UW–MADISON AT AAPM 2025

AAPM 2025
JULY 27–30 | WASHINGTON, DC
67TH ANNUAL MEETING & EXHIBITION

COMING TOGETHER TO FORGE AHEAD
IN MEDICAL PHYSICS

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AAPM Full Program

75 Total Abstracts with UW-Madison authors

12 Invited Talks

16 Oral Presentations

32 Posters

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7 Oral talks with UW Co-Authors

4 Posters with UW Co-Authors

UW Faculty, Staff, and Students Share Authorship with

50+ Institutions

Across **6** Countries & **22** States

Sunday, July 27

UW–Madison Invited Program / Events

2:09-2:25 PM	**Field of Dream: Clinical Innovations in Low-Field MRI Linacs** **Carri K. Glide-Hurst, PhD** University of Wisconsin-Madison, Madison, WI	Therapy Physics	Room 202
2:53-3:11 PM	**Histrotripsy: Key Prelinical Translational Findings and Early Clinical Experience** **Paul F. Laeske, MD, PhD** University of Wisconsin-Madison, Madison, WI	Diagnostic & Interventional Radiology Physics	Room 207A
3:11-3:30 PM	**Imaging Strategies for Precise Histotripsy Treatment** **Martin G. Wagner, PhD** University of Wisconsin-Madison, Madison, WI	Diagnostic & Interventional Radiology Physics	Room 207A

UW–Madison Proffered Program

10:45-10:55 AM	**Mesial Temporal Tau-PET is Related to Diffusion Tensor Imaging Outcomes in Adults with Down Syndrome** **Lisette LeMerise, MS***, Matthew Zammit, PhD, Jose Guerrero-Gonzalez, PhD, et al.	Diagnostic & Interventional Radiology Physics	Room 207A
1:58-2:05 PM	**An Adjustable Wool Fiber Phantom for Investigating the Detection of Anisotropy with Ultrasound Speckle Statistics** **Alexandra Christensen, MS***, Ivan M. Rosado-Mendez, PhD, Timothy J. Hall, PhD	Ultrasound Specialty Program	Room 209
4:51-4:58 PM	**A GUI-Based Python Platform for the Quantification of Pre-Clinical Planar Optical Imaging Using 3D Anatomical Information** **Campbell Haasch***, Malick Bio Idrissou, PhD[2], Reinier Hernandez, PhD[2] et al.	Radiopharmaceuticals, Theranostics, and Nuclear Medicine	Room 209

Proffered Program with UW–Madison Co-Authors

10:22-10:29 AM	**Towards Real-Time Radiotherapy Monitoring By Cherenkov Imaging: Applications of Patient-Specific Bio-Morphological Features Segmented Via Deep Learning** **Yao Chen**[1], Shiru Wang[1], Lesley A Jarvis, MD, PhD[2] , et al. (1) Dartmouth College, Hanover, NH, (2) Dartmouth Cancer Center, Lebanon, NH	Therapy Physics	Room 209
11:00-11:15 AM	**Designing Impactful Radiotherapy Training for Skill Development and Long-term Growth** **Stephanie Bennett, PhD**[1], Sean L. Berry, PhD[2], Minsun Kim, PhD[3] , et al. (1)Department of Radiation & Cellular Oncology, University of Chicago, Chicago, IL, (2)Department of Medical Physics, Memorial Sloan Kettering Cancer Center, New York, NY, (3)University of Washington, Seattle, WA	Education	Room 204
12:09-12:16 PM	**Acute Workforce Shortages and Potential Solutions through Expanded Residency Training Infrastructure** Kristi Rae Gayle Hendrickson, PhD[1], **Jay W. Burmeister, PhD**[2], Christine M. Swanson, MMS, PhD[3], et al. (1)University of Washington, Seattle, WA, (2)Karmanos Cancer Center, Gershenson ROC, Wayne State University School of Medicine, Detroit, MI, (3)University of Louisville Brown Cancer Center, Louisville, KY	Professional	Room 209

*Graduate Student

Sunday, July 27

Poster Program

Located in the Exhibit Hall || Poster Lounge || 9:30-10:30 AM

Global Medical Physics Graduate Clinical Training and Development Program — Education
Shannon E. O'Reilly, PhD[1], Stephen M. Avery, PhD[2], Lyna Dinh[2], (1)University of Wisconsin, Madison, WI, (2)University of Pennsylvania, Philadelphia, PA,

Located in the Exhibit Hall || Poster Lounge || 3:30-4:30 PM

Comparison of Clinical Virtual Unenhanced and True Unenhanced Images on a Prototype Deep Silicon Photon-Counting Detector CT — Diagnostic & Interventional Radiology Physics
Aria M. Salyapongse*[1], Meghan Lubner, MD[2], Zhye Yin, PhD[3] , et al. (1)University of Wisconsin Madison, Department of Radiology, Madison, WI, (2)UW-Madison, Madison, WI, (3)GE Healthcare, Waukesha, WI

Iodine Quantification on a Prototype Deep Silicon Photon-Counting Versus Dual-Energy Energy-Integrating Detector CT — Diagnostic & Interventional Radiology Physics
Aria M. Salyapongse*[1], Teva Shapiro*[2], Zhye Yin[3] , et al. (1)University of Wisconsin Madison, Department of Radiology, Madison, WI, (2)UW-Madison, Madison, WI, (3)GE Healthcare, Waukesha, WI

Spectrometry-Based Determination of X-Ray Tube Endpoint Potentials — Diagnostic & Interventional Radiology Physics
Ryan Gardner*, John Thomas Stasko* IV, and Wesley S. Culberson, PhD University of Wisconsin-Madison, Madison, WI

Role of Medical Physicists in CT Contrast Optimization: A Case Study — Diagnostic & Interventional Radiology Physics
Zahra Alyani Nezhad*, Carrie Bartels, BSc, RT (R)(CT), Rachel Bladorn, BSc, RT (R)(CT), et al. University of Wisconsin-Madison, Madison, WI

Feasibility Study of Using HDR1000+ Well-Type Ionization Chambers for Solution Based ^{90}y Measurements — Radiopharmaceuticals, Theranostics, and Nuclear Medicine
Peyton Alexandra Lalain*, Sean Jollota, MS*, Likhitha Polepalli*, et al. University of Wisconsin-Madison, Madison, WI

Fractionation of Electron RT Reduces the Flash Effect in Murine Skin — Therapy Physics
William Scott Thomas*, MS, Aleksandra Ilina, PhD, Xu Cao, PhD, et al. University of Wisconsin-Madison, Madison, WI

Patient-Specific Coronary Artery Habitat Model for Enhanced Cardiac Sparing — Therapy Physics
Chase Ruff*, MS[1], Nicholas R. Summerfield*, MS[1], Soumyanil Banerjee, PhD[2] ,et al. (1)Departments of Human Oncology and Medical Physics, University of Wisconsin-Madison, Madison, WI, (2)Department of Computer Science, Wayne State University, Detroit, MI

Hydrated Electron Yield Under Electron Irradiation at Ultra-High Dose Rates with Varying Physical Beam Parameters — Therapy Physics
Xu Cao , PhD, Brian W Pogue, PhD, Aubrey Parks* University of Wisconsin-Madison, Madison, WI,

Cherenkov Image Denoising with Diffusion-Based Deep-Learning for High-Fidelity Video Display of EBRT — Therapy Physics
Shiru Wang[1], **Jeremy Eric Hallett***[2], Yucheng Tang[3], PhD, (1) Dartmouth College, Hanover, NH, (2) University of Wisconsin-Madison, Madison, WI, (3) NVIDIA Corp, Santa Clara, CA, et al.

Optimizing the Design for a Directional Brachytherapy Source — Therapy Physics
Akire Trestrail* University of Wisconsin-Madison, Madison, WI

Modality-Agnostic Image Cascade (MAGIC) for Multi-Modality Cardiac Substructure Segmentation — Therapy Physics
Nicholas R. Summerfield, MS* [1], Qisheng He, MS[2], Alex Singleton Kuo[1] et al. (1)Departments of Human Oncology and Medical Physics, University of Wisconsin-Madison, Madison, WI, (2)Department of Computer Science, Wayne State University, Detroit, MI

Impact of Photon Beam Energy and Symmetry on the Radial Profile Correction Factor for FFF Beams — Therapy Physics
Zachary James Welchel* [1], Wesley S. Culberson, PhD[2], Larry A. DeWerd, PhD[2] et al. University of Wisconsin-Madison, Madison, WI

Uprightvision: A Deep-Learning Toolkit for Transforming Supine Anatomy to Upright — Therapy Physics
Yuhao Yan* [1], Behzad Hejrati[2], Ming Dong, PhD[2] (1)Departments of Human Oncology and Medical Physics, University of Wisconsin-Madison, Madison, WI, (2)Department of Computer Science, Wayne State University, Detroit, MI

*Graduate Student

Poster Program (Continued)

Located in the Exhibit Hall || Poster Lounge || 3:30-4:30 PM

Pulse-Based Method of Electrometer Calibration for High Instantaneous Currents Produced in Ultra-High Dose per-Pulse Electron Beams — Therapy Physics
Miguel Angel Flores Mancera*, MS, Jeff Radtke, MS and Wesley S. Culberson, PhD, Department of Medical Physics, School of Medicine and Public Health, University of Wisconsin - Madison, Madison, WI

Log-Based Predictive Modeling of the Dynamic Collimation System (DCS) Trimmer Dynamics for Efficient Proton PBS Delivery — Therapy Physics
Karsten K. Wake*, PhD[1], Kaustubh A. Patwardhan[2], Blake R. Smith, PhD, MS[2] , et al.1)University of Wisconsin, Madison, WI, (2)University of Iowa, Iowa City, IA

Cherenkov to Dose Trends with Small Field Beams — Therapy Physics
Aubrey Parks* [1], Jeremy Eric Hallett[2], and Brian W Pogue, PhD[1] University of Wisconsin - Madison, Madison, WI

Calibration of Dynamic Collimation System Trimmers to Proton Beam Axis Using Gantry-Angle-Specific Corrections: A Look-up Table Solution — Therapy Physics
Ryan Gardner* [1], Karsten K. Wake, MS[1], Albert Du, MS[2], et al (1)University of Wisconsin-Madison, Madison, WI, (2)University of Iowa, Iowa City, IA

Automated Parametric Custom Collimator Creation for Preclinical Irradiation Studies — Therapy Physics
Joseph B. Schulz* [1], Lloyd Emmanuel Kamole Ghomsi[2], Dixin Chen[2] , et al (1)Department of Medical Physics, University of Wisconsin-Madison, Madison, WI, (2)Department of Radiation Oncology, Stanford University School of Medicine, Stanford, CA

Impact of Serial Passage on Radiation Response and Angiogenic Activity in Head and Neck Cancer Patient-Derived Xenografts — Therapy Physics
Liliana Berube*, MS, Kwangok P Nickel, PhD, Hannah Sondreal,et al. UW Madison, Madison

From Supine to Upright: A Geometric Shift in Perspective — Therapy Physics
Alex Singleton Kuo*, Renata Farrell, Yuhao Yan, et al Departments of Human Oncology and Medical Physics, University of Wisconsin-Madison, Madison, WI

Characterizing the Stability of Upright CT for Proton Therapy — Therapy Physics
Yuhao Yan* [1], Jordan M. Slagowski, PhD[2], Jessica R. Miller, PhD[2] (1)Departments of Human Oncology and Medical Physics, University of Wisconsin-Madison, Madison, WI, (2)Department of Human Oncology, University of Wisconsin-Madison, Madison, WI,

Spatially Informed Auto-Segmentation of Cardiac Nodes for Radiotherapy Treatment Planning — Therapy Physics
Joshua Pan[1], **Nicholas R. Summerfield* [2] , MS**, , Ming Dong, PhD[3], et al. (1)Department of Human Oncology, University of Wisconsin-Madison, Madison, WI, (2)Departments of Human Oncology and Medical Physics, University of Wisconsin-Madison, Madison, WI, (3)Department of Computer Science, Wayne State University, Detroit, MI

Dosimetric Feasibility of Dominant Intraprostatic Lesion Dose Escalation in HDR Prostate Brachytherapy — Therapy Physics
Carolyn Eckrich, MS** [1], Joseph B. Schulz[2], Jessica R. Miller, PhD[1] et al. (1)University of Wisconsin-Madison Department of Human Oncology, Madison, WI, (2)Department of Medical Physics, University of Wisconsin-Madison, Madison, WI

Dosimetric Characterization of Sun Nuclear EDGE Diodes in the Plateau Region of Proton Pencil Beam Scanning (PBS) Fields — Therapy Physics
Karsten K. Wake*, PhD[1], Patrick M Hill, PhD[2], Ryan Gardner[1] , et al. (1)University of Wisconsin, Madison, WI, (2)Department of Human Oncology, University of Wisconsin School of Medicine and Public Health, Madison, WI

Evaluation of a Commercial Metal Artifact Reduction Algorithm for IGRT in Patients with Hip Prostheses — Therapy Physics
Laura Bennett, PhD, MS**[1], Elissa Khoudary[1], Kaili Ranta, MD[2] , et al. (1)Department of Human Oncology, University of Wisconsin School of Medicine and Public Health, Madison, WI, (2)University of Wisconsin-Madison, Madison, WI,

Absolute Measurement of HDR Ir-192 Air-Kerma Strength Using an Exradin A3 Known-Volume Ionization Chamber — Therapy Physics
Karen Rex Pius Vincent, Sean Jollota, MS and Larry A. DeWerd, PhD University of Wisconsin - Madison, Madison, WI

Quantifying Respiratory Motion Effects in Lung Cancer Radiotherapy Using 4DCT Voxel Analysis — Therapy Physics
Yangguang Ma[1], Elissa Khoudary[2], **Chingyun Cheng, PhD**[2] et al, (1)Department of Radiation Oncology, The First Affiliated Hospital of Zhengzhou University, Zhengzhou, Henan, China, (2)Department of Human Oncology, University of Wisconsin School of Medicine and Public Health, Madison, WI

Sunday, July 27

Poster Program with UW–Madison Co-Authors

Located in the Exhibit Hall || Poster Lounge || 3:30-4:30 PM

A Transfer Learning Approach Enables Real-Time Bio-Morphological Feature Segmentation in Cherenkov Imaging for Radiation Therapy — Therapy Physics

Shiru Wang[1], Yao Chen[1], Lesley A Jarvis, MD, PhD[2] , et al. 1)Dartmouth College, Hanover, NH, (2)Dartmouth Cancer Center, Lebanon, NH, (3)NVIDIA Corp, Santa Clara, CA,

Optimizing Motion Profiles of a Dynamic Collimator in Proton Therapy — Therapy Physics

Kaustubh A. Patwardhan[1], Karsten K. Wake, MS[2], Nhan Vu, MS[1] et al (1)University of Iowa, Iowa City, IA, (2)University of Wisconsin, Madison, WI

Maximum Conformality IMPT Planning with the Dynamic Collimation System — Therapy Physics

Nhan Vu, MS[1], Blake R. Smith, PhD, MS[1], Karsten K. Wake, MS[2] , et al. (1)University of Iowa, Iowa City, IA, (2)University of Wisconsin, Madison, WI

The Dosimetric and Dose RATE Characteristics for Bragg Peak Proton MINI-Ridge Filter Flash in Comparison to Conventional Proton and Filter Free Flash for Breast and Prostate — Therapy Physics

Tyler Kaulfers[1], Muhammad Hamza, BSc[2], Minglei Kang, PhD[3] , et al. (1)Physics Resident at Montefiore Einstein, New York, NY, (2)Physics and Astronomy, Hofstra University, Hempstead, NY, (3)Department of Human Oncology, University of Wisconsin School of Medicine and Public Health, Madison, WI

Monday, July 28

UW–Madison Invited Program / Events

1:48-2:06 PM	**The Journey of FLASH Rt from Preclinical Evidence to Clinical Reality** **Brian W Pogue, PhD**, University of Wisconsin - Madison & Dartmouth College	Therapy Physics	Room 204
2:35-2:46 PM	**Medical Physicists Lead Clinical Trials: Experience, Advice, Inspiration, and a Roadmap for Future Trial Leaders** **Robert Jeraj,** PhD, University of Wisconsin - Madison	Diagnostic & Interventional Radiology Physics	Ballroom C

UW–Madison Proffered Program

8:35-8:45 AM	**Using Single-Energy Bragg Peak (SEBP) Flash Combined with Intensity-Modulated Proton Therapy (IMPT) for Flash Treatment in a Clinical Synchrotron-Based Proton System** **Zhizhen Wei**[1], Tengda Zhang[2], Xingyi Zhao[3], et al. (1)Department of Mechanical Engineering, University of Wisconsin-Madison, Madison, WI, (2)Department of Human Oncology, University of Wisconsin-Madison, Madison, WI, (3)Department of Radiation Oncology and Molecular Radiation Sciences, Johns Hopkins University School of Medicine, Baltimore, MD	Therapy Physics	Room 204
1:58-2:05 PM	**Development of a Novel Deformable Pelvis Phantom to Support Upright Applications** **Jordan M. Slagowski, PhD**[1], Matthew R. Ceelen[2], Morgan A. McGauley[2], (1)University of Wisconsin-Madison Department of Human Oncology, Madison, WI	Therapy Physics	Room 209
2:45-2:55 PM	**Evaluating the Theranostic Potential of a Novel Shark Derived Anti-MET Vnar Antibody in NSCLC** **Rachel Minne*** [1], Jayden West[2], Natalie Y. Luo[2], et al (1)University of Wisconsin - Department of Human Oncology, Madison, WI, (2)University of Wisconsin, Department of Pathology and Laboratory Medicine, Madison, WI	Therapy Physics	Room 207B
3:15-3:25 PM	**Advancing Cardiac Sparing with Upright Patient Geometry and Deep Learning** **Nicholas R. Summerfield*, MS**[1], Yuhao Yan[1], Mark Pankuch, PhD[2], et al (1)Departments of Human Oncology and Medical Physics, University of Wisconsin-Madison, Madison, WI, (2)Northwestern Medicine Proton Center, Warrenville, IL	Therapy Physics	Room 202
3:17-3:24 PM	**Development of Preclinical Multiscale Dosimetry for Beta-Particle Emitting Radionuclide in Radiopharmaceutical Therapy** **Ohyun Kwon***, MS[1], Maya Takashima[2], Adedamola Adeniyi[1], (1)Department of Medical Physics, School of Medicine and Public Health, University of Wisconsin–Madison, Madison, WI, (2)Department of Human Oncology, School of Medicine and Public Health, University of Wisconsin–Madison, Madison, WI,	Radiopharmaceuticals, Theranostics, and Nuclear Medicine	Room 209

Proffered Program with UW–Madison Co-Authors

7:30-7:40 AM	**JACK KROHMER EARLY-CAREER INVESTIGATOR COMPETITION WINNER: Direct Measurement of an Early Change in Tumor Oxygenation in Response to Radiation with Oxygen Enhanced Electron Paramagnetic Resonance Imaging (OE-EPRI)** **Tianzhe Li**[1], Grace Murley[2], Andrew Joseph Fanning[1] et al , (1)University of Nebraska Medical Center, Omaha, NE, (2)University of Texas MD Anderson Cancer Center, Houston, TX, et al.	Diagnostic and Interventional Radiology Physics	Room 206
2:35-2:45 PM	**Deformable Scintillator Array Dosimetry for *In Vivo* Volumetric Dose and Dose-Rate Validation of Uhdr Proton Therapy** **Roman Vasyltsiv**[1], Joseph Harms, PhD[2], Megan Clark[1], et al. (1)Dartmouth College, Hanover, NH, (2)Washington University in St. Louis, St. Louis, MO	Therapy Phyiscs	Room 202
3:17-3:24 PM	**Real-Time Observation of Radiation-Induced DNA Damage for Radiopharmaceuticals** **Michael Lamontagne, PhD**[1], Sean Jollota, MS[2], Ahtesham Ullah Khan, PhD, MS[2],et al(1)Biophysics and Biomedical Research Group, Microsystems and Nanotechnology Division, National Institute of Standards and Technology, Gaithersburg, MD, (2)Department of Medical Physics, School of Medicine and Public Health, University of Wisconsin - Madison	Radiopharmaceuticals, Theranostics, and Nuclear Medicine	Room 207B

Poster Program

Located in the Exhibit Hall || Poster Lounge || 3:30-4:30 PM

Validation of Radiopharmaceutical Therapy (RPT) Dose Calculation Platforms from Absolute Absorbed Dose Measurement of ^{225}ac — Scientific- Blue Ribbon Posters

Sean Jollota*, MS[1], Ahtesham Ullah Khan, PhD, MS[1], Jeff Radtke, MS[1], et al University of Wisconsin - Madison, Madison, WI

*Graduate Student

Tuesday, July 29

UW–Madison Invited Program / Events

1:48-2:06 PM	**AAPM Medical Physics Student Meeting | The Art of Communication in Medical Physics: Bridging Science and Patient Care** **Carolyn Eckrich, MS, Elissa Khoudary, Joseph B. Schulz, Sarah Aubert, PhD, Savannah Decker, Carolyn Eckrich, MS and Elissa Khoudary**	Students and Trainees	Salon C
8:55-9:15 AM	**Best Practices for AI Research and its Clinical Adoption (SNMMI)** T**yler J Bradshaw, PhD**, University of Wisconsin - Madison, Madison, WI	Radiopharmaceuticals, Theranostics, and Nuclear Medicine	Room 207B
4:30-5:00 PM	**Ultrasound QA/QC Workshop** **James A. Zagzebski**, PhD, University of Wisconsin - Madison, Madison, WI	Ultrasound Specialty Program	Room 206

UW–Madison Proffered Program

7:30-7:40 AM	**BEST IN PHYSICS ULTRASOUND: A Calibration Framework for Quantifying Element Misalignment in 2D Matrix Array Transducers Used in 3D Quantitative Ultrasound** **Laura Castaneda Martinez*** [1], Cristel Baiu, MEng[2], Ivan M. Rosado-Mendez, PhD[1], University of Wisconsin-Madison, Madison, WI	Ultrasound Specialty Program	Room 206
8:00-8:10 AM	**Preliminary Evaluation of Ultrasound-Derived Fat Fraction Reliability in a Pediatric Cohort** Lizbeth Ayala-Dominguez[1], Amber Possell PhD[1],..., **Ivan M. Rosado-Mendez, PhD**[2] Department of Medical Physics	Ultrasound Specialty Program	Room 206

Poster Program

Located in the Exhibit Hall || Poster Lounge || 9:30-10:15 AM

Annual Symposium on Magnetic Resonance in Radiation Therapy 2025
Nicholas R. Summerfield*, MS, Departments of Human Oncology and Medical Physics, University of Wisconsin-Madison, Madison, WI — Expanding Horizons

Annual Symposium on Magnetic Resonance in Radiation Therapy 2025
Chase Ruff*, MS, Departments of Human Oncology and Medical Physics, University of Wisconsin-Madison, Madison, WI — Expanding Horizons

Located in the Exhibit Hall || Poster Lounge || 3:30-4:30 PM

Quantitative Analysis of Three Strategies for CTPA Scan Timing Optimization
Zahra Alyani Nezhad* , Carrie Bartels, BSc, RT (R)(CT), Rachel Bladorn, BSc, RT (R)(CT), et al. University of Wisconsin-Madison, Madison, WI — Diagnostic and Interventional Radiology Physics

*Graduate Student

Wednesday, July 30

UW–Madison Invited Program / Events

8:06-8:25 AM	**Considerations for Complex Decay Phenomena for Alpha Emitting Radiopharmaceuticals** Reinier Hernandez, PhD, Department of Medical Physics	Radiopharmaceuticals, Theranostics, and Nuclear Medicine	Room 207B
10:22-10:39 AM	**Quality Assurance and Scanner Performance Assessment for PDFF Use As a Quantitative Imaging Biomarker** **Diego Hernando, PhD,** Departments of Medical Physics and Radiology, University of Wisconsin-Madison, Madison, WI	Diagnostic and Interventional Radiology Physics	Room 206
1:21-1:37 PM	**TG288 Recommendations for guiding radiotherapy event narratives** **Bruce R. Thomadsen, PhD**, University of Wisconsin, Madison, WI	Therapy Physics	Room 204
1:41-2:00 PM	**3D-Printing: Manufacturing the Future of Medical Physics** **Wally Block, PhD**, University of Wisconsin-Madison - Madison, WI	Diagnostic and Interventional Radiology Physics	Room 206
1:42-2:00 PM	**Looking Forward: Novel Applications of Synthetic Data Sets** **Carri K. Glide-Hurst PhD**, University of Wisconsin-Madison, Madison, WI	Therapy Physics	Room 202
2:37-2:52 PM	**When the Plan Meets the Patient: Reviewing Treatment Plans for Robustness** **Dustin J. Jacqmin, PhD**, University of Wisconsin-Madison, Madison, WI	Therapy Physics	Ballroom C

UW–Madison Proffered Program

10:40-10:47 AM	**A Novel Approach to Preclinical Intensity-Modulated Radiotherapy Using an Open-Source Ring-Based Compensator Device and Inverse Treatment Planning System** Rajit Tummala[1], Benjamin R. Awad[2],..., **Jordan M. Slagowski[3], PhD**, (1)University of Oxford, Oxford, United Kingdom, (2)California State University, Fresno, Fresno, CA, (3)University of Wisconsin-Madison Department of Human Oncology, Madison, WI,	Therapy Physics	Room 209
11:12-11:19 AM	**Multi-Modality Artificial Intelligence for Involved-Site Radiation Therapy: Clinical Target Volume Delineation in High-Risk Pediatric Hodgkin Lymphoma** **Xin Tie[1], PhD**, Sarah Milgrom[2], MD, Andrea Lo[3], (1) Department of Medical Physics, University of Wisconsin, Madison, WI, (2) University of Colorado Anschutz, Denver, CO, Department of Radiation Oncology, BC Cancer, Vancouver Center, Vancouver, Canada	Therapy Physics	Room 209
11:26-11:33 AM	**Assessment of the Quantum-CMOS Image Sensor for Use in Cherenkov Imaging during Radiation Therapy** **Jeremy Eric Hallett*** [1], Petr Bruza[2], Brian W Pogue[2], PhD , (1) University of Wisconsin-Madison, Madison, WI, (2) Dartmouth College, Hanover, WI	Therapy Physics	Room 209
12:15-12:25 PM	**Phase One Randomized Two-Arm Dose Escalation of Flash RT in Veterinary Canine Osteosarcoma: Trial Design & Initial Results** **William Scott Thomas*, MS**, Aleksandra Ilina, PhD, Matthew Reed, et al. University of Wisconsin-Madison, Madison, WI,	Therapy Physics	Room 204
2:05-2:15 PM	**Decoupling Cardiorespiratory Motion of Cardiac Substructures Via 5D-MRI for Radiotherapy** **Chase Ruff*, MS**[1], Tarun Naren[2], Oliver Wieben, PhD[2] , et al (1)Departments of Human Oncology and Medical Physics, University of Wisconsin-Madison, Madison, WI, (2)Department of Medical Physics, University of Wisconsin-Madison, Madison, WI	Therapy Physics	Room 204
2:19-2:26 PM	**Standardized Immobilization and Setup Procedure Improves Accuracy of Multi-Time Point SPECT/CT Image Registration for Radiopharmaceutical Therapy (RPT) Dosimetry** **Elissa Khoudary****, Laura Bennett, PhD, MS, Michael J. Lawless, Ph[1], et al. Department of Human Oncology, University of Wisconsin School of Medicine and Public Health, Madison, WI	Radiopharmaceuticals, Theranostics, and Nuclear Medicine	Room 209

Proffered Program with UW–Madison Co-Authors

12:05-12:15 PM	**BEST IN PHYSICS THERAPY: Impact of Local Tissue Oxygenation Level on the Flash Effect in Murine Skin** **Jacob Pierce Sunnerberg,** Armin Tavakkoli, David I Hunter, Thayer School of Engineering, Dartmouth College, Hanover, NH	Therapy Physics	Room 204

*Graduate Student ** Resident

Online Viewing

Poster Program

Online Posters are viewable online only through the meeting app and website

Reduction of the Charge Build-up Effect on the Beam Current Transformers for Real-Time Monitoring of Ultra-High Dose per-Pulse Electron Beams — Therapy Physics
Miguel Angel Flores Mancera*, MS, Jeff Radtke, MS and Wesley S. Culberson, PhD University of Wisconsin - Madison, Madison, WI

On the Spectral Changes of Magna-Field Photon Beams Used in Total Body Irradiation — Therapy Physics
Ahtesham Ullah Khan, PhD, MS and Larry A. DeWerd, PhD University of Wisconsin - Madison, Madison, W

Evaluation of Charge Collection Performance in the A30 Prototype Parallel Plate Ion Chamber in Ultra-High Dose Rate Beam — Therapy Physics
Mervat A. Alharbi*, Wesley S. Culberson, PhD University of Wisconsin - Madison, Madison, WI

Evaluating LiF:Mg,Ti TLD Reliability at Body Temperature for Long-Term Dose Monitoring — Therapy Physics
Autumn Rasmussen*, MS, Keith A. Kunugi and Larry A. DeWerd, PhD University of Wisconsin - Madison, Madison, WI

In Vivo Measurements of Hydrated Electron Production with an Ultra-High Dose Rate (UHDR) Electron Beam — Therapy Physics
Xu Cao[1], Aubrey Parks[2], William Scott Thomas, MS[3], et al. University of Wisconsin - Madison, Madison, WI,

Poster Program with UW–Madison Co-Authors

A Monte Carlo Framework for Automated Quality Assurance of Dynamically Collimated Pencil Beam Scanning Clinical Treatment Deliveries — Therapy Physics
Albert Du, MS[1], Nhan Vu, MS[1], Laura Bennett, PhD, MS[2] , et al. (1)University of Iowa, Iowa City, IA, (2)Department of Human Oncology, University of Wisconsin School of Medicine and Public Health, Madison, WI

*Graduate Student