

AIDAN SIRBU

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EDUCATION

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| Western University | London, ON |
| B.Sc. Honours (Western Scholar), Physics & Astronomy | 2019-2023 |
| <i>Specialization:</i> Medical Physics | |
| <i>Thesis:</i> Quasi-Quantum Brain Energetics | |
| <i>Supervisor:</i> Dr. Andrea Soddu | |
| <i>Graduated with Distinction</i> | |
| McGill University | Montreal, QC |
| M.Sc., Computer Science (In progress) | 2025-Present |
| <i>Supervisor:</i> Dr. Blake Richards | |

HONOURS & SCHOLARSHIPS

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| Master's Research Scholarship - Nature and Technologies (\$20,000 per year) | 2025-2026 |
| Recruitment Award (\$5,000), McGill IPN | 2024 |
| J.B Bancroft Science Prize and Medal (\$250), Western University | 2023 |
| Western Gold Medal Honours Specialization in Medical Physics, Western University | 2023 |
| Gonfalon Bearer for the Faculty of Science's Graduating Class, Western University | 2023 |
| Undergraduate Student Research Award (\$6,000), NSERC | 2023 |
| S.R. Valluri Scholarship in Mathematical or Theoretical Physics (\$1000), Western Uni. | 2022 |
| Rise-Globalink Research Award (\$6,000), Mitacs & DAAD | 2022 |
| Mary Ann Underwood Small Global Opportunities Award (\$2000), Western University | 2022 |
| International Learning Award (\$1,000), Western University | 2022 |
| In-Course Scholarship Years III & IV (\$1,400), Western University | 2021/2022 |
| Undergraduate Student Research Award (\$6,000), NSERC | 2021 |
| John Gordon McIntosh Scholarship for Second Year Physics (\$500), Western University | 2021 |
| Dean's Honour List for four consecutive years, Western University | 2019-2023 |
| The Western Scholarship of Excellence (\$2,000), Western University | 2019 |

PUBLICATIONS

Zhang, C. Y.*, Yang, Y.*, Sirbu, A. *et al.* MIMIC-MJX: Neuromechanical emulation of animal behavior. *arXiv* 2511.20532 (2025). <https://doi.org/10.48550/arXiv.2511.20532>

Ellerman, F.*, Sirbu, A.*, Brahms, A. *et al.* Spying on parahydrogen-induced polarization transfer using a half-tesla benchtop MRI and hyperpolarized imaging enabled by automation. *Nat Commun* **14**, 4774 (2023). <https://doi.org/10.1038/s41467-023-40539-9>

***Co-first contribution**

INVITED TALKS

Embodied Agents for NeuroAI: Building brain inspired foundation models for motor control.
ARNI Annual Retreat 2025, Columbia University, New York City, NY. Nov 2025

RESEARCH EXPERIENCE

Western University London, ON
Research Assistant, Physics & Astronomy May 2023 – Aug 2023
Principle Investigator: Dr. Andrea Soddu

- Formulated my own independent research project.
- Designed and implemented large, scalable spiking neural networks based on Izhikevich's spiking neuron model in Python.
- Developed a novel learning rule specifically designed to promote pattern encoding in spiking networks.
- Built a foundational understanding of artificial neural networks.

Universitätsklinikum Schleswig-Holstein & Kiel University Kiel, Germany
Research Assistant, Section Biomedical Imaging May 2022 – Aug 2022
Principle Investigator: Dr. Jan-Bernd Hövener

- Designed, built, and ran a portable, fully automated parahydrogen-induced polarizer.
- Leveraged skills in MATLAB to interface with and program pulse sequences in a 0.5T tabletop MRI machine.
- Developed data analysis tools for monitoring the evolution of spin order distribution in real-time.
- Co-authored a manuscript and familiarized myself with the process of peer-revision.

Western University London, ON
Research Assistant, Physics & Astronomy May 2021 – April 2022
Principle Investigator: Dr. Alexei Ouriadov

- Prototyped and ran a stopped-flow xenon polarizer.
- Measured Xe polarization using a low-field pre-clinical MRI.
- Performed IDL and MATLAB based k-space simulations.
- Audited over 60 hours of lectures on NMR technology.

LEADERSHIP & OUTREACH

Physics Undergraduate Conference Committee (PhUnC)

2022-2023

Presentation Coordinator, Western University

Physics Undergraduate Conference Committee (PhUnC)

2021-2022

Outreach, Western University
