

Carleton University med phys grad student publications and presentations

(October 16, 2024 to October 15th, 2025)

Names of Carleton medical physics student authors of publications and presentations from MSc or PhD thesis work are in **bold**. In addition, author names are in ***bold italic*** for biomedical engineering MASc or PhD thesis work done as a graduate student in Physics.

Journal Publications (alphabetic by first author)

1. **Gagnon JR**, Allen CH, Diop MK, Dallaire F, Leblond F, Trudel D, and Murugkar S. Label-free histological identification of intraductal carcinoma of the prostate using texture analysis-based multimodal stimulated Raman scattering microscopy. Sci Rep., in press (2025); doi: 10.1038/s41598-025-23780-8
2. Allen CH, Othman AM, **Gagnon JR**, **Buragina T**, Kotb H and Murugkar S, Optimization of Fiber Amplifier Design for Stimulated Raman Scattering Microscopy. IEEE Journal of Selected Topics in Quantum Electronics, vol. 32, no. 4: Adv. Biophoton. in Emerg. Biomed. Tech. and Dev, pp. 1-10, July-Aug. 2026, Art no. 7100110, doi: 10.1109/JSTQE.2025.3616654
3. **Jabbarpour A.** et al. On the construction of a large-scale database of AI-assisted annotating lung ventilation-perfusion scintigraphy for pulmonary embolism (VQ4PEDB). Frontiers in Nuclear Medicine, 2025; 5.
<https://doi.org/10.3389/fnume.2025.1632112>.
4. **McNairn C**, **Pasricha**, P, Milligan K, et al. Exploring the potential of Raman micro-spectroscopy of radiochromic films for experimental microdosimetry. Med Phys. 2025;52:e17900. <https://doi.org/10.1002/mp.17900>
5. Hassan EM, **Puzantian B**, Mayenburg JM, Li M, Rashid M, Wilkins RC, Beaton-Green LA. Application of an imaging flow cytometry γ -H2AX assay for biodosimetry using supervised machine learning. Int J Radiat Biol. 2025 Aug 11:1-10.
<https://doi.org/10.1080/09553002.2025.2536108>

Conference Proceedings and Presentations (presenting author underlined)

Flash Radiotherapy and Particle Therapy conference, Rome, Italy. 4-6 December 2024.

Howard V, Renaud J, Heath E, and Muir B.

A novel pyroelectric calorimeter for ultra-high dose rate beams.

Poster presentation.

International Society for Optics and Photonics (SPIE) Photonics West conference, San Francisco, California, USA. 25-30 January 2025.

Gagnon JR, Allen CH, Diop MK, Dallaire F, Leblond F, Trudel D, and Murugkar S.

Texture-Analysis Classification of Intraductal Carcinoma of the Prostate Using Label-Free Multimodal Nonlinear Optical Imaging.

Poster presentation

International Society for Magnetic Resonance in Medicine (ISMRM) Annual meeting. Honolulu, Hawai'i, USA. 10-15 May 2025

Sisson M, Melkus G, Rakhra KS, Taylor R, Dinelle K, Grammatopoulos G, Carsen S, Parisien A, and Beaulé PE.

Functional PET-MRI in Symptomatic Cam FAI Examining the Crosstalk Between Bone and Cartilage.

Poster presentation.

Shafae Y, Hartung G, and Berman A.

The dynamic relationship between cerebral blood flow and venous cerebral blood volume under different types of stimuli.

Poster presentation.

Canadian Organization of Medical Physicists (COMP) Annual Scientific meeting. London, ON, Canada. June 4-7, 2025.

Gunasekara D, Hunter D, Wilkins RC, and Beaton, LA

Characterizing the Radiation Environment on the International Space Station Using Monte Carlo Simulations.

Oral presentation.

Howard V, Renaud J, Heath E, and Muir B

Improving the accuracy of measurements with a clinical pyroelectric calorimeter.

Poster presentation.

Pasricha P, Akbari F, Dalby A, Miksys N, and Thomson RM

Dosimetric impact of source displacement in GammaTile brachytherapy: A Monte Carlo study.

Poster presentation.

Society for Nuclear Medicine and Molecular Imaging (SNMMI) Annual Meeting, New Orleans, Louisiana, USA. June 21-24, 2025.

Jabbarpour A, Moulton E, Zeng W, Couture A, Roy A, Liu R, Hejji N, Leung E and Klein R

AI-Assisted Annotation of V/Q Scintigraphy VQ4PEDB: Development of a Large-Scale Annotated Database for Pulmonary Embolism.

Poster presentation.

American Association of Physicists in Medicine (AAPM) Annual meeting. Washington, DC, USA. July 27-30, 2025.

Pasricha P, Akbari F, Dalby A, Miksys N, and Thomson RM

Dose evaluation of multiple GammaTiles in heterogeneous brain models using egs_brachy.

Poster presentation.

European Association of Nuclear Medicine Annual Congress. Barcelona, Spain. October 4-8, 2025

Jabbarpour A, Kaviani S, Moulton E, Ghassel S, Zeng W, Akbarian R, Couture A, Roy A, Liu R, Lucinian YA, Hejji N, AlSulaiman S, Shirazi F, Leung E and Klein R.

Seg V/Q: Building a Large-Scale Database of Lung Ventilation-Perfusion Scintigraphy Annotated for Pulmonary Embolism Mismatch Defects (VQ4PEDB) With the Help of AI.

Oral presentation.

Jabbarpour A, Kaviani S, Moulton E, Zeng W, Ghassel S, Akbarian R, Couture A, Roy A, Liu R, Lucinian YA, Hejji N, AlSulaiman S, Shirazi F, Leung E and Klein R.

Segmenting Pulmonary Embolism in Ventilation/Perfusion (V/Q) Scans: Benchmarking nnUnet, SwinUnet, and BTUnet.

Oral presentation.

8th International Symposium on The System of Radiological Protection. Abu Dhabi, United Arab Emirates. October 7 – 9, 2025

Puzantian B et al.

Implementation of radiological protection in human medical research: insights from an international survey by ICRP TG126.

Oral presentation.