THE UNIVERSITY OF TEXAS
MD Anderson Cancer Center

CURRICULUM VITAE
David Jaffray

PRESENT TITLE AND AFFILIATION

Primary Appointment

Senior Vice President and Chief Technology and Digital Officer, Office of the Sr. VP & Chief Technology and Digital Officer, The University of Texas MD Anderson Cancer Center, Houston, TX

Dual/Joint/Adjunct Appointment

Professor, Department of Radiation Physics, Division of Radiation Oncology, The University of Texas MD Anderson Cancer Center, Houston, TX

Professor, Department of Imaging Physics, Division of Diagnostic Imaging, The University of Texas MD Anderson Cancer Center, Houston

CITIZENSHIP

Canadian

OFFICE ADDRESS

The University of Texas MD Anderson Cancer Center
1400 Pressler Street
Unit Number: 1495
Houston, TX 77030
Phone: 713-794-1007
Email: dajaffray@mdanderson.org

1. EDUCATION

Degrees

1994	PhD, Medical Biophysics	University of Western Ontario, Edmonton, Alberta, Canada
1988	BSc (Hon), Physics	University of Alberta, London, Ontario, Canada

Qualifications, Certifications and Licenses

1999 Certification, Radiation Oncology, American Board of Medical Physics

2. EMPLOYMENT

2019 – present	**Sr. Vice President and Chief Technology and Digital Officer**, The University of Texas MD Anderson Cancer Center
2019 - present	**Professor,** Departments of Radiation Physics and Imaging Physics, The University of Texas MD Anderson Cancer Center
2021 – present	**Director,** Institute for Data Science, The University of Texas MD Anderson Cancer Center
2015 – 2019	**Executive Vice-President**, Technology and Innovation, University Health Network
2015 – 2019	**Scientist**, Cross-Appointment, Joint Department of Medical Imaging
2013 – 2019	**Head**, Imaging Physics, University Health Network
2011 – 2019	**Director**, Techna Institute for the Advancement of Technology for Health, University Health Network
2009 – 2019	**Professor**, Institute of Biomaterials and Biomedical Engineering (IBBME), University of Toronto
2007 – 2019	**Director**, Preclinical and Computational Cores, Spatio-Temporal Targeting and Amplification of Radiation Response (STTARR) Innovation Centre, Princess Margaret Cancer Centre
2007 – 2019	**Professor**, Department of Medical Biophysics, Faculty of Medicine, University of Toronto
2007 – 2019	**Professor**, Department of Radiation Oncology, Faculty of Medicine, University of Toronto

2002 – 2019	**Senior Scientist**, Princess Margaret Cancer Centre
2002 – 2019	**Head**, Radiation Physics, Princess Margaret Cancer Centre
2002 – 2018	**Orey and Mary Fidani Family Chair in Radiation Physics**, Princess Margaret Cancer Centre
2004 – 2016	**Vice Chair**, Department of Radiation Oncology, Faculty of Medicine, University of Toronto
2002 – 2007	**Associate Professor**, Department of Medical Biophysics, Faculty of Medicine, University of Toronto
2002 – 2007	**Associate Professor,** Department of Radiation Oncology, Faculty of Medicine, University of Toronto
1994 – 2002	**Adjunct Assistant** Professor, Department of Physics, Oakland University
1993 – 2002	**Staff Physicist**, Radiation Oncology, William Beaumont Hospital

3. HONOURS AND CAREER AWARDS

Distinctions and Research Awards

2021	**Fellow,** International Union for Physical and Engineering Sciences in Medicine
2021	**Fellow,** National Academy of Inventors
2021	**Fellow,** German Radiation Oncology Society (DEGRO)
2018	**ASTRO Gold Medal,** American Society of Radiation Oncology
2016	**Fellow**, American Association of Physicists in Medicine
2014	**Honorable Mention for Innovation Award**, Cancer Quality Council of Ontario. *AQUA – A Comprehensive Platform for Radiation Therapy Equipment Quality Assurance*
2014	**Professional Development & CME Award**, University of Toronto, Department of Radiation Oncology
2014	**Fellow**, Canadian Organization of Medical Physicists
2013	**Excellence in Basic Sciences Research Award**, University of Western Ontario
2013	**University of Toronto Faculty of Medicine Colin Woolf Award for Excellence in Course Coordination**, Princess Margaret Cancer Centre, Radiation Medicine Program's Accelerated Education Program
2012	**Jorge Heller Award**, Controlled Release Society. *For Best Paper in the Journal of Controlled Release, 2011.*
2011	**James A. Purdy Lectureship**, Washington University
2010	**John S. Laughlin Lectureship**, Memorial Sloan Kettering Cancer Center
2007	**Innovation Award**, Cancer Care Ontario. *UHN-PMH-Web Publishing Jaffray DA, Sharpe M, Disney G, Homer P, Svistoun I, Michaelson T, Rose S.*
2007	**Inventor of the Year Award**, University Health Network. *Technology Development & Commercialization*
2004	**Young Alumni Award of Merit**, Western University
2003	**Sylvia Fedoruk Award Best Paper in Canadian Medical Physics**, Canadian Organization of Medical Physicists. *[Med Phys 29(11)].*
2003	**Canada's Top 40 Under 40 Award**, The Caldwell Partners
2003	**Premier's Research Excellence Award**, Government of Ontario
2002	**Farrington - Daniels Award Best Dosimetry Paper**, American Association of Physicists in Medicine. *[Med Phys 28(7)].*
2001	**Sylvia Sorkin Greenfield Best Paper Award**, American Association of Physicists in Medicine. *[Med Phys 27(6)].*
1986	**NSERC Summer Studentship**, Cross Cancer Institute

4. PROFESSIONAL AFFILIATIONS AND ACTIVITIES

Professional Associations

2005 - present	**Member**, American Society for Therapeutic Radiology and Oncology
2005 - present	**Member**, Canadian Organization of Medical Physicists

2002 - present	**Member**, Canadian Association of Radiation Oncologists
1988 - present	**Member**, American Association of Physicists in Medicine

Administrative Activities

INTERNATIONAL

American Association of Radiation Oncology

2012 - 2013	Chair, Physics Track, Program Committee
2012 - 2013	Scientific Program Committee
2013	Co-Chair ASTRO/AAPM workshop
2009 - 2012	Committee on New Technologies

American Association of Physicists in Medicine

2012 - 2019	**Chair**, TETAWG (Therapy Emerging Technology Assessment Working Group)
2012 – 2019	**Member**, Therapy Physics Committee
2006 - 2009	**Member**, Science Council
1998 - 2000	**Member**, Task Group 58 - Electronic Portal Imaging

National Institutes of Health

1999 - present	**Reviewer**, Center for Scientific Review, (P01, R43, R01, STTR/SBIR)

International Commission of Radiological Units

2019-present	**Commissioner**

NATIONAL

Canadian Institutes of Health Research

2005 - present	**Reviewer**, Medical Physics and Imaging Committee
2003 - present	**Reviewer**

National Cancer Institute of Canada/Clinical Trials Group

2003 - present	**Reviewer**

Natural Sciences and Engineering Research Council of Canada (NSERC)

2011 - 2013	**Member**, Physics Evaluation Group
2002 - present	**Reviewer**

University of Toronto

2004 - 2016	**Member**, Department Academic Promotions Committee, Faculty of Medicine, Dept. of Radiation Oncology, Faculty Development

Peer Review Activities

ASSOCIATE OR SECTION EDITING

Reviewer

1994 - present	Medical Physics

EDITORIAL BOARDS

Editor

2009 - 2015	Physica Medica

Member

2012 – present	Advisory Board, Seminars in Radiation Oncology
2011 - 2014	Nature, Scientific Reports

GRANT REVIEWS

Reviewer

1998, 2012, 2014	Dutch Cancer Society
2014	NIH, National Centre for Particle Beam Radiotherapy
2015	DFG – German Research Society
2016	MRC, CR UK Oxford University
2018	DKFZ/Fraunhofer – Research Program Reviewer

MANUSCRIPT REVIEWS

1995 - present	International Journal of Radiation Oncology, Biology and Physics
1995 – present	Medical Physics
1998 – present	Physics in Medicine and Biology
2002 – present	Radiotherapy and Oncology
2010 – present	Investigative Radiology
2012 – present	PLOS
2015 – present	Cancer Research
2020 - present	Nature Medicine

SCIENTIFIC ADVISORY BOARDS

2012 – 2019	Scientific Advisory Board, OncoRay, National Center for Radiation Research in Oncology Carl Gustav Carus University Hospital Dresden, Carl Gustav Carus Faculty of Medicine at TU Dresden and the Helmholtz-Zentrum Dresden-Rossendorf
2020-present	Chair, International Advisory Board, MCRC and CRUK Manchester Centre

Other Research and Professional Activities

COMMUNITY ACTIVITY

2013 Mar 7	**Advisor**. Technological Innovation. House of Commons, Ottawa, Ontario, Canada. *Invitation to appear before the House of Commons Standing Committee on Health*.

Non-employment Business Activities

2020	**Director,** Break Through Cancer Break Through Cancer is a non-profit organization that funds cancer research across multiple cancer centers (MSKCC, MIT, Johns Hopkins, Dana Farber, and MD Anderson). I participate on this Board as a representative of MD Anderson Cancer Center.

2016/5 **Co-Founder**, Involvement in/Creation of Start-up

Dr. Jaffray is one of the co-founders for Nanovista Inc. which provides multimodal visualization agents designed specifically to enhance the performance of image-guided interventions such as surgery, radiotherapy and drug delivery. http://www.nanovista.ca/

2014/1 **Co-Founder**, Board of Directors, Involvement in/Creation of Start-up

Acumyn Inc. is commercializing the AQUA quality assurance management platform developed at Princess Margaret. Dr. Jaffray helped oversee the creation of the start-up company as Co-Founder, and sits on the board of directors. http://acumyn.com/about-us/ The company has since been purchased by Elekta Inc.

Research Funding

1. GRANTS, CONTRACTS AND CLINICAL TRIALS

PEER-REVIEWED GRANTS

FUNDED

2016 Dec - 2021 Dec **Principal Investigator**. Robotic Radiobiology. Canada Foundation for Innovation (CFI). $991,070 CAD [Grants]

2018 Apr – 2022 Mar **Multi-Principal Investigator**. Heat Activated Liposomal Delivery of Chemo and Molecular Therapy in Combination with Radiotherapy for Treatment of Breast Cancer Recurrence at the Chest Wall. Canadian Institutes of Health Research (CIHR) **Jaffray DA**; Allen C; Chaudary N

2015 Jun - 2020 Jun **Principal Investigator**. Integrative Systems-Level Imaging (ISLI). Canada Foundation for Innovation (CFI). Collaborator(s): Joshua A; Jurisica J; Mikulis D; Milosevic M; Murphy K; Rogalla P; Valliant J; Wilson B; Wouters B. $5,734,904 CAD. [Grants]

2014 Dec - 2019 Nov **Principal Investigator**. Image-based quantitative assessment of tumor hypoxia. Canadian Institutes of Health Research (CIHR). Collaborator(s): Boutros P, Coolens C, Dhani N, Fyles A, Hedley D, Joshua A, Lee TT, Luyt L, Metser U, Milosevic M, Palma D, Valliant J, Ward A, Wouters B, Yeung I. $1,988,400 [Grants]

2016 Mar – 2019 Mar **Co-Investigator.** Clinical Investigation of Frameless, Adaptive, Image-guided Gamma Knife Radiosurgery. Canadian Institutes of Health Research (CIHR). PI: Chung C. Collaborator(S): Coolens C, Cho YB, **Jaffray DA**, Laperriere NJ, Li W, Zadeh G. $264,657 [Grants]

2014 Aug - 2016 Jul **Co-Investigator**. Image-guided localization platform for minimally invasive lung surgery. Canadian Cancer Society. PI: Yasufuku K. Collaborator(s): Allen C; **Jaffray DA**; Weersink R; Zheng J. $200,000 CAD. [Grants]

2014 Jul - 2019 Jul **Co-Investigator**. A Research Pipeline for Hypoxia-Directed Precision Cancer Medicine. Terry Fox Research Institute (TFRI). PI: Bristow R; Wouters B. Collaborator(s): **Jaffray DA**; Fyles A; Koritzinsky M; Milosevic M; $7,000,000 CAD. [Grants]

2014 Jul - 2015 Jul **Principal Investigator**. Advanced Handheld SPECT System for Intraoperative Guidance. Canadian Institutes of Health Research (CIHR). Collaborator(s): Irish J. $159,845 CAD. [Grants]

2014 Mar - 2019 Mar **Principal Investigator**. Advanced Strategies for Image Quality Improvement and Dose Reduction in CT. Natural Sciences and Engineering Research Council of Canada (NSERC). $175,000 CAD. [Grants]

2014 Jan - 2019 Jan **Principal Investigator**. Science Operating Room Extension (ScORE). Canada Foundation for Innovation (CFI). Collaborator(s): Irish J; Zheng G. $1,997,099 CAD. [Grants]

2013 Mar - 2016 Apr **Principal Investigator**. Improved treatment of cervical cancer through heat-activated delivery of chemoradiosensitizing agents in combination with radiotherapy. Canadian Institutes of Health Research (CIHR). Collaborator(s): Allen C; Milosevic M. $328,486 CAD. [Grants]

2012 Mar - 2016 Apr **Principal Investigator**. Quantitative Imaging for Personalized Cancer Medicine (ITP-Trials). Ontario Institute for Cancer Research (OICR). Collaborator(s): Bauman G; Caffazo J; Coolens C; Fenster A; Haider M; Keller H; Murphy K; Parraga G; Ward A; Yeung I. $2,373,181 CAD. [Grants]

2011 Jul - 2016 Jun **Co-Investigator**. Cancer Imaging/Cancer Imaging Network of Ontario: System Prototyping in Image-Guided Robotic Percutaneous Intervention. Cancer Care Ontario. PI: Fichtinger G. Collaborator(s): Peters, TM. $1,182,500 CAD. [Grants]

2011 Apr - 2014 Mar **Co-Investigator**. ARRT: Adaptive and Robust Radiation Therapy Treatment Planning for Lung Cancer. Natural Sciences and Engineering Research Council of Canada (NSERC). PI: Chan T. Collaborator(s): Bezjak A; Bissonnette JP; Heath EC; Hope AJ; McCann C;Purdie TG; Sharpe MB; $526,246 CAD. [Grants]

2011 Jan - 2013 Dec **Co-Investigator**. Automating adjuvant radiation in patients with breast cancer. Canadian Breast Cancer Foundation (CBCF). PI: Purdie, T. $282,848 CAD. [Grants]

2010 Apr - 2017 Mar **Principal Investigator**. Ontario Consortium for Adaptive Interventions in Radiation Oncology (OCAIRO). Ontario Research Fund (ORF). Collaborator(s): Aleman D; Battista J; Breen S; Brock K; Caldwell C; Chin L; Cho YB; Clark B; Craig T; Cygler J; Fenster A; Fichtinger G; Islam M; Letourneau D; Mah K; Menard C; Moseley D; Patel R; Peters T; Purdie T; Ravi A; Schreiner J; Taylor M; Wong E. $7,000,000 CAD. [Grants]

2010 Apr - 2015 Mar **Co-Investigator**. Molecular-mechanism-based target identification and drug discovery for radiotherapy of cancer. Canadian Institutes of Health Research (CIHR). PI: Lu QB. Collaborator(s): Bristow R. $662,287 CAD. [Grants]

2010 Mar - 2015 Apr **Co-Investigator**. Image-guided design of an actively targeted liposomal formulation drug formulation for treatment of lung cancer. Canadian Institutes of Health Research (CIHR). PI: Allen C. $592,018 CAD. [Grants]

2010 Mar - 2015 Apr **Principal Investigator**. Engineering gold nanoparticle radiosensitizers for cancer therapy. Canadian Institutes of Health Research (CIHR). Collaborator(s): Allen C, Hill R, Bristow R, Chow J. $710,029 CAD. [Grants]

2010 Jan - 2015 Jan **Principal Investigator**. Robotic positioning for image-guided surgery and radiation therapy. Canada Foundation for Innovation (CFI). Collaborator(s): Brock KK, Dawson L, Fehlings M, Kucharczyk W, Menard C, Milosevic M, Sieverdsen J, Trachtenberg J, Tymionski M. $5,500,000 CAD. [Grants]

2010 Jan - 2013 Dec **Co-Principal Investigator**. Adaptation of head and neck radiotherapy based on magnetic resonance imaging. Ontario Research Fund (ORF). IMRIS. PI: Breen SL. $360,000 CAD. [Grants]

2010 Jan - 2013 Dec **Co-Principal Investigator**. The role of gated PET in adaptive treatments of lung cancer. Ontario Research Fund (ORF). GE Healthcare. PI: Breen SL. Collaborator(s): Sun A. $210,000 CAD. [Grants]

2010 Jan - 2013 Jan **Co-Principal Investigator**. Studying dynamic electrical conduction pathways in understanding human ventricular fibrillation. Canadian Institutes of Health Research (CIHR). PI: Umapathy K. Collaborator(s): Krishnan S, Nanthakumar K. $274,860 CAD. [Grants]

2009 Dec - 2011 Nov **Co-Investigator**. Increasing the sensitivity and specificity of lung cancer detection and resection - development of a relevant animal model. Ontario Institute of Cancer Research (OICR). PI: Yasufuku K. $115,800 CAD. [Grants]

2009 Jul - 2014 Jun **Co-Investigator**. Terry Fox program project grant hypoxia in tumors: Clinical and experimental studies (PI- Project 2). National Cancer Institute of Canada (NCIC). PI: Wouters B. Collaborator(s): Milosevic M, Fyles A, Bristow R, Menard C, Oza A, Pintilie M, Wilson B, Moriyama E, Allen C, Yeung I, Koritzinsky M, Hedley D, Cairns R. $7,155,105 CAD. [Grants]

2009 Jul - 2011 Jun **Co-Investigator**. Automating the breast radiation therapy process to improve efficiency and reduce treatment related toxicity. Canadian Breast Cancer Research Alliance. PI: Purdie TG. Collaborator(s): Sharpe MB, Dinniwell RE, Letourneau D. $209,460 USD. [Grants]

2009 Jun - 2014 Jun **Co-Investigator**. NanoMed fab: A nanofabrication centre for personalized medicine. Canada Foundation for Innovation (CFI). PI: Zheng G. Collaborator(s): Allen C; Chan W; Gariepy J; **Jaffray DA**; Li RK; Lu M; Rottapel R; Walker G; Wilson B. $6,530,679 CAD. [Grants]

2009 May - 2012 Jul **Co-Investigator**. Prospective study of 4DCT and 4DPET imaging during a course of radical radiotherapy to monitor tumor response and predict treatment outcome for non-small cell lung cancer. National Cancer Institute of Canada (NCIC). PI: Bissonnette JP. Collaborator(s): Bezjak A; Breen S; Freeman M; Hope A; Purdie T; Sun A; Vines D. $285,098 CAD. [Grants]

2009 Apr - 2012 Apr **Co-Investigator**. Probing the temporal dynamics of tumor cell kill and vascular damage in radiation therapy using optical molecular imaging techniques. Canadian Institutes of Health Research (CIHR). PI: Da Costa R. Collaborator(s): Hill R, Vitkin A, Wilson B, Zheng G. $350,000 CAD. [Grants]

2008 Apr - 2012 Apr **Co-Principal Investigator**. Imaging for clinical trials platform (Cancer Imaging Pipeline Platform). Ontario Institute for Cancer Research (OICR). Collaborator(s): Fenster A. $1,700,000 CAD. [Grants]

2008 Apr - 2012 Apr **Co-Principal Investigator**. X-ray and optical probes for next generation detection and diagnosis of cancer (Cancer Imaging Pipeline Platform). Ontario Institute for Cancer Research (OICR). Collaborator(s): Yaffe M. $9,972,000 CAD. [Grants]

2008 Mar - 2011 Feb **Co-Principal Investigator**. Improved radiation induced lung toxicity prediction with linked pre-clinical/clinical models and biomarkers. National Cancer Institute of Canada (NCIC). Collaborator(s): Hope A, Hill R. $381,099 CAD. [Grants]

2008 Jan - 2012 Dec **Co-Principal Investigator**. Building the UHN advanced therapeutics research platform. Canada Foundation for Innovation (CFI). Research Hospital Fund. PI: Paige C. $92,255,967 CAD. [Grants]

2008 Jan - 2011 Dec **Co-Principal Investigator**. Dynamic multi-organ anatomical models for hypofractionated RT design and delivery. National Institutes of Health (NIH) (USA). Collaborator(s): Brock KK. $946,598 USD. [Grants]

2007 Jan - 2012 Dec **Co-Principal Investigator**. The cardiac regeneration (CARE) project: New therapies for CV. Canadian Institutes of Health Research (CIHR). Collaborator(s): Weisel R. $2,500,000 CAD. [Grants]

2007 Jan - 2011 Jan **Co-Principal Investigator**. The regenerative medicine project (the REMEDI project). Canadian Institutes of Health Research (CIHR). Collaborator(s): Weisel R. $18,050,000 CAD. [Grants]

2007 **Co-Investigator**. Multi-scalar, multi-modal imaging agent for detection and targeting. Ontario Institute for Cancer Research (OICR). Collaborator(s): Allen C. $80,000 CAD. [Grants]

2007 **Principal Investigator**. Development of a framework to standardize acquisition and analysis of PET images for clinical trials. Ontario Institute for Cancer Research (OICR). $80,000 CAD. [Grants]

2007 **Principal Investigator**. Lung cancer biomarker imaging (IMM-10). Ontario Institute for Cancer Research (OICR). $80,000 CAD. [Grants]

2006 Jan - 2010 Dec **Principal Investigator**. Spatio-temporal targeting and amplification of radiation response. Canada Foundation for Innovation (CFI). $1,167,954 CAD. [Grants]

2006 - 2009 **Co-Investigator**. On-line perfusion measurement with contrast enhanced cone-beam CT in radiation therapy. Canadian Institutes of Health Research (CIHR). Collaborator(s): Yeung I. $166,087 CAD. [Grants]

2006 - 2009 **Principal Investigator**. Adaptive Radiation Therapy. University Health Network. RaySearch Research. $555,165 CAD. [Grants]
UHN RaySearch corporation research collaboration.

2006 - 2009 **Co-Investigator**. Biomechanical modeling for high precision radiotherapy design, adaptation, and assessment. National Cancer Institute of Canada (NCIC). Collaborator(s): Brock KK. $281,904 CAD. [Grants]

2006 - 2009 **Co-Investigator**. Biomechanical modeling for high precision radiotherapy design, adaptation, and assessment. National Cancer Institute of Canada (NCIC). Collaborator(s): Brock KK. $73,187 CAD. [Grants]

2006 - 2008 **Principal Investigator**. Development of a multi-modal imaging contrast agent platform. Canadian Institutes of Health Research (CIHR). $1,311,089 CAD. [Grants]

2006 **Co-Investigator**. A novel energy fluence monitor for real-time verification of intensity modulated radiation therapy. Natural Sciences and Engineering Research Council of Canada (NSERC). Collaborator(s): Islam M. $125,000 CAD. [Grants]

2005 Oct - 2010 Dec **Principal Investigator**. Image analysis for adaptive prostate radiotherapy. National Institutes of Health (NIH) (USA). NIBIB. $197,106 USD. [Grants]

2005 - 2008 **Co-Investigator**. Phase II study of preoperative intensity modulated radiation therapy for lower limb soft tissue sarcoma. Ontario Cancer Research Network (OCRN). $441,950 CAD. [Grants]

2005 - 2008 **Principal Investigator**. Multimodal contrast agents for therapy guidance. Canadian Institutes of Health Research (CIHR). $364,719 CAD. [Grants]

2005 - 2008 **Principal Investigator**. A prospective study to evaluate cone-beam CT in the planning of patients for palliative radiotherapy. Elekta Oncology Systems. $87,000 CAD. [Industrial Grants]

2005 - 2006 **Co-Investigator**. A single cohort study to develop a technique for external beam radiotherapy after radical prostatectomy based on MRI-delineation of the clinical target volume. Canadian Association of Radiation Oncologists (CARO). Abbott-CARO Uro-Oncologic Radiation Award (ACURA). $17,720 CAD. [Grants]

2005 **Principal Investigator**. Stereotactic radiotherapy for primary and metastatic liver cancer. Elekta Oncology Systems. $87,000 CAD. [Industrial Grants]

2004 - 2008 **Principal Investigator**. Spatio-temporal targeting and amplification of radiation response (STTARR) innovation centre. Canada Foundation for Innovation (CFI). Ontario Innovation Trust. $9,824,217 CAD. [Grants]

2004 - 2008 **Principal Investigator**. Hypoxia program project grant. National Cancer Institute of Canada (NCIC). $660,000 CAD. [Grants]

2004 - 2008 **Principal Investigator**. Spatio-temporal targeting and amplification of radiation response (STTARR) innovation centre: Imaging and animal support infrastructure enhancement. Canada Foundation for Innovation (CFI). Ontario Innovation Trust. $11,418,194 CAD. [Grants]

2004 - 2006 **Co-Investigator**. Excellence in radiation research for the 21st century. Canadian Institutes of Health Research (CIHR). Strategic Training Grant. $500,000 CAD. [Grants]

2003 - 2007 **Principal Investigator** (subcontract) Cone-beam tomography from truncated projections. National Institutes of Health (NIH) (USA). National Institute for Biomedical Imaging and Bioengineering. $94,741 USD. [Grants]

2003 - 2006 **Principal Investigator**. Multi-modality contrast agents for image-guided radiation therapy. Premier's research excellence award (PREA). $137,000 CAD. [Grants]

2001 - 2005 **Principal Investigator**. High-precision image-guided radiotherapy of the prostate (R21/R33-AG19381). National Institute on Aging (USA). $2,021,038 USD. [Grants]

2001 - 2005 **Principal Investigator**. Flat-panel cone-beam CT for image-guided radiotherapy (8R01EB002470-04). National Institutes of Health (NIH) (USA). National Institute for Biomedical Imaging and Bioengineering. $1,079,708 USD. [Grants]

NON-PEER-REVIEWED GRANTS

FUNDED

2014 Apr - 2015 Apr **Principal Investigator**. Image-Guided Drug Delivery. Merrimack Pharmaceuticals Inc. $299,570.14 CAD. [Industrial Grants]

2013 Feb - 2014 Feb **Principal Investigator**. Image-Guided Drug Delivery. Merrimack Pharmaceuticals Inc. $259,323.16 CAD. [Industrial Grants]

2012 Oct - 2014 Oct **Principal Investigator**. Characterization of Tumor Hypoxia Following Chemotherapy. Merrimack Pharmaceuticals Inc. $171,653.96 CAD. [Industrial Grants]

2012 Feb - 2013 Feb	**Principal Investigator**. Image-Guided Drug Delivery. Merrimack Pharmaceuticals Inc. $260,840.24 CAD. [Industrial Grants]
2011 Feb - 2012 Feb	**Principal Investigator**. Image-Guided Drug Delivery. Merrimack Pharmaceuticals Inc. $173,392.65 CAD. [Industrial Grants]
2010 Jun - 2013 Jun	**Co-Principal Investigator**. Pop-Cure. Pfizer Canada Inc. Collaborator(s): Wouters B, Neel B, Shaw P, Dick J, O'Brien C, Hudson T, McPherson J, Milosevic M. $6,001,162 CAD. [Industrial Grants]
2007 Jan - 2010 Jan	**Co-Principal Investigator**. A pilot prospective study of FDG-PET-CT imaging utility in radiotherapy treatment planning and assessment in all stages and histological types of lung cancer. Philips Medical Systems. Collaborator(s): Sun A. $124,000 CAD. [Industrial Grants]
2007	**Principal Investigator**. Imaging-enabled liposome platform to adaptively modulate the micro-distribution of targeted therapeutics. Johnson & Johnson (J&J). $80,000 CAD. [Industrial Grants]
2006 May - 2011 May	**Principal Investigator**. Treatment design and response monitoring in the head and neck using multimodal imaging (Head and Neck). Philips Medical Systems. $1,142,480 CAD. [Industrial Grants]
2006 - 2008	**Principal Investigator**. Development of auto-segmentation and online planning tools for palliative process. Philips Medical Systems. $174,128 CAD. [Industrial Grants]
2006 - 2008	**Principal Investigator**. Quantification of deformation response (deformation). Philips Medical Systems. $174,128 CAD. [Industrial Grants]
2005 - 2008	**Co-Investigator**. Accelerated education program: Image guided radiation therapy. Elekta Oncology Systems. RMP. $1,027,000 CAD. [Industrial Grants]
2003 - 2008	**Principal Investigator**. An MR-based simulation process for advanced radiation therapy. Varian Oncology Systems. $1,400,000 CAD. [Industrial Grants]
2003 - 2005	**Principal Investigator**. Flat-panel cone-beam CT on a mobile c-arm. Siemens Medical Systems Inc. SP Division. $310,000 USD. [Industrial Grants]
2002 - 2005	**Principal Investigator**. On-line guidance technologies for precision radiation therapy. Elekta Oncology Systems. $1,196,600 CAD. [Industrial Grants]

1. PEER-REVIEWED PUBLICATIONS

(Google Scholar - h-index: 102; i10-index: 348; Lifetime Citations: 36903)

Journal Articles

1. Taylor PA, Moran JM, **Jaffray** DA, Buchsbaum JC. A roadmap to clinical trials for FLASH. Med Phys. 2022. Epub 2022/04/03. doi: 10.1002/mp.15623. PubMed PMID: 35366339.

2. Chen P, El Hussein S, Xing F, Aminu M, Kannapiran A, Hazle JD, Medeiros LJ, Wistuba, II, **Jaffray** D, Khoury JD, Wu J. Chronic Lymphocytic Leukemia Progression Diagnosis with Intrinsic Cellular Patterns via Unsupervised Clustering. Cancers (Basel). 2022;14(10). Epub 2022/05/29. doi: 10.3390/cancers14102398. PubMed PMID: 35626003.

3. Keller H, Shek T, Driscoll B, Xu Y, Nghiem B, Nehmeh S, Grkovski M, Schmidtlein CR, Budzevich M, Balagurunathan Y, Sunderland JJ, Beichel RR, Uribe C, Lee TY, Li F, **Jaffray** DA, Yeung I. Noise-Based Image Harmonization Significantly Increases Repeatability and Reproducibility of Radiomics Features in PET Images: A Phantom Study. Tomography : a journal for imaging research. 2022;8(2):1113-28. Epub 2022/04/22. doi: 10.3390/tomography8020091. PubMed PMID: 35448725; PMCID: PMC9025788.

4. Villamin C, Bates T, Mescher B, Benitez S, Martinez F, Knopfelmacher A, Correa Medina M, Klein K, Dasgupta A, **Jaffray** DA, Porter C, Tereffe W, Gallardo L, Kelley J. Digitally enabled hemovigilance allows real time response to transfusion reactions. Transfusion. 2022;62(5):1010-8. Epub 2022/04/21. doi: 10.1111/trf.16882. PubMed PMID: 35442519.

5. Driscoll B, Shek T, Vines D, Sun A, **Jaffray** D, Yeung I. Phantom Validation of a Conservation of Activity-Based Partial Volume Correction Method for Arterial Input Function in Dynamic PET Imaging. Tomography : a journal for imaging research. 2022;8(2):842-57. Epub 2022/03/23. doi: 10.3390/tomography8020069. PubMed PMID: 35314646; PMCID: PMC8938778.

6. Buchsbaum JC, **Jaffray** DA, Ba D, Borkon LL, Chalk C, Chung C, Coleman MA, Coleman CN, Diehn M, Droegemeier KK, Enderling H, Espey MG, Greenspan EJ, Hartshorn CM, Hoang T, Hsiao HT, Keppel C, Moore NW, Prior F, Stahlberg EA, Tourassi G, Willcox KE. Predictive Radiation Oncology - A New NCI-DOE Scientific Space and Community. Radiat Res. 2022;197(4):434-45. Epub 2022/01/29. doi: 10.1667/RADE-22-00012.1. PubMed PMID: 35090025; PMCID: PMC9058979.

7. Jimenez JE, Dai D, Xu G, Zhao R, Li T, Pan T, Wang L, Lin Y, Wang Z, **Jaffray** D, Hazle JD, Macapinlac HA, Wu J, Lu Y. Lesion-Based Radiomics Signature in Pretherapy 18F-FDG PET Predicts Treatment Response to Ibrutinib in Lymphoma. Clin Nucl Med. 2022;47(3):209-18. Epub 2022/01/13. doi: 10.1097/RLU.0000000000004060. PubMed PMID: 35020640; PMCID: PMC8851692.

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2. NON-PEER-REVIEWED PUBLICATIONS

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7. **Jaffray DA**, Bissonnette JP, Craig T. X-ray imaging for verification and localization in radiation therapy. In: Modern Technology of Radiation Oncology. J van Dyke (Ed), WI: Medical Physics Publishing. Suppl 1, 2005.

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13. **Jaffray DA**. Exploring "Target of the Day" Strategies for a Medical Linear Accelerator with Cone-beam CT Scanning Capability. Proceedings of the XIIth International Conference on the Use of Computers in Radiation Therapy. D.D. Leavitt and G. Starkschall (Eds): Medical Physics Publishing, Madison, WI, 172-175, 1997.

14. **Jaffray DA**. The Use of Active Breathing Control (ABC) to Minimize Breathing Motion in Conformal Therapy. Proceedings of the XIIth International Conference on the Use of Computers in Radiation Therapy. D.D. Leavitt and G. Starkschall (Eds): Medical Physics Publishing, Madison, WI, 220-222, 1997.

15. **Jaffray DA**. Calculating the Effects of Intra-treatment Organ Motion on Dynamic Intensity Modulation. Proceedings of the XIIth International Conference on the Use of Computers in Radiation Therapy. D.D. Leavitt and G. Starkschall (Eds): Medical Physics Publishing, Madison, WI, 231-223, 1997.

16. **Jaffray DA**. A Prototype Amorphous Silicon Array Based Radiotherapy Portal Imager. Proc. SPIE. Medical Imaging: Physics of Medical Imaging, Richard L. Van Metter; Jacob Beutel (Eds.). 3032, 32-41, 1997.

17. **Jaffray DA**. Implementation of Intensity Modulation with Dynamic Multileaf Collimation. Proceedings of the 1995 Philips International Radiotherapy Users' Meeting. R.F. Mould (Ed), London, UK, 149-158, 1995 (published by PMS-R, Crawley, UK).

18. **Jaffray DA**. Dual Beam Imaging for Conformal Radiation Therapy Verification. Proceedings of the XIth International Conference in the Use of Computers in Radiation Therapy. A.R. Hounsell, J.M. Wilkinson and P.C. Williams (Eds), 88-89, 1994.

Intellectual Property

1. PATENTS

2017 Feb 17 **Device, system and process for robotic radiobiology**
Applied. PCT. Inventors: **David A. Jaffray***; Bradly G. Wouters; Alexander Ralph Lino Jaffray; Ryan Steven Elliott
Application No. PCT/CA2017050213

2016 Feb 18 Applied. United States. *Application No. US62/297,049*

2016 Sept 22 **System and Method for Optimized Mass Spectrometry Analysis**
Applied. PCT. Inventors: **David A. Jaffray**; Arash Zarrine-Afsar*; Alessandra Tata; Alexander Vitkin; Michael Woolman
Application No. PCT/CA2016/051112

2015 Sept 22 Applied. United States. *Application No. US62/221,778*

2016 June 3 **Sensors with virtual spatial sensitivity for monitoring radiation generating device**.
Applied. PCT. Inventors: Robert K. Heaton*; Mohammad Khairul Islam; **David A. Jaffray**; Bernhard Dieter Norrlinger
Application No. PCT/CA2016/050635

2015 June 5 Applied. United States. *Application No. US 62/171,806*

2016 Feb 29 **Apparatus for high resolution PET imaging**
Applied. United States. Inventor: **David A. Jaffray***
Application No. US15/055,720

2015 Feb 27 Applied. United States. *Application No. US62/121,546*

2015 Dec 8 **System And Method for Enhanced Mass Spectrometry Imaging**
Applied. PCT. Inventors: **David A. Jaffray***; Arash Zarrine-Afsar
Application No. PCT/CA2015/051282

2014 Dec 8 Applied. United States. *Application No. US62/088,964*

2014 Dec 18 **Target-Specific Dose and Scatter Estimation in CT Images**
Applied. PCT. Inventors: **David A. Jaffray***; Gregory Bootsma; Frank Verhaegen; Hakan Nordstom; Jonas Adler; Markus Eriksson; Bjorn Nutti; Marcus Hennix
Application No. PCT/EP2014/078394

2013 Dec 18 Applied. United Kingdom. *Application No. GB1322452.2*

Awaiting United States. Europe, China, Canada. *Application No. Awaiting*

2013 Aug 2 **Nanostructure field emission cathode structure and method for making**
Granted. United States. Inventors: Yonghai (Fred) Sun*; **David A. Jaffray**; Tze-wei (John) Yeow
Application No. US13/958,120, Patent No. US9,053,890

2013 Mar 15 **Optimized aperture selection imaging computed tomography system and method**
Granted. United States. Inventors: **David A. Jaffray***; Jeffrey H. Siewerdsen; Steve Bartolac; Sean Alexander Graham
Application No. US13/842,683, Patent No. US9,545,231

2015 Feb 27 **Radiotherapy system integrating a radiation source with a reduced field of view magnetic resonance imaging apparatus**
Applied. Europe. Inventors: **David A. Jaffray**; Teodor Marius Stanescu*
Application No. EP13823480.2

2015 Jan 27 Applied. United States, Canada. *Application No. US14/417,631, CA2,880,312*

2013 Jul 29 Applied. PCT. *Application No. PCT/CA2013/000673*
2012 Jul 27 Applied. United States. *Application No. US61/676,576*

2015 Nov 19 **A Novel Multimodal CT/optical Agent for Image-guided Therapy**
Applied. Canada. Inventors: Christine Allen; **David A. Jaffray**; Jinzi Zheng*
Application No. CA2,912,949
2015 Dec 3 Applied. Europe. *Application No. EP14800554.9*
2015 Nov 19 Applied. United States. *Application No. US14/892,444*
2014 May 26 Applied. PCT. *Application No. PCT/CA2014/050493*
2013 May 24 Applied. United States. *Application No. US61/827,286*

2012 Apr 26 **Methods and systems for visualization of 3D parametric data during 2D imaging**
Granted. United States. Inventors: Jimmy Qiu; **David A. Jaffray**; Michael Bryan Sharpe (Deceased) (Jane Pearson Sharpe); Robert Weersink*; Andrew Hope; John Cho
Application No. US13/456,967, Patent No. US9,330,490
2011 Apr Applied. United States. *Application No. US61/480,534*

2013 Jan 6 **Fiber Optic Radiochromic Dosimeter Probe And Method to Make the Same**
Granted. United States, Canada. Inventors: **David A. Jaffray***; Alexandra Rink; Ozzy Mermut; Serge Caron

Application Nos. US13/806,342, CA2,803,827; Patent Nos. US9,000,401, CA2,803,827
Applied. Europe. Application No. EP11803224.2
2011 July 6 Applied. PCdeT. *Application No. PCT/IB2011/053006*
2010 Jul 7 Applied. United States. *Application No. US61/362,082*

2011 May 3 **Imageable Sensitizer for Radiation Therapy and Method and System for Radiation Therapy**
Applied. United States, Europe, Canada, PCT. Inventors: Christine Allen; **David A. Jaffray***; Jinzi Zheng; Devika Chithrani; Justin Grant
Application No. US13/696,005, EP11777048.7, CA2,798,205, PCT/CA2011/000513
2010 May 3 Applied. United States. *Application No. US61/330,600*

2011 Apr 27 **Magnetic Resonance Imaging Apparatus for Use with Radiotherapy**
Granted. United States. Inventors: **David A. Jaffray**; Marco Carlone*
Application No. US13/095,281, Patent No. US8,710,843
2010 Apr 27 Applied. United States. *Application No. US61/328,245*

2010 May 14 **Phantoms and Methods for Verification in Radiotherapy Systems**
Granted. United States. Inventors: Young-Bin Cho; Mohammad Khairul Islam; **David A. Jaffray** *; Mark Taylor; Monique van Prooijen
Application No. US12/780,460, Patent No. US8,039,790

2009 May 14 **System and Method for Verification of Radiotherapy Systems**
Applied. United States. Inventors: Young-Bin Cho; Mohammad Khairul Islam; **David A. Jaffray***; Mark Taylor; Monique van Prooijen
Application No. US61/178,327

2011 Nov 14 **Quantitative endoscopy**
Granted. Germany, France, United Kingdom, Sweden, Europe, United States. Inventors: **David A. Jaffray***; Jeffrey H. Siewerdsen; Robert Weersink ;Andrew Hope; Aidin Kashigar; Michael (Mike) J. Daly; Jonathon (Jon) Eubank; John Cho
Application Nos. EP10774478.1, US13/320,375; Patent Nos. EP2429400B1 (DE), EP2429400B1 (FR), EP2429400B1 (GB), EP2429400B1 (SE), EP2429400B1, US9,138,597
2011 Nov 14 Applied. Canada. *Application No. CA2,761,844*
2010 May 14 Applied. PCT. *Application No. PCT/CA2010/000749*
2009 May 14 Applied. United States. *Application No. US61/178,319*

2011 Sep 2 **A method of low energy imaging in the presence of high energy radiation**
Applied. United States. Inventors: Mohammad Khairul Islam*; Bernhard Dieter Norrlinger; **David A. Jaffray**;

Jason R. Smale; Robert K. Heaton
Application No. US13/254,646
2010 Mar 5 Applied. PCT. *Application No. PCT/CA2010/000317*
2009 Mar 5 Applied. United States. *Application No. US61/157,738*

2011 Feb 2 **System and method for commissioning of a beam model for a three dimensional radiation therapy treatment planning system**
Granted. United States. Inventors: **David A. Jaffray***; Michael Bryan Sharpe (Deceased) (Jane Pearson Sharpe); Daniel Letourneau
Application No. US13/018,688, Patent No. US9,087,224
2010 Feb 2 Applied. United States. *Application No. US61/300,606*

2011 Aug 15 **Optimized aperture selection imaging computed tomography system and method**
Granted. United States. Inventors: Sean Alexander Graham; **David A. Jaffray***; Jeffrey H. Siewerdsen
Application No. US13/209,731, Patent No. US8,406,373

2007 Oct 5 **Optimized aperture selection imaging computed tomography system and method**
Applied. United States. Inventors: Sean Alexander Graham*; Jeffrey H. Siewerdsen; **David A. Jaffray**
Application No. US11/867,998
2006 Oct 6 Applied. United States. *Application No. US60/828,481*

2009 Jan 9 **Apparatus and methods for real-time verification of radiation therapy**
Applied. Canada. Inventors: Duncan M. Galbraith; Robert K. Heaton; Mohammad Khairul Islam*; **David A. Jaffray**; Bernhard Dieter Norrlinger; Jason R. Smale
Application No. CA2,657,315
2007 Jul 10 Granted. United States. *Application No. US12/373,159, Patent No. US8,119,978*
2007 Jul 10 Applied. Europe, PCT. *Application Nos. EP07763872.4, PCT/CA2007/001209*

2007 Jul 10 **Apparatus and methods for real-time verification of radiation therapy**
Granted. Australia. Inventors: Duncan M. Galbraith; Robert K. Heaton*; Mohammad Khairul Islam; **David A. Jaffray**; Bernhard Dieter Norrlinger; Jason R. Smale
Application No. AU2007272248, Patent No. AU2007272248

2006 Jul 10 **A system and method for verification of radiation patterns**
Applied. United States. Inventors: Bernhard Dieter Norrlinger; Duncan M. Galbraith; **David A. Jaffray**; Robert K. Heaton; Jason R. Smale; Mohammad Khairul Islam*
Application No. US60/806,842

2008 Dec 17 **Retrospective sorting of 4D CT into breathing phases based on geometric analysis of imaging fiducials**
Granted. Russian Federation. Inventors: Michael R. Kaus; Jeremy Hoisak; Thomas G. Purdie; **David A. Jaffray***
Application No. RU2008149706, Patent No. RU2454966
2008 Dec 17 Applied. Europe, India. *Application Nos. EP2007000761619, IN6818/CHENP/2008*
2008 Nov 17 Granted. Japan, China, United States. *Application Nos. JP2009000511143T, CN200708001759, US12/300,340; Patent Nos. JP5155304, CN101449289B, US8,160,675*
2008 Nov 17 Applied. Canada. *Application No. CA2,651,994*
2007 May 1 Applied. PCT. *Application No. PCT/US2007/067847*
2006 May 17 Applied. United States. *Application No. US60/747,451*

2007 Sep 10 **Compositions and methods for multimodal imaging**
Granted. Switzerland, Netherlands, Italy, Germany, France, United Kingdom. Inventors: Christine Allen; Jinzi Zheng; Raymond Matthew Reilly; Gregory Jason Perkins; **David A. Jaffray***
Application No. EP6705162.3, Patent Nos. EP1848464B1(CH), EP1848464B1(NL), EP1848464B1(IT), EP1848464B1(DE), EP1848464B1(FR), EP1848464B1(GB)
2014 Mar 12 Granted. United States: *Application No. US14/205,670, Patent No. US9,393,326*
2007 Aug 10 Granted. United States: *Application No. US11/816,054, Patent No. US8,703,097*

2007 Aug 1 Granted. Canada: *Application No. CA2,596,595, Patent No. CA2,596,595*
2007 Sep 10 Granted. Europe: *Application No. EP6705162.3, Patent No. EP1848464B1*
2006 Feb 10 Applied. PCT: *Application No. PCT/CA2006/000207*
2005 Feb 11 Applied. United States: *Application No. US60/651,638*

2006 Mar 8 **Method and system for calibrating a source and detector instrument**
Granted. United Kingdom, France, Germany, Europe. Inventors: Young-Bin Cho*; **David A. Jaffray**; Douglas J. Moseley; Jeffrey H. Siewerdsen
Application No. EP4761646.1, Patent Nos. GB1654516, FR1654516, DE602004040225, EP1654516B1
2006 Feb 8 Granted. United States: *Application No. US10/915,015, Patent No. US7,147,373*
2004 Aug 9 Applied. PCT. *Application No. PCT/CA2004/001482*

2003 Aug 8 **Method and system for calibrating an imaging instrument**
Applied. United States. Inventors: Young-Bin Cho*; **David A. Jaffray**; Douglas J. Moseley; Jeffrey H. Siewerdsen
Application No. US60/493,953

2005 Jul 25 **Apparatus and method for determining radiation dose**
Granted. United States. Inventors: **David A. Jaffray**; Alexander Vitkin; Alexandra Rink*
Application No. US11/187,810, Patent No. US7,399,977
2004 Jul 23 Applied. United States. *Application No. US60/590,369*

Presentations and Special Lectures

1. INTERNATIONAL

Invited Lectures and Presentations

2022 Nov 9 **Invited Lecture** Overview of the Institute for Data Science in Oncology (IDSO) and its relationship with the TACC-Oden-MDACC initiative. 3rd Annual Research Retreat of the Joint Center for Computational Oncology, Austin, Texas, USA.

2022 Sept 1 **Panelist** Having Impact in Medical Imaging & Therapy. Panelist. Emerging Academic Medical Physics Faculty Leaders: Science Symposium, Diversity, Mentoring, Visioneering, University of Wisconsin, Madison, Wisconsin, USA.

2022 Aug 31 **Invited Lecture**. Information Technology. Emerging Academic Medical Physics Faculty Leaders: Science Symposium, Diversity, Mentoring, Visioneering, University of Wisconsin, Madison, Wisconsin, USA.

2022 June 9 **Invited Lecture.** Novel Small Field Irradiation Systems. Small Field Dosimetry, Stereotactic Radiosurgery and Stereotactic Body Radiation Therapy: The Future Is Here, 2022 AAPM Summer School, Dallas, Texas, USA.

2022 Oct 24 **Panelist**. International Efforts in Radiation Oncology AI: Lessons Learned from Around the Globe. 64th ASTRO Annual Meeting. San Antonio, Texas, USA.

2022 Aug 29 **Invited Lecture.** Towards a Frameworks for Model/Algorithm Management in Cancer Care. 18th Ci4CC Symposium. Santa Barbara, California, USA.

2022 Apr 28 **Invited Lecture.** AI Infrastructure needs for Biomedical Research. Frontiers of Artificial Intelligence in

Radiation Oncology and Medical Imaging. Virtual. Stanford University, Palo Alto, California, USA.

2022 Mar 10 **Invited Lecture.** Goodbye Big Data, Hello Data Collaboration Strategy. The Leadership Institute. Virtual. San Francisco, California, USA.

2023 Jan 09 **Invited Workshop.** Lancet Commission on Cancer and Health Systems, Mexico City, Mexico

2022 July 21 **Invited Lecture.** 2022 Centenary Seminar Series: Artificial intelligence in radiotherapy: Challenges and Potential, Dresden, Germany

2022 June 02 **Panel.** Bold Projects in Digital Health: innovating across the system, e-Health 2022 Virtual Conference & Tradeshow. Virtual.

2022 May 28 **Invited Lecture.** Getting to Zero: A Decided Change in Mindset. 28th DEGRO Annual Congress, Stuttgart, Germany.

2022 May 26 **Keynote Lecture.** Working the Quality-Innovation Axis – Endless and Rewarding. 28th DEGRO Annual Congress, Stuttgart, Germany.

2022 Apr 20 **Keynote Lecture.** Is Radiation Oncology 'Ground Zero' for Artificial Intelligence in Medicine?. Virtual. POP-AART Lab, Netherlands Cancer Institute, University of Amsterdam, and Elekta, Amsterdam, The Netherlands.

2022 Apr 01 **Panelist,** AI and Analytics in Oncology. CCX Cancer Care at the Crossroads 2022. New York, NY, USA.

2022 Mar 22 **Keynote Lecture.** Re-wiring Academic Medicine for Integrated Computation and Prediction. 20th Annual Imaging Network Ontario (ImNO) Symposium. Virtual. Calgary, Alberta, Canada.

2021 Dec 10 **Invited Lecture.** Is Radiation Oncology Ground Zero for Artificial Intelligence? Twentieth Course of Latest Developments in Radiation Oncology. Virtual. Sao Paulo, Brazil.

2021 Dec 08 **Invited Lecture** Leadership through Digital Transformation. 2021 GLC-AAPM Annual Meeting. Virtual. Alexandria, VA, USA.

2021 Dec 03 **Invited Lecture** Digital Health and Innovation. 2021 Canadian Global Oncology Workshop. Virtual. Queen's University, Kingston, Canada.

2021 Nov 17 **Invited Lecture** Bioinformatics, HPC and AI: Convergence, Perspectives and the Future for Biomedical Applications. SC21. Virtual. St. Louis, MO, United States

2021 Nov 15 **Invited Lecture.** How digital innovation is disrupting the life sciences value chain. EY Canada Webinar. Virtual. Ottawa, ON, Canada.

2021 Nov 02 **Invited Lecture.** Image-guided Radiotherapeutics – From Anatomical to Molecular. Gulf Coast Consortia for Translational Imaging Conference: Future Trends in Quantitative and Theranostic Imaging. Virtual. Houston, TX, USA.

2021 Oct 26 **Invited Lecture** Digital XP Special Session 01 - Accelerating Precision Radiation Oncology through

Advanced Computing and Artificial Intelligence. 63rd ASTRO Annual Meeting. Virtual. Chicago, Illinois, USA.

2021 Oct 08 **Invited Lecture** Toward molecularly guided radiotherapy: Accelerated through science and technology. AACR-NCI-EORTC Virtual International Conference on Molecular Targets and Cancer Therapeutics. Virtual. Philadelphia, Pennsylvania, USA.

2021 Aug 27 **Keynote Lecture.** The AI revolution. Virtual. European SocieTy for Radiotherapy and Oncology 2021. Madrid, Spain.

2021 July 26 **Invited Lecture** The Importance of Creativity in Science. AAPM 63rd Annual Meeting. Virtual. Alexandria, Virginia, USA.

2021 July 25 **Invited Lecture** Are you ready for a cyberattack? AAPM 63rd Annual Meeting. Virtual. Alexandria, Virginia, USA.

2021 June 29 **Invited Lecture** Lancet Oncology Radiotherapy Commission; process, challenges, structure, short and long-term achievements. IAEA Consultancy Meeting. Virtual. Vienna, Austria.

2021 June 17 **Invited Lecture** Innovation. 8th Annual Robarts Research Retreat. Virtual. Western University, London, ON, Canada.

2021 May 07 **Invited Lecture** Using Artificial Intelligence and Machine Learning to Inform Oncology Patient Care. 2020 Accelerating

2021 April 26 **Invited Lecture** Intro of AI in the clinic. Virtual. 36th Symposium of the Belgian Hospital Physicist

Association. Leuven, Belgium.

2021 April 21 **Invited Lecture** We need to expand and deepen the use of computational modeling and artificial intelligence in MR in Radiation Oncology. Virtual. 8th MR in RT Symposium. Heidelberg, Germany.

2021 Mar 04 **Invited Lecture** Beyond the Clinic. Virtual. 2021 SWAAPM Annual Meeting.

2021 Feb 27 **Invited Oration.** Cancer and Technology - From bridging gaps to connecting for value. Virtual. Hospital Day Oration Tata Memorial Centre, Parel, Mumbai, India.

2021 Feb 25 **Keynote Lecture.** Collaborative Developments in Big Data Sharing. Virtual. Digital Health and Discovery Platform. Vancouver, BC, Canada.

2021 Jan 05 **Panelist,** When Technology Meets Healthcare. Virtual. 2021 WuXi Global Forum. Shanghai, China.

2020 Nov 30 **Invited Lecture.** Novel Radiotherapy techniques/treatments. Virtual. European SocieTy for Radiotherapy and Oncology 2021. Madrid, Spain.

2020 Nov 18 **Invited Lecture.** Use of Big Data and AI in Cancer. Virtual. Global Academic Programs 2020. Melbourne, Victoria, Australia.

2020 Oct 28 **Invited Lecture.** Early Startup Experience. Virtual. 62nd ASTRO Annual Meeting. Virtual

2020 Oct 25 **Invited Lecture.** Strategic Initiatives. Virtual. Presidential Symposium 62nd ASTRO Annual Meeting. Virtual

2020 July 15 **Invited Lecture.** Adoption of Artificial Intelligence in Clinical Radiotherapy Practice. Virtual. Joint AAPM-ESTRO Symposium. Alexandria, Virginia, USA.

2020 Feb 20 Cancer AI & Big Data: Success through Global Collaboration. Joint Princess Margaret (PM) / International

Cancer Expert Corps (ICEC) Conference. Toronto, Ontario, Canada.

2019 Sept 6 **Invited Lecture.** Image-guided Therapy: Where are we headed? World Molecular Imaging Conference. Montreal, Quebec, Canada

2018 Jul 06 **Invited Lecture.** Beyond ART. AMC/NKI Professorship of Jan Jakob Sonke, Amsterdam, Netherlands

2018 Jun 19 **Invited Lecture.** Current State of Radiotherapy: External Beam Photons and Particles, AACR Retreat on Radiation Medicine, Washington, DC

2018 Jun 15 **Invited Lecture.** Big Data: The new oil or green energy? MDACC Medical Physics Lecture Series, Houston, TX, United States

2018 May 18 **Keynote Lecture.** Technological Advances in RT: Impact on Performance, Safety, and Discovery, Bolzano, Italy

2018 Apr 08 **Invited Lecture.** Challenges of Big Data and the Promise of Artificial Intelligence, UK UICC Global Consultation on Prognosis and Patient Outcomes in Cancer - London, April 9th 2018

2018 Mar 08 **Invited Lecture.** Radiosurgery Devices of the Future, Leksell Gamma Knife Society, Dubai, UAE

2017 Nov 11 **Invited Lecture.** From Complexity to Industrial Medicine, Non-linear events in man's affair with technology. John Hopkins Medical School, Baltimore, MD, United States

2018 Oct 15 **Keynote Lecture.** Innovations in Radiation Medicine: The Power of Collaboration, Radiation Research Society, Cancun, Mexico

2017 Feb 26 **Keynote Lecture.** Science, technology and innovation in healthcare. Winter Institute of Medical Physics. Breckenridge, Colorado, United States.

2017 Feb 4 **Keynote Lecture.** The Annual Theodore Phillips Lecture: Converting on the Promise of Personalized Cancer Medicine. Annual UCSF Radiation Oncology Conference. San Francisco, California, United States.

2017 Jan 28 **Invited Lecture.** Cost containment through innovative operational and investment models. The European Cancer Congress. Amsterdam, Netherlands.

2016 Nov 21 **Invited Lecture.** How technology is revolutionizing cancer care. FUSCC – PM Joint Symposium. Fudan University Shanghai Cancer Center. Shanghai, China.

2016 Nov 14 **Invited Lecture.** Radiation Therapy. National Academies Workshop. Washington, DC, United States.

2016 Oct 14 **Invited Lecture.** Quantitative imaging in radiation oncology. KOSRO Annual Meeting. Seoul, South Korea.

2016 Oct 1 **Keynote Lecture.** Expanding Global Access to Radiotherapy: Demand, Supply, and Benefit. BRAVO Symposium. Belgium, Brussels.

2016 Sep 28 **Invited Lecture.** Imaging to Advance Precision Radiation Oncology. ASTRO Annual Meeting. Boston,

Massachusetts

2016 June 16 Precision Medicine in Radiation Oncology: Personalizing Radiation Treatment. ASTRO, NCI and AAPM Washington DC.

2016 Mar 10 Safety and Quality Architecture for Radiation Medicine. Chilean National Radiation Oncology Meeting. Huilo Huilo, Los Ríos, Chile.

2016 Mar 10 IGRT Practice Tips. Chilean National Radiation Oncology Meeting. Huilo Huilo, Los Ríos, Chile.

2016 Mar 10 Advances in MR-Guided RT. Chilean National Radiation Oncology Meeting. Huilo Huilo, Los Ríos, Chile.

2016 Mar 10 GTFRCC Lancet Oncology Article. Chilean National Radiation Oncology Meeting. Huilo Huilo, Los Ríos, Chile.

2016 Mar 2 Innovation in Major U. S. Health Care Delivery Systems: Reality versus Rhetoric. HX360 Executive Program. Las Vegas, Nevada, United States.

2016 Feb 29 Expanding Horizons in Biophysics and Medical Physics. Annual Biophysical Society meeting. Los Angeles, California, United States.

2016 Feb 28 Technologies around the corner; promise and risks. TMC Platinum Jubilee Conference. Mumbai, Maharashtra, India.

2016 Feb 19 High Performance Preclinical Irradiation Through Optimized Dual Focal Spot Dose Painting and Online Virtual Isocenter Radiation Field Targeting. ICTR-PHE 2016 Conference. Geneva, Genève, Switzerland.

2015 Nov 11 Image guided radiotherapy. Australian Engineering and Physical Sciences in Medicine Conference. Wellington, New Zealand.

2015 Nov 9 Molecular imaging for targeted therapies. Australian Engineering and Physical Sciences in Medicine Conference. Wellington, New Zealand.

2015 Oct 21 MR-Guided RT Solutions. ASTRO Panel Session. San Antonio, Texas, United States.

2015 Oct 19 Advocating and Coordinating Efforts to Advance Radiation Oncology as a Global Health Priority. ASTRO Annual Meeting Global Health Special Panel Session. San Antonio, Texas, United States.

2015 Oct 17 Educational Session - IGRT Practicalities. ARRO Annual Seminar, ASTRO. San Antonio, Texas, United States.

2015 Oct 17 Advancing the Science and Practice of Image-guided Radiosurgery. Elekta User's Meeting at ASTRO. San Antonio, Texas, United States. Presenter(s): Drs. David Jaffray & Caroline Chung.

2015 Apr 15 **Keynote**. Building Innovation Capacity in a Research Hospital: The Techna Story. National Conference on Clinical Research. Gothenburg, Västergötland, Sweden.

2015 Feb 10 A Facility for Magnetic Resonance-Guided Radiation Therapy. MRgRT-Symposium. Heidelberg, Baden-Württemberg, Germany.

2015 Jan 30 Image-guidance in Oncology: An Expanding Paradigm. University of Miami School of Medicine, Radiation Oncology Department. Miami, Florida, United States.

2014 Oct 16 Integrating Novel Physics Techniques into Radiotherapy. Memorial Hospital Alumni Annual Meeting. New York, New York, United States.

2014 Oct 8 Perceptions of Precision: The Evolution of Image-guided Radiation Therapy. Massachusetts General Hospital, Department of Radiation Oncology. Boston, Massachusetts, United States.

2014 Sep 13 **Keynote**. Opportunities for imaging and advanced radiation therapy to join forces, a clinical perspective. ASTRO 56th Annual Meeting. San Francisco, California, United States.

2014 Sep 8 The Evolving Hypotheses of Image-guided Radiation Therapy. The University of Michigan Medical School,

Department of Radiation Oncology, Allen S Lichter Lectureship in Medical Physics. Ann Arbor, Michigan, United States.

2014 Jul 22 Advances in Image Guided Radiotherapy Research. The 56th Annual AAPM Meeting, Innovation in Medical Physics and Engineering Session. Austin, Texas, United States.

2014 Jul 21 Impact of Technology on RT: Vision for the Future. Research Opportunities in Technology for Innovation in Radiation Oncology. The 56th Annual AAPM Meeting, Highlight of ASTRO NCI 2013 Workshop Session. Austin, Texas, United States.

2014 May 5 Image-Guided Therapy - We're Just Getting Started. 27th Annual John Cameron Lecture, University of Wisconsin-Madison. Madison, Wisconsin, United States.

2014 Apr 6 Biological studies using the X-RAD 225Cx image-guided irradiator at OCI. European Society for Radiotherapy & Oncology (ESTRO) 33. Vienna, Wien, Austria.

2014 Feb 26 Next Generation Image-guided Oncology. Duke Cancer Institute Seminar Series. Durham, North Carolina, United States.

2013 Dec 5 Imaging in Partnership: With Radiation Therapy. RSNA's 99th Scientific Assembly and Annual Meeting. Chicago, Illinois, United States.

2013 Nov 15 Image Guidance in Radiation Therapy - Current Status and Future Direction. AAPM Great Lakes Chapter Fall Symposium. Detroit, Michigan, United States.

2013 Nov 8 Precise Targeting of Radiation. Horizons 2013: Connecting AAPM & PS-OCs. Washington, District of Columbia, United States.

2013 Sep 9 The future of Image Guidance. 9th ICDTF Conference at University of Wisconsin-Madison. Madison, Wisconsin, United States.

2013 Aug 6 The Science of Clinical Medical Physics. AAPM Annual Meeting 2013. Indianapolis, Indiana, United States.

2013 Aug 5 MRI Guided Radiation Therapy. AAPM Annual Meeting 2013. Indianapolis, Indiana, United States.

2013 Aug 5 Medical Physics in the Era of Genomic Medicine. AAPM Annual Meeting 2013. Indianapolis, Indiana, United States.

2013 Jun 13 **Co-chair**. Impact of technology on RT field: Vision for the Future. ASTRO/AAPM Workshop. Bethesda, Maryland, United States.

2013 May 8 Detector modeling and processing considerations for fluence field modulated computed tomography. 17th International Conference on the Use of Computers in Radiation Therapy. Melbourne, Victoria, Australia.

2013 Mar 5 Advancements and Applications of an Integrated Preclinical Radiobiology Research Platform. First Symposium on Precision Image-Guided Small Animal Radiotherapy. Maastricht, Limburg, Netherlands.

2012 Dec 1 The physics of Precision Radiotherapy: where it stands today. Association of Radiation Oncologists of India (AROICON). Kolkata, West Bengal, India.

2012 Oct 31 **Scientific Panel**. Linac-based Image Guidance for Spatial and Dosimetric Treatment Verification. ASTRO's 54th Annual Meeting Session. Boston, Massachusetts, United States.

2012 Mar 1 Visiting Professor. Biological and Physical Optimization of Treatment Plans: Automation in Beam Modelling and Quality Control. Centre International de Conferences (CICG). Geneva, Switzerland.

2011 Sep New Image Guided Cancer Therapies – Image-Guided Radiation Therapy: From Current Concept to Future Perfectives. 2011 European Multidisciplinary Cancer Congress: Scientific Symposium. Stockholm, Sweden.

2011 Aug Role of Radiology in Image-guided Radiotherapy. International Society for Strategic Studies in Radiology. ISSSR –Biennial International Symposium. Dubrovnik, Croatia.

2011 May Importance of Actual Versus Planned Delivered Dose Distributions. Radiogenomics Consortium Workshop, ESTRO. London, United Kingdom.

2011 Apr 7 Visiting Professor. Monte Carlo Calculations and Advanced Planning: Monte Carlo Current Status, Speed and Accuracy. International Centre for Theoretical Physics. Trieste, Italy.

2011 Apr 7 Visiting Professor. IGRT, Inter and Intra Fractional Motion Management. International Centre for Theoretical Physics. Trieste, Italy.

2011 Apr 6 Visiting Professor. Patient Specific QA for IMRT: Dosimetry, EPID and Cone Beam CT, MVCT (KV-CBCT). International Centre for Theoretical Physics. Trieste, Italy.

2011 Apr 5 Visiting Professor. Patient Immobilization, for Precision RT, Body Frames, Visual Patient Tracking, Respiratory Management. International Centre for Theoretical Physics. Trieste, Italy.

2011 Apr 4 Visiting Professor. Overview of Medical Imaging in Radiation Therapy Including ICRU Concepts. International Centre for Theoretical Physics. Trieste, Italy.

2011 Mar 11 James A. Purdy Medical Physics Lecture: Image-guided RT: Asymptote or Renaissance? Washington University. Washington, United States.

2010 Nov New Frontiers in Image- Guided Radiotherapy: Investigation in Nanotechnology. AMPICON Scientific Meeting. Lucknow, India.

2010 Nov Evaluation of Technology: Relevant Endpoints from the Perspective of the Physicist. AMPICON Scientific Meeting. Lucknow, India.

2010 Sep Novel Technology and Experience in Image-guided SRS/ SBRT. KSMP International Meeting. Seoul, Korea, Republic Of.

2010 Jul TG-104: In-room kV Computed Tomography for Image-Guidance. AAPM Annual Meeting. Philadelphia, Pennsylvania.

2010 Jun What are we doing to Address Patient Safety. ASTRO/AAPM, (SRI) Safety in Radiation Therapy. Miami, Florida.

2010 Jun What can Anatomical Treatment Assessment Tell Us. Imaging for Treatment Assessment in Radiation Therapy. National Harbor, Maryland.

2010 May Quantification of Unwanted Dose in Perfexion. 15th Int'l Leksell Gamma Knife Society Meeting. Athens, Greece.

2010 May SRT with "Perfexion". 15th Int'l Leksell Gamma Knife Society Meeting. Athens, Greece.

2010 May Visiting Professor. John S. Laughlin Memorial Lecture. (MSKCC) Memorial Sloan-Kettering Cancer Center. NY, New York.

2010 Apr Experience and Innovations in Image-Guided Radiation Therapy. IGT Workshop-NIH. Arlington, Virginia.

2010 Mar **Keynote**. Advancing the Image-Guided Radiotherapy Paradigm: Investigations in Nanotechnology. SIR. Tampa, Florida.

2010 Feb QA for Integrated kV Image-Guided RT. Sun Nuclear. Orlando, Florida.

2010 Feb Integrated Imaging for Radiation Therapy Delivery. International Society for Optical Engineering (SPIE). San Diego, California.

2009 Dec Advancing the image-guidance radiotherapy paradigm: investigation in nanotechnology. Bio-X Seminar Series, Stanford University. San Francisco, California.

2009 Nov Image-Guided Radiation Therapy Inter-Fraction Motion. American Society for Therapeutic Radiology and Oncology (ASTRO). Chicago, Illinois.

2009 Nov Imaging for Real Time Targeting and Monitoring in Radiation Delivery. RSNA 2009. Chicago, Illinois.

2009 Oct Advances in Medical Imaging Applied to Radiotherapy. International Atomic Energy Agency (IAEA). Trieste, Italy. October 19-25, 2009.

2009 Oct Contouring of Normal Structure, Novel Imaging in Head and Neck RT Planning. RANZCR/AIR/FRO/ACPSEM Combined Scientific Meeting. Brisbane, Australia.

2009 Sep Development and Assessment of Novel Radiation Technique - A Medical Physics Perspective. ECCO/ESMO Congress. Berlin, Germany.

2009 Sep Image-Guided Radiation Therapy: Beyond the Obvious. World Congress 2009. Munich, Germany.

2009 Aug Image Guided Radiation Therapy. IS3R. San Diego, California.

2009 May **Keynote**. Future of IGRT & Pros and Cons of Adaptive Radiotherapy: Con & Meet the Professor Luncheon & IGRT Implementation and Processes Panel. American Society for Therapeutic Radiology and Oncology (ASTRO). Miami, Florida. May 15-16, 2009.

2009 Mar 19 The Physics of Imaging and Radiotherapy and Image-Guided Radiation Therapy-Application and Advancement. American Physical Society (APS). Pittsburgh, Pennsylvania.

2009 Mar IGRT: From Concept to Practice. Fourth International Conference on Translational Research and Pre-Clinical Strategies in Radiation Oncology. Geneva, Switzerland. March 11-13, 2009. Symposium chair.

2009 Feb The Future of Radiation Therapy: Mighty Machines or Nanobots? Winter Institute of Medical Physics (WIMP). Summit County, Colorado.

2009 Feb Performance and Technical Advances In Cone-Beam CT for Therapy Guidance & Application of IGRT in Radiation Therapy Practice. SASMO/SACRO. Cape Town, South Africa.

2008 Dec Visiting Professor. Implementation and Advancement of the IGRT Paradigm. University Of Pennsylvania. December 10 & 11, 2008.

2008 Nov Invited Presentation - Imaging for Real Time Monitoring. Radiological Society of North America (RSNA). Chicago, Illinois.

2008 Sep 21 “Technological Advances in Imaging Research SIT workshop Sept 20-24, & “Image-guided Radiation Therapy: 4D Treatment Approaches”. American Society of Therapeutic Radiology and Oncology (ASTRO). Chicago, Illinois.

2008 Sep 16 A Relocatable Frame for Use with the Perfexion Unit. European Society for Therapeutic Radiology & Oncology (ESTRO). Goteborg, Sweden.

2008 Sep 13 Investigations of Performances and Applications of the Perfexion Unit. ESTRO-Elekta Users Meeting Talk. Goteborg, Sweden.

2008 Sep Technological Advances in Imaging, Radiation Research SIT Workshop & Image-Guided Radiation Therapy: 4D Treatment Approaches. American Society of Therapeutic Radiology and Oncology (ASTRO). Boston, Massachusetts. September 20-24, 2008.

2008 Sep Investigators of Performance and Application of the Perfexion Unit. ASTRO/ESTRO, MR @ GE Technology, MAB Conference. Chicago, Illinois. September 4-5, 2008.

2008 Aug QA for Advancement Technologies in US and Canada. Sino-American Network for Therapeutic Radiology and Oncology (SANTRO). Beijing, China. August 26-29, 2008.

2008 Jul Moderator Small Animal IGRT: Systems and Studies. American Association of Physicists in Medicine (AAPM). Houston, Texas. July 27-31, 2008.

2008 Jun 19 Integrating Diagnostic and Therapeutic Modalities, New Developments in Molecular Imaging for Translational Research for Clinical Applications. OncoRay. Dresden, Saxony, Germany.

2008 May Biological Applications (panel). AAPM FOREM, Washington University. St. Louis, Missouri. May 1-2, 2008.

2008 Feb Novel Technologies for SBRT and SRS. Second International Symposium on SBRT, Cleveland Clinic. Florida, United States.

2008 Feb Detector Characterization of Trixel (Pixium 4343) Flat Panel Imager & Lead Discussion, Reliability & Performance of Synergy. Elektra. Crawley, United Kingdom. February 6-10, 2008.

2007 Apr Image-Guided Radiation Therapy. Duke University Medical Center. Durham, North Carolina.

2007 Apr **Keynote**. IGRT. Physicists Perspectives. 2007 ASTRO Image Guided Radiotherapy (IGRT II) Symposium. St. Petersburg, Florida.

2007 Apr Visiting Professor. Image-Guided Radiation Therapy. Duke University Medical Center. Durham, North Carolina.

2007 Mar Advances in Image-guided Radiation Therapy. MAASTRO Scientific Symposium. Maastricht, Netherlands.

2007 Feb 27 Image Guided RT: Current Implementation Status & STTARR Research. Varian Medical Systems Meeting. Palo Alto, California.

2007 Feb MR Simulation: Status Report and Discussion. Varian Medical Systems Meeting. Palo Alto, California.

2007 Feb Quality Assurance of Radiation Therapy and The Challenges of Advanced Technologies Conference. Dallas, Texas. February 20-22, 2007.

2007 Jan Use of CBCT Data in More Complex Workflows, Dose Tracking & Feedback System: Clinical Implementation & Elevation. Elekta Synergy Research Group Meeting. Nice, France.

2006 Nov Image Guided Radiation Therapy Part II: Application Treatment. 48th Annual American Society for Therapeutic Radiology and Oncology (ASTRO). Philadelphia, Pennsylvania.

2006 Sep CT-Based On-Line Imaging - Now and the Future. The British Institute of Radiology Prostate Cancer Symposium. London, United Kingdom.

2006 Aug Broad Implementation of IGRT: Successes and Challenges. World Congress of Medical Physics. Seoul, Korea, Republic Of.

2006 Aug Cone-Beam CT for Image-Guided RT: Experience and Future Directions Impact Users Meeting. World Congress of Medical Physics. Seoul, Korea, Republic Of.

2006 Aug Soft-Tissue Imaging for IGRT: Experience with kV Cone-Beam CT IGRT Symposium (Teaching Course). World Congress of Medical Physics. Seoul, Korea, Republic Of.

2006 Jul Image-Guided Therapy: From Quality Assurance to Adaptation. 48th Annual American Association of Physicists in Medicine BIROW Session (AAPM). Orlando, Florida.

2006 Jul An Image-Guided Irradiator for Pre-Clinical Radiation Therapy Studies. 48th Annual American Association of Physicists in Medicine (AAPM). Orlando, Florida.

2006 Jul The Future of Oncology – Delivering it Better and Cheaper. Washington DC, United States.

2006 Jun Radiation Therapy 2006 – Images, Guidance Systems, and Robots. SBRT 3rd Acta Oncologica Symposium. Copenhagen, Denmark.

2006 Jun Minimizing Radiotherapy Side Effects through Technological Advances. MASCC Conference. Toronto, Ontario.

2006 May Visiting Professor. Clinical Implementation and Implications of CBCT IGRT - Can We Adapt? And Cone-Beam CT: Opportunities and Shortfalls. Cleveland Clinic Conference. Cleveland, Ohio.

2006 Apr Image-Guided Radiation Therapy - Initial Experience and Plans for Broad Clinical Deployment. 9th International Electronic Portal Imaging Workshop EPI2K6. Melbourne, Australia.

2006 Mar ICTR Pre-Meeting on New Tech & Normal Toxicity Primer. In-Room Imaging for Radiation Therapy Forum: Cone-Beam CT: Applications in Image-Guidance. 3rd International Conference on Translation Research (ICTR) and Pre-Clinical Strategies in Radiation Oncology. Lugano, Switzerland.

2006 Feb Applications of MR to Radiation Therapy. Varian Research Partners Symposium. Charleston, South Carolina.

2006 Jan IGRT at Princess Margaret Hospital - The Clinical Story. Elekta Synergy Research Group Meeting. Miami Beach, Florida.

2006 Jan Visiting Professor. Image-Guided Onco-Therapeutics. Philips Research Laboratories Visiting Scientist. Hamburg, Germany.

2005 Oct Image-Guided Radiation Therapy: 4D Treatment Approaches. The American Society for Therapeutic Radiology and Oncology (ASTRO). Denver, Colorado.

2005 Sep Imaging for Radiation Oncology, Flat-Panel Detector CT in Radiation Therapy. The European Federation of Organizations for Medical Physics (EFOMP) and the American Association of Medical Physics (AAPM). Nuremberg, Germany.

2005 Jul Joint Symposium: Image-Guided Therapy, In-Room Imaging for Therapy Guidance. 47th American Association of Physicists in Medicine (AAPM) Annual Meeting. Seattle, Washington.

2005 May Implementation of Cone-Beam Tomography into a SBRT Program. Stereotactic Body Radiation Therapy. State of the Science. Dallas, Texas.

2005 Apr Developments in Megavoltage Treatment Verification: Cone-Beam Imaging. United Kingdom Radiation Oncology Annual Meeting. York, United Kingdom.

2005 Apr Verification of IMRT. United Kingdom Radiation Oncology Annual Meeting. York, United Kingdom.

2005 Apr Image Guidance Systems in the Treatment Room: A Critical Comparison of Tomographic and Cone-Beam Technologies. San Francisco Radiation Oncology Conference for 2005 – A New Era in the Radiotherapy of Cancer IMRT, IGRT & SBRT. San Francisco, California.

2005 Mar New Models and Algorithms to Improve Image-Guided Treatment. BIROW Biomedical Imaging Workshop. Bethesda, Maryland.

2005 Mar Image-Guided Radiation Therapy. GE Healthcare Radiation Oncology Advisory Board Meeting. Milwaukee, Wisconsin.

2005 Feb Cone-Beam CT in Image-Guided Radiation Therapy. American Association of Physicists in Medicine Southern California Chapter, Midwinter Symposium (AAPM). Los Angeles, California.

2005 Feb IGRT at Princess Margaret Hospital. Massachusetts General Hospital Department of Radiation Oncology Image Guided Radiotherapy Workshop. Boston, Massachusetts.

2005 Feb Achieving High-Resolution Soft-Tissue Imaging with Cone-Beam CT: A Two-Pronged Approach for Modulation of X-Ray Fluence and Detector Gain. SPIE Physics of Medical Imaging. San Diego, California.

2005 Feb Nano-Engineered Multimodal Contrast Agents for Medical Image Guidance. SPIE Physics of Medical Imaging. San Diego, California.

2005 Jan Visiting Professor. Image-Guided RT and Adaptations. Radiation Oncology Center, Mallinckrodt Institute of Radiology, Washington University Medical Center, Barnes-Jewish Hospital. St. Louis, Missouri.

2004 Oct An Analysis of Inter-Fraction Prostate Deformation Relative to Implanted Fiducial Markers Using Finite Element Modeling. 46th Annual American Society for Therapeutic Radiology and Oncology (ASTRO). Atlanta, Georgia.

2004 Sep Image-Guided Therapy Workshop for New Investigators in Medical Physics. Co-Sponsored by the National Cancer Institute (NCI) Radiation Research Program & The National Institute for Biomedical Imaging &

Bioengineering (NIBIB). Bethesda, Maryland.

2004 Jul Elekta 4D Adaptive IGRT: A Report from the Clinic. American Association of Physicists in Medicine (AAPM) 46th Annual Meeting. Pittsburgh, Pennsylvania.

2004 Jun Cone-Beam Computed Tomography for Therapy Guidance. Special Seminar Christie Hospital. Manchester, United Kingdom.

2004 Jun Flat-panel Cone-Beam CT Systems For Image-Guided Radiotherapy. United Kingdom Radiological Conference. Manchester, United Kingdom.

2004 May kV and MV Cone-Beam Tomography. International Conference on the Use of Computers in Radiotherapy. Seoul, Korea, Republic Of.

2003 Nov Cone-Beam Computed Tomography: Adaptable Technology for Image-Guided Radiotherapy. Japanese Society for Therapeutic Radiology and Oncology (JASTRO) Meeting Lecture. Tokyo, Japan.

2003 Oct An Integrated System for Image-Guided Radiation Therapy. Department of Radiation Oncology, Barnes Jewish Hospital. St. Louis, Missouri.

2003 Oct Implementation of IMRT in Gynaecological Cancer Patients. Panel Session, 45th American Society for Therapeutic Radiology and Oncology Meeting (ASTRO). Salt Lake City, Utah.

2003 Sep On-Line Imaging for Position and Dose Verification. External Review of PTZ Proposal. Dresden, Germany.

2003 Sep Image-Guided Radiation Therapy Based on Kilovoltage X-Ray Imaging. 7th Biennial European Society for Therapeutic Radiotherapy and Oncology Meeting on Physics and Radiation Technology for Clinical Radiotherapy (ESTRO). Geneva, Switzerland.

2003 Aug kV Cone-Beam for Brachytherapy. American Association of Physicists in Medicine (AAPM) 45th Annual Meeting, Siemens Medical Solutions USA, Inc. San Diego, California.

2003 Aug Cone-Beam CT Image Guidance for High Precision Radiotherapy. World Congress on Medical Physics and Biomedical Engineering. Sydney, Australia.

2003 Jun X-Ray Guided IMRT. American Association of Physicists in Medicine (AAPM) Summer School. Colorado Springs, Colorado.

2003 Jun An Integrated Approach to High Precision RT of the Prostate. Varian Lecture, Massachusetts General Hospital, Harvard University. Boston, Massachusetts.

2003 May Treatment Schemes in Applying Integrated Volume Imaging and Delivery. Elekta Oncology Users' Conference 2003 for North America. Paradise Island, Bahamas.

2003 Apr Visiting Professor. An Integrated System for Precision Radiation Therapy. Sixth Annual Nagalingam Suntharalingam Lecture. Philadelphia, Pennsylvania.

2003 Apr Cone Beam Reconstruction. 7th International Symposium on 3D Conformal Radiation Therapy and Intensity Modulated Radiation Therapy. San Francisco, California.

2003 Feb Image-Guided Therapy Program at Princess Margaret Hospital. Workshop on the Current Status of Image-guided Radiotherapy. Boston, Massachusetts.

2003 Feb Three-Dimensional NEQ Characteristics of Volume CT Using Direct and Indirect-Detection Flat-Panel Imagers. The International Society for Optical Engineering (SPIE) Medical Imaging 2003 Symposium. San Diego, California.

2003 Jan Image-Guided Therapy. Midwinter Symposium of the American Association of Physicists in Medicine Southern California Chapter (AAPM). Los Angeles, California.

2002 Dec Flat-Panel Cone-Beam CT: A Platform Technology for Image-Guided Radiation Therapy and Surgery. Medical Imaging Group, Yale University. New Haven, Connecticut.

2002 Dec Visiting Professor. Flat-Panel Cone-Beam CT: A Platform Technology for Image-Guided Radiation Therapy and Surgery. Radiation Oncology Rounds, Yale University. New Haven, Connecticut.

2002 Nov Flat-Panel Cone-Beam Computed Tomography on a Mobile C-Arm. Siemens Medical Systems, Inc. Erlangen, Germany.

2002 Oct Image-Guided IMRT for Soft Tissue Sarcoma. Workshop at the American Society of Therapeutic Radiology and Oncology (ASTRO) 44th Annual Scientific Meeting. New Orleans, Louisiana.

2002 Sep Flat-Panel Cone-Beam CT: An Emerging Technology for Image-Guided Radiation Therapy. 21st European Society of Therapeutic Radiotherapy and Oncology (ESTRO) Annual Scientific Meeting. Praha, Czech Republic.

2002 Jul On-Line Imaging for Position and Dose Verification. American Association of Physicists in Medicine (AAPM). Montreal, Quebec.

2002 Jun Flat-Panel Cone-Beam CT: An Imaging System for High-Precision Radiation Therapy of the Prostate. National Meeting of the American Association of Medical Dosimetrists, University of Michigan.

2002 May Volume CT Guidance of Vertebroplasty Using a Portable C-Arm. American Society of Neuroradiology. Vancouver, British Columbia.

2002 Apr Cone-Beam CT for Image-Guided Therapy: An Adaptable Technology. Fermi National Laboratory. Batavia, Illinois.

2002 Feb Flat-panel Cone-Beam CT on a Mobile Isocentric C-Arm for Image-Guided Brachytherapy. SPIE Physics of Medical Imaging. San Diego, California.

2002 Feb A Unified ISO-SNR Approach to Task-directed Imaging in Flat-panel Cone-Beam CT. SPIE Physics of Medical Imaging. San Diego, California.

2002 Jan Applications of Flat-Panel Imagers in Radiotherapy. University of Michigan.

2002 Visiting Professor. Flat-Panel Cone-Beam CT: An Emerging Technology for Image-Guided Therapy. Connecticut Area Medical Physics Society Meeting. New Haven, Connecticut.

2001 Sep Flat-Panel Cone-Beam CT: An Imaging System for High-Precision Radiation Therapy of the Prostate. Penn-Ohio Chapter of the American Association of Physicists in Medicine (AAPM).

2001 Aug Flat-Panel Cone-Beam CT for Image-Guided Procedure. University of Wisconsin. Madison, Wisconsin, United States.

2001 Jul Flat-panel Cone-Beam CT: Dosimetric Considerations. American Association of Physicists in Medicine AAPM Annual Meeting. Salt Lake City, Utah.

2001 May Visiting Professor. Cone-Beam CT for Image-Guided Radiation Therapy. Department of Radiation Oncology, Massachusetts General Hospital, Harvard University. Boston, Massachusetts.

2001 Mar Visiting Professor. A System for High-Precision Radiotherapy of the Prostate. Department of Medical Physics, University of Wisconsin. Madison, Wisconsin.

2001 Mar A Novel Imaging System for Guiding Radiation Therapy. Department of Nuclear Medicine, William Beaumont Hospital. Detroit, Michigan.

2001 Feb Flat-Panel Cone-Beam CT: A Novel Imaging Technology for Image-Guided Procedures. SPIE Visualization, Display, and Image-Guided Procedures. San Diego, California.

2001 Feb A Volumetric Cone-Beam CT System Based On A 41x41 Cm2 Flat-Panel Imager. SPIE Physics of Medical Imaging. San Diego, California.

2000 Dec Flat-Panel Cone-Beam CT for High-Precision Radiation Therapy of the Prostate. Netherlands Cancer Institute. Amsterdam, Netherlands.

2000 Dec Visiting Professor. Flat-Panel Cone-Beam CT: An Imaging System for High-Precision Radiation Therapy of the Prostate. University of Utrecht. Utrecht, Netherlands.

2000 Oct Image-Guidance in Therapy of Central Nervous System Tumors. William Beaumont Hospital, CNS Symposium. Royal Oak, Michigan.

2000 Oct Image-Guidance in Therapy of Central Nervous System Tumors. 11th Annual Oncology Symposium on Central Nervous System Tumors. Royal Oak, Michigan.

2000 Oct Flat-Panel Cone-Beam Computed Tomography for Image-Guided Radiotherapy. American Society for Therapeutic Radiology and Oncology (ASTRO) Annual Meeting. Boston, Massachusetts.

2000 Sep Flat-Panel Cone-Beam CT and Applications. Siemens Medical Systems, SP Group. Erlangen, Germany.

2000 Aug Flat-Panel Cone-Beam CT: Applications in Image-Guided External Beam Radiation Therapy and Brachytherapy. ADAC Laboratories. Milpitas, California.

2000 Jul Cone-Beam CT: Applications in Image-Guided External Beam Radiotherapy and Brachytherapy. World Congress on Medical Physics and Biomedical Engineering. Chicago, Illinois.

2000 Jul Optimization of X-Ray Imaging Geometry (With Specific Application to Flat-Panel Cone-Beam Computed Tomography). World Congress on Medical Physics and Biomedical Engineering. Chicago, Illinois.

2000 Jun Cone-Beam CT for Therapy Guidance: Magnitude and Effects of X-Ray Scatter. The 6th International Workshop on Electronic Portal Imaging. Brussels, Belgium.

2000 Jun A system for on-line tomographic guidance in radiation therapy of the prostate. The 6th International Workshop on Electronic Portal Imaging. Brussels, Belgium.

2000 Jun The Physics of Portal Imaging. Electronic Portal Imaging 2000. Brussels, Belgium.

2000 Jun A System for High-Precision Radiotherapy of the Prostate. Cliniques Universitaires St-Luc. Brussels, Belgium.

2000 May MV and kV Cone-Beam CT on a Medical Linear Accelerator. Proceedings of the XIII ICCR. Heidelberg, Germany.

2000 Apr Cone-Beam Computed Tomography on A Medical Linear Accelerator Using A Flat-Panel Imager. Proceedings of the XIII ICCR. Heidelberg, Germany.

2000 Apr An Initial Investigation of Optical CT and MR Scanning of Gel Dosimeters. Proceedings of the XIII ICCR. Heidelberg, Germany.

2000 Mar Clinical Applications of IMRT: Prostate, Breast, And Colorectal Cancer. Torino, Italy.

2000 Mar Cone-Beam CT for Image-Guided Radiation Therapy. Torino, Italy.

2000 Feb Cone-Beam CT with a Flat-Panel Imager: Noise Considerations for Fully 3-D Computed Tomography. SPIE Physics of Medical Imaging 2000. San Diego, California.

2000 Optimal X-ray Imaging Geometry for Flat-Panel Cone-Beam Computed Tomography. American Association of Physicists in Medicine (AAPM).

2000 An Investigation Comparing Optical CT with MR Scanning for Polymer Gel Dosimetry. American Association of Physicists in Medicine (AAPM).

2000 Experimental and Simulation Results Of Two-Dimensional Prototype Anti-Scatter Grids for Mammography. American Association of Physicists in Medicine (AAPM).

2000 Cone-Beam Computed Tomography: Applications in Image-Guided External Beam Radiotherapy and Brachytherapy. American Association of Physicists in Medicine (AAPM).

2000 Rind-Therapy: A New Approach to the Treatment of Larger Brain Tumours. American Association of

Physicists in Medicine (AAPM).

1999 A Cone-Beam CT Scanner Based Upon a Flat-Panel Imager: Effects of Image Lag. American Association of Physicists in Medicine (AAPM) 41st Annual Meeting. Nashville, Tennessee.

1998 Characterization of a Fluoroscopic Imaging System for Kilovoltage and Megavoltage Radiography. American Association of Physicists in Medicine (AAPM).

1997 May Accounting for Deformation of Organs in Dose/Volume Evaluation. XIIth International Conference on the Use of Computers in Radiation Therapy. Salt Lake City, Utah.

1997 May Exploring “Target of the Day” Strategies for a Medical Linear Accelerator with Cone-beam CT Scanning Capability. XIIth International Conference on the Use of Computers in Radiation Therapy. Salt Lake City, Utah.

1997 May The Use of Active Breathing Control (ABC) to Minimize Breathing Motion in Conformal Therapy. XIIth International Conference on the Use of Computers in Radiation Therapy. Salt Lake City, Utah.

1997 May Calculating the Effects of Intra-treatment Organ Motion on Dynamic Intensity Modulation. XIIth International Conference on the Use of Computers in Radiation Therapy. Salt Lake City, Utah.

1997 A Prototype Amorphous Silicon Array Based Radiotherapy Portal Imager. International Society for Optical Engineering (SPIE). San Jose, California.

1997 The Use of Active Breathing Control (ABC) to Characterize and Minimize Breathing Motion in Radiation Therapy. Proceedings of the ESTRO Workshop on “Challenges in Conformal Radiotherapy”. Nice, France.

1996 Jun Cone-beam CT Using a Clinical Fluoroscopic Portal Imager. 4th International Workshop on Electronic Portal Imaging. Amsterdam, Netherlands. Paper 59.

1996 May Visiting Professor. SL/CT: Integrated Beam Delivery and Localization. University of Wisconsin. Madison, Wisconsin.

1996 Characterization of a Clinical Fluoroscopic Portal Imager. 4th International Workshop on Electronic Portal Imaging. Amsterdam, Netherlands. Paper 63.

1996 Adaptive Radiation Therapy (ART): Optimization of Treatment for the Individual Patient. Proceedings of the ESTRO Teaching Course in Conformal Therapy and Other Advanced Irradiation Techniques. Amsterdam, Netherlands.

1996 Characterization of a CCD-based fluoroscopic portal imager. American Association of Physicists in Medicine (AAPM).

1996 Incorporation of Uncertainty in Treatment Planning - New Approaches. Proceedings of the 2nd International Symposium on 3D Radiation Treatment Planning and Conformal Therapy. St. Louis, Missouri.

1996 Issues on the Clinical Implementation of Dynamic Intensity Modulated Beams in Corsendonk Seminar: From Conventional to Conformal Radiotherapy. Proceedings of the Association of the Belgium Radiotherapy-Oncology. Corsendonk, Belgium.

1996 Adaptive Radiation Therapy (ART): Optimization of Treatment for the Individual Patient in Corsendonk Seminar: From Conventional to Conformal Radiotherapy. Proceedings of the Association of the Belgium Radiotherapy-Oncology. Corsendonk, Belgium.

1995 Two-dimensional Plastic Scintillator for Dosimetry of Dynamic Intensity Modulation. American Association of Physicists in Medicine (AAPM).

1995 Implementation of Intensity Modulation with Dynamic Multileaf Collimation. International Radiotherapy Review, Philips International Radiotherapy Users’ Meeting. London, United Kingdom.

1994 Dual Beam Imaging for Conformal Radiation Therapy Verification. XIth International Conference in the Use of Computers in Radiation Therapy. Manchester, United Kingdom.

1990 Activity Distribution of a Cobalt-60 Teletherapy Source and Its Effect on Portal Image Quality. American Association of Physicists in Medicine (AAPM).

Presented Abstracts

2013 May 8 Detector modeling and processing considerations for fluence field modulated computed tomography. 17th International Conference on the Use of Computers in Radiation Therapy (ICCR). Melbourne, Victoria, Australia.

2011 Jun A Biophysical Transport Model for Predicting Passive Targeting of Liposomes Transport in Solid Tumours (Poster). European Society for Molecular Imaging. Leiden, Netherlands. Stapleton S, Chaudary N, Milosevic M, Allen C, **Jaffray DA**.

2010 Sep Dynamic tumour hypoxia imaging in mice with 18F-FAZA PET-CT. World Molecular Imaging Congress. Kyoto, Japan. Green DE, Vines DC, Di Diodato L; Chung S, Wouters B, **Jaffray DA**.

2010 May Predicting Macromolecule Transport in Solid Tumours (Oral). 12th International Tumor Microenvironment Workshop. Toronto, Ontario. Stapleton S, Dunne M, Chaudary N, Allen C, **Jaffray D.A**.

2010 Mar A Biophysical Transport Model for Predicting Targeted Macromolecule Transport in Solid Tumours (Poster). Molecular Imaging in Radiation Oncology (MIRO). Brussels, Belgium. Stapleton S, Dunne M, Chaudary N, Allen C, **Jaffray D.A**.

2010 Performance Evaluation Of The Extend Relocatable Head Frame For Linac And Perfexion Intra-Cranial Stereotactic Radiotherapy. Leksell Gamma Knife Society Meeting. Athens, Greece. Ruschin M, Nayebi N, Carlsson P, Brown K, Tamerou M, Li W, Cho Y, Ménard C, **Jaffray DA**.

2010 Planning Target Volume Margins For Fractionated Stereotactic Radiotherapy On Perfexion. Leksell Gamma Knife Society Meeting. Athens, Greece. Ruschin M, Craig Y, Nayebi N, Carlsson P, Brown K, Tamerou M, Li W, Cho Y, Ménard C, **Jaffray DA**.

2010 Implementation of Hypofractionaed and Adaptive Radiotherapy for Large Brain Metastasis using a Relocatable Head Frame on Gamma Knife Perfexion. Leksell Gamma Knife Society Meeting. Athens, Greece. Cho Y-B, van Prooijen M, Li W, Tamerou M, Ruschin M, Zadeh G, Saghal A, Laperrierre N, **Jaffray DA**, Menard C.

2010 Determining planned offset limits of agreement for kV conebeam CT and optically guided 3D ultrasound using an unambiguous phantom (Poster). European Society for Therapeutic Radiology & Oncology (ESTRO) 29 Meeting. Barcelona, Spain. Rosewall T, Kong V, Li W, Purdie T, **Jaffray DA**.

2007 Oct Quantifying inter and intra-fraction tumor motion using respiration-correlated cone-beam CT in lung stereotactic body radiotherapy (SBRT). ASTRO Annual Meeting. Los Angeles, California. Franks KN, Purdie TG, Bezjak A, Moseley D, Pearson S, Bissonnette JP, **Jaffray DA**.

2007 Jun A software tool for multimodal target definition. Proceedings of the XVth International Conference on the Use of Computers in Radiation Therapy (ICCR). Toronto, Ontario. Hoisak J, Breen SL, **Jaffray DA**.

2007 Jun Targeting dominant intraprostatic lesions in the radiation therapy of prostate cancer. Proceedings of the XVth International Conference on the Use of Computers in Radiation Therapy (ICCR). Toronto, Ontario. Craig T, Menard C, Keller H, Brock K, Rehbinder H, Lundin A, Eriksson K, Sharpe M, **Jaffray DA**.

2007 Jun Irradiator for pre-clinical studies of radiation responses: Monte Carlo dosimetry evaluation. Proceedings of the XVth International Conference on the Use of Computers in Radiation Therapy (ICCR). Toronto, Ontario. Chow JCL, Leung M, Kim S, Moseley D, Ansell S, Wilson G, Chiarot C, Bootsma G, **Jaffray DA**. 430-434.

2007 Jun Optimizing inter and intra-fraction target localization accuracy in lung stereotactic body radiation therapy (SBRT) with integration of on-line optical navigation and dynamic volumetric imaging. Proceedings of the XVth International Conference on the Use of Computers in Radiation Therapy (ICCR). Toronto, Ontario. Purdie TG, Sie F, Bootsma G, Franks K, Moseley D, Bissonnette J-P, Bezjak A, **Jaffray DA**.

2. NATIONAL

Invited Lectures and Presentations

2016 May 25 Image-guidance for Precise and Personalized Cancer Medicine. Gairdner Foundation Cancer Symposium. University of Alberta. Edmonton, Alberta, Canada.

2015 Nov 5 The Future of Cancer Medicine: Personal or Industrial? 1st Annual Chris Newcomb Memorial Lectureship, Royal University Hospital. Saskatoon, Saskatchewan, Canada.

2015 Jul 28 Nanoparticle-Based Enhancement of Conventional Cancer Therapies. Canada-Korea Conference on Science & Technology 2015. Calgary, Alberta, Canada.

2014 Aug Advanced Technology and Applications in Pre-clinical Irradiation. 2nd Symposium - Precision Image-Guided Small Animal Radiotherapy. Vancouver, British Columbia, Canada.

2010 Apr Image-Guided Radiation Therapy Beyond the Obvious. Workshop-Functional Imaging Radiotherapy. Vancouver, British Columbia.

2007 Feb Spatio-Temporal Targeting and Amplification of Radiation Responses. A Program for Cellular, Pre-Clinical, and Clinical Studies, Montreal General Hospital. Montreal, Quebec.

2007 Feb Broad Deployment of Cone-Beam CT for IGRT: Technology, Processes, and QA, Recent Development in Image-Guided Radiation Therapy. Montreal General Hospital. Montreal, Quebec.

2007 Feb Spatio-Temporal Targeting and Amplification of Radiation Responses: A Program for Cellular, Pre-Clinical, and Clinical Studies. Montreal General Hospital. Montreal, Quebec.

2006 Mar Volumetric and Radiographic Guidance in the Treatment Room: Initial Experience. WESCAN 2006 Conference. Regina, Saskatchewan.

2004 Sep Elekta Symposium: Innovations in Radiation Oncology in Canada – Clinical Research Program. Canadian Association of Radiation Oncologists (CARO) Annual Scientific Meeting. Halifax, Nova Scotia.

2003 Nov Applications of Cone-Beam CT in Radiotherapy. Alberta Cancer Board Annual Research Meeting. Banff, Alberta.

1991 Monte Carlo Simulations of X-ray Scatter in Portal Imaging. Annual Meeting of the Canadian Organization of Medical Physics. Winnipeg, Manitoba.

Presented Abstracts

2011 Aug Simultaneous Detection of Macro- and Micro-Molecular Weight CT Contrast Agents to Non-Invasively Probe the Transport Microenvironment in Solid Tumours (Oral). Vancouver, British Columbia. Stapleton S, Allen C, **Jaffray DA**.

2010 May Quantifying Microenvironment Properties which Affect the Transport of Macromolecules in Solid Tumours. Terry Fox Research Initiative Symposium. Vancouver, British Columbia. Stapleton S, Dunne M, Chaudary N, Allen C, **Jaffray D.A**.

2007 Oct Image-guided lung stereotactic body radiation therapy (SBRT): A short, safe and effective treatment for inoperable early stage lung cancer. Canadian Organization of Radiation Oncology (CARO). Franks KN, Pearson S, Purdie TG, Bissonnette JP, Payne D, Cho J, Kane G, Sun A, Brade A, **Jaffray DA**, Bezjak A.

2007 Oct A phantom based framework for MR distortion detection and correction in 3D. CARO-COMP Joint Annual Scientific Meeting. Toronto, Ontario. Alasti H, Qiu J, Near J, Kirilova A, **Jaffray DA**.

2007 Oct MRI target definition requirements for radiation therapy of dominant intraprostatic lesions. CARO-COMP Joint Annual Scientific Meeting. Toronto, Ontario. Craig T, Menard C, Keller H, Brock K, Sharpe M, **Jaffray**

DA.

3. PROVINCIAL / REGIONAL

Invited Lectures and Presentations

2018 Jan 21 Building Innovation Capacity in a Canada's Largest Research Hospital, MaRS, Norwegian Innovation Program

2018 July 19 Digital Health and the 4th Industrial Revolution, Innovation Rounds, Princess Margaret Cancer Centre

2018 April 29 UHN's AI Strategy – Tech Stack 2.0, University of Toronto, Medical Class Rounds

2016 Oct 27 Addressing Unmet Clinical Needs through Structured Industry and Academic Hospital Collaboration. AAHCI Fall Regional Meeting. Western University, London, Ontario, Canada.

2014 May 15 Imaging - Advances in Clinical Management (Clinical Research). Princess Margaret Cancer Centre Fifth Annual Faculty Retreat. Huntsville, Ontario, Canada.

2014 May 9 Connecting the Dots: Science, Relevance and Feasibility. The Terry Fox Research Institute (TFRI) Annual Scientific Meeting. Montreal, Ontario, Canada.

2009 Apr 7 Implementation and Advancement of Cone-Beam CT for Image-Guided Radiation Therapy. BME Graduate Seminar Series, University of Western Ontario. London, Ontario.

2009 Mar Implementation and Advancement of Cone-Beam CT for Image-Guided Radiation Therapy. Biophysics Seminar, University of Waterloo. Waterloo, Ontario.

2008 Nov 7 Imaging applications in Prostate Cancer. CIHR-OICR-Imaging Pipeline Platform, London Regional Cancer Centre. London, Ontario.

2008 May 9 Visiting Professor. Future Developments in Radiation Physics to Improve Patient Care. CME Day Juravinski Cancer Centre. Hamilton, Ontario.

2008 Mar 29 Advances in Radiation Therapy for Targets in the Lung. 3rd Ontario Thoracic Cancer Conference. Niagara-on-the-Lake, Ontario.

2004 Jan Visiting Professor. An Imaging and Planning System for Image-Guided Radiation Therapy. Department of Physics, Carleton University. Ottawa, Ontario.

4. LOCAL

Invited Lectures and Presentations

2022 Sept 26 The Institute for Data Science in Oncology – an Update. University of Texas MD Anderson Cancer Center, The Data Science Forum, Houston, TX, USA.

2022 Jan 10 MD Anderson's Institute for Data Science in Oncology (IDSO) – An Update. The University of Texas MD Anderson Data Science & Modeling Forum, Houston, TX, USA.

2021 July 13 Data Science Institute for Oncology. Virtual. The University of Texas MD Anderson Cancer Center Making Cancer History Seminar, Houston, TX, USA.

2021 June 17 Digitally-Enabling the Mission: From Observation to Insight and Back Again. The University of Texas MD Anderson Cancer Center, T32 Virtual Symposium, Houston, TX, USA.

2020 Oct 28 Building Collaboration in the Middle of a Global Pandemic – Why, What and How? Virtual. 2020 Ken Kennedy Institute Data Science Conference. Rice University, Houston, TX, USA.

2020 Oct 27 Governing the Data Revolution. Virtual. 2020 Ken Kennedy Institute Data Science Conference. Rice University, Houston, TX, USA.

2020 Oct 26 Enabling Data Science at MD Anderson: Building and Running the Context Engine. The University of Texas MD Anderson Cancer Center Division of Pediatrics Grand Rounds, Houston, TX, USA.

2020 Oct 23 COVID-19 and Cancer. The University of Texas MD Anderson Cancer Center 2020 Virtual Leading Edge of Cancer Research Symposium, Houston, TX, USA.

2020 July 29 Technical Innovation: Leading edge virtual and digital innovations that support exceptional patient/consumer experience. The University of Texas MD Anderson Cancer Center Cancer Network Strategy Design Forum, Houston, TX, USA.

2020 July 29 Update on D3CODE. The University of Texas MD Anderson Cancer Center Medical Physics Seminar, Houston, TX, USA.

2020 July 20 MD Anderson's D3CODE Initiative. Transdisciplinary Research: Data Science in Cancer. Rice University, Houston, TX, USA.

2020 April 20 Discussion with Chief Technology and Digital Officer. Virtual. The University of Texas MD Anderson Cancer Center Cancer Prevention and Population Sciences Grand Rounds, Houston, TX, USA.

2020 Feb 17 The Impact of Data Science on Image Guided Cancer Therapy. SPIE. Houston, TX, USA.

2020 Jan 30 Digitally-enabling our Mission. The University of Texas MD Anderson Cancer Center Institutional Grand Rounds, Houston, TX, USA.

2020 Jan 22 The future of MD Anderson's Information technology. University of Texas MD Anderson Cancer Center Quarterly Leadership Meeting, Houston, TX, USA.

2020 Jan 15 Radiomics: Real or an artifact of Automation. University of Texas MD Anderson Cancer Center Medical Physics Seminar, Houston, TX, USA.

2019 Oct 15 Vision for Improving Patient Experience through Technology. University of Texas MD Anderson Cancer Center Patient Experience, Houston, TX, USA.

2019 Oct 14 Towards Machine Learning Health Systems – Big Data Is Not Enough. Data Science Conference. Rice University, Houston, TX, USA.

2017 Oct 23 From Burning Platform to Finding a Solution, Surgical Rounds, Toronto, Ontario, Canada.

2017 Mar 2 Going Digital. Princess Margaret Cancer Centre. DMOH/RMP Rounds. Toronto, Ontario, Canada.

201 Feb 6 Advancing Molecular Imaging for Cancer Patients. Personalizing Cancer Medicine Conference. Toronto, Ontario, Canada.

2017 Jan 5 MSC7000Y **-** Imaging Technologies. University of Toronto Transplant Institute. Toronto, Canada.

2016 Sept 30 Modernization of Ontario's Radiation Protective Legislation. IDCA Conference. Richmond Hill, Ontario, Canada.

2016 Sept 23 Driving Local Innovation in Clinical Research. Interaction Conference 2016. Toronto, Ontario, Canada.

2016 Sept 23 Engineering the Cure - Technological Innovations in Cancer Treatment. Young President Organization Event. Princess Margaret Cancer Centre. Toronto, Ontario, Canada.

2016 Mar 30 Image-Guidance and Intervention in Precision Radiotherapy. Imaging Network Ontario Symposium. Toronto, Ontario, Canada.

2016 Feb 23 Motivation for Advanced Imaging Systems on Linear Accelerators. Accelerator Technology Education Course, Accelerated Education Program, Princess Margaret Cancer Centre. Toronto, Ontario, Canada.

2015 Dec 15 The Return on Investing in Radiotherapy: A Global Calculation. Sunnybrook Odette Cancer Centre, Cancer Research Rounds (CR2). Toronto, Ontario, Canada.

2015 Dec 14 MBP 1028H - Optical, Thermal, and Radiation Biophysics. University of Toronto, Medical Biophysics. Toronto, Ontario, Canada.

2015 Dec 10 Imaging Technologies. Regenerative Medicine graduate course (MSC7000Y), Toronto General Hospital. Toronto, Ontario, Canada.

2015 Dec 7 MBP 1028H - Optical, Thermal, and Radiation Biophysics. University of Toronto, Medical Biophysics. Toronto, Ontario, Canada.

2015 Nov 16 MBP 1028H - Optical, Thermal, and Radiation Biophysics. University of Toronto, Medical Biophysics. Toronto, Ontario, Canada.

2015 Oct 26 MBP 1028H - Optical, Thermal, and Radiation Biophysics. University of Toronto, Medical Biophysics. Toronto, Ontario, Canada.

2015 Oct 15 Amsterdam to Vienna. Radiation Medicine Program Rounds, Princess Margaret Cancer Centre. Toronto, Ontario, Canada. Presenter(s): Drs. Mary Gospodarowicz, **David Jaffray**, Danielle Rodin.

2015 Jun 15 Techna – Enabling the Research Hospital. Schulich Innovation Research Day, Sunnybrook Health Sciences Centre. Toronto, Ontario, Canada.

2015 May 21 From Big Machine Thinking to Big Machine Doing. Radiation Medicine Program Rounds, Princess Margaret Cancer Centre. Toronto, Ontario, Canada.

2015 Apr 17 IGRT Technology: How did we get here? Accelerator Technology (ATec) Education Course Webinar, Accelerated Education Program, Princess Margaret Cancer Centre. Toronto, Ontario, Canada.

2015 Mar 26 Imaging Technologies. Regenerative Medicine Course Lecture, Training Program in Regenerative Medicine, Toronto General Hospital. Toronto, Ontario, Canada.

2015 Mar 7 Future Applications of Image Guidance. Liver SBRT IGRT Education Course, Accelerated Education Program, Princess Margaret Cancer Centre. Toronto, Ontario, Canada.

2015 Mar 6 Imaging Quality in CBCT. Liver SBRT IGRT Education Course, Accelerated Education Program, Princess Margaret Cancer Centre. Toronto, Ontario, Canada.

2014 Oct 21 Cone beam CT Primer. International Society for Pediatric Oncology Meeting. Toronto, Ontario, Canada.

2014 Jun 6 The RMP Quality and Safety Framework at PMH. Princess Margaret Cancer Centre, Quality & Safety in Radiation Therapy Education Course. Toronto, Ontario, Canada.

2014 Apr 10 NextGenRT: Future Accelerated. Radiation Medicine Program Rounds, Princess Margaret Cancer Centre. Toronto, Ontario, Canada.

2014 Jan 31 Advances in Image-guided Cancer Treatment. 2014 SCBA Scientific Symposium. Toronto, Ontario, Canada.

2014 Jan 30 Imaging Technologies. University of Toronto, Faculty of Medicine, Institute of Medical Science. Toronto, Ontario, Canada. Regenerative Medicine graduate course (MSC7000Y).

2013 Nov 11 Optical, Thermal & Radiation Biophysics. University of Toronto. Toronto, Ontario, Canada. Medical Biophysics Teaching Course.

2013 Nov 6 Advanced Radiotherapy and Medical Physics. University of Toronto. Toronto, Ontario, Canada. Lecture for MSC1500H course.

2013 Sep 17 Image-guided Treatment - Applications in Arthritis. Arthritis Research Foundation - Governors Circle Reception. Toronto, Ontario, Canada.

2013 Jun 19 **Chair**. MR-guided Radiation Delivery: An Emerging Paradigm. 11th ISRS Congress. Toronto, Ontario, Canada.

2013 Apr 4 The Basics of IGRT: Cone-beam CT Primer. Princess Margaret Cancer Centre, Radiation Medicine Program. Toronto, Ontario, Canada.

2013 Apr 3 The Basics of IGRT: Cone-beam CT Primer. Princess Margaret Cancer Centre, Radiation Medicine Program, Head & Neck IGRT Education Course. Toronto, Ontario, Canada.

2013 Mar 2 **Keynote**. Future of Radiation Therapy. RTi3 Conference. Toronto, Ontario, Canada.

2013 Mar 2 Future of Radiation Therapy. RTi3 Conference. Toronto, Ontario, Canada.

2013 Feb 8 Research Theme: Medical Technology. University Health Network Senior Management Team Retreat. Toronto, Ontario, Canada.

2013 Feb 8 Research Theme: Medical Technology. University Health Network (UHN) Senior Management Retreat. Toronto, Ontario, Canada.

2013 Jan 22 Future Prospects in Radiation Medicine Technology. Excellence in Radiation Research for the 21st Century (EIRR21) Brainstorm Session. Toronto, Ontario, Canada.

2013 Jan 22 Future Prospects in Radiation Medicine Technology. Excellence in Radiation Research for the 21st Century (EIRR21). Toronto, Ontario, Canada. Brainstorm Session.

2013 Jan 19 The future of IGRT. Princess Margaret Cancer Centre, Radiation Medicine Program, Lung IGRT Education Course: Preparing for the Future. Toronto, Ontario, Canada.

2013 Jan 19 The future of IGRT. Lung IGRT Education Course: Preparing for the Future. Princess Margaret Cancer Centre, Radiation Medicine Program. Toronto, Ontario, Canada.

2013 Jan 17 Cone-beam CT Primer. Lung IGRT Education Course: The Basics of Lung IGRT. Princess Margaret Cancer Centre, Radiation Medicine Program. Toronto, Ontario, Canada.

2013 Jan 17 Cone-beam CT Primer. Princess Margaret Cancer Centre, Radiation Medicine Program, Lung IGRT Education Course: The Basics of Lung IGRT. Toronto, Ontario, Canada.

2012 Jun 26 Innovation in the Healthcare Setting: Balancing the Books. UHN Finance Department Annual Meeting. Toronto, Ontario, Canada.

2012 May 9 Personalized Cancer Medicine 101. PMHF's Professional Advisors Appreciation Luncheon. Toronto, Ontario, Canada.

2012 May 8 Multi-Modality Imaging and Correlative Pathology at STTARR. Ontario Cancer Institute & Merck. Toronto, Ontario, Canada.

2012 Apr 18 Innovation in the Healthcare Setting: Concepts, Examples, and Opportunities. Technology and Engineering in Medicine (STEM), University of Toronto. Toronto, Ontario, Canada.

2012 Apr 12 Unus pro omnibus, omnes pro uno. RMP Rounds, Princess Margaret Hospital. Toronto, Ontario, Canada.

2012 Jan 26 Techna Institute: Advancing Technologies for Health a New Institute, A New Way of Thinking, A Formula for Healthcare, Innovation and Commercialization. PMH Innovation Rounds, Princess Margaret Hospital. Toronto, Ontario, Canada.

2012 Jan 10 Techna Institute: What Is It? RMP Physics Seminar, Princess Margaret Hospital. Toronto, Ontario, Canada.

2011 Nov 4 Image-guided Intervention in Head and Neck Cancer. Sullivan Lecturer at the Wharton Head and Neck Day, Princess Margaret Hospital. Toronto, Ontario.

2011 Aug 30 Safety, Quality and Science: Aligning for Progress in RT. RMP Physics Seminar, Princess Margaret Hospital. Toronto, Ontario, Canada.

2011 Jun 22 Leveraging Industry-Academia Collaborations for Advances in Image-guided Therapy. Conference on Mathematics of Medical Imaging, University of Toronto. Toronto, Ontario.

2011 May MR-Based Target Verification: Development of an MR-guided LINAC. IMRT Insight: On Target on Tract. Toronto, Ontario.

2011 Apr 14 IGRT Cone-Beam CT Primer, IGRT Implementation Strategies, Exploring the Frontiers of Image Guidance. Princess Margaret Hospital. Toronto, Ontario.

2011 Mar The Future of Image-Guided Radiation Therapy: Mighty Machines or Nanotech? EIRR21 Brainstorm Session, Princess Margaret Hospital. Toronto, Ontario.

2011 Feb Image-guided Radiation Therapy: Asymptote or Revolution? RMP Rounds, Princess Margaret Hospital. Toronto, Ontario.

2011 Jan IGRT Cone-Beam CT Primer, IGRT Implementation Strategies, Exploring the Frontiers of Image Guidance. Princess Margaret Hospital. Toronto, Ontario. January 12-14, 2011.

2010 Nov Adapting to the Changing Technological Environment. Elekta SAB Meeting. Toronto, Ontario.

2010 Oct 15 IGRT Cone-Beam CT Primer, IGRT Implementation Strategies, Exploring the Frontiers of Image Guidance. Princess Margaret Hospital. Toronto, Canada.

2010 Jun Adaptive Radiation Therapy: 2nd Order Correction or the Future of RT. IMRT Insight. Toronto, Ontario.

2010 Apr Technology and the Research Hospital. GTX Symposium Hart House, University of Toronto. Toronto, Ontario.

2009 Jul 8 **Keynote**. Technology in Oral Oncology-Technology and Innovation. International Academy of Oral Oncology (IAOO). Toronto, Ontario.

2009 Jun 5 Nanotechnology in Radiation Medicine. Target Insight III. Toronto, Ontario, Canada.

2009 Jun Target Characterization and Localization through Contrast Enhancement. DRO/RMP Rounds: Princess Margaret Hospital. Toronto, Ontario.

2009 Feb Preclinical Imaging PMH Phase I Consortium Biomarkers-Imaging-Biostatistics. Think-Tank Meeting. Kingsbridge, Ontario, Canada.

2008 Oct 18 Preclinical Development and Translation of Nanomedicine. NANO, DDS08 6th International Nanomedicine and Drug Delivery Symposium. Toronto, Canada. Session Chair, University of Toronto.

2008 Oct 3 IGRT Cone-Beam CT Primer, IGRT Implementation Strategies, Exploring the Frontiers of Image Guidance. Princess Margaret Hospital. Toronto, Ontario.

2008 Oct 1 Visiting Professor. IMNO, Chair, Introduction and Closing Remarks. University of Toronto. Toronto, Ontario.

2008 Oct **Chair**. Technology Session. Princess Margaret Hospital, 50th Anniversary, Physics Seminar Series. Toronto, Ontario. October 16-18, 2008.

2008 Aug 25 Workshop on Quantitative Oncology. Fields Institute for Research in Mathematical Sciences. Toronto, Ontario, Canada.

2008 Jun IGRT Cone-Beam CT Primer, IGRT Implementation Strategies, Exploring the Frontiers of Image Guidance. Princess Margaret Hospital. Toronto, Ontario. June 5-7, 2008.

2008 Apr 24 Explorations in Nano-Modulated Radiation Therapy: Gold or Pyrite? RMP Rounds, Princess Margaret Hospital. Toronto, Ontario.

2008 Apr 18 Radiosurgery of Spinal Lesions: New Technologies Bring New Opportunities. Spinefest. Toronto, Ontario.

2008 Apr Physics and Biology Reforming Clinical Practice in Radiation Therapy. 5th Annual Toronto Radiation Medicine Conference: Global Perspectives, Local Outcomes. King City, Ontario. April 26-27, 2008.

2008 Mar 26 High-precision, image-guided radiation therapy. Toronto Frontiers of Radiation Medicine Research, Princess Margaret Hospital. Toronto, Ontario.

2008 Mar IGRT Cone-Beam CT Primer, IGRT Implementation Strategies, Exploring the Frontiers of Image Guidance. Princess Margaret Hospital. Toronto, Ontario. March 27-29, 2008.

2008 Jan IGRT Cone-Beam CT Primer, IGRT Implementation Strategies, Exploring the Frontiers of Image Guidance. Princess Margaret Hospital. Toronto, Ontario. January 24-26, 2008.

2007 Oct Are We Equipped to Integrate and Support Technology in the RT Setting. The Royal College of Physicians and Surgeons of Canada at the Meeting of the Canadian Association of Radiation Oncology (CARO). Toronto, Canada.

2007 Sep **Keynote**. IGRT. Exploring the Frontiers of Image Guidance. Princess Margaret Hospital. Toronto, Ontario.

2007 May IGRT II: Retooling Radiation Therapy. RMP Rounds, Princess Margaret Hospital. Toronto, Ontario.

2007 Mar 2 Future Developments in Technology and Image Guidance. CCO Symposium - The Future of Radiation Treatment in the 21st Century. Toronto, Ontario, Canada.

2007 Mar Models for Improving Collaboration Between Manufacturers and The Medical Community in Technology Inception and Design. Medical Device Technology Conference. Toronto, Canada. March 7-8, 2007.

2007 Mar Future Developments in Technology and Image Guidance. Radiation Treatment Program Symposium

Steering Committee. Toronto, Ontario.

2007 Mar Models For Improving Collaboration Between Manufactures and The Medical Community in Technology Inception and Design. Medical Device Technology Forum. Toronto, Ontario.

2007 Mar **Keynote**. Exploring the Frontiers of Image Guidance. Princess Margaret Hospital. Toronto, Ontario.

2007 Mar Future Developments in Technology and Image Guidance. Radiation Treatment Program Symposium Steering Committee, The Grand Hotel. Toronto, Ontario.

2007 Feb The Impact of New Patient-Specific Information on the Course of Disease Management. Ontario Institute for Cancer Research (OICR) Lecture, MaRS Centre. Toronto, Ontario, Canada.

2007 Feb Visiting Professor. The Impact of New Patient-Specific Information on the Course of Disease Management. Ontario Institute for Cancer Research Lecture, MaRS Centre. Toronto, Canada.

2006 Nov The RT Target Problem and PET Imaging. University of Toronto, Faculty of Pharmacy. Toronto, Ontario.

2006 Nov Visiting Professor. The RT Target Problem and PET Imaging. University of Toronto, Faculty of Pharmacy. Toronto, Ontario.

2006 Oct From Image Guidance to Adaptive Prognostication. 6th Annual PMH Hospital Conference. Toronto, Ontario.

2006 Oct Stereotactic Image-Guided Radiotherapy for Spinal Tumors. Botterwill Symposium, Toronto Western Hospital. Toronto, Ontario.

2006 Jun Image-Guided Therapeutics: Cassandra, Virgil, and the Future of Cancer Interventions. Hospital for Sick Children, Grand Rounds. Toronto, Ontario. (Continuing Education).

2006 May Overview of Image Guided Radiation Therapy. RTP/RCIS Workshop on Integrating Systems and IGRT. Toronto, Ontario.

2006 May Target Insight: Innovative Strategies for Target Definition to Enhance the Therapeutic Ratio. The STTARR Program. Toronto, Ontario.

2006 May From Image-Guidance to Adaptive Prognostication. Target Insight: Innovative Strategies for Target Definition to Enhance the Therapeutic Ratio. Toronto, Ontario.

2006 Apr Cone-Beam CT as a Platform for Image-Guided Radiation Therapy. Imaging Network of Ontario. Toronto, Ontario, Canada.

2005 Oct Modelling in Oncology: Problems & Challenges. Mathematics in Medicine & Biomathematics & Biostatistics Working Group. Toronto, Ontario.

2005 May Everyone is a STTARR. Innovation in Radiation Medicine Rounds, Princess Margaret Hospital. Toronto, Ontario.

2005 Apr Achieving Precision in Radiation Therapy of the Prostate. Society of Urological Surgeons of Ontario Annual Meeting. Toronto, Canada.

2005 Apr The Future of Imaging and Navigation. North American Skull Base Society (NASBS). Toronto, Canada.

2005 Feb Designing, Assessing, & Guiding Therapy through Time Course Multimodal Imaging. Proposed University of Toronto Centre for Clinical Technologies and Medical Devices Call for Participation in the Institute of Biomaterials & Biomedical Engineering, University of Toronto (IBBME). Toronto, Ontario.

2005 Jan More Than Just Random Acts of Guidance. Radiation Medicine Program Rounds, Princess Margaret Hospital. Toronto, Ontario.

2004 Nov Image-Guidance for Increased Accuracy and Precision in Therapy. University Health Network (UHN) 3rd Annual Research Day. Toronto, Ontario.

2004 Nov Medical Technology Innovation Platform and STTARR Program. University Health Network (UHN)

International Research Advisory Board (IRAB) 3rd Annual Research Day. Toronto, Ontario.

2004 Jun Radiation Therapy - Revisited or Revolution. Board of Directors, Canadian Cancer Society. Toronto, Canada.

2004 Mar Radiation Therapy - Revisited. Toronto Chinese Scientists Community, Ontario Cancer Institute. Toronto, Ontario, Canada.

2004 Mar X-Ray Marks the Spot: Cone-Beam CT for Image-Guided Therapy. Grand Rounds, Department of Otolaryngology, University Health Network, University of Toronto. Toronto, Ontario. (Continuing Education).

2003 Dec Cone-Beam CT for Adaptive Radiation Therapy. Consortium for Image-Guided Therapy & Cone-Beam CT for Adaptive Radiation Therapy. Toronto, Ontario.

2003 Nov An Integrated System for Image-Guided Radiation Therapy. Research Retreat - Department of Medical Biophysics. Orillia, Ontario.

2003 May Visiting Professor. An integrated system for image-guided RT of the prostate. OAMRT Annual Conference Lecture. Toronto, Ontario.

2001 Aug Visiting Professor. A system for high-precision radiotherapy of the prostate. Princess Margaret Hospital, University of Toronto. Toronto, Ontario.

2001 Mar An Integrated Image-Guidance System for Radiation Therapy. Toronto-Sunnybrook Regional Cancer Centre. Toronto, Ontario.

Research Supervision

1. PRIMARY OR CO-SUPERVISION

Undergraduate Education

2009 **Primary Supervisor**. Greg Stortz. *Characterization of CT image quality and documentation of image quality trends overtime and between different scanners*.

2008 **Primary Supervisor**. Anton Semechko. *Correlation of volumetric CT/MR data with 3D histology models.*

2008 **Primary Supervisor**. Owen Melville. *Development of liposomes to encapsulate and circulate contrast agents for CT/MR imaging in vivo.*

2008 **Primary Supervisor**. Tom Tang. *Devise an efficient way to calculate absorbance in the mathematical model developed by Alexandra Rink*.

2004 **Co-Supervisor**. Enam Rabbani. *Programmable code-cathode x-ray tube*.

1998 **Primary Supervisor**. Leonard Kim. *Design of a fluoroscopic camera system*.

Graduate Education

2016 Jan - present **Primary Supervisor.** PhD. Jennifer Gottwald. *Quantitative PET for Hypoxia imaging*

2017 Jan – 2019 Sept **Primary Supervisor.** MSc. Caryn Geady. *Combining Physiological and Imaging Biomarkers for Targeted Cancer Therapy*

2015 Sep – 2018 Jun **Primary Supervisor**. MSc. Ryan Elliott. *Applying high throughput methods to cellular assays*.

2015 Sep – 2019 Jun **Primary Supervisor**. PhD. Priscilla Lai. *Radiolabelled gold nanoparticle brachytherapy seeds*

2015 Sep – 2019 Feb **Primary Supervisor**. PhD. Mattea Welch. *Radiomic Robustness*.

2013 Sep – 2015 Sep **Primary Supervisor**. MSc. Mattea Welch. *MRI guided gel dosimetry*.

2010 Sep – 2018 Jun **Primary Supervisor**. PhD. James Stewart. *Techniques for quantitative microscopy*.

2010 Sept – 2019 Jul	**Primary Supervisor**. PhD. Mike Daly. *Fusion of intraoperative cone-beam CT and endoscopic video for image-guided interventions*.
2013 Sep - 2017 Jan	**Co-Supervisor**. PhD. Yannan (Nancy) Dou. *Heat-activated Thermosensitive Liposomal Cisplatin for Cancer Treatment*.
2013 Sep - 2014 Aug	**Primary Supervisor**. MSc. Alborz Gorjizadeh. *Simultaneous perfusion and hypoxia measurement with dynamic PET-FAZA*.
2010 Sep - 2014 Aug	**Primary Supervisor**. MSc. Winnie Li. *PTV Margins for Image-guided SRS/SRT*.
2009 Sep - 2014 Aug	**Primary Supervisor**. Doctorate. Shawn Stapleton. *Modeling the transport of a macromolecular contrast agent in solid tumours*.
2007 Sep - 2015 Dec	**Co-Supervisor**. PhD. Sami Siddique. *Towards Active Image Guidance in X-ray Fluoroscopy-guided Radiotherapeutic and Surgical Interventions*.
2006 Sep - 2013 Jun	**Primary Supervisor**. PhD. Gregory Bootsma. *Deformation modeling in invasive procedures*.
2006 Jan - 2013 Jun	**Primary Supervisor**. PhD. Steven Bartolac. *Fluence Field Modulated CT*.
2006 - 2010	**Primary Supervisor**. MSc. Amanda Moretti. *Image guided radiation therapy coupled with immunotherapy*.
2006 - 2010	**Primary Supervisor**. MSc. Michael Dunne. *Development & characterization of targeted liposome-based*.
2006 - 2008	**Primary Supervisor**. MSc. Steven Bartolac. *A local frequency space description of artifacts in circular cone-beam computed tomography.*
2005 - 2008	**Primary Supervisor**. PhD. Daniel Letourneau. *Online planning and treatment for patients receiving palliative radiotherapy of bone metastases of the spine*.
2004 - 2012	**Primary Supervisor**. PhD. Jeremy Hoisak. *Parametric imaging for target classifications in PET/CT*.
2004 - 2008	**Primary Supervisor**. PhD. Jinzi Zheng. *Development of a novel contract agent designed for use in multiple imaging modalities*.
2004 - 2006	**Co-Supervisor**. MSc. Sean Graham. *Compensators in cone-beam computed tomography*.
2004 - 2006	**Co-Supervisor**. MSc. Robert Dinniwell. *Delineation of lymphatic structures using USPIO*.
2004 - 2006	**Co-Supervisor**. MSc. Philip Chan. *Geometric targeting in radiation therapy for cancer of the cervix*.
2003 - 2008	**Primary Supervisor**. PhD. Alexandra Rink. *Radiation dosimeter based upon radiation-induced changes in the optical properties of different media*.
2003 - 2005	**Co-Supervisor**. MSc. Mirel Palamaru. *Optimization of energy for lung radiosurgery*.
1999 - 2000	**Co-Supervisor**. PhD. Burkhard Groh. *Kilovoltage and megavoltage flat-panel cone-beam CT*.
1997 - 2000	**Primary Supervisor**. MSc. Douglas Drake. *Characterization of a fluoroscopic imaging system for kV and MV radiotherapy*.
1997 - 1999	**Co-Supervisor**. PhD. Laura J. Pisani. *Limitations of patient set-up precision in external beam radiation therapy*.
1995 - 1996	**Primary Supervisor**. MSc. Yan Zhang. *Veiling glare in fluoroscopic portal imaging systems*.
1994 - 1995	**Co-Supervisor**. MSc. Kamal Chawla. *Fixed pattern noise in fluoroscopic portal imaging systems*.

Postgraduate MD

2005 - 2008	**Co-Supervisor**. Clinical Fellow. Kevin Franks. *Stereotactic radiation therapy of the lung*.
2003 - 2004	**Co-Supervisor**. Clinical Fellow. Alan Nichol. *Influence of bowel preparation on the mobility of the prostate*.
2001 - 2002	**Primary Supervisor**. Clinical Fellow. Michel Ghilezan. *MR studies of prostate motion*.
1998 - 2000	**Primary Supervisor**. Larry Kestin. *Improving the dosimetric coverage of interstitial high-dose-rate breast implants*.

Postdoctoral Research Fellow (PhD)

2016 Nov – 2017 Sep	**Primary Supervisor**. Edward Taylor. *Quantification of hypoxia in human tumours using positron emission tomography and magnetic resonance imaging.*
2016 May - present	**Primary Supervisor**. Viktor Iakovenko. *Development of phantom for ultra-fast beam diagnostics in proton radiotherapy.*
2013 Sep - present	**Primary Supervisor**. Fred Sun. *Nanotechnology based X-Ray devices*.
2014 Aug – 2016 Aug	**Primary Supervisor**. Erik Pearson. *CT reconstruction methods for clinical and pre-clinical applications*.
2014 May - 2015 Mar	**Primary Supervisor**. Kimia Ghobadi. *Optimization methods in inverse treatment planning for continuous dose delivery with Perfexion*.
2013 Dec - 2015 May	**Primary Supervisor**. Tord Hompland. *Functional MRI for assessing and predicting tumor response to radiation treatment*.
2003 - 2006	**Primary Supervisor**. Kristy Brock. *Utilization of MR-derived image sets in radiation therapy and research*.
2003 - 2006	**Primary Supervisor**. Harald Keller. *Development of intervention strategies for geometric guidance of field placement*.
2002 - 2003	**Primary Supervisor**. Afsaneh Amirabadi. *X-ray scatter in cone-beam CT*.
2000 - 2001	**Primary Supervisor**. Carl Rowbottom. *Imageable dosimeters for integral checks of IGRT*.
1998 - 2000	**Primary Supervisor**. Jeffrey Siewerdsen. *Flat-panel cone-beam CT*.
1997 - 1999	**Co-Supervisor**. Michel Moreau. *Geometric characterization of a medical linear accelerator*.