Yiyang Kang | Curriculum Vitae

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EDUCATION

University of Florida (UF) **Gainesville, FL**
Ph.D. in Interdisciplinary Ecology Sep/2021-Aug/2025
Advisor: Dr. David Kaplan

Xiamen University (XMU) **Xiamen, China**
B.S. in Ecology Sep/2016-Jun/2020

RESEARCH INTERESTS & SKILLS

Research Interests: Global Change Ecology, Climate Change, Biogeography, Macro Ecology, Spatial Ecology, Landscape Ecology, Biogeochemistry, Remote Sensing, Big Data, Coastal Ecology, Wetland Ecology, Coastal Wetland, Mangrove, Salt marsh, etc.

Technical Skills: Python, R, SQL, ArcGIS, Google Earth Engine (JavaScript), ENVI, SPSS Statistics, MySQL, MongoDB, etc.

Field & Lab Skills: Study Design, Plant Quadrat Investigation, Soil Sample Collection, Elemental Analyzer, Bird Survey, Fish Survey, Macrobenthos Sampling and Identification, Surface Elevation Table (SET), Real-time Kinematics GPS, Drones, Microbe Cultivation and Molecular Identification, PCR, ICP-MS, Photosynthesis Analyzer (IRGA), etc.

RESEARCH EXPERIENCE

Graduate Research Assistant **Gainesville, FL**
School of Natural Resources and Environment (SNRE), UF Sep/2021-Present
- Doctoral Dissertation: Understanding the process and impacts of mangrove poleward expansion: a multiscale study along Florida Gulf Coast (Advisor: Dr. David Kaplan)

Undergraduate Research Intern **Beijing, China**
Department of Hydraulic Engineering, Tsinghua University Jun/2019-Sep/2019
- Classified the land cover change of remote sensing data using supervised classification on ENVI and Google Earth Engine.
- Quantitatively determined the spatial metrics of habitat fragmentation in Loess Plateau, China

Undergraduate Research Assistant **Xiamen, China**

College of Environment and Ecology (CEE), Xiamen University Sep/2017-Jun/2020

- Undergraduate Dissertation: Configuring coastal seascape connectivity model based on social-ecological variables (Advisor: Dr. Yi Li)
- XMU President's Fund: Patterns of Macrobenthos Community in Different Types of Pond-to-mangrove Reversion Wetlands (Advisor: Dr. Wenqing Wang)

TEACHING EXPERIENCE

Graduate Teaching Assistant **Gainesville, FL**

School of Natural Resources and Environment, UF Aug/2023-May/2024

- Assisted and taught Environmental Science I (30 students) for two semesters
- Developed and presented course materials for mangrove ecology, sustainability, climate change, and agroecology
- Led project-based discussions on research study design and research-policy integration

Board Member **Gainesville, FL**

Data Carpentry Club, UF Jan/2024-Present

- Hosted an online workshop to teach R and RStudio for FL DEP employees and UF students and post-docs (25 participants).
- Assisted both online and in-person R workshop.

Educational Volunteer **Xiamen, China**

Xiamen University Sep/2016-Sep/2019

- Designed and assisted activities aimed at motivating K-12 students to explore and engage with marine science and marine biology
- Aided instructors in art education for over 10 children with autism (in Beijing)

PROFESSIONAL EXPERIENCE

Software Development Engineer Intern **Seattle, WA**

Amazon Web Services (AWS) May/2024-Aug/2024

- Designed and implemented a Budget Detail page under a new framework in Typescript React, enabling customers to efficiently monitor KPIs, performance history and details for a selected budget.
- Streamlined the budget selection process by creating a user-friendly list modal, reducing latency by 24% for median AWS customers.
- Developed two reusable components and two data adapters to manage API req& res, and enhanced four existing components with new features for a smoother experience.

Research Intern **Shenzhen, China**

Mangrove Conservation Foundation Sep/2020-Dec/2020

- Facilitated collaboration in community-based mangrove restoration with South East Asia

- Edited and co-authored the report of *Research of Conservation and Restoration Strategy of Mangrove Wetlands in China*
- Participated in local community outreach, including park services, K-12 science education, and land manager interviewing

PUBLICATIONS

Kang, Y., Kaplan, D. A., & Osland, M. J. (2024). Mangrove freeze resistance and resilience across a tropical-temperate transitional zone. *Journal of Ecology*, 113, 94-111.

Kang, Y., Kaplan, D. A., & Osland, M. J. (2024). Linking temperature sensitivity of mangrove communities, populations and individuals across a tropical-temperate transitional zone. *Journal of Ecology*, 112, 1256–1274.

Kang, Y., Lin, Y., Chen, Z., & Li, Y. (2024). Framing seascape connectivity modeling to prioritize marine conservation effort in China's coastal sea. *Frontiers in Marine Science*, 10, 1322001.

Bardou, R., Osland, M. J., Scyphers, S., Shepard, C., Aerni, K. E., Alemu I, J. B., ..., **Kang, Y.**, …, & Hughes, A. R. (2023). Rapidly Changing Range Limits in a Warming World: Critical Data Limitations and Knowledge Gaps for Advancing Understanding of Mangrove Range Dynamics in the Southeastern USA. *Estuaries and Coasts*, 46(5), 1123-1140.

McCleery, R., Guralnick, R., Beatty, M., Belitz, M., Campbell, C.J., Idec, J., Jones, M., **Kang, Y.**, Potash, A. and Fletcher, R.J., (2023). Uniting Experiments and Big Data to advance ecology and conservation. *Trends in Ecology & Evolution.*

Zhang, Y., Zhang, L., **Kang, Y.**, Li, Y., Chen, Z., Li, R., ... & Wang, M. (2022). Biotic homogenization increases with human intervention: implications for mangrove wetland restoration. *Ecography*, 2022(4).

PRESENTATIONS & POSTERS

Kang, Y., Kaplan, D. A., Osland, M. J., *Processes and impacts of mangrove poleward expansion across Florida's Gulf of Mexico coast*, North Florida Marine Science Symposium, talk, 2025

Kang, Y., *A peak in future Blue Carbon: How will mangrove expansion affect soil organic carbon?*, UF Center for Coastal Solutions Summit, lightning talk, 2024

Kang, Y., *Mangrove Expansion into Salt Marshes: Northwest Florida*, Gulf of Mexico Alliance Webinars, invited talk, 2024

Kang, Y., Kaplan, D. A., Osland, M. J., *Mangrove freeze resistance and resilience across a tropical-temperate transitional zone*, UF SNRE Symposium, poster, 2024

Kang, Y., Kaplan, D. A., Osland, M. J., *Mangrove freeze resistance and resilience across a tropical-temperate transitional zone*, Annual Meeting of Ecological Society of America, talk, 2024

Kang, Y., Kaplan, D. A., Osland, M. J., *Mangrove freeze resistance and resilience across a tropical-temperate transitional zone*, UF Water Institute Symposium, poster, 2024

Kang, Y., Kaplan, D. A., Osland, M. J., *Mangrove freeze resistance and resilience across a tropical-temperate transitional zone*, Florida Fish and Wildlife Conservation Commission CHIMMP, poster, 2024

Kang, Y., Kaplan, D. A., Osland, M. J., *Impact of mangrove poleward expansion on soil carbon storage across a tropical-temperate transition zone*, Society of Wetland Scientists (SWS) Annual Meeting, talk, 2023

Kang, Y., Kaplan, D. A., Osland, M. J., Linking climate sensitivity of mangrove individuals, populations, and communities across a tropical-temperate transition zone. American Ecological Engineering Society Annual Meeting, talk, 2023

Kang, Y., Kaplan, D. A., *Linking mangrove vegetation structure and soil organic carbon across a tropical-temperate transition zone*, UF SNRE Symposium, poster, 2023

Kang, Y., Kaplan, D. A., *Linking mangrove vegetation structure and soil organic carbon across a tropical-temperate transition zone*, Apalachicola Bay Symposium, invited talk, 2023

Kang, Y., Kaplan, D. A., Osland, M. J., *Linking climate sensitivity of mangrove individuals, populations, and communities across a tropical-temperate transition zone*, American Geophysical Union (AGU) Fall Meeting, talk, 2022

Kang, Y., Kaplan, D. A., Osland, M. J., *Linking climate sensitivity of mangrove individuals, populations, and communities across a tropical-temperate transition zone*, UF CCS Summit, poster, 2022

Kang, Y., Kaplan, D. A., Osland, M. J., *Mangrove Tropicalization in the Gulf Coast of FL*, UF SNRE Symposium, talk, 2022

Burwell, E. & **Kang, Y.** & Wellman, E., *Mangrove Trimming in Florida: Aligning Ecology and Policy*, Sanibel-Captiva Conservation Foundation Community Outreach, talk, 2021

Kang, Y., Wang, M., Zhang, Y., Chen, Z., Li, R., Zhang, L., Tian, C., Wang, W., *Patterns of Macrobenthos Community in Different Types of Pond-to-mangrove Reversion Wetlands at Dongzhaigang Bay*, the 5th international Mangrove Macrobenthos and Management meeting (MMM5), talk and poster, 2019

HONORS, AWARDS, & GRANTS

SNRE Travel Grant, $250, UF SNRE, 2024

SNRE Symposium Best Poster Presentation, UF SNRE, 2023

SWS William Conner Student Travel Award, $500, Society of Wetland Scientists, 2023

UF IFAS Travel Grant, $250, UF IFAS, 2023

SNRE Travel Grant, $500, UF SNRE, 2023

SWS Global Change Ecology Section Travel Grant, $500, Society of Wetland Scientists, 2023

AGU Water Quality HaikuYourResearch Winner, $200, American Geophysical Union, 2022

Excellence Award in the Second National College Students Competition of Environmental Protection Knowledge, Sichuan Association for the Promotion of Ecological Civilization, 2018

Merit Student at Xiamen University, XMU, 2018

First Class Scholarship Award for Excellence in Academic Performance, XMU CEE, 2018

First Prize in Competition of Energy-saving and Emission-reduction Technology, XMU, 2018

Xiamen University President's Fund for Undergraduate Research Program, $7000, XMU, 2017

Excellent Volunteer in the 9th BRICS Summit, China Young Volunteers Association, 2017

SERVICES

Volunteer, *Rise Against Hunger* 2024
Helped with packaging meals to promote food security

Volunteer, *UF Center for Coastal Solutions* 2024
Helped with community outreach program at Cade Museum

Board member, *UF Data Carpentry Club* 2024 - present
Hosted and participated in running the Data Carpentry Club to facilitate data analysis skills (Python, R) learning across campus and for FL DEP

Volunteer, *UF Data Carpentry Club* 2023
Helped to organize the workshop of R in Genome

Undergraduate Research Mentor, *UF Center for Wetlands* 2022 - 2023
Mentored two undergraduate research assistants in field works

Guest Speaker, *The Shriram Millennium School* 2022
Shared knowledge and experiences with mangrove wetlands with K-12 students

Educational Volunteer, *XMU Marine Science Opening Day* 2019
Designed and helped activities aimed at motivating K-12 students to explore and engage with marine science and marine biology

Librarian Volunteer, *XMU Dewang Library* 2018 - 2019
Organized and cleaned historical records and books

Educational Volunteer, *XMU Environmental Protection Knowledge Outreach* 2018
Developed presentation on climate change impact for K-12 students

Logistic Volunteer, *the 9th BRICS Summit* 2017
Helped manage the logistic (housing, meals, flights) for over 700 reporters

Volunteer, *Xindian Elderly Nursing Home (Xiamen)* 2017
Prepared shows and gifts for lonely elderlies in nursing home

Member, *Greenwild Association of XMU* 2016 - 2017
Facilitated mangrove restoration through regular removal of barnacles on mangrove saplings

Educational Volunteer, *Xingchen Autism Arts Development Center (Beijing)* 2016
Aided instructors in art education for over 10 children with autism