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. (n.d.). Functional traits that moderate tropical tree recruitment during post-windstorm secondary succession. *In review.*

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
2015–2018	National University of Singapore Research 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
2012–2014	Volunteer, National Parks Association of Queensland Inc. (NPAQ)
Ongoing	Reviewer for journals including *Journal of Ecology*, *Ecological Applications*, *Biodiversity and Conservation*, and *Biological Invasions*

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

Dr. Michiel van Bruegel	Former PhD supervisor Assistant Professor, Yale–NUS College, Singapore Tel: (+65) 6601 3705 Email: `michiel.vanbreugel@yale-nus.edu.sg`
Assoc. Prof. Hugh Tiang Wah Tan	Former PhD co-supervisor Associate Professor, National University of Singapore Tel: (+65) 6516 2708 Email: `hughtan@nus.edu.sg`
Dr. Kwek Yan Chong	Former employer / current collaborator Senior Tutor, National University of Singapore Tel: (+65) 6779 2486 Email: `dbscky@nus.edu.sg`

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