

CURRICULUM VITAE

FIRAS MOURTADA, M.S.E., Ph.D., D. ABR., FAAPM

PRESENT TITLE AND AFFILIATION

Primary Appointment:

Chief, Clinical Physics, Helen F. Graham Cancer Center, Christiana Care Health System,
Newark, Delaware

Adjunct Appointments:

Associate Professor, Division of Medical Physics, Department of Radiation Oncology, Kimmel
Cancer Center, Thomas Jefferson University, 2013-present

Associate Professor, Graduate School of Biomedical Sciences, The University of Texas, Houston,
Houston, Texas, 2011-present

Associate Professor, Department of Radiation Physics, UT MD Anderson Cancer Center,
Houston, Texas, 2011-present

CITIZENSHIP AND VISA STATUS

United States of America.

HOME ADDRESS

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EDUCATION

Degree-Granting Education

Mercer University, Macon, Georgia, B.S.E., 1992, Biomedical Engineering

The Johns Hopkins University, Baltimore, Maryland, M.S.E, 1994, Biomedical Engineering

The Johns Hopkins University, Baltimore, Maryland, Ph.D., 1997, Radiation Health

Postgraduate Training

Postdoctoral Fellowship, National Institute of Standards and Technology, Gaithersburg, Maryland,
Dr. Bert Coursey, 9/1997-9/1998

CREDENTIALS

Board Certification

American Board of Radiology – Therapeutic Radiological Physics, 1/2005-present

Licensure(s)

Active

Therapeutic Radiological Physics, Texas, # MP0596, issued 09/27/2002, expires 07/31/2015

Radiation Service Provider Registration # 3261PR3, Office of Radiation Control, Delaware
Div of Public Health, issued 1/18/2012, expires 01/18/2014

Inactive

Engineering-In-Training, GA, 16148, 1/1992

EXPERIENCE/SERVICE

Academic Appointments

Research Associate, Department of Radiology, Johns Hopkins Hospital, 1997-1998

Assistant Professor (tenure track clinical appointment), Department of Radiation Physics, UT MD
Anderson Cancer Center, 2002-2009

Associate Faculty Member, UT Center for Biomedical Engineering, Houston, TX, 2003-2009

Faculty Member, Graduate School of Biomedical Sciences, The University of Texas-Houston,
Houston, TX, 2003-2011

Assistant Professor (tenure track joint appointment), Department of Experimental Diagnostic
Imaging, UT MD Anderson Cancer Center, 2008-2009

Associate Professor (with tenure), Department of Radiation Physics (Patient Care), Division of
Radiation Oncology, The University of Texas M.D. Anderson Cancer Center, Houston, Texas,
2010- 9/2011

Associate Professor (with tenure), Department of Experimental Diagnostic Imaging, UT MD
Anderson Cancer Center, 2010-2011

Administrative Appointments/Responsibilities

Chief, Clinical Physics, Helen F. Graham Cancer Center, Christiana Care Health System,
Newark, Delaware, 9/2011-

Associate Medical Physics Residency Director, Christiana Care Health System/ Thomas
Jefferson University Affiliated Program, 2012- (CAMPEP-approval pending)

Radiation Safety Officer, Concord Health Center, Christiana Care Health System, Chadds Ford,
PA, 2013-

Other Appointments/Responsibilities

Senior Medical Physicist, Guidant Vascular Interventions Corp. Houston, Texas, 1998-99

Group Leader, Medical Physics Division, Guidant Vascular Interventions Corp., Houston, Texas
2000-2002

Endowed Positions

N/A

Consultantships

German Institute for Standardization, Germany: Clinical Dosimetry - Beta radiation sources for
brachytherapy, 2001-2003

Advanced Cardiovascular Systems, Inc, Houston, Texas, Intravascular Brachytherapy Research, 2003-2004

Radion Technologies, Inc., Los Alamos, New Mexico, Discrete Ordinate Dose Calculation Engine for Brachytherapy, 2003-2005

Transpire, Inc., Gig Harbor, Washington, Discrete Ordinate Dose Calculation Engine for Radiation Therapy, 2005-2007

Theragenics Corporation, Buford, Georgia, TheraSight ^{103}Pd Ophthalmic Applicator Source evaluation, 2004-2005

NoviMarte, Inc., Houston, Texas, Multi-Purpose Radiopharmaceutical Synthesis Platform, 2005-2007

Nucletron Corporation, Columbia, Maryland, Adaptive Brachytherapy Applicator Design and Methods, 2007-2009

Radiomedix, Inc., Houston, Texas, Automated ^{68}Ga Radiopharmaceutical Synthesis Module, 2008-2010

Varian Medical Systems, Palo Alto, California, BrachyVision-Acuris Treatment Planning System, 2009-2010

Theragenics Corporation, Buford, Georgia, ^{125}I seed model AgX100 dosimetry investigation, 2010-2012

SeeCURE LLC, Kaohsiung, Taiwan, $^{99\text{m}}\text{Tc}$ -GP dosimetry calculations, 2012-2013

Nucletron/Elekta, Fletcher CT/MR Shielded Applicator White Paper, 2014

Delaware Outpatient Center for Surgery, Prostate Implant Program Physics Consultant, 2014-15

Military or Other Governmental Service

N/A

Institutional Committee Activities

Thomas Jefferson University Steering Committee- Medical Physics Residency Program, 2014-

Christiana Care Health System Graduate Medical Education Committee (GMEC), 01/2013-

Christiana Care Health System Radiation Safety Committee, 09/2011-

Christiana Care Health System Performance Improvement Committee, 09/2011-

MDACC Medical Physics Graduate Program Steering Committee (Member since 2006)

MDACC Radiation Physics Faculty Senator, 09/2006 –2009

MDACC Radiation Oncology Innovation/Technology Advancement Committee, 2006 –present

MDACC Medical Physics Graduate Program Aaron Blanchard Award Committee (Radiation Therapy Member 2007, 2008)

MDACC Medical Physics Graduate Program Subcommittee- Molecular Imaging Course Development for Medical Physics students, 2008

MDACC Radiation Oncology E-Chart Workflow Evaluation Committee, 2008

MDACC Radiation Oncology MIM Fusion Software Evaluation Committee, 2008

MDACC Radiation Physics Seminar Committee, 2009-2010

HONORS AND AWARDS

Phi Eta Sigma National Honor Society, 1989

Tau Beta Pi Engineering Honor Society, 1990

Most Functional Device Award, American Society of Engineering Education, 1992

Jesse Mercer Merit Scholarship recipient, 1989-92

Blue Key National Honor Society, 1992

Outstanding Graduate Award in Biomedical Engineering, 1992

Whitaker Foundation Graduate Fellowship, 1992-94

Graduate Fellowship, Department of Radiology, Johns Hopkins University, 1994-96

Young Investigators Award Nominee, American Association of Physicists in Medicine, 1996

Phi Kappa Phi National Honor Society, 1997

Excellence in Research Mentorship, UT Center For Biomedical Engineering Summer Internship Program, 2005

MD Anderson Cancer Center Employee Service Award, 2007

Radiation Physics Chairman's Award for Meritorious Service to the Institution, and for Innovation and Creativity, MD Anderson Cancer Center, 2009

Robert M. Chamberlain Distinguished Post-doctoral Trainee Mentor Award Nominee, 2012

American Brachytherapy Society Board Member (Treasurer), 2013-2014

AAPM Delaware Valley Chapter, President-Elect, 2013-

AAPM Fellow, American Association of Physicists in Medicine, 2014

RESEARCH

Grants and Contracts (funded and pending)—past 5 years

Funded:

Principal Investigator (15%), A Novel Dose Calculation Method for Targeted Radionuclide Therapy, R01 CA138986-01A2, NIH/NCI, 8/5/2010–7/31/2016, \$978,495

Pending:

None

Completed

Principal Investigator, Evaluation of the Varian Eclipse AXB Dose Algorithm, Sponsored Research Agreement, Varian Medical Systems, 6/2011-12/2012, \$20,000

Co-Investigator (5%), Human Breast Cancer Stem Cell Surrogates, extension to R01 CA138239-01 (\$3,053,539), NIH/NCI, Multi-PI- Cristofanilli/Reuben/Woodward, \$599,556. 7/1/09-6/30/12

MDACC Consortium Principal Investigator (2%), Idea Award, Army DOD BCRP BC073879, "Metabolic-Targeted Radionuclide Therapy for the Treatment of Breast Cancer" (\$296,000).

MDACC Consortium Principal Investigator (10%), NIH SBIR Phase II proposal 2R44 CA105806-02 with Transpire, Inc., "Deterministic Radiotherapy Calculation Method" (\$750,000), 9/2007-6/2011.

Co-Principal Investigator (5%), Development of radiolabeled serotonin transformation agent for imaging neuroendocrine tumors, SRA from Miyagi Clinic Sendai Medical Imaging Center. 6/07-6/09, (\$247,000).

Principal Investigator (2%), Inverse Planning Software for Adaptive Intracavitary Brachytherapy, MDACC Technical Review Committee. 10/2006-6/2007 (\$65,000).

Principal Investigator (10%), Adaptive Intracavitary Brachytherapy Applicator for Cervical Cancer MDACC Technical Review Committee. 9/2004-9/2005 (\$30,000).

Principal Investigator (5%) Institutional Startup Funds, The University of Texas M. D. Anderson Cancer Center. 12/2002-12/2005, \$175,000 (\$58,333 /year).

Principal Investigator, Commissioning of BEBIG $^{106}\text{Ru}/^{106}\text{Rh}$ Eye Plaques: A Practical Clinical Procedure for US Hospitals, SRA from BEBIG. 6/06-6/07, (\$10,000).

MDACC Co-Investigator, NIH SBIR Phase I with Transpire, Inc.: Deterministic Radiotherapy Calculation Method, 04/2005-09/2005, CA105806-01A1 (\$100,000).

MDACC Principal Investigator, NIH SBIR Phase I with NoviMarte, Inc.: Multi-Purpose Radiopharmaceutical Synthesis Platform, HHSN261200522013C, 08/2005-3/2006, (\$100,000).

Principal Investigator, Intravascular Brachytherapy Dosimetry Research, Advanced Cardiovascular Systems, Inc. SR2003-00008635HM 01, 4/7/2003-4/30/2004, (\$21,500).

Principal Investigator, Dosimetric Evaluation of Pulsed Dose-rate Brachytherapy for Gynecological Cancer Treatment: A Monte Carlo Study, SRA from Nucletron. 4/04-8/05, (\$60,000).

MDACC Principal Investigator, Development of Acuros Dose Engine for Brachytherapy, Radion Technologies SRA. 09/04-09/05 (\$38,000).

Principal Investigator, TheraSight™ Dosimetry Characterization, SRA from Theragenics Corp. (Period: 6 months, Amount: \$7,000).

Protocols (funded and unfunded)–past 5 years

Funded

Collaborator, A Pilot Study of Biodistribution and Safety of $^{99\text{m}}\text{Tc}$ -Glycopeptide (GP) in Patients with Breast Cancer, 2008-2010

Unfunded

Co-Investigator, Advanced breast imaging for electron boost cavity target delineation, daily positioning, and tissue characterization, 2012-

Co-Investigator, Pilot study of a new CT-compatible intracavitary brachytherapy applicator for treatment of cervical cancer, 2010-2011

Co-Investigator, A Humanitarian Device Exemption Use Protocol for TheraSphere® For Treatment of Unresectable Hepatocellular Carcinoma, 2003-2008

Co-Investigator, MammoSite® RTS As The Sole Radiation Therapy Technique For Ductal Carcinoma In-Situ, 2003-2007

Patents Granted and Pending

Patents (5 patents granted, 1 patent application pending)

US Patent No. 6,605,031, Stepped Centering Balloon for Optimal Radiation Delivery

US Patent No. 7,227,677, Apparatuses and Methods for Heart Valve Repair

US Patent No. 7,556,596, Adaptive Intracavitary Brachytherapy Applicator

US Patent No. 7,586,102, Automated System for Formulating Radiopharmaceuticals.

US Patent No. 7,651,458 (CIP) Adaptive Intracavitary Brachytherapy Applicator.

US Patent Application 2008/0199370A1, Efficient Infrared-based Reaction Vessel.

Technology Licenses

Adaptive Intracavitary Brachytherapy Applicator, licensed to Nucletron Inc.
Licensed technology is evaluated in pilot study at MD Anderson, Klopp (PI)

Automated System for Formulating Radiopharmaceuticals, licensed to Radiomedix Inc.
Licensed technology (SMARTRACE™) funded by Texas Emerging Technology Fund, \$2.8M,
2010-2012

Grant Reviewer/Service on NIH/Other Study Sections

Radiation Therapeutics and Biology (RTB) ZRG1 ONC-R 11 Study Section, NIH/CSR, Nov. 2004.

Radiation Therapeutics and Biology (RTB) ZRG1 ONC-R 11 Study Section, NIH/CSR, March 2005.

Radiation Therapeutics and Biology (RTB) ZRG1 ONC-R 11 Study Section, NIH/CSR, July 2005.

US Civilian Research & Development Foundation, May 2005

Radiation Therapeutics and Biology (RTB) ZRG1 ONC-R 11 Study Section, NIH/CSR, July 2006.

Radiation Therapeutics and Biology (RTB) ZRG1 ONC-R 11 Study Section, NIH/CSR, October 2006.

Northern Cancer Research Foundation, June, 2007

Radiation Therapeutics and Biology (RTB) ZRG1 ONC-R 11 Study Section, NIH/CSR, July 2007.

Radiation Therapeutics and Biology (RTB) ZRG1 ONC-R 11 Study Section, NIH/CSR, Feb. 2008.

Radiation Therapeutics and Biology (RTB) ZRG1 ONC-R 11 Study Section, NIH/CSR, June 2008.

Radiation Therapeutics and Biology (RTB) ZRG1 ONC-R 11 Study Section, NIH/CSR, October 2008.

Clinical and Translational Imaging Applications ZRG1 DTCS-U (81) Study Section, NIH/CSR, June 2011

NCI Omnibus and Cancer Therapy ZCA1 SRLB-5 Study Section, NIH/CSR, November 2012

NCI Omnibus and Cancer Therapy ZCA1 RPRB-M Study Section, NIH/CSR, June, 2013

NIAID Centers for Medical Countermeasures against Radiation Consortium (U19) Review Panel ZAI1 LAR-I (M1), March 2015

PUBLICATIONS (published or in-press)

Articles in Peer-Reviewed Journals

*Indicates Mentor or First Author

1. Link D, **Mourtada F**, Jackson J, Blashka K, and Samphilipo M, "Hydrogel embolic agents. Theory and practice of adding radio-opacity," *Invest Radiol* **29** (8), 746 (1994).
2. Beck T, Ruff C, **Mourtada F**, Shaffer R, Maxwell-Williams K, Kao G, Sartoris D, and Brodine S, "Dual-energy X-ray absorptiometry derived structural geometry for stress fracture prediction in male U.S. Marine Corps recruits," *J Bone Miner Res* **11** (5), 645 (1996).
3. Link D, Strandberg J, Virmani R, Blashka K, **Mourtada F**, and Samphilipo M, "Histopathologic appearance of arterial occlusions with hydrogel and polyvinyl alcohol embolic material in domestic swine," *J Vasc Interv Radiol* **7** (6), 897 (1996).
4. **Mourtada F**, Beck T, Hauser D, Ruff C, and Bao G, "Curved beam model of the proximal femur for estimating stress using dual-energy X-ray absorptiometry derived structural geometry," *J Orthop Res* **14** (3), 483 (1996).
5. **Mourtada F**, Beck T, and Links J, "Theoretical analysis of error propagation in triple-energy absorptiometry: application to measurement of lead in bone in vivo," *Med Phys* **24** (6), 925 (1997).
6. Beck T, **Mourtada F**, Ruff C, Scott W, Jr., and Kao G, "Experimental testing of a DEXA-derived curved beam model of the proximal femur," *J Orthop Res* **16** (3), 394 (1998).
7. Sadeh P, **Mourtada F**, Taylor R, and Anderson J, "Brachytherapy optimal planning with application to intravascular radiation therapy," *Med Image Anal* **3** (3), 223 (1999).
8. **Mourtada F**, Soares C, Seltzer S, and Lott S, "Dosimetry characterization of ³²P catheter-based vascular brachytherapy source wire," *Med Phys* **27** (8), 1770 (2000).
9. Bohm T, **Mourtada F**, and Das R, "Dose rate table for a ³²P intravascular brachytherapy source from Monte Carlo calculations," *Med Phys* **28** (8), 1770 (2001).
10. Cross W, Hokkanen J, Jarvinen H, **Mourtada F**, Sipila P, Soares C, and Vynckier S, "Calculation of beta-ray dose distributions from ophthalmic applicators and comparison with measurements in a model eye," *Med Phys* **28** (7), 1385 (2001).
11. Soares C, Vynckier S, Jarvinen H, Cross W, Sipila P, Fluhs D, Schaeken B, **Mourtada F**, Bass G, and Williams T, "Dosimetry of beta-ray ophthalmic applicators: comparison of different measurement methods," *Med Phys* **28** (7), 1373 (2001).
12. Kaluza G, Jenkins T, **Mourtada F**, Ali N, Lee D, Okura H, Fitzgerald P, and Raizner A, "Targeting the adventitia with intracoronary beta-radiation: comparison of two dose prescriptions and the role of centering coronary arteries," *Int J Radiat Oncol Biol Phys* **52** (1), 184 (2002).

13. **Mourtada F**, Soares C, Seltzer S, Bergstrom P, Fernandez-Varea J, Asenjo J, and Lott S, "Dosimetry Characterization for ^{32}P Source Wire Used for Intravascular Brachytherapy with Automated Stepping," *Medical Physics* **30** (5), 959 (2003).
14. **Mourtada F**, Soares C, and Horton J, "A segmented ^{32}P source Monte Carlo model to derive AAPM TG-60 dosimetric parameters used for intravascular brachytherapy," *Med. Phys.* **31** (3), 602-608 (2004).
15. Kassas B, **Mourtada F***, Horton J, and Lane .R, "Contrast Effects on Dosimetry of a Partial Breast Irradiation System," *Med. Phys.* **31** (7), 1976-1979 (2004).
16. **Mourtada F**, Koch N, Newhauser W, " $^{106}\text{Ru}/^{106}\text{Rh}$ Plaque and Proton Radiotherapy for Ocular Melanoma: A Comparative Dosimetric Study", *Radiation Protection Dosimetry*, **116** (1-4):454-460 (2005).
17. **Mourtada F**, and Horton J, " Dose Perturbation of a Novel Cobalt Chromium Coronary Stent on ^{32}P Intravascular Brachytherapy," *Med. Phys.* **32** (1), 268-274 (2005).
18. Gifford K, Horton J, Jackson E, Steger T, Heard M, **F Mourtada**, Lawyer A, Ibbott G, "Verification of Monte Carlo calculations around a Fletcher Suit Delclos ovoid with radiochromic film and normoxic polymer gel dosimetry," *Med Phys.* **32** (7), 2288-2294 (2005).
19. Gifford K, Horton J, Pelloski C, Jhingran A, Court L, **Mourtada F**, and Eifel P, "A 3-D CT-assisted Monte Carlo Evaluation of the Effects of Ovoid Shielding on the dose to the bladder and rectum in Intracavitary Radiotherapy for Cervical Cancer ", *International Journal of Radiation Oncology, Biology, Physics* **63**(2):615-21 (2005).
20. Beddar A, Briere T, **Mourtada F**, Vassiliev O, Liu H, Mohan R, "Monte Carlo calculations of the absorbed dose and energy dependence of plastic scintillators." *Med Phys.* **32** (5), 1265-9 (2005).
21. Gifford K., **Mourtada F***, Cho S, Lawyer A, Horton J, "Monte Carlo calculations of the dose distribution around a commercial gynecologic tandem applicator", *Radiotherapy and Oncology*, **77**:210-215 (2005).
22. Price M, Horton J, Gifford K, Eifel P, Jhingran A, Lawyer A, Berner P, **Mourtada F***, "Dosimetric evaluation of the Fletcher-Williamson ovoid for pulsed-dose-rate brachytherapy: a Monte Carlo study." *Phys Med Biol.* **50**(21):5075-87 (2005).
23. Gifford K, Horton J, Wareing T, Failla G, and **Mourtada F.*** "Comparison of a Finite Element Multigroup Discrete Ordinates code with Monte Carlo for Radiotherapy Calculations", *Phy Med Biol*, 51(9):2253-65 (2006).
24. Beck T, Looker A, **Mourtada F**, Daphtary M, Ruff C, "Age trends in femur stresses from a simulated fall on the hip among men and women: evidence of homeostatic adaptation underlying the decline in hip BMD" *Journal of Bone Mineral Research*, 21(9):1425-32 (2006).
25. Apisarnthanarax S, Alauddin M, **Mourtada F**, Ariga H, Raju U, Mawlawi O, Han D, Bornmann W, Ajani J, Milas L, Gelovani J, Chao K, "Early Detection of Chemoradioresponse in Esophageal Carcinoma by 3'-Deoxy-3'- ^{18}F -Fluorothymidine Positron Emission Tomography using Preclinical Tumor Models" *Clinical Cancer Research*, 12(15): 4590-4597, 2006.
26. Kassas B, **Mourtada F***, Horton J, Lane R, Buchholz T, Strom E, "Dose modification factors for ^{192}Ir high-dose-rate irradiation using Monte Carlo simulation" *JACMP*, 7(3): 28-34 (2006).
27. Price M, Gifford K, Horton J, Lawyer A, Eifel P, **Mourtada F***, "Comparison of dose distributions around the pulsed-dose-rate Fletcher-Williamson and the low-dose-rate Fletcher-Suit-Delclos ovoids: a Monte Carlo study" *Phys Med Biol.* 51(16): 4083-4094 (2006).
28. **Mourtada F**, Gifford K, Berner P, Horton J, Price M, Lawyer A Eifel P, " Retrospective dosimetric comparison of low-dose-rate and pulsed-dose-rate intracavitary brachytherapy using a tandem and mini-ovoids", *Medical Dosimetry*, 32(3): 181-187 (2007).
29. Azhdarinia A, Yang D, Chao C, **Mourtada F**, "Infrared-based Automated Module for ^{68}Ga -labeled Radiotracers Synthesis", *Nuclear Medicine and Biology*, 34(1): 121-127, (2007).
30. Kry S, Price M, Followill D, **Mourtada F**, Salehpour M, "Use of LiF (TLD-100) as an Out-of-Field Dosimeter" *Journal of Applied Clinical Medical Physics*, 8(4), (2007).
31. Sims-Mourtada J, Azhdarinia A, Yang D, **Mourtada F**, "Regulatory requirements for PET Radiopharmaceuticals Production: Is Automation an Answer?" *Current Medical Imaging Reviews*, 4(1), (2008).
32. Vassiliev O, Wareing T, Davis I, McGhee J, Barnett D, Horton J, Gifford K, Failla G, Titt U, **Mourtada F**, "Feasibility of a Multigroup Deterministic Solution Method for 3D Radiotherapy Dose

- Calculations" *International Journal of Radiation Oncology, Biology, Physics*, 72(1): 220-227 (2008)
33. Gifford K, Price M, Horton J, Wareing T, **Mourtada F**, "Optimization of deterministic transport parameters for the calculation of the dose distribution around a high dose-rate ¹⁹²Ir brachytherapy source" *Med Phys*. 35(6):2279-2285, (2008)
 34. Kry SF, Price M, Wang Z, **Mourtada F**, Salehpour M, "Investigation into the use of a MOSFET dosimeter as an implantable fiducial marker" *Journal of Applied Clinical Medical Physics*, 10(1), (2009).
 35. Price M, Gifford KA, Horton J, Eifel PJ, Gillin MT, Lawyer A, **Mourtada F***, "Monte Carlo Model for a Prototype CT-compatible, Anatomically Adaptive, Shielded Intracavitary Brachytherapy Applicator for the Treatment of Cervical Cancer", *Med Phys*, Vol. 36(9), pp. 4147–4155, 2009
 36. Price M, Jackson, E., Gifford KA, Eifel PJ, **Mourtada F***, "Development of Prototype Shielded Cervical Intracavitary Brachytherapy Applicators Amenable to CT and MR Imaging", *Med Phys*, Vol. 36(12), 2009
 37. Gifford K, Wareing T, Failla G, Horton J, Eifel PJ, **Mourtada F**, "Comparison of a 3-D multi-group SN particle transport code with Monte Carlo for intracavitary brachytherapy of the cervix uteri", *Journal of Applied Clinical Medical Physics*, 11(1): 2-9, 2010
 38. Price M, Kry SF, Eifel PJ, Salehpour M, **Mourtada F***, "Dose Perturbation Due to the Polysulfone Cap Surrounding a Fletcher-Williamson Colpostat", *Journal of Applied Clinical Medical Physics*, 11(1): 68-76, 2010
 39. O Vassiliev, T Wareing, J McGhee, G Failla, M Salehpour, **Mourtada F**, "Validation of a new grid-based Boltzmann equation solver for dose calculation in radiotherapy with photon beams", *Phys Med Biol*. 55: 581-598, 2010
 40. Frank SJ, Taylor RC, Kudchadker RJ, Martirosyan KS, Stafford J, Elliot AM, Swanson DA, Sing D, Choi J, **Mourtada F**, Ibbott GS, " Anisotropy characterization of I-125 seed with attached encapsulated cobalt chloride complex contrast agent markers for MRI-based prostate brachytherapy" *Medical Dosimetry*, 36(2): 200-205, 2011
 41. Rivard MJ, Beaulieu L, **Mourtada F**, "Enhancements to commissioning techniques and quality assurance of brachytherapy treatment planning systems that use model-based dose calculation algorithms", *Med Phys*, 37(6): 2645-2658, 2010
 42. Mikell J, **Mourtada F***, "Dosimetric Impact of an ¹⁹²Ir Brachytherapy Source Cable Length Modeled Using a Grid-based Boltzmann Transport Equation" *Med Phys*, 37(9): 4733-4743, 2010
 43. Rivard MJ, Chiu-Tsao S, Finger PT, Meigooni A, Melhus, CS, **Mourtada F**, Napolitano M, Rogers D, Thomson R, Nath R, "Comparison of dose calculation methods for brachytherapy of intraocular tumors" *Med Phys*, 38(1): 2011
 44. Therriault-Proulx F, Briere TM, **Mourtada F**, Aubin S, Beddar S, Beaulieu L, " In Vivo Dosimetry Using Plastic Scintillation Detector for Ir-192 HDR Brachytherapy" *Med Phys*, 38(5): 2542-2551, 2011
 45. Han T, Mikell J, Salehpour M, **Mourtada F***, "Dosimetric comparison of Acuros XB deterministic radiation transport method with Monte Carlo and model-based convolution methods in heterogeneous media", *Med. Phys.*, 38(5): 2651-2664, 2011
 46. Dick J, **Mourtada F**, Zhang SX, Beyer G, White A, Salehpour M. Modification Of An Implantable MOSFET Dosimeter To Act As A Fiducial Marker. *IEEE Sensors Journal*, 11(10):2591-7, 2011
 47. **Mourtada F**, Mikell J, Ibbott GS, "Monte Carlo calculations of AAPM Task Group Report No. 43 dosimetry parameters for the ¹²⁵I I-Seed AgX100 source model", *Brachytherapy*, 11(3): 237-244, 2011
 48. Mikell J, Klopp AH, Gonzalez G, Kisling KD, Price MJ, Berner PA, Eifel PJ, **Mourtada F***, "Impact of heterogeneity-based dose calculation using a deterministic grid-based Boltzmann equation solver for intracavitary brachytherapy" *International Journal of Radiation Oncology, Biology, Physics*, 83(3): e417-e422, 2012
 49. Han T, **Mourtada F**, Kisling K, Mikell J, Followill D, Howell R. "Experimental validation of deterministic Acuros XB algorithm for IMRT and VMAT dose calculations with the Radiological Physics Center's head and neck phantom", *Med. Phys.*, 39(4): 2193-2202, 2012
 50. Sims-Mourtada J, Yang DJ, Tworowska I, Larson R, Smith D, Tsao N, Opdenaker L, **Mourtada F**, and Woodward WA. "Detection of canonical hedgehog signaling in breast cancer by ¹³¹Iodine-labeled derivatives of the sonic hedgehog protein., "Molecular Image-Guided Theranostic and

Personalized Medicine 2012 special issue, *Journal of Biomedicine and Biotechnology*, article 639562, 2012

51. Sou-Tung Chiu-Tsao, Melvin A. Astrahan, Paul T. Finger, David S. Followill, Ali S. Meigooni, Christopher S. Melhus, **Firas Mourtada**, Mary E. Napolitano, Ravinder Nath, Mark J. Rivard, D. W. O. Rogers, and Rowan M. Thomson. "TASK GROUP REPORT: "Dosimetry of ^{125}I and ^{103}Pd COMS eye plaques for intraocular tumors: Report of Task Group 129 by the AAPM and ABS" *Med. Phys.*, 39(10): 6161-6184, 2012
52. Luc Beaulieu, Åsa Carlsson Tedgren, Jean-François Carrier, Stephen D. Davis, **Firas Mourtada**, Mark J. Rivard, Rowan M. Thomson, Frank Verhaegen, Todd A. Wareing, and Jeffrey F. Williamson. "TASK GROUP REPORT: "Report of the Task Group 186 on model-based dose calculation methods in brachytherapy beyond the TG-43 formalism: Current status and recommendations for clinical implementation" *Med. Phys.*, 39(10): 6208-6236, 2012
53. Klopp A, **Mourtada F**, Yu Z, Beadle B, Lawyer A, Jhingran A, Eifel P. "Pilot study of a new CT-compatible intracavitary brachytherapy applicator for treatment of cervical." *Practical Radiation Oncology*, 3: 115-123, 2013
54. Sarkar A, Donavanik V, Zhang I, Chen HC, Koprowski C, Hanlon A, **Mourtada F**, Strasser J, Raben R. "Prostate implant dosimetric outcomes and migration patterns between bio-absorbable coated and uncoated brachytherapy seeds" *Brachytherapy*, 12(4): 356-361, 2013
55. Han T, David Followill, Justin Mikell, Roman Repchak, Andrea Molineu, Rebecca Howell, Mohammad Salehpour, and **Firas Mourtada**. "Dosimetric impact of Acuros XB deterministic radiation transport algorithm for heterogeneous dose calculation in lung cancer " *Med. Phys.*, 40(5): 1710, 2013
56. Mikell J, Klopp A, Price MJ, **Mourtada, F**. "Commissioning of a grid-based Boltzmann solver for cervical cancer brachytherapy treatment planning with shielded colpostats" *Brachytherapy*, 12(6): 645-653, 2013
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 101. Raben, A, **Mourtada F**, "Long Term Biochemical Control And Toxicity For Favorable And Intermediate Risk Patients Using Real-time Intra-operative Inverse Optimization (io-psi) Prostate Brachytherapy Alone", 2015 ABS Annual Meeting, Orlando, FL, April 9-11, 2015
 102. J Mikell, W Siman, **F Mourtada**, SC Kappadath. Validation of a GATE Camera Model for the Siemens Symbia. Med. Phys. **42**, 3203 (2015); <http://dx.doi.org/10.1118/1.4923845>
 103. J Mikell, **F Mourtada**, T Wareing, SC Kappadath. Clinical Implementation of a grid-based Boltzmann Solver with adaptive meshing for nuclear medicine dosimetry. Med. Phys. **42**, 3709 (2015); <http://dx.doi.org/10.1118/1.4926153>.
 104. J Mikell, A Mahvash, W Siman, **F Mourtada**, SC Kappadath. Biases and variability in partition model absorbed doses following 90Y microsphere therapy. J Nucl Med 2015 56:1336.
 105. J Mikell, A Mahvash, W Siman, **F Mourtada**, SC Kappadath. Differences between four voxel-based dosimetry methods for 90Y microsphere therapy. J Nucl Med 2015 56:1277.
 106. SC Kappadath, J Mikell, V Baladandayithapani, **F Mourtada**, A Mahvash. HCC tumor-dose response using voxel-based dosimetry following 90Y-microsphere therapy. J Nucl Med 2015 56:572.
 107. J Mikell, SC Kappadath, T Wareing, **F Mourtada**. Validating a grid-based Boltzmann Solver for nuclear medicine applications in homogeneous and heterogeneous materials for voxel-based absorbed doses. J Nucl Med 2015 56:542.
 108. J. Mikell, A. Mahvash, **F. Mourtada**, S.C. Kappadath. Implications of four different voxel-based dosimetry models for liver and lung following 90Y microsphere therapy. Journal of Vascular and Interventional Radiology, Vol. 26 Issue 2 S190–S191, 2015.
 109. S.C. Kappadath, J. Mikell, V. Baladandayuthapani, W. Siman, **F. Mourtada**, A. Mahvash. Hepatocellular carcinoma tumor dose heterogeneity and response using 3D voxel-based dosimetry following 90Y-microsphere therapy. Journal of Vascular and Interventional Radiology, Vol. 26, Issue 2, S88, 2015.

110. R Sloboda, F Ballester, A Carlsson Tedgren, W Culberson, J Esthappan, A Haworth, J Lowenstein, Y Ma, **F Mourtada**, P Papagiannis, T Pike, M Rivard, F Siebert, R Smith, I Spadinger, P Taylor, F Verhaegen, J Vijande and L Beaulieu. "Infrastructure and Process for Model-Based Dose Calculation Software Commissioning in Brachytherapy", *Medical Physics* 42(6):3708, May 2015
111. **Mourtada F**, Richardson S. Practical Guidelines for Commissioning Advanced Brachytherapy Dose Calculation Algorithms, *Med. Phys.* 42: 3686, 2015
112. Lindsey A, Lamberto M, Chen H, Sarkar A, and **Mourtada F**. "Dosimetric Verification of the Valencia Skin Applicator Using Gafchromic EBT3 Film", *Medical Physics* 42(6):3535, May 2015
113. Lamberto M, Chen H, Huang K, and **Mourtada F**. "Investigation of the CyberKnife MultiPlan Monte Carlo Dose Calculation Using EBT3 Film Absolute Dosimetry for Delivery in a Heterogeneous Thorax Phantom", *Medical Physics* 42(6):3454, May 2015
114. Y Ma, J Vijande, F Ballester, Asa Carlsson Tedgren, D Granero, A Haworth, **F Mourtada**, G Fonseca, K Zourari, P Papagiannis, M Rivard, F Siebert, R Sloboda, R Smith, R Thomson, F Verhaegen, and L Beaulieu "Generation of 3D Dosimetric Reference Datasets for Commissioning and Validation of ¹⁹²Ir Brachytherapy Model-Based Dose Calculation Software", *Medical Physics* 42(6):3707, May 2015
115. Kai Y, Yu Z, Chen H, and Mourtada F. "Determining VMAT Machine Limitations of An Elekta Linear Accelerator with Agility MLC for Accurate Modeling in RayStation and Robust Delivery", *Medical Physics* 42(6):3390, May 2015

Book Chapters

1. "Physics of Intraoperative Radiotherapy for the Breast", **Firas Mourtada**, Edited by Douglas W. Arthur, Frank Vicini, David E. Wazer, Atif J. Khan, Short Course Breast Radiotherapy, Springer-Verlag, Heidelberg, Germany, In Press, 2015
2. "Computational Dosimetry Methods", Panagiottis Papagiannis, Luc Beaulieu, and **Firas Mourtada**, Edited by Venselaar, Meigooni, Baltas, and Hoskin Comprehensive Brachytherapy: Physical and Clinical Aspects, Boca Raton, FL: CRC Press, Taylor & Francis; 85-106, 2012
3. "Quality management of equipment", Jack Venselaar and **Firas Mourtada**, Edited by Venselaar, Meigooni, Baltas, and Hoskin Comprehensive Brachytherapy: Physical and Clinical Aspects, Boca Raton, FL: CRC Press, Taylor & Francis; 43-60, 2012
4. "The Physics and Radiobiology of Targeted Radionuclide Therapy", Bruce Thomadsen, William Erwin and **Firas Mourtada**, Edited by Tod W. Speer, Targeted Radionuclide Therapy. 1st edition. Philadelphia, PA: Lippincott Williams and Wilkins; page 71-87, 2011
5. "Radiation Safety for Radionuclide Therapy", Bruce Thomadsen, William Erwin, and **Firas Mourtada**, Edited by Tod W. Speer, Targeted Radionuclide Therapy. 1st edition. Philadelphia, PA: Lippincott Williams and Wilkins; page 144-155, 2011
6. "Clinical Radiation Oncology Physics", George Starkschall, Lei Dong, Peter A. Balter, Almon Shiu, **Firas Mourtada**, Michael Gillin, and Radhe Mohan. Cox JD, Ang KK, eds. Radiation Oncology, 9th edition. Philadelphia, PA: Elsevier; page 50-91, 2009
7. "Brachytherapy – Intravascular", **Mourtada F**, The Wiley Encyclopedia of Medical Devices and Instrumentation, Edited by John G. Webster, 2nd Edition, Volume 1, page 601-618, 2006
8. "Manchester Planar and Volume Implants and the Paris System," Gillin M, and **Mourtada F**, American Association of Physicists in Medicine Summer School-Brachytherapy Physics 2005, Seattle, WA. Medical Physics Monograph No. 31, page 351-372, 2005

9. "Continuous Low Dose Rate and Pulsed Dose Rate Remote Afterloader Units," Horton J, Lawyer A, **Mourtada F**, American Association of Physicists in Medicine Summer School-Brachytherapy Physics 2005, Seattle, WA. Medical Physics Monograph No. 31, page 99-108, 2005
10. "Intracavitary Brachytherapy Applicators and University of Texas M. D. Anderson Cancer Center Intracavitary Brachytherapy Techniques," Horton J, Lawyer A, Berner P, Cunningham M, and **Mourtada F**, American Association of Physicists in Medicine Summer School-Brachytherapy Physics 2005, Seattle, WA. Medical Physics Monograph No. 31, page 815-827. 2005

Books (edited and written)

N/A

Letters to the Editor

N/A

Manuals, Teaching Aids, Other Publications

1. Guidant's Intravascular Radiotherapy Education Site for the Interventional Cardiologist, 2002

Other Publications

N/A

EDITORIAL AND REVIEW ACTIVITIES

Editor/Service on Editorial Board(s)

Associate Senior Editor, International Journal of Radiation Oncology Biology Physics, 2005-2011

Guest Associate Editor, Medical Physics Journal, 2006-present

Editor-Medical Physics, Applied Radiation and Isotopes, 2007-present

Associate Senior Editor (Brachytherapy), Journal of Applied Clinical Medical Physics, 2008-present

Journal Reviewer

Medical Physics (1999-present)

International Journal of Radiation Oncology Biology Physics (2003-2011)

Journal of Applied Clinical Medical Physics (2003-present)

Radiotherapy and Oncology (2005-present)

Medical Dosimetry Journal (2006-present)

Journal of Labeled Compounds and Radiopharmaceuticals (2007-present)

Applied Radiation and Isotopes (2007-present)

Brachytherapy (2010-present)

Australian Physical & Engineering Sciences in Medicine (2010-present)

Radiation and Environmental Biophysics (2010-present)

Practical Radiation Oncology (2010-present)

BJR, British Institute of Radiology, (2013-present)

TEACHING

Within Current Institution

Formal Teaching

Courses Taught

Instructor, Medical Dosimetry Class, 07/2003

Instructor, Medical Dosimetry Class, 08/2004

Course Director, Medical Physics Seminar (GS02-0731), Spring 2006

Lecturer, Medical Physics Seminar (GS02-0731), Spring 2007

Lecturer, Medical Physics Seminar (GS02-0731), Spring 2008

Lecturer (Brachytherapy II), Introduction to Medical Physics II, Spring 2008

Lecturer, Introduction to Medical Physics II, Spring 2009

Training Programs

Medical Physics Graduate Program, served as member of the Steering Committee 2006-
Molecular Imaging Course Development for Medical Physics students, 2008

Annual Training Program for Residents, Graduate Students, and Visitors on Interstitial
and Intracavitary Dosimetry, Co-Director 2005-2009

MD Anderson Medical Physics Short course, Interstitial and Intracavitary Dosimetry
course co-director, 2005-2009

Other Formal Teaching

Instructor, Interstitial and Intracavitary Dosimetry: Basic Methods and Calculations Short
Course, MDACC, 03/2003

Instructor, Interstitial and Intracavitary Dosimetry: Basic Methods and Calculations Short
Course, MDACC, 03/2004

Co-director and Instructor, Interstitial and Intracavitary Dosimetry: Basic Methods and
Calculations Short Course, MDACC, 11/2005

Co-director and Instructor, Interstitial and Intracavitary Dosimetry: Basic Methods and
Calculations Short Course, MDACC, 10/2006

Co-director and Instructor, Interstitial and Intracavitary Dosimetry: Basic Methods and
Calculations Short Course, MDACC, 10/2007

Co-director and Instructor, Interstitial and Intracavitary Dosimetry: Basic Methods and
Calculations Short Course, MDACC, 10/2008

Instructor, Radiological Physics for Radiation Oncology Annual Course, MDACC,
03/2011

Supervisory Teaching

Advisory Committees

Member, MS Thesis Advisory Committee, G.S.B.S., Kevin Casey, 6/2011-9/2011

Member, Ph.D. Thesis Advisory Committee, G.S.B.S., Yun Chen Chiang, 11/2010-9/2011

Member, MS Thesis Advisory Committee, G.S.B.S., Joseph Dick, 8/2009-8/2010

Member, Ph.D. Thesis Advisory Committee, G.S.B.S., Zhiqian Yu, 10/2009-11/2010

Member, Ph.D. Thesis Advisory Committee, G.S.B.S., I-Hong Shih, 10/2009-10/2010

Chair, PhD Thesis Advisory Committee, G.S.B.S., Justin Mikell, 9/2008-9/2010

Chair, PhD Thesis Advisory Committee, G.S.B.S., Michael Price, 9/2004-8/2008

Chair, MS Thesis Advisory Committee, G.S.B.S., Nathan Pung, 6/2007- 11/2008

Member, Ph.D. Thesis Advisory Committee, G.S.B.S., Ning Tsao, 10/2008-11, 2009

Member, Ph.D. Thesis Advisory Committee, G.S.B.S., Scott Davidson, 4/2007- 9/2008

Member, Ph.D. Thesis Advisory Committee, G.S.B.S., Fanlin Kong, 2/2008- 8-2009

Member, MS Thesis Advisory Committee, G.S.B.S., Alanna McDermott, 10/2006- 5/2007

Member, MS Thesis Advisory Committee, G.S.B.S., Hilary Loupee, 5/2003- 8-2005

Supervisory Committees

Member, Ph.D. Thesis Supervisory Committee, G.S.B.S., Zhiqian Yu, 08/2011-02/2013

Member, PhD Thesis Supervisory Committee, G.S.B.S., Justin Mikell, 09/2011- present

Chair, PhD Thesis Supervisory Committee, G.S.B.S., Justin Mikell, 11/2010-9/2011

Member, Ph.D. Thesis Supervisory Committee, G.S.B.S., Fanlin Kong, 5/2010- 12/2011

Chair, PhD Thesis Supervisory Committee, G.S.B.S., Michael Price, 06/2005- 08/2008

Member, PhD Thesis Supervisory Committee, G.S.B.S., Ali Azhdarinia, 05/2004- 06/2005

Member, PhD Thesis Supervisory Committee, G.S.B.S., Kent Gifford, 12/2002- 04/2004

Member, PhD Thesis Supervisory Committee, G.S.B.S., Nick Koch, 07/2003-06/2004

Examining Committees

Member, Ph.D. Thesis Exam Committee, G.S.B.S., I-Hong Shih, 1/2011

Chair, Ph.D. Thesis Exam Committee, G.S.B.S., Ning Tsao, 12/2010

Member, Ph.D. Thesis Exam Committee, G.S.B.S., Zhiqian Yu, 12/2010

Member, Ph.D. Thesis Exam Committee, G.S.B.S., Scott Davidson, 05/2008

Member, Ph.D. Thesis Exam Committee, G.S.B.S., Fanlin Kong, 08/2009

Direct Supervision

Undergraduate and Allied Health Students

Joshua Carroll, UT CBME Summer School 2005

Daniel Wei, MD Anderson Summer Research Program, 2008

Medical Students

N/A

Medical Physics Residents

Allison Mitchell, M.S. 2013-2015

Melissa Lamberto, M.S., 2014-2016

Graduate Students

Shuaiping Ge, Ph.D. Medical Physics candidate

Daniel Smith, Ph.D. Medical Physics candidate

Michael Price, Ph.D. Medical Physics candidate

Justin Mikell, Ph.D. Medical Physics candidate

Nathan Pung, M.S. Medical Physics candidate

Hilary Voss, M.S. Medical Physics candidate

Postdoctoral Research Fellows

Tao Han, Ph.D., Medical Physics 2010-2013

Clinical Residents and Fellows

Instructor, Brachytherapy Clinical Training for MDACC Radiation Oncology Residents and Fellows 2003-2011

Associate Residency Director, Medical Physics Residency Program, Christiana Care Health System Affiliated Residency Program with Thomas Jefferson University 2013-

Teaching Outside of Current Institution

Formal Teaching

Training Programs

1. Invited lecturer, Seventh Annual Physics and Radiobiology Review Course, Department of Radiation Oncology, University of Maryland School of Medicine, Baltimore, Maryland, April 29-30, 2010
2. Invited lecturer, American Brachytherapy Society (ABS) Winter Educational School, "Commissioning Brachytherapy Treatment Planning Systems, Part I: Contouring accuracy, image input and registration" Quality Management in LDR and HDR Brachytherapy, West Palm Beach, Florida, March 10, 2011
3. Invited lecturer, American Brachytherapy Society (ABS) Winter Educational School, "Treatment Planning" Quality Management in LDR and HDR Brachytherapy, West Palm Beach, Florida, March 10, 2011
4. Invited lecturer, American Brachytherapy Society (ABS) Winter Educational School, "Treatment Planning" Quality Management in LDR and HDR Brachytherapy, West Palm Beach, Florida, March 10, 2011
5. Invited lecturer, American Brachytherapy Society (ABS) Winter Educational School, "Commissioning Brachytherapy Treatment Planning Systems, Part I: Contouring

accuracy, image input and registration” Quality Management in LDR and HDR Brachytherapy, Phoenix, Arizona, March 16, 2012

6. Invited lecturer, American Brachytherapy Society (ABS) Winter Educational School, “Treatment Planning” Quality Management in LDR and HDR Brachytherapy, Phoenix, Arizona, March 16, 2012
7. Invited lecturer, Thomas Jefferson University, 7th Annual Medical Dosimetry Review Course, Treatment Planning I: Basic Concepts, Philadelphia, PA, May 2012
8. Invited lecturer, Thomas Jefferson University, 7th Annual Medical Dosimetry Review Course, Treatment Planning II: 3D Forward Planning, Philadelphia, PA, May 2012
9. Invited lecturer, Thomas Jefferson University, 7th Annual Medical Dosimetry Review Course, Inverse Treatment Planning (IMRT), Philadelphia, PA, May 2012
10. Invited lecturer, American Association of Medical Physics Spring Clinic, Advances in Brachytherapy Dose Calculations, Phoenix, Arizona, March 2013
11. Invited lecturer, Thomas Jefferson University, 8th Annual Medical Dosimetry Review Course, Treatment Planning I: Basic Concepts, Philadelphia, PA, July 2013
12. Invited lecturer, Thomas Jefferson University, 8th Annual Medical Dosimetry Review Course, Treatment Planning II: 3D Forward Planning, Philadelphia, PA, July 2013
13. Invited lecturer, Thomas Jefferson University, 8th Annual Medical Dosimetry Review Course, Inverse Treatment Planning (IMRT), Philadelphia, PA, July 2013
14. Invited speaker, AAPM Hub and Spoke Webinar Series, Webinar#2: Motivation, Economics, and Structure from the Satellite Perspective, September 21, 2015
15. Invited speaker, AAPM Hub and Spoke Webinar Series, Webinar#3: Economics and Negotiations, October 8, 2015
16. Invited Faculty, ASTRO/ABS Prostate Brachytherapy Simulation Workshop, ASTRO Annual Meeting, San Antonio, TX, October 17, 2015

Other Formal Teaching

N/A

CONFERENCES AND SYMPOSIA

Organization of National or International Conferences/Symposia (Include chairing session)

SAM Session Chair, Practical Guidelines for Commissioning Advanced Brachytherapy Dose Calculation Algorithms, 57th AAPM Annual Meeting, Anaheim, CA, July, 12-16 2015

Abstract Reviewer, 57th AAPM Annual Meeting, Anaheim, CA, July, 12-16 2015

Organizer and Session Chair, AAPM DVC Spring Symposium, Philadelphia, PA, May 15, 2015

Member, Scientific Program Committee, ABS Annual Meeting, Orlando, Florida, April 9-11, 2015

Discussant, Judith Stitt Award Winner: Physics, ABS Annual Meeting, Orlando, Florida, April 9-11, 2015

Abstract Reviewer, American Brachytherapy Society Annual Conference, April 2015, Orlando, FL

Abstract Reviewer, 56th AAPM Annual Meeting, Austin, Texas, July, 20-24 2014

Session Chair, Brachytherapy Planning and Dose Calculation, 56th AAPM Annual Meeting, Austin, Texas, July, 20-24 2014

Session Chair, The Physics Aspects of Skin Brachytherapy, American Brachytherapy Society Annual Meeting, San Diego, April 3-5, 2014

Session Chair, Clinical Implementation for Advanced Brachytherapy Dose Calculation Algorithms Beyond the TG-43 Formalism, 55th AAPM Annual Meeting, Indianapolis, Indiana, August 4-8, 2013

Abstract Reviewer, 55th AAPM Annual Meeting, Indianapolis, Indiana, August 4-8, 2013

Session Chair, Modeling and Simulation of Brachytherapy Sources, American Nuclear Society Annual Meeting, Chicago, 2012

Abstract Reviewer, American Brachytherapy Society Annual Conference, April 2011, San Diego, CA

Session Chair, Recent Advances in Brachytherapy and Molecular Imaging, American Nuclear Society Annual Meeting, Las Vegas, 2010

Session Chair, 2008 World Congress of Brachytherapy and the American Brachytherapy Society Annual Meeting, Boston, 2008

Presentations at National or International Conferences Invited

1. Invited speaker, Dosimetry Characterization of ³²P Catheter-based Vascular Brachytherapy Source Wire. *Fourth Annual Symposium on Radiotherapy to Reduce Restenosis*, La Jolla, CA, 01/2000
2. Invited speaker, GALILEO Intravascular Brachytherapy System: Characteristics and Dosimetry. *American College of Medical Physics 17th Annual Meeting*, Whistler, British Columbia, Canada, 05/2000
3. Invited speaker, DVH Analysis of Prescription and Centering Techniques using PREVENT IVUS Data, *Council on Ionizing Radiation Measurements and Standards 9th annual meeting*, Gaithersburg, Maryland, 10/2000
4. Invited speaker, The GALILEO IVB System: Dosimetry and Radiation Safety Issues", *3rd Annual Prostate Brachytherapy Seminar*, Delray Beach, Florida, 01/2001
5. Invited speaker, Dosimetric Study to Compare COMS I-125 to Ru-106 and Protons for Ocular Melanoma, *29th Annual Meeting of American Association of Medical Dosimetrists*, Houston, Texas, 06/2004

6. Invited speaker, Attila: A Deterministic Dose Calculation Method for Radiotherapy, *9th Biennial ESTRO Meeting on Physics and Radiation Technology For Clinical Radiotherapy*, 09/2007
7. Invited speaker, Regulatory Compliance of Human-grade Radiopharmaceuticals Synthesis in the United States, *Imaging Science and Technology in Drug Development Conference*, Sandi, Japan, 09/2007
8. Invited speaker, Deterministic Radiation Transport Method for External beam and Radionuclide Radiotherapy, *Johns Hopkins Medical Institutions, Department of Radiology, Division of Medical Imaging Physics*, Baltimore, Maryland, 06/2008
9. Invited speaker, Update on Smartrace™ Technology for Purification and Synthesis of Radiometal PET tracers, *MDS Nordian / Radiomedix*, Houston, Texas, 03/2009
10. Invited speaker, Molecular Imaging Probes for Assessment of Radiotherapy Response, *17th Annual Radiation Workshop at Round Top*, Round Top, Texas, 04/2009
11. Invited speaker, CT-Based Boltzmann Solver for Efficient Radiation Transport in Patients, *Annual Meeting of American Brachytherapy Society*, Toronto, Canada, 05/2009
12. Invited speaker, BrachyVision-Acuris Treatment Planning using a Novel CT-Based Boltzmann Solver, *Varian Oncology Systems Users Group Meeting*, Toronto, Canada, 05/2009
13. Invited speaker, BrachyVision-Acuris TPS for Heterogeneity-based HDR dose calculations, *Varian Oncology Systems Users Group Meeting*, Anaheim, CA, 07/2009
14. Invited speaker, Grid-based Boltzmann solver for brachytherapy and external beam dose calculations, *University of California San Diego*, San Diego, CA, 10/2009
15. Invited speaker, Translational Advances in Brachytherapy, *Rad Onc 2010*, Houston, Texas, March 6, 2010
16. Invited speaker, Grid Based Boltzmann Solver for Brachytherapy Treatment Planning, *American Nuclear Society Annual Meeting*, Las Vegas, April 20, 2010
17. Invited speaker, Radiation Transport Methods Coupled with SPECT/CT Imaging for Targeted Radionuclide Therapy, Molecular Imaging-guided Therapy SNM Continuing Education Session, *Society of Nuclear Medicine Annual Meeting*, Salt Lake city, Utah, June 7, 2010
18. Invited speaker, Voxel-based Radiation Transport Methods for Targeted Radionuclide Therapy, *21st International Conference on the Application of Accelerators in Research and Industry*, Fort Worth, Texas, August 8-13, 2010
19. Invited speaker, Novel Imaging Probes for Neurocarcinoma Radiotherapy Response Assessment, *Molecular Imaging Symposium on Central Nervous System*, Institute of Nuclear Energy Research (INER), Taipei, Taiwan, October 7, 2010

20. Invited speaker, Novel Imaging Probes for Neurocarcinoma Radiotherapy Response Assessment, *3rd International Molecular Imaging Forum on Central Nervous System*, Taipei, Taiwan, October 9, 2010
21. Invited speaker, Review of Targeted Radionuclide Therapy, 2010 Isotopes for Medicine and Industry, *American Nuclear Society Winter Meeting*, Las Vegas, NV, November, 10, 2010
22. Invited speaker, Beyond TG-43, *IAEA International Symposium on Standards, Applications and Quality Assurance in Medical Radiation Dosimetry*, Vienna, Austria, November, 12, 2010
23. Invited speaker, Dosimetry of Targeted Radionuclide Therapy, *American Brachytherapy Society Annual Meeting*, San Diego, CA, April 15, 2011
24. Invited speaker, Commissioning TPS Beyond TG43: Link to TG43 Underlying Process and Going Forward Discussion, *GEC-ESTRO-ISIORT Conference*, London, UK, May 9, 2011
25. Invited speaker, Targeted Radionuclide Therapy & Dosimetry, *Stem Cell Working Group*, University of Delaware, Newark, DE, January, 12, 2012
26. Invited speaker, Review of Modern Dosimetric Modeling Methods of Brachytherapy Sources, *American Nuclear Society Annual Meeting*, Chicago, IL, June 2012
27. Invited speaker, Recent Advancements in Imaging for Soft Tissue Target Localization, *Highlights in Radiation Oncology Conference: A Comprehensive Care Approach*, Newark, DE, November 2012
28. Invited speaker, Medical Physics – A Great Career Choice for Mercer Biomedical Engineering Graduates, Alumni Career Speaker Series, Macon, GA, November, 2012
29. Invited speaker, Advances in Brachytherapy Dose Calculations, Part II, AAPM Spring Clinical Meeting, Phoenix, Arizona, March 16-19, 2013
30. Invited speaker, MBDCA Commissioning: Ir-192 HDR source with CT/MR Colpostats, Physics Panel III: Brachytherapy Dose Calculations Beyond the TG-43 Formalism, ABS Annual Meeting, New Orleans, LA, April 18-20, 2013
31. Invited speaker, Regulatory Guidelines and Computational Methods for Safe Release of Radioactive Patients, 55th AAPM Annual Meeting, Indianapolis, Indiana, August 4-8, 2013
32. Invited speaker, High energy Brachytherapy Dosimetry as It Applies to Accelerated Partial Breast Irradiation (APBI), 55th AAPM Annual Meeting, Indianapolis, Indiana, August 4-8, 2013
33. Invited speaker, Research and Relevance of Brachytherapy Dose, 55th AAPM Annual Meeting, Indianapolis, Indiana, August 4-8, 2013
34. Invited Panelist, Clinical Aspects of Skin Brachytherapy, American Brachytherapy Society Annual Meeting, San Diego, April 3-5, 2014

35. Invited Panelist, Innovations in Treatment Planning: Will Heterogeneity Correction Revolutionize Brachytherapy? ABS Annual Meeting, Orlando, FL, April 9, 2015
36. Invited Speaker, Recent Advances in Brachytherapy Dose Calculation Methods – The Need for Standardization is Now More than Ever, CIRMS Annual Meeting, NIST, Gaithersburg, MD, April 29, 2015
37. Invited Speaker, MRI-based Treatment Planning Systems and QA – HDR, The Utilization of MRI in LDR and HDR Prostate Brachytherapy: From Diagnostics to Response Assessment. The University of Texas MD Anderson Cancer Center, Houston, TX, November 7, 2015

Other, Including Scientific Exhibitions

1. Invited speaker, Generator-based Image-Guided Radiation Therapy, MDACC Radiation Oncology Grand Round, January 14, 2004
2. Invited speaker, Development of Ga-68 Module for PET Radiopharmaceuticals, MDACC Radiation Physics Research Retreat, March, 27, 2004
3. Invited speaker, Monte Carlo Benchmarks of a Deterministic Dose Calculation Method for Radiotherapy, MDACC Radiation Physics Research Workshop, November 1, 2004
4. Invited speaker, Monte Carlo Benchmarks of a Deterministic Dose Calculation Method for Radiotherapy, MDACC Radiation Physics Research Workshop, November 1, 2004
5. Invited speaker, Introduction to Pulsed Dose Rate Systems, MDACC Radiation Physics Research Workshop, December 20, 2005
6. Invited speaker, PDR Part II: Dosimetric Equivalency to LDR, MDACC Radiation Physics Research Workshop, January 03, 2006
7. Invited speaker, Generator-based Image-Guided Radiation Therapy, MDACC Radiation Physics Research Workshop, January 09, 2006
8. Invited speaker, Receptor-based Imaging, MDACC Radiation Physics Research Workshop, December 11, 2006
9. Invited speaker, The Current State of Molecular Imaging: The Need for Innovation, MDACC Division of Radiation Oncology Ground Round, April 11, 2007
10. Invited speaker, Image-guided Adaptive Intracavitary Brachytherapy for the Treatment of Cervical Cancer, MDACC Division of Radiation Oncology IGRT Retreat, August, 2008.
11. Invited speaker, Beyond TG-43 to Improve Brachytherapy Dosimetry, Medical Physics Seminar, Radiation Physics Department, MDACC January, 11, 2011

Seminar Invitations from Other Institutions

1. Seminar: Feasibility of Multi-Photon Energy Absorptiometry for Detection of Lead in Bone *In Vivo*: Theoretical and Practical Issues. Department of Environmental Health, Division of Radiation Health, The Johns Hopkins University, Baltimore, Maryland, 1997
2. Seminar: Automating Brachytherapy Radioactive Source Measurements Using LabVIEW. Division of Ionizing Radiation, National Institute of Standards and Technology, Gaithersburg, Maryland, 1998
3. Seminar: Dosimetry and Quality Assurance of Guidant ³²P Catheter-based Sources, University of Texas MD Anderson Cancer Center, Houston, Texas, 08/2000
4. Seminar: Heterogeneity-based brachytherapy: The BrachyVision-Acuris treatment planning system, University of Texas Southwestern Medical Center, Dallas, Texas, 10/2009

Lectureships and Visiting Professorships

1. Department of Radiation Oncology, University of Maryland School of Medicine, Baltimore, Maryland, April 29-30, 2010

Other Presentations at State and Local Conferences

1. Invited Speaker, Novel Intravascular Brachytherapy Applications, AAPM Southwest Chapter Meeting, Austin, Texas, 11/2002
2. Invited Speaker, Review of the deterministic Boltzmann radiation transport solver for external beam and brachytherapy, *Delaware Valley AAPM Chapter Spring Symposium*, Philadelphia, PA, April 20, 2012
3. Invited Speaker, Advances in High-Energy Brachytherapy Dose Calculation Algorithms: A New Era beyond TG-43, New England Chapter Summer Meeting, Portsmouth, NH, May 31, 2013
4. Invited Speaker, Clinical Impact of Novel Brachytherapy Dose Calculation Algorithms, AAPM Delaware Valley Chapter Spring Symposium, Philadelphia, PA, May 15, 2015

PROFESSIONAL MEMBERSHIPS/ACTIVITIES

Professional Society Activities, with Offices Held

National and International

President, Biomedical Engineering Society, 1991-92

Full member, American Association of Physicists in Medicine, 1993-Present

Member, Health Physics Society, 1996-Present

US Expert, International Organization for Standardization, Working group 22, Switzerland: Brachytherapy, 2003-2007

Full member, American Society for Therapeutic Radiology and Oncology, 2003 –present

Member, American Brachytherapy Society Physics Committee, 2003-present

Full Member, Society of Nuclear Medicine, 2006-Present

Member, AAPM Task Group 129: Eye Plaque Dosimetry, 2007-2012

Member, AAPM Task Group 186: Model-based Dose Calculation Techniques in Brachytherapy: Status and Clinical Requirements for Implementation Beyond AAPM TG-43, 2009-2012

Member, ASTRO Integration of the Healthcare Enterprise (IHE) – Radiation Oncology (RO) Planning Committee, 2007-Present

Member, AAPM Special Brachytherapy Modalities Working Group, Model-Based Dose Calculation Algorithms in Brachytherapy, 2009-present

Member, AAPM Task Group 221: AAPM Recommendations for Ocular Brachytherapy, 2011-present

Member, AAPM Task Group 236: AAPM Recommendations on 3D Image-based Treatment Planning, Dosimetry, and Quality Management for Intracavitary Brachytherapy, 2012-present

Board Member, Treasurer, American Brachytherapy Society, 2013-

Co-Chair, ASTRO-ABS Workshop for Prostate Implant Training for Radiation Oncology Residents, 2014-present

Member, ACR-ABS Practice Parameter for the Performance of High-Dose-Rate Brachytherapy, 2014-present

Co-Chair, Scientific Program, American Brachytherapy Society Annual Meeting, 2015

Local/state

Member, Southwestern Chapter of the AAPM, 1999-2011

Member, Delaware Valley Chapter of the AAPM, 2011-

President-Elect, Delaware Valley Chapter of the AAPM, 2013-2014

President, Delaware Valley Chapter of the AAPM, 2014-2015

UNIQUE ACTIVITIES

Plato Brachytherapy Treatment Planning System, Nucletron, Columbia, Maryland, Oct, 2005

Oncentra Brachytherapy Treatment Planning System, Nucletron, Columbia, Maryland, Jan, 2009

BrachyVision Treatment Planning System, Varian Medical Systems, Charlottesville, VA, Nov. 2009.

Partial Breast Irradiation Technique using the SAVI applicator. MD Anderson Cancer Center, Houston, TX, 2010

Partial Breast Irradiation Technique using the Contura Balloon. MD Anderson Cancer Center, Houston, TX, 2010

RayStation Treatment Planning System, RaySearch, New York, NY, 2013

DATE OF LAST CV UPDATE
09/24/2015