

Emily J. Chua

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EDUCATION

- 2015— **Ph.D. in Earth Sciences**
Advanced Graduate Certificate in Terrestrial Biogeosciences
Department of Earth and Environment, Boston University, USA
- 2011-2015 **B.Sc. Combined Honours in Physics & Oceanography, Minor in Math**
Departments of Physics and Oceanography, Dalhousie University, Canada

TEACHING EXPERIENCE

- Spring 2017 **Lab Instructor**
CAS ES317 Introduction to Hydrology, Dept. of Earth and Environment, Boston University
- Fall 2016— **English Tutor**

GRANTS AND FELLOWSHIPS

- 2016-2019 **National Sciences and Engineering Research Council of Canada Postgraduate Scholarship – Doctoral**
C\$63,000 over three years
- 2016 **Alexander Graham Bell Canada Graduate Scholarship – Doctoral (C\$105,000) – declined**
- 2015-2016 **Boston University Dean’s Fellowship**
- 2015-2016 **Fulbright Canada Student Award**
US\$15,000 over one year
- 2015 **Nova Scotia Research & Innovation Graduate Scholarship, Masters Level – declined**
C\$20,000 over two years
- 2015 **Transatlantic Ocean System Science & Technology Research School Scholarship**
C\$4,335 over one semester
- 2014 **Woods Hole Oceanographic Institution Summer Student Fellowship**
US\$10,200 over three months
- 2013 **DAAD Research Internship in Science & Engineering Scholarship**
C\$4,000 over four months
- 2011-2015 **Dalhousie University Chancellor’s Scholarship**
C\$32,000 over four years

AWARDS

- 2017 **Boston University Biogeoscience Symposium Best Graduate Student Talk**
- 2016 **Dieter Family Scholarship**

- 2016 US\$1500 to attend a MTS/IEEE Oceans Conference
Boston University Biogeoscience Student Award
US\$500 in support of Ph.D. research
- 2015 **Dr. A. Stanley MacKenzie Prize**
Highest academic standing in senior year Physics at Dalhousie
- 2014 **Woods Hole Oceanographic Institution Conference Travel Award**
US\$2,500 to present Summer Student Fellowship work at the 2014 AGU Fall Meeting

RESEARCH EXPERIENCE

- Jan-May 2015 **Research Assistant**, *Dalhousie University*, with Chris L'Esperance
Aided in designing and testing instrumentation for detection of dissolved gases in natural waters
- Apr-May 2015 **Research Assistant**, *Dalhousie University*, with Alex Hay
Analyzed acoustic Doppler current profiler data from a potential tidal turbine field site
- Jun-Aug 2014 **Summer Student Fellow**, *Woods Hole Oceanographic Institution*, with Anna Michel and Scott Wankel
Developed membrane inlet for use with chemical sensor to measure gases in deep sea
- May-Aug 2013 **RISE Intern**, *University of Konstanz Hybrid Nanostructures group*, with Lukas Schmidt-Mende and Julian Kalb
Fabricated/manipulated TiO₂ films, nanowire arrays to study charge transport in solar cells
- May-Sep 2012 **Research Assistant**, *Dalhousie University*, with Douglas Wallace and John Cullen
Participated in research cruise; processed water samples; conducted O¹⁸/O¹⁶ isotope analysis

PUBLICATIONS

- Chua E.J.**, Savidge W., Short R.T., Cardenas-Valencia A.M., and Fulweiler R.W. (2016). A review of the emerging field of underwater mass spectrometry. *Front. Mar. Sci. Ocean Observation*, 3:209.
- Chua E.J.**, Cardenas-Valencia A.M., Short R.T., Savidge W., and Fulweiler R.W. Development of a multiple input flow injection apparatus for the in situ analysis of porewaters using underwater mass spectrometry. In preparation. Target journal: *Sensors and Actuators*

CONFERENCE PRESENTATIONS

- Chua E.J.**, Savidge W., Short R.T., Cardenas-Valencia A.M., and Fulweiler R.W. (2016). *Development of a porewater sampling underwater mass spectrometer system (POSUMS) for gas measurements in permeable sediments (oral)*, New England Estuarine Research Society Fall Meeting, Block Island, RI.
- Chua, E.J.**, McMillan, J., and Hay, A. (2015). *Wave-current interactions in Digby Gut (poster)*, Conference of Dalhousie Oceanography Graduate Students, Dalhousie University, Halifax, NS.
- Chua, E.J.**, Michel, A.P.M., and Wankel, S.D. (2014). *Improving an inlet for underwater volatile analyses (poster)*, American Geophysical Union Fall Meeting, San Francisco, CA.

Chua, E.J., and Kalb, J. (2013). *Nanostructured hybrid solar cells (oral)*, RISE Scholars Meeting, Heidelberg, Germany.

Kalb, J., **Chua, E.J.,** Reindl, J., and Schmidt-Mende, L. (2013). *Growth and charge transport in single titania nanowires (oral)*, Nanowires Conference, Tel Aviv, Israel.

DEPARTMENTAL SEMINARS

Chua E.J., Savidge W., Short R.T., Cardenas-Valencia A.M., and Fulweiler R.W. (2017). *A review of the emerging field of underwater mass spectrometry (oral)*, Earth and Environment Department, Boston University, Boston, MA.

Chua E.J., Savidge W., Short R.T., Cardenas-Valencia A.M., and Fulweiler R.W. (2017). *Development of a porewater sampling underwater mass spectrometer system (POSUMS) for gas measurements in permeable sediments (oral)*, Biogeoscience Symposium, Boston University, Boston, MA.

Chua, E.J., McMillan, J., and Hay, A. (2015). *Wave-current interactions in Digby Gut (oral)*, Honours Physics Thesis Defense, Dalhousie University, Halifax, NS.

Chua, E.J., Michel, A.P.M., and Wankel, S.D. (2014). *Improving an inlet for underwater volatile analysis (oral)*, Applied Ocean Physics and Engineering Seminar, Woods Hole Oceanographic Institution, Woods Hole, MA.

Chua, E.J., and Kalb, J. (2013). *Controlled generation of conductive filaments in thin TiO₂ films for application in hybrid solar cells (oral)*, Physics Department, University of Konstanz, Baden-Württemberg, Germany.

VOLUNTEER EXPERIENCE

Oct 2016	Student judge, NEERS Fall Meeting 2016
Sept 2016	Student volunteer, MTS/IEEE Oceans 2016
Mar 2016	Demonstrator, Lincoln School Science Night STEM outreach event for K-8 students
May 2014	Demonstrator, Physics Fun and Discovery Days, Dalhousie University Physics outreach event for grade school students
Feb-Apr 2012	Assistant field hockey coach, Sacred Heart High School
Aug 2011	Assistant distributor, Off the Hook Community Supported Fishery
Feb 2011	Badminton minor official, 2011 Canada Winter Games

EXTRACURRICULAR

2015—	Member, Wai Kru Mixed Martial Arts, Allston, MA
2013-2015	Member, Bushido Kai Martial Arts Academy, Halifax, NS
2013-2014	Sports Rep, Dalhousie University Physics Society
May-Aug 2013	Member, Budo-Circle Martial Arts Club; Crossfit Club Konstanz, Germany
2011-2013	Athlete, Dalhousie University Field Hockey Team

AFFILIATIONS

American Geophysical Union (AGU)
Marine Technology Society (MTS)
New England Estuarine Research Society (NEERS)

LICENCES AND CERTIFICATIONS

Certified for Grade 9 piano by *Royal Conservatory of Music* (First Class Honours)
Radiation Safety Training Certificate
Sea Kayak Skills Level One; Flatwater Kayak Level One; Lake Canoe Skills Introduction Tandem
First Class Honours in Music History 3, Grade 3 Harmony
Certificate for standard rate German as a foreign language from *did deutsch-institut* (Berlin)