

# William (Jia-Ang) Ou

PhD Student

Department of Zoology | Biodiversity Research Centre | University of British Columbia

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## Education

### PhD student in Zoology

2021-present

Department of Zoology, University of British Columbia

- Advisor: Dr. Rachel Germain

### Master of Science in Ecology

2021

Institute of Ecology and Evolutionary Biology, National Taiwan University

- Thesis title: *Effects of local and landscape factors on paddy field arthropod diversity: from species to communities*
- Advisor: Dr. Chuan-Kai Ho

### Bachelor of Science in Biology

2017

Biology Program, University of British Columbia

## Awards and Honours

International Tuition Award (1066CAD)	2021
President's Academic Excellence Initiative PhD Award (325CAD)	2021
Zoology Graduate Fellowship (16000CAD)	2021
Research abroad travel grant (7000NTD)	2019
NTU-NTNU Joint Symposium on Ecology and Evolutionary Biology (Outstanding poster)	2019
Faculty of Science International Student Scholarship (5000CAD)	2017
Congress of Animal Behavior and Ecology, plant-animal interactions section (1st prize)	2017
Go Global International Learning Award (2000CAD)	2016

## Research Experience

### Working group lead

2021

University of British Columbia, Vancouver, BC

Advisor: Drs. Rachel Germain, Tess Grainger, Dept. Zoology and Biodiversity Research Centre

- Developed a guideline for writing accessible theoretical papers based on cognitive load theory

### Research assistant

2020

National Taiwan University, Taipei, Taiwan

Advisor: Dr. David Zeleny, Institute of Ecology and Evolutionary Biology

- Developed a software for quantifying species niche width from co-occurrence data

### Research Assistant

2017 - 2020

National Taiwan University, Taipei, Taiwan

Advisor: Dr. Chuan-Kai Ho, Institute of Ecology and Evolutionary Biology

- Examined arthropod trophic interactions using stable isotopes

## Visiting Researcher

2019

Kanazawa University, Kanazawa, Japan

Advisor: Dr. Nisikawa Usio, Institute of Nature and Environmental Technology

- Testing biogeographical hypotheses of biodiversity in agroecosystems

## Undergraduate Assistant

2016 - 2017

University of British Columbia, Vancouver, Canada

Advisors: Drs. Jennifer Sunday, Joey Bernhardt, Mary O'Connor, Dept. Zoology and Biodiversity Research Centre

- Examining the temperature dependence of resource competition

## Directed Studies Student

2016

University of British Columbia, Vancouver, Canada

Advisors: Drs. Daniel Karp, Alejandra Echeverri, Kai Chan, Institute for Resources, Environment and Sustainability

- Quantifying the impacts of land use change on avian populations

## Publications

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\* denotes equal contribution

\* Lin, P-A, \* Liu, C-M, \* **Ou, J-A**, Sun, C.-H., Chuang, W.-P., Ho, C.-K., Kinoshita, N., & Felton, G. W. (2021). Changes in arthropod community but not plant quality benefit a specialist herbivore on plants under reduced water availability. *Oecologia*. <https://doi.org/10.1007/s00442-020-04845-z>

Hsu, G-C, **Ou, J-A**, Ho, C-K. 2021. Pest consumption by generalist arthropod predators increases with crop stage in both organic and conventional farms. *Ecosphere* In press

*In advanced preparation*

**Ou, J-A**, Henriques, GJB, Senthilnathan, A, Ke, P-J, Grainger, T, Germain, R. A theoretician's guide to writing accessible theory.

**Ou, J-A**, Huang, C-L, Chen, H-J, Tsai, C-W, Ho, C-K. Effects of local and landscape factors on paddy field arthropod diversity: from species to communities.

## Presentations

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**Ou, William** 2021 Changes in arthropod community but not resource quality benefits a specialist herbivore under plant water stress. BotZoo Spring Symposium. Vancouver, BC. (Oral)

**Ou, J-A**, Huang, C-L, Chen, H-J, Tsai, C-W, Ho, C-K. 2020 Multi-scale analysis reveals the importance of landscape for arthropod biodiversity in a rice agro-ecosystem. Taiwan Entomological Society Annual Meeting. Taipei, Taiwan. (Oral & Poster)

Hsu, G-C, Ou, **Ou, J-A**, Ho, C-K. 2020 Pest consumption by arthropod generalist predators increases with crop stage in organic and conventional rice farms. ESA Annual Meeting. Virtual. (Poster)

**Ou, J-A**, Huang, C-L, Chen, H-J, Tsai, C-W, Ho, C-K. 2019 Spatial and temporal partitioning of arthropod beta-diversity in rice agro-ecosystems. NTU-NTNU Joint Symposium for Ecology and Evolutionary Biology. Taipei, Taiwan. (Oral & Poster)

**Ou, J-A**, Lin, P-A, Liu, C-M, Sun, C-H, Kinoshita, N., Ho, C-K, Felton, G. W. 2019 Plant drought stress randomizes arthropod community assembly. Congress for Animal Behavior and Ecology. Taipei, Taiwan. (Oral)

**Ou, J-A** 2019 Taxonomic and functional insect herbivore diversity across latitude in rice agro-ecosystems. Congress for Animal Behavior and Ecology. Taipei, Taiwan. (Poster)

**Ou, J-A, Hsu, G-C, Ho, C-K.** 2018 Drivers of arthropod food web dynamics in rice paddy agroecosystem - a stable isotope approach. Ecological Society of Japan. Sapporo, Japan. (*Oral*)

**Ou, W.** 2017. A test for the habitat-filtering hypothesis: Modeling avian population responses to land-use change in Guanacaste, Costa Rica. Multidisciplinary Undergraduate Research Conference. Vancouver, Canada. (*Oral*)

## Teaching

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**Teaching Assistant**, Numerical Methods in Community Ecology, NTU 2019

**Teaching Assistant**, Animal Biology Lab, NTU 2019

**Teaching Assistant**, Introduction to R for Ecologists, NTU 2018

**Guest Lecture**, Community Ecology, NTU 2018

**Teaching Assistant**, Community Ecology, NTU 2018

## Work experience

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**Research scientist**, Melio Inc. 2020

- Developing metrics and synthesizing data for quantifying environmental impacts of food

**Intern**, RENato Lab 2018

- Synthesized a circular economy handbook and visualized corporate material flow

## Outreach and Service

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**Journal reviewer**

- Proceedings of the Royal Society B, New Phytologist, Evolutionary Applications, Oikos

**Invited speaker**, National Taiwan Science Education Center 2019

- Talk title: *Biodiversity beyond taxonomic nomenclature* (link; 50:55-1:15)

**Editor**, Green News Taiwan 2018-2019

**Founder**, NTU Biodiversity Discussion Group 2018-2020

**Teaching Assistant**, Biodiversity summer camp, Kinmen National Park 2017

**Gallery Educator**, Vancouver Aquarium 2015-2017

## Technical skills

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- Quantitative and analytical: univariate and multivariate statistics, Bayesian statistics, likelihood statistics, mixed-effect models, resampling methods, model averaging, clustering, null models, network analysis, scientific writing
- Computational: R, Python (working knowledge), ArcGIS
- Languages: English (native), Mandarin Chinese (native), Taiwanese (proficient)

## References

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### **Dr. Rachel Germain**

Assistant Professor, Department of Zoology  
Biodiversity Research Centre  
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Vancouver, BC, V6T 1Z4, Canada  
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### **Dr. David Zelený**

Assistant Professor, Institute of Ecology and Evolutionary Biology  
National Taiwan University  
No.1, Sec. 4, Roosevelt Rd.  
Taipei 106, Taiwan  
Tel: +886(2) 33662512  
Email: zeleny@ntu.edu.tw

### **Dr. Mary O'Connor**

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Associate Director, Biodiversity Research Centre  
University of British Columbia  
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