

# YI-CHIN TSENG (SUNNY)

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## EDUCATION

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- **Ph.D., University of Northern British Columbia** **Prince George, Canada**  
**Natural Resources & Environmental Studies** *Jan.2021 – present*  
Supervisor: Ken Otter  
Committee: Heather Bryan, Joseph Shea, Dexter Hodder
- **Master of Science, University of British Columbia** **Vancouver, Canada**  
**Department of Forest Resources Management** *Sep.2017 – Nov.2019*  
Supervisor: Bianca N.I. Eskelson  
Committee: Kathy Martin and Nicholas C. Coops  
Thesis: Innovative and conventional modelling for avian acoustic and fire severity analyses ([link](#))  
UBC GPA: 4.33
- **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  
Forestry GPA: 3.96/4.0; Physics GPA: 3.40/4.0; Cumulative GPA: 3.65/4.0

## PUBLICATION

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### JOURNAL ARTICLES.....

- Tseng, Y.-C., Ko, J.C.-J., Cheng, A.-Y., and Chen, W.-J. **2023** Modelling avian altitudinal migration using citizen science data. *Avian Conservation and Ecology*. (In Preparation)
- 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*, 12:10. ([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*, 30(3):324-340. ([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*, 13:43. ([link](#))

### NON-PEER REVIEWED ARTICLES.....

- Tseng, Y.-C. **2023**. When beaver dam collapses. *Nature Conservation Quarterly*, 121. ([link](#))
- Tseng, Y.-C. **2023**. Listening to the whispers of the wings. *Discovery*, 50(1):85-90. ([link](#))
- Tseng, Y.-C. **2022**. Hey, there are wild black bears in my backyard. *Nature Conservation Quarterly*, 117. ([link](#))
- Tseng, Y.-C. and Hong, G.-C. **2021**. Avian field recordings (II). *Feathers*, 301:22-27. ([link](#))
- Tseng, Y.-C. and Hong, G.-C. **2021**. Avian field recordings (I). *Feathers*, 300:38-41. ([link](#))
- Tseng, Y.-C. **2019**. Apply statistics on bird "listening". *Discovery*, 47(1):21-22. ([link](#))
- Tseng, Y.-C. **2018**. Can statistics help ornithologists "hear" birds? *BranchLines*, 29(3):11. ([link](#))

## SCIENCE OUTREACH.....

- **Recordist for Xeno-Canto ([profile](#))** **Xeno-Canto**  
*One of my recordings of [Siberian Crane](#) was featured on the homepage.* Jul.2017 – present
- **A Person Who Collects Sounds ([interview](#))** **Fuyu Life**  
*Field recordist - a beautiful way to study Nature.* Jan. 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
- **Sharing the Sounds of Nature ([interview](#))** **National Education Radio**  
*Interview with a scholar in bioacoustics.* Aug. 2020

## CONFERENCE TALK.....

- **The Wildlife Society Joint Annual 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
- **Joint conference of the Society of Canadian Ornithologists and American Ornithological Society** **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
- **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
- **International Forestry Students' Symposium** **Manila, Philippines**  
*"Chlorophyll fluorescence: A powerful tool for photobiology research"* Aug.2015

## CONFERENCE POSTER.....

- **Annual meeting of Ecological Society of America** **Louisville, USA**  
*"Relationships between successive forest fires: A case study in central interior BC, Canada"* Aug.2019
- **Annual Meeting of Soundscape Association** **Taipei, Taiwan**  
*"Automatic bird sound detection: Logistic regression based acoustic occupancy model"* Jun.2018
- **Focus On Microscopy** **Bordeaux, France**  
*"High spatio-temporal-resolution detection of chlorophyll fluorescence"* Apr.2017

## RECOGNITIONS

### SCHOLARSHIPS and RESEARCH GRANT

<ul style="list-style-type: none"> <li>Canada Graduate Scholarship - Doctorial (CGS-D) Rewarding and retaining high-calibre doctoral students at Canadian institutions. 105,000 CAD</li> </ul>	NSERC Apr.2023
<ul style="list-style-type: none"> <li>Susan Stevenson Memorial Award Excellence academic performance 1,500 CAD</li> </ul>	UNBC Nov.2022
<ul style="list-style-type: none"> <li>CUPE Local 3799 Annual Bursary Excellence academic performance 1,000 CAD</li> </ul>	UNBC Sep.2022
<ul style="list-style-type: none"> <li>Mitacs Accelerate Fellowship A long-term funding and internship option for PhD students in Canada 90,000 CAD</li> </ul>	MITACS Jun.2022
<ul style="list-style-type: none"> <li>Graduate Entrance Research Scholarship High academic performance for new graduate student 25,000 CAD</li> </ul>	UNBC Jan.2021
<ul style="list-style-type: none"> <li>Early Career Grant (Upcoming research project) Leading a fieldwork in Siberia Arctic tundra for avian sound recordings 5,700 CAD</li> </ul>	National Geographic Jun.2020
<ul style="list-style-type: none"> <li>Mary and David Macaree Fellowship Conducting research in Forestry check</li> </ul>	UBC Sep.2019
<ul style="list-style-type: none"> <li>VanDusen Graduate Fellowship in Forestry Faculty of Forestry student in forest resource ecosystems check</li> </ul>	UBC Feb.2019
<ul style="list-style-type: none"> <li>Hugh Robert Duncan Chisholm Scholarship in Forestry Conducting research in Forestry 230 CAD</li> </ul>	UBC Nov.2018
<ul style="list-style-type: none"> <li>Werner and Hildegard HESSE Fellowship in Ornithology Conducting research in Ornithology 13,500 CAD</li> </ul>	UBC Oct.2018
<ul style="list-style-type: none"> <li>Pei-Huang Tung and Tan-Wen Tung Graduate Fellowship Taiwanese students pursuing higher education in Canada 2,500 CAD</li> </ul>	UBC Oct.2018
<ul style="list-style-type: none"> <li>Mary and David Macaree Fellowship Students in Faculty of Forestry studying forest resource ecosystems 2,700 CAD</li> </ul>	UBC Sep.2018
<ul style="list-style-type: none"> <li>BA Blackwell &amp; Associates Scholarship in Fire Science Conducting research about forest fire ecology 1,000 CAD</li> </ul>	BA Blackwell & Associates Aug.2018
<ul style="list-style-type: none"> <li>Soundscape and Sound Research Scholarship Soundscape or sound associated research 10,000 TWD</li> </ul>	SAT Feb.2018
<ul style="list-style-type: none"> <li>Faculty of Forestry Strategic Recruitment Fellowships Top 20% ranked student 12,000 CAD</li> </ul>	UBC Sep.2017
<ul style="list-style-type: none"> <li>Arctic Research Cooperation Scholarship Selected researcher for Arctic research project 100,000 TWD</li> </ul>	TEEDF Apr.2017

- **College Student Research Scholarship** **MOST**  
*Excellent research proposal* Jun.2016  
20,000 TWD
- **Alumnus scholarship in NTU Physics** **NTU**  
*3 awardees per year for outstanding academic achievement* Dec.2015  
1,000 TWD
- **Outstanding College Student Scholarship** **The international Women's Educational Foundation**  
*Scholarship for outstanding female students* Sep.2012  
80,000 TWD

## AWARDS.....

- **Best Student Presentation Award** **BC & CAN TWS**  
*Best student oral presentation in The Wildlife Society conference* Mar.2023
- **3 Minute Thesis Award** **UNBC**  
*1st place & people's choice of UNBC 3MT competition* Feb.2023
- **Teaching Excellence Award** **UNBC**  
*Outstanding teaching performance as a teaching assistant* Sep.2022
- **Outstanding Oral Presentation Award** **CABE**  
*Outstanding oral presentations in Congress of Animal Behavior and Ecology* Feb.2021
- **Master of Data Science TA Award** **UBC**  
*Best TAs in Master of Data Science program of the academic year* Jun.2019
- **3 Minute Thesis Award** **UBC**  
*First place of 3MT competition in UBC Faculty of Forestry* Feb.2019
- **College Student Research Creativity Award** **MOST**  
*Top 5% ranked research report* Aug.2017
- **Outstanding Poster and Presentation Award** **NTU**  
*Ranked 1, out of 14 groups, in physics department poster competition* Apr.2016
- **President Award** **NTU**  
*Top 5% ranked student in the semester* Jan.2016

## ACADEMIC EXPERIENCE

- **Avian Biodiversity Assessment with Passive Acoustic Monitoring** **UNBC**  
**PhD thesis** Aug.2021 – present  
Supervisor: Ken Otter
- **Predicting Avian Population Trends Using Citizen Science Data** **Endemic Species Research Institute**  
**Research Project** Mar.2020 – Jul.2021  
Principal Investigator: Wan-Jyun Chen, Jerome Ko
- **Automatic Bird Sound Detection by Logistic Regression** **UBC**  
**Master Thesis (Funded by SAT)** Jan.2018 – Nov.2019  
Supervisor: Valerie LeMay, Bianca N.I. Eskelson, Kathy Martin
- **Relationships Between Successive Forest Fires** **UBC**  
**Master Thesis (Funded by NSERC)** Sep.2017 – Nov.2019  
Supervisor: Bianca N.I. Eskelson, Nicholas Coops, Kathy Martin
- **Seasonal Variation of Bird Sound in Sakha Republic** **Russian Academy of Science**  
**Arctic Research Cooperation (Funded by TEEDF)** Apr.2017 – Aug.2017

Instructor: Sergei Sleptsov

- **Correlation Analysis of Tree Ring Characteristics**  
**Undergraduate Research Project (Funded by MOST)**  
Instructor: Biing T. Guan  
NTU  
Sep.2015 – Feb.2017
- **Detection of Chlorophyll Fluorescence Dynamics from a Single Chloroplast**  
**Undergraduate Research Project (Funded by MOST)**  
Instructor: Shi-Wei Chu  
NTU  
Mar.2015 – Nov.2016
- **Bayesian Statistic Modeling**  
**Short-Term Research Program**  
Instructor: Stavros Veresoglou  
Freie Universität Berlin  
Jul.2016 – Aug.2016
- **Der Mogel – Bird Song Identification System ([link](#))**  
**Bachelor Thesis**  
Instructor: Tzeng-Yih Lam  
NTU  
Feb.2016 – Jun.2016

\* NSERC: Natural Sciences and Engineering Research Council  
\* MOST: Ministry Of Science and Technology  
\* TEEDF: Taiwan Ecological Engineering Development Foundation

\* UBC: University of British Columbia  
\* NTU: National Taiwan University  
\* SAT: Soundscape Association of Taiwan

## WORK EXPERIENCE

### WORKSHOP and TUTOR.....

- **Qualitative Analysis using R**  
Host: Jennifer Wigglesworth  
Virtual  
Mar.2023
- **Introduction to Git and Github**  
Host: Applied Analysis Hub  
Virtual  
Nov.2022
- **Data Wrangling with R**  
Host: Applied Analysis Hub  
UNBC  
Mar.2022
- **Data Wrangling with R (4 sessions)**  
Host: Jerome Ko  
Endemic Species Research Institute  
May.2021 – Jul.2021
- **Recording Techniques for Breeding Birds Survey (6 sessions)**  
Host: Luna Fan  
Endemic Species Research Institute  
Dec.2020 – Mar.2021
- **Automatic bird sound detection: ARU data analysis**  
Host: Kathy Martin  
Canadian Wildlife Service  
Oct.2018
- **Statistical Analysis in Ecology (5 sessions)**  
Host: Trevor Gareth Jones  
UBC  
Jan.2018 – Apr.2018

### DATA ANALYST.....

- **Dada Analyst**  
Supervisor: Wan-Jyun Chen, Jerome Ko  
Endemic Species Research Institute  
Apr.2020 – Jul.2021
- **Dada Analyst**  
Supervisor: David Bradley  
Birds Canada  
Feb.2020 – Mar.2020

### TEACHING ASSISTANT.....

- **TA for Applied Analysis Hub**  
Supervisor: Eduardo Martins, Heather Bryan  
UNBC  
Sep.2021 – present

- **TA for Data Wrangling** **UBC**  
*Instructor: Tiffany Timbers, Tomas Beuzen* 2019 fall
- **TA for Descriptive Statistics and Probability for Data Science** **UBC**  
*Instructor: Mike Gelbart (2018), Vincenzo Coia (2019)* 2018 fall, 2019 fall  
 Hold review sessions, attend labs, office hours
- **TA for Regression I, Regression II** **UBC**  
*Instructor: Gabriela Cohen Freue (I), Vincenzo Coia (II)* 2019 spring, 2019 fall  
 Deliver guest lectures, attend labs with topics covering generalized linear models, mixed effect models
- **TA for Feature and Model Selection** **UBC**  
*Instructor: Mark Schmidt, Varada Kolhatkar* 2019 spring  
 Attend labs for supervised/unsupervised machine learning, office hours
- **TA for Advanced Biometrics** **UBC**  
*Instructor: Bianca Eskelson* 2018 fall  
 Attend labs, office hours

## OTHER EXPERIENCE

### FIELD EXPERIENCE.....

- **Bander in Iona Island Bird Observatory** **Richmond, Canada**  
*Volunteer activity for migration monitoring* Sep.2018 – present
- **Leader in post-fire vegetation measurement** **Williams Lake, Canada**  
*PI: Bianca N.I. Eskelson. Measure post-fire vegetation for permanent plots* Jun.2018 – Aug.2018
- **Recordist in Siberian tundra research team** **Siberia, Russia**  
*PI: Sergei Sleptsov. Record bird songs and calls in Siberia Arctic tundra* Jul.2017 – Aug.2017

### VOLUNTEERS and MEMBERSHIPS.....

- **Volunteer in UBC Beaty Biodiversity Museum** **UBC**  
*Specimen preparation for museum demonstration and research purpose* Sep.2018 – present
- **Member of UBC Birding Club** **UBC**  
*Participate events for birding* Dec.2017 – Nov.2019
- **Member of Christmas Bird Counting** **National Audubon Society**  
*Collect avian population data for use in conservation biology* Dec.2017 – Dec.2019
- **Volunteer for Modules in Ecology and Evolution Development** **UBC**  
*Deliver lectures for grade 3 students about scientific research topics* Mar.2019 – May.2019
- **Volunteer in NTU Herbarium** **NTU**  
*Introduce herbarium to public on weekends* Mar.2015 – Mar.2016

### CREDENTIALS.....

- **Advanced Open Water Diving Certificate PADI**
- **Lifeguard License** Chinese Taipei Water Life Saving Association
- **Wilderness First Aid Certificate** Canadian Red Cross
- **Standard First Aid CPR-C/AED Certificate** Canadian Red Cross