DONGHUI LI

2017 Hydrosystems Laboratory, Urbana, IL, 61801 • (217) 721-3706
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RESEARCH INTERESTS

- Water Resources Engineering and Forecast-informed Reservoir Operation
- Machine Learning and Data-driven Model
- Hydrological and Socioeconomic Drought
- Water Economics

EDUCATION

2020 – 2024 (expected)	Ph.D. in Civil and Environmental Engineering
	Dissertation: "Interconnectedness Between Hydrological Drought and Reservoir Operation"
	University of Illinois at Urbana-Champaign, USA
2021 – 2022	Graduate Minor in Statistics
	University of Illinois at Urbana-Champaign, USA
2018 – 2020	M.S. in Civil and Environmental Engineering
	Thesis: "Development of Web-Based Supporting Tools for Generic Diagnostic Reservoir Operation"
	University of Illinois at Urbana-Champaign, USA
2014 – 2018	B.E. Hydraulic Engineering
	Tsinghua University, China

RESEARCH EXPERIENCES

Doctoral Researcher 2020 – 2024 (expected)
Department of Civil and Environmental Engineering, University of Illinois at Urbana-Champaign
- Data-driven reservoir operation modeling for 450+ large reservoirs across the CONUS and its implementation with hydrological simulations.
- Drought cycle analysis between meteorological and water storage drought for water resources regions across the CONUS.
- Development of drought indicators for socioeconomic drought and impacts.

Master Researcher 2018 – 2020
Department of Civil and Environmental Engineering, University of Illinois at Urbana-Champaign
- Development of web-based generic decision supporting tools for reservoir operation.

Senior Project 2017 – 2018
Department of Hydraulic Engineering, Tsinghua University
- Hedging operation for parallel-reservoirs system for water supply and flood control.

PUBLICATIONS

* indicates co-first authorship.

- **Li, D.**[*], Chen Y., Lyu L., & Cai, X. (in review). Operation rules and patterns for 452 large reservoirs in the Contiguous United States. *Water Resources Research.*
- Chen, Y., **Li, D.**[*], Zhao, Q., & Cai, X. (2022). Developing a generic data-driven reservoir operation model. *Advances in Water Resources*, *167*, 104274.
- Zhao, Q., **Li, D.**[*], & Cai, X. (2021). Online generic diagnostic reservoir operation tools. *Environmental Modelling & Software*, *135*, 104918.

CONFERENCE PRESENTATIONS

- [EWRI 2023, oral] Li, D., Chen Y., Zhao Q., & Cai, X. (2023 May). Operation rules and patterns for 450+ large reservoirs in the Contiguous United States. *EWRI 2023.*
- [USACE R&D 2023, poster] Li, D., Chen Y., & Cai, X. (2023 Feburary). Data-driven Operation Rules for Reservoirs Across the CONUS. *USACE R & D Day 2023 at UIUC.*
- [EWRI 2022, oral] Li, D., Chen Y., Zhao Q., & Cai, X. (2022 May). Improving the human dimension of hydrological simulation based on a data-driven reservoir operation model. *EWRI 2022.*
- [EWRI 2021, oral] Li, D., Zhao Q., & Cai, X. (2021 May). DROT – A Diagnostic Reservoir Operation Tool. *EWRI 2021.*
- [EWRI 2019, oral] Li, D., Zhao Q., & Cai, X. (2019 May). Decision support tool for reservoir operation based on derived rules. *EWRI 2019.*

AWARDS & FELLOWSHIPS

- Travel award for EWRI conference — 2021, University of Illinois at Urbana-Champaign
- Yen Fellowship — 2018, University of Illinois at Urbana-Champaign

TEACHIING EXPERIENCES

Teaching Assistant, University of Illinois at Urbana-Champaign

- CEE 434 Environmental Systems I — 2022 Fall
- CEE 434 Environmental Systems I — 2021 Fall

PROFESSIONAL AFFILIATIONS

- Member, American Geophysical Union (AGU)
- Member, American Society of Civil Engineers (ASCE)

SKILLS

- Programming languages (scientific computing oriented): Python, R, Matlab, Fortran
- Machine learning: scikit-learn, PyTorch
- Cloud computing and web development: AWS EC2, HTML, JavaScript