

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., **Lu, 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