Thomas Jefferson University
HOME OF SIDNEY KIMMEL MEDICAL COLLEGE

Sidney Kimmel Comprehensive Cancer Center

Department of Radiation Oncology Quarterly Newsletter

Depth from Vision: Computer Vision for Anatomy-Aware Surface-Guided Radiation Therapy: David Thomas, PhD, has received a $260,000 grant from Siemens Healthineers and Varian Medical Systems to develop a novel real-time imaging platform that uses multi-camera RGB computer vision and deep learning to create dynamic, anatomy-aware digital models of patients during radiation treatment.

In this Issue

Letter from the Chair

Adam P. Dicker, MD, PhD, FASCO, FASTRO
Enterprise Sr. VP, Chair & Professor, Department of Radiation Oncology
Professor, Pharmacology & Experimental Therapeutics
Director, Jefferson Center for Digital Health & Artificial Intelligence

Dear Colleagues and Friends,

It is my pleasure to share the Winter 2026 Department of Radiation Oncology Quarterly Newsletter. This issue offers a window into the remarkable work happening across our enterprise — from groundbreaking research and clinical innovation to the outstanding achievements of our faculty, residents, and staff.

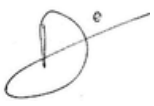
These pages highlight the breadth and depth of our department's mission. We celebrate Dr. David Thomas's $260,000 grant from Siemens Healthineers and Varian Medical Systems to advance computer vision for surface-guided radiation therapy, Dr. Janet Arras's selection for the prestigious ABR Holman Research Pathway, and Dr. Cecilia Jiang's acceptance into the IASLC Academy.

We are also proud to share our APEx re-accreditation — a testament to our unwavering commitment to quality and patient safety — along with the expansion of our Low-Dose Radiation Therapy Program for osteoarthritis, and the continued growth of our enterprise, including celebrating the first anniversary of our Jefferson Cherry Hill treatment center's opening.

This newsletter also honors the people who make our department exceptional. From the international scholars visiting from Rwanda and Ukraine, to our students contributing to radiopharmaceutical research through the Penn State/Jefferson BRIDGE Program, to Dr. Pramila Rani Anné's election as President of the TJUH Medical Executive Committee — each story reflects a community dedicated to advancing care and education on a global scale.

I hope this newsletter inspires and informs. Our department's momentum is a direct result of the talent, dedication, and collaborative spirit of every team member. I am proud of all that we have accomplished together and look forward to what lies ahead.

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.



Adam Dicker, MD, PhD

APEx Re-Accreditation & Initial Accreditation for Jefferson Einstein Sites

We are proud to share that Jefferson's Radiation Oncology program achieved **Accreditation Program for Excellence (APEx)** re-accreditation through the American Society for Radiation Oncology, and initial accreditation for Jefferson Einstein Philadelphia, Jefferson Einstein Montgomery, and Jefferson Cherry Hill Hospital. Our Center City department also achieved Radiopharmaceutical Therapy designation. This accomplishment is a direct reflection of our collective commitment to quality, safety, and excellence in patient care. APEx accreditation represents the highest standard in radiation oncology practice, and maintaining this designation requires sustained effort across every aspect of our program.

We congratulate and thank the following staff members for their hard work, preparation, and ongoing commitment to excellence on this collaborative effort:

- **Jefferson Center City:** David Thomas, PhD; Kathleen Wilson, RTT; Yevgeniy Vinogradskiy, PhD; Robert Beecher, RTT, MBA; Dolores Cole, RTT; Daniel Clancy, RN, Pramila Rani Anné, MD; Dina Hahn, PMP

- **Jefferson Northeast**: Eric Gressen, MD; Lei Fu, MS; Kristie Esposito, RTT; Carol Ross, RN

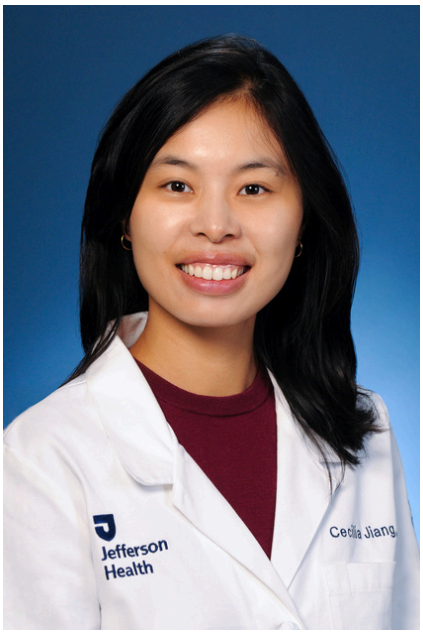
- **Jefferson Asplundh Cancer Pavilion**: Scott Herbert, MD; Daniel Jenkins, RTT; Margaret O'Grady, RN; Paul Sullivan, PhD; Juliana Fermin, RN; Heather Forward, RN, Bernadette Rivera, RTT

- **Jefferson Health New Jersey**: Tamara Lacouture, MD; Shelley Fralinger, RTT; Deannette Stanton-Cross, BA; Karl Mund, PhD; Cheryl Trail, MS, Kathleen Solari, RN

- **Jefferson Einstein Philadelphia & Montgomery**: Kenneth Zeitzer, MD; Alejandro Carabe Fernandez, PhD; Vadim Stakhursky, PhD; Maria Clark, RTT; Jacquelyn Bell; Christine Gorrell, MSN; Christina Blake, RTT; Jill Ranocak, RN

Recent Grants & Awards

Janet Arras, MD, PhD, PGY-2 Radiation Oncology Resident, has been selected for the prestigious **American Board of Radiology Holman Research Pathway** to pursue ground-breaking research in breast cancer treatment. Dr. Arras will investigate how subtype-specific dietary interventions can enhance radiation therapy responses in triple-negative breast cancer (TNBC), one of the most aggressive and complex breast cancer subtypes. Her innovative approach targets metabolic vulnerabilities unique to each TNBC molecular subtype, potentially opening new avenues for personalized, non-toxic therapeutic strategies. Dr. Arras's research will be conducted under the mentorship of Drs. Nicole Simone, with support from Luigi Marchionni in computational oncology, and Amy Leader in community-engaged research.



Cecilia Jiang, MD, was accepted to the **2026 International Association for the Study of Lung Cancer (IASLC) Academy**.

The IASLC Academy is a global professional development program for early-career physicians pursuing academic careers in thoracic oncology. The program combines personalized and group mentorship with faculty-led education, and focuses on professional and career development, networking, and scholarship. In partnership with Drs. Maria Werner-Wasik (Professor Emerita, Radiation Oncology) and Julie Barta (Associate Professor of Medicine, Pulmonology Division), Dr. Jiang will develop, execute and present her original work at the World Conference on Lung Cancer.

Tamara LaCouture, MD, Chief of Cancer Services and Medical Director of Radiation Oncology for Jefferson Health New Jersey (JHNJ), was honored at the JHNJ Gala as the **Healthcare Hero Awardee** on Saturday, February 28, 2026 at the Borgata Hotel, Casino & Spa in Atlantic City, NJ.

The JHNJ Healthcare Hero Award recognizes a healthcare professional, caregiver, or worker whose skillful performance and deep compassion exemplify Jefferson's commitment to always putting people first. We congratulate Dr. LaCouture for this wonderful recognition.

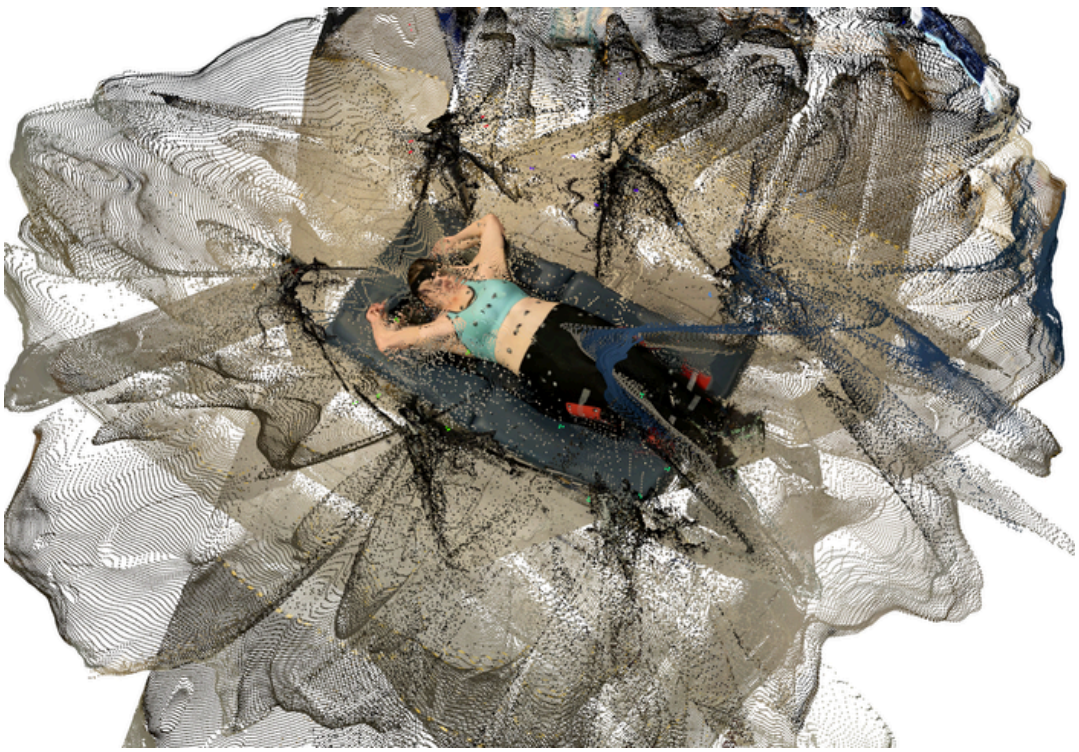
Double Congratulations to Dr. Yousuf!

We congratulate Mohamed Yousuf, PhD, Post-Doctoral Fellow in the Lab of Dr. David Thomas, whose artwork titled **“Surrounded by Noise: The Human Within the Data”** (pictured below), recently featured in the 2026 Jefferson Research as Art Contest. The competition celebrates our faculty, students and staff who have an eye for the beauty in their research or scholarship.

Dr. Yousuf’s piece, a 3D point cloud, captures a patient during imaging, revealing both the precision and imperfection of modern data collection. The scattered points surrounding the body represent sensor noise — unwanted data that researchers strive to remove — yet here, they take on an almost ethereal quality. Like layers of interference around the human experience, these distortions remind us of the obstacles researchers face in pursuit of clarity. Our work seeks to refine these digital reconstructions for clinical use, transforming chaos into insight — and, perhaps, finding beauty in the process.

Dr. Yousuf’s work was selected as one of the top 15 (of 44) submissions across a wide disciplinary range, including neuroscience, textile design, microbiology, architecture, and occupational therapy. His artwork can be viewed on the 2nd floor of the Scott Memorial Library through March 16th.

We also congratulate Dr. Yousuf on his second-place award during the American Association of Physicists in Medicine Delaware Valley Chapter 2026 Young Investigators Symposium on February 27! Dr. Yousuf’s presentation was titled **“Computer Vision Surface Guidance (CV-SGRT): A Novel Occlusion-Robust Multi-View Markerless SGRT Framework with Automated Semantic ROI Definition.”**



Depth from Vision: Computer Vision for Anatomy-Aware Surface-Guided Radiation Therapy

"This technology represents a paradigm shift in how we guide radiation therapy. By using computer vision to see inside the patient non-invasively — linking what we observe on the surface to where the tumor and organs truly are — we can deliver radiation more accurately and safely for a much broader population of cancer patients." -**Dr. David Thomas, PhD**

We congratulate David Thomas, PhD, Associate Professor of Radiation Oncology, who recently received a $260,000 grant from Siemens Healthineers and Varian for his work titled **"Depth from Vision: Computer Vision for Anatomy-Aware Surface-Guided Radiation Therapy."**

Surface-Guided Radiation Therapy (SGRT) is a clinical standard for monitoring patient position during radiation delivery, yet it remains underutilized. While approximately 50% of U.S. clinics have access to SGRT, fewer than 55% of eligible patients benefit from it, and fewer than 30% of centers use it beyond breast cancer treatments. Current systems suffer from critical limitations: signal loss during arc treatments, registration failures on anatomically uniform surfaces, poor performance for certain skin tones and body types, and inadequate depth accuracy outside a narrow field of view. These shortcomings leave many patients — particularly those with abdominal and pelvic cancers — without the full benefit of modern positioning technology, limiting the potential for cure.

Dr. Thomas's project introduces a novel real-time imaging platform that uses multi-camera RGB computer vision and deep learning to create dynamic, anatomy-aware digital models of patients during treatment. He and his team will deploy synchronized arrays of RGB cameras in CT simulation suites and treatment vaults. A feed-forward neural network processes the multi-camera data in real time, generating dense 4D point clouds that are registered to each patient's planning CT scan via a CT-derived digital twin, incorporating skeletal and biomechanical models. The system continuously links external body-surface motion to internal organ position — without requiring specialized depth sensors, structured light, or skin markers.

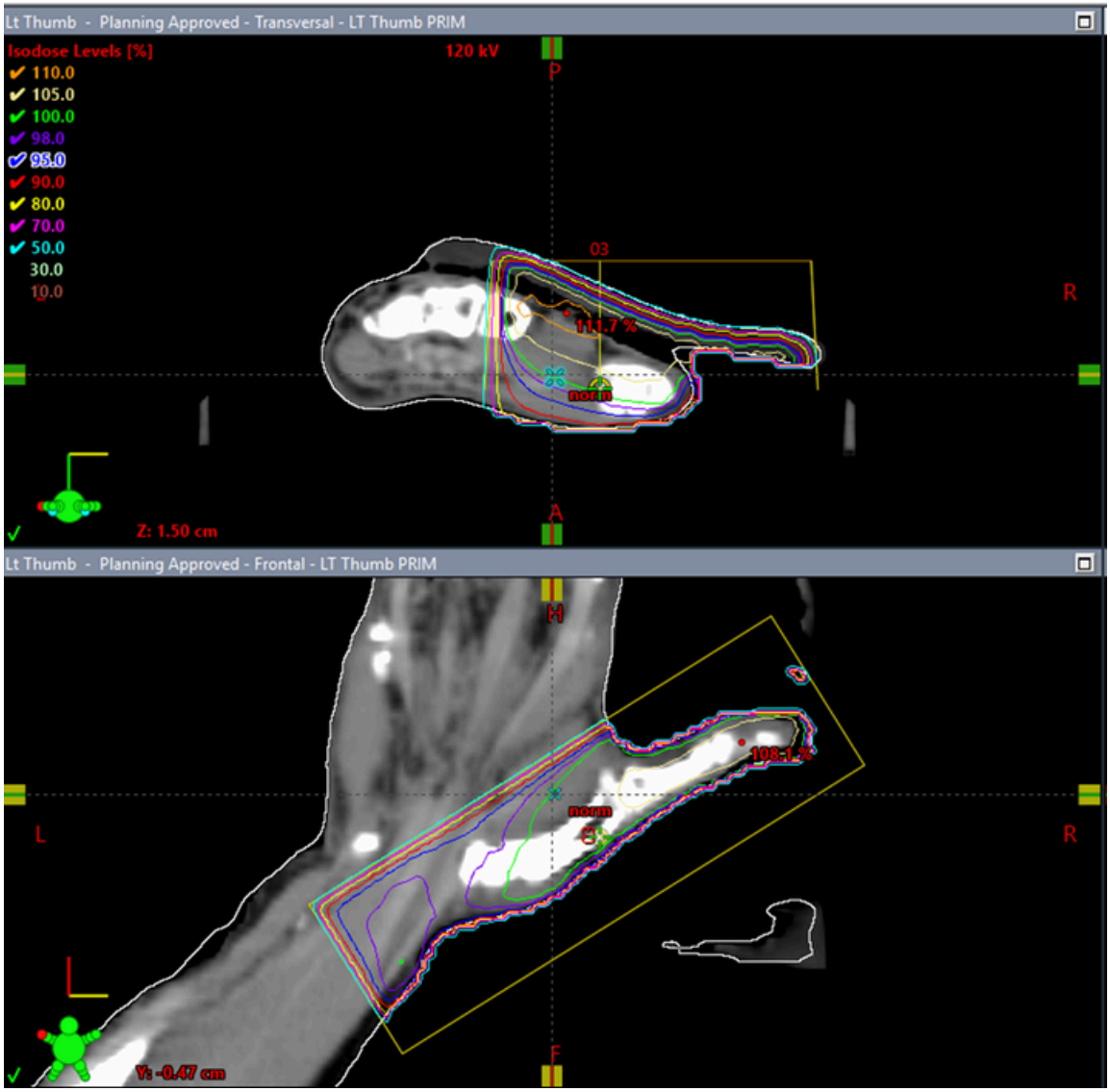
This anatomy-aware approach enables the system to estimate internal organ motion from external surface data alone, opening the door to fully automated treatment positioning for patients with abdominal, thoracic, breast, and pelvic cancers.

Program Highlight: LDR-RT for Benign Conditions

We are proud to be at the forefront of radiation oncology innovation at Jefferson. As our enterprise department grows, and with it our patient catchment, we are eager for further opportunities to serve our patient community.

The Jefferson **Low-Dose Rate Radiation Therapy (LDR-RT) Program** offers an alternative treatment option for osteoarthritis patients who have not responded to traditional treatment methods for this degenerative and often debilitating condition.

Patients receive six rounds of low-dose radiation to impacted joints over two to three weeks, and often experience improved mobility, pain relief and improvement to their overall quality of life. Many patients also report very few to no side effects. Our well-established LDR-RT program is offered across our 13 enterprise sites, and is expanding to include other benign conditions, such as plantar fasciitis.



International Scholars Visit Center City

In February, we welcomed Prince Shema Muhikira and Ange Shekinnah Ntagwabira, who joined us from Rwanda for a one-week rotation as part of the **Jefferson Consortium of African Partnerships (JCAP).** JCAP develops clinical, academic and research partnerships with many African hospitals and universities with the mission to organize, support and collaborate.

Prince and Ange shadowed faculty and staff in the Center City clinics and had opportunities to see special procedures performed there. They participated in multidisciplinary tumor boards, weekly chart rounds and educational activities while enjoying many of the cultural and culinary treats that Philadelphia offers.

We also recently welcomed two exceptional Ukrainian radiation oncologists to The Sidney Kimmel Comprehensive Cancer Center at Thomas Jefferson University as part of the **Union of Councils for Jews in the Former Soviet Union Observership in Oncology Program**, with funding from the Kovler family and Varian Medical Systems.


Dr. Yuliia Lozko


Dr. Vadym Vasiura

Dr. Yuliia Lozko, Head of Radiation Oncology Direction at the National Cancer Institute in Ukraine, became the first participant in this groundbreaking program, beginning her observership here in February 2026. Beyond her clinical work, Dr. Lozko is deeply committed to oncology education, leading training programs for physicians, nurses, and radiation therapists through OncoHub, and contributing to patient education initiatives with the Global Medical Knowledge Alliance.

She is now joined by Dr. Vadym Vasiura, a radiation oncologist from the Clinical Center of Oncology, Hematology, Transplantology, and Palliative Care in Cherkasy, Ukraine, who arrived this month. Dr. Vasiura's focus is on integrating modern radiotherapy standards into Ukrainian practice and building stronger regional oncology services through international partnerships.

During their time in Philadelphia, Drs. Lozko and Vasiura have enjoyed exploring our city's landmarks and architecture while experiencing American culture firsthand.

We Who Curie Day

The Bodine Radiation Oncology team honored Professor Marie Curie and her fundamental research in radioactivity on her birthday (November 7) during National Radiologic Technology Week 2025. We celebrate We Who Curie Day to recognize women in the field of radiation oncology. Our staff enterprise-wide are continuing Professor Curie's inspiring legacy and making a difference in our patients' lives through research and outstanding clinical care.

Penn State/Jefferson BRIDGE Program

Established and led by **Nicole Simone**, **MD,** the Penn State/Jefferson BRIDGE Program connects students enrolled in Penn State University's BS/MD Program, who have a gap year, with research and clinical opportunities at Jefferson. Upon graduation from PSU with their BS, students will enroll in the Sidney Kimmel Medical College. Two BRIDGE students, Krishna and Femi, are conducting radiopharmaceutical research in the lab of **Lydia Wilson, PhD.**

Srikrishna Tirumalareddy is advancing our understanding of how to achieve accurate and efficient radiation dose estimates in patients treated with Pluvicto. Krishna's research evaluates variances among kidney, parotid, and tumor doses across different single-timepoint dosimetry methods.

Krishna is also assessing how clinical factors influence kidney and tumor dosimetry in real-world patients.

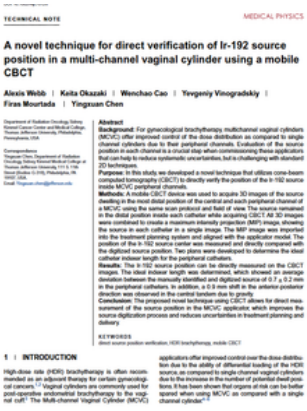
Femi Adejolu is performing a controlled phantom evaluation of two quantitative SPECT/CT reconstruction platforms (MiM and Voximetry Torch) used for Pluvicto dosimetry to determine how reconstruction settings influence activity recovery and partial-volume effects.

Femi will present this work during the Student National Medical Association Annual Medical Education Conference in Pittsburgh, PA in April.

Recent High-Impact Papers


Development and validation of an AI-based lung lobe auto-contouring tool using radiation therapy planning free-breathing images

P. Ciaccio, J. Lombardo, A. Fuquay, S. Pahlavian, R. Grimm, **J. Kang, W. Choi, P. Sullivan, Y. Vinogradskiy:** Development and validation of an AI-based lung lobe auto-contouring tool using radiation therapy planning free-breathing images. *Reports of Practical Oncology and Radiotherapy, PMID: 41498079.* This group created and verified an artificial intelligence auto-contouring algorithm for the complex task of contouring lung lobes using radiation therapy planning images. The AI model showed good agreement with clinician-drawn contours and demonstrates that auto-contouring of lung lobes can enable an evaluation of dosimetry and function on the lung functional sub-unit level in a timeframe suitable for busy clinical environments.


TECHNICAL NOTE

A novel technique for direct verification of Ir-192 source position in a multi-channel vaginal cylinder using a mobile CBCT

A. Webb, K. Okazaki, W. Cao, Y. Vinogradskiy, F. Mourtada, Y. Chen: A novel technique for direct verification of Ir-192 source position in a multi-channel vaginal cylinder using a mobile CBCT. *Medical Physics, PMID: 41216918.* This group found that using cone-beam CTs to directly verify the position of the Ir-192 source inside multichannel vaginal cylinder (MCVC) peripheral channels allows for direct measurement of the source position in the MCVC applicator, which improves the source digitization process and reduces uncertainties in treatment planning and delivery.


Patient Advocate–Trainee Engagement in Oncology Education: Insights from a Short Pilot Survey

Simone-Soule CA, Burke SE, Abul-Enin D, Kunta C, Adekeye A, Tran P, Leader A, **Dicker AP, Simone NL**: Patient Advocate-Trainee Engagement in Oncology Education: Insights from a Short Pilot Survey. *Journal of Cancer Education, PMID: 41543684.* This study provides compelling early evidence that integrating trained patient advocates into radiation oncology training is both feasible and transformative. These findings demonstrate for the first time that involving patient advocates in trainee research presentations significantly enhances communication skills, empathy, and clinical relevance which are three competencies foundational to effective oncologic care and innovation.

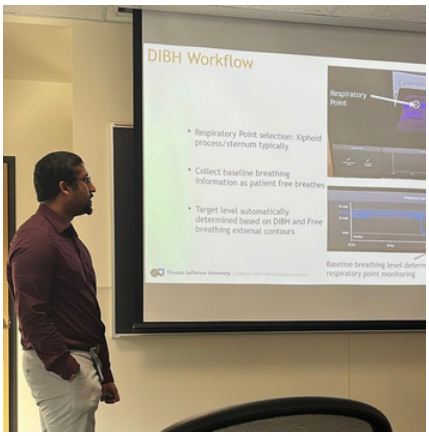

Sage Journals

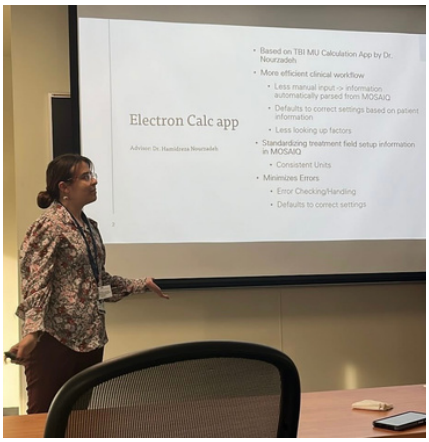
Medical Manuscript

Intimacy After Diagnosis: Navigating Sexual Health Conversations and Disparities Among Cancer Survivors

Ilori T, Gerber K, Burke S, Shimada A, Ali A, Loeb S, Yutong L, Lazar M, Rosenblum NG, **Anne PR, Simone NL**: Intimacy After Diagnosis: Navigating Sexual Health Conversations and Disparities Among Cancer Survivors. *American Journal of Hospice and Palliative Medicine, PMID: 41689813.* This study found that sexual health was impacted by 71.8% of its 916 cancer survivor respondents, suggesting that, with increasing cancer survivorship, improving the quality of life for cancer patients – including sexual health – must be at the forefront of oncology efforts.

Enterprise Physics Retreat & Holiday Potluck





In November, the enterprise Medical Physics Division hosted its annual retreat in Center City on National Medical Physics Day.

Faculty, trainees, and staff from our enterprise locations presented a wide variety of topics including updates in advanced technology, homegrown programming for clinical physics, and the Radiation Oncology Incident Learning System.

Thank you to Drs. Karen Mooney and Vimal Desai, both Clinical Assistant Professors of Radiation Oncology, for organizing a great day of learning and insight.

Post-retreat, our division joined many of our regional colleagues at at Maggiano's in Center City for the American Association for Physicists in Medicine's Delaware Valley Chapter Dinner.

Our Physics team celebrated the winter holidays with a bowling potluck at St. Monica's Lanes in South Philadelphia. Trainees and faculty, along with their families, took part in some friendly competition while enjoying some holiday treats. Thank you to Dr. Karen Mooney for organizing!

Celebrating 1 Year of Jefferson Cherry Hill Radiation Oncology

On January 15, we celebrated the first year of serving our patient community at Jefferson Cherry Hill Hospital Radiation Oncology in Cherry Hill, NJ.

Congratulations to the Jefferson Cherry Hill Radiation Oncology team on a successful and busy first year!

Congratulations, Dr. Rani Anné!

We congratulate Pramila Rani Anné, MD, Professor of Radiation Oncology and Medical Director, Bodine Center for Cancer Treatment, who was recently elected **President of the Thomas Jefferson University Hospital Medical Executive Committee.** Dr. Anné will serve in this role through June 2027.

Dr. Anné has a distinguished record of service as a member-elect of the TJUH MEC, having previously served as secretary-treasurer before her election to the committee president role.

Thank you for all you do, Dr. Anné!

Congratulations, Dr. Erik Blomain!

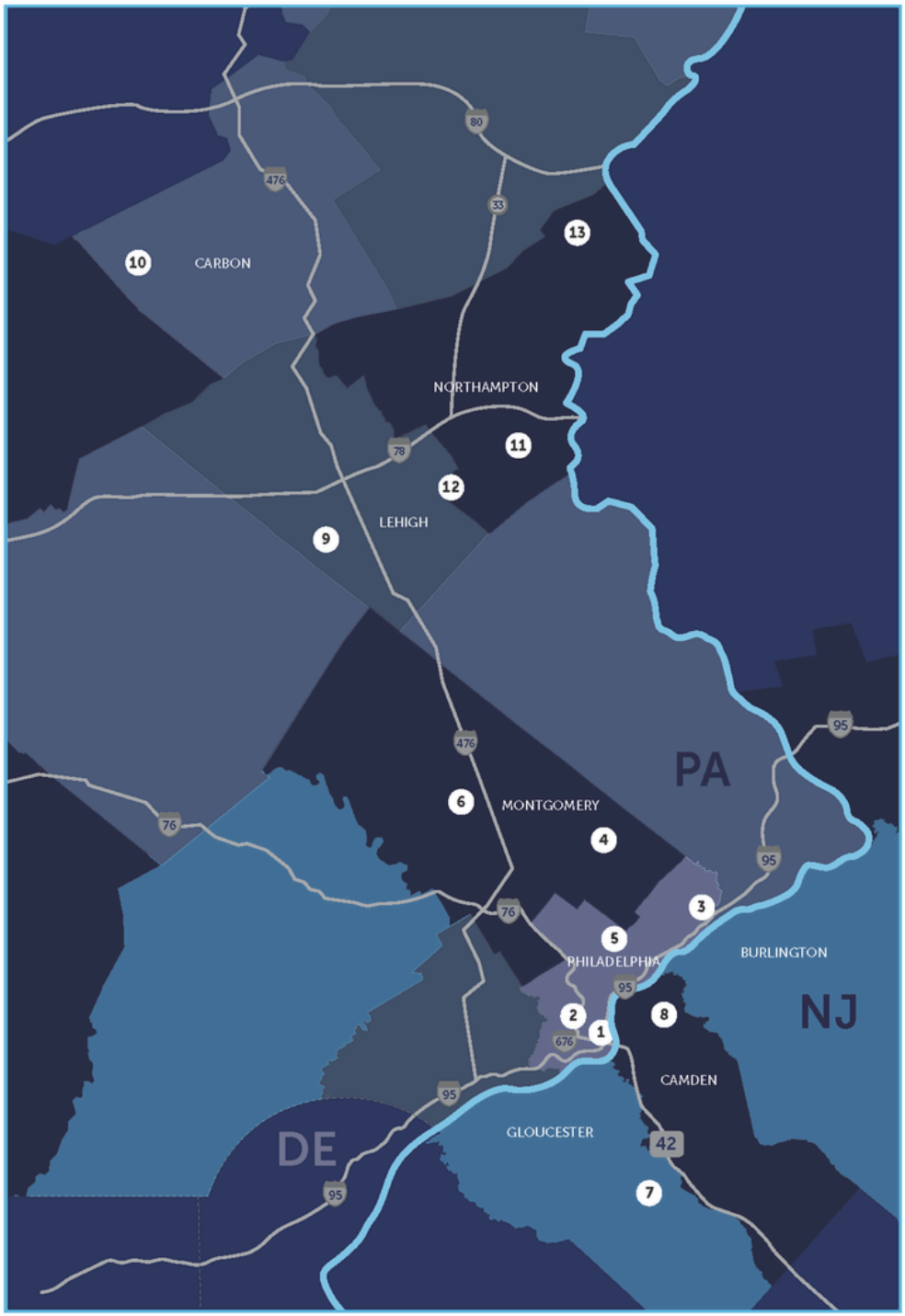
We are pleased to announce that Erik Blomain, MD, PhD, Assistant Professor of Radiation Oncology, has been invited to serve as a member of the **Evidence-Based Medicine (EBM) Committee for the American Society of Clinical Oncology (ASCO)**. This appointment recognizes Dr. Blomain's contributions to oncology research, commitment to evidence-driven clinical practice, and expertise in translating complex scientific findings into meaningful improvements patient care.

The ASCO EBM Committee, charged with overseeing the selection, prioritization, development, review, and approval of ASCO's evidence-based cancer care products, is one of the Society's most influential volunteer bodies. As a committee member, Dr. Blomain will review and approve clinical practice guidelines that span the full continuum of cancer care, from prevention and early detection through treatment, survivorship, and end-of-life care.

SIDNEY KIMMEL COMPREHENSIVE CANCER CENTER

uncompromising care

Radiation Oncology Locations



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

Jefferson Health