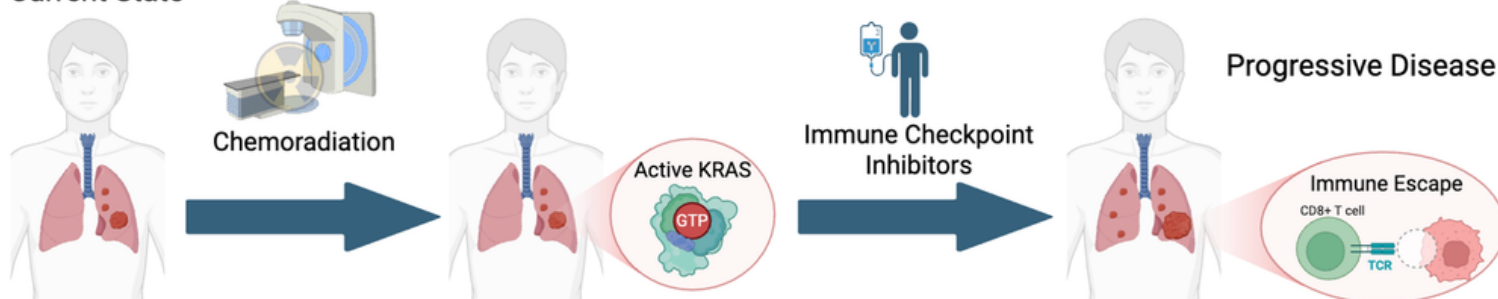
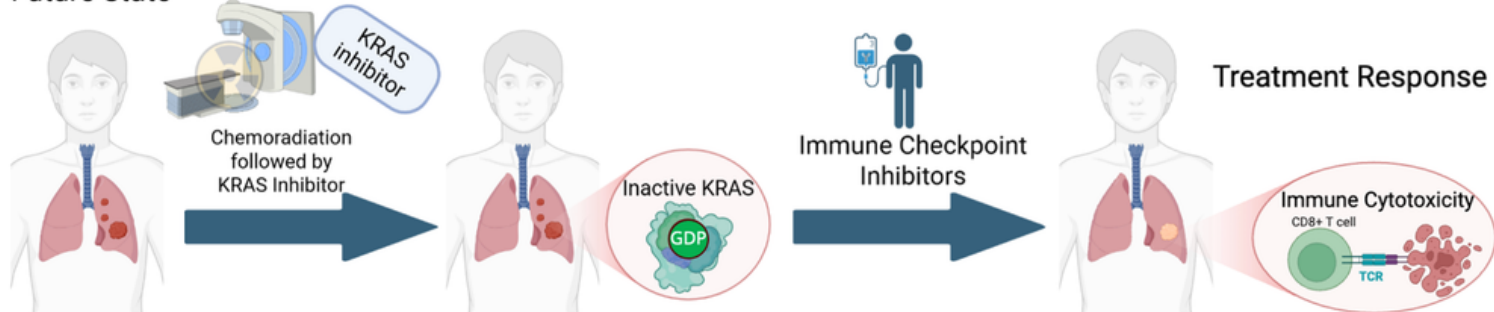


Department of Radiation Oncology Quarterly Newsletter

Current State



Future State



Chemoradiation Imparts KRAS-mediated Resistance to Immunotherapy in Non-Small Cell Lung Cancer

Erik Blomain, MD, PhD, Assistant Professor of Radiation Oncology at Jefferson, recently received a four-year, \$1.1 million Department of Defense Peer Reviewed Cancer Research Program Career Development Award. Dr. Blomain is investigating how KRAS acts as an oncogenic driver and contributes to treatment resistance. With this support, he will explore why treatment resistance occurs during advanced non-small cell lung cancer therapies, specifically examining the landmark PACIFIC regimen, and how chemoradiotherapy impacts or prompts resistance to downstream immunotherapies.

In this Issue

- Letter from the Chair
- Welcome, Dr. Cao!
- Walter Curran Professorship
- Promotions & Board Certification
- LVHN Physics Leadership
- 2026 Resident Match Results
- Hail & Farewell
- Congrats, Grads!
- Monica Shander Fellows
- Recent Grants & Awards
- Jefferson Commercial Filming
- 2026 Lung Symposium
- ABS & AAPM 2026
- Summer Student Research Program
- Trainees to Trailblazers
- Fun & Games
- Recent Publications
- Upcoming Events

Letter from the Chair



**Adam P. Dicker, MD, PhD,
FASCO, FASTRO**

Walter J. Curran, Jr., MD, Professor,
Enterprise Chair and SVP of Radiation
Oncology, Jefferson Health

Dear Colleagues and Friends,

I invite you to enjoy the summer edition of our enterprise department newsletter, packed with updates about the exciting work taking place here in the Department of Radiation Oncology. From groundbreaking research and several awarded grants, academic and clinical promotions and appointments, and honoring our trainees' recent achievements.

We are proud of our medical students who recently completed the Radiation Oncology Summer Research Program and who will present their work at the upcoming Sidney Kimmel Comprehensive Cancer Center Oncology Research Symposium on September 10. We look forward to the manuscripts and abstracts that will result from the hard work they have put in since June.

Our department has been well-represented this summer with strong attendance at the American Brachytherapy Society Annual Meeting in Los Angeles, CA, and the American Association for Physicists in Medicine Annual Meeting in Vancouver, Canada. Additionally, Thomas Jefferson University recently filmed a television commercial featuring members of our Medical Physics Division. We are proud to contribute to Jefferson's growing national footprint.

As we look ahead, we are invigorated by our department's momentum and what's next. Our faculty, residents and postdocs have received \$1.4 million in recent grant awards to investigate nutritional and metabolic interventions for breast cancer treatment, explore the use of low-field magnetic resonance to improve treatment of dominant intraprostatic lesions, and translate computer vision-driven surface guidance radiotherapy from a laboratory prototype to a clinical tool. We are incredibly grateful to our cancer center, industry and federal sponsors who believe in our patient-driven research mission.

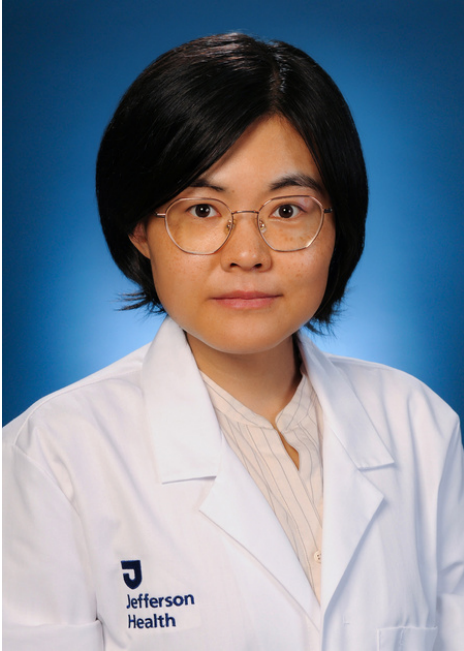
We look forward to seeing many of you at the 2026 ASTRO Conference in Boston, MA. Please join us at the SKCCC/Jefferson ASTRO Reception on Monday, September 28, at MJ O'Connor's Seaport (425 Summer Street, Boston, MA) between 5:30-7:30 PM Eastern.

I would like to acknowledge Ms. Julianne Johnson, whose work is reflected in this newsletter. We welcome feedback via email Julianne.Johnson@jefferson.edu, and suggestions as to what you would like to see featured in the future.

A handwritten signature in blue ink, appearing to read 'Adam Dicker'.

Adam Dicker, MD, PhD, FASTRO, FASCO
Walter J. Curran, Jr., MD, Professor of Radiation Oncology
Enterprise Chair & SVP, Radiation Oncology

Welcome to the Faculty, Dr. Cao!



We are excited to announce that **Wenchao Cao, PhD**, PGY-2 Medical Physics Resident, joined the Department of Radiation Oncology faculty on July 1 as an Instructor.

Dr. Cao joined Jefferson in July 2024 as a Medical Physics Resident. She has excelled clinically during her time as a trainee and contributed immensely to the research mission with multiple peer-reviewed publications and patent submissions. Dr. Cao's research focuses on artificial intelligence, large-language models, image processing, and cardio-oncology.

We are thrilled that Dr. Cao has chosen to stay at Jefferson to begin her career in academic medical physics. Please join us in welcoming her to the Jefferson Radiation Oncology faculty!

Dr. Adam Dicker Named Walter J. Curran, Jr., MD, Professor of Radiation Oncology

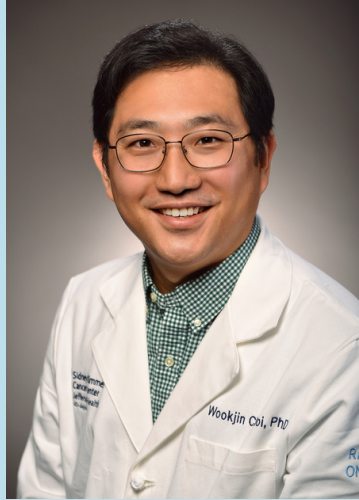


We are pleased to announce that **Adam Dicker, MD, PhD, FASTRO, FASCO**, Enterprise Sr. Vice President, Chair and Professor of Radiation Oncology at Jefferson Health, has been named the Walter J. Curran, Jr., MD, Professor of Radiation Oncology. This endowed professorship honors the legacy of Dr. Curran, a former chair of Radiation Oncology at Jefferson and world-class clinical trialist who continues to influence our field today.

Dr. Dicker's leadership and commitment to science make him an excellent fit for this distinguished honor, previously held by Maria Werner-Wasik, MD, FASTRO, Professor Emerita of Radiation Oncology, who retired in 2025. Congratulations, Dr. Dicker!

Congratulations, Drs. Choi & Mund!

Please join us in congratulating **Wookjin Choi, PhD** and **Karl Mund, PhD**, who recently achieved academic promotion in the Sidney Kimmel Medical College.



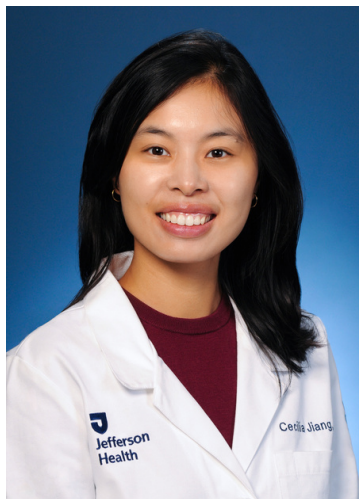
Wookjin Choi, PhD
Promotion to
Associate Professor



Karl Mund, PhD
Promotion to
Clinical Assistant Professor

Congratulations, Drs. Jiang & Webb!

We congratulate **Cecilia Jiang, MD**, and **Alexis Webb, PhD**, both Instructors of Radiation Oncology, who recently passed their American Board of Radiology exams to become fully board certified in Radiation Oncology and Medical Physics, respectively.



Cecilia Jiang, MD



Alexis Webb, PhD

Congratulations, Jefferson LVHN Medical Physics Leadership!



Derek Moyer, DMP



Geoffrey Dieck, MS



Jill Snyder, MS

Please join us in congratulating **Derek Moyer, DMP**, on his appointment as Interim Chief Medical Physicist for Lehigh Valley Hospital's Cedar Crest and Hazleton campuses, and **Geoffrey Dieck, MS**, on his appointment as Interim Chief Medical Physicist for the Pocono, Hecktown Oaks, and Muhlenberg campuses.

In these leadership roles, Derek and Geoff are guiding clinical physics operations, supporting quality and safety initiatives, mentoring team members, and ensuring the continued delivery of exceptional patient care throughout their respective regions. Their expertise, professionalism, and dedication have earned the confidence of their colleagues, and we look forward to their leadership during this important transition.

We would like to recognize **Jill Snyder, MS**, who recently assumed the role of Radiation Safety Officer (RSO) for the Lehigh Valley Hospital locations. She plays a critical role in maintaining the highest standards of radiation safety, regulatory compliance, staff education, and patient protection. Jill's extensive knowledge, attention to detail, and commitment to safe clinical practice make her exceptionally well-suited for this responsibility.

2026 Radiation Oncology & Medical Physics Match Results

We are thrilled to have matched with 2 Radiation Oncology and 4 Medical Physics residents. We welcomed Skylar, Taylor, Jing and Gwynne to the department on July 1, 2026. We look forward to welcoming Karli and Aren in July 2027!



Skylar Gay, PhD
MD Anderson Cancer Center
Medical Physics, Thomas
Jefferson University
July 1, 2026



Taylor Johnson, PhD
University of Wisconsin-Madison
Medical Physics, Thomas
Jefferson University
July 1, 2026



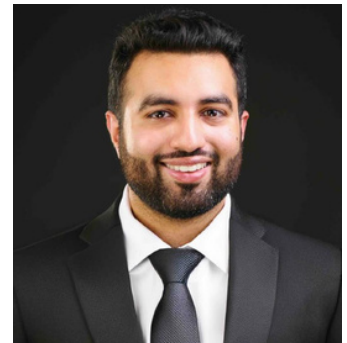
Jing Wang Ou Yang, MS
Columbia University
Medical Physics, Jefferson
Asplundh Cancer Pavilion
July 1, 2026



Gwynne Aull, MS
Duke University
Medical Physics,
ChristianaCare Health System
July 1, 2026



Karli Meller, DO
Philadelphia College of Osteopathic Medicine
Radiation Oncology, Thomas
Jefferson University
July 1, 2027



Aren Saini, MD
University of Miami
Radiation Oncology, Thomas
Jefferson University
July 1, 2027

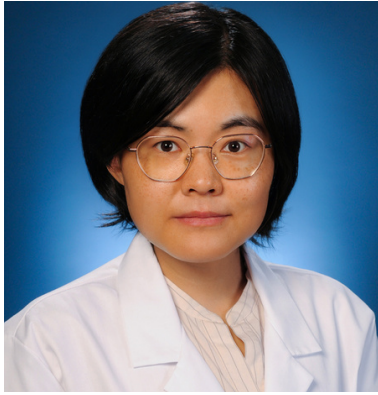
Hail & Farewell 2026

On June 10, we hosted our annual Hail & Farewell Ceremony at City Winery in Center City Philadelphia, hailing our incoming residents, saying farewell to our graduating trainees, and celebrating another successful academic year in the department. Thank you to our Education Coordinator, Phyllis Lewis, for planning another excellent event!



Congratulations, Graduates!

Congratulations to our graduating Medical Physics and Radiation Oncology residents, who are all moving on to excellent careers in the field!



Wenchao Cao, PhD

PGY-2 Medical Physics Resident

Next Stop: Thomas Jefferson University



Ary Safakish, PhD

PGY-2 Medical Physics Resident

Next Stop: Navista / University of California San Diego, San Diego, CA



Taindra Neupane, PhD

PGY-2 Medical Physics Resident

Next Stop: Atrium Health, Charlotte, NC



Helena Frisbie-Firsching, MS

PGY-2 Medical Physics Resident

Next Stop: St. Charles Health, Bend, OR



Nilanjan Haldar, MD

PGY-5 Radiation Oncology Resident

Next Stop: Barrow Neurological Institute, Phoenix, AZ

SKCCC Monica Shander Fellowships

We are exceptionally proud of two Department of Radiation Oncology trainees who recently received \$25,000 **Sidney Kimmel Comprehensive Cancer Center Monica Shander Fellowship Awards**. These awards will support 12-month research programs under faculty mentors and will fund cutting edge research in triple negative breast cancer and artificial intelligence. We thank the SKCCC for its commitment to innovation and belief in our mission.



Awardee: **Janet Arras, MD, PhD**

PGY-2 Radiation Oncology Resident

Faculty Mentor: **Nicole Simone, MD**

Margaret Q. Landenberger Professor of Radiation Oncology

Dr. Arras's funded project, "Targeting Metabolic Vulnerabilities in Triple Negative Breast Cancer Subtypes to Enhance Radiation Response," tackles one of the most pressing unmet needs in oncology. Triple negative breast cancer (TNBC) affects 10–20% of breast cancer patients and, despite comprising distinct molecular subtypes with different biology and outcomes, is currently treated with a one-size-fits-all approach. Her research will investigate whether precision nutritional and metabolic interventions, tailored to specific TNBC subtypes, can selectively enhance tumor sensitivity to radiation, opening a path toward truly personalized, low-toxicity treatment strategies.



Awardee: **Mohamed Yousuf, PhD**

Postdoctoral Fellow

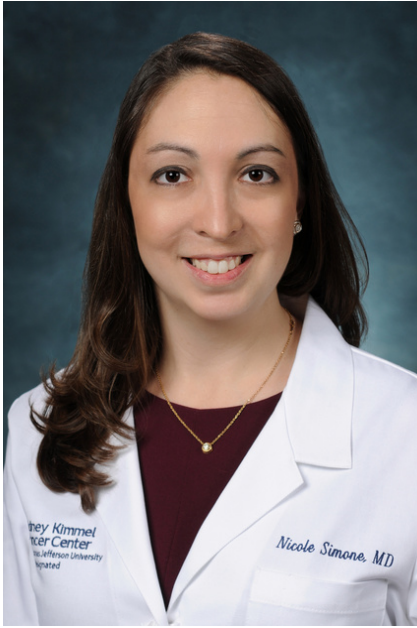
Faculty Mentor: **David Thomas, PhD**

Associate Professor of Radiation Oncology

Dr. Yousuf's funded project, "Translating AI-Driven Surface Guidance into Radiotherapy Clinical Care," will translate computer vision-driven surface guidance radiotherapy (SGRT) from a laboratory prototype to a clinical tool. This fellowship will directly enable multi-camera system commissioning in clinical settings, clinical validation across 80 diverse patients, and a proof-of-concept for occlusion-free 3D surface reconstruction.

Drs. Yousuf and Thomas's AI-SGRT framework has the potential to expand SGRT eligibility from 35–55% of patients to nearly all thoracic and abdominal patients, reducing reliance on ionizing radiation imaging and improving safety for all.

Recent Pilot Awards



Nicole Simone, MD, Margaret Q. Landenberger Professor of Radiation Oncology and Vice Chair for Research, recently received a 12-month \$150,000 National Cancer Institute ROBIN OligoMET Center pilot award for her project titled “Mapping Convergent Metabolic and Immunologic Reprogramming Landscapes to Uncover Synergistic Opportunities in Preoperative Breast Cancer Radiation.” in collaboration with Drs. Luigi Marchionni and Silvia Formenti of the ImmunoRad Center at Weill Cornell Medicine.

This project will leverage specimens from two ongoing breast cancer clinical trials to investigate how metabolic and immunologic reprogramming enhance responses to preoperative radiation therapy. Using spatial transcriptomics and integrative computational analyses, the team aims to identify convergent mechanisms of tumor microenvironment remodeling and uncover opportunities for future combination strategies involving radiation, metabolism, and immunotherapy. These analyses will define how different therapeutic interventions remodel the tumor microenvironment, uncover mechanisms underlying enhanced radiation sensitivity, and reveal the potential for rational combination strategies involving radiation, immunotherapy, and metabolic interventions.



Firas Mourtada, PhD, Professor & Enterprise Clinical Director of Medical Physics, was awarded a \$100,000 pilot grant from the Philadelphia Prostate Cancer Biome Project for his project titled “Low Field MR to Improve the Precision of High-Dose-Rate Brachytherapy to Dominant Intraprostatic Lesions,” which could dramatically expand access to precision focal salvage therapy.

Dr. Mourtada’s work tackles a critical unmet need in prostate cancer treatment: standard ultrasound and CT guidance used during HDR brachytherapy cannot reliably identify dominant intraprostatic lesions (DILs), the highest-risk sites for local recurrence. High-field MRI offers superior soft-tissue contrast, but is impractical during the HDR procedure itself.

This project will leverage our ViewRay 0.35T MRIdian linac to perform same-day low-field MRI during HDR brachytherapy. Dr. Mourtada and his team will develop:

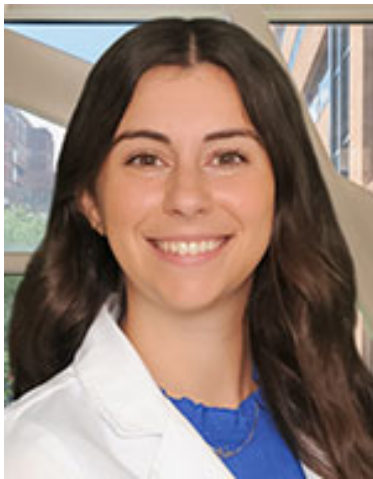
- Novel 3D-printed, LfMRI-compatible prostate templates.
- Optimized MRI markers for precise needle reconstruction (± 1 mm accuracy).
- End-to-end validation using realistic tissue-equivalent prostate phantoms.
- A success target of escalating DIL dose to mean D90 >150% while protecting organs at risk.

Recent Grants & Awards

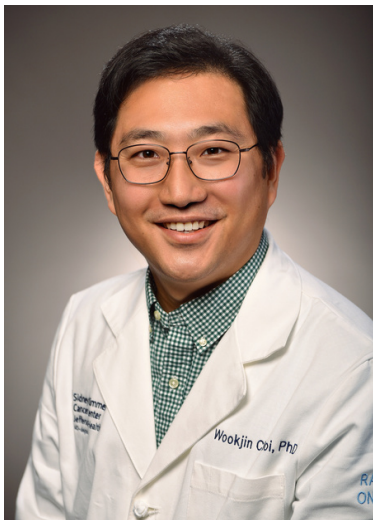


Erik Blomain, MD, PhD, Assistant Professor, has received a Department of Defense Peer Reviewed Cancer Research Program Career Development Award, one of the nation's most prestigious and competitive early-career cancer research grants. The four-year \$1.1 million award for the project titled "Chemoradiation imparts KRAS-mediated resistance to immunotherapy in non-small cell lung cancer," will accelerate Dr. Blomain's path to becoming a fully independent, nationally recognized physician-scientist.

Dr. Blomain has uncovered a novel and surprising mechanism: chemoradiotherapy itself activates oncogenic KRAS signaling, creating a tumor microenvironment that suppresses the immune response to subsequent immunotherapy. He will now rigorously define this biology and test whether KRAS inhibition can restore immunotherapy sensitivity and improve outcomes for patients with locally advanced non-small cell lung cancer. Understanding why tumors escape — and how to prevent it — has the potential to change the standard of care for the ~40% of lung cancer patients who present with locally advanced disease.



Rachel Simon, MSN, CCRN, FNP-BC, Nurse Practitioner in Radiation Oncology at Thomas Jefferson University Hospital, received the 2026 Jefferson Health Advanced Practice Clinician Excellence in Clinical Practice – Central Region Award. Rachel was nominated by her physician colleagues for not only her compassionate patient-centered care, but also her outstanding leadership of the Radiation Oncology Survivorship program. While Rachel leads survivorship visits, her contributions extend far beyond the clinic. She conceived and leads "Thrive after Cancer," a monthly survivorship program developed in partnership with our social work team, and has presented at the Jefferson Patient and Family Advisory Council, delivering accessible, evidence-based education on survivorship topics.



Wookjin Choi, PhD, Associate Professor of Radiation Oncology and Computational Medical Physicist, was recently selected to participate in the National Cancer Institute's AI Embeddings Innovation Lab, a collaborative, cross-disciplinary working session designed to generate bold, actionable AI Cancer-related projects.

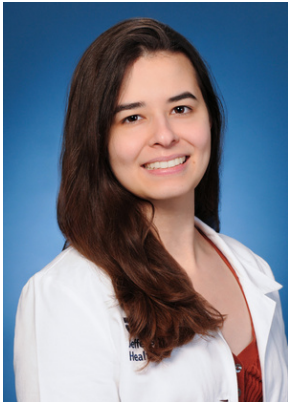
The Innovation Lab brings together researchers, clinicians, and technologists from across the country to explore how AI embedding techniques can fuse heterogeneous data — imaging, genomics, clinical history, and more — into unified representations that support earlier, more accurate cancer diagnosis and treatment planning.

Recent Travel Awards



Congratulations to **Vikas Aragam, PhD**, PGY-2 Medical Physics Resident, and **Cella Kove, BA**, Medical Physics Assistant, who both received a 2026 American Brachytherapy Society (ABS) Travel Grant.

Vikas and Cella traveled to the 2026 ABS Annual Meeting in Los Angeles, CA, to deliver their respective abstracts:



“3D-printed Prostate Template for Low-Field MR to Improve the Precision of HDR Brachytherapy to Dominant Intra-Prostatic Lesions” and “TRUS-based Prostate HDR Brachytherapy Treatment Planning Efficiency and Plan Quality Improvements: A Two-Year Single Institution Experience.”

“Convex Surface-Loaded (Reverse) Episcleral Plaque Brachytherapy to Treat Conjunctival Tumors with Orbital Extension”



Shan Xu, PhD, and **Mohamed Yousuf, PhD**, postdoctoral fellows in the Department of Radiation Oncology, both received Jefferson College of Life Sciences Postdoctoral Travel Fellowships. These awards will support Drs. Xu and Yousuf’s travel to the 2026 American Society for Radiation Oncology (ASTRO) Annual Meeting in Boston, MA, later this year to present their respective abstracts:



“Precision Nutrition Enhances Radiotherapy by Exploiting MYC- and PTEN/AKT-Driven Metabolic Dependencies in Prostate Cancer.”

“Inter-Individual Variability in Thoracic vs. Abdominal Breathing Patterns Limits Generic SGRT Tracking in DIBH: A Prospective Optical Motion Capture Study.”

Center City Dosimetrists Recieve TJU Clinical Award



Pictured left to right: Daniel Rayner (student, TJU Medical Dosimetry); Brian Hellmig, CMD; Jonathan Sanchez, CMD

We congratulate Brian Hellmig, CMD, and Jonathan Sanchez, CMD, dosimetrists in Center City Philadelphia, who received the Thomas Jefferson University Department of Medical Imaging and Radiation Science's **2026 Outstanding Clinician Award**. This award recognizes Brian and Jonathan's impactful mentorship of students in the TJU medical dosimetry program, which is considered one of the strongest in the country.

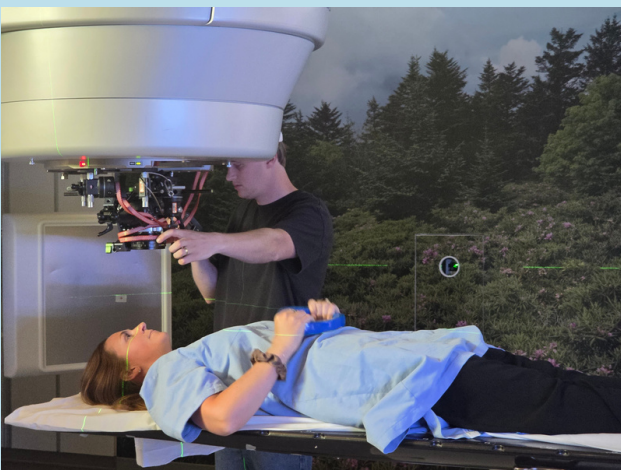
Physics Staff Star in Upcoming University Commercial



Members of our enterprise Medical Physics division were invited to film part of Thomas Jefferson University's upcoming television commercial earlier this summer at Asplundh Cancer Pavilion in Willow Grove, PA.

The commercial will feature a series of projects from different disciplines across TJU's colleges and schools, including **Dr. David Thomas's** Computer Vision for Anatomy-Aware Surface-Guided Radiation Therapy project.

Those featured in the commercial also include medical physics trainees **Vikas Aragam, PhD**, and **Zoe Graves, MS**, and faculty member **Alexis Webb, PhD**.



2026 Jefferson Lung Symposium



Earlier this spring, faculty and trainees attended the 2026 Jefferson Lung Symposium at the Warwick Hotel in Center City Philadelphia. **Erik Blomain, MD, PhD**, (left), Assistant Professor, served on the event's Planning Committee, and **Cecilia Jiang, MD**, (left center), Instructor, presented "The Evolving Role of RT in Metastatic Lung Cancer."

We thank **Robert Timmerman, MD, FASTRO, FACR** (right), Chair of Radiation Oncology, Professor of Neurosurgery, and Effie Marie Cain Distinguished Chair in Cancer Therapy Research at UT Southwestern Medical Center, who served as one of the event's keynote speakers.

2026 American Brachytherapy Society Annual Meeting - Los Angeles, CA

Our strong work in prostate, GYN and ocular brachytherapy was on display at the **2026 American Brachytherapy Society Annual Meeting** in Los Angeles, CA. We look forward to building on these advancements to continue providing the best quality care to our patients.

The next page of this newsletter showcases all of the abstracts and presentations from Jefferson faculty and trainees at ABS 2026.



Jefferson Representation at 2026 American Brachytherapy Society Annual Meeting



Thomas Jefferson
University

HOME OF SIDNEY KIMMEL MEDICAL COLLEGE

e-Poster Presentations
at ABS 2026



Brachytherapy Focal Boost to the Intraprostatic Lesion Using an MRI and US Fusion

Zoe Graves, Michael Greenberg, Karen Mooney, Firas Mourtada, Vikas Aragam, Reza Taleei

An Evaluation of the Accuracy of Auto-segmented Organs-at-risk in CT and in-room Cone Beam CT Images for HDR Brachytherapy

Zoe Graves, Sanjana Pratti, Pramila Rani Anne, Yingxuan Chen, Reza Taleei, Firas Mourtada, Yevgeniy Vinogradskiy, Jun Li



TRUS-based Prostate HDR Brachytherapy Treatment Planning Efficiency and Plan Quality Improvements: A Two-year, Single-Institution Experience

Vikas Aragam, Reza Taleei, Firas Mourtada, Zoe Graves, Yingxuan Chen, Jun Li, Michael Greenberg, Karen Mooney



Development of a Fast and Direct Verification of Ir-192 Source Position in a Multi-Channel Vaginal Cylinder Using a Mobile CBCT

Keita Okazaki, Alexis Webb, Wenchao Cao, Yevgeniy Vinogradskiy, Firas Mourtada, Yingxuan Chen



Thomas Jefferson
University

HOME OF SIDNEY KIMMEL MEDICAL COLLEGE

Snap Oral Presentations
at ABS 2026



3D-printed Prostate Template for Low-field MR to Improve the Precision of HDR Brachytherapy to Dominant Intra-Prostatic Lesions

Vikas Aragam, Karen Mooney, Reza Taleei, Michael Greenberg, Firas Mourtada

Saturday, June 20, 2026, 8:15-8:20am PST



Convex-Surface-Loaded (Reverse) Episcleral Plaque Brachytherapy to Treat Conjunctival Tumors with Orbital Extension

Cella Maria Kove, Theo Biddle, Robert Medina, Jacqueline Emrich, Wentao Wang, Kalpita Das, Brendan Massello, Jennifer Johnson, Marlana Orloff, Takami Sato, Rino Seedor, Sara Lally, Carol Shields, Firas Mourtada, Cecilia Jiang

Saturday, June 20, 2026, 8:50-8:55am PST



Feasibility Study of 3D-printed Copper Line Marker to Improve CBCT-based Image Quality for Gyn HDR Brachytherapy

Reza Taleei, Yingxuan Chen, Vikas Aragam, Zoe Graves, Joseph Caster, Firas Mourtada

Saturday, June 20, 2026, 12:00-12:05pm PST



Demonstration of Safe Hydrogel Rectal Spacer Placement to Mitigate Rectal Toxicity in Post-Prostatectomy Salvage Radiotherapy

Neil Mookerjee, Sanjana Pratti, Eric Gressen, Michael Greenberg

Saturday, June 20, 2026, 12:35-12:40pm PST



Thomas Jefferson
University

HOME OF SIDNEY KIMMEL MEDICAL COLLEGE

Additional Featured Presentations at ABS 2026

Refresher Course: Clinical Implementation of TG 186/TG 372

Firas Mourtada, PhD

Wednesday, June 17, 2026, 5:00-5:15pm PST

Physics Session I: Integration of MR Guidance into Your Brachytherapy Practice (Moderator)

Firas Mourtada, PhD

Thursday, June 18, 2026, 1:30-2:30pm PST

Imaging Ring for HDR Brachytherapy: Advancing Workflow and Clinical Integration (Elekta Event)

Firas Mourtada, PhD

Friday, June 19, 2026, 6:00-8:00pm PST

Strategic Step Toward Modernization of Radio-Therapy Services in Ukraine During Wartime: Modern Brachytherapy Course with ABS Experts for Ukraine

Zoia Shepil, Serhii Brovchuk, Thomas Niedermayr, Phillip M Devlin, Peter Sandwall, Dorin Todor, Bridget Quinn, Parag Sanghvi, Daniel Scanderbeg, Martin King, Ivan Buzurovic, Elizabeth Kidd, Yonatan Weiss, Vibha Chaswal, Albert Chang, Sang-June Park, Firas Mourtada, Wenyin Shi, Arjit Baghwala, Yuliia Lozko, Mitchell Kamrava, Nataliya Kovalchuk

Saturday, June 20, 2026, 8:40-8:45am PST

Addressing The Long-axis Anisotropy With High-z Shielding For Ir-192 High-dose-rate Brachytherapy Distributions: Initial Investigation Using 3-d Printed Physical Prototype Applicators

Clotilde Roesch, Jose Caceres-Alban, Aiden Reuter, Alyssa Glennon, Vimal Desai, Christopher Tien

Saturday, June 20, 2026, 8:40-8:45am PST



Jefferson Representation at 2026 American Association of Physicists in Medicine Annual Meeting



Thomas Jefferson
University

HOME OF SIDNEY KIMMEL MEDICAL COLLEGE

AAPM 2026
Sunday, July 19, 2026



Multi-Tier Automated Pipeline for TG-263 Structure Name Standardization Using Rule-Based, NLP, and RAG-Enhanced LLM Matching

Wookjin Choi, PhD, Hamidreza Nourzadeh, PhD, David H. Thomas, Yingxuan Chen, PhD, Yevgeniy Vinogradskiy, PhD

SNAP Oral Presentation | 1:57-2:04pm PT



Automated MPPG5b-Compliant Platform for Photon Beam Model Validation across an Integrated Health Care System

Hamidreza Nourzadeh, PhD, David H. Thomas, Vimal K. Desai, PhD, Wenchao Cao and Wookjin Choi, PhD

A Vendor Agnostic Radiation Treatment Plan Quality Assurance Software implemented for an Integrated Health System

Hamidreza Nourzadeh, PhD, Wookjin Choi, PhD, Karl W. Mund, Jun Kang, Lei Fu, MS, Firas Mourtada, PhD, Adam Dicker, MD, PhD, Yevgeniy Vinogradskiy, PhD

Hierarchical Spatial and Temporal Aggregation As Progressive Denoising for Longitudinal CBCT Radiomics In Lung Cancer

Wookjin Choi, PhD, Pradeep Bhetwal, Michael Dichmann, Yingcui Jia, PhD, Wenchao Cao, Yingxuan Chen, PhD, Yevgeniy Vinogradskiy, PhD, Hamidreza Nourzadeh, PhD

Poster Presentations | 3:15-4:00pm PT



A Clinical Validation of the Egs_Mird Monte Carlo Code for Patient-Specific Dose Calculations

Vimal K. Desai, PhD, Srikrishna Tirumalareddy, BS, MD, Femi Adejolu, BS, MD, Firas Mourtada, PhD, Lydia J. Wilson, PhD

Poster Presentation | 3:15-4:00pm PT



Thomas Jefferson
University

HOME OF SIDNEY KIMMEL MEDICAL COLLEGE

AAPM 2026
Monday, July 20, 2026



Best practices for the usage of common radiation detectors
Vimal Desai, PhD

Oral Presentation | 7:30-8:30am PT



AI-Driven Web Platform for Radiotherapy Review Training

Skylar Gay, Tucker J. Netherton, PhD, Vitaliy Davidov, MD, Ali Haider, MD, Ryan Garland, MD, Angela Giselsavia, MD, Joshua Garin Linggo, MD, Kartika Brohet, MD, Zhiqian H. Yu, PhD, Anuja Jhingran, MD, Beth M. Beadle, MD, Brent C. Parker, PhD, MBA, Chelsea C. Pinnix, MD, PhD, Sanjay S. Shete, PhD, Carlos E. Cardenas, PhD, MS, Laurence Edward Court, PhD

Oral Presentation | 5:40-5:50pm PT



Thomas Jefferson
University

HOME OF SIDNEY KIMMEL MEDICAL COLLEGE

AAPM 2026
Wednesday, July 22, 2026



Computer Vision Surface Guidance (CV-SGRT). A Novel Occlusion-Robust Multi-View Markerless SGRT Framework with Automated Semantic ROI Definition

Mohamed Yousuf, Alexis Webb, PhD, Brian Shaver, Atharva Rajesh Peshkar, Danna Gurari, PhD, Brecca Gaffney, PhD, Yevgeniy Vinogradskiy, PhD, David H. Thomas

Oral Presentation | 10:20-10:30am PT



A Novel Approach to Evaluate the Prostate Pelvis Lymph Node Setup Margin

Lei Fu, MS, Eric Gressen, MD, Jun Kang, Yevgeniy Vinogradskiy, PhD, Jessie Dinome, MD, Wayne Pinover, MD

Poster Presentation | 3:15-4:00pm PT



Non-Contrastive Learning for CT-CBCT Patient-Plan Mismatch Detection In Head and Neck IGRT

Justin Kyle Pijanowski, Dishane Chand Luximon, PhD, MS, Yevgeniy Vinogradskiy, PhD, James M. Lamb

Head and Neck Gross Tumor Volume Deep-Learning Autocontouring Model Using Bigrocc Collaborative Data

Yasin Abdulkadir, Brian M. Anderson, PhD, Emma Fields, Justin Brady Hink, Dylan Hsu, Kelly Kisling, PhD, MS, Andrew Krupien, James M. Lamb, Jason Matney, PhD, Peter G. Maxim, PhD, Lance C. Moore, MS, Jack Neylon, PhD, Timothy Ritter, PhD, Ricky R Savjani, MD, PhD, Gilmer Valdes, PhD, Nuno Vasconcelos, PhD, Yevgeniy Vinogradskiy, PhD, Alon Witztum, DPhil, MS

Poster Presentations | 3:15-4:00pm PT



Quality-Driven Deep Learning Dose Prediction for Head and Neck Cancer Using Limited High-Quality Training Data

Ivan Vazquez, PhD, Alexandra Olivia Leone, Christine V. Chung, MS, CMD, Skylar Gay, Ramon Maurilio Salazar, PhD, Carlos Sjogreen, PhD, Thomas Whitaker, PhD, Laurence Edward Court, PhD, Ming Yang, PhD

Radiant: A Fully Configurable Radiotherapy Dose Prediction Framework

Josiane Pafeng, PhD, Adrian Celaya, PhD, Skylar Gay, David Fuentes, Mary Martel, PhD, Laurence Edward Court, PhD, Tucker Netherton, PhD



Thomas Jefferson
University

HOME OF SIDNEY KIMMEL MEDICAL COLLEGE

Digital Posters
Available Online



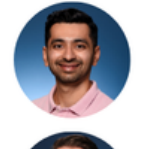
Auto-Segmentation of Metastatic Liver Tumors In SIRT

Jun Li, PhD, Yevgeniy Vinogradskiy, PhD, Wookjin Choi, PhD



Syed-Neblett Template-Based GYN Interstitial Brachytherapy HR-CTV Comparison between Preplan and Treatment-Day Plan Contouring

Jun Kang, Wayne Pinover, MD, Paul Robert Sullivan, PhD



Novel Constraint-Based Method to Evaluate and Score Patient Radiotherapy Plans

Devanshu Panchal, PhD, Vikas Aragam, PhD, Cella Maria Kove, BA, Sonia Marhefka, David H. Thomas, Yevgeniy Vinogradskiy, PhD, Wookjin Choi, PhD



Evaluation of Lattice Radiotherapy Feasibility on Elekta VersaHD and Varian Ethos Platform

Karl W. Mund, Gregory Alexander, MD, Alexis N. Webb



Verification of Small Field Conformal Arc Dose Distributions with SRS Mapcheck

Vadim L. Stakhursky, Paul Robert Sullivan, PhD, Taindra Neupane, Yevgeniy Vinogradskiy, PhD, Karen E. Mooney

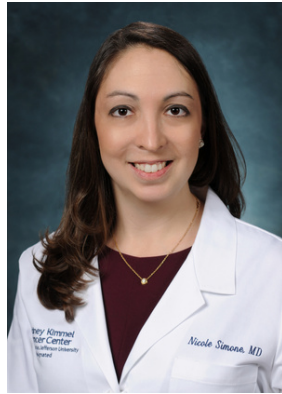


Evaluation of a Dose to Embryo for Prospective Palliative Spine Treatment of a Pregnant Patient

Vadim L. Stakhursky, Xiwen Shu, Alejandro Carabe-Fernandez, PhD, Serguei Kriminski, PhD

2026 Summer Student Research Program

We were thrilled to host the 2026 cohort of medical students to our annual summer research program, which offers students research opportunities in Radiation, Surgical, and Medical Oncology. In our summer program, students are assigned a faculty mentor and are responsible for completing a research project presented at our annual symposium. They also attend regular lectures and seminars on Radiation Oncology and Medical Physics hosted by our faculty and residents.



Nicole Simone, MD
Summer Student
Program Director



Anuradha Shastri, PhD
Summer Student
Program Coordinator



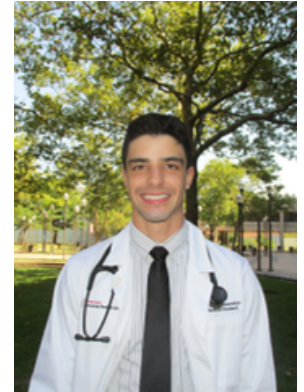
Shaliny Ambroise
Drexel University
College of Medicine



Diana Gonzalez-Baerga
The University of Puerto
Rico School of Medicine



Ryaan Bennani
Sidney Kimmel
Medical College



Jared Featherston
Rutgers New Jersey
Medical School



Clara Huang
SUNY Downstate
College of Medicine



John Mallon
Sidney Kimmel
Medical College



Alexis Richardson
DeBusk College of
Osteopathic Medicine

Trainees to Trailblazers: Bringing Oncology to the Next Generation



This summer, SKCCC Summer Student Research Program medical students became trailblazers for a day, teaching oncology subspecialties to Philadelphia middle schoolers through games they built themselves. Trainees to Trailblazers pairs medical students with middle schoolers from Drexel University's enrichment program for a day of hands-on cancer science and educational games. The experience gave students a rare, energizing reminder of why they chose medicine!



Surgical Oncology: Team Scalpel Squad built a balloon and straw lung to explain surgical resection.



Radiation Oncology: A board game charted a patient's path through radiation treatment.



Medical Oncology: Team ChemoKings paired a color-coded poster with an educational Jenga game about cancer prevention, detection and treatment.

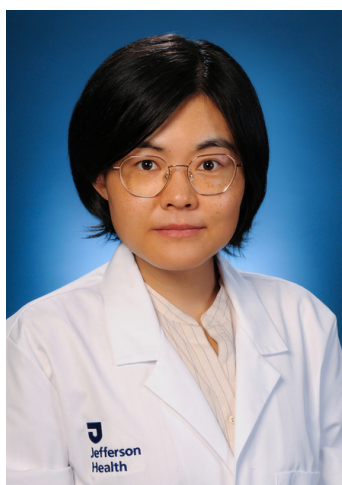


Radiation Oncology: A laser pointer game tested precision aim at a tumor while sparing healthy organs

Recent Publications



Lydia J. Wilson, Richard Castillo, Edward Castillo, Bernard Jones, Moyed Miften, Lindsey Olsen, **Vikas Aragam**, Crystal Erickson, Amanda Young, Robert A. Meguid, Matthew Blum, Tyler R. Grenda, Julie A. Barta, Benjamin E. Leiby, Timothy Waxweiler, Brian Kavanagh, John D Mitchell, **Yevgeniy Vinogradskiy**: [Prospective Evaluation of Novel 4DCT-Ventilation Imaging for Preoperative Risk Assessment in Lung Cancer: Results of the LIME Trial](#). *International Journal of Radiation Oncology, Biology, Physics*, PMID: 42532440. This study reports the primary outcomes of the LIME trial, a prospective clinical trial comparing 4DCT-ventilation-based predicted postoperative pulmonary function tests to conventionally measured postoperative lung function. The data support further investigation in an interventional trial using 4DCT-ventilation to prospectively guide surgical decision-making in lung cancer treatment.



Wenchao Cao, Isis Lloyd, Michael Dichmann, **Nilanjan Haldar**, **David Thomas**, Zhe Chen, **Erik Blomain**, Femi Adejolu, **Kristen Beck**, Patrick Faherty, Moorin Khan, **Nicole Simone**, **Varsha Jain**, Eugene Storozynsky, **Adam P. Dicker**, **Wookjin Choi**, **Yevgeniy Vinogradskiy**: [Cross-Institutional Validation of a novel LLM-Based Cardiac Event Extraction framework from Electronic Health Records](#). *International Journal of Radiation Oncology, Biology, Physics*, PMID: 42373015. Using a two-institution dataset, this work validated the Two-phase Reasoning for Automated Cardiac Event Recognition (TRACER), a novel large-language model-based automated cardiac event identification framework. TRACER has the potential to enable automated cardiac event extraction at scale, facilitating larger radiotherapy and cardio-oncology studies while broadening institutional participation in cardio-oncology research.



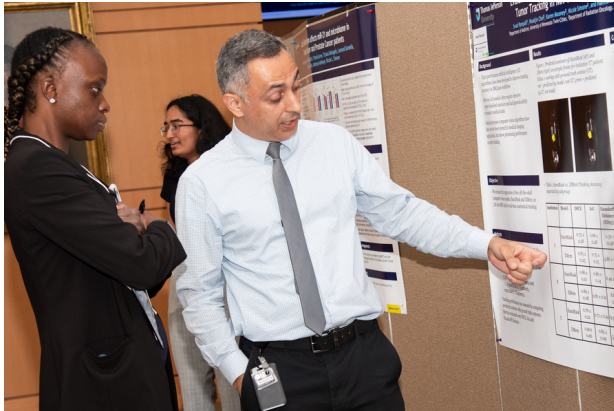
Wilson X. Mai, Kelly Z. Huang, Joyce Kuo, Eefay Wang, Samantha Wong, Alyssa Yauger, Joshua Langer, Dwayne Free, Pilu Gebeyehu, Anoushka Kathiravan, Aneesh Swamy, Kevin Z. Flores, Sarah Merrill, Danelia Sianez-Torres, Anthony Kokinos, Angela Pranoto, Onne Lao, Thomas Guerrero, Harmeet Bedi, Marina Sala, Jean Bourhis, André Durham, Lawrie Skinner, Lucas K. Vitzthum, Noah Kastelowitz, Alexander Chin, Maximilian Diehn, Billy W. Loo Jr., **Erik S. Blomain**: [Single Percussive Ventilation Breath-hold Imaging and Delivery in Lung Tumor Stereotactic Ablative Radiation Therapy: Initial Observations From a Prospective Clinical Trial](#). *International Journal of Radiation Oncology, Biology, Physics*, PMID: 42397316. This group completed the first-in-human feasibility trial of percussive ventilation breath-hold (PVB) to eliminate the uncertainty of breath-hold reproducibility between confirmatory volumetric image guidance and delivery of lung tumor stereotactic ablative radiation therapy (SABR) by completing both within the same assisted breath-hold. Four patients successfully completed PVB-SABR and results demonstrate closing the gap between imaging and delivery remove sources of uncertainty that otherwise result in wider margins and more dose to nearby organs.

Sometimes, It Actually IS All Fun and Games!

Our faculty and residents welcomed the arrival of spring and summer weather with some outdoor team bonding, getting together to take in a Phillies game and take on a ziplining course at Treetop Quest in Fairmount Park.



Upcoming Department Events



2026 SKCCC Oncology Research Symposium

Thursday, September 10, 2026, 4:00-6:00pm ET
Dorrance H. Hamilton Building Lobby, 1001 Locust St.

Join us as our faculty, trainees and students present abstracts showcasing their cutting-edge research and advancements in cancer care, many of which will be or were presented at national and international conferences in 2026, and published in our field's high-impact journals. Presenters include medical students who took part in the 2026 Department of Radiation Oncology Summer Research Program and completed clinical and translational projects alongside their faculty mentors.

Faculty and patient advocate judges will award prizes to the top two medical student presenters, as well as the top two resident or faculty presenters. We look forward to another successful event highlighting our our staff and trainees' success in oncology research.



SKCCC/Jefferson Reception @ ASTRO

Monday, September 28, 2026, 5:30-7:30pm ET
MJ O'Connor's Seaport - 425 Summer St., Boston, MA

We look forward to seeing you at the 2026 American Society for Radiation Oncology (ASTRO) Meeting! Please join us on Monday, September 28 at the Jefferson Health/SKCCC reception for light bites and good company! Please RSVP to Julianne Johnson (julianne.johnson@jefferson.edu).



Maria Werner-Wasik, MD, FASTRO
Professor Emerita

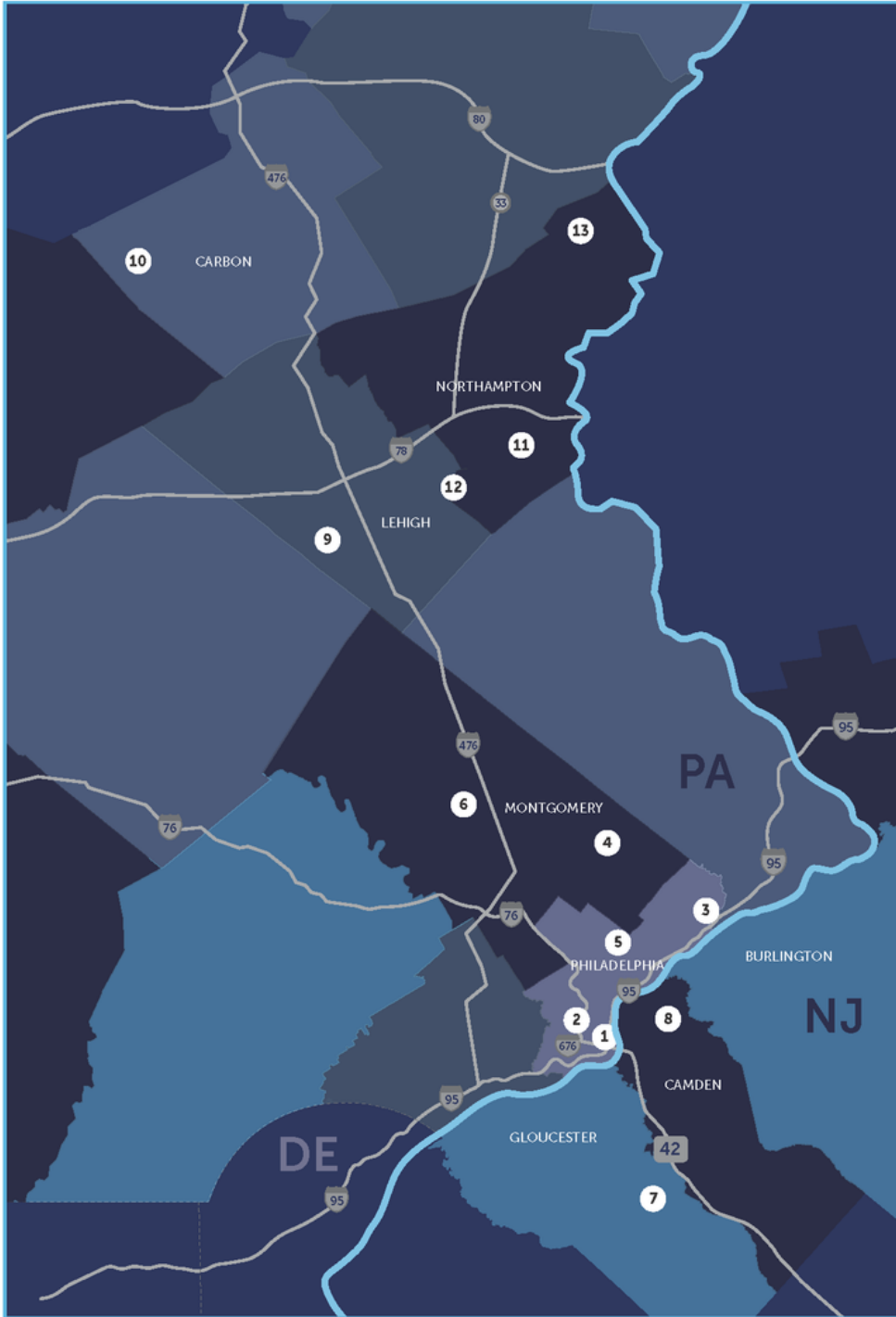


David Palma, MD, MSc, PhD, FRCPC

Maria Werner-Wasik, MD, FASTRO Lectureship in Radiation Oncology

Wednesday, October 14, 2026, 12:00-1:00pm ET
Bluemle Life Sciences Building, Room 101

We are pleased to welcome **David Palma, MD, MSc, PhD, FRCPC**, as the inaugural Maria Werner-Wasik, MD, Lectureship in Radiation Oncology speaker. Dr. Palma is a professor at the Schulich School of Medicine & Dentistry, University of Western Ontario, and a radiation oncologist at the London Health Sciences Centre's Verspeeten Family Cancer Centre. He specializes in the treatment of thoracic and head & neck cancers, as well as oligometastatic disease.



- 1 Thomas Jefferson University Hospital**
111 South 11th Street
Philadelphia, PA 19107
- 2 Jefferson Hospital for Neuroscience**
900 Walnut Street
Philadelphia, PA 19107
- 3 Jefferson Torresdale Hospital**
10800 Knights Road
Philadelphia, PA 19114
- 4 Asplundh Cancer Pavilion**
3941 Commerce Avenue
Willow Grove, PA 19090
- 5 Jefferson Einstein Philadelphia Hospital**
5501 Old York Road
Philadelphia, PA 19141
- 6 Jefferson Einstein Montgomery Hospital**
559 West Germantown Pike
East Norriton, PA 19403
- 7 Jefferson Washington Township Hospital**
900 Medical Center Drive
Blackwood, NJ 08012
- 8 Jefferson Cherry Hill Hospital**
2201 Chapel Ave West
Cherry Hill, NJ 08002
- 9 Lehigh Valley Hospital – Cedar Crest**
1240 South Cedar Crest Boulevard
Allentown, PA 18103
- 10 Lehigh Valley Hospital – Hazleton**
772 East Broad Street
Hazleton, PA 18201
- 11 Lehigh Valley Hospital – Hecktown Oaks**
3788 Hecktown Road
Easton, PA 18045
- 12 Lehigh Valley Hospital – Muhlenberg**
2545 Schoenersville Road
Bethlehem, PA 18017
- 13 Lehigh Valley Hospital – Pocono**
181 East Brown Street
East Stroudsburg, PA 18301