

MATTHEW LEIGHTON

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EDUCATION

Simon Fraser University, Burnaby, Canada 2020-Present
M.Sc. in Physics
Dalhousie University, Halifax, Canada 2016-2020
B.Sc. Honours in Physics & Mathematics
Honours Thesis: *Modelling the Formation of Cross-Linked Collagen Fibrils*, supervised by Andrew Rutenberg
Member of the Varsity Track team 2016-2018
Choral Scholar with the University of King's College Chapel Choir 2016-2020
Chalmers University of Technology, Gothenburg, Sweden 2019
Exchange Program, Studying Mathematics and Statistics

EXPERIENCE

Undergraduate Researcher 2018 - 2020
Dalhousie University Halifax, NS
• Worked with Professor Andrew Rutenberg on various research projects in theoretical biophysics using computational and mathematical methods. Projects included modelling stochastic effects in the process of host cell invasion by *S. Typhimurium* bacteria, developing a theoretical model for the thermodynamics of *in vivo* Collagen fibril growth, and studying the mechanics of double-twist liquid crystal elastomer systems under deformation.
Business Analyst 2017- 2018
INETCO Systems Vancouver, BC
• Reported directly to the vice-president of product management. Responsibilities included developing financial models to determine pricing structures for new products, writing marketing documents, competitive analysis, managing marketing campaigns, and communicating with customers. Undertook the design and planning for the release of a major new product (a cloud-based transaction monitoring system for small banks and credit unions); wrote and presented the business plan at a quarterly board meeting for board approval. Stayed on as a consultant for the following year.
Instructor March 2015-August 2016
Pedalheads Vancouver, BC
• Worked as an instructor teaching children aged 4-13 beginner to advanced biking skills.
Volunteer
• Head coach for a Vancouver Hawks youth field hockey team. Spring 2015/16/17
• Assistant coach for one of Kitsilano Secondary School's junior ice hockey teams. 2015-2016

AWARDS

NSERC CGS-M Graduate Scholarship (Simon Fraser University, 2020-2021)
British Columbia Graduate Scholarship (Simon Fraser University, 2020-2021)
NSERC Undergraduate Summer Research Award (Dalhousie University, 2018,2020)
U-Sports Academic All-Canadian (Dalhousie University, 2016/17 and 2017/18)
Archibald Physics Prize (Dalhousie University, May 2017)
Chancellor's Scholarship (Dalhousie University, 2016-2020)
Helen Roby Choral Scholarship (University of King's College, 2016-2020)

TALKS

‘Nonequilibrium Growth of Cross-Linked Collagen Fibrils’, *Collagen Cafe*, July 2020
‘Elastomeric Properties of Double-Twist Collagen Fibrils’, *Soft Matter Canada Symposium*, June 2020
‘Modelling Cross-Linking in Collagen Fibrils’, *APS March Meeting (via DSOFT Virtual Meeting)*, March 2020
‘Modelling Cross-Linking in Collagen Fibrils’, *Atlantic Undergraduate Physics Conference*, January 2020
‘Modelling Cross-Linking in Collagen Fibrils’, *Canadian Undergraduate Physics Conference*, November 2019
‘Stochastic modelling of cellular *Salmonella* infection’, *Dalhousie Bioblast Seminar*, August 2018