

Carleton University med phys grad student publications and presentations 2017

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

Journal Publications (alphabetic by first author)

Hanif Gabrani-Juma, Owen J. Clarkin, **Amir Pourmoghaddas**, Brandon Driscoll, R. Glenn Wells, Robert A. deKemp, and Ran Klein,
Validation of a multimodality flow phantom and its application for assessment of dynamic SPECT and PET technologies,

IEEE Trans. Med. Imag. **36**(1), 132-141 (2017).

doi: [10.1109/TMI.2016.2599779](https://doi.org/10.1109/TMI.2016.2599779)

Matthieu Pelletier-Galarneau, **Chad R. R. N. Hunter**, Kathryn J. Ascah, Rob S. B. Beanlands, Girish Dwivedi, Robert A. deKemp, Benjamin J. W. Chow, and Terrence D. Ruddy,
Randomized trial comparing the effects of Ticagrelor versus Clopidogrel on myocardial perfusion in patients with coronary artery disease,

J. Am. Heart Assoc. **6**(5), article e005894 (11 pages)(2017).

doi: [10.1161/JAHA.117.005894](https://doi.org/10.1161/JAHA.117.005894)

Sara Gholampourkashi, Miro Vujcic, Jason Bélec, Joanna E. Cygler, and Emily Heath,
Experimental verification of 4D Monte Carlo simulations of dose delivery to a moving anatomy,
Med. Phys. **44**(1), 299-310 (2017).

doi: [10.1002/mp.12023](https://doi.org/10.1002/mp.12023)

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

Sensitive volume effects on Monte Carlo calculated ion chamber response in magnetic fields,
Med. Phys. **44**(9), 4854-4858 (2017).

doi: [10.1002/mp.12421](https://doi.org/10.1002/mp.12421)

Martin P. Martinov and Rowan M. Thomson,

Heterogeneous multiscale Monte Carlo simulations for gold nanoparticle radiosensitization,
Med. Phys. **44**(2), 644-653 (2017).

doi: [10.1002/mp.12061](https://doi.org/10.1002/mp.12061)

Nelson Miksys, Eric Vigneault, Andre-Guy Martin, Luc Beaulieu, and Rowan M. Thomson,
Large-scale retrospective Monte Carlo dosimetric study for permanent implant prostate brachytherapy,
Int. J. Radiation Oncology Biology Physics **97**(3), 606-615 (2017).

doi: [10.1016/j.ijrobp.2016.11.025](https://doi.org/10.1016/j.ijrobp.2016.11.025)

Nelson Miksys, **Mehan Haidari**, Eric Vigneault, Andre-Guy Martin, Luc Beaulieu, and Rowan M. Thomson,
Coupling I-125 permanent implant prostate brachytherapy Monte Carlo dose calculations with radiobiological models,

Med. Phys. **44**(8), 4329-4340 (2017).

doi: [10.1002/mp.12306](https://doi.org/10.1002/mp.12306)

Hamid Moradi, Abrar Ahmad, Dean Shepherdson, Nhung H. Vuong, Gosia Niedbala, Libni Eapen, Barbara Vanderhyden, Balazs Nyiri, and Sangeeta Murugkar,

Raman micro-spectroscopy applied to treatment resistant and sensitive human ovarian cancer cells,
J. Biophotonics **10**(10), 1327-1334 (Special Issue: SI)(2017).

doi: [10.1002/jbio.201600211](https://doi.org/10.1002/jbio.201600211)

Patricia A. K. Oliver and Rowan M. Thomson,
A Monte Carlo study of macroscopic and microscopic dose descriptors for kilovoltage cellular dosimetry,
Phys. Med. Biol. **62**(4), 1417-1437 (2017).
doi: [10.1088/1361-6560/aa5136](https://doi.org/10.1088/1361-6560/aa5136)

Patricia A. K. Oliver and Rowan M. Thomson,
Cavity theory applications for kilovoltage cellular dosimetry,
Phys. Med. Biol. **62**(11), 4440-4459 (2017).
doi: [10.1088/1361-6560/aa6a42](https://doi.org/10.1088/1361-6560/aa6a42)

Conference Presentations (presenting author underlined)

SPIE Proceedings: from SPIE Medical Imaging, 2017 February 11-16, Orlando, Florida USA.

Christopher Dydula and Paul C. Johns,
Accelerated x-ray scatter projection imaging using multiple continuously-moving pencil beams,
Proc. SPIE **10132**, article 4J (13 pages)(2017).
doi: [10.1117/12.2253720](https://doi.org/10.1117/12.2253720)

Spencer Manwell, Marc J. P. Chamberland, Ran Klein, Tong Xu and Robert deKemp,
Evaluation of the clinical efficacy of the PeTrack motion tracking system for respiratory gating in cardiac PET imaging,
Proc. SPIE **10132**, article 51 (10 pages)(2017).
doi: [10.1117/12.2255544](https://doi.org/10.1117/12.2255544)

AAPM presentations: 59th annual meeting of the American Association of Physicists in Medicine,
2017 July 30 – Aug 3, Denver, Colorado USA.
All abstracts of this conference are at doi: [10.1002/mp.12304](https://doi.org/10.1002/mp.12304)

Stephen Deering, Michelle Hilts, Randle E. Taylor, and Rowan Thomson,
Applications of egs_brachy for patient-specific model-based dose calculations for brachytherapy,
Presentation WE-AB-605-04.
Med. Phys. **44**(6), 3192-3193 (2017).

Sara Gholampourkashi, Joanna E. Cygler, Jason Bélec, Miro Vujcic, and Emily Heath,
Analytic modelling of Elekta Infinity linac: How precise model parameters need to be for small radiation fields?
ePoster # TU-C3-GePD-J(B)-06.
Med. Phys. **44**(6), 3124-3124 (2017).

Ming Liu, E. Vandervoort, and Joanna E. Cygler,
Use of Cyberknife log files to aid the derivation of PTV margins for liver treatments using Synchrony respiration compensation,
Presentation TH-CD-208-10.
Med. Phys. **44**(6), 3295-3296 (2017).

Patricia Oliver and Rowan Thomson,
Cavity theory applications for kilovoltage cellular dosimetry,
Presentation SU-F-108-3.
Med. Phys. **44**(6), 2745-2745 (2017).

CIRMS presentation: Conference of the Council on Ionizing Radiation Measurements and Standards, 2017 March 27-29, held at NIST, Gaithersburg, Maryland USA.

Alexandra Bourgouin and Malcolm McEwen,
Vacuum current: A possible systematic error in absolute dose/kerma measurements with ion chambers,
Poster # 1.
Conference abstract book, pages 28-29.
cirms.org/pdf/CIRMS_2017_Final_Program.pdf
First place winner in the Student Travel Awards Competition.

MCMA presentations: International Conference on Monte Carlo Techniques for Medical Applications, 2017 October 15-18, Napoli, Italy.

Joanna E. Cygler, **Sara Gholampourkashi**, and Emily Heath,
Experimental verification of 4D Monte Carlo calculations of dose delivered to a deforming anatomy,
Oral presentation, abstract # 15,
Physica Medica **42**, Supplement 1, page 2 (2017).
doi: [10.1016/j.ejmp.2017.09.006](https://doi.org/10.1016/j.ejmp.2017.09.006)

Patricia Oliver and R. M. Thomson,
Investigating energy deposition in cellular targets using multiscale tissue models,
Poster, abstract # 38,
Physica Medica **42**, Supplement 1, page 7 (2017).
doi: [10.1016/j.ejmp.2017.09.018](https://doi.org/10.1016/j.ejmp.2017.09.018)

Victor Malkov and D. W. O. Rogers,
Impact of the true sensitive volume on ion chamber response in magnetic fields,
Oral presentation, abstract # 53,
Physica Medica **42**, Supplement 1, page 11 (2017).
doi: [10.1016/j.ejmp.2017.09.027](https://doi.org/10.1016/j.ejmp.2017.09.027)

Martin Martinov and R. M. Thomson,
Heterogeneous multiscale simulations of radiation therapy with gold nanoparticles,
Oral presentation, abstract # 68,
Physica Medica **42**, Supplement 1, pages 13-14 (2017).
doi: [10.1016/j.ejmp.2017.09.033](https://doi.org/10.1016/j.ejmp.2017.09.033)

Rowan M. Thomson, Marc J. P. Chamberland, **Stephen G. Deering**, David W. O. Rogers, and Randle E. P. Taylor,
Oral presentation, abstract # 87,
Brachytherapy source and applicator models for diverse Monte Carlo simulations with egs_brachy
Physica Medica **42**, Supplement 1, page 18 (2017).
doi: [10.1016/j.ejmp.2017.09.045](https://doi.org/10.1016/j.ejmp.2017.09.045)

IEEE presentation: Nuclear Science Symposium and Medical Imaging Conference, 2017 October 22-28, Atlanta, Georgia USA.

Sarah G. Cuddy-Walsh and R. Glenn Wells,

A quick and easy method for patient-specific quantification of spatially varying noise in dedicated-cardiac SPECT images,

Poster M-03-063, meeting abstract #1726.

eventclass.org/contxt_ieee2017/online-program/search?search=%231726

ISMRM presentation: 25th Annual Conference of the International Society of Magnetic Resonance in Medicine, 2017 April 22-27, Honolulu, Hawaii USA.

Nicholas Majtenyi, Gregory O. Cron, Hanif Gabrani-Juma, Andreas Greiser, Robert A. deKemp, Ran Klein, Thanh B. Nguyen, and Ian G. Cameron,

Improved arterial input function measurements using phase-versus-time and modified Look-Locker inversion recovery: Phantom validation study,

Poster # 1903,

Proc. International Society of Magnetic Resonance in Medicine (2017), # 1903.

ismrm.org/17/program_files/TP06.htm

SNMMI presentation: Annual Meeting, 2017 June 10-14, Denver, Colorado USA.

Sarah Cuddy-Walsh and R. Glenn Wells,

Weight-based dosing method for consistent image noise levels in dedicated cardiac SPECT,

Oral presentation, meeting abstract # 28.

J. Nucl. Med. **58** Supplement 1, article 28 (2017).

abstract:

jnm.snmjournals.org/content/58/supplement_1/28.abstract?sid=08f78311-f7fa-4b55-afa4-c947d76889af

COMP presentations: 63rd Annual Scientific Meeting of the Canadian Organization of Medical Physicists, 2017 July 12-15, Ottawa, Canada.

All abstracts of this conference are at doi: [10.1002/mp.12446](https://doi.org/10.1002/mp.12446)

C. Harry Allen, Achint Kumar, Chris Dedek, Hamid Moradi, Abrar Ahmad, Vinita Chauhan, Balazs Nyiri, and Sangeeta Murugkar,

The application of Raman spectroscopy for in vitro dose discrimination of human lens epithelial cells exposed to ionizing radiation,

Poster # 54.

Med. Phys. **44**(8), 4385-4385 (2017).

Alexandra Bourgoiuin, Claudiu Cojocaru, and Malcolm McEwen,

Challenges in measuring absorbed dose with a simple open-to-atmosphere graphite calorimeter,

Presentation, Session 4A: Radiation dosimetry - 01.

Med. Phys. **44**(8), 4389-4390 (2017).

Shuhang H. Chen, **Christopher Dydula** and Paul C. Johns,
Two methods for the display of coherent x-ray scatter projection images,
Poster # 13.
Med. Phys. **44**(8), 4377-4377 (2017).

Eric Christiansen, Mark Bangert, Tong Xu, and Emily Heath,
Implementation of VMAT in matRad, an open source treatment planning toolkit,
Presentation, Session 5A: Treatment planning and imaging in radiotherapy - 04.
Med. Phys. **44**(8), 4394-4394 (2017).

Sarah G. Cuddy-Walsh and R. Glenn Wells,
Is it noise or abnormality? A method for estimating local noise in a CZT SPECT camera,
Presentation, Young Investigators' Symposium - 08.
Med. Phys. **44**(8), 4370-4370 (2017).

Stephen Deering, Rowan M. Thomson, Michelle Hilts, Daniel Morton, Deidre Batchelar, and Marie-Pierre Millette,
Monte Carlo dose calculations for permanent breast seed implant brachytherapy,
Poster # 50.
Med. Phys. **44**(8), 4384-4384 (2017).

Christopher Dydula and Paul C. Johns,
X-ray scatter projection imaging of an ex vivo canine prostate,
Poster # 18.
Med. Phys. **44**(8), 4378-4378 (2017).

Sara Gholampourkashi, Joanna E. Cygler, Bernie Lavigne, and Emily Heath,
Experimental verification of 4D Monte Carlo calculations of dose delivered to a deforming anatomy,
Presentation, Session 4A: Radiation dosimetry - 09.
Med. Phys. **44**(8), 4391-4391 (2017).

Ming Liu, Eric Vandervoort, and Joanna Cygler,
Effect of translational and rotational errors on the accuracy of CyberKnife liver treatments,
Poster # 44.
Med. Phys. **44**(8), 4383-4383 (2017).

Nicholas Majtenyi, Greg O. Cron, Thanh B. Nguyen, Ian G. Cameron,
Comparison of intravoxel incoherent motion and dynamic contrast-enhanced MRI perfusion in the human brain: Initial experience,
Presentation, Session 5B: Nuclear medicine and mri - 11.
Med. Phys. **44**(8), 4398-4399 (2017).

Victor N. Malkov and David W. O. Rogers,
Ion chamber quality and magnetic field conversion factors and angular dependence in magnetic fields,
Presentation, Young Investigators' Symposium - 10.
Med. Phys. **44**(8), 4371-4371 (2017).
This presentation was awarded first place in the Young Investigators' Symposium.

Iymad Mansour and Malcolm McEwen,
Development of an alanine-based audit dosimetry system for Canada,
Presentation, Session 4A: Radiation dosimetry - 03.
Med. Phys. **44**(8), 4390-4390 (2017).

Spencer Manwell, Ran Klein, Robert deKemp, and Tong Xu,
Patient motion management using the positron emission tracking (PeTrack) algorithm in cardiac PET without time-of-flight,
Presentation, Session 5B: Nuclear medicine and mri - 05.
Med. Phys. **44**(8), 4397-4397 (2017).

Martin P. Martinov and Rowan M. Thomson,
Heterogeneous multiscale simulations of gold nanoparticle radiotherapy considering intracellular nanoparticle distribution,
Presentation, Session 4A: Radiation dosimetry - 12.
Med. Phys. **44**(8), 4392-4392 (2017).

Patricia Oliver and Rowan M. Thomson,
Investigating energy deposition in glandular tissues for mammography using multiscale Monte Carlo simulations,
Presentation, Young Investigators' Symposium - 07.
Med. Phys. **44**(8), 4370-4370 (2017).

Lorcel Ericka Venturina, Greg Fox, and Elsayed Ali,
Characterization of a modern implementation of dynamic conformal arc therapy,
Presentation, Session 5A: Treatment planning and imaging in radiotherapy - 09.
Med. Phys. **44**(8), 4395-4395 (2017).