

UTSouthwestern
Harold C. Simmons
Comprehensive Cancer Center

THE TARGET

DEPARTMENT OF RADIATION ONCOLOGY

2026 • ISSUE 1

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Message from the Chair

Through sustained innovation, clinical research, and specialized care, UT Southwestern is a national leader in advancing radiation oncology. In this Target edition, we highlight our Department's Brachytherapy Program, which is one of the most comprehensive in the nation. The program offers rare and advanced services, including HDR brachytherapy in combination with stereotactic radiotherapy; cardiac brachytherapy; 3D-printed custom applicators; and endoluminal treatments.

Over the past decade, our Department has pioneered rectal spacer technology to improve prostate cancer treatment, significantly reducing radiation-related toxicity while preserving quality of life. A series of impactful clinical trials, ranging from early-stage to high-risk disease, have helped to expand the use, safety, and benefits of spacer technology. We also have had a key role in a multi-institutional trial evaluating next-generation spacers.

Concurrently, our Department is driving innovation through the PRISM platform trial, which uses adaptive PULSAR radiotherapy to personalize treatment timing and dosing. PRISM's initial cohorts are focusing on extensive-stage small cell lung cancer and brain metastases, exploring how pulsed, adaptive radiation can improve tumor control, reduce toxicity, and integrate with modern immunotherapy approaches. This platform is designed to grow, enabling rapid testing of new ideas across disease sites.

These efforts underscore our continued commitment to innovating and advancing technology, rethinking treatment paradigms, and translating research into meaningful patient impact.

By continuously pushing the boundaries of precision, adaptability, and collaboration, we remain focused on shaping the future of cancer care and improving outcomes for patients everywhere.

Robert Timmerman, M.D., FASTRO, FACP

Chair, Department of Radiation Oncology

Effie Marie Cain Distinguished Chair in Cancer Therapy Research



A handwritten signature in black ink, appearing to read 'R. Timmerman', written in a cursive style.



Dr. Garant alongside a cardiac brachytherapy treatment team during a case.

+ UT Southwestern's **Brachytherapy Program**

By Bradley Grim

UT Southwestern's Department of Radiation Oncology has built one of the most comprehensive and forward-looking brachytherapy programs in the country by combining high-volume expertise with highly specialized treatments available at only a handful of centers nationwide. By pairing established approaches with advanced techniques, the program serves as both a regional referral hub and a national leader in innovation.

Prostate cancer, one of the most common malignancies treated by Radiation Oncology, has been central to the program's growth. UT Southwestern is the only hospital in the Southwest offering advanced high-dose-rate (HDR) brachytherapy in combination with stereotactic ablative radiotherapy (SABR). This approach, pioneered at Memorial Sloan Kettering Cancer Center, condenses what was once a multiweek course of therapy into as few as six treatments, providing an efficient and effective option for patients with aggressive disease, also known as high-risk prostate cancer. This approach also allows a reduction in systemic therapy treatment, known as androgen deprivation therapy (ADT), based on the latest national guidelines. The team also has extensive expertise in gel spacer implantation, which

is a procedure that reduces radiation exposure to the bowel and relies on similar technical precision. With wait times typically half of the community standard, UT Southwestern has become one of the highest-volume spacer centers in the Dallas-Fort Worth area.

Equally distinctive is the program's Cardiac Brachytherapy Service, a rare offering that draws referrals from across Texas and beyond. In collaboration with interventional cardiology specialists, radiation oncologists treat patients with coronary artery restenosis, a challenging complication of coronary artery disease once the first lines of routine treatments have failed. After multiple interventions, scar tissue can cause chronic narrowing of the vessels, leaving patients with few remaining options. Cardiac brachytherapy delivers a concentrated dose of radiation inside the vessel, preventing excessive scarring and recurrent narrowing. Though not widely practiced, the therapy can be life-changing for the small group of patients who need it, and UT Southwestern has become one of the few centers capable of delivering it safely and effectively and is currently one of two credentialed coronary brachytherapy centers in Texas.

Similarly, advances in endoluminal brachytherapy are creating new opportunities for patients with tumors in the lung, rectum, or ureter. Many of these individuals are either too ill for surgery or seek to avoid life-altering outcomes such as a permanent colostomy, or the loss of a kidney. Using the latest generation of endoscopic equipment, UT Southwestern clinicians can now deliver HDR brachytherapy directly within the airway, urinary tract, or rectum, targeting tumors with precision. The Department is also a key site for clinical trials investigating brachytherapy for rectal cancer, underscoring its role at the forefront of advancing care in this space. This phase three randomized controlled trial is registered and publicly accessible on ClinicalTrials.gov. Furthermore, in highly aggressive forms of colorectal cancer, complex pelvic surgery and intraoperative radiotherapy is available via multidisciplinary team management at UT Southwestern.

For patients with brain cancer, the program utilizes GammaTile therapy, a surgically targeted radiation therapy in which cesium-131 seeds embedded in a collagen tile are placed directly into the surgical cavity at the time of tumor resection. This approach delivers a concentrated dose of radiation to the area at highest risk for recurrence while sparing surrounding healthy brain tissue, offering patients a precise and convenient treatment option that doesn't require a separate postoperative procedure. Although GammaTile technology is most often used for glioblastoma multiforme and brain metastases, the multidisciplinary team is highly trained in offering various high-precision treatments for benign and malignant tumors of the central nervous system.

The program is also pushing brachytherapy into new frontiers where traditional approaches are limited. A custom 3D printing program allows the creation of applicators precisely molded to a patient's anatomy and designed to accommodate HDR catheters without the need for general anesthesia or a hospital stay. This noninvasive, personalized approach has proved especially valuable for treating complex superficial cancers of the face, vulva, and penis, as well as rare conditions such as extramammary Paget's disease, for which surgery would otherwise be disfiguring or functionally limiting. By integrating engineering innovation with clinical expertise, the program has opened new doors for patients with few



Residents in a GYN brachytherapy training course.

alternatives, offering highly customized, outpatient-based accelerated radiotherapy in under two weeks.

Beyond these specialized services, the program offers a range of brachytherapy applications for gynecological cancers, including cervical and endometrial forms, as well as ophthalmic cancers such as uveal melanoma, ensuring comprehensive access to highly targeted radiation treatments across multiple disease sites.

In addition to patient care, the Department is investing in education and training. A new observership program will provide practicing physicians and residents with immersive one-week training that offers insight into the program's clinical workflows, technical expertise, and collaborative care model. A semiannual, two-day gynecologic brachytherapy workshop is currently offered on a regular basis. Additional practical workshops are expected soon for practicing physicians, physicists, and radiation therapists.

Together, these efforts reflect a program defined by high-volume expertise, rare specialty services, and a strong commitment to innovation, redefining what is possible in brachytherapy and radiation oncology.



Aurelie Garant, M.D.

Associate Professor of Radiation Oncology and Director of the Brachytherapy Program



Patient Spotlight: Jackie's Story

By Ryan Daugherty

Jackie Caldwell is a retired special education teacher whose career path reflects determination and heart. After returning to college later in life, she spent years teaching kindergarten through sixth grade math and science. Before embracing her role as a teacher, Mrs. Caldwell worked as a waitress for over two decades and helped run her husband's trucking company. A Texas resident since she was a teenager and now living in the small town of Eustace, she has stayed active and self-sufficient, finding joy in gardening, taking daily walks, and maintaining a healthy routine.

At 67, Mrs. Caldwell considered herself one of the healthiest individuals she knew. That confidence was shaken when she noticed signs of trouble while out walking. Something felt off. She wasn't necessarily short of breath, but she struggled to take a deep, satisfying breath. Occasionally, there was a dull, tight sensation in one of her lungs. Nothing about it felt urgent or alarming, but she trusted her instincts and scheduled a doctor's visit just to be safe.

What followed progressed quickly. An initial X-ray led to further imaging that revealed a mass in her right lung. Additional scans showed the cancer had spread to her

bones. The diagnosis came as a complete shock. Mrs. Caldwell went from feeling strong and energized to being told she had stage 4 cancer in a matter of weeks. It was overwhelming news, and she admits it was difficult to process. At the time, Mrs. Caldwell's son was visiting. With a clear sense of urgency, he encouraged her to seek a second opinion with the best possible team.

"He told me we needed to go see the best, so we called UT Southwestern," Mrs. Caldwell said.

At UT Southwestern, Mrs. Caldwell's care progressed swiftly. She met with specialists across multiple departments, including Radiation Oncology, where she first encountered Shahed Badiyan, M.D., Associate Professor and Director of Clinical Adaptive Therapy. While earlier consultations elsewhere had suggested radiation was no longer an option, her care team at UT Southwestern identified her as a candidate for a clinical study that included personalized, or adaptive, radiation therapy.

"Rather than giving radiation after chemotherapy and immunotherapy are complete, we give patients on this trial three PULSAR radiation fractions, one pulse every three weeks between chemotherapy treatment cycles,"

Mrs. Caldwell and her husband, James, visiting Swallow Falls in Maryland.



says Dr. Badiyan, who leads one of the cohorts on the study. “We’re hopeful this approach is easier on patients, activates the immune system at the optimal time, and proves to be a safe strategy that makes immunotherapy more effective, and ultimately leading to better outcomes.”

Mrs. Caldwell was grateful for the opportunity, but she was on the fence on proceeding, as the idea of radiation left her uneasy. During this uncertain moment, an unexpected but essential source of support helped ease her worries. When her insurance situation became complicated just before treatment was scheduled to begin, Stephanie Wilson, a patient financial advisor in the Department, stepped in to navigate the logistics. Just as importantly, she offered reassurance and calmness when Mrs. Caldwell needed it the most.

On the day of her first radiation treatment, Mrs. Caldwell sat in her car in the parking lot alongside her daughter, unsure if she should continue. A conversation with Ms. Wilson gave her the courage to move forward. Once treatment began, Mrs. Caldwell found herself surrounded by compassion. Dr. Badiyan, his nurse Nadiya Rojas, and the rest of her radiation oncology team treated her with kindness, respect, and steady reassurance. They took the time to explain each step, answered questions, and made her feel safe. During treatments, the team played some of her favorite music to help her relax, creating a calm and supportive environment.

“Even when I got scared, whomever I was with made me feel better,” she says. “My son even said he had never seen the kind of care I received at UT Southwestern. There isn’t one negative thing I can say about my experience there.”

The results of treatment have been encouraging. Imaging showed that the tumors in her lung shrank significantly, with no continued spread. She also experienced few side effects from radiation. While she remains under close monitoring and her cancer has not completely disappeared, her energy has returned, her strength has improved, and she has been able to resume many of the activities she once enjoyed, including walking daily. She believes radiation played a meaningful role in stabilizing



Mrs. Caldwell enjoying a Mother’s Day brunch.

her disease and extending both her quality of life and her outlook.

Throughout her journey, Mrs. Caldwell’s support system has been essential. Her husband has been with her every step of the way, handling meals, household responsibilities, and trips to Dallas for appointments, even during difficult weather. Her daughter stayed with her for two months, setting aside her first Thanksgiving and Christmas as a newly married woman.

Looking ahead, Mrs. Caldwell continues with follow-up care and monitoring, including immunotherapy and regular scans. Her message to others facing a similar diagnosis is simple and heartfelt: listen to your body, take changes seriously, and seek expert care early. While her journey is ongoing, she remains deeply grateful for her family, her caregivers, and the hope she’s found along the way.

“If you feel something different is going on with your body, even on a small scale, do not wait,” she says. “I feel my survival is because I went to UT Southwestern. I now am able to live a productive life because of the care I received there.”



Shahed Badiyan, M.D.

Associate Professor of Radiation Oncology and Director of Clinical Adaptive Therapy

+ Advancing Spacer Care and Innovation at UT Southwestern

By Ryan Daugherty

For over a decade, UT Southwestern Medical Center has been a pioneer in the development and improvement of rectal spacer technology, an important advancement in prostate cancer treatment. Rectal spacers are soft, gel-like materials that are placed between the prostate and rectum during radiation therapy. By pushing the rectum away from the radiation field and reducing exposure to nearby healthy tissue, this innovation significantly lowers the risk of side effects such as bowel irritation and bleeding, ultimately improving the patient's comfort and long-term quality of life.

UT Southwestern's investment in spacer technology began in 2015 with a key phase two trial led by Michael Folkert, M.D., Ph.D., an expert in genitourinary cancer care and former UT Southwestern radiation oncologist. The study focused on men with early-stage prostate cancer, aiming to reduce rectal ulcer rates caused by high-dose radiation. The results were compelling, showing that spacers dramatically lowered ulcer incidence and maintained excellent cancer control, setting the stage for broader adoption.

Building on this success, Raquibul Hannan, M.D., Ph.D., Professor and Chief of Genitourinary Radiation Oncology Service, spearheaded a subsequent trial in

the Department, exploring spacer use in men with high-risk prostate cancer. This was a critical step forward that expanded the technology to a more complex disease class where larger treatment fields raised concerns about feasibility and safety. Dr. Hannan's work demonstrated that spacers could be successfully integrated even in these challenging cases, confirming their versatility.

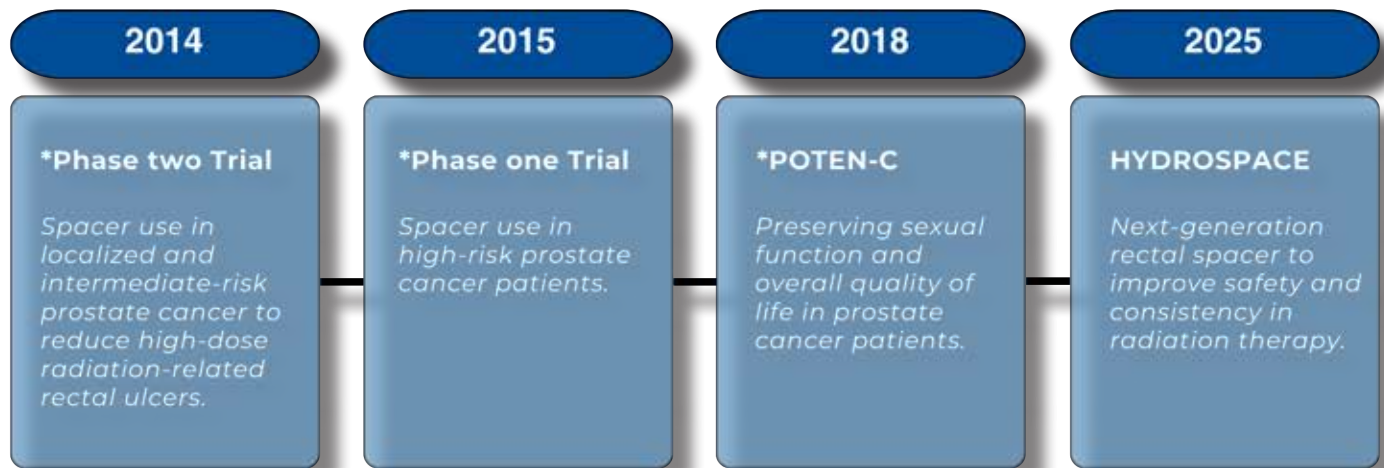
Neil Desai, M.D., M.H.S., Associate Professor and Director of Clinical Research, further examined the role of spacers in preserving sexual function and overall quality of life beyond rectal symptom reduction in the POTEN-C trial. This multicenter, randomized trial leveraged the now established ability of rectal spacers to increase the degrees of freedom of radiotherapy plans, specifically evaluating reducing the dose to anatomic structures, which previously were hard to spare when the primary focus was restricted to only the rectum. This study highlighted the broader benefits of spacers, emphasizing their impact on patient well-being and survivorship.

These three trials have helped form the foundation of UT Southwestern's reputation as a leader in spacer innovation, each having addressed unique clinical questions and progressively expanded the scope and value of this technology. Central to these advancements is UT Southwestern's Brachytherapy Program, led by Aurelie Garant, M.D., Associate Professor and Director of the Brachytherapy Program. This high-volume procedural service has embraced innovation, integrating spacer technology into complex treatment workflows. Under Dr. Garant's leadership, patients are assured of receiving leading-edge care delivered with both precision and expertise.

Further solidifying its reputation for innovation, UT Southwestern is a key site in the HYDROSPACE trial, a multi-institutional, randomized study evaluating a next-generation rectal spacer designed to improve consistency in prostate cancer radiation therapy. Unlike traditional epoxy-based spacers that need to



Dr. Desai serves on the HYDROSPACE National Steering Committee.



**UT Southwestern
Radiation Oncology
Genitourinary
Physicians**



Dr. Raquibul
Hannan
(team lead)



Dr. Akrita
Bhatnagar



Dr. Neil
Desai



Dr. Aurelie
Garant



Dr. Dillon
Li



Dr. Andrew
Wang



Dr. Daniel
Yang

be injected in one continuous flow, a process with little room for adjustment, this new formulation is sculptable and can be applied in a stop-and-start manner. It also retains visibility on CT scans used during radiation to guide therapy. This flexibility allows physicians to reposition and optimize placement, potentially reducing the risk of misapplication and improving the patient's overall experience.

"We've championed this technology for several years now, moving it from a concept with no precedent to a series of successful studies," explained Dr. Desai, who serves on the trial's National Steering Committee. "This latest innovation reflects years of work dedicated to improving radiotherapy quality and enhancing safety."

The HYDROSPACE trial has completed enrollment nationally, with UT Southwestern being a key contributor. Results are expected in late 2026.

Overall, these trials are not just about refining the technology but also reinforcing high-quality care. By validating spacers that are easier to place and less dependent on operator experience, the aim is to make advanced prostate cancer treatment safer and more consistent for patients everywhere.

UT Southwestern's involvement goes beyond enrollment. Dr. Desai's leadership on the steering committee emphasizes the University's influence

on trial design and oversight. Additionally, radiation oncology medical physicist Yulong Yan, Ph.D., FAAPM, Professor and Director of Computational Physics, has a pivotal role in centralized quality assurance, handling dosimetry reviews and ensuring rigorous standards across participating sites. This collaboration highlights the depth of expertise within the Department of Radiation Oncology, from clinical innovation to physics-driven precision.

With rapid recruitment and active participation in trial governance, UT Southwestern remains at the forefront of shaping the future of prostate cancer care. Dr. Desai noted the Department's commitment extends beyond the study, envisioning a future where spacer technology is seamlessly integrated into diverse treatment settings and improving outcomes for patients regardless of geography or institutional resources.

"Our goal is to ensure every patient has access to the highest quality of therapy," Dr. Desai said. "HYDROSPACE is just the latest step in a long journey, and it moves us closer to making advanced care available to all."



Neil Desai, M.D., M.H.S.

Associate Professor of Radiation Oncology
and Director of Clinical Research



PRISM Trial: Advancing Adaptive Radiation Therapy

By Ryan Daugherty

The PRISM trial represents an ambitious and forward-thinking research effort in the field of radiation oncology. Led by the Department of Radiation Oncology's Clinical Research Office, PRISM is designed as a single, overarching protocol that can host multiple independent studies, or cohorts. It is structured as a platform trial and is divided into two cohorts between Shahed Badiyan, M.D., Associate Professor, and Michael Dohopolski, M.D., Assistant Professor. The trial allows new ideas to be tested efficiently across disease sites while sharing infrastructure and accelerating discovery.

Central to PRISM is the use of personalized ultrafractionated stereotactic ablative radiotherapy, or PULSAR, which is an adaptive radiation therapy approach that differs significantly from traditional radiation delivery. Instead of giving radiation daily or every other day over several weeks, PULSAR uses

large, precisely targeted radiation pulses delivered weeks apart. This spacing allows tumors time to shrink, the immune system time to respond, and normal tissue time to recover, all advantages that aren't possible with conventional regimens. Adaptive radiation technology then allows clinicians to adjust each "pulse" based on how the tumor has changed since the last treatment.

PRISM's first cohorts are targeted on two diseases that are highly responsive to adaptive strategies. Led by Dr. Badiyan, who also serves as Director of Clinical Adaptive Therapy, one cohort focuses on extensive-stage small cell lung cancer, a fast-growing disease traditionally treated with four to six cycles of chemotherapy, followed by low-dose consolidative chest radiation.

In recent years, immunotherapy has been paired with chemotherapy, improving survival. However, the value

Dr. Badiyan oversees a patient's CT scan.



of consolidative radiation in the immunotherapy era remains unclear, since earlier trials did not combine them.

“This cohort was designed to help us learn if radiation can be more effective if delivered earlier,” Dr. Badiyan said. “Instead of waiting until after chemotherapy is completed, three high-dose pulses of adaptive radiation are delivered, each the day prior to the second through fourth cycles. Adaptive technology allows each pulse to be tailored to the smaller tumor volume, reducing radiation exposure to the lungs, heart, and esophagus.”

This approach could provide several advantages, including stronger treatment synergy, quicker tumor reduction, greater convenience, and more personalized care. With treatment sequencing for the disease still evolving, Dr. Badiyan’s cohort aims to provide the evidence needed to modernize radiation use in today’s immunotherapy-driven landscape.

The second cohort, led by Dr. Dohopolski, addresses brain metastases, a challenge in cancer care. Traditionally, patients receive three to five stereotactic radiation treatments over a few weeks, all based on a single MRI taken before treatment. This approach doesn’t account for how tumors respond during therapy or how different cancer types may shrink at different rates.

In this cohort, patients begin with three pulses of radiation, then undergo imaging to assess the tumor’s response. If the metastasis shrinks significantly, the final two pulses may not be needed. If additional treatment is needed, the final sessions are delivered using a newly adapted plan that targets the smaller lesion.

“This approach helps us define the optimal radiation dose, determine when treatment can be safely reduced, and understand how modern brain treatments can influence response,” Dr. Dohopolski said. “Ultimately, the goal is to create more precise and individualized dosing strategies that prevent overtreating while maintaining excellent tumor control.”

Looking ahead, Dr. Dohopolski envisions the integration of artificial intelligence-assisted models to predict responsiveness and guide future escalation or de-escalation decisions.



Dr. Dohopolski observes a treatment plan for a CNS patient.

PRISM was designed from the outset to grow, with plans to add new cohorts exploring PULSAR in other disease sites that respond well to adaptive strategies. Because each cohort functions as a pilot, the trial’s findings can spark larger multi-institutional trials and shape new standards of care. Results from either of the current cohorts could lead to additional cohorts tailored to what is discovered.

PRISM ultimately aims to bring radiation therapy in line with the era of personalized, immune-focused oncology using biology, real-time response, and adaptive planning to deliver the right dose at the right time for each patient. In doing so, it has the potential to fundamentally change how radiation therapy is used across many cancers, opening the door to more effective, efficient, and individualized treatment options for patients.



Shahed Badiyan, M.D.

Associate Professor of Radiation Oncology and Director of Clinical Adaptive Therapy



Michael Dohopolski, M.D.

Assistant Professor of Radiation Oncology

+ Education Highlights

Ethos Adaptive Radiation Therapy Training Program

In January and April, UT Southwestern hosted the Ethos Adaptive Radiotherapy Training Program, bringing together clinicians, physicists, and radiation therapy teams to deepen their expertise in cone-beam computed tomography-guided adaptive therapy. Recognized as one of the nation's most active and advanced centers for adaptive therapy, UT Southwestern is an ideal setting for hands-on education in this rapidly evolving field. The course was designed to strengthen participants' understanding of online adaptive radiotherapy and expand their ability to implement Ethos-guided workflows in their own clinics.

The program highlighted the value of personalized, real-time treatment adaptation, enabling clinicians to visualize anatomical and tumor changes during therapy and adjust plans at the console, improving target coverage while reducing toxicity to surrounding organs. This approach eliminates the delays associated with traditional offline replanning and reflects UT Southwestern's ongoing commitment to advancing adaptive radiotherapy worldwide. Throughout the course, participants engaged in site-specific workflow demonstrations, hands-on adaptive planning exercises, and interactive discussions. The curriculum was structured to prepare attendees to confidently integrate adaptive therapy protocols, optimize team coordination, and elevate the quality of care in their home institutions.

Course Topics

- Principles and rationale for online adaptive radiotherapy across multiple disease sites.
- Key components of the Ethos-guided ART workflow—from simulation through online adaptation and treatment delivery.
- Hands-on adaptive planning, including contour review and simulated online adaptation using the Ethos system.
- Clinical staffing models and team-based strategies to streamline adaptive workflows and reduce physician burden.
- Site-specific considerations such as imaging, contouring, plan quality evaluation, and adaptive QA.



2026 Resident and Fellow Graduates

Medical Residents:



Ryan Assadi, D.O.

Graduate school: The Johns Hopkins University

Medical school: The Johns Hopkins University



Young Suk "Joseph" Kwon, M.D.

Graduate school: Rutgers University

Medical school: Mercer University School of Medicine

Practicing: Ohio State University

Medical Physics Residents:



Jacob Buatti, Ph.D.

Graduate school: Oregon Health & Science University

Ph.D.: UT Health San Antonio

Practicing: Stanford Medicine & Sutter Health Cancer Center



Sruthi Sivabhaskar, Ph.D.

Graduate school: UT Health San Antonio

Ph.D.: UT Health San Antonio

Practicing: UT Southwestern Medical Center



Shanshan Tang, Ph.D.

Graduate school: Xi'an Jiaotong University

Ph.D.: Xi'an Jiaotong University

Practicing: UT Southwestern Medical Center

Fellows:

Medical Physics Adaptive Radiotherapy Fellowship



Chang-Shiun Lin, Ph.D.

Graduate school: National Tsing Hua University

Ph.D.: National Tsing Hua University

Practicing: University of Nebraska Medical Center

Precision Radiation Oncology Fellowship



Sympascho Young, M.D.

Medical school: University of British Columbia

Residency training: Western University

Practicing: Arthur J.E. Child Comprehensive Cancer Centre

2026 Incoming Residents and Fellow

Medical Residents:



Diya Kallam, M.D.

Undergraduate education: The George Washington University

Medical school: The George Washington University School of Medicine



Ryan Kuehnle, M.D.

Undergraduate education: Texas A&M University

Medical school: The University of Texas Health Science Center at San Antonio



Omar Nabulsi, M.D.

Undergraduate education: University of Illinois at Chicago

Medical school: Rush Medical College

Medical Physics Residents:



Oluyemi Aboyewa, Ph.D.

Undergraduate education: The Federal University of Technology Akure

Ph.D.: Northwestern University



Yao Chen, Ph.D.

Undergraduate education: Xi'an Jiaotong University

Ph.D.: Dartmouth College



Bowen Jing, Ph.D.

Undergraduate education: Xi'an Jiaotong University

Ph.D.: Xi'an Jiaotong University



Austen Maniscalco, Ph.D.

Undergraduate education: Stony Brook University

Ph.D.: UT Southwestern Medical Center



Hui-Ju (Amber) Wang, Ph.D.

Undergraduate education: Texas Tech University

Ph.D.: UT Southwestern Medical Center

Fellow:

Precision Radiation Oncology Fellowship



Byounghyuck Kim, M.D., Ph.D.

Undergraduate education: Hanyang University College of Medicine

Graduate school/Ph.D.: Seoul National University College of Medicine

+ New Faculty

Physicians



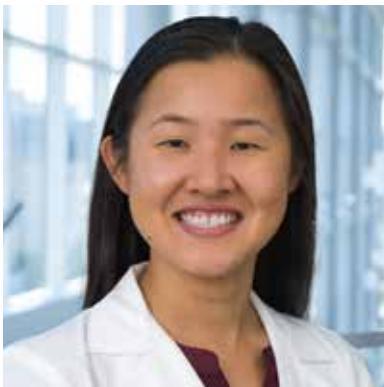
Akrita Bhatnagar, M.D., Ph.D., Assistant Professor

Dr. Bhatnagar joined the Department as an attending physician on the Genitourinary Radiation Oncology Service. She obtained her medical degree from the George Washington University School of Medicine & Health Sciences and her Ph.D. in molecular imaging from the Johns Hopkins University School of Medicine. Prior to joining UT Southwestern, she completed her radiation oncology training at MedStar Georgetown University Hospital in Washington, D.C. During her residency, Dr. Bhatnagar received the String of Pearls honor and was active in publishing and presenting CNS-oriented clinical research. She is the recipient of several other awards, including the SNMMI/AACR Young Investigator Award during her graduate studies and the AACR Scholar-in-Training Award. Her interests lie in radiopharmaceutical therapies and advanced molecular imaging modalities for prostate cancer.



Agnes Ewongwo, M.D., M.P.H., Assistant Professor

Dr. Ewongwo joined the Department's Gynecological Radiation Oncology Service as an attending physician. She completed both her medical degree and master's degree in public health from the University of Arizona College of Medicine. Following this, she completed a transitional year in the Tucson Medical Center Health Medical Education Program and her radiation oncology residency at Stanford University. She also was accepted as a resident for the Global Health Scholars Program from ASTRO. Dr. Ewongwo has received several honors and awards, including the National Comprehensive Cancer Network Oncology Fellows Educational Award, the ICEC Coleman/Kaplan Mentorship Grant, and the ICEC Rodney R. Million Grant for Innovation in Clinical Care.



Lin Zhu, M.D., Ph.D., Assistant Professor

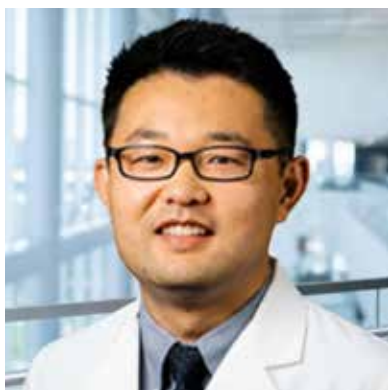
Dr. Zhu joined the Department as an attending physician on the Head and Neck Radiation Oncology Service. She earned both her medical degree and Ph.D. from the Baylor College of Medicine in Houston. After this, she completed a transitional year at Memorial Sloan Kettering Cancer Center, followed by her radiation oncology residency training in the Harvard Radiation Oncology Program. Dr. Zhu's extensive research experience includes work in the neurology department at Beth Israel Deaconess Medical Center, the neurosurgery department at Baylor College of Medicine, and the radiation oncology department at MD Anderson Cancer Center, where she developed and optimized pulse sequences for MRI-guided radiation treatment for head and neck cancer.



Maureen Aliru, M.D., Ph.D., Assistant Professor

Dr. Aliru joined our Breast and Lung Radiation Oncology Services as an attending physician after completing her radiation oncology residency training in the Department. She earned her medical degree from UTHealth Houston's McGovern Medical School and followed with the completion of her Ph.D. at MD Anderson Cancer Center. Dr. Aliru's research background includes extensive work in nanomedicine, radiosensitization, and tissue engineering. A Holman Research Pathway resident at UT Southwestern, she conducted advanced translational research on ligand-independent targeting of tumors.

Medical Physicists



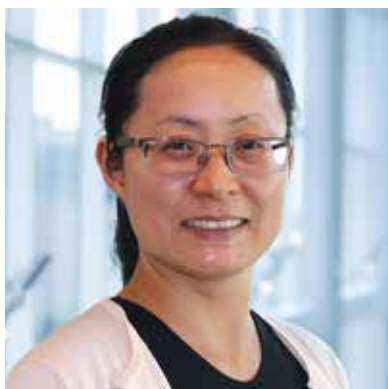
Hao Gao, Ph.D., Professor and Director of Physics Research

Dr. Gao joined our Division of Medical Physics & Engineering as a faculty member. He earned both his master's degree and Ph.D. from the University of California, Irvine and previously served as director of physics research at the University of Kansas Medical Center's radiation oncology department. Dr. Gao's research focuses on treatment planning, computational modeling, and translational development of advanced radiotherapy techniques, including spatially fractionated radiation therapy (SFRT), FLASH radiotherapy, proton and particle therapy, personalized adaptive treatments, and quantum computing for radiotherapy.



Minsun Kim, Ph.D., Professor and Senior Director of Clinical Physics

Dr. Kim joined our Division of Medical Physics & Engineering as a faculty member. She obtained her master's degree in applied physics from Columbia University and her Ph.D. in applied mathematics from the University of Washington. Prior to coming to UT Southwestern, Dr. Kim worked at the University of Washington Medical Center as clinical physics lead for radiation oncology services. Her research interests include data-driven optimization and automation to enhance clinical outcomes, efficiency, and patient care. By integrating advanced analytics into radiation therapy practice, she aims to improve precision, consistency, and treatment effectiveness.



Yuting Lin, Ph.D., Associate Professor and Director of Treatment Delivery

Dr. Lin has extensive clinical experience across a broad spectrum of radiation therapy modalities, with an expertise in proton therapy. She has held key leadership roles at major academic institutions, leading proton physics programs and advancing the clinical implementation of innovative treatment techniques. Dr. Lin is passionate about advancing cutting-edge research in FLASH radiotherapy, spatially fractionated radiation therapy, and proton minibeam therapy. Her work integrates physics, biology, and mathematical modeling to develop next-generation treatment strategies that improve therapeutic outcomes while minimizing toxicity.



Awards & Recognition



Prasanna Alluri, M.D., Ph.D.,

Assistant Professor and leader of the Alluri Lab, was awarded a National Institutes of Health/National Cancer Institute R01 grant for \$3,136,855 over five years for his project titled “Targeted Degradation of CDK4 and 6 to Overcome Treatment Resistance in Breast Cancer.” This study will develop a novel treatment approach for targeting resistance to CDK4/6 inhibitors in breast cancer patients. Co-investigators on this study include Ram Mani, Ph.D., Associate Professor of Pathology and Urology; Susmita Ramanand, Ph.D., Instructor in the Department of Pathology; Siyuan Zhang, Ph.D., Associate Professor of Pathology; and Chul Ahn, Professor in the School of Public Health, all at UT Southwestern.

Dr. Alluri was also awarded a U.S. Department of Defense grant for his project titled “An In Situ Tumor Vaccine to Stimulate Anti-Tumor Immunity Against Breast Cancer.” This \$2.5 million award will support efforts in the Alluri laboratory to develop novel immunotherapy approaches in breast cancer patients. These studies will be done in collaboration with Tao Wang, Ph.D., Associate Professor in the Department of Bioinformatics and Computational Biology at MD Anderson Center, who will serve as a co-PI.



Ken Kang-Hsin Wang, Ph.D., DABR,

Associate Professor and leader of the Biomedical Imaging and Radiation Technology (BIRT) Lab, received an NIH/NCI R37 Merit Award for his project “X-Ray/Optical Tomographic Guidance and Assessment for Pre-Clinical Radiation Research.” The \$372,981 award supports his development of in vivo fluorescence lifetime (FLT) imaging, which measures how long a fluorophore stays excited rather than relying on intensity. Because

FLT avoids artifacts like autofluorescence and spectral crosstalk, it enables more accurate biomarker detection and quantitative analysis. This technology also improves multiplexing, allowing simultaneous tracking of multiple biological processes. Dr. Wang’s work strengthens optical imaging for preclinical cancer studies and advances research into tumor microenvironments and radiotherapy.



Alongside **Paul Medin, Ph.D.,**

Professor and Program Director of the Medical Residency, and **Weiguo Lu, Ph.D.,** Professor, Dr. Wang was also awarded a total of \$123,000 through the NCI Stimulus Award Program at the Simmons Comprehensive Cancer



Center for their proposal titled “Assessing FLASH Irradiation for Late-Responding Tissue Protection: A Translational Approach to Re-Irradiation of Spinal Metastases.” This project investigates whether ultrahigh-dose-rate FLASH radiotherapy can reduce radiation-induced late spinal cord toxicity and improve treatment efficacy in the re-irradiation of vertebral metastases. Through integrated in vivo, mechanistic, and dosimetric studies, the team aims to define the mechanisms and optimal parameters underlying FLASH-mediated spinal cord sparing and to translate these findings to proton radiotherapy. The results will establish a mechanistic and translational foundation for advancing FLASH therapy toward clinical re-irradiation applications.



Ashish Ranjan, B.V.Sc., Ph.D.,

Professor, Director of the Veterinary Research and Oncology Clinic, and Vice Chair for Comparative Oncology and Research Innovation, was awarded a National Institutes of Health/National Cancer Institute R37 grant totaling \$1,239,511 for his project titled

“Novel Focused Ultrasound Enhanced Calreticulin-Nanoparticle for Immune Primed Melanoma Immunotherapy.” This project will assess how nanoparticle and focused ultrasound therapies, alone or together, are affected by the obese physiological environment. Dr. Ranjan holds the Robert B. and Virginia Payne Professorship in Oncology.



Andrew Wang, M.D., FAIMBE, FAAAS, FASTRO, Professor and Vice Chair of Translation Research & Commercialization, has been awarded a National Institutes

of Health/National Cancer Institute R56 grant for \$300,000 for his project titled “Immune Checkpoint-Engineered Oligodendrocytes as Treatment for Multiple Sclerosis.” Dr. Wang’s research focuses on developing immune checkpoint-engineered oligodendrocytes to treat multiple sclerosis (MS), an autoimmune disease of the central nervous system. Building on promising preclinical data, his team aims to create autologous oligodendrocytes using stem cells and iPSCs, then test their ability to induce immune tolerance and prevent disease progression in MS models. This innovative approach combines biomedical engineering and glycochemistry to pioneer a new class of cell-based therapies with the potential to transform MS treatment and uncover novel mechanistic insights.

Dr. Wang was also the recipient of two other awards. His work titled “Immune-Checkpoint Engineered Color Organoids to Induce Immune Tolerance as Treatment for Inflammatory Bowel Disease,” earned him the Rainin Foundation Innovator Award, totaling \$500,000 over two years. He also received the Helmsley Foundation Research Grant, totaling \$1 million over two years for his work titled “Immune Checkpoint Engineered Beta Cell Vaccine for the Treatment of Type 1 Diabetes.”

Additionally, Dr. Wang was selected as a Fellow of the American Society for Radiation Oncology (ASTRO) during the 2025 ASTRO Meeting. This designation honors ASTRO members who have made significant contributions to the Society and the field through research, education, patient care, and service. Out of over 10,000 ASTRO members worldwide, Dr. Wang is one of only 541 to receive this prestigious distinction.



Ken Westover, M.D., Ph.D., Professor, Director of Clinical Innovation and Information Systems, and Chief of Lung Radiation Oncology Service, received a

2025 V Foundation Pediatric All-Star Cancer Research grant for \$1 million. Dr. Westover will lead research to develop novel targeted inhibitors for the FGFR1 N546K mutation, a treatment-resistant genetic alteration found in several pediatric tumors, with the goal of improving outcomes for children with FGFR1-driven cancers and related mutations in other cancer types.

Faculty Promotions



Raquibul Hannan, M.D., Ph.D.
Received Tenure as Professor of Radiation Oncology



Deepak Nijhawan, M.D., Ph.D.
Promoted to Professor of Radiation Oncology with tenure



Ken Westover, M.D., Ph.D.
Promoted to Professor of Radiation Oncology with tenure



Andrew Godley, Ph.D., FAAPM
Promoted to Professor of Radiation Oncology



Mu-Han Lin, Ph.D.
Promoted to Professor of Radiation Oncology and Senior Director of Clinical Physics



Tu Dan, M.D.
Promoted to Associate Professor of Radiation Oncology



Dominic Moon, M.D.
Promoted to Associate Professor of Radiation Oncology

Promotions as of September 2025

+ OUR CLINICAL PROVIDERS



Todd Aguilera, M.D., Ph.D.
Assistant Professor



Kevin Albuquerque, M.D., FACR
Professor and Director of Radiation
Oncology Accreditation
Chief of Gynecological Radiation Oncology Service
Holder of the Ken Sharma Professorship in
Radiation Oncology



Maureen Aliru, M.D., Ph.D.
Assistant Professor



Prasanna Alluri, M.D., Ph.D.
Assistant Professor



Mona Arbab, M.D., M.Ed.
Assistant Professor and Associate Program
Director of the Medical Residency



Shahed Badiyan, M.D.
Associate Professor and Director of Clinical
Adaptive Therapy



Shohreh Bahrami, M.S., APRN, FNP-C
Advanced Practice Nurse



Akrita Bhatnagar, M.D., Ph.D.
Assistant Professor



Xin Cai, M.D., Ph.D.
Assistant Professor



Tu Dan, M.D.
Associate Professor



Jill De Vis, M.D., Ph.D.
Assistant Professor



Neil Desai, M.D., M.H.S.
Associate Professor and Director
of Clinical Research
Dedman Family Scholar in Clinical Care



Michael Dohopolski, M.D.
Assistant Professor



Aggie Ewongwo, M.D., M.P.H.
Assistant Professor



Aurelie Garant, M.D.
Associate Professor and Director
of the Brachytherapy Program



Anundip Gill, M.S.N., APRN, FNP-C
Advanced Practice Nurse Lead



Daniella Hall, M.P.A.S., PA-C
Physician Assistant



Raquibul Hannan, M.D., Ph.D.
Professor
Chief of Genitourinary Radiation
Oncology Service



Katie Heney, APRN, FNP-C
Advanced Practice Nurse



Rochelle Jackson, D.N.P., APRN, FNP-C
Advanced Practice Nurse



Lena Jacob, M.P.A.S., M.S., PA-C
Physician Assistant



Terri Kelley-Griffis, M.S.N., APRN, FNP-C
Advanced Practice Nurse



Kanchandip Koshy, M.S.N., APRN, FNP-C
Advanced Practice Nurse



Margaret Kozak, M.D.
Assistant Professor



Kiran Kumar, M.D., M.B.A.
Associate Professor and Program Director of the
Medical Residency
Chief of Lymphoma and Pediatrics Radiation
Oncology Services



Dillon Li, M.D., M.P.H.
Assistant Professor



Astrid Medrano, M.S.N., APRN, FNP-C
Advanced Practice Nurse



Dominic Moon, M.D.
Assistant Professor and Associate Medical Director



Asal Rahimi, M.D., M.S.
Professor and Associate Vice Chair
for Program Development
Chief of Breast Radiation Oncology Service



Shay Rezaie, M.S.N., APRN, FNP-C, OCN
Advanced Practice Nurse



Courtney Saba, M.P.A.S., PA-C
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Nina Sanford, M.D.
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Oncology Service
Dedman Family Scholar in Clinical Care



Amy Sessions, M.P.A.S., PA-C
Physician Assistant



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Professor, Vice Chair of Clinical Operations and
Quality, and Medical Director
Chief of Head and Neck Radiation Oncology
Service
Holder of the Barbara Crittenden Professorship in
Cancer Research



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Holder of the Effie Marie Cain Distinguished
Chair in Cancer Research



Nestor Enriquez Torres, M.S.N., AGACNP-BC
Physician Assistant



Andrew Wang, M.D., FAIMBE, FAAAS, FASTRO
Professor and Vice Chair for Translational
Research & Commercialization
Holder of the A. Kenneth Pye Professorship in
Cancer Research



Zabi Wardak, M.D.
Associate Professor and Medical Director
of the Gamma Knife Program
Chief of Central Nervous System Radiation
Oncology Service



Kenneth Westover, M.D., Ph.D.
Professor and Director of Clinical Innovation
and Information Systems
Chief of Lung Radiation Oncology Service



Daniel Yang, M.D.
Assistant Professor
Dedman Family Scholar in Clinical Care



Faith Zhang, M.D., Ph.D.
Assistant Professor



Lin Zhu, M.D., Ph.D.
Assistant Professor

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Department of Radiation Oncology

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