

EDUCATION

- **PhD, University of Northern British Columbia** **Prince George, Canada**
Natural Resources & Environmental Studies *Sep.2021 – Apr.2026*
Supervisor: Ken A. Otter
Thesis: [From recordings to ecology: Turning bird sounds into ecological insights](#)
- **MSc, University of British Columbia** **Vancouver, Canada**
Department of Forest Resources Management *Sep.2017 – Nov.2019*
Supervisor: Bianca N.I. Eskelson
Thesis: [Innovative and conventional modelling for avian acoustic and fire severity analyses](#)
- **Bachelor of Science, National Taiwan University** **Taipei, Taiwan**
School of Forestry and Resource Conservation & Department of Physics *Sep.2012 – Jun.2017*
Double Major Student
Supervisor: Biing T. Guan, Tzeng-Yih Lam, and Shi-Wei Chu

WORK EXPERIENCE

- **Independent Data Consultant** **Self-Employed**
Partnering with National Geographic, and the Cornell Lab of Ornithology ([website](#)) *Dec.2025 – present*
- **Independent Infographic Designer** **Self-Employed**
Designing scientific infographics, graphical abstracts, and official conference logos ([portfolio](#)) *Mar.2023 – present*
- **Co-Founder & Program Coordinator** **Applied Analysis Hub**
Organizing technical workshops and hosting statistical consulting sessions ([website](#)) *Sep.2021 – Dec.2025*
- **Sessional Instructor** **UNBC**
Co-instructor: Lisa Koetke. Advanced Statistical Analyses for Natural Resource Sciences *Sep.2023 – Dec.2023*
- **Data Analyst** **Endemic Species Research Institute**
Modeling avian elevational migration patterns in Taiwan *Apr.2020 – Jul.2021*
- **Data Analyst** **Birds Canada**
Historical survey data summarizing and cleaning *Jan.2021 – Mar.2021*

PUBLICATIONS

JOURNAL ARTICLE.....

- **Tseng, S.**, Hodder, D., and Otter, K. **2026** Passive acoustic monitoring reveals seasonal and habitat-related patterns in bird vocal activity. *Journal of Wildlife Management*. (Under Review)
- **Tseng, S.** and S. Kahl. **2026** birdnetTools: An R package for working with BirdNET output. *Journal of Open Source Software*. (Under Review)
- Baum, J.K., Slein, M.A., Garen, J.C., . . . , **Tseng, S.**, et al. **2026** Widespread ecological responses and cascading effects of the record-breaking 2021 North American heatwave. *Nature Ecology and Evolution*. ([link](#))

- Darras, K., Rountree, R., Van Wilgenburg, S., . . . , **Tseng, S.**, et al. **2025** Worldwide Soundscapes: a synthesis of passive acoustic monitoring across realms. *Global Ecology and Biogeography*. ([link](#))
- **Tseng, S.**, Hodder, D., and Otter, K. **2025** Setting BirdNET confidence thresholds: Species-specific vs. universal approaches. *Journal of Ornithology*. ([link](#))
- **Tseng, S.**, Hodder, D., and Otter, K. **2024** Using Autonomous Recording Units for Vocal Individuality: Insights from Barred Owl Identification. *Avian Conservation and Ecology*. ([link](#))
- Pelletier, F., Eskelson, B.N.I., Monleon, V.J., and **Tseng, Y.-C.** **2021** Using Landsat imagery to assess burn severity of National Forest Inventory plots. *Remote Sensing*. ([link](#))
- **Tseng, Y.-C.**, Eskelson, B.N.I., Martin, K., and LeMay, V. **2021**. Automatic bird sound detection: Logistic model based acoustic occupancy model. *Bioacoustics*. ([link](#))
- **Tseng, Y.-C.**, and Chu, S.-W. **2017**. High spatio-temporal-resolution detection of chlorophyll fluorescence dynamics from a single chloroplast with confocal imaging fluorometer. *Plant Methods*. ([link](#))

OPEN-SOURCE SOFTWARE PACKAGE.....

- **birdnetTools** (2025) — R package for post-processing, visualization, and validation of BirdNET output. Developed in collaboration with the BirdNET team. Available on GitHub. ([Documentation](#))
- **bbsTaiwan** (2024) — R package for accessing and analyzing Taiwan Breeding Bird Survey (BBS) data. Developed for national biodiversity research and public engagement. Available on GitHub. ([Documentation](#))

CONFERENCE TALK / POSTER.....

- **The Wildlife Society Conference - Alberta Chapter** **Banff, Canada**
Passive acoustic monitoring in avian ecology (Poster) **Feb.2026**
- **SCO-SOC Annual Meeting** **Saskatoon, Canada**
BirdNET workshop organizer, invited seminar speaker, conference organizing team **Aug.2025**
- **Ecological Data Science Summit** **Santa Barbara, USA**
Invited by conference organizer for discussion of current AI use in ecology **Feb.2025**
- **Posit::conf** **Seattle, USA**
Selected as one of the 40 opportunity scholars, early career software developer **Aug.2024**
- **AFO SCO-SOC WOS Joint Meeting** **Peoria, USA**
Evaluation and application of BirdNET: identification of bird species by their sounds **Aug.2024**
- **International Ecoacoustic Congress** **Madrid, Spain**
Setting BirdNET confidence thresholds: Species-specific vs. universal approaches. **Jul.2024**
- **Congress of Animal Behavior and Ecology** **Taipei, Taiwan**
Monitoring avian biodiversity across wide spatiotemporal scale using passive acoustic monitoring **Feb.2024**
- **AOS-SCO Joint Conference** **London, Canada**
Large scale biodiversity assessment with bird sound **Aug.2023**
- **BC/Canada TWS Joint Conference** **Victoria, Canada**
Passive acoustic as a tool to monitor individual Barred Owls **Mar.2023**
- **UNBC Research Week** **Prince George, Canada**
Passive acoustic as a tool to monitor individual Barred Owls **Feb.2023**
- **International Ornithological Congress** **Virtual**
Modelling avian altitudinal migration using citizen science data **Aug.2022**
- **AOS-SCO Joint Conference** **Virtual**
seewave and tuneR: sound analysis in ornithology **Aug.2021**

- **Congress of Animal Behavior and Ecology** **Tainan, Taiwan**
Modelling avian annual cycle distribution in Taiwan using citizen science data Feb.2021
- **Congress of Animal Behavior and Ecology** **Penghu, Taiwan**
Automatic bird sound detection: ARU data analysis Jan.2020
- **Annual meeting of Ecological Society of America** **Louisville, USA**
Relationships between successive forest fires: A case study in central interior BC, Canada Aug.2019
- **Ecology & Evolution Retreat** **Squamish, Canada**
Automatic Bird Sound Detection: ARU data analysis Oct.2018
- **International Ornithological Congress** **Vancouver, Canada**
Automatic bird sound detection: Logistic regression based acoustic occupancy model Aug.2018

RECOGNITIONS

RESEARCH GRANT

- **Wildlife Acoustics Grant Program** **Wildlife Acoustics**
Acoustic monitoring for migratory birds in Lithuania – Land of the storks May.2026
- **Infrastructure Steering Committee Grant** **R Consortium**
birdnetTools 2.0: Linking BirdNET outputs to occupancy modeling in R Dec.2025
- **Michael Smith Foreign Study Supplements** **NSERC**
Developing an R package for BirdNET, collaboration with the BirdNET team in Chemnitz, Germany June.2025
- **Early Career Grant** **National Geographic**
Avian acoustic monitoring of migratory birds in Lithuania – Land of the storks May.2025
- **rOpenSci Championship Program** **rOpenSci**
Developing an R package for Taiwan Breeding Birds Survey data management Jan.2024
- **Siberian Tundra Arctic Research Grant** **TEEDF**
Field sound recording - Avian vocalization documentation in Siberia Arctic Tundra Apr.2017

SCHOLARSHIP and FELLOWSHIP

- **Dr. Joselito (Lito) Arocena Memorial Graduate Prize** **UNBC**
Awarded to UNBC NRES graduates May.2026
- **Bert Brink Scholarship** **BC Nature**
Outstanding graduate student for natural resources research in BC Aug.2025
- **NBCGSS Legacy Scholarship** **UNBC**
For graduate student with contributions to the graduate student culture and graduate program. Jun.2024
- **Hugh Hamilton Memorial Scholarship** **Nature Vancouver**
For graduate student with outstanding academic & involvement with Nature Science. May.2024
- **Canada Graduate Scholarship - Doctoral (CGS-D)** **NSERC**
Rewarding and retaining high-calibre doctoral students at Canadian institutions. Apr.2023
- **Susan Stevenson Memorial Award** **UNBC**
Excellent academic performance Nov.2022
- **CUPE Local 3799 Annual Bursary** **UNBC**
Excellent academic performance Sep.2022
- **Mitacs Accelerate Fellowship** **MITACS**
A long-term funding and internship option for PhD students in Canada Jun.2022

○ Graduate Entrance Research Scholarship	UNBC
○ <i>High academic performance for new graduate student</i>	<i>Jan.2021</i>
○ Mary and David Macaree Fellowship	UBC
○ <i>Conducting research in Forestry</i>	<i>Sep.2019</i>
○ VanDusen Graduate Fellowship in Forestry	UBC
○ <i>Faculty of Forestry student in forest resource ecosystems</i>	<i>Feb.2019</i>
○ Werner and Hildegard HESSE Fellowship in Ornithology	UBC
○ <i>Conducting research in Ornithology</i>	<i>Oct.2018</i>
○ Pei-Huang Tung and Tan-Wen Tung Graduate Fellowship	UBC
○ <i>Taiwanese students pursuing higher education in Canada</i>	<i>Oct.2018</i>
○ Mary and David Macaree Fellowship	UBC
○ <i>Students in Faculty of Forestry studying forest resource ecosystems</i>	<i>Sep.2018</i>
○ BA Blackwell & Associates Scholarship in Fire Science	BA Blackwell & Associates
○ <i>Conducting research about forest fire ecology</i>	<i>Aug.2018</i>
○ Soundscape and Sound Research Scholarship	SAT
○ <i>Soundscape or sound associated research</i>	<i>Feb.2018</i>
○ Faculty of Forestry Strategic Recruitment Fellowships	UBC
○ <i>Top 20% ranked student</i>	<i>Sep.2017</i>

AWARD.....

○ Knowledge Mobilization Award	UNBC NRES
○ <i>Students who actively bridge the knowledge gap between academic and public audience</i>	<i>May.2026</i>
○ SCO-SOC Taverner Award	SCO-SOC
○ <i>Awarded for outstanding ornithological research in Canada</i>	<i>Apr.2025</i>
○ Student Presentation Award	SCO-SOC
○ <i>Best oral presentation in the annual conference in Peoria, Illinois</i>	<i>Aug.2024</i>
○ Best Student Presentation Award	BC & CAN TWS
○ <i>Best student oral presentation in The Wildlife Society conference</i>	<i>Mar.2023</i>
○ 3 Minute Thesis Award	UNBC
○ <i>1st place & people's choice of UNBC 3MT competition</i>	<i>Feb.2023</i>
○ Teaching Excellence Award	UNBC
○ <i>Outstanding teaching performance as a teaching assistant</i>	<i>Sep.2022</i>
○ Outstanding Oral Presentation Award	CABE
○ <i>Outstanding oral presentations in Congress of Animal Behavior and Ecology</i>	<i>Feb.2021</i>
○ Master of Data Science TA Award	UBC
○ <i>Best TAs in Master of Data Science program of the academic year</i>	<i>Jun.2019</i>
○ 3 Minute Thesis Award	UBC
○ <i>First place of 3MT competition in UBC Faculty of Forestry</i>	<i>Feb.2019</i>
○ College Student Research Creativity Award	MOST
○ <i>Top 5% ranked research report</i>	<i>Aug.2017</i>
○ Outstanding Poster and Presentation Award	NTU
○ <i>Ranked 1, out of 14 groups, in physics department poster competition</i>	<i>Apr.2016</i>
○ President Award	NTU
○ <i>Top 5% ranked student in the semester</i>	<i>Jan.2016</i>

ADDITIONAL PROFESSIONAL EXPERIENCE

FIELD RECORDIST.....

I have contributed recordings of around 300 bird species worldwide as a recordist for Xeno-Canto and have been involved in a range of nature sound-related art and science projects ([profile](#)).

POPULAR SCIENCE WRITER.....

- **2024** Why do we band birds at all? *Nature Conservation Quarterly*, 124. ([link](#))
- **2023** Nest boxes for barn owl conservation. *Nature Conservation Quarterly*, 122. ([link](#))
- **2023** When beaver dam collapses. *Nature Conservation Quarterly*, 121. ([link](#))
- **2023** Listening to the whispers of the wings. *Discovery*, 50(1):85-90. ([link](#))
- **2022** Hey, there are wild black bears in my backyard. *Nature Conservation Quarterly*, 117. ([link](#))
- **2021** Avian field recordings (II). *Feathers*, 301:22-27. ([link](#))
- **2021** Avian field recordings (I). *Feathers*, 300:38-41. ([link](#))
- **2019** Apply statistics on bird "listening". *Discovery*, 47(1):21-22. ([link](#))
- **2018** Can statistics help ornithologists "hear" birds? *BranchLines*, 29(3):11. ([link](#))

DATA SCIENCE WORKSHOP INSTRUCTOR.....

- **Introduction to Git & Github** **UNBC**
Host: Library Graduate Student Workshop Development Program Feb.2026
- **BirdNET Application for Ecological Research** **USask**
Host: SCO-SOC conference, co-lead with Jenn Foote Aug.2025
- **Machine Learning Advances in Ornithology Research** **Nature Vancouver**
Host: Nature Vancouver Nov.2023
- **From Taiwan to Arctic Tundra - the bird as a bridge ([storytelling](#))** **AOS annual meeting**
Host: American Ornithology Society annual meeting storytelling event Aug.2023
- **Listen to the Whispers of Wings** **Mossom Creek**
Host: Mossom Creek BioBlitz Jun.2023
- **Introduction to Git and Github** **UNBC**
Host: Applied Analysis Hub Nov.2022
- **Data Wrangling with R** **UNBC**
Host: Applied Analysis Hub Mar.2022
- **Each Sound Recording Represents a Profound Story ([interview](#))** **Canopy Life**
Interview of a field recordist. Jun.2021
- **The Siberian Crane: From Taiwan to Tundra ([interview](#))** **Bird Note**
A bird gets blown off course and inspires a young researcher to spread her own wings — in Siberia. May.2021
- **Data Wrangling with R (4 sessions)** **Endemic Species Research Institute**
Host: Jerome Ko May.2021 – Jul.2021
- **Recording Techniques for Breeding Birds Survey (6 sessions)** **Endemic Species Research Institute**
Host: Luna Fan Dec.2020 – Mar.2021
- **Automatic bird sound detection: ARU data analysis** **Canadian Wildlife Service**
Host: Kathy Martin Oct.2018
- **Statistical Analysis in Ecology (5 sessions)** **UBC**
Host: Trevor Gareth Jones Jan.2018 – Apr.2018