

# Chris Saulnier

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**Education**      **Massachusetts Institute of Technology** - Cambridge, MA      Expected 2018  
**PhD Candidate in Product Design and Engineering Education**  
GPA: 5.0 / 5.0

Mixed-methods researcher with experience in quantitative (surveys, statistical analysis) and qualitative (interviews, grounded theory, case study research) methods. Developing, teaching, and studying innovative approaches to engineering design education. A particular focus on project-based human-centered design classes for undergraduate mechanical engineering students.

Developed and implemented a “Design for the Wilderness” class to cultivate skill in design thinking, the application of an engineering science worldview, and leadership while students prepare for and participate on a four-day wilderness expedition.

**Master of Science in Technology and Policy**      September 2015  
GPA: 5.0 / 5.0

Relevant Coursework: Microeconomic Theory and Public Policy; Science, Tech., and Public Policy; Law, Tech., and Public Policy; Theory and Practice of Public Policy

**Dalhousie University** - Halifax, Canada      May 2012  
**Bachelor of Computer Engineering**  
University Medal in Computer Engineering (awarded for highest GPA)

**Publications**      C.R. Saulnier, J.G. Brisson. (2018). Design for Use: A Case Study of an Authentically Impactful Design Experience. *International Journal of Engineering Education*, 34(2B), 769-779.

C.R. Saulnier, B. Ahn, A. Bagiati, J.G. Brisson. (2015). Leadership Development through Design Based Wilderness Education. *International Journal of Engineering Pedagogy*, 5(1), 47–56.

**Conferences**      C.R. Saulnier, J.G. Brisson. (2017). The importance of doing rather than discussing: how curricular changes affected student design-task prioritization in a hands-on design project. In *Proceedings of the 2017 American Society of Engineering Education (ASEE) Annual Conference & Exposition*. Columbus, Ohio.

C.R. Saulnier, J.G. Brisson. (2017). Design for Use: A case study of impactful design education. In *Proceedings of the Mudd Design Workshop X*. Claremont, California.

C.R. Saulnier, A. Bagiati, J.G. Brisson. (2016). Wilderness Engineering: Identifying Engineering in Everyday Life. In *Proceedings of the 2016 Symposium on Experiential Education Research*, 45-48. Minneapolis, Minnesota.

C.R. Saulnier, A. Bagiati, J.G. Brisson. (2016). A Comparison of Student Design Activity Preferences Before and After a Design-Based Wilderness Education Experience. In *Proceedings of the 2016 American Society of Engineering Education Annual Conference & Exposition*. New Orleans, Louisiana.

C.R. Saulnier, A. Bagiati, B. Ahn, J.G. Brisson. (2015). Changes in Design Thinking through Participation in Design Based Wilderness Education. In *Proceedings of the 2015 Research in Engineering Education Symposium*. Dublin, Ireland.

C.R. Saulnier, A. Bagiati, J.G. Brisson. (2014). Design Based Wilderness Education: A Cross-Cultural Experience in Engineering Education. *In IEEE Frontiers in Education*, 286–290. Madrid, Spain.

## Posters

C.R. Saulnier, B. Ahn, A. Bagiati, J.G. Brisson. (2016). Situated Design in the Wilderness: a preliminary exploration of the role of the environment in the design-learning process. *2016 SEFI Conference*. Tampere, Finland.

## Invited Talks

Woodrow Wilson National Fellowship Foundation Board Meeting. “New Modes of Instruction”. October, 2015. Invited Presentation.

## Teaching

MIT Mechanical Engineering, **Introduction to Design**, (Lab Instructor Fall 2017)  
MIT Mechanical Engineering, **Product Engineering Process** (Mentor Fall 2017)  
MIT Mechanical Engineering, **Toy Product Design** (Lab Instructor Spring 2017)  
MIT Global Leadership Program, **Design for the Wilderness** (Creator/Instructor 2014-2017)  
MIT Engineering Systems Division, **Leadership Development** (Instructor Fall 2014)

## Employment

**Independent Consultant** – Halifax, NS  
**Contract Work**

October '12 – August '13

Developed university policy on hazing, alcohol use, and diversity for the VP Student Services at Dalhousie University.

Facilitated consultation sessions for engineering students at Dalhousie University to identify desired features in a new engineering building while securing support for a new fee resulting in an additional 7.5 million dollars of funding for the project.

Facilitated public consultation session co-hosted by the Nova Scotia Premier's Office and FusionHFX that produced a report recommending strategic initiatives for the province to help grow the economy and reduce out-migration of youth.

**Outward Bound Canada** – Canmore, AB  
**Instructor**

June '12 – August '12  
June '13 – August '13

As a member of an instructor team, guided 17-day expeditions facilitating group and individual leadership development set against a backdrop of backcountry wilderness travel and survival skill development.

**Dalhousie Student Union** – Halifax, NS  
**President & CEO**

May '10 – April '11  
Reelected May '11 – April '12

Managed four student Vice Presidents and nine career full time staff members in an organization with over 125 part time student employees providing a diverse array of services with a three million dollar yearly operating budget.

Acted as the official spokesperson for the 16,500 students at Dalhousie University by regularly providing interviews for print, radio and television news stories and lobbying on postsecondary education issues at the municipal, provincial, and federal level.

Served as the Chair of the Canadian Alliance of Student Associations, developing policy and acting as the spokesperson for over 320,000 students at 26 member institutions.

Provided strategic guidance to Dalhousie University through voting membership on the University Senate, Board of Governors, and various high-level strategic committees.

**ODIM Brooke Ocean** – Halifax, NS  
**Embedded Engineer (Co-op Terms)**

January '09 – April '09  
August '09 – December '09

Researched and developed firmware for next generation Laser Optical Plankton Counter using a Texas Instruments OMAP Applications Processor to increase both the speed and sensitivity of the product line.

**Acceleware** – Calgary, AB  
**Developer**

May '08 – August '08

Programmed massively data-parallel algorithms using NVidia's CUDA Programming Language. Developed data compression techniques for finite-difference time-domain simulation field data resulting in the storage requirements being reduced by almost half. Reduced storage requirements increased the speed of memory bound simulations while at the same time preserving numerical accuracy of the simulation.

**Dalhousie University** – Halifax, NS  
**Research Assistant**

June '06 – January '08

Under the supervision of Dr. Joshua Leon, Dean of Engineering, worked as a part of the Mathematics of Information Technology and Complex Systems – Control of Cardiac Arrhythmias research project. Improved the performance of ion-concentration simulations of the human heart by an order of magnitude using data-parallel algorithms on GPUs.

## Leadership

**MIT Graduate School Leadership Institute**  
*Cambridge, MA*  
**Founding Fellow and Program Facilitator**

Spring '16 – Present

**Outward Bound Thompson Island**  
*Boston, MA*  
**High School Physics Curriculum Developer**

Spring '15 – Present

**MIT Outing Club Board of Directors**  
*Cambridge, MA*  
**Member at Large and Climbing Chair**

April '14 – Present

**Springtide Collective for Democracy**  
*Halifax, NS*  
**Founding Board Member and Corporate Secretary**

Dec '12 – Feb '15

**Dalhousie Alumni Association**  
*Halifax, NS*  
**Board Member**

May '10 – May '14

## **Canadian Alliance of Student Associations**

*Ottawa, ON*

**Chair of the Board of Directors**

July '11 – July '12

**Atlantic Regional Director**

May '11 – July '11

**General Assembly Member**

May '10 – April '12

## **Alliance of Nova Scotia Student Associations**

May '10 – May '12

*Halifax, NS*

**Board Member**

## **Dalhousie Student Union**

*Halifax, NS*

**Council Member**

Sept '08 – April '10

**Chair of Sexton Engineering Undergraduate Society**

Sept '08 – April '10

**President of Undergraduate Engineering Society**

April '07 – April '08

## **Awards**

**MIT:** Keil Fellowship (Fall 2013)

**Dalhousie University:** University Medal in Computer Engineering (2012)

**Dalhousie University:** Governor's Award (2012)

**Sexton Distinction:** Maintaining a GPA greater than 3.85

**NewPage Port Hawkesbury:** Scholarship (2011)

**ExxonMobil Oil Canada:** Scholarship (2010)

**Minas Basin Pulp & Power:** Scholarship (2009)

**CIPS:** Dr. Stan Heaps Memorial Scholarship (2008 & 2009)

**Dalhousie Student Union:** Top Off-Campus Frosh Leader (2008)

**Nova Scotia Power:** Centennial Scholarship (2008)

**Dalhousie University:** Chancellors' Scholarship (2006, 2007, 2008 & 2009)

**Shad Valley:** 25<sup>th</sup> Anniversary Scholarship (2006)

**Duke of Edinburgh's Award:** Bronze, Silver and Gold Standard

## **Et Cetera**

**National Outdoor Leadership School:** Winter Outdoor Educator Program

**Association of Canadian Mountain Guides:** Assistant Hiking Guide

**Wilderness First Responder:** 80 hour first aid certification

**Outward Bound Canada:** Mountain Instructor Development Program

**LSI Stylus, 360 and Leadership/Impact:** Training by Peak Experiences

## **Selected Dalhousie University Committee Membership**

### **University Senate**

2010 - 2012

Planning and Governance Committee (2011-2012)

Appeals Committee (2011-2012)

Ombudsperson Advisory Committee (2010-2012)

Honorary Degrees Committee (2010-2012)

Discipline Committee (2010)

Steering Committee (2010-2011)

### **University Board of Governors**

2010 - 2012

Operations Committee (2010 – 2012)

Student Experience Committee (2010 – 2012)

Executive Committee (2010-2012)

## **Other**

Presidential Search Committee (2012)  
Vice President Academic and Provost Search Committee (2011)  
AVP Student Academic Success Services Search Committee (2011)  
Co-Curricular Record Manager Search Committee (2011)  
LeMarchant Street Building Steering Committee (2010-2011)  
LeMarchant Street Building Working Group (2010-2011)  
Dalhousie Allies Steering Committee (2010-2012)  
Residence Renewal and Planning Committee (2010-2012)  
Homecoming Steering Committee (2011-2012)  
Varsity Athletics Review Committee (2011-2012)  
U-Pass Advisory Committee (2010-2012)  
Restorative Justice Committee (2011-2012)

## **Selected Other Committee Membership**

### **Canadian Federal Government**

Canadian Student Loan Program Service Advisory Council (2011 – 2012)

### **Alliance of Nova Scotia Student Associations**

2010 - 2012

Leadership Starts Here Committee (2011-2012)  
Student University Board Representatives Working Group (2011-2012)  
Pathways to Pathways Committee (2011-2012)