

# TIANJIAN QIN

Theoretical Biologist

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My journey began with marine biology and expanded through academic excursions into ecology and evolution. I traveled across 18 provinces in China during my master's program to witness biodiversity firsthand. Then, my interest in theoretical research led me to pursue doctoral studies in phylogenetics and diversification models, aiming to understand global biodiversity patterns through stochastic processes. Now, having explored ecological and cultural diversity in 37 countries, I firmly believe in grounding theory in reality, striving to bridge empirical research with theoretical frameworks through innovative approaches.

## EDUCATION

### PhD Candidate

University of Groningen | 2019 - 2024

Studying systems biology and evolution, using stochastic diversification models and machine learning techniques to understand global biodiversity patterns.

### Master of Science

Beijing Forestry University | 2016 - 2019

Conducted field surveys and greenhouse experiments to study wetland ecology and invasive species, supplemented by geographical and phylogenetic analyses.

### Bachelor of Science

Nanjing Normal University | 2012 - 2016

Explored marine biology with a strong interest in ecology and evolution, laying the foundation for advanced studies.

## RECENT PROJECTS

### Identifying Evolutionary Forces Shaping Phylogenies

University of Groningen | 2023 - 2024

Tianjian Qin, Koen van Benthem, Luis Valente, Rampal Etienne

### Manuscript in progress

Investigate whether we can identify evolutionary forces shaping phylogenies by leveraging neural networks to perform parameter estimation and evolutionary scenario classification.

### Parameter Estimation from Phylogenetic Trees Using Neural Networks

University of Groningen | 2022 - 2023

Tianjian Qin, Koen van Benthem, Luis Valente, Rampal Etienne

### Submitted to Systematic Biology

Explore performance and robustness of neural network approaches for estimating diversification parameters from phylogenetic trees, using ensemble learning strategies.

DOI: <https://doi.org/10.1101/2024.08.02.606350>

### Impact of Evolutionary Relatedness on Species Diversification

University of Groningen | 2019 - 2022

Tianjian Qin, Luis Valente, Rampal Etienne

### Submitted to Journal of Theoretical Biology

Develop a new birth-death model demonstrating how evolutionary relatedness influences species diversification dynamics at different scales.

DOI: <https://doi.org/10.1101/2023.11.09.566365>

### Predicting Wetland Community Resistance to *Alternanthera philoxeroides* Invasion

Beijing Forestry University | 2018 - 2019

Tianjian Qin, Jian Zhou, Yan Sun, Heinz Müller-Schärer, Fangli Luo, Bicheng Dong, Hongli Li, Feihai Yu

### Published on Plant Biology

Investigate whether phylogenetic diversity is a better proxy than species richness in terms of explanatory power of predicting local wetland plant community's resilience to invasive species.

DOI: <http://doi.org/10.1111/plb.13101>

## SKILLS

### Technical

R

C/C++

Python

HTML/CSS/JS

Bash/UNIX

TeX/TikZ

GIS/Bioinformatics

## SUPERVISORS

Rampal Etienne  
University of Groningen  
2019 - Present

Luis Valente  
Naturalis Biodiversity Center  
2019 - Present

Hongli Li  
Beijing Forestry University  
2016 - 2019

## AWARDS

CSC-RUG Joint Scholarship (2019)

## LANGUAGES

Chinese (Native)

English (Fluent)

Dutch (Read/Write)

German (Read/Write)

## INTERESTS

Photography

Travel

Learn everything