

## ***Education***

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### **Doctor of Philosophy**

Yale University and New York Botanical Garden

*Environmental and Computational Biology*

2024 – 2029 (expected)

Recipient of the Lewis B. Cullman Fellowship (2024 – 2029).

Recipient of the Quad Fellowship (Singapore, 2024-2025).

### **Bachelor of Science (First Class Honours)**

National University of Singapore

*Environmental Studies and Life Sciences*

2020 – 2024

Recipient of the Wu Hsioh Kwang Family Award (2020-2024).

## ***Professional Experiences***

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### **Yale Center for Environmental Law and Policy**

August 2024 – Present

*Graduate Research Assistant*

*New Haven Connecticut, US*

- Study and develop quantitative indicators for assessing global biodiversity loss arising from land use changes, identifying strengths and areas for enhancement of existing indicators across various land use categories and taxonomic groups.
- Investigate the public biodiversity databases and evaluate their usefulness in developing novel indicators to connect the measurements on biodiversity loss with planetary boundaries for biodiversity integrity .

### **United Nations Climate Change Secretariat**

May 2024 – September 2024

*Adaptation Division Policy Researcher*

*Singapore*

- Lead research on thematic interlinkages between food security and other environmental challenges, including freshwater security, biodiversity conservation, and sustainable finance; covering 10 themes to provide insights on how adaptation policies can build inter-thematic synergies for greater efficacy.
- Spearhead focused review of over 40 countries' adaptation policies in agriculture and forestry sectors using national policy documents to present recommendations to policymakers and UNFCCC's affiliated bodies.
- Work directly with high-level government officials from developing countries to identify potential policy synergies for enhancing food resilience in tandem with water, energy, biodiversity conservation.

### **Eco-Business**

January – May 2024

*ESG Intelligence and Partnerships Executive*

*Singapore*

- Conducted sectoral analysis and prepare curriculum materials to deliver insights on industry trends in sustainable finance, carbon markets, and sustainability reporting for Eco-Business clients and internal teams, including C-Suite executives, civil servants of Government of Singapore, and industry leaders.
- Managed over 80 partners and donors for achieving organisation's goals through strategic engagement.
- Established Eco-Business presence and programmes across the Asia Pacific region by organising flagship events such as The Liveability Challenge, and sustainability or carbon finance training workshops.

### **Yale Center for Business and the Environment**

August 2022 – December 2022

*Writer, Conservation Finance Network*

*New Haven, Connecticut, US*

- Analysed the socio-political benefits and implications of voluntary carbon markets, with a focus on nature-based carbon projects and jurisdictional programmes, on indigenous communities stewarding ecosystems.
- Authored an [article](#) for the Center to communicate the insights shared by thought leaders from different sectors of the voluntary carbon market ecosystem.

### **Lee Kuan Yew School of Public Policy, NUS**

May 2022 – September 2022

*Research Assistant on Environmental Policy*

*Singapore*

- Executed systematic review of over 100 published academic literature on the role of non-state actors, including businesses, civil society, and academia, in collaborations with governments to enact environmental policies and regulations.

- Constructed database comprising quantitative and qualitative data on the actions and impacts of non-state actors working with governments to examine factors that promote collaboration between state and non-state actors in different sectors, including energy, water, and conservation.

## **Climate Impact X**

January 2022 – May 2022

### *Technical Analysis and Commercial Operations*

Singapore

- Spearheaded technical industry research on carbon accounting methodologies and crediting standards of major credit registries such as Verra for forestry and agricultural land management projects.
- Modelled future supply and demand volumes for emerging types of carbon offset projects, including jurisdictional and nested REDD+, biochar removals, and bioenergy with carbon capture and storage.
- Managed carbon marketplace and exchange customer engagement life cycle, including non-disclosure act delivery, onboarding assistance, and advising on offset acquisition and listings.

## **NUS Centre for Nature-based Climate Solutions**

November 2020 – April 2021

### *Strategic Partnerships and Public Outreach Intern*

Singapore

- Edited policy brief for the British High Commission and United Kingdom's COP26 Universities Network on opportunities and challenges in using nature-based climate solutions in Southeast Asia.
- Assessed sustainability policy and institutional compatibility of prospective donors and partners of the Centre, including philanthropic foundations, academic institutions, and private corporations.
- Contributed to a research brief to convey findings on the potential and shortcomings of voluntary carbon markets to generate economic profits while conserving and restoring tropical forest ecosystems.
- Designed and constructed a partners and donors relationship management database to track and manage the Centre's various efforts to initiate and cultivate relationships with partners and donors.

## **Peer-reviewed Publications**

1. Tan, S. S., & Kuebbing, S. E. (2023). [A synthesis of the effect of regenerative agriculture on soil carbon sequestration in Southeast Asian croplands](#). *Agriculture, Ecosystems & Environment*, 349, 108450.
2. Tan, S. S., Che, J. L., Chin, M. Y., & Chang, Y. The effect of forest edges on arbuscular mycorrhizal fungi communities in tropical forests. *Under review*.

## **Research Posters and Presentations**

1. Effects of forest edges on arbuscular mycorrhizal fungi communities in tropical forests. *Plant Forum 2024*. [oral presentation]
2. A synthesis of the effect of regenerative agriculture on soil carbon sequestration in Southeast Asian croplands. *European Geosciences Union General Assembly 2023*. [oral presentation]
3. Regeneration of tropical mangrove forests in Singapore in previously abandoned aquacultures. *Yale-NUS College Summer Research Symposium 2021*. [virtual presentation due to Covid-19]

## **Awards, Grants and Honours**

- Quad Fellowship (Institute of International Education, 2024); Cullman Fellowship (Yale University & New York Botanical Gardens, 2024); Cornell Denison Fellowship (declined nomination for top PhD student applicant, 2024); Cornell Fellowship (declined award for outstanding applicant, 2024); Ministry of Sustainability and Environment Eco-Fund Grant (Singapore, 2021); China-ASEAN Young Leaders Summit Best Delegation Award (2022); Wu Hsioh Kwang Family Study Award (2020-2024).

## **Skills**

- Research Skills: Microbiology Techniques; Computational Genomics Analysis; Geospatial Data Management and Analysis; Field Survey and Experiments; Statistical Data Analysis and Modelling.
- Professional Skills: Policy and Market Research for Corporate and Government Decision-Making; Strategic Planning and Public Communications; Project, Fund, and Client Management; Grant Proposal and Project Pitching; Advanced Data Analysis, Visualisation and Statistical Modelling.
- Languages: English (Fluent); Mandarin (Fluent).