

# YI-CHIN (SUNNY) TSENG

## Curriculum Vitae

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**Objective** ZONTA Women in Technology Scholarship Application

## EDUCATION

- **Master of Science, University of British Columbia** **Vancouver, Canada**  
**Forest Resources Management** *Sep.2017 – present*  
Supervisor: Bianca N.I. Eskelson  
Committee members: Kathy Martin, Nicholas C. Coops, and Vicente J. Monleon  
  
Course taken: Advanced Biometrics (A+), Technical Communication Skills (A+), Multiple Regression Methods (A+), Ornithology (A), Advanced Remote Sensing (A+)
- **Bachelor of Science, National Taiwan University** **Taipei, Taiwan**  
**Forestry and Resource Conservation, Department of Physics** *Sep.2012 – July.2017*  
Double Major Student  
Supervisor: Biing T. Guan, Tzeng-Yih Lam, and Shi-Wei Chu  
  
Forestry GPA: 3.96/4.0 (4.16/4.3 unconverted)  
Physics GPA: 3.40/4.0 (3.48/4.3 unconverted)  
Cumulative GPA: 3.65/4.0 (3.76/4.3 unconverted)

## RESEARCH PUBLICATION

### JOURNAL ARTICLE.....

- (In Preparation) Tseng, Y.-C., Eskelson, B.N.I., LeMay V., and Martin, K. (2019) Automatic Bird Sound Detection: Logistic Regression Based Acoustic Occupancy Model. *Avian Conservation and Ecology*.
- 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. (doi: [10.1186/s13007-017-0194-2](https://doi.org/10.1186/s13007-017-0194-2))

### FIELD RECORDING.....

- **Xeno-Canto: World Wide Bird Sound Recordings Sharing Platform** **Xeno Canto**  
**Yi-Chin Tseng** *Dec.2017*  
Total 77 recordings from 26 species from north east Siberia were published in Xeno-Canto. A recording of Siberian Crane was selected as spotlight feature of the website ([profile](#)).

### CONFERENCE TALK.....

- **Canadian Wildlife Service Methods Seminar** **Vancouver, Canada**  
**Yi-Chin Tseng, Bianca N.I. Eskelson, and Kathy Martin** *Oct.2018*  
"Automatic Bird Sound Detection"
- **Ecology & Evolution Retreat** **Squamish, Canada**  
**Yi-Chin Tseng, Bianca N.I. Eskelson, and Kathy Martin** *Oct.2018*  
"Automatic Bird Sound Detection: ARU data analysis"

- International Ornithological Congress**  
 Yi-Chin Tseng, Bianca N.I. Eskelson, and Kathy Martin  
 "Automatic Bird Sound Detection: Logistic Regression Based Acoustic Occupancy Model"

**Vancouver, Canada**  
 Aug.2018
- International Forestry Students' Symposium**  
 Yi-Chin Tseng, Shi-Wei Chu  
 "Chlorophyll Fluorescence- A Powerful Tool for Photobiology Research"

**Manila, Philippines**  
 Aug.2015

## CONFERENCE POSTER

- Annual Meeting of Soundscape Association**  
 Yi-Chin Tseng, Bianca Eskelson  
 "Automatic Bird Sound Detection: Logistic Regression Based Acoustic Occupancy Model"

**Taipei, Taiwan**  
 Jun.2018
- Focus On Microscopy**  
 Yi-Chin Tseng, Shi-Wei Chu  
 "High Spatio-Temporal-Resolution Detection of Chlorophyll Fluorescence from a Single Chloroplast with Confocal Imaging Fluorometer"

**Bordeaux, France**  
 Apr.2017

## ACADEMIC EXPERIENCE

- Automatic Bird Sound Detection by Logistic Regression**  
**Master Thesis (Funded by SAT)**  
 Instructor: Valerie LeMay, Bianca Eskelson, Kathy Martin

**UBC**  
 Jan.2018 – present
- Comparison of Fire Severity Assessments Using Remote Sensing Data**  
**Master Thesis (Funded by NSERC)**  
 Instructor: Bianca Eskelson, Nicholas Coops, Kathy Martin, and Vicente Monleon

**UBC**  
 Sep.2017 – present
- Seasonal Variation of Bird Sound in Sakha Republic**  
**Arctic Research Cooperation (Funded by TEEDF)**  
 Instructor: Dr. Sergei Sleptsov  
 Skills: Field work in tundra, birdsong recording with parabolic microphone, audio signal processing, arranging field work for a group, governmental documents application

**Russian Academy of Science**  
 Apr.2017 – Aug.2017
- Correlation Analysis of Tree Ring Characteristics**  
**Undergraduate Research Project (Funded by MOST)**  
 Instructor: Dr. Bing T. Guan  
 Skills: Techniques of dendrochronology (COFECHA, Arstein, time series analysis), Ensemble Empirical Mode Decomposition (EEMD), laboratory techniques for ITRAX wood scanner

**NTU**  
 Sep.2015 – Feb.2017
- Detection of Chlorophyll Fluorescence Dynamics from a Single Chloroplast**  
**Undergraduate Research Project (Funded by MOST)**  
 Instructor: Dr. Shi-Wei Chu  
 Skills: Confocal microscopy (HeNe laser manipulate, fluorescence observation, etc.), manuscript writing and submitting

**NTU**  
 Mar.2015 – Nov.2016
- Bayesian Statistic Modeling**  
**Short-Term Research Program**  
 Instructor: Dr. Stavros Veresoglou  
 Skills: Bayesian Statistic, Markov chain Monte Carlo, parameters posterior distribution estimation

**Freie Universität Berlin**  
 Jul.2016 – Aug.2016
- Der Mogel – Bird Song Identification System**  
**Bachelor Thesis**  
 Instructor: Dr. Tzeng-Yih Lam  
 Skills: Programming with R, GUI construction, pattern matching with Gaussian Mixture Model  
 Results: Results to be announced as a web application ([link](#))

**NTU**  
 Feb.2016 – Jun.2016

- \* UBC: University of British Columbia/ \* NTU: National Taiwan University
- \* NSERC: Natural Sciences and Engineering Research Council/ \* SAT: Soundscape Association of Taiwan
- \* TEEDF: Taiwan Ecological Engineering Development Foundation
- \* MOST: Ministry Of Science and Technology/ \* RCEC: Research Center for Environmental Changes

## AWARDS and SCHOLARSHIPS

<b>3 Minute Thesis Award</b>	<b>UBC</b>
○ <i>First place of 3MT competition in Faculty of Forestry</i>	<i>Feb.2019</i>
<b>VanDusen Graduate Fellowship in Forestry</b>	<b>UBC</b>
○ <i>Fellowship for conducting research in Forestry</i>	<i>Feb.2019</i>
<b>Early Career Grant</b>	<b>National Geographic</b>
○ <i>Offer young research to design and lead an independent field research project</i>	<i>Nov.2018</i>
<b>Hugh Robert Duncan Chisholm Scholarship in Forestry</b>	<b>UBC</b>
○ <i>Scholarship for conducting research in Forestry</i>	<i>Nov.2018</i>
<b>Werner and Hildegard HESSE Fellowship in Ornithology</b>	<b>UBC</b>
○ <i>Fellowship for conducting research in Ornithology</i>	<i>Oct.2018</i>
<b>Pei-Huang Tung and Tan-Wen Tung Graduate Fellowship</b>	<b>UBC</b>
○ <i>Fellowship for Taiwanese students pursuing higher education in Canada</i>	<i>Oct.2018</i>
<b>Mary and David Macaree Fellowship</b>	<b>UBC</b>
○ <i>Fellowship for students in Faculty of Forestry studying forest resource ecosystems</i>	<i>Sep.2018</i>
<b>BA Blackwell &amp; Associates Scholarship in Fire Science</b>	<b>BA Blackwell &amp; Associates</b>
○ <i>Scholarship for students conducting research about forest fire ecology</i>	<i>Aug.2018</i>
<b>Soundscape and Sound Research Scholarship</b>	<b>SAT</b>
○ <i>Scholarship for soundscape or sound associated research</i>	<i>Feb.2018</i>
<b>Faculty of Forestry Strategic Recruitment Fellowships</b>	<b>UBC</b>
○ <i>Top 20% ranked student in each of the last two years of full time study</i>	<i>Sep.2017</i>
<b>International Tuition Award</b>	<b>UBC</b>
○ <i>International graduate student registered full-time in research-oriented master's programs</i>	<i>Sep.2017</i>
<b>College Student Research Creativity Award</b>	<b>MOST</b>
○ <i>Top 5% ranked research report.</i>	<i>Aug.2017</i>
<b>Arctic Research Cooperation Scholarship</b>	<b>TEEDF</b>
○ <i>Selected researcher for Arctic research project</i>	<i>Apr.2017</i>
<b>College Student Research Scholarship</b>	<b>MOST</b>
○ <i>Excellent research proposal.</i>	<i>Jun.2016</i>
<b>Outstanding Poster and Presentation Award</b>	<b>NTU</b>
○ <i>Ranked 1 (out of 14 groups) in physics department poster competition</i>	<i>Apr.2016</i>
<b>President Award</b>	<b>NTU</b>
○ <i>Top 5% ranked student in the semester</i>	<i>Jan.2016</i>
<b>Alumnus scholarship in NTU Physics</b>	<b>NTU</b>
○ <i>3 awardees per year for outstanding academic achievement.</i>	<i>Dec.2015</i>

## TEACHING EXPERIENCE

- **Teaching Assistant** **UBC**  
**Regression II** *Feb.2019 – Apr.2019*  
Conducted guest lecture, attend labs including generalized linear models, mixture models, mixed effect models.  
Instructor: Vincenzo Coia
- **Teaching Assistant** **UBC**  
**Feature and Model Selection** *Jan.2019 – Feb.2019*  
Mark weekly labs on github platform, attend labs for supervised/unsupervised machine learning.  
Instructor: Mark Schmidt, Varada Kolhatkar
- **Teaching Assistant** **UBC**  
**Descriptive Statistics and Probability for Data Science** *Sep.2018 – Oct.2018*  
Hold review sessions before exams, attend labs for probability theory.  
Instructor: Mike Gelbart
- **Teaching Assistant** **UBC**  
**Advanced Biometrics** *Sep.2018 – Dec.2018*  
Mark weekly assignments, attend labs  
Instructor: Bianca Eskelson
- **Tutor** **UBC**  
**GEM540 Review Sessions** *Feb.2018*  
Hold extra review sessions for MGEM students covering fundamental statistic topics: descriptive statistics, probability distribution, sampling distribution, hypothesis test, and simple/multiple linear regression

## OTHER EXPERIENCE

### FIELD EXPERIENCE.....

- **Bander** **Vancouver, Canada**  
**Iona Island Bird Observatory** *Sep.2018 – Nov.2018*  
*Volunteer activity for migration monitoring*
- **Leader** **Williams Lake, Canada**  
**Post-fire Vegetation Measurement** *Jun.2018 – Aug.2018*  
*Principal Investigator: Bianca Eskelson*
- **Leader** **Siberia, Russia**  
**Siberian Tundra Research Team** *Jul.2017 – Aug.2017*  
*Principal Investigator: Sergei Sleptsov*

### AFFILIATIONS.....

- **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 – present*
- **Member of Christmas Bird Counting** **National Audubon Society**  
*Collect avian population data for use in conservation biology.* *Dec.2017 – present*
- **Member of Walter Gage Toastmasters** **UBC**  
*Join weekly toastmaster meeting for training public speaking skills.* *Sep.2017 – Apr.2018*

### CREDENTIALS.....

- **Wilderness First Aid Certificate** Canadian Red Cross
- **Open Water Diving Certificate** PADI
- **CPR Certificate** The Red Cross Society of Taiwan
- **Lifeguard License** Chinese Taipei Water Life Saving Association