

# 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. **2022** 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. **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.....

- **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.....

- **Graduate Entrance Research Scholarship** **UNBC**  
*High academic performance for new graduate student* Jan.2021  
15,000 CAD
- **Early Career Grant (Upcoming research project)** **National Geographic**  
*Leading a fieldwork in Siberia Arctic tundra for avian sound recordings* Jun.2020  
5,700 CAD
- **Mary and David Macaree Fellowship** **UBC**  
*Conducting research in Forestry* Sep.2019  
check

<ul style="list-style-type: none"> <li>○ <b>VanDusen Graduate Fellowship in Forestry</b> <i>Faculty of Forestry student in forest resource ecosystems</i> check</li> </ul>	<b>UBC</b> Feb.2019
<ul style="list-style-type: none"> <li>○ <b>Hugh Robert Duncan Chisholm Scholarship in Forestry</b> <i>Conducting research in Forestry</i> 230 CAD</li> </ul>	<b>UBC</b> Nov.2018
<ul style="list-style-type: none"> <li>○ <b>Werner and Hildegard HESSE Fellowship in Ornithology</b> <i>Conducting research in Ornithology</i> 13,500 CAD</li> </ul>	<b>UBC</b> Oct.2018
<ul style="list-style-type: none"> <li>○ <b>Pei-Huang Tung and Tan-Wen Tung Graduate Fellowship</b> <i>Taiwanese students pursuing higher education in Canada</i> 2,500 CAD</li> </ul>	<b>UBC</b> Oct.2018
<ul style="list-style-type: none"> <li>○ <b>Mary and David Macaree Fellowship</b> <i>Students in Faculty of Forestry studying forest resource ecosystems</i> 2,700 CAD</li> </ul>	<b>UBC</b> Sep.2018
<ul style="list-style-type: none"> <li>○ <b>BA Blackwell &amp; Associates Scholarship in Fire Science</b> <i>Conducting research about forest fire ecology</i> 1,000 CAD</li> </ul>	<b>BA Blackwell &amp; Associates</b> Aug.2018
<ul style="list-style-type: none"> <li>○ <b>Soundscape and Sound Research Scholarship</b> <i>Soundscape or sound associated research</i> 10,000 TWD</li> </ul>	<b>SAT</b> Feb.2018
<ul style="list-style-type: none"> <li>○ <b>Faculty of Forestry Strategic Recruitment Fellowships</b> <i>Top 20% ranked student</i> 12,000 CAD</li> </ul>	<b>UBC</b> Sep.2017
<ul style="list-style-type: none"> <li>○ <b>Arctic Research Cooperation Scholarship</b> <i>Selected researcher for Arctic research project</i> 100,000 TWD</li> </ul>	<b>TEEDF</b> Apr.2017
<ul style="list-style-type: none"> <li>○ <b>College Student Research Scholarship</b> <i>Excellent research proposal</i> 20,000 TWD</li> </ul>	<b>MOST</b> Jun.2016
<ul style="list-style-type: none"> <li>○ <b>Alumnus scholarship in NTU Physics</b> <i>3 awardees per year for outstanding academic achievement</i> 1,000 TWD</li> </ul>	<b>NTU</b> Dec.2015
<ul style="list-style-type: none"> <li>○ <b>Outstanding College Student Scholarship</b> <i>Scholarship for outstanding female students</i> 80,000 TWD</li> </ul>	<b>The international Women's Educational Foundation</b> Sep.2012

## AWARDS.....

<ul style="list-style-type: none"> <li>○ <b>Outstanding Oral Presentation Award</b> <i>Outstanding oral presentations in Congress of Animal Behavior and Ecology</i></li> </ul>	<b>CABE</b> Feb.2021
<ul style="list-style-type: none"> <li>○ <b>Master of Data Science TA Award</b> <i>Best TAs in Master of Data Science program of the academic year</i></li> </ul>	<b>UBC</b> Jun.2019
<ul style="list-style-type: none"> <li>○ <b>3 Minute Thesis Award</b> <i>First place of 3MT competition in UBC Faculty of Forestry</i></li> </ul>	<b>UBC</b> Feb.2019
<ul style="list-style-type: none"> <li>○ <b>College Student Research Creativity Award</b> <i>Top 5% ranked research report</i></li> </ul>	<b>MOST</b> Aug.2017
<ul style="list-style-type: none"> <li>○ <b>Outstanding Poster and Presentation Award</b> <i>Ranked 1, out of 14 groups, in physics department poster competition</i></li> </ul>	<b>NTU</b> Apr.2016

- President Award
- Top 5% ranked student in the semester

NTU  
Jan.2016

## ACADEMIC EXPERIENCE

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

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### WORKSHOP and TUTOR.....

- **Data Wrangling with R: introduction of tidyverse** **UNBC**  
*Host: Applied Analysis Hub* *Mar.2022*
- **Data Wrangling with R (4 lectures)** **Endemic Species Research Institute**  
*Host: Jerome Ko* *May.2021 – Jul.2021*
- **Recording Techniques for Breeding Birds Survey (6 lectures)** **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*

### DATA ANALYST.....

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

### TEACHING ASSISTANT.....

- **TA for Applied Analysis Hub** **UNBC**  
*Supervisor: Eduardo Martins, Heather Bryan* *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

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### 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.....

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|---|---------------------------------|
| <ul style="list-style-type: none"><li>○ <b>Volunteer in UBC Beaty Biodiversity Museum</b></li></ul>                           | <b>UBC</b>                      |
| <ul style="list-style-type: none"><li><i>Specimen preparation for museum demonstration and research purpose</i></li></ul>     | <i>Sep.2018 – Apr.2019</i>      |
| <ul style="list-style-type: none"><li>○ <b>Member of UBC Birding Club</b></li></ul>   | <b>UBC</b>                      |
| <ul style="list-style-type: none"><li><i>Participate events for birding</i></li></ul>   | <i>Dec.2017 – Nov.2019</i>      |
| <ul style="list-style-type: none"><li>○ <b>Member of Christmas Bird Counting</b></li></ul>                                    | <b>National Audubon Society</b> |
| <ul style="list-style-type: none"><li><i>Collect avian population data for use in conservation biology</i></li></ul>          | <i>Dec.2017 – Dec.2019</i>      |
| <ul style="list-style-type: none"><li>○ <b>Volunteer for Modules in Ecology and Evolution Development</b></li></ul>           | <b>UBC</b>                      |
| <ul style="list-style-type: none"><li><i>Deliver lectures for grade 3 students about scientific research topics</i></li></ul> | <i>Mar.2019 – May.2019</i>      |
| <ul style="list-style-type: none"><li>○ <b>Volunteer in NTU Herbarium</b></li></ul>   | <b>NTU</b>                      |
| <ul style="list-style-type: none"><li><i>Introduce herbarium to public on weekends</i></li></ul>                              | <i>Mar.2015 – Mar.2016</i>      |

## 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