

# Matheus L. C. Schultz

Curriculum vitae

30 April 2024

## EDUCATION

- 2025 Ph.D. Biomedical Engineering, McGill University
- 2020 B.Sc. Biochemistry, McGill University with distinction

## PUBLICATIONS

### Peer Reviewed Articles

- 2024 Schultz, M. L., Seth, P., Kachmar, L., Ijpma, G., & Lauzon, A. M. (2024). A Method for Isolating Contractile Smooth Muscle Cells from Cryopreserved Tissue. *American Journal of Physiology-Cell Physiology*.

### Conference Proceedings

- 2024 Schultz, M. L., Bai, A., Kachmar, L., & Lauzon, A. M. (2024). H-caldesmon alters the mechanical interactions between phos-and unphosphorylated smooth muscle myosin. *Biophysical Journal*, 123(3), 271a.
- 2023 Schultz, M., Kachmar, L., Ijpma, G., & Lauzon, A. M. (2023). Caldesmon enhances motility inhibition by myosin dephosphorylation. *Biophysical Journal*, 122(3), 119a.
- 2022 Schultz, M., Kachmar, L. H., Hammell, M. J., Ijpma, G., & Lauzon, A. M. (2022). Upon addition of myosin light chain phosphatase, caldesmon creates a load on actin filaments propelled by a mixture of smooth and skeletal muscle myosin. *Biophysical Journal*, 121(3), 258a.

## AWARDS AND RECOGNITIONS

### Research Funding

- 2024 Natural Sciences and Engineering Research Council of Canada (NSERC) Postgraduate Scholarships – Doctoral program  
(Research funding of \$63 000 for a period of 3 years).
- 2022 Biological and Biomedical Engineering Recruitment Award - McGill University  
(Research funding of 30 000 \$ for a period of 3 years).

### Conferences and Symposia

- 2024 Best PhD Oral Presentation – RI-MUHC RESP Research Day
- 2023 Next-Generation Research Days Laureate – Quebec Respiratory Research Network (Paid trip to Paris to present at the “Journée de Recherche Respiratoire”)

- 2023 Best Research Presentation – Quebec Respiratory Research Network. (200 \$ awarded to the best oral presentation selected by a panel of judges)
- 2023 Public Choice Award – Quebec Respiratory Research Network. (100 \$ awarded to the best oral presentation selected by the public).

### **Travel Awards**

- 2022 GREAT Travel Award - McGill University (550 \$ to support travel expenses for research conferences).
- 2021 GREAT Travel Award - McGill University (850 \$ to support travel expenses for research conferences).
- 2021 Meakins Christie Travel Award - Meakins Christie Laboratories (1000 \$ to support travel expenses for research conference)

### **Other Recognitions**

- 2020 Deans Multidisciplinary Undergraduate Research List - McGill University  
Recognizes Bachelor of Science students who have participated in substantial and broad undergraduate science research.

## **PRESENTATIONS**

### **Invited Talks**

- 2023 McGill University Biophysics Meetings  
Authors: M. Schultz, L. Kachmar, A.-M. Lauzon  
Title: Elucidating the roles of actin-binding proteins on smooth muscle efficient force maintenance

### **Contributed Talks**

- 2024 RI-MUHC RESP Research Day  
Authors: Authors: M. Schultz, A. Bai, L. H. Kachmar, A.-M. Lauzon  
Title: Holding it together: The effects of h-Caldesmon on Smooth Muscle Efficient Force Maintenance.
- 2023 Quebec Respiratory Research Network  
Authors: M. Schultz, A. Bai, L. H. Kachmar, A.-M. Lauzon  
Title: Actin Regulatory Proteins and Their Impact on Smooth Muscle Efficient Force Maintenance.
- 2022 Experimental Medicine Graduate Students' Society Seminars  
Authors: M. Schultz, L. Kachmar, M. J. Hammell, G. Ijpma, A.-M. Lauzon  
Title: Insights into the regulation of smooth muscle actomyosin molecular mechanics by the actin-binding protein caldesmon.
- 2021 Biological and Biomedical Engineering Student Symposium  
Authors: M. Schultz, L. H. Kachmar, G. Ijpma, A.-M. Lauzon  
Title: Smooth Muscle Molecular Mechanics in the Latch-State Assessed in the Laser Trap

- 2021 Meakins Work in Progress Seminars  
Authors: M. Schultz, M. Hammell, L. H. Kachmar, G. Ijpma, A.-M. Lauzon  
Title: The Effects of Actin Regulatory Proteins on Smooth Muscle Efficient Force Maintenance

## **Posters**

- 2024 Biophysical Society Annual Meeting (Philadelphia, PE, USA)  
H-caldesmon alters the mechanical interactions between phos-and unphosphorylated smooth muscle myosin.
- 2023 Meakins-Christie Research Day (Montreal, QC, CA)  
Investigating the Role of h-Caldesmon in Smooth Muscle Force Maintenance: Implications for Understanding Smooth Muscle Dysfunction
- 2023 Biophysical Society Annual Meeting (San Diego, CA, USA)  
Caldesmon enhances motility inhibition by myosin dephosphorylation.
- 2022 Biophysical Society Annual Meeting (San Francisco, CA, USA)  
Upon addition of myosin light chain phosphatase, caldesmon creates a load on actin filaments propelled by a mixture of smooth and skeletal muscle myosin.
- 2019 MUHC - Research Institute Summer Student Research Day (Montreal, QC, CA)

## **TEACHING**

### **Teaching Assistantships**

- 2023 Bioengineering 219: Introduction do Physical Molecular and Cell Biology (TA)
- 2023 Biology 202: Basic Genetics (Grader)
- 2023 Biology 202: Basic Genetics (TA)
- 2023 Biology 202: Basic Genetics (Grader)
- 2022 Biology 202: Basic Genetics (TA)

## **EXTRACURRICULAR UNIVERSITY SERVICE**

- 2023 SPIRE Student Society Vice President Internal
- 2023 Moderator, RI-MUHC Summer Student Research Day
- 2021 Mentor at McGill University Undergraduate Poster Showcase

## **PROFESSIONAL MEMBERSHIP AFFILIATION**

- 2024 Biophysical Society of Canada (Student member)
- 2022 Biophysical Society (Student member) – Renewed 2024