

CURRICULUM VITAE

EDUARDO G. MOROS, PH.D., DABR, FAAPM, FASTRO

Updated: August 2023

Current Position: Senior Member (*tenured*) and Chief of Medical Physics
Department of Radiation Oncology
Department of Diagnostic Imaging and Interventional Radiology
Department of Machine Learning (Secondary Appointment)
H. Lee Moffitt Cancer Center & Research Institute
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Tampa, FL 33612
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Current Academic

Appointments: Professor, Department of Oncologic Sciences
College of Medicine
University of South Florida

Professor, Department of Physics
College of Arts and Sciences
University of South Florida

Place of Birth: Caracas, D.F., Venezuela.

Citizenships: Venezuela (birth), United States of America (naturalized), Italy (sanguine).

Education:

1987 - 1990 Doctor of Philosophy in Mechanical Engineering with a Minor in Electrical Engineering, August 1990, University of Arizona.
1985 - 1987 Master of Science in Mechanical Engineering, May 1987, University of Arizona.
1981 - 1984 Bachelor of Science in Mechanical Engineering, December 1984, University of Arizona.

Postgraduate Training:

1990 – 1991 Associate Researcher and Medical Physicist, Department of Human Oncology, University of Wisconsin-Madison (employer); and Officer of the Hyperthermia Physics Center (NCI contract), Allegheny-Singer Research Institute, Pittsburgh, PA, site-visited and evaluated hyperthermia equipment of institutions participating in hyperthermia clinical trials; worked with, James Zagzebski Ph.D., Bhudatt Paliwal Ph.D., Tillman Saylor Ph.D., Richard Steeves M.D., and Prakash Shrivastava Ph.D.

Current Academic Appointments and Employment:

2011 – pres Senior Member, Clinical Academician Pathway, Dept. of Radiation Oncology and Dept. of Diagnostic Imaging and Interventional Radiology, **MCC**, *Tenured*, July 1, 2015.
2011 – pres Chief of Medical Physics, Dept. of Radiation Oncology and Dept. of Diagnostic Imaging and Interventional Radiology, **MCC**.
2011 – pres Professor, Research Scientist Pathway, Department of Oncological Sciences, College of Medicine, University of South Florida (**USF**).

- 2011 – pres Professor (Affiliate), Department of Physics, USF.
- 2012 – pres Director, USF-MCC Ph.D. in Applied Physics with Concentration in Medical Physics Program, CAMPEP.ORG accredited January 1, 2015, through June 30, 2023.
- 2020 – 2021 Director, MCC Medical Physics Residency, CAMPEP.ORG accredited May 16, 2020.
- 2023 – pres Senior Member, Dept. of Machine learning, secondary appointment, effective May 1, MCC.

Former Academic Appointments and Employment:

- 2012 – 2022 Vice-Chair, Dept. of Cancer Physiology (formerly Cancer Imaging and Metabolism), secondary appointment, MCC.
- 2016 – 2018 Director, Physics of Medical Imaging, Course for Radiology Residents.
- 2005 – 2011 Professor of Radiation Oncology (*Tenured*). Director, Division of Radiation Physics and Informatics, Department of Radiation Oncology, University of Arkansas for Medical Sciences (UAMS), Little Rock, AR.
- 2005 – 2011 Professor of Medical Dosimetry. Department of Imaging and Radiation Sciences, College of Health-Related Professions, UAMS.
- 2005 – 2005 Professor of Radiation Oncology (*Tenured*). Head, Research Physics Section, Radiation Physics Division, Department of Radiation Oncology, Washington University School of Medicine (WUSM).
- 2003 – 2005 Associate Professor of Radiation Oncology (*Tenured*). Head, Research Physics Section, Radiation Physics Division, Department of Radiation Oncology, WUSM.
- 2001 – 2002 Associate Professor of Radiation Oncology (*Tenured*). Chief, Hyperthermia Physics Clinical Service, Department of Radiation Oncology, WUSM.
- 1999 – 2002 Associate Professor of Radiology (*Tenured*). Chief, Hyperthermia Physics Clinical Service, Radiation Physics Section, Mallinckrodt Institute of Radiology (MIR), WUSM.
- 1991 – 1999 Assistant Professor of Radiology. Chief, Hyperthermia Physics Clinical Service, Radiation Physics Section, MIR, WUSM.
- 2001 – 2005 Affiliated Associate Professor of Biomedical Engineering. Dept. of Biomedical Engineering, Washington University in St. Louis (WUSTL).

Former Academic Titles:

- 2005 – 2011 Research Member, Winthrop P. Rockefeller Cancer Institute, UAMS.
- 1997 – 2005 Research Faculty Member, Siteman Cancer Center at Barnes-Jewish Hospital and WUSM.
- 1994 – 2005 Leader, Non-Ionizing Electromagnetic Radiation Engineering/Physics Core. Radiation and Cancer Biology Division, Dept. of Radiation Oncology, WUSM.
- 1991 – 2005 Chief, Hyperthermia Physics Clinical Service. Radiation Oncology Center/Department, WUSM.
- 1991 – 1994 Therapeutic Radiologic Physicist. Radiation Oncology Center/Department, WUSM.
- 1990 – 1991 Associate Researcher and Medical Physicist. University of Wisconsin - Madison, Department of Human Oncology, Radiotherapy Physics, Madison, Wisconsin.
- 1988 – 1990 Graduate Research Associate. University of Arizona, Departments of Aerospace and Mechanical Engineering and Radiation Oncology, Tucson, Arizona.
- 1985 – 1987 Graduate Research Assistant. University of Arizona, Departments of Aerospace and Mechanical Engineering and Radiation Oncology, Tucson, Arizona.

Licenses:

- 2012 – pres Therapeutic Radiological Physics License No. TRP 391 (Control No. 1669), State of Florida, Department of Health, Division of Medical Quality Assurance; issued 01/31/2012; expires 1/31/2023. Renewable.

- 2007 – 2011 Qualified Expert (Medical Physicist), Particle Accelerator License (to CARTI/UAMS) No. ARK-042-ACC-12.
- 2007 – 2011 Authorized Medical Physicist for HDR Brachytherapy, Arkansas Radioactive Material License (to CARTI/UAMS) No. ARK-0930-02230.
- 2007 – 2011 Authorized Medical Physicist for Gamma Knife and Manual Brachytherapy, Arkansas Radioactive Material License (to UAMS) No. ARK-0001-02110.

Board Certifications:

- 2007 – pres Certified (Diplomate) by the American Board of Radiology (DABR) in Therapeutic Radiologic Physics, certificate number P4442. Compliant with MOC.
- 1996 Certified by ABC Laboratories, Inc., on Good Laboratory Practice (GLP) Standards.

Languages: Spanish (1st), English (2nd, fluent in writing, reading and speaking), Italian (3rd, conversational)

Teaching**University Courses:****USF Medical Physics Program****Semesters** (S=spring, U= summer, F=fall)

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|------------|-----------|-------------------------------------|---|
| 2012–pres | PHY6938-7 | Clinical Rotations (3 ch): | F12, S13, S14, S15 |
| 2012–pres | PHY6938-8 | Med Phys Seminars (1 ch): | F12, S13, S14, S15, S16, F18 |
| 2012–pres | PHY7910 | Directed Research (3-9 ch): | U12, S14, U14, F14, S15, U15, F15, S16, U16, F16, S17, U17, F17, U18, F18, S19, |
| 2014–pres | PHY7980 | Dissertation (3-9 ch): | F14, S15, U15, F15, S16, U17, F17, S18, U19, F19 |
| 2014, 2020 | PHY6938 | Radiobiology for Physicists (3 ch): | F14, S20, F22 |

UAMS Medical Dosimetry Program

- 2010 Lead Instructor, MED 4306, Medical Dosimetry Research (3 credit hr). Taught independent research and scientific writing on a current medical dosimetry topic.
- 2006 – 2010 Lead Instructor, MED 4605, Medical Dosimetry Practicum III (6 credit hr). Radiation treatment planning training. College of Health-Related Professions.

WUSM Educational Programs

- 2001 – 2005 Lecturer on Medical Physics: Lectured on Thermoradiotherapy Systems as part of the annual Physics Course for Radiation Oncology Residents, Physics Residents, Dosimetrists and Radiation Therapists. Dept. of Radiation Oncology.
- 1992 – 1999 Main Instructor and Coordinator: The Physics of Clinical Hyperthermia, a course for Radiation Oncology Residents and Physics Residents. Radiation Oncology Center, Mallinckrodt Institute of Radiology, 1992, 1994, and 1999.

Didactic Lectures and Audiences at MCC/USF:

- Jan 2012 *Basic Hyperthermia Physics*, Imaging Biomarkers Group.
- Feb 2012 *The NCI, Protons and Research*, MCC leadership.
- Mar 2012 *Distinguishing Heat-Killed from Viable Cells by Autofluorescence*, Targeted Ligands and

- Nanomedicine Group.
- Mar 2012 *Causes and Prevention of Accidents and Errors in Radiation Therapy*, Medical Physics and Dosimetry Group.
- Apr 2012 *Proton Therapy: Evidence and Market Forces*, MCC leadership.
- May 2012 *4D-RT As Theranostic*, Cancer Imaging Course directed by Dr. Gillies.
- Aug 2012 *The Atomic Nucleus & Mathematics of Radioactive Decay*, Physics Course for Radiation Oncology Residents.
- Aug 2012 *Radiation Production: X-Rays Basics*, Physics Course for Radiation Oncology Residents.
- Oct 2012 *Machines for Producing High Energy Radiation: The Medical Electron Linear Accelerator*, Physics Course for Radiation Oncology Residents.
- Jun 2013 *Quantifying Tumor Heterogeneity Using 18F-FDG PET/CT Imaging by Texture Analysis*, Quantitative Imaging Group.
- Jun 2013 *Gold Nanoparticles in Cancer Therapy*, Molecular Imaging and Nanomedicine Group.
- Jul 2013 *CT Reconstruction Kernels, Filters and Algorithms*, Radiomics Group.
- Aug 2013 *USF-MCC Medical Physics Program*, Faculty of the USF Physics Department.
- Aug 2013 *Medical Physics Vision and Plan*, Department of Radiation Oncology Retreat.
- Aug 2013 *Atomic Nuclei and Radioactivity, and Physics & Mathematics of Radioactive Decay*, Physics Course for Radiation Oncology Residents.
- Aug 2013 *Radiation Production: X-Rays Basics*, Physics Course for Radiation Oncology Residents.
- Sep 2013 *Noninvasive Monitoring of Microvascular Changes with Partial Irradiation Using DCE and BOLD MRI*, Quantitative Imaging Group.
- Oct 2013 *Machines for Producing High Energy Radiation: The Medical Linear Electron Accelerator*, Radiation Oncology Residents.
- Sep 2013 *Factors Affecting a PET Image*, Medical Physics and Dosimetry Group.
- Apr 2014 *Normalizing Tumor Microenvironment for Cancer Therapy*, Quantitative Imaging Group.
- Apr 2014 *Radiation Protection Principles*, Physics Course for Radiation Oncology Residents.
- Aug 2014 *Atomic Nuclei and Radioactivity*, Physics Course for Radiation Oncology Residents.
- Aug 2014 *X-Rays: Basic Technology and Physical Properties*, Physics Course for Radiation Oncology Residents.
- Oct 2014 *Introduction to the Medical Linear Electron Accelerator*, Physics Course for Radiation Oncology Residents.
- Dec 2014 *Basic Concepts of Radiation Biology*, Molecular Imaging and Nanomedicine Group.
- Fall 2014 Directed and gave 28 lectures in the *Radiobiology for Physicists* course for USF graduate students in the Medical Physics Ph.D. program.
- Mar 2015 *Protons in Radiation Therapy: The Physics of the Bragg Peak and the SOBP*. USF Physics Course on Advanced Radiation Therapy Physics.
- Aug 2015 *Physics and Mathematics of Radioactive Decay*, Physics Course for Radiation Oncology Residents.
- Aug 2015 *The X-ray Tube, Bremsstrahlung and Characteristic Spectra*, Physics Course for Radiation Oncology Residents.
- Oct 2015 *Linear Accelerators for Radiation Therapy*, Physics Course for Radiation Oncology Residents.
- Aug 2016 *The Basic Mathematics and Physics of Radiation Medicine*, Physics Course for Radiation Oncology Residents.
- Aug 2016 *Basic Mathematics and Basic Physics for Radiology: Structure of the Atom and Radioactive Decay*, Physics Course for Radiology Residents.

- Aug 2016 *X-rays: Basic Physical Properties & The X-ray Tube*, Physics Course for Radiation Oncology Residents.
- Oct 2016 *The Basics of MRI Physics*, Physics Course for Radiation Oncology Residents.
- Oct 2016 *Charged Particle Accelerators for Radiation Therapy*, Physics Course for Radiation Oncology Residents.
- Nov 2016 *Quantitative Imaging For Personalized Radiation Therapy at Moffitt: Vision and Challenges*. This talk was given to 30 medical professionals from the Armed Forces Hospital of Ecuador, South America, who visited Moffitt on 11/17/2016.
- Jan 2017 *Radiation Protection*, Physics Course for Radiology Residents.
- June 2018 *The Scientific Method*. Lecture to Medical Dosimetrists interested in research.
- Aug 2018 *The Future of Medical Physics at the Moffitt Cancer Center*. Lecture given at MCC, open to everyone.
- Sep 2018 *The challenge of Total Adaptive Radiation Therapy*. Lecture given to MCC Medical Dosimetrists and Medical Physicists.
- Oct 2018 *The Potential Role of Radiomics in Biologically Adaptive Radiation Therapy*. Moffitt Cancer Center Radiomics Workshop, Clearwater, FL October 15, 2018.
- Apr 2019 Ultra-high Dose Rate or FLASH Irradiation—Recent *In Vivo* Evidence. Radiation Oncology Faculty meeting.
- May 2020 *Medical Physics Advances to Personalize Radiation Therapy*, presentation to Novocure, Inc.
- Fall 2014 Directed and gave 28 lectures in the Radiobiology for Physics course for USF graduate students in the Medical Physics Ph.D. program. Sep 2020 *Radiomics Studies*. Radiation Oncology Research Retreat.
- May 2021 *Radiation Oncology-Biology Integration Network “ROBIN” U54 Program*. Radiation Oncology Research Retreat.
- May 2021 *Carbon Ion Radiotherapy-Physical, Biological and Clinical Rationale*. Radiation Oncology Research Retreat.
- Aug-Sep 2021 Gave 4 1-hr lectures in the *Radiation Protection and Safety* course for USF graduate students in the Medical Physics Ph.D. program.
- Mar 2022 *Protons Physics in Radiation Therapy*. USF graduate students in the Medical Physics Ph.D. program.
- Jun 2022 *Medical Errors in Radiation Therapy*, Radiation Oncology Physicists and Dosimetrists.
- Fall 2022 Directed and gave 24 lectures in the *Radiobiology for Physicists* course for USF graduate students in the Medical Physics Ph.D. program. A few lectures were cancelled or shortened due to Hurricane Ian.
- July 2023 *Ultra-High Dose Rate Radiation Therapy — What’s all that Buzz about FLASH?* Presented at the Advanced Practice Provider (APP) Journal Club.

Mentoring:**Undergraduate Students**

Name / Year(s) in Program	Degree / Program / Status/	Thesis / Project / Comment
Prashant Kolluri 2002	Main Mentor of Biomedical Engineering Senior Project, WUSTL. Summer 2002 2023: Attorney, Chicago, IL	Thermal Contribution of Compact Bone To Intervening Tissue-like Media Exposed To Planar Ultrasound.

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Victoria T. Johnson (Pre-Med Student) 2004	Main Mentor for Siteman Cancer Center's Summer Research Program, WUSM. Southern Illinois University School of Medicine. Graduated in 2009. 2023: Internal Medicine and Psychiatry, Bellevue, WA	Numerical Optimization of an Ultrasound Hyperthermia Radiator for T3 Rectal Cancers.
Omar Orbe-Toledo 2012	Selected as Mentor, Diversity Recruitment through Education and Mentoring Program. 2014: B.S. in Physics. 2023: Motion Sensor Test Engineer at NXP Semiconductors, Tempe, AZ.	Directed and engaged mentee in many aspects of Medical Physics in the radiotherapy clinic of the MCC Dept. of Radiation Oncology for 10 wks.
Mirthe E. Pijls Summer 2016	B.S in Medical Imaging and Radiation Therapy (MIRT) at Fontys University of Applied Science, The Netherlands. Moffitt Mentor.	Comparison between the numerical output of the Maastricht and Moffitt Radiomics software and the impact of image intensity resampling for textural features – a study in lung tumors
Marlon van den Broek Summer 2016	B.S in Medical Imaging and Radiation Therapy (MIRT) at Fontys University of Applied Science, The Netherlands. Moffitt Mentor.	Comparison between the numerical output of the Maastricht and Moffitt Radiomic software implementations for lung and head and neck tumors.
Helena Hurbon Summer 2017	NSF Research Experience for Undergraduates (REU) program, USF Physics Department. Mentors: E. Moros and H. Enderling. 2023: University of Arizona, MD/PhD Medical Scientist Training Program.	Qualitative Comparison of Cytotoxic and Immunologic Consequences of Spatially Homogeneous and Heterogeneous Radiation Dosing. Presented at American Physical Society (APS) Conf. for Undergraduate Women in Physics, Jan 2018, Jacksonville, FL, & at APS Meeting, Mar 2018, Los Angeles.
Bailey Bond Summer 2018	NSF Research Experience for Undergraduates (REU) program, USF Physics Department. Mentors: E. Moros & H. Enderling. 2021: Engineering PhD student at Florida International University.	Mathematically Modeling Tumor-Immune Interaction for Spatially Fractionated Radiation. Best Poster Presentation.
Michael (James) Taylor Summer 2018	NSF Research Experience for Undergraduates (REU) program, USF Physics Department. Mentors: E. Moros & D. Gintz. 2023: medical physics resident at UPMC Hillman Cancer Center, Pittsburgh, PA.	A comparison of Tomotherapy and VMAT plans based on OAR doses and outcomes.

Name / Year(s) in Program	Degree / Program / Status/	Thesis / Project / Comment
Jacob Moriarty Summer 2022	NSF Research Experience for Undergraduates (REU) program, USF Physics Dept. Mentor: E. Moros Fall 2023: joined USF-MCC PhD in Applied Physics with Concentration in Medical Physics Program.	Exploration of Delta Radiomics of Ultra-Central Lung Tumors.

Graduate Students

Name / Year(s) in Program	Degree / Program / Status/	Thesis / Project / Comment
Daniel L. Mckinnis, Ph.D., 1993	M.S. Thesis Committee Member. Dept. of Electrical Engineering, WUSTL.	Piezoelectric and Acoustic Properties of GaAs.
Thomas W Hayne, M.D. (Medical Student) 1993	Advisor for Hyperthermia Physics. 1993 Summer Oncology Program, MIR, WUSM. 2014: Pediatrician, Orlando, FL.	Effect of an Attenuating Plug on SAR and Temperature Distributions in External Beam Hyperthermia.
Michael C. Kolios, Ph.D. 1998	Ph.D. Dissertation Committee Member, External Examiner, Department of Medical Biophysics, University of Toronto, Canada. 2023: Associate Dean Research & Innovation and External Partnerships.	Applications and Validation of Models of Heat Transfer in Perfused Tissues. https://www.linkedin.com/in/michaelkolios/
Yuzheng Guo, Ph.D. 2009	Ph.D. Dissertation Committee Member, Department of Electrical and Systems Engineering, WUSTL. 2014: Senior DSP Engineer at Motorola.	A Framework for Temperature Imaging Using the Change in Backscattered Ultrasonic Signals. Resulted in peer-reviewed publications.
Joshua Robinson, M.S. 2012 - 2013	Graduate Student in the USF-MCC Medical Physics Program. Mentor. 2023: Medical Physicist, Tampa, FL.	Flattening filter free compensator based IMRT studies. DABR June 2018.
Cassandra K. Stambaugh, Ph.D. 2012 – 2015	Ph.D. Student on the USF-MCC Medical Physics Program. Mentor & Dissertation Committee Member. 2015: Physics Resident, Mayo Clinic, Phoenix, AZ. 2023: Medical Physicist, Tufts Medical Center, Boston, MA.	Dissertation: The Evaluation and Study of Modern Radiation Dosimetry Methods as Applied to Advanced Radiation Therapy Treatments Using Intensity Modulated Megavoltage Photon Beams. Graduation: May 2015. Medical Physics Editor's Pick. DABR June 2018.

Name / Year(s) in Program	Degree / Program / Status/	Thesis / Project / Comment
Jasmine A. Graham Ph.D. (formerly Oliver) 2012 - 2016	Ph.D. Student on the USF-MCC Medical Physics Program. Mentor & Dissertation Committee Member. 2016: Postdoc Fellow, UF Orlando Health 2018: Physics Resident, UF Orlando Health DABR June 2021 2023: Assistant Member at MCC; Assistant Professor at USF.	Dissertation: Increasing 18F-FDG PET/CT Capabilities in Radiotherapy for Lung and Esophageal Cancer via Image Feature Analysis. Feb 2015: 2 nd place for Graduate Oral Presentation in Nanoscience & Physics, Emerging Researchers National (ERN) Conference in STEM. 2014: NCI F31 grant applicant. 2015: AAPM Travel Grant award. Invited to 64 th Lindau Nobel Laureate Mtg, Germany.
Balderaldeen Altazi, Ph.D. 2014 - 2017	Ph.D. Student on the USF-MCC Medical Physics Ph.D. Program. Main Mentor & Dissertation Committee Member. 2023: Founder, Paradigm Shifters, Saudi Arabia.	18F-FDG PET/CT Based Radiomics For The Prediction of Radiochemotherapy Treatment Outcomes Of Cervical Cancer. Dissertation research ASTRO 2015 highly ranked abstract resulted in plenary lecture Graduation: December 2017.
Muhammed Shafiq-ul-Hassan, Ph.D. 2015 - 2018	Ph.D. Student on the USF-MCC Medical Physics Program. Main Mentor & Dissertation Committee 2018-19: Physics Resident, Yale University 2023: Assistant Professor at MDACC	Characterization of CT Radiomic Features using Heterogeneous Textured Phantoms Dissertation Defense: April 3, 2018 Graduation: May 2018.
Saeed Ahmed, Ph.D. 2015 - 2019	Ph.D. Student on the USF-MCC Medical Physics Program. Mentor & Dissertation Committee Member. 2019: Physics Resident at the Cleveland Clinic, Cleveland, OH. 2023: Assistant Prof, Univ of Kansas	Development and Validation of Advanced Techniques for Treatment Planning and Verification in Megavoltage Radiotherapy. Graduation: May 2019.
Thomas Lewin, Ph.D. 2015 – 2019	Ph.D. Student, Wolfson Centre for Mathematical Biology, Oxford Univ, UK. Mentor and Industrial supervisor. 2023: Mathematical Scientist at Roche, Switzerland.	Dissertation: Modelling the response of heterogeneous tumours to fractionated radiotherapy. Graduation: May 2019.
Christopher Tichacek, Ph.D. 2015 - 2019	Ph.D. Student on the USF-MCC Medical Physics Program. Main Mentor & Dissertation Committee Member. 2020-pres: Assistant Member at MCC; Assistant Professor at USF.	Radiation Dosimetry of Targeted Alpha Particle Therapy for Uveal Melanoma Graduation: Dec 2019
Rebecka Ericsson Szecsenyi, M.S. Jan-Jul 2020	Master of Science Thesis VT20, Lund University, Sweden. Visiting Scholar. 2022: PhD student at Lund University, Sweden.	Thesis: Characterization of Radiomics Features Extracted from Images Generated by the 0.35 T Scanner of an Integrated MRI-Linac. 1 peer-reviewed paper 2022

Name / Year(s) in Program	Degree / Program / Status/	Thesis / Project / Comment
Shraddha Pandey, Ph.D. Spring 2021 - Fall 2022	Ph.D. Student, Electrical Engineering, USF. Dissertation Committee Member. 2023: Postdoctoral Researcher of Radiology, University of Pennsylvania.	Dissertation: Accelerating Multiparametric MRI for Adaptive Radiotherapy. Defended 09/28/2022 https://www.linkedin.com/in/shraddha-pandey-18715678/
Ji Hye Koo, M.S. Fall 2017 – Spring 2023	Ph.D. Student on the USF-MCC Medical Physics Program. Dissertation Committee Member. July 2023: Medical Physics Resident at MCC.	Dissertation: Evaluation of a Prototype Deep Learning-based Autosegmentation Algorithm on a High-Quality Database of Head and Neck Cancer Radiotherapy Patients Fitzgerald Award, FLAAPM, Mar 2021 Graduation: May 2023
Nour Nasser, M.S. Fall 2019 – pres.	Ph.D. Student on the USF-MCC Medical Physics Program. Dissertation Committee Member.	Dissertation: Development and Evaluation of Applications for the Novel CBCT-guided Ethos Online Adaptive Radiotherapy System
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Medical Physics Residents and Physician Residents

Name / Year(s) in Program	Role / Degree / Program / Status /	Thesis / Project / Comment
Anurag K. Singh, M.D. 2002 - 2003	Main Mentor for Resident Research Rotation. Dept. of Radiation Oncology, WUSM. 2023: Professor of Oncology & Medicine, Roswell Park Cancer Institute.	A Micro-PET Compatible, Small Animal Hyperthermia Ultrasound System. Resulted in a peer-reviewed paper and conference presentation.
Xin Zhang, Ph.D. 2006 - 2008	Main Mentor of Medical Physics Resident, Dept. of Radiation Oncology, UAMS. 2023: Professor at BUMC.	Clinical Residency in Therapeutic Radiologic Physics. DABR May 2011.
Carlos Velasco, Ph.D. 2008 - 2010	Main Mentor of Medical Physics Resident, Dept. of Radiation Oncology, UAMS. 2023: Medical Physicist, DePaul Medical Center, Norfolk, Va.	Clinical Residency in Therapeutic Radiologic Physics. DABR May 2016.
Richard Clarkson, Ph.D. 2011 - 2012	Main Mentor of Medical Physics Resident, Dept. of Radiation Oncology, UAMS. 2023: Medical Physicist, Ocala, FL.	Clinical Residency in Therapeutic Radiologic Physics.
Joseph Weygand, Ph.D. 2021-2023	Mentor of Medical Physics Resident, Dept. of Radiation Oncology, MCC.	Clinical Residency in Therapeutic Medical Physics. DWI & ADC imaging in low-field MRI-Linac.

Name / Year(s) in Program	Role / Degree / Program / Status /	Thesis / Project / Comment
Ibrahim Oraiqtat, Ph.D. 2022-2024	Mentor of Medical Physics Resident, Dept. of Radiation Oncology, MCC.	Clinical Residency in Therapeutic Medical Physics. Mobetron e-Flash.

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Research Assistants, Research Associates & Postdoctoral Fellows

Name, Role, Institution	Year(s):	Research Project / Status
Muhammad Yousaf, M.S. Research Assistant, WUSM	Jan 93 – Apr 94	Scanning Ultrasound Reflector Linear Array System (SURLAS).
Xiaobing Fan, Ph.D. Research Associate (Postdoc) WUSM	Sep 95 – Sep 98	Ultrasound Systems for Simultaneous Thermoradiotherapy. Bioelectromagnetics/NIEMR research. 2023: Research Professor, Dept. Radiology, U. Chicago, IL.
Petr Novak, Ph.D. Research Associate (Postdoc) WUSM	Nov 01 – Aug 05	Ultrasound Systems for Simultaneous Thermoradiotherapy, Development of SAHUS, Bioelectromagnetics, and ONR Twin-wire Chamber Thermal Characterization. 2006: Assistant Professor, Dept. of Radiation Oncology, UAMS 2018: IBM Engineer, Prague, Czech Republic
Bibianna Cha, B.S., M.S. Research Assistant and Graduate Student WUSM	May 02 – Aug 05	RTL for High SAR Studies, Ultrasound Systems for Simultaneous Thermoradiotherapy, Evaluation of Potential Effects on the P38MAPK Stress Inducible Phosphorylation, and ONR Twin-wire Chamber Thermal Characterization. 2023: Senior Director, Device Product Development, Blaze Bioscience, Seattle, WA. https://www.linkedin.com/in/bibianna-cha-6a7902a/
Volodymir Nahirnyak, Ph.D. Postdoctoral Fellow, UAMS	May 07 – May 09	Thermal Therapy Physics Research and Analysis of Doppler Signals Observed During High Temperature Thermal Ablation. 2023: Associate Professor, Bukovina State Medical Univ, Ukraine. https://www.linkedin.com/in/volodymyr-nahirniak-81883b40/
Sunil Sharma, Ph.D. Postdoctoral Fellow, UAMS	June 07 – June 09	Small Animal Conformal Radiation Therapy Device Development. 2023: Clinical Associate Professor of Radiation Oncology, ECU. https://www.linkedin.com/in/sunil-sharma-phd-dabr-1b529338/
Duo Chen, Ph.D. Postdoctoral Fellow, UAMS	Dec 09 – Dec 11	SonoKnife – Acoustic Simulations. New Investigator Travel Award winner, STM, 2011.
Jose Rey, Ph.D. Postdoctoral Fellow, MCC	Aug 11 – Mar 14	Computational and <i>In Vivo</i> Studies of MR Theragnostics by Inductive Heating of Gliomas. 2018: Working for the FDA

Name, Role, Institution	Year(s):	Research Project / Status
Kujtim Latifi, Ph.D. Postdoctoral Fellow, MCC	Jan 12 – Jul 13	4D-CT Ventilation in Radiation Treatment Planning for Sparing Functional Lung. Evaluation of fiducials in breast and cervix cancers for patient positioning. 2023: Assistant Member, Radiation Oncology, MCC.
Mikalai Budzevich, Ph.D. Postdoctoral Fellow, MCC	Feb 12 – Jun 13	4D-PET/CT for Radiotherapy Treatment Planning and Response Assessment and related research projects. 2023: Senior Staff Scientist, SAIL, MCC.
Ibrahim Oraiqat, Ph.D. Postdoctoral Fellow, MCC	Jan 20 – Jun 22	iRIA and CMSI irradiation experiments in linacs. Also, efforts relating to the Mobetron procurement. 2023: Medical Physics Residency at MCC
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Faculty (*substantive*)

Name, Rank, Department & University at time of mentoring	Year(s)	Comments / Status
William Straube, M.S., Instructor/Assistant Prof, Dept. of Radiation Oncology, WUSM	1992 – 2005	2023: Associate Professor, WUSM
Gal Shafirstein, Ph.D., Assistant/Associate Professor (Tenured), Dept. of Otolaryngology, UAMS	2005 – 2011	2023: Professor of Oncology, Director of PDT Clinical Research, Roswell Park Cancer Institute. https://www.linkedin.com/in/gal-shafirstein-43522630/
Jose Penagaricano, M.D., Assistant/Associate Professor (Tenured), Dept. of Radiation Oncology, UAMS	2005 – 2011	2023: Senior Member, Director of the Wesley Chapel Radiation Therapy Clinic at MCC/Advent Health
Yulong Yan, Ph.D., DABR Assistant/Associate Professor (Tenured), Dept. of Radiation Oncology, UAMS	2005 – 2011	2019: Associate Professor, Dept. of Radiation Oncology, UT Southwestern Medical Center
Ivaylo Mihaylov, Ph.D., Assistant Professor, Dept. of Radiation Oncology, UAMS	2006 – 2009	DABR in 2009. Obtained 1NIH R01 in 2012. 2023: Associate Prof., Radiation Oncology, U Miami.
Ming Chao, Ph.D., Assistant Professor, Dept. of Radiation Oncology, UAMS	2008 – 2011	DABR 2011. 2023: Associate Professor, Dept. of Radiation Oncology, Mount Sinai Medical Center, NYC
Xin Zhang, Ph.D., Instructor/Assistant Prof, Dept. of Radiation Oncology, UAMS	2008 – 2011	DABR 2011. 2023: Clinical associate professor, Department of Radiation Oncology, Boston University School Medicine.
Xin Chen, Ph.D., Instructor, Dept. of Radiation Oncology, UAMS	2009 – 2011	2014: Instructor, Dept. of Radiation Oncology, Stanford University School of Medicine

Name, Rank, Department & University at time of mentoring	Year(s)	Comments / Status
Sunil Sharma, Ph.D., Postdoc/Instructor, Dept. Radiation Oncology, UAMS	2009 – 2011	DABR 2015. 2023: Clinical Associate Professor, Radiation Oncology, ECU.
Eun-Young Han, Ph.D., DABR, Assistant Professor, Radiation Oncology, UAMS	2010 – 2011	2019: Medical Physicist and Assistant Professor, MDACC.
Gary Martinez, Ph.D., Core Staff Scientist, SAIL, MCC	2011 – 2014	MRI to Induce Hyperthermia in Gliomas & other projects Submitted two R21 and one K01. 2016: SAIL Core Facility Manager, MCC 2019: Assistant Member, Imaging Physics, MDACC
Vladimir Feygelman, Ph.D., Senior Member, MCC	2011 – 2017	Research on Advance Patient-Specific QA Technology and Methods 2017: Promoted to Senior Member. 2018: Tenure
Geoffrey Zhang, Ph.D., Senior Member, MCC	2011 – 2016	Mentoring in Research Strategies. 2016: Promoted to Senior Member with Tenure.
Kujtim Latifi, Ph.D., Assistant Member, MCC	2013 – pres	Mentoring as Associate faculty in all aspects of academic activities and clinical functions
Gage Redler, Ph.D., Assistant Member, MCC	2019 – pres	Mentoring as Junior faculty in all aspects of academic activities and clinical functions
Jasmine A. Graham, Ph.D. Assistant Member, MCC	2019 – pres	Mentoring as Junior faculty in all aspects of academic activities and clinical functions. DABR June 2021
Christopher Tichacek, Ph.D. Assistant Member, MCC	2020 – pres	Mentoring as Junior faculty in all aspects of academic activities and clinical functions
Jacqueline Andreozzi, Ph.D., Assistant Member, MCC	2020 – pres	Mentoring as Junior faculty in all aspects of academic activities and clinical functions. DABR August 2021
Rawan Faramand, MD Assistant Member, BMT Program, MCC	2021 – pres	MCC Women in Oncology Mentoring Program. Discuss strategies and evaluate requirements for promotion.
NOTE: DABR denotes the year the American Board of Radiology certification was completed.		

Honors and Awards

(listed chronologically, most recent first)

- 2022 Fellow American Society for Radiation Oncology (**FASTRO**), award in recognition for exemplary service and significant contributions to the Society and the field of Radiation Oncology, San Antonio, Tx, October 25, 2022.
- 2019 Appointed to the Distinguished University Professor Discipline Committee for Dr. Hariharan Srikanth, by Dr. Dwayne Smith, Senior Vice Provost and Dean, School of Graduate Studies, University of South Florida.

- 2015 Fellow American Association of Physicists in Medicine (**FAAPM**), award in recognition of distinguished contributions for the field of Medical Physics, Anaheim, CA, July 13, 2015.
- 2015 Awarded **Tenure**, Moffitt Cancer Center and Research Institute, July 1, 2015.
- 2014 Past President Medal in recognition of continuous service to the Society. 31th Annual Meeting of the Society for Thermal Medicine (**STM**), Minneapolis, MN, May 6-10, 2014.
- 2013 24th J. Eugene Robinson Award Recipient. In recognition of service and leadership in the Society, impact on the fields of hyperthermic oncology and ablation biophysics, and outstanding contributions to the advancement of Thermal Medicine. This is the most prestigious award of the Society for Thermal Medicine. 30th Annual STM Meeting, Aruba, April 20th, 2013.
- 2012 Mentor (selected). American Association of Physicists in Medicine (**AAPM**) Diversity Recruitment through Education and Mentoring Program "DREAM". Mentee: Mr. Omar Ober-Toledo. Directed and engaged mentee in many aspects of Medical Physics in the radiotherapy clinic of the MCC Dept. of Radiation Oncology for 10 weeks.
- 2011 Elected, Board of Directors of the Bioelectromagnetics Society representing Engineering & Physical Sciences, 2010-2011.
- 2010 Selected participant for the "2010 Workshop on Advances in Breast Cancer Research" <http://breastcancer.uark.edu/>, sponsored by the National Science Foundation, University of Arkansas-Fayetteville, October 26-29, 2010.
- 2009 Recipient of a (ARRA Act) NIH Challenge Grant in Health and Science Research (RC1), 2009-2011.
- 2004 IAHO, President, 2004-2008. The International Association for Hyperthermic Oncology (IAHO), coordinates and promotes interactions among the Society for Thermal Medicine (STM in North America), the European Society for Hyperthermic Oncology (ESHO) and the Asian Society for Hyperthermic Oncology (ASHO). The IAHO also participates in the organization of the International Congress on Hyperthermic Oncology (ICHO) held every four years. The 10th ICHO was held in Munich, Germany, April 9-12, 2008.
- 2007 American Association of Physicists in Medicine, plaque presented in recognition and appreciation of distinguished service as an Associate Editor of Medical Physics, 2000-2007.
- 2006 RSNA Research and Education Foundation 25-Questions Project. Selected Submission Award, Nov. 2006.
- 2005 U.S. Department of Health and Human Services, Public Health Service, National Institutes of Health, Center for Scientific Review, plaque presented in grateful appreciation of services as a member of the Radiation Therapeutics and Biology (RTB) Study Section, 2002-2005
- 2005 Plaque presented in recognition and appreciation for outstanding contributions as the Twentieth President of the Society for Thermal Medicine, 2004-2005.
- 2005 NAHS/STM, Past-President, 2005-2006; President, 2004-05; President-Elect, 2003-04; Vice President-Elect, 2002-03.
- 2002 NAHS, Secretary-Treasurer-Elect, 2001-2002.
- 2001 Certificate for Distinguished Service. Meritorious ten-year service award for contributions for quality patient care, research and education (nominated by supervisor), Radiation Oncology Center, Mallinckrodt Institute of Radiology, WUSM, April 13, 2001.
- 1997 NAHS, Physics & Engineering Councilor, 1995-1997.
- 1996 The Whitaker Foundation Biomedical Engineering Research Award, 1993-1996.
- 1985 Outstanding Conference Paper Award entitled "Focused, Scanned Ultrasound for Local Hyperthermia", 7th Annual Frontiers of Engineering and Computing in Health Care Conference, IEEE Engineering in Medicine and Biology Society.
- 1984 Bachelor of Science in Mechanical Engineering, With Distinction, December 1984.

- University of Arizona.
- 1984 Life Member of The Golden Key National Honor Society since 1984.
- 1984 Dean's Award, Outstanding Academic Achievement, 1983-84, College of Engineering, University of Arizona.
- 1983 Dean's List, Commendable Accomplishment, Fall 1983, College of Engineering, University of Arizona.
- 1983 Dean's Award, Outstanding Academic Achievement, 1982-83, College of Engineering, University of Arizona.
- 1980 Honor Roll, The Center For English as a Second Language, University of Arizona, Fall Semester 1980.

Research Funding

Governmental: *(listed chronologically by ending date)*

Period	Title	PI	Role	Source	Direct	Status
1985-1990	Ultrasound Hyperthermia System for Cancer Therapy	Robert B. Roemer, Ph.D.	Graduate Student	NCI, R01CA033922	https://reporter.nih.gov/	Completed
1990-1991	Hyperthermia Physics Center, Allegheny-Singer Research Institute	Prakash Shrivastava, Ph.D.	Officer/Site Visitor	NCI, contract N01-CM-37512.	https://reporter.nih.gov/	Completed
07/01/95-07/01/00	Ultrasonic Systems for Simultaneous Thermoradiotherapy	Eduardo G. Moros, Ph.D.	PI	NCI R29 CA63121	\$350,000	Completed
09/01/96-08/30/00	Simultaneous Thermoradiotherapy Dose Escalation Trial	Robert J. Myerson, Ph.D., M.D.	Co-I	NCI R01 CA71638	\$356,024	Completed
07/01/99-06/30/00	Radial Transmission Line (RTL) Irradiators for NIOSH	Eduardo G. Moros, Ph.D.	PI	NIOSH 0009937060	\$27,456	Completed
12/01/01-12/31/04	Noninvasive Temperature Estimation with Ultrasound	R. Martin Arthur, Ph.D.	Co-I	NCI R21 CA090531	\$250,000	Completed
10/01/02-09/30/05	Integrated Approaches to Determine Molecular and Subcellular Effects in Response to Non-Lethal EM Radiation Exposure	Michael Cho, Ph.D. (UIC)	Co-I	Office of Naval Research; N00014-03-1-0329	WUSM: \$227,586	Completed
09/07/05-05/01/06	SAHUS (Small Animal Hyperthermia Ultrasound System) for NCI	Eduardo G. Moros, Ph.D.	PI	NCI service order 263-MQ-515175	\$18,093 (Total)	Completed
01/01/01-12/31/06	Simultaneous Thermoradiotherapy for Breast Carcinoma	Robert J. Myerson, Ph.D., M.D.	Co-I; PI 7/1/03-12/31/03	NCI R01 CA71638	\$675,000	Completed
12/01/04-11/30/05	Heat Induced Suicide Gene Therapy for Head and Neck Cancer	Buck Rogers, Ph.D.	Co-I	NCI R21 CA106587	\$120,000	Completed

Period	Title	PI	Role	Source	Direct	Status
01/01/01-12/31/06	Ultrasonic Systems for Simultaneous Thermoradiotherapy	Eduardo G. Moros, Ph.D.	PI	NCI R01 CA63121	\$850,750	Completed
07/01/05-06/31/08	3D Noninvasive Temperature Estimation with Ultrasound. UAMS <u>Subcontract</u> : <i>Translating CBE Non-Invasive Thermometry to Clinic</i>	R. Martin Arthur, Ph.D.	Co-I	NCI R01 CA107558	UAMS Sub \$20,000	Completed
07/01/06 - 06/30/08	Breast Tissue Ablation by Conductive Heating	Gal, Shafirstein, Ph.D.	Co-I	NCI R21 CA108678	\$219,068	Completed
10/17/05-09/30/08	UIC contract: Determination of Nociceptive Molecular Effects in Engineered Tissues in Response to Active Denial 94-GHz Irradiation. UAMS <u>Subc</u> : <i>Heat Transfer Modeling of In Vitro Electromagnetic Applicators for Concurrent Optical Microscopy.</i>	Michael Cho, Ph.D.	PI of Sub	Office of Naval Research; N00014-06-1-0100	UAMS Sub \$161,972	Completed
07/01/04-06/30/09	Radiosensitization by the Cellular Stress Response. UAMS <u>Subcontract</u> : <i>Development of SAHUS-2 and Technical Support</i>	Joseph Roti Roti, Ph.D.	PI of Sub	NCI P01 CA104457	UAMS Sub \$34,481 /yr	Completed
07/01/06-06/30/09	SACRTD-Small Animal Conformal Radiation Therapy Device	Eduardo G. Moros, Ph.D.	PI	Arkansas Biosciences Institute	\$90,000 /yr	Completed
08/01/09-07/31/11	Simultaneous Ablation and Radiation Therapy – <i>ARRA Supplement</i>	Robert Griffin, Ph.D.	Co-I	NCI 3 R01 CA044114–19S1	\$301,802	Completed
09/30/09-08/31/11	A SonoKnife for Advanced Cancers – <i>ARRA Challenge Grant</i>	Eduardo G. Moros, Ph.D.	PI	NCI 1 RC1 CA147697	\$344,882/yr	Completed
10/01/08-09/30/11	UIC: Determination of Nociceptive Molecular Effects in Engineered Tissues in Response to Active Denial 94-GHz Irradiation. UAMS <u>Subcontract</u> : <i>High Resolution Thermal and SAR Models for Millimeter Waves Nociception Mechanism Investigation</i>	Michael Cho, Ph.D.	PI of Sub	Office of Naval Research: N00014-06-1-0100	UAMS Sub \$42,413 /yr	Completed
07/22/08-07/21/13	Physiological Factors in Hyperthermia	Robert Griffin, Ph.D.	Co-I	NCI R01 CA044114	\$1,044,463	Completed
07/01/10-04/30/16	Radiation-Induced Heart Disease, Mechanisms and Interventions.	Marjan Boerma, Ph.D.	Co-I to 2011; Consult to 2017	NCI 1 R01 CA148679	\$207,500 /yr	Completed
07/09/12-04/30/18	Improving Cancer Treatment Planning by DMH-Based Inverse Optimization	Ivaylo B. Mihaylov, Ph.D.	Consultant	NCI 1 R01 CA163370	\$207,500 /yr	Completed

Period	Title	PI	Role	Source	Direct	Status
09/18/17-09/16/20 + 1 year no cost ext.	Targeted ²²⁵ Ac Radiopharmaceutical for Metastatic Uveal Melanoma. Subcontract with Modulation Therapeutics, Inc. (MTI)	Subcontract PI David Morse, Ph.D.	Co-I	NCI SBIR Phase II Subcontract to Moffitt, Project# 261201700035C	\$337,371 (subcontract)	Completed. Clinical trial ongoing.
10/01/14-07/31/21	Radiomics of NSCLC	Robert Gillies, Ph.D.	Co-I	NCI 1 U01 CA143062	\$381,294 /yr	Completed
12/01/20-11/30/21	Cerenkov Multi-Spectral Imaging (CMSI) for Adaptation and Real-Time Imaging in Radiotherapy. Subcontract with Endectra, LLC	Issam El Naqa, Ph.D.	Co-I	R41 CA243722	\$327,240 (total)	Completed
09/20/22-08/31/27	An Ionizing Radiation Acoustics Imaging (iRAI) Approach for Guided FLASH Radiotherapy	Issam El Naqa, Ph.D.	Co-I	R01 CA266803	\$3,309,851 (total)	Active
10/01/23-9/30/27	Translational Studies for Targeted Alpha-Particle Therapy for Rare Melanomas	David Morse, Ph.D.	Leader Project 2	US Army, DOD 13731800	\$3,216,122 (total)	Starting 10/23
06/01/23-05/31/26	Image-Based Three-Dimensional Radiation Dosimetry for Ac-225-MTI-201	Chris Tichacek, Ph.D.	Mentor	ASTRO-MRA Young Investigator Award in Radiation Oncology	\$241,320 (total)	Active

Non-Governmental: (listed chronologically by ending date)

Period	Title	PI(s)	Role	Source	Direct	Status
01/01/93-12/31/94	Ultrasonic Arrays for Simultaneous Hyperthermia and External Beam Radiation of Superficial Tumors	Eduardo G. Moros, Ph.D.	PI	WUSM Radiation Oncology Ctr	\$9,860	Completed
08/01/93-01/31/97	An Ultrasound Array System For Simultaneous Hyperthermia and External Beam Radiation of Superficial Neoplasms	Eduardo G. Moros, Ph.D.	PI	Whitaker Foundation	\$153,733	Completed
07/01/97-06/30/98	Fourth Year Award. An Ultrasound Array System for Simultaneous Hyperthermia & External Beam Radiation of Superficial Neoplasms	Eduardo G. Moros, Ph.D.	PI	Whitaker Foundation	\$44,226	Completed

Period	Title	PI(s)	Role	Source	Direct	Status
01/01/94-05/30/03	1) Research & <i>In Vivo/In Vitro</i> Testing for Carcinogenic Potential of FMCW & CDMA 850 MHz, 2) Acute Low Intensity MW Exposure & DNA Damage, 3) Follow-Up <i>In Vitro</i> Studies: Transformation, Oxidative Stress & Gene Expression, 4) Eng/Phys Core: <i>In Vivo/In Vitro</i> UHF Irradiator R&D, SAR Dosimetry & Tech Support; & 5) Additional Biol&Physics Studies	Joseph Roti Roti, Ph.D.	Leader Eng & Physics Core	Motorola, Inc.	~ \$5M	Completed
07/01/01-05/30/04	RTL Development and Control for High SAR Exposures	Joseph Roti Roti, Ph.D.	Leader Eng & Physics Core	ILS, Inc.	\$85,974	Completed
07/01/02-06/30/04	Transrectal Ultrasound Hyperthermia Applicator	Eduardo G. Moros, Ph.D.	PI	WUSM Dept of Radiation Oncology	\$4,000	Completed
07/01/02-06/30/04	Imaging of Hyperthermia-Induced Tumor Oxygenation with Cu-ATSM PET	Robert J. Myerson, Ph.D., M.D.	Co-I	WUSM Dept of Radiation Oncology	\$10,000	Completed
10/01/03-09/30/04	Evaluation of Potential Effects on the P38MAPK Stress Inducible Phosphorylation	Joseph L. Roti Roti, Ph.D.	Co-I	Mobile Manufacturers Forum	\$34,945	Completed
07/01/09-06/30/10	Feasibility of Down-Staging Chemoradiotherapy Resistant Locally Advanced Breast Cancer with Thermal Ablation and/or GRID Radiation Therapy	Eduardo G. Moros, Ph.D.	PI	FFANY/QVC via the Winthrop P. Rockefeller Cancer Institute Breast Cancer Program	\$45,283	Completed
11/08/06-05/07/08	Contrast-Enhanced Ultrasound Guidance of Thermal Ablation Therapy – Proof of Concept	Petr Novak, Ph.D.	Co-I and Mentor	UAMS Intramural Grant Program	\$15,000	Completed
06/18/10-06/20/10	Threshold For Therapeutic Efficacy Via Vascular Damage After Spatially Fractionated Radiation	Robert Griffin, Ph.D.	Co-I	European Synchrotron Radiation Facility (ESRF)	ID17 Beamline Time	Completed
01/01/10-06/30/11	Partial Heart Irradiation, Radiation-Induced Heart Disease and the UAMS SACRRS	Ming Chao, Ph.D. and Sunil Sharma, Ph.D.	Co-I and Mentor	UAMS Medical Research Endowment	\$13,700	Completed
07/01/11-06/30/12	MRgFUS Hypoxic-Tissue Ablation in Solid Tumors	Xin Chen, Ph.D.	Co-I and Mentor	Focused Ultrasound Surgery Foundation	\$100,000	Completed

Period	Title	PI(s)	Role	Source	Direct	Status
04/02/14-06/30/16	Increasing the Likelihood of a Patient-Specific Abscopal Effect in Metastatic Renal Cell Carcinoma.	Heiko Enderling, Ph.D.	Co-PI	DeBartolo Family Personalized Medicine Inst. PRAPM Award, MCC	Phase 1: \$20,000 Phase 2: \$50,000	Completed
05/15/16-05/14/19	Targeted Alpha Therapy for Uveal Melanoma (Team Science Award requiring three PIs from different disciplines and at least one young investigator)	Eduardo G. Moros, Ph.D., David Morse, Ph.D., Mark McLaughlin, Ph.D.	Co-PI	Melanoma Research Alliance. MRA Team Science Award #402889	\$900,000	Completed
01/01/19-12/31/19	American Association of Physicists in Medicine (AAPM) Diversity and Inclusion Videos. https://w4.aapm.org/memb/index.php	AAPM Leads: J. Pollard-Larkin, Ph.D., MDACC and E.G. Moros, Ph.D., MCC	Co-PI	AIP Venture Partnership Fund	\$17,500	Completed
09/01/20-01/31/22	Evaluation of the Adaptive Radiotherapy Ethos Treatment System for Head and Neck Cancers	Gage Redler, Ph.D. and Eduardo G. Moros, Ph.D.	Co-PI	Varian Medical Systems, Inc.	\$70,721 Total	Completed
02/01/21-12/31/22	Ethos Workflow Development for Adaptive Low Dose Radiation Treatment of Widespread Metastases in Stage IV NSCLC Patients Receiving Systemic Immunotherapy	Gage Redler, Ph.D.	Co-I	Varian Medical Systems, Inc.	\$84,147 Total	Completed
04/15/19-06/30/24	Objective Evaluation of Machine Learning Potential for Automated Segmentation and Generation of Head and Neck Plans with Proven Reduced Toxicity	Vladimir Feygelman, Ph.D.	Co-I Co-PI on 2022-23	Varian Medical Systems, Inc.	\$343,636 Total	Active
10/31/22-10/30/24	Artificial Intelligence for Effective MR-Linac Adaptive Radiotherapy	Issam El Naqa, Ph.D.	Co-I	ViewRay Technologies	\$74,427	Active

Academic Service

At Moffitt Cancer Center and Research Institute (MCC):

Radiation Oncology

- 2022 – pres FORT Intramural Funding Review Committee
- 2021 – pres Medical Physics Residency Program, Senior Advisor
- 2019 – pres Proton Therapy Technology (Assessment) Committee, Chair
- 2019 – pres ViewRay-Moffitt Joint Scientific Committee (JSC), Member

2019 – pres Medical Physics Residency Program Steering Committee, Member
 2015 – pres FORT Committee, Member
 2012 – pres USF-MCC Medical Physics Ph.D. Program, Director
 2012 – pres USF-MCC Medical Physics Ph.D. Program Steering Committee, Chair
 2011 – pres Executive Management Committee, Member
 2011 – pres Clinical Operations Committee, Member
 2011 – pres Medical Physics Faculty Committee, Chair
 2020 – 2021 Radiation Oncology Resident Recruitment Committee
 2019 – 2021 Medical Physics Residency Program, Director
 2019 – 2021 Medical Physics Residency Program Steering Committee, Chair
 2018 – 2019 MR-Linac Readiness Committee, Co-Chair
 2015 – 2021 Faculty & Staff Recruitment Committee, Member
 2014 – 2017 Physician Resident Recruitment Committee, Member
 2014 – 2017 Residency Program Clinical Competency Committee
 2012 – 2012 Academic Advisory Committee, Member
 2012 – 2014 Chair Search Committee, Member
 2012 – 2018 Physics & Dosimetry Journal Club; Organizer
 2011 – 2014 Clinical Research (ROCR) Committee, Member
 2011 – 2016 4D-PET/CT Committee, Physics Leader

Diagnostic Imaging and Interventional Radiology

2016 - 2018 *Physics of Medical Imaging* Course for USF Radiology Residents, Director

Cancer Physiology (formerly Cancer Imaging and Metabolism)

2020 – 2022 Targeted Radiopharmaceutical Group, Member
 2012 – 2022 Radiomics Group, Member
 2012 – 2019 Nanomedicine & Molecular Imaging Group, Member
 2012 – 2018 Quantitative Pre-Clinical Imaging Group, Member

Moffitt Cancer Center

2023 Appointment, Promotion and Tenure (APT) Committee, Ad Hoc Reviewer.
 2022 – pres Proton Therapy Center Design and Development Committee, Member
 2022 Proton Therapy Center Site Planning Committee, Member
 2022 – pres Radioisotopes and Radioactive Drug Research Advisory Committee (RADRAC)
 2021 – pres Women in Oncology Mentoring Program, Mentor to an Assistant Member MD
 2021 – pres Proton Therapy Center Steering Committee, Member
 2020 – pres Carbon Ion Treatment Center Assessment Task Force, Physics Leader
 2014 – pres Innovation and Technology Committee (ITC), Member and grant application reviewer
 2011 – pres Cancer Center Support Grant (CCSG), Member, Cancer Biology and Evolution Program
 2021 Proton Therapy Technology RFP Committee, Chair
 2020 – 2021 APT's Early Promotion Guidance Subcommittee, Member
 2019 – 2020 Radiomics Design Sprint (Enterprise-wide working groups to develop a business plan for Radiomics and Image Bank)
 2017 – 2022 Appointment, Promotion and Tenure (APT) Committee, appointed by the Vice-President, Division of Clinical Sciences, Dr. Douglas Letson, Physician-in-Chief
 2018 – 2019 APT Criteria Work Group to revise the academic pathway structure and promotion criteria for faculty in the Division of Clinical Sciences (DCS), Member. Appointed by Dr. Lynn Moscinski, CAO
 2014 – 2019 Faculty Advisory Committee, Member

2012 – 2013 Mock Grant Reviewer, Member

At the University of South Florida (USF):

2021-2022 Physics Faculty Recruitment Committee, Member
 2019 Distinguished University Professor Discipline Committee for Dr. Hariharan Srikanth, Member. Appointed by Dr. Dwayne Smith, Senior Vice Provost and Dean, School of Graduate Studies

At the University of Arkansas for Medical Sciences (UAMS):

2005 – 2011 Radiation Safety Committee (UAMS College of Medicine), Member
 2006 – 2007 College of Medicine Research Council, Member, 2006-2007
 2006 – 2007 Faculty Diversity and Community Outreach (FDCO) Committee and Mentoring Program for underrepresented minority (URM) faculty and students
 2006 – 2011 Medical Physics Residency Program, Director
 2006 – 2011 Medical Physics Residency Program Steering Committee, Chair
 2007 Faculty Marshal for Medical Dosimetry, UAMS Commencement, May 19
 2007 – 2011 Radiation Safety Officer (RSO) of CARTI/UAMS, Radiation Material License No. ARK-0930-02230, and Particle Accelerator License No. ARK-042-ACC-12
 2007 – 2011 Interviewer of Medical School Applicants
 2010 – 2011 Radiation Safety Committee, Chair, appointed by the Chancellor of UAMS

At Washington University in St. Louis & School of Medicine (WUSTL, WUSM):

1993 – 2005 Radiation Oncology Center Research Committee, Member
 1998 – 1999 Radiation Oncology Center Steering Committee, Member elected by peers, 1998-1999
 2000 – 2002 Joint Office of Strategic Planning, Barnes-Jewish Hospital & WUSM. Radiation Oncology Strategic Planning, Member of the Clinical Effectiveness Design Team
 2000 – 2003 Radiation and Cancer Biology Program Project Grant (P01), Advisory Board Member
 2000 – 2005 Physics Principal Investigators Committee, Dept. of Radiation Oncology, Chair
 2001 – 2002 Radiation Oncology Center Computer Support Taskforce, Member
 2003 – 2004 Research Committee, Department of Radiation Oncology, Chairman (interim)
 2003 – 2005 Radiation Oncology Department Steering Committee, Member
 2004 Radiation Oncology Research Retreat, Organizer and Chair, held on 11/22/2004
 2004 – 2005 Radiation Oncology Department Executive Committee, Member
 2004 – 2005 Radiation Oncology Department Residents' Grievance Committee, Member

Professional Service

Professional and Scientific Association Memberships:

Current

1992 – pres American Association of Physicists in Medicine (AAPM)
 2001 – pres American Society for Radiation Oncology (ASTRO)

Former

1984 – 2005 American Society of Mechanical Engineers (ASME)
 1988 – 2005 North American Hyperthermia Society, Charter Member (NAHS, now STM)

1989 – 2004	Ultrasonics, Ferroelectrics and Frequency Control Society (IEEE-UFFC)
1989 – 2007	Institute of Electrical and Electronics Engineers (IEEE)
1994 – 2007	Engineering in Medicine and Biology Society (IEEE-EMBS)
1996 – 2012	Bioelectromagnetics Society (BEMS)
2000 – 2015	Radiation Research Society (RRS)
2005 – 2015	Society for Thermal Medicine (STM, formerly NAHS)
2009 – 2010	International Society for Therapeutic Ultrasound (ISTU)
2022	Radiation Research Society (RRS)

Editorial Board Memberships:

2000 – 2007	<i>Board of Editors, <u>Medical Physics</u></i>
2006 – 2009	<i>Associate Editor, <u>International Journal of Hyperthermia</u></i>
2007 – 2019	<i>Associate Editor, <u>Journal of Applied Clinical Medical Physics</u></i>
2008 – 2013	<i>Associate Editor, <u>Radiation Research</u></i>
2009 – pres	<i>International Editorial Board, <u>Biomedical Engineering: Applications, Basis and Communications</u></i>
2012 – 2020	<i>Editorial Board, Radiation Physics, <u>Journal of Radiation Oncology</u></i>
2022 – pres	<i>Associate Section Editor, <u>Advances in Radiation Oncology</u></i>

Reviewer for the following Scientific Journals:

Manuscript referee/reviewer for the following peer-reviewed journals: *(listed alphabetically)*

Bioelectromagnetics (BEMS)
Biomedical Engineering (IEEE)
Biomedical Physics & Engineering Express (IOP)
Cancers (MDPI)
Cell Biology International (IFCB)
European Radiology Experimental
Health Physics Journal (HPS)
International Journal of Hyperthermia (STM)
International Journal of Radiation Oncology, Biology and Physics (ASTRO)
Journal of Applied Clinical Medical Physics (AAPM)
Journal of Biomechanical Engineering (ASME)
Journal of the Acoustical Society of America (APS)
Mathematical Medicine & Biology (IMA)
Medical Physics (AAPM)
Microwaves Theory and Techniques (IEEE)
Molecular Pharmaceutics (ACS)
Nature Scientific Reports
Numerical Heat Transfer
Physics in Medicine and Biology (IOP)
Radiation Research (RRS)
Technology for Cancer Research and Treatment
Theranostics
Ultrasonics, Ferroelectrics and Frequency Control (IEEE)

Reviewing and Judging Activities: *(listed chronologically, most recent first)*

AAPM Virtual Annual Meeting and Exhibition, July 25-29, 2021. Reviewer of proffered abstracts.

AAPM Science Council Reviewer for Task Group 198 Report: An implementation guide for TG-142 Quality

Assurance of Medical Accelerators. Spring 2021.

Judge/Reviewer of the 2020 AAPM Early Career Investigator In Imaging Travel Award.

AAPM Virtual Joint AAPM/COMP Meeting, July 12-16, 2020. Reviewer of proffered abstracts.

AAPM Annual Meeting and Exhibition, Denver, CO, July 30-Aug 3, 2017. Reviewer of proffered abstracts.

AAPM Annual Meeting and Technical Exhibition, Austin, TX, July 20-24, 2014. Reviewer of proffered abstracts.

AAPM Joint Working Group for Research Seed Funding Initiative. Annual seed grant reviewer, 2008-2010, 2012, 2013.

AAPM Annual Meeting and Technical Exhibit, Indianapolis, In, August 4-8, 2013. Reviewer of proffered abstracts.

2013 Moffitt Scientific Symposium. Judge of posters.

AAPM Annual Meeting and Technical Exhibit, Charlotte, NC, July 29 – August 2, 2012. Reviewer of proffered abstracts.

2012 Moffitt Scientific Symposium. Judge of posters.

Joint meeting of the American Association for Physicists in Medicine (AAPM) and the Canadian Organization of Medical Physicists (COMP), Vancouver, BC, Canada, July 31-August 4, 2011. Reviewer of proffered abstracts.

Editor's Award for the best paper published in *Radiation Research* in 2008 by a Scientist in Training (SIT). Member of a four-judge panel that made the final selection.

Editor's Awards for the best papers published by a young investigator in the fields of Biology, Medicine and Physics/Engineering in the *International Journal of Hyperthermia* in 2007. Judge.

Best papers of 2007 published in the *Journal of Applied Clinical Medical Physics*. Judge.

9th International Congress of Hyperthermic Oncology (ICHO). Abstract reviewer and judge of the Young Investigators Award competition, April 20-24, 2004.

Annual Meeting of the American Association of Physicists in Medicine, Montreal, Canada, July 14 - 18, 2002. Reviewer of proffered abstracts.

Annual Meeting of the American Association of Physicists in Medicine, Salt Lake City, UT, July 22 - 26, 2001. Reviewer of proffered abstracts.

World Congress on Medical Physics and Biomedical Engineering, Chicago, IL, July 23-28, 2000. Reviewer of proffered abstracts.

International Mechanical Engineering Congress and Exposition (IMECE), American Society of Mechanical Engineers (ASME), Heat Transfer Division, Committee on Heat and Mass Transfer in Biotechnology (K-17), 1993-2000. National Heat Transfer Conference, 2000. Reviewer of Conference Papers:

Chairmanships, Appointments, Committees, Study Sections, Review Panels & Working/Task Groups:
(listed chronologically, most recent first)

American Association of Physicists in Medicine (AAPM)

Chair, Working Group on Review of Journal Editorial Team and Operation [WGRJETO], 01/01/2022 to 12/31/2023.

Working Group on Early Career and Clinical Research Opportunities [WGECCRO], voting member, 08/01/2021 to 12/31/2024.

Administrative Council [AC], voting member, 01/01/2020 to 12/31/2023.

Science Council [SC], voting member, 01/01/2018 to 12/31/2023.

Vice Chair, Research Committee [RSRCH], 01/01/2018 to 12/31/2023.

- Panelist on Webinar Series on Advances in Medical Physics, 2016-2021 organized by RSRCH.
- <http://www.aapm.org/meetings/> (click on webinars)

Working Group on Student and Trainee Research [WGSTR], voting member, 09/2019 – 12/31/2023.

Radiomics Subcommittee [RSC] of the Data Science Committee, voting member, 07/23/2019 – 12/31/2022.

Management of Medical Physics Programs and Departments [MMPPD] Committee, voting member, 08/01/2019 – 12/31/2022

Task Group No. 241 [TG241] MR-Guided Focused Ultrasound (MRgFUS), Working Group on the Assessment of Technologies for Image-Guided Interventions, Technology Assessment Committee, Science Council, voting member, 01/01/2013-12/31/2021.

Working Group on Biological Effects of Hypofractionated Radiotherapy/SBRT [WGSBRT], Biological Effects SC, Therapy Physics, Science Council. Member of Unit No. 1 TCP [UN01], Unit No. 2 NTCP [UN02], Unit No. 4 Rationale for Rx [UN04], Unit No. 5 Reporting Standards [UN05], Unit No. 7 TCP H&N [UN07], Unit No. 13 NTCP H&N [UN13]. Voting member from 1/16/2013 to 12/31/2021.

Vice Chair, Working Group on Review of Journal Editorial Team and Operation [WGRJETO], 01/01/2021 to 12/31/2021.

Appointed by AAPM President to the Ad Hoc Committee for Review of Medical Physics Journal Editorial Team and Operations [AHRMPJ], voting member, 06/25/2019 – 12/31/2020.

Task Group 294 [TG294] on Magnetic Resonance Biomarkers in Radiation Oncology, Member, 2017-2020.

Working Group on Molecular Imaging on Radiation Oncology [WGMIR], Therapy Imaging Subcommittee. Member from 01/01/2013 to 12/31/2020.

Biological Effects Subcommittee [BESC] of the Therapy Committee, Member, 2007-2020.

Chair, Radiomics Subcommittee [RSC] of the Data Science Committee, formative activities, 01/01/2018 - 07/22/20.

Moderator, scientific session on “Image Analysis and Response Assessment”, 2019 AAPM Annual Meeting, San Antonio, TX, July 14-18, 2019.

Data Science Committee [DSC], Member, 01/01/2019 to 12/31/2019.

Research Committee [RSRCH] of Science Council, Member, 7/12/2015 to 12/31/2017.

Moderator, Joint Imaging-Therapy Session on MRI-Guided Applications, with Dr. O. Green. 2018 annual meeting.

Therapy Scientific Session entitled “New Treatment Devices and Approaches”, Moderator. AAPM 59th Annual Meeting and Exhibition in Denver, CO from July 30 – August 3, 2017, Colorado Convention Center, Denver, CO.

SAM Ultrasound Educational Course entitled “Therapeutic Ultrasound and Immunotherapy: A Primer”, Moderator. AAPM 59th Annual Meeting and Exhibition in Denver, CO from July 30 – August 3, 2017, Colorado Convention Center, Denver, CO.

Working Group on Conformal Small Animal Irradiation Devices, Biological Effects Subcommittee [WGCSAI], Member, 2008-2018.

Working Group on the Development of a Research Database, Research Committee [WGDRD], Member, 2010-2018.

Working Group on Funding and Grantsmanship [WGFG], member from 8/17/2012 to 12/31/2016.

Task Group No. 193 [TG193] - Image-Guided Focused Ultrasound Surgery (FUS). Member 2009-2015. This TG morphed into TG241

Chair, [WGDRD] Working Group on the Development of a Research Database, Research Committee, 7/12/2015 to 12/31/2016.

Chair of session on Treatment Strategies, Modeling and Control, Ultrasound Symposium 4, Annual AAPM meeting, Indianapolis, IN, August 6, 2013.

Ultrasound Therapy Symposium, session on “Treatment Strategies, Modeling, Control, and Assessment”, co-moderator, Vancouver, Canada, August 3, 2011.

Joint Working Group for Research Seed Funding Initiative, Therapy Research Subcommittee [JWGRSF], Member, 2007-2012.

Committee on Golden Anniversary Planning [AHGAPC] - *Medical Physics Board of Editors Representative*, 2006-2007.

Thermal Therapies Subcommittee of the Therapy Committee, Member, 2000-2003.

Chair, Session on “Therapy”, 44th Annual Meeting, Montreal, Canada, July 14-18, 2002.

Chair, Thermal Therapies Subcommittee of the Therapy Committee, 2000-2001.

Medical Physics journal, member of selection committee for the 2001 Sylvia Sorkin Greenfield award (best overall paper) and the Farrington Daniels award (best radiation dosimetry paper).

Chair, Session on “Thermal Therapy”, 43rd Annual Meeting, Salt Lake City, UT, July 22-26, 2001.

Chair, Hyperthermia Subcommittee of the Therapy Committee, 1997-1999.

Chair, Sessions entitled “Advances in Thermotherapy Bioengineering” and “Emerging Thermal Therapy Technologies” (Track 11). World Congress on Medical Physics and Biomedical Engineering, Chicago, IL, July 23-28, 2000. Organized six scientific sessions and served as reviewer of proffered abstracts.

Hyperthermia Subcommittee, Therapy Committee, Member, 1996-1999.

Ultrasound Hyperthermia Quality Assurance Subcommittee, Therapy Committee, Member, 1992-1998.

Hyperthermia Committee, Member, 1994-1995.

American Society for Radiation Oncology (ASTRO)

ASTRO Mentorship Award Review Committee, 2022.

Clinical, Translational and Basic Science Advisory Subcommittee, 2021-2022.

Advancing Research Talent Subcommittee, member, 2021-2022.

Nominated for Candidate for the Nominating Committee-Physicist, June 2021.

Promoting Science through Research and Training Committee, 2017-2021.

Moderator of Quick Pitch 11 - Physics 05 - Imaging for Response Assessment and Outcome Analysis, ASTRO annual meeting, Miami (virtual), October 25-29, 2020.

Moderator of Symposium SS 21, Physics 5 – Imaging for Response Assessment, ASTRO annual meeting, Chicago, September 15-18, 2019.

Research Funding Advocacy Subcommittee, Chair, 2016-2017.

Research Funding Advocacy Subcommittee, Vice Chair, 2015-2016.

Funding Advocacy and Clinical Trials Subcommittee, Vice Chair, 2014-2015.

Science Steering Committee, 2015-2016.

Science Education and Program Development Committee, 2013-2014.

Funding Advocacy and Clinical Trials Subcommittee, 2013-2014.

NIH Clinical Trials Committee, Science Council, 2012-2014.

Radiation Physics Committee, Science Council, 2010-2014.

Session proposals for the 2014 ASTRO annual meeting, reviewer.

SAM session proposals for the 2014 ASTRO annual meeting, reviewer.

NIH Subcommittee, Government Relations Council, 2007-2012.

Radiation Physics Committee 2011 Panel Proposals, Reviewer.

ASTRO Advocacy Day June 9, 2009. Visited with Arkansas Senators Blanche Lincoln and Mark Pryor (the first ever ASTRO representative from the State of Arkansas).

STM, RRS, ICHO & NAHS

STM, Finance Committee member, 2014-2015.

STM, Chair, Symposium on “New Devices and Approaches”. 31st Annual Meeting of the Society for Thermal Medicine, Minneapolis, MN, May 10, 2014.

STM, Awards Committee, member, 2013-2014.

ICHO&JCTM 2012: 11th International Congress of Hyperthermic Oncology & 29th Japanese Congress of Thermal Medicine. Member of the International Scientific Committee for Physics and Engineering. August 28-31, 2012, Kyoto, Japan.

STM, Chair/introducer of the Robinson Award Lecture, Robert J. Myerson, Ph.D., M.D., awardee. New Orleans, LA, May 1, 2011.

STM, Society for Thermal Medicine 28th annual meeting. Co-chair of the Joint BEMS-STM Session, New Orleans, LA, April 29-May 2, 2011.

RRS Finance Committee member, 2010-2012.

STM, Chair, scientific session on “Thermal Therapy Technology - Experimental and Computational

Investigations”, Society for Thermal Medicine 27th Annual Meeting, Clearwater, FL, April 26, 2010.

STM, Society for Thermal Medicine, Chair/introducer of the Robinson Award Lecture, Chris J. Diederich, Ph.D., awardee. Clearwater, FL, USA, April 25, 2010.

STM, Society for Thermal Medicine 26th annual meeting. Member of the Organizing Committee and Chair of the Scientific Session “Advances in Thermal Ablation Technologies”, Tucson, AZ, April 3-7, 2009.

STM Organizing Committee of the 25th Annual Meeting in conjunction with the World Congress on Interventional Oncology, Washington DC, May 2007.

STM, Moderator of Oral Presentations 3, Society for Thermal Medicine 24th annual meeting, Bethesda, MD, April 7, 2006.

STM, Co-Moderator, Engineering/Physics Workshop, Society for Thermal Medicine 23th annual meeting, Bethesda, MD, April 1, 2005.

STM Organizing Committee for the 2005 Annual Meeting.

ICHO, Chair, the 2nd Sugahara Award; Dr. Chang Song, awardee. 10th International Congress on Hyperthermic Oncology, Munich, Germany, April 10, 2008.

International Organizing Committee member, ICHO/NAHS Scientific Coordinator, and Chair of Local Arrangements Committee. 9th International Congress of Hyperthermic Oncology (ICHO 2004), St. Louis, MO, April 20-24, 2004.

Chair/introducer, North American Hyperthermia Society’s Robinson Award Lecture, Kullervo H. Hynynen, Ph.D., awardee. St. Louis, MO, USA, April 20-24, ICHO 2004.

Chair, Special Lectures on "Non-Invasive Thermometry", Dr. H. Kato (JP) Co-Chair. ICHO 2004, St. Louis, MO, USA, April 20-24, 2004.

RRS Membership Committee, 2003-2006.

NAHS Long Range Planning Committee, appointed member, 2002-2003.

NAHS Conference Site Selection Committee, 1999-2003.

NAHS/RRS Annual Meeting Program Committee, appointed member, 2001-2003.

NAHS Membership Committee, appointed member, 2001-2003.

NAHS AAPM Liaison, appointed, 2000-2003.

NAHS Finance Committee, appointed member, 2001-2002.

NAHS, Co-Chair, Symposium on “Treatment Planning and Biothermal Modeling”, 19th Annual Meeting, San Juan, Puerto Rico, April 21-25, 2001.

ICHO, Co-Chair, Physics Symposium on “Developments in Heating Technology & Treatment Planning”. 8th Intl. Congress of Hyperthermic Oncology, Kyong-Ju, Korea, April 26-29, 2000.

NAHS, Chair, Engineering & Physics Paper Presentations - Physics Session, 18th Annual Meeting, April 8-10, Philadelphia, PA, 1999.

NAHS, Chair, Symposium on “Advances in Oncological Hyperthermia Technology”, 17th Annual Meeting, Louisville, KY, April 1998.

NAHS Conference/Program Organizing Committee, 17th annual meeting, Louisville, KY, April, 1998.

NAHS Web Site Committee, appointed member, 1997-2002.

RRS/NAHS, Chair, Session “Thermometry, Thermal Modeling and Quality Assurance”. Joint RRS/NAHS (16th) meeting, Providence, RI, May 1997.

NAHS Physics & Engineering Councilor (elected), 1996-1997.

RRS/NAHS, Moderator and Introducer, refresher course on “Simultaneous Heating and Radiation Therapy” by Peter Corry, Joint RRS/NAHS (16th) meeting, Providence, RI, May 4, 1997.

American Society of Mechanical Engineers

ASME, Committee on Heat and Mass Transfer in Biotechnology (K-17), member, 1993-2003.

ASME, Chair, Session on “Visualization and Imaging in Biotransport”, International Mechanical Engineering Congress and Exposition (IMECE), New York City, NY, November 11-16, 2001.

ASME, Chair, Symposium on “Thermal Therapies”, International Mechanical Engineering Congress and Exposition (IMECE), Nashville, TN, November 14-19, 1999.

ASME, Chair, Symposia on “Modeling of Mass Transfer in Biological Systems” and “Modeling of Heat Transfer in Biological Systems”. International Mechanical Engineering Congress and Exposition (IMECE), Anaheim, CA, November 15-20, 1998.

ASME, Chair, Session on "Clinical Applications of Bio-Heat and Mass Transfer". International Mechanical Engineering Congress and Exposition (IMECE), Dallas, TX, November, 1997.

ASME, Co-Chair, Session on "Advances in Bio-Heat and Mass Transfer". International Mechanical Engineering Congress and Exposition (IMECE), San Francisco, CA, November, 1995.

NIH, RTOG and Others

NIH, NCI, Quantitative Imaging Network (QIN), Image Analysis & Performance Metrics Working Group (IAPMWG), PET/CT Subgroup; Member, 2016-2021.

Moderator, session on “Best Practices for Radiomics”, 10th annual MCC Radiomics Workshop, Clearwater, Oct 14-15, 2019.

NIH, NCI, Quantitative Imaging Network (QIN), Data Acquisition Working Group (DAWG); Member, 2013-2016.

IEEE, Chair and Organizer, session on “Thermal Therapies for Cancer and Benign Disease”. The First Joint Meeting of the Biomedical Engineering Society (BMES) and the IEEE Engineering in Medicine and Biology Society (EMBS), Atlanta, GA, October 13-16, 1999.

RTOG, Radiation Therapy Oncology Group, Interstitial Thermoradiotherapy Quality Assurance Physicist (RTOG-8419), 1992-1994.

Allerton Workshop Participant on “The Future of Biothermal Engineering”, University of Illinois at Urbana-Champaign (Grant No. NSF CTS 96-18518), JC Chato and RC Lee organizers, April 18-21, 1997.

National Institutes of Health (NIH) Study Sections: *(listed chronologically, most recent first)*

NIH Center for Scientific Review Special Emphasis Panel ZRG1 CTH-S (02), Radiation Therapeutics and Biology Study Section, virtual, June 29, 2023.

National Institute of Allergy and Infectious Diseases (NIAID) Special Emphasis Panel, ZAI1 SB-I (C2), to evaluate the scientific and technical merit of contract proposals received in response to “Development of Radiation/Nuclear Medical Countermeasures (MCMs) and Biodosimetry Devices” (NIH-BAA-75N93021R00019), July 28 & 29, 2022.

National Cancer Institute Special Emphasis Panel/Scientific Review Group 2022/05 ZCA1 TCRB-9 (M1) S, SEP-8: NCI Clinical and Translational Cancer Research, review of R21 and R03 grants, virtual, March 10 & 11, 2022.

National Cancer Institute Special Emphasis Panel/Scientific Review Group 2022/01 ZCA1 TCRB-9 (J1) S, SEP-8: NCI Clinical and Translational Cancer Research, review of R21 and R03 grants, virtual, November 4 & 5, 2021.

National Cancer Institute Special Emphasis Panel/Scientific Review Group 2021/05 ZCA1 RPRB-J (M1) S, review of SPORE (P50) applications, virtual, February 26, 2021.

National Institute of Diabetes and Digestive and Kidney Diseases Special Emphasis Panel ZDK1 GRB-G (J1), NIDDK-KUH Fellowship Review Committee, Chicago, October 4, 2019.

Special Emphasis Panel/Scientific Review Group, NIBIB Quantum Review Meeting (2017 10) ZEB1 OSR-F (O1) S, Washington DC, June 28, 2017.

National Cancer Institute Special Emphasis Panel/Scientific Review Group 2014/10 ZCA1 SRB-J (O1) S, NCI Omnibus SEP-12 R03s (PAR14-007) and R21s (PAR13-146), Gaithersburg, MD, June 26 & 27, 2014.

National Cancer Institute Special Emphasis Panel/Scientific Review Group 2014/05 ZRG1 SBIB-Z (58) R, NCI Image-Guided Drug Delivery in Cancer (R01; PAR-13-185), Bethesda, MD, February 20, 2014.

National Cancer Institute Special Emphasis Panel/Scientific Review Group 2013/05 ZCA1 RTRB-Z (M1) R, NCI Omnibus (R21/R03), Rockville, MD, February 27-28, 2013.

National Cancer Institute Special Emphasis Panel ZCA1 GRB-S J1 P, NCI Omnibus (R21/R03), Rockville, MD, Dec 4, 2012.

NCI Radiation Therapeutics and Biology (RTB) Study Section, Oncology 2 - Translational Clinical Integrated Review Group, Center for Scientific Review (CSR), Washington D.C., Jan 30-31, 2012.

Biomedical Imaging Technology B Study Section, Surgical Sciences, Biomedical Imaging and Bioengineering Integrated Review Group, CSR, San Antonio, TX, June 2-3, 2011.

Special Emphasis Panel/Scientific Review Group 2010/10 ICP1 (Fogarty International Research Collaboration Award, FIRCA), CSR, June 10, 2010.

Study Section ZRG1 OTC-K (58) in Oncology-2 Translational Clinical IRG (OTC), CSR. Reviewer of ARRA RC1 Challenge Grant applications, June/July 2009.

Radiation Therapeutics and Biology (RTB) Study Section, Oncological Sciences Integrated Review Group, Center for Scientific Review (CSR), Washington D.C., January 29-30, 2007.

Special Emphasis Panel, 2007/01 Council ZRG1 ONC-R (11) S, SBIR/STTR, Center for Scientific Review (CSR), 10/30/06.

Special Emphasis Panel/Scientific Review Group 2006/01 ZRG1 SBIB-L (10) (B) meeting, CSR, 11/08/2005. Reviewer for Small Business grants: Bioelectromagnetics.

Radiation Therapeutics and Biology (RTB, formerly RAD) Study Section permanent member, CSR, 2003-2005.

Radiation (RAD) Study Section member, Center for Scientific Review (CSR), 2002-2003.

Oncological Sciences Study Section (ONC), Special Emphasis Panel ZRG1 F09(20)L, Fellowships & AREA, CSR, July 17-18, 2003.

Oncological Sciences Study Section (ONC), Special Emphasis Panel ZRG1 F09(20)L, Fellowships & AREA, CSR, November 14-15, 2002.

Radiation Study Section (RAD) SBIR ZRG1 SSS-1(11)B, reviewer, CSR, March 13, 2002.

Radiation Study Section (RAD) invited reviewer, CSR, San Francisco, CA, Nov 2-4, 2001.

Subcommittee D – Clinical Trials, Initial Review Group, NCI-D GRB-4 (P2). Program Project (P01) Review and Site Visit, Feb. 2000.

Special Emphasis Panel, Radiation Study Section, ZRG1 RAD (2) S, CSR, reviewer, Jan 1999.

Multidisciplinary Sciences Special Emphasis Panel ZRG7 SSS-X (85), DRG, reviewer, Oct 1997.

Multidisciplinary Sciences Special Emphasis Panel ZRG7 SSS-X (47), DRG, reviewer, Feb 1995.

Radiation Study Section (RAD), DRG, outside expert opinion, 1994, 1995.

National Cancer Institute, *ad hoc* grant reviewer, 1993.

Other National and International Study Sections: *(listed chronologically, most recent first)*

The Netherlands Organisation for Scientific Research, NWO, domain: Applied and Engineering Sciences, Open Technology Programme, grant reviewer, May 2019.

Comisión Nacional de Investigación Científica y Tecnológica de Chile (CONICYT), FONDECYT Regular 2017 grant competition, Engineering Study Group 2, grant reviewer, November 2016.

Natural Sciences and Engineering Research Council of Canada (NSERC) (<http://www.nserc-crsng.gc.ca/>), Discovery grant reviewer, 2004, 2010.

Congressionally Directed Medical Research Programs (CDMRP), Breast Cancer Research Program (BCRP), U. S. Army Medical Research and Materiel Command (USAMRMC), Dept of Defense (DOD), Peer Review Panel Member-Scientist, March-September 2005.

International Science & Technology Center (<http://www.istc.ru/>), grant reviewer, 2001, 2004.

Canada Foundation for Innovation (CFI) (<http://www.innovation.ca/>), grant reviewer, 2004.

Dutch Cancer Society, grant reviewer, 2002.

Canadian Institute of Health Research (CIHR), grant reviewer, 2002.

National Cancer Institute of Canada, grant reviewer, 1999-2001.

Cooperative Grants Program of the US Civilian Research & Development Foundation (<http://www.crdf.org/CGP/cgp.html>), grant reviewer, 1999-2000.

American Cancer Society, grant reviewer, 1993.

Expert Panels, Advisory Boards, Consulting: *(listed chronologically, most recent first)*

- Compatibility of Irradiation Research Protocols Expert Roundtable (CIRPER), Office of Radiological Security, National Nuclear Security Administration, Department of Energy, Invited expert, Waikoloa, HI, October 18th and 20th, 2022.
- Advanced Molecular Imaging Division, Philips Healthcare, Medical Advisory Board Event on Novel Digital Positron Emission Technology (D-PET), November 5th, 2013, Cleveland, OH. Invited Thought Leader. (Also invited for 2014 but declined).
- Science Café, one of three panelist for *Mysterious Physics* at the Vieux Carré / the Afterthought, 2721 Kavanaugh, Little Rock, AR, March 24, 2009, an evening of science with the open public encompassing everything from universal theories to medical applications.
- Duke University Hyperthermia Program Project (P01), External Advisory Board member, 2007-2010.
- 2008 U.S. Food and Drug Administration Critical Path Workshop on Clinical Trials for Local Treatment of Breast Cancer by Thermal Ablation. FDA White Oak Campus Conference Center, Silver Spring, MD, September 15, 2008. Invited panelist/discussant.
- Non-Lethal Weapons Bioeffects (6.1) Program Review, Office of Naval Research, Arlington, VA, July 17-18, 2007. Panel member and presenter.
- Council of Ontario Universities, academic consultant for the appraisal of a proposed M.Sc. program in Biomedical Physics at Ryerson University, Toronto, Ontario, Canada. Site visit Nov 3 & 4, 2005.
- Barnes-Jewish Hospital Office of Research Affairs, Barnes-Jewish Foundation Intramural Funding Program, proposal reviewer, 2003 - 2004.
- Consultant to Cellular Phone Manufacturers on *In Vitro* and *In Vivo* Electromagnetic Irradiator Systems and SAR Dosimetry for Bioelectromagnetics Research, 1995-2001.
- Radiofrequency Micronucleus Working Group, Food and Drug Administration (FDA), Rockville, MA, August 1-2, 2000. Invited scientific expert on RF irradiation systems. This meeting was an initial step in a Cooperative Research and Development Agreement (CRADA) between the FDA Center for Devices and Radiological Health (CDRH) and the Cellular Telecommunications Industry Association (CTIA).

Peer-Reviewed Publications

(listed chronologically by publication date)

(underlined name = first/co-first or senior/co-senior author)

(The list of papers ordered by number of citations is at

<https://scholar.google.com/citations?hl=en&user=BsITuE0AAAAJ>)

1986:

1. Hynynen K, Roemer R, **Moros EG**, Johnson C and Anhalt D. The effect of scanning speed on temperature and thermal exposure distributions during ultrasound hyperthermia *in vivo*. IEEE Transactions on Microwave Theory and Techniques, 1986;34(5):552-559.

1988:

2. **Moros EG**, Roemer R and Hynynen K. Simulations of scanned focused ultrasound hyperthermia: the effect of scanning speed and pattern on the temperature fluctuations at the focal depth. IEEE Transactions on Ultrasonics, Ferroelectrics and Frequency Control, 1988;35:552-560.

1989:

3. Hynynen K, DeYoung D, Kundrat M and **Moros EG**. The effect of blood perfusion rate on the temperature distribution induced by multiple, scanned and focused ultrasonic beams in dogs' kidneys *in vivo*. International Journal of Hyperthermia, Jul 1989;5(4):485-497.

1990:

4. **Moros EG**, Roemer RB and Hynynen K. Pre-focal high temperature regions induced by scanning focused ultrasound beams. International Journal of Hyperthermia, 1990; 5:351-366.

1992:

5. **Moros EG** and Hynynen K. A comparison of theoretical and experimental ultrasound field distributions in

canine muscle tissue *in vivo*. *Ultrasound in Medicine and Biology*, 1992;18:81-92.

6. Lin WL, Roemer RB, **Moros EG** and Hynynen K. Optimization of temperature distributions in scanned focused ultrasound hyperthermia. *International Journal Hyperthermia*, Jan 1992;8(1):61-78.
7. Steeves RA, Murray TG, **Moros EG**, Boldt HC, Mieler WF and Paliwal BR. Concurrent ferromagnetic hyperthermia and ¹²⁵Iodine brachytherapy in a rabbit choroidal melanoma model. *International Journal of Hyperthermia*, Jul 1992; 8(4):443-450.

1993:

8. **Moros EG**, Dutton AW, Roemer, RB, Burton M and Hynynen K. Experimental evaluation of two simple thermal models using hyperthermia in muscle *in vivo*. *International Journal of Hyperthermia*, 1993;9:581-598.
9. **Moros EG**, Myerson RJ and Straube WL. Aperture size to therapeutic volume relation for a multielement ultrasound system - determination of applicator adequacy for superficial hyperthermia. *Medical Physics*, Sep 1993;20(5):1399-1409.

1994:

10. **Moros EG**, Straube WL and Myerson RJ. Devices and techniques for the clinical application of concomitant heat and ionizing radiation by external means. *Biomedical Engineering: Application, Basis and Communications*, 1994;6:328-339.
11. Straube WL, Meigooni AS, **Moros EG**, Williamson J and Myerson RJ. HDR induced temperature artifacts: thermometry considerations for simultaneous interstitial thermoradiotherapy. *International Journal of Radiation Oncology, Biology and Physics*, Sep 1994;30(2):399-403.

1995:

12. **Moros EG**, Straube WL, Klein EE, Maurath J and Myerson RJ. Clinical system for simultaneous external superficial microwave hyperthermia and Cobalt-60 radiation. *International Journal of Hyperthermia*, 1995;11:11-26.
13. Straube WL, **Moros EG** and Myerson RJ. Phase stability of a clinical phased array system for deep regional hyperthermia. *International Journal of Hyperthermia*, 1995;11:87-93.
14. **Moros EG**, Straube WL, Klein EE, Yousaf M and Myerson RJ. Simultaneous delivery of electron beam therapy and ultrasound hyperthermia utilizing scanning reflectors: a feasibility study. *International Journal of Radiation Oncology, Biology and Physics*, 1995;31:893-904.
15. Myerson RJ, Emami E, Straube W, **Moros EG**, Lee HK, Lai PL and Grigsby P. Probabilistic relation between temperature, time, and local specific absorption rate (SAR) for regional hyperthermia. *Endocurietherapy/Hyperthermic Oncology*, 1995;11:155-166.

1996:

16. Emami B, Scott C, Perez CA, Asbell S, Swift P, Grigsby P, Montesano A, Rubin P, Curran W, Delrowe J, Arastu H, Fu K and **Moros E**. Phase III study of interstitial thermoradiotherapy compared with interstitial radiotherapy alone in the treatment of recurrent or persistent human tumors: a prospectively controlled randomized study by the radiation therapy oncology group. *International Journal of Radiation Oncology, Biology and Physics*, 1996;34:1097-1104. **Over 190 citations as of August 2023.**
17. **Moros EG**, Straube WL and Myerson RJ. A reflected-scanned ultrasound system for external simultaneous thermoradiotherapy. *IEEE Transactions on Ultrasonics, Ferroelectrics and Frequency Control*, 1996;43:441-449.
18. **Moros EG**, Straube WL and Myerson RJ. Potential for power deposition conformability using reflected-scanned planar ultrasound. *International Journal of Hyperthermia*, 1996;12:723-736.
19. Straube WL, **Moros EG**, Low DA, Klein EE, Willcut MS and Myerson RJ. An ultrasound system for simultaneous hyperthermia and photon beam irradiation. *International Journal of Radiation Oncology, Biology and Physics*, 1996;36:1189-1200.

1997:

20. **Moros EG**, Fan X and Straube WL. An investigation of penetration depth control using parallel opposed

ultrasound arrays and a scanning reflector. *Journal of the Acoustical Society of America*, 1997;101:1734-1741.

21. Fan X, **Moros EG**, and Straube WL. Acoustic field calculation for a single planar continuous-wave source using an equivalent phased array method. *Journal of the Acoustical Society of America*, 1997;102:2734-2741.
22. Malyapa RS, Ahern EW, Straube WL, **Moros EG**, Pickard WF, and Roti Roti JL. Measurement of DNA damage after exposure to 2450 MHz electromagnetic radiation. *Radiation Research*, 1997;148:608-617. **155 citations as of August 2023.**
23. Malyapa RS, Ahern EW, Straube WL, **Moros EG**, Pickard WF, and Roti Roti JL. Measurement of DNA damage following exposure to electromagnetic radiation in the cellular phone communication frequency band (835.62 and 847.74 MHz). *Radiation Research*, 1997;148:618-627. **160 citations as of August 2023.**

1998:

24. **Moros EG**, Fan X, Straube WL and Myerson RJ. Numerical and *in vitro* evaluation of temperature fluctuations during reflected-scanned planar ultrasound hyperthermia. *International Journal of Hyperthermia*, Jul 1998;14:367-382.
25. **Moros EG**, Straube WL, and Pickard WF. A compact shielded exposure system for simultaneous long-term UHF irradiation of forty mammals. I. Electromagnetic and environmental design. *Bioelectromagnetics*, 1998;19:459-468.

1999:

26. **Moros EG**, Straube WL, and Pickard WF. The radial transmission line as a broad-band shielded exposure system for microwave irradiation of large numbers of culture flasks. *Bioelectromagnetics*, 1999;20:65-80.
27. **Moros EG**, Straube WL and Pickard WF. A compact shielded exposure system for simultaneous long-term UHF irradiation of forty mammals. II Dosimetry. *Bioelectromagnetics*, 1999;20:81-93.
28. Goswami PC, Albee LD, Parsian AJ, Baty JD, **Moros EG**, Pickard WF, Roti Roti JL and Hunt CR. Proto-oncogene mRNA levels and activities of multiple transcription factors in C3H 10T1/2 murine embryonic fibroblasts exposed to 835.62 and 847.74 MHz cellular phone communication frequency radiation. *Radiation Research*, 1999;151:300-309.
29. Pickard WF, Straube WL, **Moros EG**, and Fan X. Simplified model and measurement of specific absorption rate distribution in a culture flask within a transverse electromagnetic mode exposure system. *Bioelectromagnetics*, 1999;20:183-193.
30. **Moros EG**, Fan X and Straube WL. Experimental assessment of power and temperature penetration depth control with a dual frequency ultrasonic system. *Medical Physics*, 1999;26:810-817.
31. Straube WL, **Moros EG**, Myerson RJ, Fan X. A two-parameter method for the estimation of ultrasound induced temperature artifacts. *International Journal of Hyperthermia*, 1999;15:187-202.
32. Fan X, **Moros EG**, and Straube WL. A concentric-ring equivalent phased array method to model large axisymmetric ultrasound transducers. *IEEE Transactions on Ultrasonics, Ferroelectrics and Frequency Control*, 1999;46:830-841.
33. Myerson RJ, Straube WL, **Moros EG**, Emami BN, Lee HK, Perez CA, Taylor ME. Simultaneous superficial hyperthermia and external radiotherapy: report of thermal dosimetry and tolerance to treatment. *International Journal of Hyperthermia*, 1999;15:251-266.
34. **Moros EG** and Pickard WF. On the assumption of negligible heat diffusion during the thermal measurement of a non uniform specific absorption rate. *Radiation Research*, Sep. 1999;152:312-320.
35. Straube WL, Myerson RJ, and **Moros EG**. A multi-user networked database for analysis of clinical and temperature data from patients treated with simultaneous radiation and ultrasound hyperthermia. *International Journal of Hyperthermia*, 1999;15:419-426.
36. **Moros EG**, Fan X and Straube WL. An ultrasound power deposition model for the chest wall. *Ultrasound in Medicine and Biology*, 1999;25:1275-1287.
37. Higashikubo R, Culbreth VO, Spitz DR, Pickard WF, La Regina M, Straube WL, **Moros EG**, Gutting KM,

Kuepfert HL, and Roti Roti JL. Radiofrequency electromagnetic fields have no effects on the *in vivo* proliferation of the 9L brain tumor. *Radiation Research*, 1999;152:665-671.

2000:

38. Pickard WF, Straube WL, **Moros EG**, and Fan X. Experimental and numerical determination of SAR distributions within culture flasks in a dielectric loaded radial transmission line. *IEEE Transactions on Biomedical Engineering*, Feb 2000;47:202-208.
39. Fan X, **Moros EG**, and Straube WL. Ultrasound field estimation method using a secondary source-array numerically constructed from a limited number of pressure measurements. *Journal of the Acoustical Society of America*, Jun 2000;107:3259-3265.
40. **Moros EG**, Straube WL, Myerson RJ, and Fan X. The impact of ultrasonic parameters on chest wall hyperthermia. *International Journal of Hyperthermia*, Nov-Dec 2000;16:523-538.

2001:

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Eduardo G. Moros, Ph.D., Per H. Halvorsen, M.S., and Colin G. Orton, Ph.D., (Moderator), POINT/COUNTERPOINT: Open access journals benefit authors from more affluent institutions. Medical Physics, Oct 2016;43(10):5265-5267.

Jose A. Peñagaricano, **Eduardo Moros** and Peter Corry. Intensity-Modulated Radiotherapy for Craniospinal Irradiation: Target Volume Considerations, Dose Constraints and Competing Risks: In Regard to Parker et al. (Int J Radiat Oncol Biol Phys 2007;69:251–257). International Journal of Radiation Oncology, Biology and Physics, March 2008;70(3):964.

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FDA Approvals:

Investigational Device Exemption (IDE) for Washington University and University of California-San Francisco. IDE No. G900216/A1&A2 for the “Helios Ultrasound Hyperthermia System”. 1992-1994 (Included IRB approved protocols). PI: Robert J. Myerson, M.D., Ph.D.; Monitor: Bahman Emami, M.D.; WU Co-I: Perry W. Grigsby, M.D, **Eduardo Moros, Ph.D.** (applicant), Gilbert Nussbaum Ph.D.; UCSF Co-I: Theodore L. Phillips M.D., Penny K. Sneed M.D., Paul R. Stauffer M.S., Chris J. Diederich Ph.D.

Trademarks:

USPTO serial number: 77809823, Mark: SONOKNIFE, Date: April 13, 2010. UAMS No. 2009-27. International Class 010: medical device, namely, a device designed and developed to induce thermal ablation using line focused, scanned, high power ultrasound noninvasively.

Patents:

Radiotherapy Targeted To Promote A Systemic Abscopal Effect. United States Patent No. US 9,990,715 B2. Granted June 5, 2018. Inventors: Heiko Enderling, Jan T. Poleszczuk, Kimberly A. Luddy, **Eduardo G. Moros**. Assignee: H. Lee Moffitt Cancer Center and Research Institute, Inc.

Licenses Written and Approved for Medical Use of Radiation:

Arkansas Particle Accelerator License No. ARK-42-ACC-12-10. Arkansas Department of Health, 2007.

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CAMPEP Applications:

Self-Study (application) for CAMPEP accreditation of a Residency Program in Medical Physics, UAMS Department of Radiation Oncology, January 2011. Program Accredited April 2012.

Self-Study (application) for CAMPEP accreditation for a Ph.D. in Applied Physics with Emphasis on Medical Physics Program, MCC Department of Radiation Oncology and USF Department of Physics, May 2014. Program Accredited January 1, 2015.

Self-Study (application) for CAMPEP re-accreditation for the Ph.D. in Applied Physics with Concentration on Medical Physics Program, MCC Department of Radiation Oncology and USF Department of Physics, September 2019. The program is temporarily re-accredited through 06/30/23.

Self-Study (application) for CAMPEP accreditation of a Medical Physics Residency Program, MCC Department of Radiation Oncology, December 2019. Program Accredited May 2020.

Data Sharing:

Credence Cartridge Radiomics Phantom CT Scans (and paper) with Controlled Scanning Approach (CC-Radiomics-Phantom-2) deposited in <https://www.cancerimagingarchive.net/> (TCIA). <http://doi.org/10.7937/TCIA.2019.4124tz5g>

- The CC-Radiomics-Phantom-2 collection was posted on 2/27/2019.
- The collection consists of 251 CT scans of the Credence Cartridge Radiomic (CCR) phantom.
- Since first published on TCIA to April 2023, users have downloaded 30702 scans.

Oral Presentations / Poster Presentations / Scientific Abstracts

Eighty published abstracts as of 6/2000 when abstract tracking was discontinued until 8/2011.

Selected Published Abstracts / Posters / Presentations: (since 2011)

2011:

1. SU-E-T-312: Development of a Rat Model of Radiation-Induced Heart Disease Using SACRTD. S Sharma, V Sridharan, M Boerma, P Corry, and **E Moros**, Med. Phys. 38, 3559 (2011),

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2. WE-E-220-03: SonoKnife: Development, Testing and Treatment Planning. **E Moros**, R Xia, G Shafirstein, D Chen, X Chen, P Corry, and R Griffin, *Med. Phys.* 38, 3824 (2011), 10.1118/1.3613398
3. SU-E-T-318: Using Monte Carlo in the Design of Small Animal Irradiator Collimators. E Han, S Sharma, Y Yan, **E Moros**, and P Corry, *Med. Phys.* 38, 3560 (2011), 10.1118/1.3612269
4. SU-E-T-802: Dosimetric Examination and Verification of Megavoltage Computed Tomography (MVCT) Based IMRT Treatment Planning with Helical Tomotherapy. M Chao, J Huang, X Chen, Y Yan, Y Xie, K Boyd, and **E Moros**, *Med. Phys.* 38, 3675 (2011), 10.1118/1.3612766
5. SU-E-T-848: Dose Mass-Based IMRT Inverse Planning for Radiotherapy of Thoracic Cancer. X Chen, M Chao, J Penagaricano, Y Yan, P Corry, V Ratanatharathorn, and **E Moros**, *Med. Phys.* 38, 3686 (2011), 10.1118/1.3612812
6. SU-E-T-572: Dose Mass Histogram (DMH) versus Dose Volume Histogram (DVH) for SBRT and Craniospinal Patients: What Can We Learn? M Chao, X Chen, J Penagaricano, **E Moros**, V Ratanatharathorn, and P Corry, *Med. Phys.* 38, 3621 (2011), 10.1118/1.3612534
7. WE-E-220-04: Focused Ultrasound Ablation of Tumour Hypoxic Tissue of Small Animals under PET and MRI Guidance. X Chen, R Griffin, J Webber, P Corry, G Shafirstein, and **E Moros**, *Med. Phys.* 38, 3824 (2011), 10.1118/1.3613399
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9. SU-E-I-15: CBCT Using a Robotic-Arm Based Small Animal Irradiation System. S Sharma, M Chao, Y Yan, P Corry, and **E Moros**, *Med. Phys.* 38, 3398 (2011), 10.1118/1.3611588
10. SU-C-BRB-01: Spatially Fractionated Radiation Therapy (GRID) Using a Tomotherapy Unit. Y Yan, J Penagaricano, P Corry, **E Moros**, K Gardner, EY Han, X Zhang, M Chao, Robert J. Griffin, and V Ratanatharathorn, *Med. Phys.* 38, 3369 (2011), 10.1118/1.3611467

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11. SU-E-T-479: Skin Dose from Flattening Filter Free Beams: A Monte Carlo Investigation of Skin Dose with Flattened Beams. G Zhang, K Javedan, **E Moros**, K Latifi, V Feygelman, and H. Lee Moffitt, *Med. Phys.* 39, 3815 (2012), 10.1118/1.4735568
12. SU-E-J-167: Optimal Number of Respiratory Phases in 4D PET for Radiotherapy Planning: Motion-Simulated Phantom Study. M Budzevich, T Dilling, G Zhang, C Kuykendall, and **E Moros**, *Med. Phys.* 39, 3691 (2012), 10.1118/1.4735006
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14. SU-E-T-553: Dose-Mass Vs. Dose-Volume Optimization: A Phantom Study. I Mihaylov, **E Moros**, and J Siebers, *Med. Phys.* 39, 3832 (2012), 10.1118/1.4735642

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16. SU-E-T-239: Implementation of QA Procedures and Their Effect On the Radiation Treatment Delivery Error Rate Over a 12 Year Period. S Wasserman, V Feygelman and **E Moros**. *Med. Phys.* 40, 259 (2013); 10.1118/1.4814674
17. SU-E-J-69: Normalization of Ventilation Data From 4D-CT for Comparison Before and After Treatment. K Latifi, T Huang, V Feygelman, **E Moros**, C Stevens, T Dilling and G Zhang. *Med. Phys.* 40, 165 (2013); 10.1118/1.4814281
18. TH-A-137-07: Local Control Differences for SBRT Lung Patients Planned with Pencil Beam Vs. Collapsed Cone Convolution Algorithms. K Latifi, J Oliver, T Dilling, C Stevens, M DeMarco, G Zhang, **E Moros** and V Feygelman. *Med. Phys.* 40, 518 (2013); 10.1118/1.4815689
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 23. A Method to Determine the Optimal Number of Bins in 4D PET. M M Budzevich, C C Kuykendall, K Latifi, J Oliver, T J Dilling, S E Hoffe, E A Eikman, J I Montilla-Soler, G G Zhang, **E G Moros**, Cancer Imaging and Radiation Therapy Symposium, Orlando, FL, USA, 2013. *Pract Radiat Oncol.* 2013 Apr-Jun;3(2 Suppl 1):S25. 10.1016/j.prro.2013.01.088.
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35. Jung Choi and **Eduardo Moros**. A novel theranostic approach to prostate cancer using gold nanoparticle directed photoacoustic imaging and photothermal therapy. Symposium: Thermosensitive and Photothermal Nanomedicine, 31st Annual Meeting of the Society for Thermal Medicine, Minneapolis, MN, May 6-10, 2014.
36. SU-E-T-498: Energy Minimization and Dose-Volume Inverse Optimization in Prostate Cancer, I Mihaylov and **E Moros**, Med. Phys. 41 , 341 (2014) ; <http://dx.doi.org/10.1118/1.4888831>
37. SU-E-QI-17: Dependence of 3D/4D PET Quantitative Image Features on Noise, J Oliver, M Budzevich, G Zhang, K Latifi, T Dilling, Y Balagurunathan, Y Gu, O Grove, V Feygelman, R Gillies, **E Moros**, Med. Phys. 41 , 380 (2014) ; <http://dx.doi.org/10.1118/1.4888997>
38. SU-E-QI-16: Reproducibility of Computed Tomography Quantitative Structural Features Using the FDA Thoracic Phantom Image Database, M Budzevich, O Grove, Y Balagurunathan, Y Gu, H Wang, J Oliver, K Latifi, G Zhang, T Dilling, R Gillies, **E Moros**, Med. Phys. 41 , 380 (2014); <http://dx.doi.org/10.1118/1.4888996>
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 59. Radiomics of NSCLC. Gillies R, Goldgof D, Balagurunathan Y, **Moros E**, Stringfield (Grove) O, Gatenby R, Liu Y, Li Q, Hawkins S, Garcia A, Dekker A, Hall L, Lambin P, Aerts H, Gray J, Schabath M, Kim J, Rios E, Dilling T, Eschrich S, Berlung A. Quantitative Imaging Network Annual Meeting, NCI Cancer Imaging Program, Shady Grove, April 13-14, 2015.
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FIFTY-EIGHTH ANNUAL MEETING OF THE AMERICAN ASSOCIATION OF PHYSICISTS IN MEDICINE -- Medical Physics June 2016:

64. SU-F-J-90: Effects of Optimization Cost Function On Ventilation in SBRT of NSCLC. Mihaylov I, Latifi K, De Ornelas-Couto M, **Moros E**, Zhang G.
65. SU-F-T-372: Surface and Peripheral Dose in Compensator-Based FFF Beam IMRT. Zhang D, Feygelman V, **Moros E**, Latifi K, Hoffe S, Frakes J, Zhang G.
66. SU-F-R-30: Interscanner Variability of Radiomics Features in Computed Tomography (CT) Using a Standard ACR Phantom. Shafiq-ul-Hassan M, Budzevich M, Zhang G, Latifi K, Hunt D, Gillies R, **Moros E**.
67. WE-FG-BRA-10: Radiodosimetry of a Novel Alpha Particle Therapy Targeted to Uveal Melanoma: Absorbed Dose to Organs in Mice. Tichacek Christopher J., Tafreshi Narges K., Budzevich Mikalai M., Ruiz Epifanio, Wadas Thaddeus J., McLaughlin Mark L., **Moros Eduardo G.**, L. Morse David.
68. MO-DE-207B-04: Impact of Reconstruction Field of View On Radiomics Features in Computed Tomography (CT) Using a Texture Phantom. Shafiq-ul-Hassan M, Zhang G, Latifi K, Oliver J, Hunt D, Guzman R, Balagurunathan Y, Mackin D, Court L, Gillies R,
69. Voxel volume dependent features in CT radiomics. M. Shafiq-ul-Hassan and **E. G. Moros**.

70. Altazi, B. A., Zhang, G. G., Naghavi, A. O., **Moros, E. G.**, & Caudell, J. J. Radiomic Features Prognostic for Recurrence in Human Papillomavirus-Positive Oropharyngeal Cancer. *International Journal of Radiation Oncology Biology Physics*, 2016;96(2):S70-S71. <https://doi.org/10.1016/j.ijrobp.2016.06.180>

2017:

FIFTY-NINETH ANNUAL MEETING OF THE AMERICAN ASSOCIATION OF PHYSICISTS IN MEDICINE -- Medical Physics, August 2017:

71. SU-E-605-0: Assessing the Imaging Habitats of Cervical Cancer Using PET/CT Images to Predict Treatment Outcomes. B Altazi*, G Zhang, **E Moros**, D Fernandez.
72. SU-I-GPD-J-18: Estimation of Mean Bladder Volume Based On Cone-Beam Computed. Tomography Modeling for Post-Operative Prostate Cancer Patients. B Housawi*, **E Moros**, P Johnstone, K Latifi.
73. SU-J-CAMPUS-TT-05: Dosimetry of a Novel Targeted Alpha Particle Therapy for Metastatic Uveal Melanoma. Christopher J. Tichacek, Narges K. Tafreshi, Michael L. Doligalski, Mikalai M. Budzevich, Epi Ruiz, Nella C. Delva, Thaddeus J. Wadas, Mark L. McLaughlin, David L. Morse, **Eduardo G. Moros**
74. TU-H-FS4-06: The Impact of Deformable Image Registration On the Robustness of Radiomic Features. K Chou, K Latifi, **E Moros**, V Feygelman, T Huang, G Zhang.
75. WE-RAM2-GePD-J(B)-06: Larger Ventilation Allows More Lung Sparing. I Mihaylov, K Latifi, **E Moros**, G Zhang.

76. WE-RAM2-GePD-IT-02: Impact of Radial Location Inside a CT QA Phantom On Radiomic Features Using 3D-Printed Cylindrical Textured Inserts. M Shafiq-ul-Hassan, G Zhang, K Latifi, G Ullah, D Hunt, R. Gillies, **E Moros**. ePoster Presentation in 59th AAPM Annual Meeting & Exhibition, July 30-August 03, 2017, Denver, CO, USA.
77. WE-RAM2-GePD-IT-03: 3D Printed Cylindrical Texture Inserts for a Commonly Used CT Phantom for Radiomics Quality Assurance. M Shafiq-ul-Hassan, G Zhang, K Latifi, G Ullah, D Hunt, R. Gillies, **E Moros**. ePoster Presentation in 59th AAPM Annual Meeting & Exhibition, July 30-August 03, 2017, Denver, CO, USA.
78. WE-RAM3-GePD-J(B)-01: Evaluation of Radiomic Features in MRI of Acoustic Neuromas. G Narayanasamy, G Zhang, G Campbell, E Siegel, **E Moros**, X, Zhang, S Morrill, J Penagaricano.
79. WE-RAM3-GePD-IT-05: Precise Monte Carlo Simulations of NaI(Tl) Spectra for Measurement of Actinium-225 Targeted Alpha Particle Bio-Distribution Christopher J. Tichacek, Mikalai M. Budzevich, Gary V. Martinez, David L. Morse, **Eduardo G. Moros**.

80. Mathematical Model of Head and Neck Cancer Response to Predict Fractionation Schema for Robust Responses During Radiation Therapy. H. Enderling, K. Latifi, A. Rishi, R. Howard, **E.G. Moros**, J. Heukelom, A.S.R. Mohamed, C.D. Fuller, L.B. Harrison, J.J. Caudell. 59th ASTRO Annual Meeting, 24-27 September, 2017, San Diego, CA, USA. International Journal of Radiation Oncology • Biology • Physics, Vol. 99, Issue 2, E656.
81. Mid-treatment Nodal Response is Associated with Outcome in Head and Neck Squamous Cell Cancer. K. Latifi, A. Rishi, H. Enderling, **E.G. Moros**, J. Heukelom, A.S.R. Mohamed, C.D. Fuller, L.B. Harrison, J.J. Caudell. 59th ASTRO Annual Meeting, 24-27 September, 2017, San Diego, CA, USA. International Journal of Radiation Oncology • Biology • Physics, Vol. 99, Issue 2, E683.
82. CT-Based Nodal Radiomic Features and Outcome in Head and Neck Squamous Cell Carcinoma. A. Rishi, K. Latifi, A.O. Naghavi, G.G. Zhang, H. Enderling, **E.G. Moros**, J. Heukelom, A.S.R. Mohamed, C.D. Fuller, L.B. Harrison, J.J. Caudell. 59th ASTRO Annual Meeting, 24-27 September, 2017, San Diego, CA, USA. International Journal of Radiation Oncology • Biology • Physics, Vol. 99, Issue 2, E715.
83. M. Shafiq-ul-hassan, G.G. Zhang, K. Latifi, D.C. Hunt, R.J. Gillies, **E.G. Moros**. Validation of Voxel-Size Normalization of CT Radiomic Features in Lung Cancer Patients. Poster presentation in 59th ASTRO Annual Meeting, 24-27 September, 2017, San Diego, CA, USA. International Journal of Radiation Oncology • Biology • Physics, Vol. 99, Issue 2, E721.
84. Tafreshi NK, Pandya DN, Doligalski ML, Tichacek CJ, Budzevich MM, Ruiz E, Delva NC, Bhatt NB, Kil HJ, Weaver A, Gibbons WR, Khushalani N, El-Haddad G, **Moros E**, Wadas TJ, McLaughlin ML, Morse DL. Melanocortin 1 Receptor Targeted Alpha-particle Therapy for Uveal Melanoma. Moffitt Scientific Symposium 2017, Tampa, FL.
85. Tichacek C, Budzevich M, Martinez G, **Moros E**, Morse D. (2017) Precise Monte Carlo Simulations of NaI(Tl) Spectra for Measurement of 225Ac Targeted Alpha Particle Bio-Distribution. Moffitt Scientific Symposium 2017, Tampa, FL.
86. Gintz D, Ahmed S, **Feygelman V**, Caudell J, **Zhang G**, **Moros E**, Nelms B. “A novel method for a priori estimation of “best possible sparing” DVH for organs at risk: Validation for head and neck VMAT planning.” ASTRO Annual Meeting, San Diego, CA, 2017.
87. Shafiq-ul-Hassan M, Zhang G, Latifi K, Hunt D, Ullah G, Gillies R and **Moros E**, Relating reconstruction kernel-induced variability in CT radiomic features with noise power spectra, (Oral Presentation) Moffitt’s Radiomics Workshop, Clearwater, FL, October 23-24, 2017.
88. Tafreshi NK, Pandya DN, Doligalski ML, Tichacek CJ, Budzevich MM, Ruiz E, Delva NC, Bhatt NB, Kil HJ, Weaver A, Gibbons WR, Khushalani N, El-Haddad G, **Moros E**, Wadas TJ, McLaughlin ML, Morse DL. (2017) Melanocortin 1 Receptor Targeted Alpha-particle Therapy for Uveal Melanoma. Moffitt Scientific Symposium, Tampa, FL.

2018:

89. Paul R, Shafiq-ul-Hassan M, **Moros E**, Gillies R, Hall L, Goldgof D, Stability of deep features across CT scanners and Field Of View (FOV) using a physical phantom, paper, SPIE Medical Imaging Conference, Texas, February 2018.
90. Ahmed S, Kapatoes J, Zhang G, **Moros E**, Feygelman V. Validation of a hybrid verification technique for patient specific QA of single isocenter multi-metastatic SRS treatments. FLAAPM Spring Meeting, February 22-24, 2018, Orlando, FL (Oral presentation).
91. Ahmed S, Kapatoes J, Zhang G, **Moros E**, Feygelman V. PO-BPC-Foyer-32: Evaluation of a hybrid verification technique for pre-treatment QA of single isocenter multi-metastatic SRS treatments. AAPM Spring Meeting April 7-10, Las Vegas, NV. J. Appl. Clin. Med. Phys. 19(3), 381, 2018.
92. Grass GD, Chou K, Zhang G, Liveringhouse C, Latifi K, Arrington J, **Moros E**, Yu M. Development of Relapse-Free Survival Classifiers in Glioblastoma Patients by Integrating Multiparametric Magnetic Resonance Imaging Features. 60th Annual American Association of Physicists in Medicine. Nashville, TN July 29-August 2 2018.
93. Shafiq-ul-Hassan M, Zhang G, Latifi K, Ullah G, Gillies R and **Moros E**, Impact of X-ray beam quality on CT radiomic features across multiple scanners. (Oral presentation in 60th AAPM Annual Meeting, July 29-August 02, 2016, Nashville, TN, USA).
94. Tichacek, C. J., Budzevich, M. M., Tafreshi, N. K., Wadas, T. J., McLaughlin, M. L., Morse, D. L., & **Moros, E. G.** (2018, June). Biodistribution and Pharmacokinetic Analysis of a Targeted Alpha Particle Therapy. Medical Physics, Vol. 45, No. 6, pp. E575-E575. (Oral presentation in 60th AAPM Annual Meeting, July 29-August 02, 2016, Nashville, TN, USA).
95. Anupam Rishi, India Eaford, Geoffrey G. Zhang, Alexander Viera, Kujtim Latifi, Jessica M. Frakes, Jose M. Pimiento, Jacques-Pierre Fontaine, Vladimir Feygelman, **Eduardo G. Moros**, Louis B. Harrison, Peter A. Johnstone, Sarah E. Hoffe, "Radiomic signatures for prediction of pathological response following neoadjuvant chemoradiotherapy in esophageal cancer", IUPESM 2018, Prague, Czech Republic, 2018.
96. Anupam Rishi, Ethan Song, Geoffrey Zhang, Kujtim Latifi, India Eaford, Alexander Mviera, Jose Pimiento, Jacques Fontaine, **Eduardo Moros**, Louis Harrison, Sarah Hoffe, Jessica Frakes. Integrated CT and 18F-FDG PET based Radiomic Prediction Models for Pathological Response and Outcome in Esophageal Cancer Patients treated with Neoadjuvant Chemo-radiotherapy and Esophagectomy. Poster #: SU-10-2093, ASTRO 2018.
97. Tichacek CJ, Budzevich MM, Morse DL, Moros EG. (2018) A Monte Carlo Method for Determining the Response Relationship Between Two Commonly Used Detectors to Indirectly Measure Alpha Particle Activity. NCI Workshop on Dosimetry of Systemic Radiopharmaceutical Therapy (SRT), Bethesda, MD, 2018.
98. Tichacek CJ, Budzevich MM, Moros EG, Morse DL. (2018) Multicompartment Pharmacokinetics Modeling of ²²⁵Ac-based Targeted Alpha Particle Therapy. NCI Workshop on Dosimetry of Systemic Radiopharmaceutical Therapy (SRT), Bethesda, MD, 2018.
99. Moros EG, Tichacek CJ, Budzevich MM, Morse DL. (2018) Voxel-based Radiation Dosimetry for Clinical Translation of Targeted Alpha Particle Therapy. NCI Workshop on Dosimetry of Systemic Radiopharmaceutical Therapy (SRT), Bethesda, MD, 2018.

2019:

100. Taylor M, Gintz D, Caudell J, Feygelman F, Latifi K, **Moros EG**. A statistical comparison of OAR doses between Helical Tomotherapy and VMAT plans, Abstract: F67.00008. American Physical Society, Boston, MA, March 4-8, 2019.
101. Tafreshi NK, Kil HJ, Pandya DN, Doligalski ML, Tichacek CJ, Budzevich MM, Delva NC, Bhatt NB, Langsen ML, **Moros EG**, Wadas TJ, McLaughlin ML, Morse DL. Lipophilicity Determines Route of Clearance of a Melanocortin 1 Receptor Targeted Radiopharmaceutical. SNMMI annual meeting, Anaheim, CA, J Nucl Med 2019;60:546.
102. Hyun Joo Kil, Narges Tafreshi, Darpan Pandya, Michael Doligalski, Chris Tichacek, Mikalai Budzevich, **Eduardo G. Moros**, Thad Wadas, David Morse, Mark McLaughlin. La-DOTA-

- melanocortin 1 receptor targeting ligand clearance route is controlled by linker polarity. American Cancer Society Meeting, March 2019.
103. S Ahmed, G Zhang, **E Moros**, V Feygelman. Evaluation of a Dense Planar Diode Array for True Composite SRS Measurements. PO-BPC-Exhibit Hall-10, AAPM Spring Clinical Meeting 2019.
 104. Tafreshi NK, Tichacek CJ, Pandya DN, Kil HJ, Budzevich MM, **Moros EG**, McLaughlin ML, Wadas TJ, Morse DL. (2019) Development of a ⁶⁷Ga-DOTA-MC1RL companion SPECT imaging tracer for a uveal melanoma targeted alpha-particle therapy. 2019 Moffitt Scientific Symposium, Tampa, FL.
 105. Rahul Paul, Muhammad Shafiq-ul-Hassan, **Eduardo Moros** (presenter), Robert Gillies, Lawrence Hall, Dmitry Goldgof. Stability of Deep Features Across CT Scanners and Field of View using a Physical Phantom. Varian Research Partnership Symposium, May 12-15, 2019 Chicago, IL.
 106. C Tichacek, M Budzevich, N Tafreshi, B Miller, H Kil, T Wadas, M McLaughlin, D Morse, **E Moros**. Spatial Distribution of Targeted Alpha Particle Therapy in Rat Kidney. TU-F115-GePD-F1-01. AAPM 61st Annual Meeting, San Antonio, TX, 2019.
 107. M Shafiq-ul-Hassan, F Guo, H Chen, G Zhang, **E Moros**, Z Chen. Subset of Reproducible Radiomic Features as a Function of Multiple CT Imaging Parameters. SU-I430-GePD-F9-06. AAPM 61st Annual Meeting, San Antonio, TX, 2019.
 108. M Shafiq-ul-Hassan, F Guo, H Chen, G Zhang, **E Moros**, Z Chen. Step-Wise Solution to Evaluate CT Radiomic Feature Variability Due to Correlated Noise Texture. SU-I430-GePD-F9-05. AAPM 61st Annual Meeting, San Antonio, TX, 2019.
 109. Z.M. Yuan, G.G. Zhang, K. Latifi, **E.G. Moros**, S. Felder, J. Sanchez, S. Dessureault, I. Imanirad, R. Kim, L.B. Harrison, S. Hoffe, J.M. Frakes. Composite Pretreatment CT and ¹⁸F-FDG PET Radiomic-Based Prediction of Pathological Response of Rectal Cancer Patients Treated with Neoadjuvant Chemoradiotherapy. Proceedings of the American Society for Radiation Oncology 61st Annual Meeting, International Journal of Radiation Oncology Biology Physics, Vol. 105, Issue 1, Supplement, 1 September 2019, Page E177.
 110. M. Zahid, D. Glazar, R. Brady, **E.G. Moros**, L.B. Harrison, J.J. Caudell, H. Enderling. Proliferation Saturation Index to Prospectively Predict Patient-Specific Responses to Radiation in Oropharyngeal Cancer. Proceedings of the American Society for Radiation Oncology 61st Annual Meeting International Journal of Radiation Oncology Biology Physics, Vol. 105, Issue 1, Supplement, 2019, Page E792.
 111. Mohammad U. Zahid, Nuverah Mohsin, Daniel Glazar, Renee Brady, **Eduardo G. Moros**, Louis B. Harrison, Jimmy J. Caudell, Heiko Enderling. Predicting Patient-Specific Responses to Radiation in Oropharyngeal Cancer: Tumor Volume Reduction versus Carrying-Capacity Reduction. 3rd Annual CBE Symposium Program, MCC October 14, 2019.
 112. Zhigang Yuan, Geoffrey G. Zhang, Kujtim Latifi, **Eduardo G. Moros**, Vladimir Feygelman, Seth Felder, Julian Sanchez, Sophie Dessureault, Iman Imanirad, Richard D. Kim, Louis B. Harrison, Sarah E. Hoffe, Jessica M. Frakes. A radiomics approach to predict pathological response in rectal cancer: a retrospective cohort study. World Molecular Imaging Congress (WMIC), September 4-7, 2019 - Montréal, Québec, Canada, 2019.

2020:

113. Christopher J. Tichacek, Mikalai M. Budzevich, David L. Morse and **Eduardo G. Moros**. Development of A Monte Carlo Voxel-Based 3d Radiodosimetry Method For A Targeted Alpha Particle Therapy. International Conference on Mini-Micro-Nano-Dosimetry (MMND 2020), Abstract 127. Centre for Medical Radiation Physics (CMRP), University of Wollongong, NSW, Australia, February 12, 2020.
114. **Eduardo G. Moros**. Novel Medical Physics Approaches To Personalize Radiation Therapy. International Conference on Mini-Micro-Nano-Dosimetry (MMND 2020), Abstract 126, Centre for Medical Radiation Physics (CMRP), University of Wollongong, NSW, Australia, February 12, 2020.
115. Palm RF, Han Q, Latifi L, **Moros EG**, Zhang GG, Naghavi AO. MRI Radiomic Habitats Predict for Radiation Response in Soft Tissue Sarcoma. Proceedings of ASTRO annual meeting, Poster Q&A Session, Int J Radiat Oncol Biol Phys, Supplement, 2020;108(3):e1-e2, 2020.

116. Tomaszewski MR, Latifi L, Frakes JM, Ericsson-Szecsényi, RS, Kim DW, Denbo JW, Carballido EM, Hodul P, **Moros EG**, Hoffe S, Rosenberg SA, Harrison LB, Gillies RJ. Analysis of MR Guided SBRT Imaging Data for Quantification of Early Radiotherapy Response Signal in Pancreatic Adenocarcinoma, Proceedings of ASTRO annual meeting, Poster Q&A Session, Int J Radiat Oncol Biol Phys, Supplement, 2020;108(3):e283-e284.
117. J Koo, J Caudell, V Feygelman, **E Moros**, K Latifi. Training and Validation of a Commercial Deep Learning Contouring Platforms. Imaging ePoster PO-GeP-I-219, Virtual Joint AAPM/COMP Meeting, July 12 - 16, 2020.
118. R Ericsson-szecsényi, G Zhang, G Redler, K Latifi, V Feygelman, M Tomaszewski, **E Moros**. Identifying Robust Radiomic Features Extracted From Images Generated by 0.35T MR-Linac. Multi-Disciplinary General ePoster PO-GeP-M-239, Virtual Joint AAPM/COMP Meeting, July 12 - 16, 2020.
119. M Zahid, N Mohsin, A Mohamed, J Caudell, L Harrison, C Fuller, **E Moros**, H Enderling. Forecasting Individual Patient Response to Radiotherapy with a Dynamic Carrying Capacity Model, Multi-Disciplinary **Blue Ribbon ePoster** BReP-SNAP-M-75, Virtual Joint AAPM/COMP Meeting, July 12 - 16, 2020.
120. Q Han, R Palm, K Latifi, **E Moros**, A Naghavi, G Zhang. An Empirical Comparison of Weka Classifiers for Outcome Prediction Using An Imaging Habitats Definition and Feature Extraction Method On MRI, Imaging **Blue Ribbon ePoster** BReP-SNAP-I-5, Virtual Joint AAPM/COMP Meeting, July 12 - 16, 2020.
121. Mohammad Zahid, Nuverah Mohsin, Abdallah Mohamed, Jimmy Caudell, Louis Harrison, Clifton Fuller, **Eduardo Moros**, Heiko Enderling. Forecasting Response to Radiotherapy by Combining Historical Response Data and Clinical Measurements, Abstract ID: 1643, accepted for oral presentation at the Biomedical Engineering Society (BMES) Virtual Annual Meeting, October 14-17, 2020.

2021:

122. Mohammad U. Zahid, Abdallah SR Mohamed, Clifton D Fuller, Louis B. Harrison, **Eduardo G Moros**, Jimmy J Caudell, Heiko Enderling. Dynamics-Adapted Radiotherapy Dose (DARD) for head and neck cancer radiotherapy dose personalization", Seventh Computational Approaches for Cancer Workshop (CAFCW21) in conjunction with The International Conference for High Performance Computing, Networking, Storage, and Analysis (SC21), Poster, St. Louis, MO, November 14, 2021.
123. J. Koo, L. Nardella, M. Degnan, J. Andreozzi, H. Yu, J. Penagaricano, P. Johnstone, D. Oliver, K. Ahmed, S. Rosenberg, E. Wuthrick, R. Diaz, V. Feygelman, **E. Moros**, G. Redler, Clinical Implementation and Utility of Triggered kV Imaging During Spine Stereotactic Body Radiotherapy for Intrafraction Motion Management, 63rd ASTRO Annual Meeting, Chicago, October 2021.
124. N. Nasser, J.J. Caudell, **E.G. Moros**, V. Feygelman, G. Redler, Initial plan quality evaluation using a novel AI-driven planning system and paradigm for adaptive head and neck patients, 63rd ASTRO Annual Meeting, Chicago, October 2021. International Journal of Radiation Oncology, Biology, Physics 2021;111(3) Sup:e97.
125. Zahid MU, Caudell JJ, **Moros EG**, Mohamed AS, Fuller CD, Harrison LB, Enderling. In Silico Trial to Estimate Personalized RT Dose in Head and Neck Cancer. 63rd ASTRO Annual Meeting, Chicago, October 2021. International Journal of Radiation Oncology, Biology, Physics, 2021;111(3) Sup:e146–e147.
126. Matthew Mills, Michal Tomaszewski, Kujtim Latifi, Vladimir Feygelman, Evan Wuthrick, **Eduardo Moros**, Sarah Hoffe, Jessica Frakes, Robert Gillies, Stephen Rosenberg. Radiomic Feature Changes in Adrenal Lesions Treated with MR-Guided Stereotactic Body Radiation Therapy, 63rd ASTRO Annual Meeting, Chicago, October 2021. International Journal of Radiation Oncology, Biology, Physics, 2021;111(3) Sup:S98–S99.
127. J. Koo, L. Nardella, M. Degnan, J. Andreozzi, H. Yu, J. Penagaricano, P. Johnstone, D. Oliver, K. Ahmed, S. Rosenberg, E. Wuthrick, R. Diaz, V. Feygelman, **E. Moros**, G. Redler, Feasibility of intrafraction motion management using triggered kV imaging during spine stereotactic radiosurgery,

63rd AAPM Meeting, Virtual, July 2021.

128. N. Nasser, J. Caudell, **E. Moros**, V. Feygelman, G. Redler, Evaluation of initial planning techniques for adaptive head and neck patients, 63rd AAPM annual meeting, Virtual, July 2021.
129. J. Koo, L. Nardella, M. Degnan, J. Andreozzi, M. Yu, J. Penagaricano, P. Johnstone, D. Oliver, K. Ahmed, S. Rosenberg, E. Wuthrick, R. Diaz, V. Feygelman, **E. Moros**, G. Redler, Triggered kV imaging during spine stereotactic body radiotherapy for intrafraction motion management, FLAAPM Spring Meeting Student Competition, March 2021. (*1st Place Fitzgerald Award*).

2022:

140. V Feygelman, K Latifi, M Bowers, K Greco, **E Moros**, M Isacson, A Angerud, J Caudell. Switching from Type B to Type C Dose Calculation Algorithm: Maintaining Treatment Planning Continuity in Head and Neck Treatments. Poster, AAPM Clinical Spring Meeting, New Orleans, LA, March 26-29, 2022.
141. N. Nasser, G. Yang, J. Caudell, **E. Moros**, V. Feygelman, G. Redler, Evaluation of Initial and Online Adapted Plan Quality in Ethos for Head and Neck Patients, Abstract 65445, 64th AAPM annual meeting, Washington DC, July 2022.
142. N. Nasser, B. Perez, J. Penagaricano, K. Latifi, **E. Moros**, J. Caudell, G. Redler, Feasibility of Novel Low Dose Radiation Treatment of Polymetastatic Disease in Stage IV NSCLC Patients Receiving Systemic Immunotherapy to Improve Response, Abstract 65871, 64th AAPM annual meeting, Washington DC, July 2022.
143. H. Enderling, M. Zahid, **E. Moros**, J. Caudell, A. Mohamed, C. Fuller, Personalization of Patient Specific Radiation Dose and Dose Fractionation Using Volumetric Tumor Dynamics, Abstract 65907, 64th AAPM annual meeting, Washington DC, July 2022.
144. P. G. Saghand, I. El Naqa, S. Rosenberg, J. Bryant, K. Latifi, J. Frakes, S. Hoffe, **E. Moros**, A Deep Learning Approach for Progression Prediction Using Morphological Changes in GTV During Treatment with MR-Guided Radiation Therapy, Abstract 66528, 64th AAPM annual meeting, Washington DC, July 2022.
145. I. Oraiqat, I. El Naqa, W. Zhang, N. Ba Sunbul, C. Tichacek, K. Chang, X. Wang, **E. Moros**, K. Cuneo, M. Matusza, P. Carson, D. Litzenberg, In Vivo Demonstration of 3D-Dosimetry and Radiation Beam Localization Via Ionizing Radiation Acoustics Imaging (iRAI) in a Rabbit Model, Abstract 66688, 64th AAPM annual meeting, Washington DC, July 2022.
146. Tomaszewski MR, Latifi K, Boyer E, Palm RF, El Naqa I, **Moros EG**, Rosenberg SA, Hoffe SE, Frakes JM, Gillies RJ. . Magnetic Resonance guided radiotherapy imaging data for treatment response prediction in pancreatic cancer, Abstract 3285 (Poster). ISMRM, London, England, United Kingdom, May 7-12, 2022.
147. Feygelman V, **Moros E**, Caudell J. Can we show that technology makes a clinical difference? IUPESM World Congress and Biomedical Engineering, Singapore, June 12-17, 2022. Abstract ID;161. *Selected for oral presentation*.
148. William R. Gibbons, BS; Tuan T. Phung, BS; Ghassan El-Haddad, MD; **Eduardo G. Moros**, PhD; Christopher J. Tichacek, PhD. An end-to-end validation study of ⁹⁰Y microsphere post administration dosimetry software. Poster PS5-51, Radiation Research Society annual meeting, Waikoloa, HI, October 16-19, 2022.

2023:

149. Wei Zhang, Ibrahim Oraiqat, Dale Litzenberg, Kai-Wei Chang, Scott Hadley, Noora Sunbul, Martha Matuszak, Christopher Tichacek, **Eduardo G. Moros**, Paul Carson, Kyle Cuneo, Xueding Wang, Issam M. El Naqa, Quantitative ionizing radiation acoustic imaging (iRAI) for mapping the dose deep in the liver during radiation therapy, SPIE Conference 12379, Photonics West, Paper 12379-5, San Francisco, CA, Jan 2023.
150. Ibrahim Oraiqat, Wei Zhang, Noora Sunbul, Christopher Tichacek, Kai-Wei Chang, Xueding Wang, **Eduardo G. Moros**, Kyle Cuneo, Martha Matuszak, Paul Carson, Dale Litzenberg, Issam M. El Naqa, In Vivo Demonstration of 3D-Dosimetry and Radiation Beam Localization via Ionizing

- Radiation Acoustics Imaging (iRAI) in a Rabbit Model. BioEngineering in Cancer Summit, BAM For the Cure, Tampa, Florida, February 15-16, 2023.
151. Zhang W, Oraiqat I, Litzenberg D, Chang K-W, Hadley S, Ba Sunbul N, Matuszak MM, Tichacek C, **Moros EG**, Carson PL, Cuneo KC, Wang X, El Naqa I. 434 Ionizing radiation acoustic imaging (iRAI) for volumetric mapping the dose deep in the liver during radiation therapy. *Journal of Clinical and Translational Science Abstract Collection*. Abst# 434, 2023;7(s1):129. [10.1017/cts.2023.463](https://doi.org/10.1017/cts.2023.463).
 152. Jihye Koo, Jimmy J Caudell, Kujtim Latifi, **Eduardo G Moros**, and Vladimir Feygelman, “Unedited deep learning based OARs are suitable for rigorous head and neck treatment planning”, ESTRO 2023 (European Society of Radiotherapy and Oncology) annual conference, May 13-16, Vienna, Austria. Radiotherapy and Oncology, PD-0325, Vol. 182, Supplement 1, pp. S259-S260. [https://doi.org/10.1016/S0167-8140\(23\)08856-4](https://doi.org/10.1016/S0167-8140(23)08856-4).
 153. J.M. Bryant, P.G. Saghand, K. Latifi, J. Frakes, S. Hoffe, **E. Moros**, K. Mittauer, R. Kotecha, I. El Naqa, S. Rosenberg, A novel multi-task hybrid deep neural network (DNN) predicts tumor progression during MRgRT, ESTRO 2023 (European Society of Radiotherapy and Oncology) annual conference, May 13-16, Vienna, Austria. MO-0959 Radiotherapy and Oncology, Vol. 182, Supplement 1, pp. S807-S808, doi:[10.1016/S0167-8140\(23\)08499-2](https://doi.org/10.1016/S0167-8140(23)08499-2).
 154. J. Weygand, T. Armstrong, J. Bryant, J. Andreozzi, I.M. Oraiqat, C.L. Liveringhouse, K. Latifi, K. Yamoah, J.R. Costello, **E.G. Moros**, I.M. El Naqa, A.O. Naghavi, S.A. Rosenberg, G. Redler, A novel multi-task hybrid deep neural network (DNN) predicts tumor progression during MRgRT, ESTRO 2023 (European Society of Radiotherapy and Oncology) annual conference, May 13-16, Vienna, Austria. PO-1820 Radiotherapy and Oncology, Vol. 182, Supplement 1, pp. S1549-S1551, [https://doi.org/10.1016/S0167-8140\(23\)66735-0](https://doi.org/10.1016/S0167-8140(23)66735-0).
 - 155.

Invited Symposia, Seminars and Lectures

(listed chronologically, most recent first)

1. *A Vignette on the Impact of Bob Gillies on Radiation Oncology Research at the Moffitt Cancer Center*, presented at The Dr. Robert Gillies Machine Learning Workshop in Image Analytics, Hyatt Regency Hotel, Clearwater, November 14, 2022.
2. *Development of A Monte Carlo Voxel-Based 3D Radiodosimetry Method for A Targeted Alpha Particle Therapy*. International Conference on Mini-Micro-Nano-Dosimetry (MMND 2020), Centre for Medical Radiation Physics (CMRP), University of Wollongong, NSW, Australia, February 12, 2020.
3. *Novel Medical Physics Approaches to Personalize Radiation Therapy*. International Conference on Mini-Micro-Nano-Dosimetry (MMND 2020), Centre for Medical Radiation Physics (CMRP), University of Wollongong, NSW, Australia, February 12, 2020.
4. *Medical Physics Advances to Personalize Radiation Therapy*. University of Arkansas for Medical Sciences, Winthrop P. Rockefeller Cancer Institute’s Forum, Little Rock, AR, November 18, 2019.
5. *Further Personalization of Radiation Therapy Using Existing Data*. AAPM Florida Chapter meeting (FLAAPM), St. Petersburg, FL, September 26-27, 2019.
6. *Radiomics, Imaging Habitats and Mathematics for the Personalization of Radiation Therapy – Recent Research and a Vision for the Future*. Division of Radiation Oncology, MD Anderson Cancer Center, Houston, TX, December 14, 2018.
7. *Recent History of Errors in Radiation Therapy and National Mitigating Initiatives*. Moffitt Cancer Center Radiation Oncology Conference & Workshops, Jan 25-27, 2018, Tampa, FL.
8. *Avances de La Física Medica en la Radioterapia Corporal Ablativa Estereostática para Tumores de Pulmón*. ASTRO annual meeting, Latin American Refresher Course, International Session 1, Boston, MA, Sept 24-28, 2016.
9. *Implementation of QA Procedures and Their Effects on the Radiation Treatment Delivery Error Rate*.

- ASTRO annual meeting, Latin American Refresher Course, International Session 1, San Antonio, TX, October 17-21, 2015.
10. *Avances Modernos para Desarrollar Programas de Radioterapia y Radiocirugía Estereotáctica Fraccionada para Tumores de Pulmón*. XVI Congreso Internacional de la Sociedad Dominicana de Hematología y Oncología, y 2da. Jornada Científica del Instituto de Oncología Dr. Heriberto Pieter, Punta Cana, Republica Dominicana, Julio 29 – Agosto 1, 2015.
 11. *Scanned Focused Ultrasound Hyperthermia—There and Back Again*. 24th J. Eugene Robinson Award Lecture, 30th Annual Meeting of the Society for Thermal Medicine, Aruba, April 20th, 2013
 12. *Potentialities in Radiation Oncology: HIFU, DMH-Based Optimization, and Evolutionary Dynamics*. Department of Medical Physics, Memorial Sloan-Kettering Cancer Center, New York, NY, January 7, 2013.
 13. *Potential Application of Image Feature Analysis in IGRT*. Invited Professor, Servicio de Radiofísica y Protección Radiológica, Hospital Universitario Puerta de Hierro Majadahonda, Madrid, Spain, December 13, 2012.
 14. *Total Energy Optimization in Radiation Treatment Planning*. Invited Professor, FisyMat Advanced Course on Cancer Modeling: Evolutionary Issues and Radiotherapy Methods, Facultad de Ciencias, Universidad de Granada, Spain, December 11, 2012.
 15. *The Prospect of Focused Ultrasound Therapeutic Interventions in Radiation Oncology*. Department of Radiation Oncology, Mallinckrodt Institute of Radiology, Washington University School of Medicine, St. Louis, MO, August 24, 2012.
 16. *Bob, STRT, Fractionation and Evolutionary Dynamics*. Robert J. Myerson, Ph.D., M.D. Symposium. Department of Radiation Oncology, Washington University in St. Louis, June 5, 2012.
 17. *SonoKnife: Development, Testing and Treatment Planning*. American Association of Physicists in Medicine meeting (Joint AAPM-COMP meeting), Special Therapeutic Ultrasound Symposium – Novel Technologies & Therapeutic Strategies, Vancouver, Canada, August 3, 2011.
 18. *Development of Ultrasound Devices for Research and Therapy*. Department of Radiation Oncology, Montefiore Center for Radiation Therapy and Albert Einstein College of Medicine of Yeshiva University, Bronx, New York, January 28, 2011.
 19. *Strategies for Developing a Successful Comprehensive Medical Physics Group*. Departments of Radiology and Radiation Oncology, H. Lee Moffitt Cancer Center and Research Institute, Tampa, Florida, August 26, 2010.
 20. *SonoKnife -- Feasibility of Line-Focused Ultrasound for Thermal Ablation*. American Association of Physicists in Medicine meeting, Session on Advances of Image-Guided Interventions, Philadelphia, PA, July 21, 2010.
 21. *Accidents and Errors in XXI Century Radiation Therapy (a review of recent literature and reports in the New York Times)*. University of Arkansas for Medical Sciences, Winthrop P. Rockefeller Cancer Institute Grand Rounds, Little Rock, AR, Mar 24, 2010.
 22. *Integrated Robotic-Based Irradiation System*. Therapy session on Technical and Biological Innovations in Small Animal Image-Guided Radiotherapy. Industrial Physics Forum 2009 on Frontiers in Quantitative Imaging for Cancer Detection and Therapy, American Institute of Physics, co-hosted by the AAPM 51st annual meeting, July 26-28, Anaheim, CA.
 23. *High Resolution Thermal and SAR Models for Millimeter Waves Nociception Mechanism Investigation*. Non-Lethal Weapons & EM Fields Annual Review, Office of Naval Research, Arlington, VA, June 29, 2009.
 24. *A New Ultrasound System for Simultaneous Hyperthermia and IMRT*. Workshop for Clinicians, Engineers, and Investigators: Disease Site-Specific Applicators: What Clinicians Need, What's Available, and What's Being Developed. Society for Thermal Medicine annual meeting, Tucson, AZ, Sunday April 5, 2009.
 25. *Development of a Laboratory Animal Conformal Radiation Therapy System from the Ground Up*.

- Workshop 2 on Small Animal Precision Irradiation and Imaging, 54th Annual Meeting of the Radiation Research Society, Boston, MA, Sunday September 21, 2008.
26. *System for 3D Conformal Radiation of Laboratory Animals*. University of Arkansas for Medical Sciences, Winthrop P. Rockefeller Cancer Institute Grand Rounds, Little Rock, AR, Sep 18, 2008.
 27. *Thermal Modeling of In Vitro GHz Applicators for Concurrent Optical Microscopy*. Non-Lethal Weapons Bioeffects (6.1) Program, Office of Naval Research, Arlington, VA, July 17-18, 2007.
 28. *Hyperthermia for Superficial Breast Cancer*. Rural Hospital Program of UAMS. Tele-lecture from UAMS to multiple sites around Arkansas. April 3, 2007.
 29. *Use of Hyperthermia in Breast Cancer*. Breast Cancer Challenge 2007, Big Cedar Lodge, Ridgedale, MO, February 17-19, 2007.
 30. *SACRTD – A Small Animal Conformal Radiation Therapy Device—Rationale and Prospects*. Dean's Research Forum, College of Medicine, University of Arkansas for Medical Sciences, Little Rock, AR, August 22, 2006.
 31. *Clinical Strategies for Biologically Meaningful Thermoradiotherapy*. Department of Radiation Oncology, University of Arizona Health Sciences Center, Arizona Cancer Center, Tucson, AZ, April 3, 2006.
 32. *Thermoradiotherapy, HIR and Re-oxygenation*. University of Arkansas for Medical Sciences, Arkansas Cancer Research Center Grand Rounds, Little Rock, AR, June 15, 2005.
 33. *Thermoradiotherapy R&D at WU ROD*. University of Arkansas for Medical Sciences, Department of Radiation Oncology, March 14, 2005.
 34. *WU Clinical Systems for Simultaneous Thermoradiotherapy and Monitoring Heat-Induced Tumor Oxygenation with a New Hypoxia PET Marker*. Department of Radiation Oncology, University of Virginia, Charlottesville, VA, April 25, 2005.
 35. *Highlights of Engineering/Physics*. Plenary Session: Open Discussion on the State of Thermal Medicine, Summarized and discussed Engineering/Physics oral/poster presentations given during the Society for Thermal Medicine 2005 meeting, Bethesda, MD, April 3.
 36. *SURLAS*. Plenary Session – Engineering/Physics, Society for Thermal Medicine 2005 annual meeting, Bethesda, MD, April 3.
 37. *Basic Bio-Heat Transfer Considerations and Effective Heating of Tumors in Animal Models*. STM Workshop on Thermal Medicine, Heat Shock Proteins and Cancer, NIH Natcher Center, Bethesda, MD, March 31, 2005.
 38. *Highlights of Physics/Engineering Presentations*. Summary of salient Physics and Engineering oral/poster presentations given during the 9th International Congress on Hyperthermic Oncology (ICHO 2004), St. Louis, MO, April 24.
 39. *The Development of Systems to Expose Cells and Animals to Electromagnetic Radiation. Engineering Experience and Summary of Biological Results*. University of Memphis & University of Tennessee Health Science Center, Joint Graduate Program in Biomedical Engineering, Spring 2004 Seminar Series, March 12, 2004.
 40. *The Washington University Radial Transmission Line In Vitro Irradiation Facility*. Department of Bioengineering, University of Illinois – Chicago, March 21, 2003.
 41. *Why is Non-Invasive Thermometry Important for Thermal Therapies?* Research Review, Department of Electrical Engineering, Washington University in St. Louis, April 5, 2002.
 42. *The Radial Transmission Line In Vitro Irradiation System for RF Bioeffects Studies*. Radiofrequency Micronucleus Working Group, Food and Drug Administration, Rockville, MA, August 1, 2000.
 43. *Careers in Science Lecture Series*. Southern Illinois University at Edwardsville. Public series targeted to under-represented students interested in learning about scientific and technical careers. Speakers: women and minorities professionals. Invited lecture, December 4, 1999.
 44. *Physical Aspects of Ultrasound Hyperthermia of the Chest Wall*. First Joint Meeting of the Biomedical

- Engineering Society (BMES) and the IEEE Engineering in Medicine and Biology Society (EMBS), Atlanta, GA, October 13-16, 1999.
45. *Can Recent Developments in Hyperthermia Technology be Applied to Physical Therapy?* University of Texas Health Sciences Center, San Antonio, Department of Physical Therapy, November 21, 1997.
 46. *Present and Future Devices For Simultaneous Thermoradiotherapy of Superficial Tumors.* Symposium on Hyperthermia, 2nd World Congress for Electricity and Magnetism in Biology and Medicine, Bologna, Italy, June 8-13, 1997.
 47. *Concurrent External Beam Radiation and Ultrasound Hyperthermia: Devices, Clinical Process and Temperature Distributions.* Workshop on "Hyperthermia Treatment Systems in North America: Are We Ready for a Clinical Trial?" NAHS 16th Annual Meeting, Providence, RI, May 3-7, 1997.
 48. *Simultaneous Thermoradiotherapy at Washington University.* Duke Medical Center, Department of Radiation Oncology Grand Rounds, October 3, 1996.
 49. *Lateral Conformability and Penetration Depth Controllability Using Ultrasound Arrays and Reflectors.* 1996 Surgical Application of Energy Sources Conference, Estes Park, CO, May 17-19, 1996.
 50. *Simultaneous Ultrasound Hyperthermia and Ionizing Radiation.* The Conference for Ultrasonics in Biophysics and Bioengineering, 1995 Topic: Ultrasonic Therapy, Allerton Park, Monticello, IL, Bioacoustics Research Laboratory, University of Illinois-Urbana, May 30-June 2, 1995.
 51. *A Scanned-Reflected Ultrasound Applicator for Simultaneous Thermoradiotherapy.* 3rd Annual Biological & Biomedical Engineering Workshop, Washington University, St. Louis, May 16, 1995.
 52. *Quality Assurance Needs in Future Clinical Trials.* Joint RRS and NAHS (15th) annual meeting, San Jose, CA, April 1-6, 1995.
 53. *Simultaneous Thermoradiotherapy of Superficial Tumors: Physical Aspects and Clinical Experience.* Symposium on Simultaneous Hyperthermia and Radiation Treatments: Physical Feasibility, chaired by K. Hynynen. Joint RRS and NAHS (15th) annual meeting, San Jose, CA, April 2, 1995.
 54. *A Scanning Ultrasound Reflector Linear Array System (SURLAS) for Simultaneous Thermo-Radio-Therapy (STRT).* Session on "Therapeutic uses of Ultrasound", AAPM 36th Annual Meeting, Anaheim, California, July 24-28, 1994.
 55. *Temperature Distributions Measured During Interstitial Microwave Hyperthermia. The RTOG 84-19 Data.* NAHS 14th Annual Meeting, Nashville, TN, April 29-May 4, 1994.
 56. *Simultaneous Ultrasound Hyperthermia and External Beam Teletherapy.* Missouri River Valley Chapter, AAPM, 1993 Scientific Meeting, St. Louis, MO, October 23, 1993.
 57. *Simultaneous Delivery of External Photon/Electron Beam Radiation & Superficial Microwave/Ultrasound Hyperthermia.* Department of Radiation Oncology Grand Rounds, University of California-San Francisco, September 14, 1993.

Other Research and Creative Works (MCC):

Clinical and Pre-Clinical Protocols:

MCC Protocol No.	Additional Protocol No.	Title	PI Name	Current Status	Role
16640	Pro4781 USF IRB	Discovery of a MicroRNA Signature to Differentiate Between High-Grade and Low or Moderate-Grade Intraductal Papillary Mucinous Neoplasms of the Pancreas	Permeth, Jenny	Completed	Co-I

17062	Pro7930 USF IRB	Retrospective Study of Regional Lung Ventilation Change Using Pre - and Post-Treatment 4D-CTs	Zhang, Geoffrey	Completed 3/26/2018	Co-I
17064	Pro9323 USF IRB	Retrospective Analysis of Patients with Head and Neck Malignancies (primary and metastatic) Treated with External Beam Radiation at MCC	Caudell, Jimmy	Open 08/16/2012 7/29/2019	Co-I
17070	Pro9571 USF IRB	Pilot Study of Regional Lung Ventilation: Comparing Ventilation Images Computed from 4D CTs vs. Traditional Nuclear Medicine Ventilation images	Dilling, Thomas	Completed 8/25/2016	Co-I
18800	Pro26984 USF IRB	Automated Bladder Volume Determination from Daily Conebeam CT Imaging	Johnstone, Peter	Completed 6/05/2018	Co-I
18883	Pro28086 USF IRB	Retrospective Analysis of Patients with Thoracic Malignancies (primary and metastatic) Treated with External Beam Radiation or Brachytherapy	Dilling, Thomas	Open 12/01/2016	Co-I
19599	Pro35641 USF IRB	Total Tumor Mapping (TTM) for Resectable Pancreatic Cancer: Establishing the Radiomic/Pathologic Foundation of Heterogeneity	Hoffe, Sarah	Withdrawn 12/11/2020	Co-I
19868	Pro32117 Advarra IRB	First in Human Phase I Study of 225Actinium-DOTA-Ahx-MC1RL (225Ac-MTI-201) in Metastatic Melanoma	Khushalani, Nikhil	Open 12/2021	Co-I
20383	Pro40260 Advarra IRB	Retrospective Analysis of Patients Treated with MR-Guided External Beam Radiation at MCC	Rosenberg, Stephen	Open 11/14/2019	Co-I
20750	Pro40260	Optimal Decision Making in Oncology Using Panomics Analytics	El Naqa, Issam	Open 07/24/2020	Co-I
IACUC	IS1378	Optimization of concurrent radiotherapy and immunotherapy to induce abscopal responses in metastatic breast cancer	Enderling, Heiko	Completed 10/4/2018	Co-I
IACUC	IS5474	Optimization of concurrent Radiotherapy and Immunotherapy to induce abscopal responses	Enderling, Heiko	Completed 10/13/2021	Co-I
IACUC	IS8026	Combined radiation acoustics and ultrasound imaging for real-time guidance in radiotherapy.	El Naqa, Issam	Completed 06/23/2023	Co-I
IACUC	IS8036	Cerenkov Multi-Spectral Imaging (CMSI) for Adaptation and Real-Time Imaging in Radiotherapy	El Naqa, Issam	Completed 06/17/2022	Co-I
IACUC	IS9736	Predict radiation-induced shifts in patient-specific tumor immune ecosystem composition to harness immunological consequences of radiotherapy	Enderling, Heiko	Open 08/20/2021	Co-I
IACUC	IS10822	An Ionizing Radiation Acoustics Imaging (iRAI) Approach for guided Flash Radiotherapy	El Naqa, Issam	Open 06/01/2022	Co-I
IACUC	IS11938	Cerenkov Multi-Spectral Imaging (CMSI) for Real-Time Spectroscopic Imaging in Radiotherapy	El Naqa, Issam	Open 06/01/2023	Co-I

Media: Videos, Articles, Webpages, etc.

Radiotherapia. Despierta Tampa Bay. Moffitt Cancer Center. Published on Nov 30, 2016.
<https://www.youtube.com/watch?v=78I0pif0SeU&list=PLR4CAMZRCyxZJqBaf1PfuBbiR7pcCykcE>

Diagnóstico por Imagenes. Despierta Tampa Bay. Moffitt Cancer Center. Published on Jan 31, 2017.

<https://www.youtube.com/watch?v=PJJ2SGK-ic&list=PLR4CAMZRCyxZJqBaf1PfuBbiR7pcCykcE>

Invited to James A. Purdy's 15th Annual Purdy Lectureship & Reunion at the Department of Radiation Oncology, Washington University School of Medicine, April 12, 2019.

<https://radonc.wustl.edu/dr-purdy-honored-at-the-15th-annual-purdy-lectureship/>

Google Scholar Webpage: <https://scholar.google.com/citations?user=BslTuE0AAAAJ>

LinkedIn Webpage: <https://www.linkedin.com/in/eduardomoros/>

ORCID Webpage: <https://orcid.org/0000-0003-1964-2460>

ResearchGate Website: <https://www.researchgate.net/profile/Eduardo-Moros>

Professional Development

(listed chronologically)

- Third International Brachytherapy and Remote Afterloading Symposium and Workshop, Mallinckrodt Institute of Radiology, WUSM, May 19-21, 1993
- Surgical Applications of Energy Sources Workshop. Valleylab, Inc., Estes Park, CO, May 17-19, 1996. Participated both as an attendee and an instructor
- Therapy Physics Review Course (two days), AAPM, Pittsburg, PA, July 2004
- Workshop on Thermal Medicine, Heat Shock Proteins and Cancer, Society for Thermal Medicine, NIH Natcher Center, Bethesda, MD, March 31, 2005. Participated both as an attendee and an instructor
- New Methods and Technology in Seeds Brachytherapy for Prostate Cancer Clinical Workshop. Tom Baker Cancer Centre – Nucletron. Calgary, Alberta, Canada, September 26-27, 2005
- Gamma Knife Training Course. The Cleveland Clinic Health System Gamma Knife Center, Cleveland, OH, October 23-27, 2006 (36 hours)
- Tomotherapy Inc., Physics Training Program (33 hours), December 10-14, 2007, Madison WI
- Gamma Knife Perfexion Radiosurgery Course, Washington Hospital Healthcare System, Taylor McAdam Bell Neuroscience Institute, Fremont, CA, February 4-6, 2008 (21.75 hours)
- Radiomics Workshops organized by the Department of Cancer Physiology (formerly Cancer Imaging and Metabolism) (Moffitt) and attended by national and international researchers. Participant and presenter:
 - Clearwater Nov 1-2, 2012
 - Clearwater Oct 31-Nov 1, 2013
 - MD Anderson Cancer Center, Houston, Sep 29-30, 2014
 - Clearwater Oct 26-27, 2015
 - Clearwater Oct 24-26, 2016
 - Clearwater Oct 23-24, 2017
 - Clearwater Oct 16-17, 2018
 - Clearwater Oct 14-15, 2019
- Moffitt's Integrative Mathematical Oncology Workshop, Urogenital Team Leaders: Eduardo G. Moros and Heiko Enderling, Nov 18-22, 2013
- Moffitt Cancer Center Radiation Oncology Conference, Nov 14&15, 2014, Tampa, FL. (12 hours)
- IBPRO 2015: An Integrated Course in Biology and Physics of Radiation Oncology (ibpro.org), Wayne State University School of Medicine, Detroit, MI, May 3-8, 2015. (44.5 hours)
- Proton Therapy: Physical Principles and Practice, AAPM Summer School, Colorado Springs, CO, June 14-

- 18, 2015. (39 hours)
- BIG DATA WORKSHOP: Exploring Opportunities for Radiation Oncology in the Era of Big Data. Co-sponsored by AAPM, ASTRO and NCI. August 13-14, 2015, National Institutes of Health, Bethesda, MD. (15 hours)
 - IBPRO 2016: An Integrated Course in Biology and Physics of Radiation Oncology (ibpro.org), Wayne State University School of Medicine, Detroit, MI, May 4-7, 2016. Selected from previous years' participants to train as a course facilitator/leader.
 - Precision Medicine in Radiation Oncology: Personalizing Radiation Treatment, June 16-17, 2016, NIH Campus, Bethesda, MD. (15 hours)
 - NCI Workshop on Dosimetry of Systemic Radiopharmaceutical Therapy (SRT) / Targeted Radionuclide Therapy (TRT), Rockville, MD, April 19-20, 2018. (13 hours)
 - Practical Big Data Workshop 2018, AAPM Science Council FOREM, University of Michigan, Ann Arbor, June 1-2, 2018.
 - NCI Workshop on Artificial Intelligence in Radiation Oncology, Rockville, MD, April 4-5, 2019. (16 hours)
 - The Dr. Robert Gillies Machine Learning Workshop in Image Analytics, presenter and participant, Hyatt Regency Hotel, Clearwater, November 14 & 15, 2022.

▪ **Community Involvement**

2022 – pres Jesuit High School Dad's Club, Sabre Tooth Tiger Member (Dad of alumni).

2018 – 2022 Jesuit High School Dad's Club, Member. Over 50 hours a year in various school and community-building activities. Fundraising activities collected over half a million dollars a year toward student financial aid. <https://www.jesuittampa.org/page.cfm?p=611>