

Yiyang KANG

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EDUCATION

Xiamen University (XMU)

Xiamen, China

Bachelor of Science, Ecology

Jun 2020

- **Coursework:** Calculus (92%), Biostatistics (87%), C Language Programming (96%), Animal Biology (96%), Plant Biology (92%), Plant Physiology (96%), Plant Ecology (89%), Molecular Ecology (89%), Genetic and Evolution (93%)
- **Adviser:** Dr. Wenqing WANG, Professor; Dr. Qingshun LI, Professor

Temple University Japan Campus (TUJ)

Tokyo, Japan

Exchange student of Spring 2020

Apr 2020

University of Florida (UF)

Gainesville, FL, U.S.A

Doctor of Philosophy, Interdisciplinary Ecology

Expected Jun 2025

- **Adviser:** Dr. David Kaplan, Associate Professor

Honors & Awards

- First Class Scholarship Award for Excellence in Coursework Oct 2018
- First Prize in Competition of Energy-saving and Emission-reduction Technology, XMU May 2018
- Excellent Volunteer in the 9th BRICS Summit Sep 2017

RESEARCH PAPER & CONFERENCE PRESENTATION

Paper (in progress): *Patterns of Macrobenthos Community in Different Types of Pond-to-mangrove Reversion Wetlands at Dongzhaigang Bay*, first author, to be contributed in *Estuarine, Coastal and Shelf Science*

Conference Oral Presentation (15min) & Poster: *Patterns of Macrobenthos Community in Different Types of Pond-to-mangrove Reversion Wetlands at Dongzhaigang Bay*, on the 5th international Mangrove Macrobenthos and Management meeting (MMM5) in Singapore

SKILLS

Technical Skills: R, ArcGIS, Python, Google Earth Engine, ENVI, SPSS Statistics, Photoshop, etc.

Field & Lab Skills: Plant Quadrat Investigation, Bird Survey, Surface Elevation Table (SET), Drones, Microbe Cultivation and Molecular Identification, PCR, ICP-MS, Photosynthesis Analyzer (IRGA), etc.

Hobbies: Photography, Basketball, Snowboarding etc.

INTERNSHIP

Mangrove Conservation Foundation

Shenzhen, China

Research Intern

Aug 2020 – Dec 2020

- Wrote a chapter on studies and experience of mangrove conservation in South East Asia
- Proofread and edited the mangrove conservation report
- Assessed the quantification of climate change adaptivity of mangrove ecosystem

Logistics Department of China Central TV

Xiamen, China

Intern

Jun 2017 – Sep 2017

- Collected, managed and reported the housing data for CCTV staffs during the BRICS Summit.
- Helped arranging the housing, meals and flights for over 700 staffs.

RESEARCH EXPERIENCE

Patterns of Macrobenthos Community in Different Types of Pond-to-mangrove Reversion Wetlands at Dongzhaigang Bay

Hainan, China

Nov 2017 – Sep 2019

Team Leader, adviser: Prof. Wenqing WANG

Objective: To explore the effectiveness of different Pond-to-mangrove Reversion methods on biodiversity of macrobenthos and plant community, and to provide practical guidance for functional mangrove restoration.

My contribution:

- Conducted field investigations and studies for five times at Dongzhaigang Bay including investigation of plant community and collections of macrobenthos (in total 2,274 individuals from 31 species) and soil samples at 13 plots, with 5 replicates at each plot, in the wet and dry season.
- Conducted lab experiments of macrobenthos identification and soil property determination including pH, salinity, particle size, content of C and N.
- Analyzed and visualized the data of vegetation structure, environmental variables and macrobenthos community with multivariate statistical analysis (PCA, nMDS, CCA, Stepwise regression, BIOENV, HCluster etc.) using R.
- Wrote an article and gave a 15min oral presentation on MMM5 Singapore, suggesting that naturally restored mangrove in abandoned ponds without further interference can be effective in recovering biodiversity.

Configuring coastal seascape connectivity model based on social-ecological variables

Xiamen, China

Sep 2019 – May 2020

Senior Thesis, adviser: Prof. Yi LI

Objective: To model the seascape connectivity of the coastline of China incorporating social-ecological variables, and to provide implication for coastal management and conservation.

My contribution:

- Collected spatial social-ecological datasets (ocean current, biogenic habitats, endangered species distribution, ship traffic, pollution, etc.) and preprocessed the raw data using ArcGIS and Python.
- Explored the steps and tools for modeling seascape connectivity by applying well-established landscape connectivity theories and methods.
- Mapped key resistance factors and positive offsetting factors for migration and analyzed the spatial pattern of these factors (PCA) using ArcGIS and R.
- Modeled seascape connectivity and identified conservation priorities in China's coastal sea as case study using ArcGIS, suggesting that regulation of the key resistance factors and establishment of Marine Protected Areas in conservation priorities should be emphasized in marine spatial planning.

Temporal variation of habitat fragmentation of excessive afforested area in Loess Plateau, China

Beijing, China

Aug 2019 – Sep 2019

Summer Research, adviser: Prof. Dawen YANG

Objective: To identify excessive afforested area and quantitatively test the hypothesis on temporal variation of habitat fragmentation with comparison to the controlled group.

My contribution:

- Classified the land cover change of remote sensing data in studied sites in 2000, 2009 and 2017 using supervised classification on ENVI and Google Earth Engine, including 7 categories of forest, grassland, farmland, built-up land, water, bare-land and cloud (Kappa coefficient 0.8~0.9).
- Quantitatively determined the spatial pattern metrics of habitat fragmentation (mean patch size, edge density etc.) in studied sites using Fragstats and visualized the data using R.
- Tested the hypothesis that in excessive afforested areas, habitat fragmentation will increase in the first decade (00~09) and then decreased in the next period (09~17) as patches started to grow and connect, while this pattern is less significant in normally afforested area (controlled group).

Effect of exogenous IAA on the growth and chlorophyll content of wheat (*Triticum aestivum* L.) under simulated acid rain (SAR) stress

Xiamen, China

Feb 2019 – Jun 2019

Team Leader

Objective: To study the regulation of exogenous IAA on wheat under SAR stress by measuring mortality rate, plant height, number of leaves, content of chlorophyll-a and chlorophyll-b.

My contribution:

- Designed the control-experiment of wheat growing under different level of SAR stress and exogenous IAA treatment.

- Conducted lab experiments of 12 different treatments on wheat seedlings with triplicates and tracked the growth and chlorophyll content for five weeks.
- Revealed that exogenous IAA did not significantly alleviate the decline in growth and chlorophyll content caused by longer period of stress or lower pH of SAR, but the application of 10 μ M IAA results in better wheat growth.

Inhibitory Effect of Different Daily Activities on the Community Structure of Oral Microbiome

Xiamen, China

Team Leader

Nov 2018 – Dec 2018

Objective: To study how daily activities (teeth brushing, using mouthwash, drinking beverage, etc.) influence the population growth and community structure of oral microbiome.

My contribution:

- Designed and conducted lab experiments on microbe cultivation, purification, PCR and molecular identification with four different treatments of daily activities in both anaerobic and aerobic conditions.

Size Distribution of Sea Salt Aerosol (SSA) along the Coastal Line of Xiamen Bay

Xiamen, China

Team member

Jul 2017 – Sep 2017

Objective: To study the size distribution, morphology form and chemical composition of SSA particles at three locations along Xiamen Bay, and provide dataset to test sea salt emission models.

My contribution:

- Conducted the analysis of SSA with ion chromatography (IC), scanning electron microscopy (SEM) and elemental analysis, and completed a paper in English which served as reference for local policy making.