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*Work:*  
 Department of Medical Physics  
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 Vancouver, Canada. V5Z 4E6

My primary interests are in medical physics and computation. As a clinical physicist, I particularly enjoy translating emerging computational technologies into clinical practice. I have conducted research in the fields of medical physics, condensed matter, particle physics, and computation. I'm an advocate of **open source software** and much of the software I write is **freely available**.

I enjoy working on intricate problems, and have a passion for long-term goals.

- CITIZENSHIP Canadian.
- EDUCATION **CAMPEP Residency** ◦ Medical Physics ◦ 2019 ◦ **BC Cancer Surrey**.  
**Ph.D. in Physics** ◦ Medical Physics ◦ 2017 ◦ **University of British Columbia**.  
**M.Sc. in Physics** ◦ Medical Physics ◦ 2013 ◦ University of British Columbia.  
**B.Sc. (First Class Honours) in Physics** ◦ 2010 ◦ **University of Alberta**.
- AWARDS
- 2018 ■** Dr. Harold Batho Award. Provincial competition.  
 Awarded for best medical physics resident presentation, BC Cancer Academic Day.
- 2016 ■** Walter C. Sumner Memorial Fellowship. National competition.  
 “Based on research ability or potential, industry, judgment, all-round scientific ability, communication skills, and interpersonal and leadership abilities.”
- 2015 ■** BiGART Travel Grant, **13th Acta Oncologica Symposium on Biology-Guided Adaptive Radiotherapy**, Århus, Denmark. June 10 → 12.
- 2015 ■** UBC Four Year Doctoral Fellowship. Institutional competition.  
 “Provides support to outstanding doctoral students. Based on academic excellence.”
- 2013 ■** Best Poster/Oral Presentation, **17<sup>th</sup> International Conference on the use of Computers in Radiation Therapy**, Melbourne, Australia. May 6 → 9.
- 2010 ■** NSERC Alexander Graham Bell Graduate Scholarship (CGSM). National competition.  
 “Scholarship offered to top-ranked high calibre scholar applicants.”
- 2010 ■** NSERC Undergraduate Research Award (USRA). National competition.  
 “Awarded to students to foster academic research over one summer.”
- 2010 ■** Dean’s Silver Medal in Science, University of Alberta. Institutional competition.  
 “Awarded to graduating students with superior academic achievement.”
- 2009 ■** NSERC Undergraduate Research Award. National competition.
- 2008 ■** Louise McKinney Scholarship. Provincial competition.  
 “Scholarship awarded to students with exceptional academic achievement.”
- 2007 ■** Jason Lang Scholarship. Provincial competition.  
 “Scholarship given to students with outstanding academic achievement.”
- 2007 ■** Douglas M. Sheppard Scholarship, University of Alberta. Institutional competition.  
 “Scholarship awarded to students with superior academic achievement.”
- 2006 ■** Jason Lang Scholarship. Provincial competition.

- AFFILIATIONS**
- Medical Physicist** BC Cancer, (2017 → *present*).
  - Student Member** Canadian Organization of Medical Physicists, (2013 → *present*).
  - Student Member** American Association of Physicists in Medicine, (2014 → *present*).
  - Observer** DICOM standardization, (2015 → *present*).
  - Observer** ISO C++ standardization, (2012 → *present*).
- LEADERSHIP**
- 2018 ■** BC Cancer Resident Education Committee resident representative. Represented medical physics residents throughout BC at education hearings.
  - 2018 ■** Developed a number of software tools for clinical operations at BC Cancer Surrey. Tools include a static beam optimizer for treatment planning, **picket fence QA analysis tool**, **light-radiation field coincidence annual QA tool**, and a **treatment plan development tool for patients with second cancers**.
  - 2015 → 2016 ■** Proposed and co-developed a new graduate course at the University of British Columbia. Proposed course was a formalized extension of the graduate student seminar series, with addition of practical matters (e.g., writing abstracts).
  - 2014 → 2015 ■** Developed and ran a medical physics journal club jointly hosted by the University of British Columbia and BC Cancer. My lectures on **ethics and the early history of medical physics** are available on YouTube.
  - 2012 → 2015 ■** Host and organizer of the bi-monthly *graduate student seminar series* in the Department of Physics and Astronomy at the University of British Columbia.
  - 2014 ■** Proposed and implemented a data exchange framework at the BC Cancer Agency. Using this framework, patient data can be exported, anonymized, and processed in bulk. It successfully processed 2000 **DICOM data sets** for a salivary function study.
  - 2009 ■** Involved in the organization of the **45<sup>th</sup> Canadian Undergraduate Physics Conference** at the University of Alberta.
- SUPERVISION**
- 2019 → present ■** **Caleb Sample**, M.Sc. in physics. Thesis aim: evaluate feasibility of incorporating sub-organ radiotherapy optimization weights to account for variations in organ-at-risk dose-outcomes susceptibility.
- RESEARCH**
- 2017 → present ■** Development of clinical tooling for productive and efficient development of radiation therapy treatment plans. Automation of the treatment planning process is stymied by several limiting factors that must be manually performed: contouring, field selection and placement, beam modeling, optimization, and evaluation of plans, especially when a significant clinical compromise must be made. The broad aim of this work is to provide support tooling to automate the the planning, plan-checking, and quality assurance process as much as possible. This will be accomplished through use of automated contouring tools built on machine learning, speculative treatment planning that will allow the Pareto-optimal parameter space manifold to be explored effectively without having to manually iterate the planning process, development of a reliable open source particle transport solver to support dosimetric assessment, and implementation of a robust multi-objective optimizer tuned for radiotherapy applications. Work is ongoing.
  - 2015 → present ■** Quantitative assessment of **liver perfusion** changes for patients undergoing **stereotactic ablative radiotherapy** for surgically unresectable hepatocellular

carcinomas. In this project, I was responsible for (1) iterating an imaging protocol that was not reliably yielding perfusion images, and (2) correcting for abdominal motion and implementing a method for quantitative assessment of perfusion. The imaging protocol was amended and this work resulted in the development of a novel computational method for perfusion assessment. Work is ongoing and a follow-up clinical trial ([NCT02847767](#)) is currently underway.

- 2012** → *present* ■ Investigation of radiation-induced **xerostomia** using radiation dose and outcomes data. Using a large body of patient data and salivary flow measurements, the underlying nature of xerostomia was investigated. Emphasis was on quantitative assessment of regional dose susceptibility within the parotid gland. The motivational aim of the research was mitigation of disease onset by altering dose delivery. A clinical trial was undertaken ([NCT02294838](#)). Work was mostly computational in nature, requiring the development of a large automated analysis framework, multiple imaging modalities, and the development of a new imaging protocol and accompanying analysis technique, but apparatus design work was also required. This study is still underway.
- 2010** → **2011** ■ Computational simulation of Bosonic systems. Research focused on the application of the WORM algorithm (*Phys. Rev. Lett.* **96**, 070601, 2006) for path integral Monte Carlo to Bosonic systems such as condensate liquids.
- 2010** ■ A variational method for computation of the ground state and excited states of dipositronium ( $e^-e^-e^+e^+$ ) was implemented. Research focus was on improving computational speed and accuracy. Energies found were both more accurate and more efficient than an antecedent implementation.
- 2009** ■ Development of compressed sensing technique for novel optical sensors. Work began as an experimental project and evolved into a theoretical study.
- Experimental* ○ Study of **whispering gallery modes** in optical fibres. Focus on detecting small mode shifts and developing a mechanism to probe such shifts. Work was in progress to develop the technology so that a single surface-bound DNA nucleotide could be detected.
- Theoretical* ○ Examination of the *minimum data* problem. In the context of the project, this was the question of how little data is necessary to reliably detect a mode shift. Developed software to clean and mesh data from multiple sources and utilize the periodicity of repeating signals for error removal.
- 2008** ■ Volunteer undergraduate work for Dr. Jan Jung and graduate student Mehmet Egilmez. Research probed the structure of high-temperature superconducting rings by inducing a persistent current and varying sample temperature. All work involved data collection using computer controlled hardware.

## CLINICAL SKILLS

- Operating:
  - Varian iX and TB linacs
  - Aria software
  - OBI, CBCT, portal imaging systems
  - GE CT simulators
  - GE CT image analysis software
  - RPM system
  - MIM
  - IMsure
  - QATrack+
  - Monte Carlo (EGSnrc, MCNP, PT)
- Performing:
  - External beam planning and plan checking
  - CPQR QA: linac, ortho, CT sim, CBCT, TPS, and major dosimetry equipment
  - Patient-specific QA
  - Post-service linac QA
  - TG-51 and adjusting linac output
  - Linac commissioning
  - Equipment acceptance testing
- Analyzing:
  - CPQR linac QA tests (e.g., picket fences)
  - CPQR CT QA tests (e.g., CT #, deviation)
  - Dynalog & Trajectory logs
  - Commissioning beam model data
- QA devices:
  - BeamChecker, Checkmate
  - Matrixx
  - ArcCheck
  - Water tanks (e.g., IBA Blue Phantom)
  - Landauer OSLDs
  - GAFchromic Film
  - Catphan, QC-3/kV-1, breathing phantoms
  - Ion chambers (e.g., Farmer, ||-plate, Geske)
- Radiation safety:
  - Dropped-badge calculations
  - CNSC licencing
  - Room and leakage surveys
  - Safety in-services
  - Badge reporting
  - Shielding thickness calculation
- Xstrahl Orthovoltage operation and MU checks
- 4D imaging (gating, tracking, breathhold)
- 3D printing (design, manipulation, and printing)
- DICOM standard, conformance, implementation
- Image registration (MIM and Plastimatch)
- DICOM patient data anonymization
- Image reconstruction

## NON-ROUTINE CLINICAL CONTRIBUTIONS

- 2018** ■ Carried clinical primary support pager continuously for 8 months.
- 2018** ■ Developed clinical tool for 2<sup>nd</sup> cancer replanning technique (“*dose cropping*”).
- 2018** ■ Acting PA for 3 months while department understaffed (i.e., routine & post-service QA).
- 2018** ■ Created clinical plan optimizer for 3D-CRT lung SABR.
- 2018** ■ Developed a novel, robust analysis method & clinical tool for picket fence analysis.
- 2018** ■ Created high-throughput, open source DICOM anonymizer.
- 2018** ■ Created high-throughput, open source deformable image registration clinical appliance.
- 2017** ■ Created software tools for robust CPQR linac QA analysis.
- 2014** ■ Connected DICOM-Q/R service tool to Aria DICOM DB for mass dataset export.
- 2013** ■ Developed Vancouver department website.

## TECHNICAL SKILLS

- Programming:
  - C++ and C (I follow standardization)
  - Shell, Bash (Linux scripting)
  - Python
  - R-stats
  - SQL
  - Lua
  - AutoHotKey
  - Go
  - Javascript & CSS
  - Rust
  - Assembly (Intel, PIC)
  - L<sup>A</sup>T<sub>E</sub>X, T<sub>E</sub>X
- I manage my own:
  - Linux distribution (Groundhog Linux)
  - Computing cluster (Arch Linux)
  - Website
  - *Many* open source projects
- DICOM interchange
- PACS implementation
- Eclipse Scripting
- Eclipse DICOM API
- Specific technologies:
  - HTTP (1, 1.1, 2)
  - HTML (4, 5), XHTML
  - JSON, YAML
  - Protocol Buffers, Flatpak, Cap'n Proto
  - Image formats (vector & bitmap)
  - Boost library
  - CGAL, Blender, Meshlab  
(computational geometry)
  - ImageMagick, Inkscape  
(image manipulation)
  - SFML, SDL (graphics and GUI)
  - OpenGL, OpenCL  
(graphics and GPU computation)
  - GSL (GNU Scientific Library)
  - Qt (C++ and Python), WxWidgets
  - PostgreSQL, MySQL / MariaDB  
(SQL databases)
  - Maxima, Axiom, FORM  
(computer algebra)
  - GCC, gdb, LLVM / clang, Valgrind, Massif
  - Make, CMake, autotools
  - Git, Git-Annex
  - Docker, virtualization, containerization

## ARTICLES PUBLISHED IN REFEREED JOURNALS

1. **H. Clark**, F. Cao, C. Leong, and E. Berthelet.  
 “A practical radiotherapy treatment planning technique for second-incidence cancers that incorporates complete organ-at-risk dose history.”  
 In the Journal of Medical Imaging and Radiation Sciences, vol. 50, no. 1, p. 74-81. Elsevier, 2019.
2. **H. Clark**, S. Thomas, S. Reinsberg, V. Moiseenko, A. Hovan, and J. Wu.  
 “Heterogeneous radiotherapy dose-outcomes response in parotid glands.”  
 In Convergent Science Physical Oncology, vol. 4, no. 3, p. 035001. IOP Publishing, 2018.
3. C. Nguyen, S. Lin, **H. Clark**, A. Hovan, and J. Wu.  
 “Stimulated saliva rate following intensity modulated radiation therapy.”  
 In the Journal of the American Dental Association, vol. 149, no. 6, p. 432-441. Elsevier, 2018.
4. J. Wong, **H. Clark**, R. Corns, and S. Tyldesley.  
 “Assessing health implications of the potential radiation exposure in the community during pregnancy: a case study.”  
 In Cureus, vol. 9, no. 10, p. e1770. Cureus Inc., 2017.

5. M. Thor, A. Owosho, **H. Clark**, J. Hun Oh, N Riaz, *et al.*  
 “Internal and external generalizability of temporal dose-response relationships for xerostomia following IMRT for head and neck cancer.”  
 In *Radiotherapy and Oncology*, vol. 122, no. 2, p. 200-206. Elsevier, 2017.
6. **H. Clark**, V. Moiseenko, T. Rackley, S. Thomas, J. Wu, and S. Reinsberg.  
 “Development of a method for functional aspect identification in parotid using dynamic contrast-enhanced magnetic resonance imaging and concurrent stimulation.”  
 In *Acta Oncologica*, vol. 54, no. 9, p. 1686-1690. Taylor & Francis, 2015.
7. **H. Clark**, A. Hovan, V. Moiseenko, S. Thomas, J. Wu, and S. Reinsberg.  
 “Regional radiation dose susceptibility within the parotid gland: Effects on salivary loss and recovery.”  
 In *Medical Physics*, vol. 42, no. 4, p. 2064-2071. American Association of Physicists in Medicine, 2015.
8. **H. Clark**, S. Thomas, V. Moiseenko, R. Lee, B. Gill, C. Duzenli, and J. Wu.  
 “Automated segmentation and dose-volume analysis with DICOMautomaton.”  
 In *Journal of Physics: Conference Series*, vol. 489, no. 1, p. 012009. IOP Publishing, 2014.
9. **H. Clark**, J. Wu, V. Moiseenko, R. Lee, B. Gill, C. Duzenli, and S. Thomas.  
 “Semi-automated contour recognition using DICOMautomaton.”  
 In *Journal of Physics: Conference Series*, vol. 489, no. 1, p. 012088. IOP Publishing, 2014.

PUBLICATIONS IN-REVIEW OR IN-PROGRESS<sup>1</sup>

1. **H. Clark**, S. Reinsberg, S. Zhang, and S. Thomas. (In-progress.)  
 “A flexible method with tuneable level-of-detail for kinetic modeling using Chebyshev polynomials.”
2. **H. Clark**, S. Reinsberg, V. Moiseenko, J. Wu, and S. Thomas. (In-progress.)  
 “Prefer nested segmentation to compound segmentation.”
3. **H. Clark**, S. Thomas, V. Moiseenko, J. Wu, A. Hovan, C. Swift, and S. Reinsberg. (In-progress.)  
 “Caudal aspects of the parotid gland are most important for radiation-induced salivary dysfunction.”

OTHER REFEREED CONTRIBUTIONS<sup>2,3</sup>

1. **H. Clark**<sup>†</sup>, S. Reinsberg, V. Moiseenko, J. Wu, and S. Thomas.  
 “Quantifying parotid compartment importance for post-radiotherapy function.”  
*Oral presentation at 19<sup>th</sup> International Conference on the use of Computers in Radiation Therapy*, Montreal, Canada. June 17 → 20, 2019.
2. O. Casares-Magaz, **H. Clark**<sup>†</sup>, N. Pettersson, L. Muren, A. Hopper, R. Knopp, J. Hattangadi-Gluth, J. Einck, and V. Moiseenko.  
 “Tracking bladder surface dose during radiotherapy for prostate cancers.”  
*Oral presentation at 19<sup>th</sup> International Conference on the use of Computers in Radiation Therapy*, Montreal, Canada. June 17 → 20, 2019.
3. **H. Clark**<sup>†</sup>, V. Huang, K. Kohli, D. Schellenberg, and A. Karvat.  
 “Validation of a radiomic feature extraction module in DICOMautomaton.”  
*Poster presentation at 19<sup>th</sup> International Conference on the use of Computers in Radiation Therapy*, Montreal, Canada. June 17 → 20, 2019.

<sup>1</sup>All submissions and latest drafts available upon request; only nearly submission-ready in-progress works are listed.

<sup>2</sup>Materials (abstracts, posters, slides, video, and audio) available upon request.

<sup>3</sup>Presenting author denoted with †.

4. **H. Clark**<sup>†</sup>, Y. Zhao, I. Badragan, S. Szpala, and F. Cao.  
“Robust picket fence quantification.”  
*Poster presentation at 19<sup>th</sup> International Conference on the use of Computers in Radiation Therapy*, Montreal, Canada. June 17 → 20, 2019.
5. **H. Clark**<sup>†</sup>, F. Cao, C. Leong, E. Berthelet.  
“A radiotherapy treatment planning technique for second courses that incorporates complete organ-at-risk dose history.” *Poster presentation at COMP-CARO-CAMRT Joint Scientific Meeting*, Montreal, Canada. September 12 → 15, 2018.
6. **H. Clark**<sup>†</sup>, S. Reinsberg, V. Moiseenko, J. Wu, and S. Thomas.  
“A procedure for generating isovolumetric organ compartments for organs-at-risk using planning contours.” *Poster presentation at COMP-CARO-CAMRT Joint Scientific Meeting*, Montreal, Canada. September 12 → 15, 2018.
7. **H. Clark**<sup>†</sup>, S. Reinsberg, S. Zhang, and S. Thomas.  
“A method of kinetic modeling with tuneable level-of-detail suitable for sparse sampling.” *Poster presentation at COMP-CARO-CAMRT Joint Scientific Meeting*, Montreal, Canada. September 12 → 15, 2018.
8. **H. Clark**, O. Casares-Magaz<sup>†</sup>, N. Pettersson, L. Muren, A. Hopper, *et al.*  
“Motion inclusive variations in bladder dose surface maps during the course of high-precision radiotherapy for prostate cancer.” *Oral presentation at 2<sup>nd</sup> European Congress of Medical Physics*, Copenhagen, Denmark. August 23 → 25, 2018.
9. **H. Clark**, J. Beaudry, J. Wu, and S. Thomas<sup>†</sup>.  
“Making use of virtual dimensions for visualization and contouring.” *Poster presentation at 18<sup>th</sup> International Conference on the use of Computers in Radiation Therapy*, London, UK. June 27 → 30, 2016.
10. **H. Clark**, S. Reinsberg, S. Zhang, and S. Thomas<sup>†</sup>.  
“Optimal choice of deformable image registration reference for abdominal perfusion CT imaging with Volume Helical Shuttle mode.” *Poster presentation at 18<sup>th</sup> International Conference on the use of Computers in Radiation Therapy*, London, UK. June 27 → 30, 2016.
11. E. Khawandanh<sup>†</sup>, C. Duzenli, **H. Clark**, J. Wu, S. Thomas, and E. Berthelet.  
“Performance optimization of atlas-based parotid gland autosegmentation using an in-house atlas library for head and neck radiotherapy planning.”  
*Oral presentation at 29<sup>th</sup> CARO Annual Scientific Meeting*, Kelowna, BC, Canada, Sept. 29<sup>th</sup>, 2015.
12. **H. Clark**<sup>†</sup>, V. Moiseenko, T. Rackley, S. Thomas, J. Wu, and S. Reinsberg.  
“Preliminary findings using dynamic contrast-enhanced magnetic resonance imaging to identify functional aspects within the parotid.” *Oral presentation at 13<sup>th</sup> Acta Oncologica Symposium on Biology-Guided Adaptive Radiotherapy*, Århus, Denmark. June 10 → 12, 2015.
13. **H. Clark**<sup>†</sup>, S. Thomas, V. Moiseenko, A. Hovan, and J. Wu.  
“The influence of regional dose sensitivity on salivary loss and recovery in the parotid gland.” *Oral presentation at COMP Annual Scientific Meeting*, Banff, Canada. July 9 → 12, 2014. Video on YouTube.
14. **H. Clark**<sup>†</sup>, J. Wu, V. Moiseenko, and S. Thomas.  
“Distributed, asynchronous, reactive dosimetric and outcomes analysis using DICOMautomaton.”  
*Poster presentation at COMP Annual Scientific Meeting*, Banff, Canada. July 9 → 12, 2014.
15. **H. Clark**<sup>†</sup>, S. Thomas, V. Moiseenko, R. Lee, B. Gill, C. Duzenli, and J. Wu.  
“Automated segmentation and dose-volume analysis with DICOMautomaton.”

*Poster with accompanying oral presentation at 17<sup>th</sup> International Conference on the use of Computers in Radiation Therapy*, Melbourne, Australia. May 6 → 9, 2013. [**Best poster award**].

16. **H. Clark**<sup>†</sup>, J. Wu, V. Moiseenko, R. Lee, B. Gill, C. Duzenli, and S. Thomas.  
“Semi-automated contour recognition using DICOM<sup>Automaton</sup>.” *Oral presentation at 17<sup>th</sup> International Conference on the use of Computers in Radiation Therapy*, Melbourne, Australia. May 6 → 9, 2013.

#### OTHER INSTITUTIONAL CONTRIBUTIONS<sup>4,5</sup>

1. “Radiation oncology rounds: research at BC Cancer Surrey.”  
*Oral presentation at BC Cancer, Surrey.* November 2, 2018.
2. “SABRLIVER: Sparse imaging perfusion analysis.”  
*Oral presentation at BC Cancer SABR Day, Vancouver.* June 26, 2018.
3. “A practical radiotherapy planning technique for second-incidence cancers that incorporates complete organ-at-risk dose history.”  
*Oral presentation at BC Cancer RT Program Annual Academic Day, Vancouver, Canada.* June 15, 2018.
4. “RTIMAGE analysis: analyzing picket fences.”  
*In-service at BC Cancer, Surrey.* March 29, 2018.
5. “X(-ray) marks the spot: the search for an outcomes ‘linchpin’ within the parotid gland.”  
*Oral presentation at Academic Grand Rounds, Vancouver (linked provincially).* February 8, 2018.
6. “The FVC area 4 linac removal.”  
*Article appearing in BCCA RT newsletter.* December 27, 2017.
7. “Radiation safety refresher for general physics staff.”  
*In-service at BCCA, Surrey.* August 18, 2017.
8. “A bit about spit – xerostomia research at the BCCA: DICOM<sup>Automaton</sup>.”  
*Oral presentation at BCCA SABR Day, Vancouver.* February 28, 2014.
9. “Automated analysis of 3D dosimetric data.”  
*Oral presentation at OaSIS Retreat, Vancouver.* June 20, 2012.

#### THESES

1. **H. Clark**. “Assessment of spatially inhomogeneous intra-organ radiation dose response in salivary glands.”  
Ph.D. thesis, University of British Columbia, Vancouver, Canada. April 2017.
2. **H. Clark**. “On the regional susceptibility of parotid gland function loss and recovery: an effort toward amelioration of radiotherapy-induced xerostomia.”  
M.Sc. thesis, University of British Columbia, Vancouver, Canada. September 2013.
3. **H. Clark**. “Effective field variational method study of di-positronium ( $e^+e^-e^+e^-$ ).”  
B.Sc. (first class honours) thesis, University of Alberta, Edmonton, Canada. April 2010.

<sup>4</sup>Limited to contributions *not* presented or published elsewhere.

<sup>5</sup>If presented multiple times, only the most recent presentation is listed.



## JOURNAL REVIEWING

- International Journal of Radiation Oncology \* Biology \* Physics (“*Red Journal*”)
- Medical Physics
- Current Medical Imaging Reviews
- Journal of Oral and Maxillofacial Radiology
- Scientific Reports (Nature)

## CONFERENCES ATTENDED

- 2019** ■ *2<sup>nd</sup> International Conference on Monte Carlo Techniques for Medical Applications*, Montreal, Canada. June 19 → 21.
- 2019** ■ *19<sup>th</sup> International Conference on the use of Computers in Radiation Therapy*, Montreal, Canada. June 17 → 20.
- 2019** ■ BC Cancer SABR Physics (QA and Immobilization) Day, Vancouver, Canada. January 11.
- 2018** ■ BC Cancer Summit, Vancouver, Canada. November 23 → 24.
- 2018** ■ *COMP-CARO-CAMRT Joint Scientific Meeting*, Montreal, Canada. September 12 → 15.
- 2018** ■ BC Cancer SABR Day, Vancouver, Canada. June 26.
- 2018** ■ BC Cancer RT Program Annual Academic Day, Vancouver, Canada. June 15.
- 2017** ■ BCCA RT Professional Practice Day, Surrey, Canada. September 30.
- 2017** ■ BCCA RT Program Academic Day, Vancouver (linked to Surrey), Canada. June 15.
- 2016** ■ BCCA HN Tumour Retreat, Vancouver, Canada. June 15.
- 2015** ■ *13<sup>th</sup> Acta Oncologica Symposium on Biology-Guided Adaptive Radiotherapy*, Århus, Denmark. June 10 → 12.
- 2014** ■ BCCA SABR Day, Vancouver, Canada. February 28.
- 2014** ■ BCCA Oral Oncology Annual Conference, Vancouver, Canada. November 14.
- 2014** ■ *COMP Annual Scientific Meeting*, Banff, Canada. July 9 → 12.
- 2013** ■ *17<sup>th</sup> International Conference on the use of Computers in Radiation Therapy*, Melbourne, Australia. May 6 → 9.
- 2012** ■ BCCA OaSIS Retreat, Vancouver, Canada. June 20.
- 2011** ■ *Joint AAPM/COMP Meeting*, Vancouver, Canada. July 31 → August 4.
- 2009** ■ *45<sup>th</sup> Canadian Undergraduate Physics Conference*, University of Alberta, Edmonton, Canada. October 1 → 5.