

Carleton University med phys grad student publications and presentations 2018

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

Journal Publications (alphabetic by first author)

C. Harry Allen, Achint Kumar, Sami Qutob, Balazs Nyiri, Vinita Chauhan, and Sangeeta Murugkar,
Raman micro-spectroscopy analysis of human lens epithelial cells exposed to a low-dose-range of ionizing radiation,

Phys. Med. Biol. **63**(2), 025002, 12 pages (2018).

doi: [10.1088/1361-6560/aaa176](https://doi.org/10.1088/1361-6560/aaa176)

Eric Christiansen, Emily Heath, and Tong Xu,

Continuous aperture dose calculation and optimization for volumetric modulated arc therapy,

Phys. Med. Biol. **63**(21), 21NT01, 11 pages (2018).

doi: [10.1088/1361-6560/aae65e](https://doi.org/10.1088/1361-6560/aae65e)

Sarah Cuddy-Walsh and R. Glenn Wells,

Patient-specific estimation of spatially variant image noise for a pinhole cardiac SPECT camera,
Med. Phys. **45**(5), 2033-2047 (2018).

doi: [10.1002/mp.12883](https://doi.org/10.1002/mp.12883)

Sara Gholampourkashi, Joanna E. Cygler, Bernie Lavigne, and Emily Heath,

Development of a deformable phantom for experimental verification of 4D Monte Carlo simulations in a
deforming anatomy,

Physica Medica **51**(1), 81-90 (2018).

doi: [10.1016/j.ejmp.2018.05.012](https://doi.org/10.1016/j.ejmp.2018.05.012)

Victor N. Malkov and David W. O. Rogers,

Monte Carlo study of ionization chamber magnetic field correction factors as a function of angle and beam
quality,

Med. Phys. **45**(2), 908-925 (2018).

doi: [10.1002/mp.12716](https://doi.org/10.1002/mp.12716)

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

Investigating energy deposition within cell populations using Monte Carlo simulations,

Phys. Med. Biol. **63**(15), 155018, 13 pages (2018).

doi: [10.1088/1361-6560/aac7b](https://doi.org/10.1088/1361-6560/aac7b)

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

Microdosimetric considerations for radiation response studies using Raman spectroscopy,

Med. Phys. **45**(10), 4734-4743 (2018).

doi: [10.1002/mp.13145](https://doi.org/10.1002/mp.13145)

Matthieu Pelletier-Galarneau, Robert A. deKemp, **Chad R. R. N. Hunter**, Ran Klein, Michael Klein, Joel
Ironstone, Joseph A. Fisher, and Terrence D. Ruddy,

Effects of hypercapnia on myocardial blood flow in healthy human subjects,

J. Nucl. Med. **59**(1), 100-106 (2018).

doi: [10.2967/jnumed.117.194308](https://doi.org/10.2967/jnumed.117.194308)

Conference Presentations (presenting author underlined)

AAPM presentations: 60th annual meeting of the American Association of Physicists in Medicine, 2018 July 29 – Aug 2, Nashville, Tennessee USA.

All abstracts of this conference are at doi: [10.1002/mp.12938](https://doi.org/10.1002/mp.12938)

E. Christiansen, E. Heath, and T. Xu,

A continuous aperture approach for VMAT plan optimization,
ePoster # MO-E115-GePD-F3-01.

Med. Phys. **45**(6), e412-e412 (2018).

S. Gholampourkashi, J.E. Cygler, B. Lavigne, and E. Heath,

Experimental verification of 4D Monte Carlo simulations in a deforming anatomy,
Presentation TH-EF-KDBRA1-07.

Med. Phys. **45**(6), e698-e698 (2018).

M. Liu, D. Granville, J.E. Cygler, and E. Vandervoort,

Predicting motion compensation errors for CyberKnife SBRT liver patients using a machine learning algorithm,

Presentation (Snap Oral) SU-F-209-03.

Med. Phys. **45**(6), e142-e142 (2018).

CIRMS presentations: 26th Annual Meeting of the Council on Ionizing Radiation Measurements and Standards, 2018 April 16-18, held at NIST, Gaithersburg, Maryland USA.

All abstracts of this conference are at cirms.org/pdf/CIRMS_2018_Final_Program_web3.pdf

Alexandra Bourgouin and Malcolm McEwen,

Investigation of the energy dependence of W_{air} in high energy electron beams,
Oral presentation, and Poster # 1.

Conference abstract book, pages 40-43.

First place winner in the Student Travel Awards Competition.

Iymad Mansour and Malcolm McEwen,

Work towards the development of a mailed audit protocol for Canada with a sub-1% uncertainty using alanine,

Poster # 6.

Conference abstract book, pages 55-59.

Martin Martinov and Rowan M. Thomson,

Pushing the limits of EGSnrc: Computing microscopic dose metrics on a macroscopic scale using multiscale modeling,

Poster # 7.

Conference abstract book, pages 59-62.

COMP-CARO-CAMRT presentations: Joint Scientific Meeting of the Canadian Organization of Medical Physicists with the Canadian Association of Radiation Oncology and the Canadian Association of Medical Radiation Technologists, 2018 September 12-15, Montréal, Canada.

Ghada Aldosary, Janos Szanto, Oliver Holmes, Claire Footitt, and Eric Vandervoort,
Assessing combined errors in image registration and geometric accuracy for CT, MRI and 3D angiography images for radiosurgery planning with the Cyberknife software,
Poster # 367.
Radioth. & Oncolog. **129, Suppl. 1**, S124-S125 (2018).

Elsayed S.M. Ali, **Lorcel Ericka Venturina**, and Greg Fox,
Dosimetric evaluation of dynamic conformal arc therapy,
Poster # 191.
Radioth. & Oncolog. **129, Suppl. 1**, S65-S65 (2018).

Christopher Dydula and Paul C. Johns,
A scanning method for x-ray flat-panel calibration,
Poster # 133.
Radioth. & Oncolog. **129, Suppl. 1**, S47-S47 (2018).

Nicholas Majtenyi, Thanh B. Nguyen, Gregory O. Cron, and Ian G. Cameron,
The need for standardization in the measurement of intravoxel incoherent motion physiological parameters,
Poster # 151.
Radioth. & Oncolog. **129, Suppl. 1**, S52-S53 (2018).

Luke McCooeye, Gavin Hurd, Luc Beaulieu, Emily Heath, and Rowan Thomson,
Monte Carlo dose calculations modelling edema resolution in permanent implant prostate brachytherapy,
Poster # 241.
Radioth. & Oncolog. **129, Suppl. 1**, S82-S82 (2018).

IEEE presentations: Nuclear Science Symposium and Medical Imaging Conference, 2018 November 10-17, Sydney, Australia.

S.G. Cuddy-Walsh, S. Massalha, B.F. Marvin, C. Carey, T.D. Ruddy, and R.G. Wells,
Evaluating patient-specific z-score images for lesion detection in low count studies,
Presentation M-22-06, meeting abstract #2022.
eventclass.org/contxt_ieee2018/online-program/session?s=M-22#e399

S. Manwell, R. Klein, R.A. deKemp, and T. Xu,
Whole-body motion correction in cardiac PET/CT using Positron Emission Tracking: A phantom validation study,
Poster # M-07-347, meeting abstract #2071.
eventclass.org/contxt_ieee2018/online-program/session?s=M-07#e803

N. Murtha, P. Saull, L. Sinclair, R. Mantifel, A. McCann, A. MacLeod, B. Beckman, B. Fairbrother, C. Ouellet, and P.-L. Drouin,
Reconstruction of an inaccessible, large-area extended source with a SCoTSS Compton gamma imager,
Presentation N-33-04, meeting abstract #2440.
eventclass.org/contxt_ieee2018/online-program/session?s=N-33#e147

ISMRM-ESMRMB presentation: Joint Meeting of the International Society for Magnetic Resonance in Medicine with the European Society for Magnetic Resonance in Medicine and Biology, 2018 June 16-21, Paris, France.

Nicholas Majtenyi, Thanh Nguyen, Gerd Melkus, Ryan Gotfrit, Gregory Cron, and Ian Cameron,
Are Intravoxel Incoherent Motion and Dynamic Contrast-Enhanced perfusion parameters related in glioblastomas?
Poster # 1597,
Proc. International Society of Magnetic Resonance in Medicine (2018), # 1597.
ismrm.org/18/program_files/TP06.htm

IUPESM presentations: World Congress on Medical Physics and Biomedical Engineering, 2018 June 3-8, Prague, Czech Republic.
All abstracts of this conference are at
guarant.topinfo.cz/iupesm2018/en/book-of-abstracts

Alexandra Bourgoiuin, Claudiu Cojocar, Carl Ross, and Malcolm McEwen,
Investigation of the energy dependence of W_{air} in high energy electron beams.
Oral presentation, T20-092, abstract #187.
Pages 980-981 of conference abstracts book.

Ming Liu, Eric Vandervoort, and Joanna E. Cygler,
Tracking accuracy of robotic radiosurgery for liver lesions,
Oral presentation, T19-057, meeting abstract # 169.
Pages 863-864 of conference abstracts book.

Iymad Mansour and Malcolm McEwen,
Establishment of a mailed audit dosimetry system for Canada using alanine.
Oral presentation, T20-005, meeting abstract # 197.
Page 928 of conference abstracts book.
Winner of the IOMP Young Investigator Award.

SNMMI presentations: Annual Meeting, 2018 June 23-26, Philadelphia, Penn. USA.

Sarah Cuddy-Walsh and R. Glenn Wells,
Base-to-apex noise gradient with dedicated cardiac and standard SPECT camera designs,
Poster, meeting abstract # 1708.
J. Nucl. Med. **59** Suppl. 1, article 1708 (2018).
jnm.snmjournals.org/content/59/supplement_1/1708.abstract?sid=f788af37-3688-408d-9f9d-df9991a916d1

Spencer Manwell, Ran Klein, Tong Xu, and Robert deKemp
Data-driven respiratory gating in cardiac PET/CT using the Positron Emission Tracking algorithm,
Oral presentation, meeting abstract # 16.
J. Nucl. Med. **59** Suppl. 1, article 16 (2018).
jnm.snmjournals.org/content/59/supplement_1/16.abstract?sid=4d398f5c-22da-4718-b363-f1f66bc42629

Other conference presentations:

Alexandra Bourgoiuin, Claudiu Cojocaru, Carl Ross, and Malcolm McEwen,
Improving radiation dosimetry through an investigation of the mean energy required to create ionization in dry air.

Oral presentation,

Women in Physics Canada Conference, 2018 July 17-20, Sherbrooke, Québec, Canada.

Fahd Jowhari, **Ming Liu**, Eric Vandervoort, Janice Doody, Marc Gaudet, Jason Pantarotto, Graham Cook, and Avijit Chatterjee,

How good is EUS guided fiducial placement for targeted Cyberknife radiotherapy?

Poster presentation, # Mo1307.

Digestive Disease Week (DDW), June 2-5 2018, Washington, DC, USA.

Gastrointestinal Endoscopy **87**(6S), AB438 (2018).

ac.els-cdn.com/S0016510718322326/1-s2.0-S0016510718322326-main.pdf?_tid=9f36855f-ecd3-44c3-b8e9-87986905b7e1&acdnat=1552495467_2fd315ba93b57c0e65e2b3d8ce07780b

Laurel E. Sinclair, Patrick R.B. Saull, Andrew McCann, **Nathan Murtha**, Rodger Mantifel, Christian Ouellet, Pierre-Luc Drouin, Audrey M.L. MacLeod, Blake Beckman, Blaine Fairbrother, Brian Le Gros, Ian Summerell, Jens Hovgaard, Stephen Monkhouse, Flaviu Stanescu, and Guy Jonkmans,

End-user experience with the SCoTSS Compton imager and directional survey spectrometer.

Symposium on Radiation Measurements and Applications (SORMA) XVII, June 11-14 2018, Univ. of Michigan, Ann Arbor, Michigan USA.

Program and abstracts: rma-symposium.engin.umich.edu/abstracts.php