Nicholas Luciw

PhD Candidate · Sunnybrook Research Institute · University of Toronto

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Education

PhD Candidate, Medical Biophysics — *Toronto, Canada*
University of Toronto — *Sept. 2017 - Dec. 2021 (expected)*

M.Sc., Physics — *Toronto, Canada*
University of Toronto — *Sept. 2015 - Sept. 2016*

Honours B.Sc., Physics, with distinction — *Guelph, Canada*
University of Guelph — *Sept. 2011 - April 2015*

Awards

2021 **Summa Cum Laude Abstract Award,** International Society for Magnetic Resonance in Medicine
2020 **Ontario Graduate Scholarship,** Province of Ontario
2020 **Magna Cum Laude Abstract Award,** International Society for Magnetic Resonance in Medicine
2020 **Educational Stipend Award,** International Society for Magnetic Resonance in Medicine
2019 **Dept. of Medical Biophysics Excellence Award**, University of Toronto
2017-2020 **Queen Elizabeth II Graduate Scholarship in Science and Technology**, Province of Ontario & University of Toronto
2017 **International High Performance Computing Summer School Grant**, Compute Canada
2015 **Marie Curie Graduate Student Award (declined)**, University of Waterloo
2014 **Undergraduate Student Research Award**, Natural Sciences and Engineering Research Council of Canada

Academic Contributions

Articles Published in Peer-reviewed Journals

Luciw N. J., Toma S., Goldstein B. I., MacIntosh B. J. (2021) "Correspondence Between Patterns of Cerebral Blood Flow and Structure in Adolescents with and without Bipolar Disorder." Journal of Cerebral Blood Flow & Metabolism, 24:271678X21989246. doi: 10.1177/0271678X21989246.

Anderson C.J., **Luciw N. J.**, Li Y.-C., Kuo C. Y., Yadav J. et al. (2018) "Low-amplitude clustering in low-redshift 21-cm intensity maps cross-correlated with 2dF galaxy densities." Monthly Notices of the Royal Astronomical Society, 476(3):3382-3392.

Pre-print Articles

Luciw N. J., Shirzadi Z., Black S. E., Goubran M., MacIntosh B. J. (2021) "Automated Generation of Cerebral Blood Flow Maps Using Deep Learning and Multiple Delay Arterial Spin-Labelled MRI." bioRxiv 2021.06.04.446768; doi: https://doi.org/10.1101/2021.06.04.446768

Peer-reviewed Conference Abstracts

Luciw N.J., Grigorian A., Goldstein B. I., MacIntosh B.J. (2021) Exercise-Related Consolidation of Cerebral Blood Flow Covariance in Youth with Bipolar Disorder. Org. Hum. Brain Mapp.

Luciw N.J., Cameron W., Robertson A., Atwi S., MacIntosh B.J. (2021) A deep learning approach to estimate voxelwise cardiac-related brain pulsatility from BOLD MRI. Proceedings of the 29th annual meeting of Intl. Soc. Mag. Reson. Med. *Awarded **Summa Cum Laude** (top 5%)*

Luciw N.J., Shirzadi Z., Goubran M., Black S.E., MacIntosh B.J. (2020) A deep learning approach for hemodynamic parameter estimation from multi-delay arterial spin-labelled MRI. Proceedings of the 28th annual meeting of Intl. Soc. Mag. Reson. Med., Sydney, Australia. *Awarded **Magna Cum Laude** (top 15%)*

Luciw N.J., Toma S., Goldstein B.I., MacIntosh B.J. (2020) Region-to-region covariation of cerebral blood

flow in the young brain before and after acute exercise. Proceedings of the 28th annual meeting of Intl. Soc. Mag. Reson. Med., Sydney, Australia.

Koudys, J. W., **Luciw, N. J.**, Ruocco, A. C., Walter, M., Wrege, J. (2019). Neural markers of impulsivity in suicide attempt and suicidal ideation: A multimodal cerebral perfusion and gray matter volume approach. Society of Biological Psychiatry 74th Annual Meeting, Chicago, IL.

Anderson C.J., **Luciw N. J.**, Li Y.-C., Kuo C. Y., Yadav J. et al. (2017). Lack of small-scale clustering in 21-cm intensity maps crossed with 2dF galaxy densities at $z \sim 0.08$. American Astronomical Society 230th Meeting, Austin, TX.

Workshop Presentations & Posters

Luciw N. J., Toma S., Goldstein B. I. and MacIntosh B. J. (2019). Cerebral perfusion covariance mapping in adolescents with and without bipolar disorder. University of Michigan International Workshop on Arterial Spin Labeling MRI, Ann Arbor, MI.

Luciw N. J. and MacIntosh B. J. (2018). Functional connectivity based on ASL cerebral blood flow images: guiding the experimental design with simulations. James Lepock Memorial Symposium, Toronto, ON.

Luciw N. J., Anderson C.J. and Pen U.-L. (2017). Optimizing the Parkes Intensity Mapping Survey auto-power spectrum estimation. Annual Green Bank Telescope Intensity Mapping Workshop, Toronto, ON.

Luciw N. J. (2017). Computing challenges in 21-cm intensity mapping with the Parkes telescope. International High Performance Computing Summer School, Boulder, CO.

Luciw N. J. and Pen U.-L. (2016). Minimizing foregrounds with cross-correlation in 21-cm intensity mapping surveys. Canadian Institute for Theoretical Astrophysics Black-board Talks, Toronto, ON.

Volunteer

Communications Director — *University of Toronto*
Faculty of Medicine Graduate Representation Committee — *May. 2020 - Present*

President — *University of Toronto*
Dept. of Medical Biophysics Graduate Student Association — *Sept. 2019 - Aug. 2020*

Representative of the Dept. of Medical Biophysics — *University of Toronto*
University of Toronto Graduate Student Union — *Sept. 2018 - Aug. 2019*

First-Year Representative — *University of Toronto*
Dept. of Medical Biophysics Graduate Student Association — *Sept. 2017 - Aug. 2018*

Vice President Operations — *University of Guelph*
College of Physical & Engineering Sciences Student Association — *Sept. 2013 - Aug. 2015*

Teaching

All courses taught in the Department of Physics at the University of Toronto

PHY100 - The Magic of Physics — *01/2017-04/2017*
Teaching Assistant (Tutorial/Office hours/Marking)

PHY152 - Foundations of Physics — *01/2016-04/2016*
Teaching Assistant (Tutorial/Office hours/Marking)

PHY131 - Introduction to Physics — *09/2015-12/2015*
Teaching Assistant (Tutorial/Office hours)

Workshops

International HPC Summer School *Boulder, CO*

PRACE, XSEDE, RIKEN, Compute Canada *June 2017*

Introduction to Neural Network Programming *Toronto, ON*

SciNet *May 2017*

Quantitative Applications for Data Analysis *Toronto, ON*

SciNet *Jan.-Apr. 2017*

Scientific Computing for Physicists *Toronto, ON*

SciNet *Jan.-Apr. 2016*