

# MIRANDA CHEN

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## EDUCATION

### **University of Tennessee, Knoxville**

Jan. '16—Present

*Ph.D student in Ecology and Evolutionary Biology* (concentration in Science Education Research)

- Investigating the drivers and impacts of teaching anxiety and coping in Biology graduate students with Dr. Elisabeth E. Schussler.
- Taken classes in Quantitative and Qualitative Research Methodologies

### **York University, Toronto**

Sept. '13—Dec. '15

*Master of Science (M.Sc)*

- Predicted the impacts of projected climate change on the distributions of cisco, an important forage prey fish in the Ontario inland lakes with Dr. Sapna Sharma.
- Collaborated with the Ontario Ministry of the Environment and Climate Change (OMOECC) to study the temporal trends in fish mercury levels over 44 years.

## EMPLOYMENT

### **University of Tennessee, Knoxville**

*Teaching Assistant for Introductory Biology (majors and non-majors courses)* Jan. '16—Present

- Teach the foundational concepts of biology and ecological diversity to over 150 students.
- Guide students to think critically about primary literature (BioLiteracy) and synthesize findings presented both in the media and from primary publications.
- Provide extensive, regular written feedback for assignments and presentations.

### **KidsU Summer Classes**

*Course instructor and developer*

June 19—23<sup>rd</sup>, 2017

- Taken from my Helix class, I designed and instructed an interactive mini-field biology (Into the Wild: Field Biology) course for high school students (Grades 9-10), examining various methodologies employed in collecting data for freshwater invertebrates, birds, terrestrial plants and trees, and mammals.
- Students were exposed to a range of techniques and tools that field ecologists use and learned about current environmental issues

### **University of Tennessee, Knoxville**

*Guest Lecturer for BIOL150 (Intro Biology course for majors)*

Oct. '16 & Mar. '17

- Using clicker questions, think/pair/share, and other active learning activities, I engaged with over 200 students on the topics of prokaryotes, metabolic diversity, and the impact of climate change on freshwater ecosystems.

### **Biology Teaching Assistant Project (BioTAP)**

*Research Assistant* June—Aug. '16, '17

- Collected, read, and organized relevant literature on graduate student professional development for the BioTAP Principle Investigators and Steering Committee.
- Recorded thorough, concise notes on all major meetings between PIs and the Committee.
- Assisted in organization of major meetings (e.g. food, brining materials, etc.).

### **Helix Summer Science Institute**

*Course instructor and developer*

July 20—24<sup>th</sup>, 2015

- Designed and instructed an interactive mini-field biology (Into the Wild: Field Biology) course for high school students (Grades 9-10), examining various methodologies employed in collecting data for freshwater invertebrates, birds, terrestrial plants and trees, and mammals.
- Students were exposed to a range of techniques and tools that field ecologists use and learned about current environmental issues

### **York University**

*Teaching Assistant for BIOL2050 (Ecology) and BIOL1000/1001 (Intro Biology)* Sept.'13—May'15

- Using various pedagogical techniques, I taught the foundational concepts of community ecology and biology to over 200 students.
- Worked with undergraduate students both in the field and lab identifying local flora and fauna, gathering data to analyze statistically, and providing written feedback for lab reports.

### **City of Toronto in Councilor Anthony Perruzza's Office**

*Fundraising/Activities Coordinator*

May'12—Dec.'14

- Created and employed environmental advocacy programs, clean-ups and presentations to student youth, children and teachers in public schools of the North York district.
- Worked with Toronto Region Conservation Authority (TRCA) and City of Toronto staff to organize "Green initiatives", i.e. tree planting, etc.
- Answered calls, redirected them and spoke on behalf of the Councilor.
- Fundraised and foot/phone canvassed for municipal and provincial elections.

### **City of Toronto Birkdale Residence Women's Shelter**

*Daycare Recreational Assistant (DCRA)*

Oct.'12—Jan.'14

- Provided a flexible, supportive structure with safe limits for the children of the women in the shelter by acting as a mentor, role model and teacher.
- Led the other staff in creating programs to teach the children about science (gravity, food webs, etc.), the environment (nature scavenger hunts, etc.), exercise, and the arts.

### **City of Toronto Lawrence Square Employment and Social Services**

*Summer Receptionist*

May'13—Sept.'13

- Performed administrative and secretarial duties for management staff, such as managing file transfers between offices and municipalities, working with provincial social assistance legislature.
- Provided excellent customer service, both verbally and in writing with clients, employees and management in an efficient and diplomatic manner.

### **MATA Program: Mentoring Arts Tutoring Athletics for High School Students**

*Program Coordinator*

Apr.'11—Aug.'12

- Managed career development workshops for students in marginalized communities (Jane & Finch, Spanish-immigrant communities, etc.), held Gala fundraisers, and conducted outreach to parents.
- Organized other outreach activities, such as group soup kitchen volunteering, nursing home visits, camping, etc.
- Met regularly with staff to continually improve on the events and implement feedback.
- Worked closely with students, in both mentoring about post-secondary education and tutoring academically.

## **VOLUNTEER WORK**

### **St. John the XXIII Parish Catholic Center, Graduate Students and Young Professionals Group**

*Young Adult Organizer and Leader* Jan.'16–Present

- Volunteer and organize participants in parish volunteer activities, e.g. buying and cooking food for boys living a group home, who have been removed from the home because of abuse, neglect or other factors affecting their well being.

### **Immaculate Conception Catholic Church, Downtown Catholics Twenties and Thirties (DCTNT)**

*Young Adult Organizer and Leader* Feb.'16–Present

- Coordinate and lead faith studies on the Social Teachings of the Catholic Church.
- Coordinate social events for members, such as Pub Trivia Night.
- Volunteer and organize participants for volunteer events, e.g. "The Fish Pantry", where volunteers create packages of non-perishable food for the homeless.

### **The Epiphany of Our Lord Parish**

*Head Coordinator, Lector, Teacher, and Committee Member* Nov.'09 – Dec.'15

- Organized, advertised, prepped and deployed the activities for Children's Bible Camp & Youth events.
- Organized retreats and activities for the church with a committee.
- Teach and guide the Children's Liturgy in a way they can easily relate to and understand.

### **Ontario Ministry of Environment Dorset Research Centre**

*Biology Student Volunteer* July'14-Aug.'14

- Assisted research scientists in ongoing projects, through helping with gill netting fish from Ontario lakes, identifying benthic invertebrates from rivers and streams, and collecting data from mesocosm experiments and meteorological stations.

### **The Toronto Region Conservation Authority (TRCA)**

*Student Volunteer for the SNAP Community BBQ* June'13

- Engaged guests and managed the flow of people to the rain barrel sale and other event booths.
- Educated the community about living environmentally and economically conscious lifestyles through personal choices and becoming involved in our programs.

### **The Scarborough Hospital Birchmount Campus**

*Student Volunteer* Apr.'11 – Dec.'12

- Assisted in the 3A: Acute Medical Department by taking the calls into the department and writing orders for supplies/audits.
- Duties included: hydrating patients, delivering food menus, cleaning up after patients and providing patient support such as wheelchair transport and patient/visitor inquiries.

## **EXTRA-CURRICULAR ACTIVITIES**

### **GREBE Outreach committee**

*Teacher and curriculum designer* Jan.'16—Present

- Help to coordinate and design learning activities to teach into elementary public schools.
- Develop teaching and outreach materials educating the public on relevant ecological topics like invasive species, bee declines, bats, etc. at local events such as the Farmer's Market on UTK campus.
- Contribute as a volunteer to department-wide initiatives such as Darwin Day, Invasive Species Awareness Week, etc.

### **Graduate Researchers in Ecology, Behavior, and Evolution (GREBE)**

*Treasurer* Aug.'16—Aug.'17

- Organize and coordinate departmental events, seminar speakers, and recruitment for graduate students and/or faculty with three other GREBE Officers.
- Responsible for maintaining a balanced budget, reimbursements and an up-to-date financial reports.

## **Women in Science (WIS) and Women in STEM Advancing Research, Readiness, and Retention (WiSTAR3)**

*Volunteer* May '16—Present

- Help set-up and tear-down speaker and social events for members
- Provide suggestions for future events with current executive
- Solicit more support for the group with new membership and advertising

## **Canadian Union of Public Employees (CUPE), Local 3903**

*Biology steward* Sept. '14—Aug. '15

- Liaised between Biology graduate students and the CUPE 3903 Council about recent news, issues, events, meetings, etc.
- Represented Biology graduate students in council meetings to ensure their concerns are considered

## **The 45<sup>th</sup> Ontario Ecology, Ethology, and Evolution Colloquium (OE3C)**

*Co-chair* Sept. '14—May '15

- Led and coordinated a team of 15 graduate students to organize the largest and oldest graduate student conference in Ontario.
- Corresponded with the university, businesses, sponsors, and participants regarding venue, food, technology, accommodation, conference program, student awards, etc.
- Acquired total donations of ~\$10,000 from academic and public sponsors.
- Hosted over 120 graduate students, post-docs, and faculty at York University for the first time in OE3C history.

## **Association of Graduate Students in Biological Sciences (AGSBS) 41<sup>st</sup> Symposium**

*Co-chair of symposium committee* Sept. '13—March '14

- Organized a full-day symposium for the students in the Biology graduate department at YorkU.
- Coordinated the venue, food, program, advertising, awards, etc.
- Invited plenary speakers from across the country to share their research with our department
- Solicited donations from academic and industry sponsors.

## **The Epiphany Youth Group (EYG)**

*Youth Minister* May '11—Dec. '15

- Led and coordinated social, service and fundraising events for the youth from the Epiphany of Our Lord Parish in planning and implementing. This included BBQs, Dinner and Dancing fundraisers, Zumba/Walk-a-thon charity events, volunteering, conferences, etc.
- Trained the volunteer leaders (EYG Core Team) about responsibility and accountability being a leader of the group.
- Scheduled meetings with the priest, Core Team and other community leaders in discussing ideas and organizing collaborative events.
- Successfully fundraised over \$10, 000 to go to causes such as the droughts and orphans in Africa.

## **Golden Key International Honour Society at York University**

*Service Club President and Corresponding Secretary* Sept. '10 –Apr. '13

- Elected to be Service Club President and Corresponding Secretary to provide service and leadership opportunities to General Members. Duties include sending information of upcoming events to Executive and General Members and maintaining order for our large events (with > 500 attendees).
- Organized and led volunteer initiatives for members at YorkU Golden Key Chapter in soup kitchens, nursing homes, mentoring high schools, etc.

## PUBLICATIONS

**Chen\***, M.M., Scott\*, S.M., Stevens\*, J.D. Technology as a tool in teaching quantitative biology at the secondary and undergraduate levels: A review. *Letters in Biomathematics*. *In review*.

\* Joint first authors

**Chen, M.M.**, Lopez, L., Bhavasar, S. and Sharma, S. Examining the influence of climate on mercury levels in Ontario top predator fishes. *Environmental Research*. *In review*.

Van Nuland, M.E., **Chen, M.M.**, England, B.J. Bringing plans and soils to life through a simple role-playing activity. *American Biology Teacher*. *In review*. DOI: <https://doi.org/10.1101/171009>

Van Zuiden, M.T.\*, **Chen, M.M.\***, Stefanoff, S. Lopez, L. and Sharma, S. 2016. Projected impacts of climate change on three freshwater fishes and potential novel competitive interactions. *Diversity and Distributions*. 22: 603-614. DOI: 10.1111/ddi.12422

\* Joint first authors

## POSTERS/PRESENTATIONS

P Carroll\*, J Reid\*, **Miranda Chen\***, G Gardner\*, E Schussler, G Marbach-Ad, K Miller, J Ridgway. 2018. Biology graduate teaching assistant teaching professional development: A systematic review of the literature. March 10-13<sup>th</sup> The National Association for Research in Science Teaching (NARST) Conference. Atlanta Georgia. *Submitted for upcoming poster presentation*.

\* Joint first authors

J Reid\*, **Miranda Chen\***, P Carroll\*, G Gardner\*, E Schussler, G Marbach-Ad, K Miller, J Ridgway. 2017. A critical review of the literature on biology graduate teaching assistant professional development. Nov 9-12<sup>th</sup>. Biology Education Research Symposium from National Association of Biology Teachers (NABT) Professional Development Conference. St. Louis, Missouri. *Accepted for upcoming oral presentation*.

\* Joint first authors

**Miranda Chen**, E Schussler. 2017. The PhD Panic: Examining the drivers and impacts of graduate teaching assistant (GTA) teaching anxiety. July 21-23<sup>rd</sup>. Society for the Advancement of Biology Education Research (SABER). The University of Minnesota in Minneapolis, MN. Oral presentation.

**Miranda Chen**, E Schussler. 2017. The PhD Panic: Examining the factors and impacts of teaching anxiety in biology graduate students. July 9-14<sup>th</sup>. Gordon Research Conference (GRC) on Undergraduate Biology Education Research. Stonehill College in Easton, Massachusetts. Poster presentation.

**Miranda Chen**, E Schussler. 2017. The PhD Panic: Examining the drivers and impacts of GTA teaching anxiety. May 18<sup>th</sup>. STEM Teaching and Learning Afternoon. The University of Tennessee in Knoxville, TN. Poster presentation.

E Schussler, **Miranda Chen**. 2016. BioTAP: A National Network to Guide GTA Teaching Professional Development Programs. October. Teaching and Learning Innovation Symposium: Reimagining Teaching. The University of Tennessee in Knoxville, TN. Poster presentation.

**Miranda Chen**, S Sharma. 2015. Panic at the Cisco: Predicting the effects of climate change on cisco distributions in Ontario. Nov 27<sup>th</sup>. Science@50 Biology Day. York University, Toronto, ON, Canada. Poster presentation. **Best poster award**.

**Miranda Chen**, S Sharma, B Satyendra. 2015. What's hot about mercury? Investigating fish mercury levels in Ontario. May 13-15<sup>th</sup>. Ontario Ecology, Ethology, and Evolution Colloquium (OE3C) 2015. York University, Toronto, ON, Canada. Oral presentation.

**Miranda Chen**, S Sharma. 2015. Panic at the Cisco: Predicting the effects of climate change on cisco distributions in Ontario. Jan 8-11<sup>th</sup>. Canadian Conference for Fisheries Research (CCFFR). Ottawa, ON, Canada. Oral presentation.

**Miranda Chen**, S Sharma. 2015. Panic at the Cisco: Predicting the effects of climate change on cisco distributions in Ontario. Feb 26-28<sup>th</sup>. American Fisheries Society Ontario Chapter (AFS-OC). Orillia, ON, Canada. Oral presentation. **Best student presentation award.**

**Miranda Chen**, S Sharma. 2014. Effects of climate change on lake trout distributions in Ontario. May 25-29<sup>th</sup>. Genomes to Biomes 2014. Montreal, QC, Canada. Poster presentation.

**Miranda Chen**, S Sharma. 2014. Predicting the effects of climate change on lake trout (*Salvelinus namaycush*) distributions in Ontario. May 8-10<sup>th</sup>. Ontario Ecology, Ethology, and Evolution Colloquium (OE3C) 2014. Guelph University, Guelph, ON, Canada. Oral presentation.

**Miranda Chen**, **MT Van Zuiden**, **S Stefanoff**, S Sharma. 2014. Fishmageddon: How will climate change influence the future distributions of three predatory fish species in Ontario? March 19<sup>th</sup>. Association of Graduate Students in Biological Sciences (AGSBS). York University, Toronto, ON, Canada. Poster presentation. **Best poster award.**

## **MEDIA COVERAGE**

From Catholic Apostolate Center:

“**World Youth Day Stateside: Mercy Was His Name**”. <http://www.catholicapostolatecenter.org/world-youth-day-blog>. Entry at November 16, 2016

From Outreach:

“**UT Students make learning ‘fun’**” [http://www.news-herald.net/news/ut-students-make-learning-fun/article\\_5be95b7b-5ebc-5d22-8202-c0f2342b64b3.html](http://www.news-herald.net/news/ut-students-make-learning-fun/article_5be95b7b-5ebc-5d22-8202-c0f2342b64b3.html). May 2nd, 2016

From M.Sc work:

“**Panic at the Cisco: Predicting the impacts of climate change on cisco distributions in Ontario**” <http://www.afs-oc-subunit.org/single-post/2016/01/04/Panic-at-the-cisco-Predicting-the-impacts-of-climate-change-on-cisco-distributions-in-Ontario>. January 4th, 2016.

## **AWARDS AND ACHIEVEMENTS**

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|---|-----------------------|
| • Ecology and Evolutionary Biology Dept. Research Funding       | Sept 2015-2017        |
| • Chancellor’s Fellowship (\$20,000)                            | Sept 2015             |
| • Science@50 Biology Day at York University Best Poster (\$50)  | Nov 27, 2015          |
| • Moens Family/AGSBS Graduate Award Nominee                     | June 2015             |
| • Teaching Assistants Certificate in Teaching, SEDA recognized  | March 2015            |
| • E.J. Crossman Award for Best Student Talk at AFS-OC (\$250)   | Feb 2015              |
| • Clemens-Rigler Travel Award                                   | Dec 2014              |
| • Fieldwork and Research Cost Fund                              | April 2014            |
| • Awarded best student poster at AGSBS Symposium                | March 2014            |
| • York University Graduate Scholarship (\$6000)                 | Sept 2013-Aug 2014    |
| • Graduated on <i>First Class</i> and on the Dean’s Honour List | June 2013             |
| • Dr. James Wu Research Internship (\$12,000)                   | Nov 2011-April 2013   |
| • York University Continuing Student Scholarship (\$725)        | Sept 2011             |
| • International Scholar Laureate Nominee                        | January 2011          |
| • Member of Dean’s Honour Roll                                  | June 2010 & June 2011 |

**SKILLS AND QUALIFICATIONS**

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| <ul style="list-style-type: none"><li>• Proficient in statistical analysis in programming software such as R or SPSS</li><li>• Proficient in mapping software such as ESRI ArcGIS</li><li>• Proficient in survey software such as Qualtrics</li><li>• Proficient in qualitative analysis software such as NVivo</li><li>• Knowledgeable in Microsoft Word, Excel, PowerPoint, Outlook, Access and basic HTML</li></ul> | <ul style="list-style-type: none"><li>• Practiced in time management</li><li>• Excellent verbal and written communication skills</li><li>• Adaptable in stressful situations</li><li>• Social and cooperative</li><li>• Resourceful and organized</li><li>• Capable of independent work and team participation</li><li>• Ability to speak Hakka Chinese</li></ul> |
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**INTERESTS AND HOBBIES**

- Enjoys volunteering at local community events (environmental education, tree planting, community improvement projects, building homeless kits, etc.), experiencing new physical activities (Zumba, Pilates, hiking in the Smoky Mountains, etc.), and fawning over pictures of her baby niece.