Hao Ran LAI

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Education

2015–2018	Ph.D., Ecology and Evolutionary Biology, National University of Singapore. Advisors: Michiel van Breugel & Hugh Tan Tiang Wah. Thesis: *Functional ecology of tropical secondary forests*
2009–2012	B.Sc. (Hons.) Ecology, University of Queensland. Advisor: Margaret M. Mayfield. Thesis: *Functional recovery following logging in subtropical forests*

Employment

2019–current	Research Fellow, School of Biological Sciences, University of Canterbury, New Zealand — Higher-order species interactions
2019	Visiting Research Fellow, Centre for Urban Greenery and Ecology, National Parks Board, Singapore — Tree diameter growth in the urban areas of Singapore
2018–2019	Research assistant, Department of Biological Sciences, National University of Singapore, Singapore — Data analysis and plant community survey in the Nee Soon Freshwater Swamp forest, Singapore
2015–2018	Teaching assistant, National University of Singapore, Singapore — Biostatistics, Ecology, Field Studies, Plant Biology, and Horticulture
2015	Biology Olympiad trainer, National Junior College, Singapore
2012–2014	Research assistant, Mayfield Plant Ecology Lab, University of Queensland, Australia — Survey and analyses of natural plant communities in Queensland subtropical forests and Western Australia grassland
2012–2014	Research officer, Centre for Mined Land Rehabilitation, University of Queensland, Australia — Map and identify threats of coal mining to an endangered plant species
2012–2014	Research assistant, Buckley Ecology Lab, University of Queensland, Australia
2012–2014	Course Tutor, University of Queensland, Australia — Biostatistics, Ecology, and Plant Biology

Publications

Lai, H. R., Chong, K. Y., Yee, A. T. K., Tan, H. T. W., van. Breugel, M. (2020). Functional traits that moderate tropical tree recruitment during post-windstorm secondary succession. *Journal of Ecology*.

Chiam, Z., Song, X. P., Lai, H. R., Tan, H. T. W. (2019). Particulate matter mitigation via plants: Understanding complex relationships with leaf traits. *Science of the Total Environment*, 688, 398–408.

Yee, A. T. K., Lai, H. R, Chong, K. Y., Neo, L., Koh, C. Y., Tan, S. Y., ... Tan, H. T. W. (2019). Short-term responses in a secondary tropical forest after a severe windstorm event. *Journal of Vegetation Science*, 30, 720–731.

van Breugel, M., Craven D., Lai, H. R, Baillon M., Turner, B.L., Hall, J.S. (2019). Soil nutrients and dispersal limitation shape compositional variation in secondary tropical forests across multiple scales. *Journal of Ecology*, 107, 566–581. *Special Feature – Ecological succession in a changing world*.

Wainwright, C. E., HilleRisLambers, J., Lai, H. R., Loy, X., Mayfield, M. M. (2019). Distinct responses of niche and fitness differences to water availability underlie variable coexistence outcomes in semi-arid annual plant communities. *Journal of Ecology*, 107, 293–306.

Lam, W.N., Lai, H.R., Lee. C., Tan, H.T.W. (2018) Evidence for pitcher trait-mediated coexistence between sympatric *Nepenthes* pitcher plant species across geographical scales. *Plant Ecology and Diversity*, 11(3), 283–294.

Lai, H.R., Hall, J.S., Batterman, S.A., Turner, B.L., van Breugel, M. (2018). Nitrogen fixer abundance has no effect on biomass recovery during tropical secondary forest succession. *Journal of Ecology*, 106, 1415–1427. *Special Feature – Linking organismal functions, life history strategies and population performance*.

Bimler, M.D., Stouffer, D.B., Lai, H.R., Mayfield, M.M. (2018). Accurate predictions of coexistence in natural systems require the inclusion of facilitative interactions and environmental dependency. *Journal of Ecology*, 106(5), 1839–1852. *Special Feature – Biotic controls of plant coexistence*.

Wainwright, C.E., Staples, T.L., Charles, L.S., Flanagan, T.C., Lai, H.R., Loy, X., Reynolds, V.A., Mayfield, M.M. (2018). Links between community ecology theory and ecological restoration are on the rise. *Journal of Applied Ecology*, 55, 570–581.

Sams, M.A., Lai, H.R., Bonser, S.P., Vesk, P.A., Kooyman, R.M., Metcalfe, D.J., Morgan, J.W., Mayfield, M.M. (2017). Landscape context explains changes in the functional diversity of regenerating forests better than climate or species richness. *Global Ecology and Biogeography*, 26, 1165–1176.

Lai, H.R., Hall, J.S., Turner, B.L., van Breugel, M. (2017). Liana effects on biomass dynamics strengthen during secondary forest succession. *Ecology*, 98, 1062–1070.

Lai, H.R., Mayfield, M.M., Gay-des-combes, J.M., Spiegelberger, T., Dwyer, J.M. (2015). Distinct invasion strategies operating within a natural annual plant system. *Ecology Letters*, 18, 336–346.

Conferences & Presentations

2019	Centre for Urban Greenery and Ecology, National Parks Board, Singapore.
2018	Association of Tropical Biology and Conservation (ATBC). Kuching, Malaysia.
2016	Conservation Asia. Singapore.
2015	20th Biological Science Graduate Congress. Bangkok, Thailand.

Awards & Scholarships

2019	International Society for Plant Molecular Biology Medal for most outstanding thesis
2019	CUGE Visiting Research Fellowship, National Parks Board Singapore
2017 & 2018	Teaching Assistant Award, National University of Singapore
2016	City Developments Limited (CDL) Urban Ecology and Conservation Scholarship
2013	University Medal, University of Queensland
2011	Summer Research Scholarship, University of Queensland
2010	D.A. Herbert Prize in Botany, University of Queensland
2010	F.A Perkins Prize in Entomology, University of Queensland

Services & Outreach

2017	Science Research Programme, Hwa Chong Institution, Singapore
2016	Festival of Biodiversity, Singapore Botanic Gardens
2012–2014	Volunteer, National Parks Association of Queensland Inc. (NPAQ)
Ongoing	Reviewer for *Journal of Ecology*, *Ecology*, *Methods in Ecology and Evolution*, *Ecological Applications*, *Biodiversity and Conservation*, *Biological Invasions*, *Science of the Total Environment*

Languages & Qualifications

English (professional working proficiency)

Mandarin (mother tongue) and Cantonese (regional dialect)

Malay (national language)

Malaysian and Singaporean driver's licenses

Other skills

High proficiency:
- `R` statistical and programming language
- Plant survey and forestry techniques
- LaTeXand `Markdown`

General proficiency:
- Plant identification
- Geographic information system
- Weather stations & remote sensing

Professional references

A/P Daniel B. Stouffer
Current supervisor
Associate Professor, University of Canterbury, New Zealand
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Dr Michiel van Bruegel
Former PhD supervisor
Assistant Professor, Yale–NUS College, Singapore
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A/P Hugh Tiang Wah Tan
Former PhD co-supervisor
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