Yaquan Chang

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EDUCATION

2020.10-   **PhD.**, ETH Zurich, Department of Environmental Systems Science. Thesis: *Plant biodiversity and turnover in the Hengduan Mts*. Advisors: Drs. Loïc Pellissier and Niklaus Zimmermann

2018.09-2020.08   **MSc.**, University of Copenhagen, Center for Macroecology, Evolution and Climate. Thesis: *Plant functional responses to human and environmental drivers -- Insights from Danish temperate forest communities*. Advisors: Drs. Naia Morueta-Holme and Jacob Heilmann-Clausen, and Mr. Charlie Davison

2017.09-2018.05   **Visiting student**, University of New Brunswick, Faculty of Forestry and Environmental Management. Honour research project (equivalent to bachelor thesis): *Comparing Balsam Fir Potential Species Distribution in two Distinct Areas of New Brunswick, Canada*. Advisor: Dr. Charles P.-A. Bourque

2014.09-2018.06   **BSc.**, Nanjing Forestry University, College of Biology and the Environment, Ecology.

RESEARCH EXPERIENCE

2020.10-present   PhD thesis: Impact of climate and geological drivers on plant biodiversity and turnover patterns in the Hengduan Mts, China

- Mapping species richness pattern using web scrapping technique

2019.09-2020.08   Master thesis: *Plant functional responses to human and environmental drivers -- Insights from Danish temperate forest communities*

- Collecting and cleaning forest structure, nutrient, disturbance data from the Danish National Monitoring Program and trait data from global functional trait databases BIEN and TRY
- Computing community weighted mean and using variance partitioning to disentangle the impacts of broad vs local, nature vs human environmental factors
- Using the linear model to assess the trait-environment relationship
- Using null model approach to compute functional hypervolumes to assess the niche space of woody and herbaceous along the drainage gradient

2019.07-2019.08   Project out of course scope, Project: *LiDAR-derived variables as a proxy for functional diversity of woody plant and response to forest management intensity*

- Computing LiDAR-derived metrics
- Plant identification and forest structure measurement in the field
- image recognition to measure canopy closure

- Constructing multivariate linear models to checking how LiDAR-derived and field-derived models explain functional diversity in R
- Evaluating models based on Akaike information criteria weight (AIC)

2019.04-2019.06   Group member, Project: *A Statistical and GIS-based approach to plan and manage the Giant Hogweed in Vordingborg municipality*

- Checking the collinearity of explanatory variables
- Constructing species distribution models of Giant Hogweed in R
- Evaluating models based on the area under the curve (AUC)
- Setting field validation points of the model

2018.08-2019.04   Research Assistant, Project: *Relating Modeled Habitat Suitability for Abies Balsamea to On the Ground Species Structural Characteristics in Naturally Growing Forests of New Brunswick, Canada*

- Constructing and evaluating species distribution models in R
- Calculating aboveground biomass and site index in Matlab
- Relating model results to site characteristics in terms of aboveground biomass and site index

2017.09-2018.05   Visiting Student, University of New Brunswick, completed BSc thesis
- Running Potential Species Distribution (PSD model) in Fortran
- Calculating radial growth rate & aboveground biomass of balsam fir in Matlab
- Comparing site characteristics in two areas of New Brunswick

PUBLICATIONS

Yaquan Chang, Charles P.-A. Bourque.2019. Relating modelled habitat suitability for *Abies Balsamea* to on the ground species structural characteristics in naturally growing forests. *Ecological Indicators.* DOI: 10.1016/j.ecolind.2019.105981

Haozhou Wang, **Yaquan Chang**, Chuan Li, Qiurong Liu, Min Zhong, Qinxuan Chen. 2017. Analysis of Imagine Capacity in Resources Survey between Two UAV Photogrammetry Softwares: PIX 4D Mapper and Photoscan. *Gansu Science and Technology. 33(22): 46-51* (In Chinese)

Haozhou Wang, **Yaquan Chang**, Zenxin Zhang. 04.2016. Yaira Multidimensional Data Visualization Software. (Software Copywrite. Patent No.: 2016SR178462.; in Chinese)

PROFESSIONAL PRESENTATIONS

Yaquan Chang, Alfred Figueras Anton, Oriol García Antúnez, Andreas Davidsen, Jens Lindgaard. 2019. How to upgrade current management plans for the invasive species Giant Hogweed in Denmark – a case study from Vordingborg municipality, Zealand. *The Euroleague for Life Sciences (ELLS) Scientific Student Conference*. Uppsala, Sweden (Poster presentation)

TEACHING EXPERIENCE

Fall 2020, 2021   Teaching Assistant, Landscape Modelling of Biodiversity: From Global Changes to Conservation, ETH zurich

Fall 2018	Teaching Assistant, Environmental Education Online Course, Cornell University
Fall 2016	Undergraduate Mentor, Nanjing Forestry University

FELLOWSHIPS, AWARDS, AND HONORS

2019	Travel Grant, Faculty of Science, University of Copenhagen (1000 DKK)
2019	Herboms Bog-legat (book grant), University of Copenhagen (3372.23 DKK)
2018	7th Liangxi Merit Award, Chinese Society of Forestry (1000 RMB); *51 national winners out of 75 nominated across all Chinese universities related to forestry area. The only undergraduate student at Nanjing Forestry University was obtaining this award in 2018.*
2018	3+1+1 Scholarship, University of New Brunswick (2000 CAD)
2017-18	International Differential Award, University of New Brunswick (7500 CAD)
2017	Special Award of 14th International Junior Forest Contest, Russian Federal Forest Agency
2016	Star of Innovation and Creation, College of Biology and the Environment, Nanjing Forestry University
2015-18	Merit Student, Nanjing Forestry University (3000 RMB in total)

COURSES AND PROFESSIONAL CERTIFICATIONS

2018.06	*Principles and Applications of Species Distribution Model Summer Course,* Peking University;

- Modelling, testing, ensemble, and Climate change projections for SDMs in R
- Introduction to BIOMOD2 in R

2016.06	Urban Environmental Education Certificate, Cornell University

VOLUNTEER SERVICE AND APPOINTMENTS

2021.10-	External reviewer, Methods in Ecology and Evolution
2021.07-present	Editor, Eco-share Wechat Official account
2019.09-2020.07	(Volunteer) Editor, Wiley Ecology China Wechat Official account
2019.01	Conference Assistant, 13th Annual Danish Water Forum
2018.06-2018.08	Volunteer, Inner Mongolia Project, The Nature Conservancy

- Doing reviews regarding conservation tillage and soil degradation

2015.02-2016.05	Volunteer, Yingming Reading Club, Nanjing, Jiangsu