

# 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. **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)**

Field recordist - a beautiful way to study Nature.

**Fuyu Life**

Jan. 2022
- Each Sound Recording Represents a Profound Story (interview)**

Interview of a field recordist.

**Canopy Life**

Jun. 2021
- The Siberian Crane: From Taiwan to Tundra (interview)**

A bird gets blown off course and inspires a young researcher to spread her own wings — in Siberia.

**Bird Note**

May. 2021
- Sharing the Sounds of Nature (interview)**

Interview with a scholar in bioacoustics.

**National Education Radio**

Aug. 2020

## CONFERENCE TALK.....

- Joint conference of the Society of Canadian Ornithologists and American Ornithological Society**

"seewave and tuneR: sound analysis in ornithology"

**Virtual**

Aug.2021
- Congress of Animal Behavior and Ecology**

"Modelling avian annual cycle distribution in Taiwan using citizen science data"

**Tainan, Taiwan**

Feb.2021
- Congress of Animal Behavior and Ecology**

"Automatic bird sound detection: ARU data analysis"

**Penghu, Taiwan**

Jan.2020
- Ecology & Evolution Retreat**

"Automatic Bird Sound Detection: ARU data analysis"

**Squamish, Canada**

Oct.2018
- International Ornithological Congress**

"Automatic bird sound detection: Logistic regression based acoustic occupancy model"

**Vancouver, Canada**

Aug.2018
- International Forestry Students' Symposium**

"Chlorophyll fluorescence: A powerful tool for photobiology research"

**Manila, Philippines**

Aug.2015

## CONFERENCE POSTER.....

- Annual meeting of Ecological Society of America**

"Relationships between successive forest fires: A case study in central interior BC, Canada"

**Louisville, USA**

Aug.2019
- Annual Meeting of Soundscape Association**

"Automatic bird sound detection: Logistic regression based acoustic occupancy model"

**Taipei, Taiwan**

Jun.2018
- Focus On Microscopy**

"High spatio-temporal-resolution detection of chlorophyll fluorescence"

**Bordeaux, France**

Apr.2017

## RECOGNITIONS

### SCHOLARSHIPS and RESEARCH GRANT.....

- Graduate Entrance Research Scholarship**

High academic performance for new graduate student

15,000 CAD

**UNBC**

Jan.2021
- Early Career Grant (Upcoming research project)**

Leading a fieldwork in Siberia Arctic tundra for avian sound recordings

5,700 CAD

**National Geographic**

Jun.2020
- Mary and David Macaree Fellowship**

Conducting research in Forestry

check

**UBC**

Sep.2019
- VanDusen Graduate Fellowship in Forestry**

Faculty of Forestry student in forest resource ecosystems

check

**UBC**

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>	UBC 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>	UBC 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>	UBC 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>	UBC 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>	BA Blackwell & Associates 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>	SAT 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>	UBC 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>	TEEDF 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>	MOST 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>	NTU 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>	The international Women's Educational Foundation Sep.2012

<b>AWARDS.....</b>	
<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>	CABE 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>	UBC 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>	UBC 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>	MOST 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>	NTU Apr.2016
<ul style="list-style-type: none"> <li>○ <b>President Award</b>  <i>Top 5% ranked student in the semester</i></li> </ul>	NTU Jan.2016

## ACADEMIC EXPERIENCE

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

\* 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.....

- **Volunteer in UBC Beaty Biodiversity Museum** **UBC**  
*Specimen preparation for museum demonstration and research purpose* *Sep.2018 – Apr.2019*
- **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