

Muyang Lu (Lyu) 吕牧羊

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Research Interest

Niche theory, Climate change, Species distribution modeling, Metacommunity

Employment

2025 till now

Sichuan University, College of Life Sciences

Assistant Professor

2024 - 2025

Yale University, Center for Biodiversity and Climate Change

Postdoc researcher, supervised by Dr. Walter Jetz

2022 – 2024

University College London, Center for Biodiversity and Environment Research

Postdoc researcher, supervised by Dr. Alex Pigot

Education

2016 – 2022 **Yale University, New Haven, USA**

PhD, Ecology & Evolutionary Biology

2014 – 2016 **Sun Yat-sen University, Guangzhou, China**

MSc, Ecology

2010 – 2014 **Sun Yat-sen University, Guangzhou, China**

BSc, Biotechnology and Application

Publications

** denotes equal contribution*

Lu, M. & Jetz, W. (2025). Fine-Grain Data Reveal Vulnerability of Biodiversity to Climate Change. *Global Change Biology*, 31, e70627.

Lu, M., Yanco, S.W., Carlson, B.S., Winner, K., Cohen, J.M., Ellis-Soto, D., et al. (2025). A theoretical framework for scaling ecological niches from individuals to species. *Proceedings of the National Academy of Sciences*, 122, e2425582122.

Song, C. *, **Lu, M.***, Bennett, J.R., Gilbert, B., Fortin, M.-J. & Gonzalez, A. (2025). A geometric approach to beta diversity. *Ecological Monograph*. doi: 10.1101/2022.11.27.518099

Williamson, J., **Lu, M.**, Camus, M.F., Gregory, R.D., Maclean, I.M.D., Rocha, J.C., et al. (2025). Clustered warming tolerances and the nonlinear risks of biodiversity loss on a

warming planet. *Philosophical Transactions of the Royal Society B: Biological Sciences*, 380, 20230321.

Lu, M. & Jetz, W. (2023). Scale-sensitivity in the measurement and interpretation of environmental niches. *Trends in Ecology & Evolution*, 38, 554–567.

Gábor, L., Jetz, W., **Lu, M.**, Rocchini, D., Cord, A., Malavasi, M., *et al.* (2022). Positional errors in species distribution modelling are not overcome by the coarser grains of analysis. *Methods in Ecology and Evolution*, 13, 2289–2302.

Lu, M. (2021). Complex relationships between beta diversity and dispersal in meta-community models. *Ecography*, 44(12), 1769–1780.

Lu, M., Winner, K., & Jetz, W. (2021). A unifying framework for quantifying and comparing n-dimensional hypervolumes. *Methods in Ecology and Evolution*, 12(10), 1953–1968.

Lu, M., Gao, L., Li, H., & He, F. (2021). The patterns of vascular plant discoveries in China. *Ecology and Evolution*, 11(18), 12378–12388.

Lu, M., Vasseur, D., Jetz, W. (2019) Beta diversity patterns derived from island biogeography theory. *American Naturalist* 194, E52–E65.

Lu, M., & He, F. (2017). Estimating regional species richness: The case of China's vascular plant species. *Global Ecology and Biogeography* 26: 835–845.

Zhang, P., **Lyu, M.-Y.**, Wu, C.-F., Chu, Y.-M.-R., Han, N., Yang, D., & Hu, K. (2016). Variation in body mass and morphological characters in *Macaca mulatta brevicaudus* from Hainan, China. *American Journal of Primatology*, 78(6), 679–698.

R Package development

MVNH (author) – Compute and partition the size and overlap of n-dimensional hypervolumes

<https://github.com/lvmuyang/MVNH>

betavolume (contributor) – Compute geometric beta diversity

<https://github.com/clsong/BetaVolume>

Teaching

Teaching Assistant

2017 Evolutionary Biology, Yale

2017 General Ecology, Yale

2016 Introduction to Biology, Yale

Mentoring

2023 Eva Lyu, Undergraduate, UCL
2023 Rachel Cooper, Undergraduate, UCL
2022 Tanaya Nair, Graduate student, UCL

Invited talks

2023 College of Urban and Environmental Sciences, Peking University
2022 Center for Biodiversity and Environment Research, University College London
2022 Sino-Eco Seminar Series, Sino-Ecologists Association Oversea

Conference Presentations and Posters

2024 Frontier Forum on Global Change Ecology (Best poster award)
2022 British Ecological Society Annual Meeting
2022 Gordon Research Conference: Unifying Ecology Across Scales
2021 British Ecological Society, Quantitative Ecology SIG Meeting
2021 British Ecological Society, Macroecology SIG Meeting
2020 A Festival of Ecology, British Ecological Society
2020 Ecology Society of America Annual Meeting
2018 Gordon Research Conference: Unifying Ecology Across Scales
2017 Biennial Conference of the International Biogeography Society
2017 Ecology Society of America Annual Meeting

Academic and Scientific Services

Journal referee

Nature Communications; Ecology Letters; Ecological Monograph; Ecography; Global Ecology and Biogeography; Journal of Biogeography; The American Naturalist; Journal of Theoretical Biology; Journal of Ecology; Oecologia; Ecosphere; Frontiers in Ecology and Evolution; Proceedings of the Royal Society B

Professional society service

2022 till now Executive committee, Sino-Ecologists Association Overseas