Food Security: Supporting ASEAN Resilience (Vol. 1, pp. 37-52). Jakarta, Indonesia: Economic Research Institute for ASEAN and East Asia.

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