

Nicholas Luciw

PHD CANDIDATE · SUNNYBROOK RESEARCH INSTITUTE · UNIVERSITY OF TORONTO

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Education

PhD Candidate, Medical Biophysics

UNIVERSITY OF TORONTO

Toronto, Canada

Sept. 2017 - Dec. 2021 (expected)

M.Sc., Physics

UNIVERSITY OF TORONTO

Toronto, Canada

Sept. 2015 - Sept. 2016

Honours B.Sc., Physics, with distinction

UNIVERSITY OF GUELPH

Guelph, Canada

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

FACULTY OF MEDICINE GRADUATE REPRESENTATION COMMITTEE

University of Toronto

May. 2020 - Present

President

DEPT. OF MEDICAL BIOPHYSICS GRADUATE STUDENT ASSOCIATION

University of Toronto

Sept. 2019 - Aug. 2020

Representative of the Dept. of Medical Biophysics

UNIVERSITY OF TORONTO GRADUATE STUDENT UNION

University of Toronto

Sept. 2018 - Aug. 2019

First-Year Representative

DEPT. OF MEDICAL BIOPHYSICS GRADUATE STUDENT ASSOCIATION

University of Toronto

Sept. 2017 - Aug. 2018

Vice President Operations

COLLEGE OF PHYSICAL & ENGINEERING SCIENCES STUDENT ASSOCIATION

University of Guelph

Sept. 2013 - Aug. 2015

Teaching

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

PHY100 - The Magic of Physics

TEACHING ASSISTANT (TUTORIAL/OFFICE HOURS/MARKING)

01/2017-04/2017

PHY152 - Foundations of Physics

TEACHING ASSISTANT (TUTORIAL/OFFICE HOURS/MARKING)

01/2016-04/2016

PHY131 - Introduction to Physics

TEACHING ASSISTANT (TUTORIAL/OFFICE HOURS)

09/2015-12/2015

Workshops

International HPC Summer School

PRACE, XSEDE, RIKEN, COMPUTE CANADA

Boulder, CO

June 2017

Introduction to Neural Network Programming

SciNET

Toronto, ON

May 2017

Quantitative Applications for Data Analysis

SciNET

Toronto, ON

Jan.-Apr. 2017

Scientific Computing for Physicists

SciNET

Toronto, ON

Jan.-Apr. 2016