

# YI-CHIN TSENG (SUNNY)

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## EDUCATION

- **Ph.D., University of Northern British Columbia** **Prince George, Canada**  
***Natural Resources & Environmental Studies*** *Jan.2021 – present*  
Supervisor: Ken Otter
- **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](#))
- **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

### ARTICLES.....

- Tseng, Y.-C., and Eskelson, B.N.I. **2022** Previous fire severity enhances reburn severity: a case study in interior British Columbia, Canada. *Journal of Ecosystem and Management*. (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. **2020**. 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**. Innovative and conventional modelling for avian acoustic and fire severity analyses. *UBC Theses and Dissertations*. ([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](#))

### SOUND RECORDINGS.....

- **Recordist for Xeno-Canto ([profile](#))** **Xeno-Canto**  
One of my recordings of [Siberian Crane](#) was featured on the homepage. *Jul.2017 – present*

## 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

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

- **Graduate Entrance Research Scholarship** UNBC  
*Scholarship for new students with high academic performance* Jan.2021
- **Early Career Grant (Upcoming research project)** National Geographic  
*A grant for leading a fieldwork in Siberia Arctic tundra for avian sound recordings* Jun.2020
- **Mary and David Macaree Fellowship** UBC  
*Fellowship for conducting research in Forestry* Sep.2019
- **VanDusen Graduate Fellowship in Forestry** UBC  
*Fellowship for students in Faculty of Forestry studying forest resource ecosystems* Feb.2019
- **Hugh Robert Duncan Chisholm Scholarship in Forestry** UBC  
*Scholarship for conducting research in Forestry* Nov.2018
- **Werner and Hildegard HESSE Fellowship in Ornithology** UBC  
*Fellowship for conducting research in Ornithology* Oct.2018
- **Pei-Huang Tung and Tan-Wen Tung Graduate Fellowship** UBC  
*Fellowship for Taiwanese students pursuing higher education in Canada* Oct.2018
- **Mary and David Macaree Fellowship** UBC  
*Fellowship for students in Faculty of Forestry studying forest resource ecosystems* Sep.2018
- **BA Blackwell & Associates Scholarship in Fire Science** BA Blackwell & Associates  
*Scholarship for students conducting research about forest fire ecology* Aug.2018
- **Soundscape and Sound Research Scholarship** SAT  
*Scholarship for soundscape or sound associated research* Feb.2018

- **Faculty of Forestry Strategic Recruitment Fellowships** **UBC**  
*Top 20% ranked student in each of the last two years of full time study* Sep.2017
- **Arctic Research Cooperation Scholarship** **TEEDF**  
*Selected researcher for Arctic research project* Apr.2017
- **College Student Research Scholarship** **MOST**  
*Excellent research proposal* Jun.2016
- **Alumnus scholarship in NTU Physics** **NTU**  
*3 awardees per year for outstanding academic achievement* Dec.2015

## AWARDS

- **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** **NTU**  
**Undergraduate Research Project (Funded by MOST)** Sep.2015 – Feb.2017  
*Instructor: Biing T. Guan*

- **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 TEACHING.....

- **Data Wrangling with R (4 lectures)**  
*Host: Jerome Ko*

**Endemic Species Research Institute**  
*May.2021 – Jul.2021*
- **Recording Techniques for Breeding Birds Survey (6 lectures)**  
*Host: Luna Fan*

**Endemic Species Research Institute**  
*Dec.2020 – Mar.2021*

### 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**  
*Instructor: Tiffany Timbers, Tomas Beuzen*

**UBC**  
*2019 fall*
- **TA for Descriptive Statistics and Probability for Data Science**  
*Instructor: Mike Gelbart (2018), Vincenzo Coia (2019)*  
 Hold review sessions, attend labs, office hours

**UBC**  
*2018 fall, 2019 fall*
- **TA for Regression I, Regression II**  
*Instructor: Gabriela Cohen Freue (I), Vincenzo Coia (II)*  
 Deliver guest lectures, attend labs with topics covering generalized linear models, mixed effect models

**UBC**  
*2019 spring, 2019 fall*
- **TA for Feature and Model Selection**  
*Instructor: Mark Schmidt, Varada Kolhatkar*  
 Attend labs for supervised/unsupervised machine learning, office hours

**UBC**  
*2019 spring*
- **TA for Advanced Biometrics**  
*Instructor: Bianca Eskelson*  
 Attend labs, office hours

**UBC**  
*2018 fall*

## 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