

Carleton University med phys grad student publications and presentations 2019

Carleton MSc or PhD medical physics student authors are in **bold**.

Journal Publications (alphabetic by first author)

Alexandra Bourguin, Claudiu Cojocaru, Carl Ross, and Malcolm McEwen,
Determination of W_{air} in high-energy electron beams using graphite detectors,
Med. Phys. **46**(11), 5195-5208 (2019).
doi: [10.1002/mp.13772](https://doi.org/10.1002/mp.13772)

Sarah G. Cuddy-Walsh and R. Glenn Wells,
Noise heterogeneity in attenuation-corrected cardiac SPECT images increases perfusion value uncertainty near the base of the heart,
J. Nucl. Cardiol. 2019 Jul 22.
doi: [10.1007/s12350-019-01821-w](https://doi.org/10.1007/s12350-019-01821-w) [Epub ahead of print]
PMID: 31332658

Sarah G. Cuddy-Walsh, Duncan C. Clackdoyle, Jennifer M. Renaud, and R. Glenn Wells,
Patient-specific SPECT imaging protocols to standardize image noise,
J Nucl Cardiol. 2019 Mar 4, erratum 2019 Mar 27,
doi: [10.1007/s12350-019-01664-5](https://doi.org/10.1007/s12350-019-01664-5) [Epub ahead of print]
PMID: 30834500

Christopher Dydula, George Belev, and Paul C. Johns,
Development and assessment of a multi-beam continuous-phantom-motion x-ray scatter projection imaging system,
Review of Scientific Instruments **90**(3), 035104 (2019).
doi: [10.1063/1.5043393](https://doi.org/10.1063/1.5043393)

Sara Gholampourkashi, Joanna E. Cygler, Jason Bélec, Miro Vujicic, and Emily Heath,
Monte Carlo and analytic modeling of an Elekta Infinity linac with Agility MLC: Investigating the significance of accurate model parameters for small radiation fields,
J. Applied Clinical Med. Phys. **20**(1), 55-67 (2019).
doi: [10.1002/acm2.12485](https://doi.org/10.1002/acm2.12485)

Ali-Reza Mehan Haidari, Nelson Miksys, Paul Soubiran, Joanna E. Cygler, Oliver Holmes, Gad Perry, and Rowan M. Thomson,
Dosimetric and radiobiological investigation of permanent implant prostate brachytherapy based on Monte Carlo calculations,
Brachytherapy **18**, 875-882 (2019).
doi: [10.1016/j.brachy.2019.06.008](https://doi.org/10.1016/j.brachy.2019.06.008)

Ben Hansson, **C. Harry Allen**, Sami Qutob, Bradford Behr, Balazs Nyiri, Vinita Chauhan, and Sangeeta Murugkar,

Development of a flow cell based Raman spectroscopy technique to overcome photodegradation in human blood,

Biomedical Optics Express **10**(5), 2290-2303 (2019).

doi: [10.1364/BOE.10.002275](https://doi.org/10.1364/BOE.10.002275)

Ming Liu, Joanna E. Cygler, and Eric Vandervoort,

Geometrical tracking accuracy and appropriate PTV margins for robotic radiosurgery of liver lesions by SBRT,

Acta Oncologica **58**(6), 906-915 (2019).

doi: [10.1080/0284186X.2019.1578896](https://doi.org/10.1080/0284186X.2019.1578896)

Patricia A. K. Oliver and Rowan M. Thomson,

Investigating energy deposition in glandular tissues for mammography using multiscale Monte Carlo simulations,

Med. Phys. **46**(3), 1426-1436 (2019). Highlighted as Editors' Choice

doi: [10.1002/mp.13372](https://doi.org/10.1002/mp.13372)

Conference Presentations (presenting author underlined)

AAPM presentations: 61st annual meeting of the American Association of Physicists in Medicine, 2019 July 14 – 18, San Antonio, Texas USA.

All abstracts of this conference are at doi: [10.1002/mp.13589](https://doi.org/10.1002/mp.13589)

G. Aldosary, Tabitha Tse, W. Lee, T. Alotaibi, Claire Foottit, Angel Arnaut, Jean-Michel Caudrelier, Eric Vandervoort, and Jason Bélec.

Radiological and dosimetric characterization of a CT, MRI and ultrasound customizable breast phantom for radiotherapy use and surgical practice,

ePoster # WE-C1030-GePD-F6-5.

Med. Phys. **46**(6), e450-e450 (2019).

Christopher Dydula and Paul C. Johns,

Design study for multi-beam x-ray scatter projection imaging with pre-detector vanes,

Presentation TU-AB-221AB-4.

Med. Phys. **46**(6), e300-e300 (2019).

Ming Liu, A. Ross, Joanna E. Cygler, and Eric Vandervoort,

Adaptive margins with an Early Warning System for motion-tracking errors in liver SBRT,

Presentation TH-A-SAN2-10.

Med. Phys. **46**(6), e499-e500 (2019).

Malcolm McEwen and **Iymad Mansour**,

Development of a mailed dosimetric audit system for external beam radiation therapy using alanine dosimeters,

ePoster # TU-C930-GePD-F4-5.

Med. Phys. **46**(6), e311-e311 (2019).

ASTRO presentation: Annual meeting of the American Society for Radiation Oncology, Chicago, Illinois USA, 2019 September 15-18.

Jiheon Song, Jason Bélec, Jean-Michel Caudrelier, Patricia Lacasse, **Ghada Aldosary**, and Vimoj Nair,

Dose-sparing effect of deep inspiration breath hold technique (DIBH) on coronary artery segments, Meeting abstract # 3661,

Int. J. Rad. Oncol. Biology Physics **105**(1), e712-e712 (2019).

doi: [10.1016/j.ijrobp.2019.06.878](https://doi.org/10.1016/j.ijrobp.2019.06.878)

CIRMS presentation: 27th Annual Meeting of the Council on Ionizing Radiation Measurements and Standards, 2019 April 8-10, held at NIST, Gaithersburg, Maryland USA.

All abstracts of this conference are at cirms.org/conference_agenda_2019

Alexandra Bourgouin and Malcolm McEwen,

Determination of W_{air} in high-energy clinical electron beams using aluminium detectors,

Presentation on April 8 at 11:45.

2019 Junior Investigator Award.

COMP presentations: 65th Annual Scientific Meeting of the Canadian Organization of Medical Physicists, 2019 September 24-27, Kelowna, BC, Canada.

All abstracts of this conference are at doi: [10.1002/mp.13794](https://doi.org/10.1002/mp.13794)

Eric Christiansen, Emily Heath, and Tong Xu,

A framework for robust optimization of 4D-VMAT,

Young Investigators' Symposium, abstract YIS-01,

Med. Phys. **46**(11), 5372-5372 (2019).

Eric Christiansen, Emily Heath, and Tong Xu,

Markov chain modelling of respiratory motion,

Scientific Session 5A: Treatment planning, abstract 06,

Med. Phys. **46**(11), 5395-5395 (2019).

Keren Mayorov and Elsayed Ali,

Dosimetric impact of interfractional positional variation of the metal port of tissue expanders in postmastectomy patients treated on Tomotherapy,
Young Investigators' Symposium, abstract YIS-09,
Med. Phys. **46**(11), 5373-5374 (2019).

Malcolm McEwen, **Iymad Mansour**, Bryan Muir, and Michelle Nielsen,

Development of a mailed dosimetry audit system for Canada,
Scientific Session 2: Highlights, abstract 02.
Med. Phys. **46**(11), 5374-5374 (2019).

Nelson Miksys, Katie Lekx-Toniolo, **Ghada Aldosary**, Lesley Buckley, Daniel La Russa, Miller MacPherson, and Eric Vandervoort,

Site preparation, acceptance and commissioning of the GammaPod Accelerated Partial Breast Irradiation System,
Scientific Session 6: Special techniques, abstract 03,
Med. Phys. **46**(11), 5400-5400 (2019).

CARO presentations: Annual Scientific Meeting of the Canadian Association for Radiation Oncology (CARO), Halifax, Nova Scotia, Canada, 2019 October 2-5.

Abstracts of this conference are at

<https://www.caro-acro.ca/wp-content/uploads/2019/09/Green-Journal-Abstracts-2019.pdf>

Ghada Aldosary, Tabitha Tse, Angel Arnaout, Jean-Michel Caudrelier, Ron Romain, Bernie Lavigne, Jiheon Song, Eric Vandervoort, and Jason Bélec,

Are post oncoplasty surgical clips a reliable radiographic surrogate of tumour bed locations? A phantom based study,
Meeting abstract # 164,
Radioth. & Oncolog. **139**, Suppl. 1, S70-S71 (2019).

Jiheon Song, Jason Bélec, Jean-Michel Caudrelier, Patricia Lacasse, **Ghada Aldosary**, and Vimoj Nair,

Dose-sparing effect of deep inspiration breath hold technique on coronary artery and left ventricle segments,
Meeting abstract # 118,
Radioth. & Oncolog. **139**, Suppl. 1, S51-S52 (2019).

ESTRO presentation: 38th Annual Meeting of the European Society for Radiotherapy and Oncology (ESTRO), Milan, Italy, 2019 April 26-30.

S. Gholampourkashi, Joanna E. Cygler, Bernie Lavigne, and Emily Heath,
Use of a realistic breathing lung phantom to verify 4D Monte Carlo dose calculations,
Abstract # OC-0090,
Radiotherapy and Oncology **133** Suppl. 1, S45-S46 (2019).

ICCR/MCMA presentations: International Conference on the Use of Computers in Radiation Therapy and the International Conference on Monte Carlo Techniques for Medical Applications, held serially 2019 June 17-21, Montreal, Canada.

Abstracts of this conference are at easychair.org/smart-program/ICCRMCMA2019/program.html

Sara Gholampourkashi, Joanna E. Cygler, Bernie Lavigne and Emily Heath,
Validation of 4D Monte Carlo dose calculations using a programmable deformable lung phantom",
Oral presentation,
MCMA2019, Montreal QC, 2019 June 19-21.

Iymad Mansour, **Patricia A. K. Oliver**, and Rowan M. Thomson,
Machine learning techniques in microdosimetry: application to energy deposition within cell populations,
Poster # 103,
ICCR 2019, Montreal QC, 2019 June 17-20.

Martin Martinov and Rowan M. Thomson,
Towards multiscale simulations with EGSnrc: tests on cellular length scales,
Oral presentation within the Rising Stars Competition (for students),
MCMA2019, Montreal QC, 2019 June 19-21.

Luke McCooeye, G. Hurd, Luc Beaulieu, Rowan M. Thomson, and Emily Heath,
Dynamic model-based dosimetry of permanent implant brachytherapy,
Oral presentation,
MCMA2019, Montreal QC, 2019 June 19-21.

IEEE presentation: Nuclear Science Symposium and Medical Imaging Conference, 2019 October 26 - November 2, Manchester, UK.

Spencer Manwell, Ran Klein, Rob deKemp, and Tong Xu,
Whole-body motion correction in ^{13}N -ammonia myocardial perfusion imaging using positron emission tracking,
Poster # M-13-285 (abstract # 1141).
eventclass.org/contxt_ieee2019/online-program/session?s=109#e2158

ISMRM presentation: Annual Meeting of the International Society for Magnetic Resonance in Medicine, 2019 May 11-16, Montreal, Canada.

Greg Cron, Michael Gulak, **Nicholas Majtenyi**, Ian Cameron, and Thanh Nguyen,
MOLLI versus SMART1 mapping for quantitative brain tumor DCE MRI on a 3T GE 750w: Initial experience,
Poster # 2903,
Proc. International Society of Magnetic Resonance in Medicine (2019), # 2903.
www.ismrm.org/19/program_files/DP11.htm

Photonics North presentations: Annual Meeting, 2019 May 21-23, Québec, QC, Canada.

C. Harry Allen, Ben Hansson, Sami Qutob, N. Adam, Bradford Behr, Balazs Nyiri, Vinita Chauhan, and Sangeeta Murugkar,
Flow-cell Raman spectroscopy technique for blood,
Oral presentation,
Photonics North, 2019 May 23.

Olivia Raiche-Tanner, **C. Harry Allen**, M.-E. Sheridan, E. Cassol, Vinita Chauhan and Sangeeta Murugkar,
Multimodal CARS imaging of blood cells,
Oral presentation,
Photonics North, 2019 May 21.

SNMMI presentation: Annual Meeting of the Society of Nuclear Medicine and Molecular Imaging, 2019 June 22-25, Anaheim, Calif. USA.

Spencer Manwell, Ran Klein, Tong Xu, and Robert deKemp,
'Bad-breath' rejection: quality control metrics for respiratory gating in PET/CT,
Poster, meeting abstract # 1366.
J. Nucl. Med. **60** Suppl. 1, 1366 (2019).
jnm.snmjournals.org/content/60/supplement_1/1366.abstract

Other conference presentations:

Ghada Aldosary, Tabitha Tse, Angel Arnaout, Jean-Michel Caudrelier, Claire Fottit, Eric Vandervoort, and Jason Bélec,
A cost-efficient, realistic breast phantom for oncoplastic breast surgery training,
Canadian Surgery Forum 2019, Montreal, QC, Canada, 2019 September 5-7.
Meeting abstract CAGS-31,
Canadian Journal of Surgery **62** (4 Suppl 2), S98-S99, August 2019.
canjsurg.ca/wp-content/uploads/2019/08/62-4-S89.pdf

Alexandra Bourgouin and Malcolm McEwen,

Determination of W_{air} in high-energy clinical electron beams using aluminium detectors,

Presentation # 140,

IAEA International Symposium on Standards, Applications and Quality Assurance in Medical Radiation Dosimetry (IDOS 2019), Vienna International Centre, Vienna, Austria 2019 June 18-21.

iaea.org/sites/default/files/19/06/cn-273-book-extended-synopses.pdf, pages 31-32.