

Mark K. Wang (王凯章)

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Center for Water and the Environment, J.J. Pickle Research Campus, Austin, TX

EDUCATION

The University of Texas at Austin <i>Doctor of Philosophy</i> Civil Engineering <i>Master of Science</i> Environmental and Water Resources Engineering	Austin, TX <i>Expected May 2026</i> <i>May 2022</i>
Columbia University <i>Bachelor of Science</i> Civil Engineering Water Resources Concentration	New York, NY <i>May 2016</i>
Franklin & Marshall College <i>Bachelor of Arts</i> Cognitive Science Music Minor	Lancaster, PA <i>May 2016</i>

RESEARCH EXPERIENCE

National Weather Service NOAA CUAHSI <i>2023 Summer Institute Course Coordinator</i> <ul style="list-style-type: none">Supported 23 fellows researching flood prediction at the National Water CenterCompiled and edited final report documenting six group projectsPlanned institute's seven week timeline with faculty theme leaders and CUAHSI staff <i>2022 Summer Institute Fellow</i> <ul style="list-style-type: none">Developed a GIS method for coupling riverine & coastal inundation	Tuscaloosa, AL <i>June 2023 – July 2023</i> <i>June 2022 – July 2022</i>
Fulbright Program, U.S. Department of State <i>Research Grantee</i> <ul style="list-style-type: none">Studied low-impact development and stormwater management policy in the Pearl River Delta	Zhuhai & Shenzhen, China <i>June 2019 – Feb 2020</i>

PROFESSIONAL EXPERIENCE

Water Utility, City of Austin <i>Systems Planning Engineering Intern</i> <ul style="list-style-type: none">Automated storm event and sewer peak flow analysis with Python scriptsMaintained GIS databases for long-range water infrastructure planning	Austin, TX <i>Mar 2020 – Sep 2020</i>
Mease Engineering, P.C. <i>Civil Engineer</i> <ul style="list-style-type: none">Performed hydrologic site analyses under pre- and post-development conditionsDesigned stormwater management systems to control water quality and flow rate	Quakertown, PA <i>Oct 2017 – June 2019</i>
NYC Department of Environmental Protection <i>Assistant Civil Engineer</i> <ul style="list-style-type: none">Managed green stormwater infrastructure projects in public parks and streetsDeveloped and reviewed construction drawings and contract specifications	New York, NY <i>June 2016 – Oct 2017</i>

PUBLICATIONS

4. Wang, M., Passalacqua, P., Cai, S., & Dawson, C. (2024). c-HAND: Near Real-Time Coastal Flood Mapping. *Frontiers in Water*, 6, 1329109. <https://doi.org/10.3389/frwa.2024.1329109>
3. Shetty, N., Wang, M., Elliott, R., & Culligan, P. (2022). Examining How a Smart Rainwater Harvesting System Connected to a Green Roof Can Improve Urban Stormwater Management. *Water*, 14(14)
2. Shetty, N. H., Elliott, R. M., Wang, M., Palmer, M. I., & Culligan, P. J. (2022). Comparing the Hydrological Performance of an Irrigated Native Vegetation Green Roof with a Conventional *Sedum* spp. Green Roof in New York City. *PLOS One*, 17(4), e0266593
1. Shetty, N. H., Hu, R., Mailloux, B. J., Hsueh, D. Y., McGillis, W. R., Wang, M., Chandran, K., & Culligan, P. J. (2019). Studying the effect of bioswales on nutrient pollution in urban combined sewer systems. *Science of The Total Environment*, 665, 944–958

Revised March 5, 2025

PRESENTATIONS

9. **Wang, M.**, Passalacqua, P., Coon, E., Rathore, S., & Perez, G. (2024). Downscaling modeled fluvial and pluvial flood inundation to a lidar grid: A new volume conservative method. *2024 AGU Fall Meeting*, Abstract H53M-1284
8. **Wang, M.**, Passalacqua, P., & Preisser, M. (2024). A Near Real-Time Compound Flood Inundation Python Package. *2024 AGU Fall Meeting*, Abstract NH41D-2342
7. Passalacqua, P., **Wang, M.**, & Preisser, M. (2024). Acute on Chronic Stressors in Communities: When Flooding Is Not the Only Issue. *2024 AGU Fall Meeting*, Abstract NH23A-2272
6. Michalek, A., Villarini, G., Done, J., **Wang, M.**, & Passalacqua, P. (2024). Quantifying the Uncertainty of Ensemble Members and Downscaling Techniques in Flood Hazards and Their Associated Socioeconomic Impacts across the Delaware River Basin. *2024 AGU Fall Meeting*, Abstract H53M-1284
5. **Wang, M.**, Passalacqua, P., & Moftakhari, H. (2023). Quantifying Compound Flooding in Southeast Texas: A Novel Approach for Assessing Impacts on Communities and Infrastructure. *2023 AGU Fall Meeting*, Abstract NH23D-0744
4. Abdelkader, M., **Wang, M.**, Ghanghas, A., Ferreira, C., & Mandli, K. T. (2022). QuiCFIM, a Quick GIS-Based Combined Flood Inundation Mapping Framework. *2022 AGU Fall Meeting*, Abstract H45I-1481
3. Passalacqua, P., Preisser, M., **Wang, M.**, Bixler, P., Hooks, A., Hofmann, J., Haselbach, L., Moftakhari, H., Evans, H., Thies, C., & Maidment, D. (2022). Preparing for Future Floods: Leveraging Remotely Sensed Data, Modeling, and Social Science Information in a Multilayer Network Approach. *2022 AGU Fall Meeting*, Abstract H46D-01
2. **Wang, M.**, Passalacqua, P., Cai, S., & Dawson, C. (2022). c-HAND: Near Real-Time Coastal Flood Mapping. *2022 AGU Fall Meeting*, Abstract H42C-1262
1. Shetty, N. H., & **Wang, M.** (2018). Performance of a “Next Generation” Green Roof with Irrigation and Smart Detention. *2018 EWRI International Low Impact Development Conference*, Abstract 437268

GRANTS & AWARDS

Consortium of Universities for the Advancement of Hydrologic Science, Inc. (CUAHSI)

- Hydroinformatics Innovation Fellowship *2024*

The University of Texas at Austin

- John E. Kasch Endowed Graduate Fellowship in Engineering *2020 – 2024*
- Dean’s Prestigious Fellowship Supplement *2020 – 2023*

National Science Foundation

- Graduate Research Fellowship *2020 – 2023*

Fulbright Program, U.S. Department of State

- Study/Research Award *2019 – 2020*
- Critical Language Enhancement Award *2019*

Franklin & Marshall College

- *Magna cum laude* | Phi Beta Kappa *2016*
- G. Kenneth Kohlmaier Family Scholarship *2011 – 2014*
- C. Richard Plank Scholarship *2011 – 2014*

SKILLS & LICENSES

Programming Languages

- **Advanced:** Python, MATLAB | **Intermediate:** Unix shell, T_EX, Julia | **Beginner:** Ruby, JavaScript, C

Programming Tools

- Unix, Git, NumPy, Matplotlib, Pandas, SciPy, scikit-learn, PyTorch, Slurm (HPC), OOP paradigm

GIS & Engineering Tools

- ArcGIS Pro, QGIS, GDAL, GeoPandas, Rasterio, GRASS GIS, AutoCAD, SWMM, HEC-RAS

Natural Languages

- **Native:** English | **Working proficiency:** Mandarin Chinese (spoken and written)

Licenses

- Engineer-in-Training (Pennsylvania License No. ET023499)

OPEN ONLINE COURSES

Coursera

- Machine Learning with Python [link to credential]
- Computer Vision and Image Processing Essentials [link to credential]
- Deep Learning Essentials with Keras [link to credential]