

Curriculum Vitae



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EDUCATION

PhD Hohai University, Hydrology and Water Resources Expected graduation June 2026 Supervisor: Prof. Dr. Chuanhai Wang
MS Hohai University, Hydrology and Water Resources Supervisor: Dr. Xiaohua Xiang Successive postgraduate and doctoral programs of study
BS Hohai University, Hydrology and Water Resources Engineering June 2020 Graduated Summa Cum Laude

Research Interests

- 1. Flood forecasting and uncertainty quantification
- 2. Reservoir optimization and control
- 3. Numerical model for flood propagation

PUBLICATIONS

Journal Publications

Lu J B, Xiang X H*, Li, C, et al. Research on Data Structure of General Hydrological Model in GIS (in Chinese) [J]. Water Resources Protection, 2021, 37(5): 89-93.

Journal Papers in Review

Lu J B, Yin Z J, Xiang X H*, et al. Research on one-dimensional hydrodynamic reduced order model (in Chinese), Accepted by Journal of Basic Science and Engineering.

Conference Papers

Lu J B, Xiang X H*, A river network polygon extraction algorithm based on hydrodynamic and Monte Carlo method, 5th International Symposium of Shallow Flows, Oct. 23-25, 2021, pp. 293-297.

Lu J B, Xiang X H*, Research on estimating the discharge through gates of the South-to-North Water Diversion Middle Route Project (in Chinese), 2020 Academic Innovation Forum of "Water Science Frontier and Technology" for postgraduate students in Jiangsu Province, Nov. 7-8, 2020, pp. 39.

RESEARCH EXPERIENCE

Plain River and Lake Hydrology Research Center, Nanjing

2020-Now

Supervisor: Dr. Xiaohua Xiang

- Implemented SCE-UA algorithm in C++ for calibrating Xin'anjiang hydrological model
- Quantified model uncertainty by GLUE and MCMC algorithms
- Backbone river network extraction method based on graph theory and maximum flow algorithm
- Built flood inundation model for flood storage basin using ArcHIGH
- Reduced order of 1D hydrodynamic model by POD and DEIM

Department of Hydrology and Water Resources Engineering, Nanjing 2016 to 2020

- Realized Xin'anjiang model with MATLAB, and calibrated parameters with PEST++
- Solved multi-objective reservoir operation model by DE algorithm
- Established a 1D river hydrodynamic model based on Saint-Venant equations

ONGOING PROJECTS

Development of river network hydrodynamic prediction subsystem

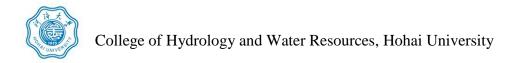
- Developed a 1D Hydrodynamic model for flood routing in MATLAB
- Learned to use urban storm flood model SWMM

Hangzhou informatization dispatching model

- Data cleaning for water level and rainfall data from 2013 to 2021 by Python
- Constructed a hydrodynamic model of the Hangzhou river network

Digital twin watershed of Weihe

- Extracting river network system and setting relationship between river channels
- Simulating runoff processes in reservoir area and outlet
- Multi-objective optimal scheduling of flood control for reservoir groups



Intelligent flood control forecast and operation system of Wangying Reservoir

- Rainfall and runoff forecasting with Xin'anjiang model
- Simulated the river flow downstream of the reservoir
- Constructed reservoir flood control optimal operation model

HONORS AND AWARDS

Outstanding Postgraduate Awarded by Hohai University	2021
First Prize in Water Science Numerical Simulation Innovation Competition Flood progression and gate control model	2020
National Scholarship Awarded by the Ministry of Education	2018
LANGUAGES	
Chinaga Native Language	

Chinese: Native Language

English: College English Test-6 Qualified

COMPUTER SKILLS

Programming: C/C++, Python, MATLAB

Applications: Microsoft Office, Microsoft Visual Studio, ArcGIS, HEC-RAS

Platforms: Windows

OTHER

Interests/Hobbies: Programming, Hiking Citizenship: Chinese

SUPERVISOR INFORMATION

Prof. Dr. Chuanhai Wang

College of Hydrology and Water Resources Hohai University 1 Xikang Road, Nanjing, P. R. China 210098 Email: <u>chwang@hhu.edu.cn</u> Profile: Hydrodynamic model, GIS, Hydrology <u>Research Gate</u>



REFERENCES

Dr. Xiaohua Xiang, Associate Professor College of Hydrology and Water Resources Hohai University 1 Xikang Road, Nanjing, P. R. China 210098 Email: <u>xxhxiang@hhu.edu.cn</u>

Dr. Xiaoling Wu, Associate Professor College of Hydrology and Water Resources Hohai University 1 Xikang Road, Nanjing, P. R. China 210098 Email: <u>freebir7237@hhu.edu.cn</u>