Matthew James Slopecki

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Profile

I am a highly dedicated, motivated, and focused student, shown through my achievement of a 1st class BSc degree (4.0 GPA equivalent), a current 4.0 GPA in my graduate studies, my undertaking of a 1-year unpaid placement and recently fast-tracking into a PhD.

Education

September 2019 – Present McGill University - Montreal, Canada

- **Present PhD Candidate - Kinesiology Sciences (4.0 GPA)**
  - EDKP 661a Current Topics in Kinesiology (A), EDKP 619 Seminar in K&PE 3 (P), EDKP 661b Current Topics in Kinesiology (A), EDKP 619 Seminar in K&PE 4 (P)
- **M.Sc. Completed Courses (4.0 GPA; Fast-tracked into PhD after MSc year one):**
  - EDKP 566 Advanced Biomechanics Theory (A), EDKP 605 Research Methods (A), EDPE 676 Intermediate Statistics (A), EDKP 604D1 Individual Reading Course 1 (W), EDKP 616 Individual Reading Course 2 (2), EDKP 672 Advanced Experimental Problems (A), EDKP 617 Seminar in K&PE 1 (P), EDKP 618 Seminar in K&PE 2 (P)

September 2015 – June 2019 Brunel University London

- **B.Sc. (Honors) in Sport, Health and Exercise Sciences (Human Performance) - 1st Class Degree**
- Fourth Year Result: 1st Class
  - Completed Courses: Major Project (A), Physiology of the High-Performance Athlete (A-), Applying Sports Sciences to Practice: Training Principles (A*), Employability and Professional Development (A), Biomechanical Analysis Techniques (A-), Human Performance Synoptic Assessment (A-), Issues in Physical Activity, Health and Wellbeing (A-), Applied Sport and Exercise Psychology (A)
- Third Year Result: 1st Class
  - Industrial Placement at **Sports Surgery Clinic – Dublin, Republic of Ireland** (detailed below under **Professional Experience**)
  - Industrial Placement Year Courses: Oral Presentation (A*), Written Assignment (B).
- Second Year Result: 1st Class
  - Exchange Year at **San Francisco State University** as detailed below.
- First Year Result: 1st Class
  - Completed Courses: Fundamentals of Sport, Health and Exercise Sciences (A), Research and Learning Skills (B), Physical Education and Sport Pedagogy (B+), Social Sciences of Sport (A*), PA, Health and Wellbeing (B+), Synoptic Study (A).

August 2016 – June 2017 San Francisco State University (SFSU)

- Completed an exchange year studying **B.Sc. Kinesiology**
- Second Year Result: 1st

- Modules: KIN 730 Advanced Biomechanics (M.Sc. Class) (A), KIN 485 Biomechanics (A), KIN 482 Exercise Physiology Lecture (A) and Lab (A-), KIN 486 Motor Learning (A), KIN 331 Peak Performance (A), KIN 504 Sport & Exercise Psychology (A), KIN 355 Science, Sport and Fitness (B+), and KIN 350 Introduction to Kinesiology (C-).

Other Education

- Completed 'Data Analysis with R programming' qualification from Google via Coursera (08/2021)
- Annual Nonlinear Analysis Workshop (University of Nebraska Omaha). (07/2021)
- Completed "Python for Data Science and Machine Learning Bootcamp" via Udemy (12/2020)
- Completed "Programming for Everybody (Getting Started in Python)" qualification from University of Michigan via Coursera (08/2017).
- Completed "Introduction to MATLAB" qualification from Vanderbilt University via Coursera (06/2017).
- UKCC Level 2 Rugby Union Coach (08/2016)

Professional Experience

Institut du Sport National du Quebec (Montréal, Canada) – Multiple Roles (11/2019 – present)

- Research Assistant (10/2020 – Present): **Data science** / **programming** role to innovate in-house MATLAB application for athlete testing (improving UI and code integration with databases).
    - **Developed performance testing application utilized by *Team Canada Short-Track Speed Skating, Team Canada Water polo and numerous Team Canada athletes.***
- Research Assistant (04/2020 – 09/2020): Processing of data for water polo throwing **machine learning** project.
- Volunteer (11/2019 – 02/2020): Aided PI with **IMU data collection** for national team water polo athletes.

McGill University (Montréal, Canada) – Teaching Assistant (01/2020 – present)

- **Lecturing, grading,** and **administration** of EDKP 444 – Ergonomics (Fall 2020); EDKP 208 – Biomechanics and Motor Control (Winter 2020)

McGill University (Montréal, Canada) – Grader (01/2020 – present)

- **Grading** assignments for EDKP 433 – Research Methods

Sports Surgery Clinic (Dublin, Ireland)– Biomechanics Internship (07/2017 – 06/2018)

- **1-year Biomechanics internship in a 3D motion capture lab focused on ACL, Groin and Shoulder rehabilitation, performance testing and research**
- Tested patients, ranging from amateur to world class athletes.
- Experience: **350+ hours experience using a 12-camera (VICON) 3d optical motion capture lab with AMTI force plates**. Extensive experience **performing a range of isokinetic dynamometry tests**; including knee, ankle, and shoulder movements. I have developed proficiency at **processing data in VICON Nexus and MATLAB**, developing novel, custom written codes when necessary for academic research use.

Published Manuscripts and Publications

Slopecki, M., Messing, K., & Côté, J. N. (2020). Is sex a proxy for mechanical variables during an upper limb repetitive movement task? An investigation of the effects of sex and of anthropometric load on muscle fatigue. *Biology of sex differences*, *11*(1). https://doi.org/10.1186/s13293-020-00336-1

Hasanbarani, F., Yang, C., Bailey, C. A., **Slopecki, M.,** & Cote, J. N. (2021). Sex-specific effects of a repetitive fatiguing task on stability: Analysis with Motor Equivalence model. *Journal of Biomechanics*, 110769. https://doi.org/https://doi.org/10.1016/j.jbiomech.2021.110769

Manuscripts and Publications (In progress)

Slopecki, M., Hasanbarani, F., Yang, C., Bailey, C., Côté. J. N. (*In Revision*). Uncontrolled manifold analysis of the effects of different fatigue locations on kinematic coordination during a repetitive upper-limb task. *In revision with Motor Control*.

Bailey, C., Hasanbarani, F., **Slopecki, M.,** Yang, C., Côté. J. N. (In Progress). Uncontrolled manifold analysis of sex and age effects during a fatiguing, repetitive upper-limb task. *In preparation for submission to Journal of Motor Behavior.* 90% complete. Anticipated submission date: 15/06/2021.

Fanning, C., **Slopecki, M.,** Daniels, K., (In Progress). *Shoulder joint position sense in a clinical population.* No journal/anticipated submission date currently.

Conference and Symposium Oral Presentations

Slopecki, M., Hasanbarani, F., Bailey, C., Yang, C., Côté. J. N. (2021). *Uncontrolled manifold analysis of effects of different fatigue locations on coordination during a repetitive pointing task.* Oral presentation at the 12th Symposium on Motor Control at the 28th Congress of the International Society of Biomechanics, Stockholm, Sweden (Online).

Bailey, C., Hasanbarani, F., **Slopecki, M.,** Yang, C., Côté. J. N. (2021). *Size and structure of joint angle variability in young and old adults performing a fatiguing repetitive reaching task***.** Oral presentation at 28th Congress of the International Society of Biomechanics, Stockholm, Sweden (Online).

Slopecki, M. (2021). *Motor Variability of the Shoulder: Advanced Metrics*. Oral presentation at the 1st Virtual Symposium on Upper Limb Fatigue. Montreal, Canada (Online).

Conference Poster Presentations

Hasanbarani, F., Yang, C., Bailey, C., **Slopecki, M.,** Côté. J. N. (2021). *Sex differences and fatiguing movement effects on task-specific stability.* Poster presentated at 28th Congress of the International Society of Biomechanics, Stockholm, Sweden (Online).

Slopecki, M., Côté. J. N. (2021). *Conventional measures overestimate sex differences in kinematics during fatiguing upper-limb repetitive pointing.* Poster presented at 21st Biennial Meeting of

Canadian Society of Biomechanics, Montreal, Canada (Online). http://dx.doi.org/10.13140/RG.2.2.29974.27204

Slopecki, M., Côté. J. N. (2020). *Interaction effect of anthropometric load and sex on the progession of fatigue during an upper limb repetitive movement task.* Poster accepted for presentation to 11th Annual International Conference of Applied Human Factors and Ergonomics, San Diego, USA.

Slopecki, M., Daniels, K., Fanning, E., Falvey, E. (2018, September). *The role of torque in shoulder joint position sense.* Poster presented at Royal College of Surgeons Ireland – Return to Play: The Shoulder, Dublin, Ireland. http://dx.doi.org/10.13140/RG.2.2.20175.82083

Other Presentations: Lectures, Workshops and Panels

- 11/2021 – Prospective Student Webinar (McGill University – Department of Kinesiology and Physical Education)
- 11/2021 – Student Perspectives Panel (McGill University - Research Methods EDKP 605)
- 11/2021 – Continuous Relative Phase: Introductory Lecture (Brunel University London - Biomechanics of Human Movement SP2801)
- 11/2020 – Biomechanics in Ergonomics Lecture (McGill University - Ergonomics EDKP 444)
- 11/2020 – Linear and Angular Kinematics (McGill University – Motor Control EDKP 208)

Knowledge Translation Initiatives

- Presentation give at Center for Interdisciplinary Research in Rehabilitation – Talking Research series: "Is sex a proxy for anthropometric variables during fatiguing, upper-limb repetitive movement? What researchers and clinicians should know"

Conference Workshops (Attended/Registered)

- International Society of Biomechanics - 2021 Congress: Wearable Sensor Workshop.
- 21st Biennial Meeting of Canadian Society of Biomechanics (2021): Introduction to Biomechzoo and Bioptim

Service Experience

Ad-hoc Peer-Review:

- Independent reviewer for *Applied Ergonomics, Current Research in Physiology, Kinesiology*
- Contributed to reviews for *Ergonomics, Applied Ergonomics*

Conference Organizing Committees:

- Minds in Motion 2022 (Department of Kinesiology and Physical Education, McGill University)

Academic Funding (Received: $246,000 | Declined: $14,000)

Fellowships and Scholarships (Received: $126,000)

- Mitacs Accelerate Doctoral Fellowship – 2022-2025 (Received: $120,000)

- Canadian Institutes of Health Research (CIHR) Team for Gender Considerations in Knowledge Transfer Interventions – pour le partage des connaissances scholarship 2020 ($6,000)

Awards (Received: 48,800$)

- McGill University Department of Education Graduate Student Society (EGSS) – Professional and Research Development Award (75CAD to cover excess workshop costs at ISB2021)
- International Society of Biomechanics Motor Control Group – ISB Sponsored Motor Control Group Student Award 2021 (250USD ≈ 310$)
- International Society of Biomechanics (ISB) – International Travel Grant 2021 (Fully Funded Conference)
- McGill University Department of Kinesiology and Physical Education – Differential Fee Waiver 2021-22 (Removal of International Tuition Fees)
- McGill University Graduate & Postdoctoral Studies – Virtual Mobility Award 2021 ($350)
- McGill University Postgraduate Students Society Travel Award 2021 ($190)
- Mitacs GlobalLink Research Award Abroad 2021 ($6,000; Declined due to COVID-19)
- McGill University Graduate Excellence Award 2020 – 2023 ($12,400 per annum)
- McGill University Graduate Excellence Award 2020 ($1,000)
- McGill University GREAT Travel Award 2020 ($250)
- REPAR Travel Award - Support for Students for Presentation in Scientific Events 2019-2020 ($500)
- McGill University Department of Kinesiology and Physical Education Recruitment Award 2019 - 2020 ($3,000)

Stipends (Received: $57,300| Declined: $14,000)

- Research Stipend from Dr. Julie N. Côté's Natural Sciences and Engineering Research Council of Canada Grant 2022 - 2023 ($21,600)
- Research Stipend from Dr. Julie N. Côté's Natural Sciences and Engineering Research Council of Canada Grant 2021 - 2022 ($7,600)
- Research Stipend from Dr. Julie N. Côté's McGill Sports Science Research Grant 2020 - 2021 ($10,000)
- Research Stipend from Dr. Julie N. Côté's Natural Sciences and Engineering Research Council of Canada Grant 2020 – 2021 ($11,600)
- Research Stipend from Dr. Julie N. Côté's Natural Sciences and Engineering Research Council of Canada Grant 2020-2021 (Declined $14,000)
- Research Stipend from Dr. Julie N. Côté's Natural Sciences and Engineering Research Council of Canada Grant 2019-2020 ($6,500)

Memberships

- Canada Sport Scientist Student Member – 02/2021 - Present
- International Society of Biomechanics (ISB) - 12/2020 – Present
- International Society of Biomechanics in Sports (ISBS) – 01/2022 - Present
- Center for Interdisciplinary Research in Rehabilitation (CRIR) – 09/2019 – Present
- Quebec Rehabilitation Research Network (REPAR) – 09/2019 – Present

Additional Achievements and Qualifications

- VP of Communication on the Kinesiology and Physical Education Graduate Students Committee Fall 2020 - Present
- Jack Petchey Outstanding Achiever Award 2012
- PADI Open Water Scuba Diver
- Grade 8 Acoustic Guitar, Grade 5 Electric Guitar
- Full UK driving license with experience towing trailers & International Driving Permit for use in Canada

Skills

- **Communication** – Effective communication skills through hundreds of hours of patient testing where it is critical to effectively share key points of information with patients to ensure they understand the tasks at hand. This is also shown through my coaching experience, reflected by my UKCC Level 2 in coaching rugby union.

- **Time Management** – Working in a rehabilitation clinic with rigid time constraints for appointments developed my ability to prioritize time.

- **Leadership** – Leading international collaborative research projects with Tel Aviv University and University of Cagliari has greatly developed my ability to lead groups of people.

- **Software and Programming Knowledge**
    - Experienced in use of motion capture software (**VICON Nexus**, **Cortex**).
    - Proficient in **MATLAB**, **Python, R** and **SQL** for data science
        - Analysis using novel codes
        - Machine Learning algorithms (Supervised, Unsupervised, (Deep) Neural Networks)
        - Advanced and interactive data visualization.
        - Database integration through APIs.
        - GUIs using MATLAB App Designer and Python Tkinter
    - Experienced using version control software (**GitHub**)
        - Creator of **INS Quebec** GitHub page
    - Proficient with Microsoft Office.
    - Experienced using statistical analysis software such as **IBM SPSS** and **R**

- **Laboratory Skills**
    - Extensive experience setting up and using Isokinetic Dynamometers (**Cybex**, **Biodex**), 3d motion capture systems (**Vicon**, **Cortex**), force plates (**AMTI**, **PASCO**) and EMG (surface and intramuscular) systems (**Delsys**).
    - Experience using Ergometers, Goniometers, Bodpods, ECGs and Skinfold Calipers.
    - Introductory experience running a range of physiological testing including $VO2_{max}$, Wingate, Indirect Calorimetry and Hydrostatic Weighing.

References - available upon request