

Ellen Song

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EDUCATION

- (2016-) **Texas A&M University - PhD**
- Major – Chemistry
 - GPA – 4.0
- (2012-2016) **University of Guelph, Guelph, ON - Bachelor of Science (Honours)**
- Major – Biological and Pharmaceutical Chemistry
 - Dean's Honours List (+80% average)

RESEARCH

- (2016-) **Texas A&M University, Department of Chemistry**
Research Assistant
Supervisor: Dr. Kim Dunbar
- Synthesis and characterization (NMR, IR XRD, EPR) of metal-metal bonded coordination complexes.
 - Cell culture and cell viability assays
 - Air sensitive manipulations, glove box and Schlenk line techniques
- (2014-2016) **University of Guelph, Department of Chemistry**
Research Assistant
Supervisor: Dr. Kathryn Preuss
- Synthesis and characterization of radical ligands and transition metal coordination complexes.
- (2013) **University of Guelph, Department of Chemistry**
Presidents Research Assistantship (PRA)
Supervisor: Dr. Mario Monteiro
- Bacterial capsule polysaccharide purification and characterization
 - Organic synthesis in the field of carbohydrate chemistry
 - WHMIS and Laboratory Safety training
- (2008 –2012) **Student Researcher at Agriculture Agri-Food Canada**
Supervisor: Dr. Charles Forney

- Research for science fair competitions in the fields of microbiology and food safety (2008-2010) as well as fruit flavor biochemistry (2010-2012)
 - Growth, culturing and identification of microbial samples. Trained in aseptic technique and the use of a Biological Safety Cabinet
 - Fumigation techniques for tree fruit and analysis of fruit volatile production
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EMPLOYMENT

- (2016-) **Teaching Assistant**
University of Guelph – CHEM 1050
Texas A&M University – CHEM 111, CHEM 112, CHEM 318
- Supervised undergraduate students (192 to date) to complete laboratory experiments pertaining to core concepts in chemistry
 - Taught students relevant laboratory techniques and concepts pertaining to experiments and coursework
- (2013-2016) **Studies by Undergraduate Researchers at Guelph (SURG)**
Editor-in-Chief (2014- 2016)
- Managed an interdisciplinary undergraduate research journal
 - Coordinated the peer review process for all manuscripts, including corresponding with faculty reviewers, other members of the editorial team, and student authors and their supervisors
- (2012 –2016) **University of Guelph, Admission Services**
Tour Guide
- Served as a University of Guelph ambassador by giving promoting the campus to various students and families 2-3 times per week.
 - Communicated and engaged with students about the physical, engineering and life sciences at large scale events such as the Ontario Universities Fair (OUF), Science and Engineering Sunday, Fall Preview Day and Campus Days

PUBLICATIONS

- (2018) Mills, Michelle; Wohlhauser, Tobie; Stein, Benjamin; Verduyn, Willem; **Song, Ellen**; Dechambenoit, Pierre; Rouzieres, Mathieu; Clérac, Rodolphe; Preuss, Kathryn. *Magnetic Bistability in Crystalline Organic Radicals: The Interplay of H-bonding, Pancake Bonding, and Electrostatics in HbimDTDA*. (submitted)

- (2018) Song, Ellen; Coll, Ryan; David, Amanda; Sayre, Hannah; Turro, Claudia; Dunbar, Kim R.; *Extremely High Cytotoxicity in Resistant Strains of Ovarian Cancer Cells for a Dirodium Compound*. (In preparation for submission to the *Journal of the American Chemical Society*.)

PRESENTATIONS

- (2018) *Halogenated Formamidinate Bridged Dirhodium (II,II) Complexes as Anti-Cancer Photodynamic Therapy Agents*. Canadian Chemistry Conference and Exhibition. Oral presentation.
- (2017) *Dirhodium (II,II) Partial Paddlewheel Complexes as Photodynamic Therapy Agents* Canadian Chemistry Conference and Exhibition. Oral presentation
- (2016) *Developing Iron(II) Spin Crossover Compounds using Pyrazolyl Borate and Thiazyl Radical Ligands* (poster). Crystal Engineering and Emerging Materials Workshop of Quebec and Ontario (CEMWOQ-3). Poster presentation
- (2015) *Synthesis of Iron(II) SCO Complexes using Thiazyl Radicals* (poster). Crystal Engineering and Emerging Materials Workshop of Quebec and Ontario (CEMWOQ-2). Poster presentation
- (2013) *Carbohydrate Based Vaccines of Gastric Bacteria* (poster) College of Physical and Engineering Science Undergraduate Poster Session. Poster presentation

VOLUNTEER

- (2016 -) **Organization for Cultural Diversity in Chemistry, Texas A&M**
Secretary (16/17), Vice President (17/18), President (18-)
- Reached out to industry representatives and hosted speakers to give presentations to the chemistry student body.
 - Organized outreach events for Chemistry Open House, Expand Your Horizons, and various local schools
 - Initiated and planned various gatherings to increase diversity and presence within the department.
- (2018 -) **Graduate Student Association in Chemistry, Texas A&M**
Secretary

- Collaborated with fellow graduate students to plan outreach and social events for the chemistry student body.

(2014 –2016) **University of Guelph Senate**

B.Sc. Representative (14/15 and 15/16)

- Elected to represent undergraduate Bachelor of Science students on the University of Guelph Senate
- Engaged with fellow student senators to discuss current institutional issues and to prepare for Senate meetings

(2012 – 2016) **College of Physical & Engineering Science Student Council**

President (2013-present), VP Social (2013), Chair (2012)

- Organized and initiated many academic and social events for the physical science and engineering students at the University of Guelph.
- Co-ordinated and worked with the executive of the council to promote the physical and engineering sciences to the student body.
- Represented the students of the College at the Departmental, College and University levels

(2012 – 2016) **University of Guelph, Peer Helper Program (Sr.)**

English Language Programs Conversation Tutor,

- Initiated meetings with English as a Second Language (ESL) students to help them converse and improve their speaking skills.
- Authored a handbook for the English Language Programs Peer Helper unit.

(2000- 2016) **Science Fair**

- More than 40 special awards at the regional level (2007-2012)
- Bronze and Silver medals at CWSF
- UNESCO International Year of Chemistry award and opportunity to present at MILSET Expo-Science International in Slovakia (2011)
- Peer Choice award at the Nova Scotia Youth Experiences in Science (NSYES) showcase (2012)
- Volunteer at NSYES (2013, 2014)
- Waterloo-Wellington Science and Engineering Fair judge (2013-2016)

COMMITTEES

(2015-2016) Board of Undergraduate Studies

(2015-2016) Student Space Initiative Committee

(2015) Student Help and Advocacy Center Hiring Committee

- (2014-2016) Student Senate Caucus
- (2014-2015) Bachelor of Science Program Committee
- (2014-2015) Compulsory Fees Committee
- (2014, 2015) Student Leaders Interacting and Collaborating Conference Planning Committee
- (2014) Central Student Association Executive Evaluation Committee
- (2014) Foundational Science Review Task Force
- (2013-2016) Student Executive Council
- (2013-2016) Dean's Council
- (2013- 2016) Judicial Committee
- (2013- 2016) Student Leaders and Administration Meeting
- (2013) Student Risk Management Committee
- (2012- 2016) Central Student Association - Board of Directors

HONOURS and AWARDS

- (2018) Office of Graduate and Professional Studies Graduate Student Research and Presentation Travel Award (\$500)
- (2016) Chemistry Dean's Fellowship (\$3 000)
- (2016) College of Physical and Engineering Science Society of Excellence
- (2016) Ontario Graduate Scholarship – declined
- (2015) Sony Canada Charitable Foundation Scholarship (\$1 000)
- (2015) National Science and Engineering Research Council (NSERC) Undergraduate Student Research Award (USRA)
- (2013) Fessenden-Trott Scholarship (\$27 000)
- (2013) Top 20 Under 20
- (2012-2016) Lincoln Alexander Chancellors Scholarship (\$32 000)
- (2012) Miller Thompson Foundation Scholarship (\$1 500)
- (2012) The Professional Institute of the Public Service of Canada (PIPSC) Legacy Foundation Scholarship (\$3 000)
- (2012) Nova Scotia Power Employment Equity Scholarship (\$6 000)
- (2012) University of Guelph Entrance Scholarship (\$3 000)
- (2012) University of Guelph John D. Goddard Honours Chemistry Entrance Scholarship (\$1 200)
- (2012) ARCT diploma in Piano Performance, Royal Conservatory of Music
- (2011) Lieutenant Governor of Nova Scotia Award

HOBBIES & OTHER INTERESTS

- (2015) Vote Savvy
- (2014-2016) Curtain Call Productions Executive – Band Director
- (2012-2016) Curtain Call Productions Rehearsal Pianist/Pit Band Piano 1
- (2012-2014) Guelph Concert Band
- (2012-2014) University of Guelph Chamber Ensemble
- (2013, 2014) Orientation Volunteer

- (2013, 2014) STARTonline.ca – Online Group Leader
- (2012-2014) Project Serve Day
- (2013-2014) Guelph Student for Environmental Change – Advertising and Marketing Director