AMERICAN ASSOCIATION of PHYSICISTS IN MEDICINE

IMPROVING HEALTH
THROUGH MEDICAL PHYSICS

AAPM NEWSLETTER

May/June 2026 | Volume 51, No. 3

Special Interest Feature:

Women's Professional Subcommittee

IN THIS ISSUE:

AMERICAN ASSOCIATION of PHYSICISTS IN MEDICINE

RDCE

NEWLY ADDED MPCEC QUIZZES IN THE AAPM ONLINE LEARNING CENTER

Professional | AAPM's State Initiatives and Impact

Professional | MPLA Case 1: Implementing Cone-Beam CT in a Community Hospital

Mammography | AI in breast imaging: A systematic review of reader studies evaluating design, performance, and clinical impact

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Mammography | Image-Guided Breast Biopsy: ACR QC Manual Update and Clinical Overview

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Brachytherapy | Attention 3D UNET for dose distribution prediction of high-dose-rate brachytherapy of cervical cancer: Intracavitary applicators

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AAPM MEETING CONTENT NOW AVAILABLE IN THE VIRTUAL LIBRARY

AAPM Annual Meeting - 2024

AAPM Summer School - 2024

AAPM Spring Clinical Meeting - 2024

QUESTIONS OR CONCERNS?

Contact Us: Online Learning Services Subcommittee

INTERESTED IN SUBSCRIBING TO THE ONLINE CONTINUING EDUCATION PROGRAM?

Contact Jennifer Hudson or Jackie Ogburn to purchase a subscription

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SUBMISSION INFORMATION

To keep all reports uniform, we kindly request that submissions be made through a QuestionPro portal.

Questions? Contact Nancy Vazquez

PUBLISHING SCHEDULE

The AAPM Newsletter is produced bi-monthly.
Next issue: July/August 2026
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CORPORATE AFFILIATE ADVERTISING

Advertising Rates & Deadlines

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EDITOR'S NOTE

I welcome all readers to send me any suggestions or comments on any of the articles or features to assist me in making the AAPM Newsletter a more effective and engaging publication and to enhance the overall readership experience. Thank you.

NEW

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Welcome Spring!

NEWSLETTER EDITOR'S REPORT

Welcome to the 2026 May/June edition of the AAPM Newsletter. The 2026 AAPM Spring Clinical Meeting in Orlando, FL, recently concluded, and preparations are ramping up for the 2026 AAPM Summer School, June 16-20 at the University of Michigan, and the 2026 Joint AAPM | COMP Meeting, July 19–22 in Vancouver, BC. I hope many AAPM members will be able to attend one or more of these meetings! In addition to learning about new research and innovations, these meetings are a great opportunity to meet other members. Local chapter meetings are also great forums for presenting science and meeting each other, and I'm happy that we have reports from three AAPM chapters in this edition of the Newsletter.

The Special Interest Group for this issue of the Newsletter is the Women's Professional Subcommittee. Check out their Featured Physicist article on **Kalpana Kanal** and a new book for kids about medical physicists. These are tough times for science funding, and there are several calls to action for AAPM members in this Newsletter, including for AAPM researchers to step up as grant reviewers, to speak out about the importance of supporting NIST for dosimetric calibrations, and to participate in government advocacy events. Check out the Newsletter for these and many other interesting reports. We also take a moment to remember **William (Bill) Hendee**, renowned medical physicist, AAPM President in 1977, Coolidge Award winner in 1989, who received many other prestigious awards. His legacy will live on through his many students and trainees now working in the field.

Please enjoy this issue of the Newsletter and share with your social media network, the Newsletter is available to all to read. One change to note is that the Newsletter is currently available only as a pdf to download, due to changes in the subscription for the previous online reading service. Our goal is to keep the AAPM Newsletter relevant and interesting to everyone who wants to learn what's happening in medical physics. Submissions are welcomed from all AAPM members and committees, and can be submitted directly through the link on the *Newsletter page*. If you have any thoughts or feedback, please reach out to the Editor. Wherever you are, I hope you enjoy the rest of spring! ■

Jennifer Pursley, PhD
Mayo Clinic

2026 JOINT AAPM | COMP MEETING

JULY 19–22 | VANCOUVER, BC

Sessions You Cannot Afford to Miss

Mark your calendar for the conversations that will shape what comes next in medical physics.

Douglas Boreham, PhD

Sharlene Gill, BScPharm, MD, MPH, MBA, FRCPC

Robin Miller, MS, FAAPM

Simon Cherry, PhD

Sunday Keynote

Non-Linear Biological Responses to Low Dose Ionizing Radiation - From Deep Space to Deep Earth

Douglas Boreham, PhD
Northern Ontario School of Medicine

Monday Presidential Symposium

Mentorship Unlocked: A Master Class

Sharlene Gill, BScPharm, MD, MPH, MBA, FRCPC
University of British Columbia
Department of Medicine

Robin Miller, MS, FAAPM
AAPM President
Northwest Medical Physics Center

Wednesday Keynote

New Frontiers in PET: From Technological Innovation to Transformative Applications

Simon Cherry, PhD
University of California Davis

A Busy Season at AAPM: Reflections from the Board Chair

CHAIR OF THE BOARD'S REPORT

M. Mahesh, PhD
Johns Hopkins University

The past few months have been quite busy at AAPM. In February, we hosted the AAPM Summit titled "Empowering Medicine Through Physics". After a year of planning, the summit culminated in intense discussions among a small invitation-only gathering in Washington, DC. Preparation for the Summit included listening sessions over several months with external entities on the future of medical physics and how we should prepare our members for what lies ahead. The Summit included experts from industry, medicine, science and government along with a select group of AAPM members. Over two days, participants engaged in discussions on artificial intelligence, theragnostic and broader frontiers science. A short summary of the Summit was published in March-April Newsletter. Currently, the steering committee of the AAPM Summit, which includes EXCOM members and AAPM HQ staff, is reviewing all discussions and key take-home points with the goal of developing clear recommendations and ideas to help shape AAPM's next strategic plan. You will hear more about this Summit at a planned session at the upcoming AAPM Annual meeting in Vancouver, Canada and also in a series of Newsletter articles.

Speaking of the Annual Meeting, I am looking forward to the 2026 Joint AAPM | COMP Annual Meeting and Exhibition in Vancouver, Canada this July. We were originally scheduled to meet in Vancouver earlier; however, due to the onset of COVID, steps were taken to avoid financial losses related to contract obligations, resulting in the meeting being rescheduled for 2026.

I attended the Spring Clinical Meeting in Orlando, Florida, this year. Even though I was only there for two days, I kept busy attending several interesting sessions, including "In the Clinic: Short Oral" presentations. The short oral presentations had practical and day-to-day topics encountered by clinical medical physicists and were primarily presented by early career medical physicists and medical physics residents in training. I thought this achieved two goals simultaneously, providing practical tips on clinical programs plus an opportunity for early career and residents to present in short time at a national conference.

This year AAPM completed the medical physics residency match through the MedPhys Match program. The MedPhys Match is overseen the Subcommittee on the Oversight of MedPhys Match (SCOMM), which includes members from AAPM and SDAMPP. The committee is responsible for setting the MedPhys Match rules and monitoring its implementation. The MedPhys Match is administered and conducted by the National Matching Services Inc. (NMS), on behalf of AAPM.

CHAIR OF THE BOARD'S REPORT, Cont.

The 2026 MedPhys Match was the largest in its history. Key numbers include 430 applicants, 122 residency programs, and 199 positions offered. In total, 195 applicants matched, 98% of positions were filled, and 118 programs filled all their positions. Further details and analyses are currently being undertaken by the AAPM committee.

The main advantage of MedPhys Match is that the application service allows applicants to apply to multiple programs using a single user-friendly online application. Programs are able to access a consolidated online portal to collect, review, and evaluate all of their applications. It also simplifies the process of making and accepting offers. Since all offers, acceptances, rejections and final placements occur simultaneously, the matching process is an effective and fair means of implementing a standardized acceptance date. The matching process guarantees that each applicant and residency will get the best possible result that is available to them.

As in previous years, the activities within AAPM makes it feel that this year is going by very quickly. As Chair of the Board, I look forward to meeting many of you at the 2026 AAPM | COMP Annual Meeting and Exhibition in Vancouver, Canada. ■

Science, Community, and What's Ahead

EXECUTIVE DIRECTOR'S REPORT

As I write this column, the crew of Artemis II is on their way to circle the moon. I watched the launch last night, and our staff were exchanging excited messages about our first crewed lunar mission in over 50 years. It's a reminder of how science has the power to inspire us even as other challenging events unfold in the world. And of course, of the critical role of physics.

I also recently binge-watched Radioactive Emergency on Netflix, a new limited series about the events in Goiânia, Brazil, in 1987 that led to the radioactive cesium contamination of hundreds of people and disrupted life throughout the city during the crisis. The program features somewhat fictionalized physicists, dosimetrists, engineers, civic leaders, and physicians working together to contain the damage and treat with compassion the patients suffering from acute radiation syndrome.

I recognize that same dedication in our members today, in their clinical, educational, and research efforts ensuring the quality and safety of ionizing radiation in medicine. It is an important reminder of why our work at AAPM matters.

On that note, here are a few operational updates from AAPM HQ.

I am pleased to announce that **Liz Kohlway** has joined our team as Director, Digital Experience and Engagement — a new role leading our Digital Experience team. Liz comes to us from the Sabin Vaccine Institute, where she led the development and growth of a large global online community of vaccine specialists during the COVID crisis and beyond. She is taking charge of our in-progress digital transformation and will provide important leadership as we launch new platforms and services this year.

We are firming up timelines for the relaunch of our core web content and online services. We will continue to gradually roll out our new community and volunteer platform, AAPM ECHO, to member groups throughout the year. The launch of our core website content and member services has shifted to later in the year. We are planning demos at the Annual Meeting in Vancouver this July so members can see what we have developed and share their feedback.

C. David Gammel
Executive Director, AAPM HQ

EXECUTIVE DIRECTOR'S REPORT, Cont.

This adjustment will allow us to put more effort into a cohesive experience for our members when the site does go live.

Finally, after 15 years of service, **Melissa Liverpool**, Senior Manager of Accounting, has left AAPM for a new opportunity in the nonprofit sector. We wish her well and thank her for her many years of contributions as a valued member of our team.

Whether it's pushing the boundaries of human exploration or responding with skill and compassion when things go wrong, physicists show up. That's what Artemis represents, and it's what Radioactive Emergency captures in its own way. It's also what I see in our members every day. I hope to see many of you in Vancouver this summer. ■

AAPM needs YOU!

Volunteers are essential to furthering the AAPM mission of *advancing medicine through excellence in the science, education, and professional practice of medical physics*. Become a part of this dynamic community via the AAPM Committee Classifieds. Exciting new opportunities are posted regularly; bookmark or check back often to explore the latest possibilities to get involved!

What Significance Does the Summit Hold for the Clinical Medical Physicist?

REPORT FROM THE AAPM SUMMIT: EMPOWERING MEDICINE THROUGH PHYSICS

Robin A. Miller, MS
AAPM President

Emily Townley
AAPM Programs Manager

As we've continued our follow-up discussions from the AAPM Summit, one message has become clear: the future we envisioned is not far off — it is already taking shape in our clinics, workflows, and daily responsibilities. The Summit challenged us to think boldly about the next decade, and these ongoing conversations are helping translate that vision into meaningful, practical steps we can take today. We recognize that many of you are still considering how a Summit focused on long-term predictions will ultimately impact the clinical medical physicist, and that perspective is an important part of this dialogue.

The Summit brought together a diverse group of AAPM members and external partners to explore transformative opportunities in artificial intelligence, theranostics, and other emerging scientific frontiers. In the weeks since, we've started to sharpen those ideas — focusing not just on what's possible, but on what's necessary to ensure medical physicists remain central to patient care.

We want to focus this article on the impact of Summit outcomes to the work of clinical medical physicists; the implications are significant. Across multiple discussion areas, a common theme has emerged - that the role of the clinical physicist is expanding, not contracting. As AI-driven tools, automation, and advanced therapeutics become more integrated into care delivery, the need for physicists to oversee, validate, and guide these technologies is increasing. Rather than reducing our involvement, these innovations demand deeper engagement in areas such as quality assurance, data integrity, workflow design, and clinical decision support.

We have traveled this path many times before — though not always with an eye toward anticipating what lies ahead. Our field has navigated numerous transformations — some might even call them disruptions — from the shift to heterogeneous dose calculations, to the adoption of IMRT and later VMAT, to the transition from paper to electronic charts. Each time, clinical physicists have risen to the challenge: implementing these advances, establishing robust and reliable workflows, and often, once those systems were firmly in place, transitioning aspects of that work to others.

What is new for the clinical physicist is thinking toward the future; Summit participants emphasized that this evolution will require intentional change. Traditional models of practice may not fully capture the value physicists bring to an increasingly complex healthcare environment. Becoming stewards of complex AI systems within a practice, for example, will require a shift in our thinking about our roles and contributions. We must continue to define — and, equally importantly, *communicate* — our role not only as technical experts, but as essential contributors to safe, effective, and patient-centered care.

Several areas of focus from the Summit discussions are particularly relevant to clinical practice:

- **AI and Automation in the Clinic**
  Clinical physicists will play a critical role in commissioning, monitoring, and governing AI systems, ensuring safety, transparency, and reliability in patient care.
- **Precision and Theranostic Therapies**
  As therapies become more personalized and data-driven, physicists will be central to integrating imaging, dosimetry, and treatment planning across modalities.
- **Workforce and Practice Evolution**
  New models of care delivery may shift how physics services are structured, creating opportunities to expand impact while requiring adaptation in training and resource allocation.
- **Patient Trust and Safety**
  As technology becomes more complex, the physicist's role as a steward of quality and safety becomes even more visible and more vital.

Attendees during AAPM's 2026 Summit: Empowering Medicine Through Physics in breakout working session.

The future of medical physics will not be defined solely by technological advancement, but by how effectively we integrate that technology into real-world patient care.

Next Steps

The work of the Summit is ongoing. Councils and Committees are actively reviewing the outcomes and identifying actionable priorities that will inform AAPM's strategic planning and future initiatives. There will be multiple opportunities for members to contribute, including a session at the upcoming AAPM | COMP Annual Meeting in Vancouver, BC this summer, targeted working groups, and continued dialogue across our membership.

We continue to be deeply grateful to everyone who has contributed to these efforts, from Summit participants to those engaging in follow-up discussions. Your perspectives are helping to ensure that our vision for the future is both ambitious and grounded in the realities of our work — by leaning into the changes ahead thoughtfully and proactively, we can ensure that medical physicists continue to lead in advancing safe, high-quality patient care.

AAPM Leadership looks forward to continuing this conversation with you in the months ahead. ■

AAPM Members Engage on Capitol Hill Through Partner Advocacy Days

GOVERNMENT AFFAIRS REPORT

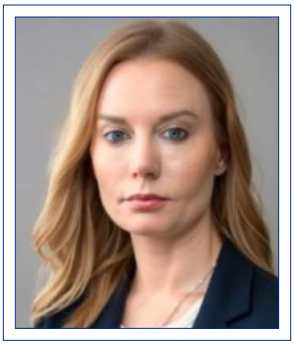
AAPM members recently participated in several advocacy events in Washington, DC, including the Society of Nuclear Medicine and Molecular Imaging (SNMMI) Hill Day and the Academy for Radiology and Biomedical Imaging Research's annual Hill Day. These engagements are part of AAPM's broader efforts to ensure that medical physicists are represented in policy discussions that impact research, clinical care, and patient safety.

Across these events, participants met with congressional offices to discuss priorities such as sustained federal investment in research, support for innovation in imaging and radiation therapy, and the importance of maintaining a strong scientific workforce. These conversations are among the most effective ways to inform and influence policymakers, particularly when constituents share firsthand perspectives on how policy decisions affect research, clinical care, and patient outcomes. For medical physicists, Hill Days provide an opportunity to offer technical expertise and ensure that policymakers hear directly from professionals who work at the intersection of science, technology, and patient care.

A key strength of Hill Days is the opportunity to put a human face on complex policy issues while also translating highly technical concepts into accessible, real-world impacts. By engaging directly with congressional offices, medical physicists help bridge the gap between scientific complexity and policy decision making, ensuring that discussions around research funding and healthcare delivery are informed by those with direct subject matter expertise.

AAPM President-Elect **Andrew Maidment, PhD** represented the organization at the SNMMI Hill Day. During the event, Senator Marsha Blackburn was recognized for her leadership in authoring the FIND Act. Provisions of the legislation were later incorporated into CMS policy, demonstrating how sustained advocacy can advance innovation and patient access through multiple pathways. The event also brought together a diverse group of clinicians, scientists, and patient advocates, reinforcing the importance of coordinated, multidisciplinary engagement.

AAPM member **Paul Kinahan, PhD**, a first time Hill Day participant, took part in the Academy's Hill Day, where advocates conducted a large number of meetings with congressional offices across multiple states. Reflecting on the experience, he noted, "I was amazed that as a constituent, I could get an appointment in the offices of my Senators and local Representative, and that they paid attention." He also noted that he left the experience more optimistic, citing the number of policymakers and staff who recognized the value of NIH funded research.



Lauren DePutter
Director of Government Affairs and External Relations, AAPM HQ

For questions related to Government Affairs and advocacy, please contact Lauren DePutter.

Participation in Hill Days reflects a broader shift in AAPM's advocacy approach toward sustained, relationship driven engagement with policymakers. These efforts are not limited to a single day of meetings, but contribute to long term relationship building with policymakers and staff. Over time, this engagement helps position medical physicists as trusted experts and ensures that the profession's perspective is considered in decisions that affect healthcare delivery and research.

These efforts also demonstrate the value of member engagement in advocacy. Direct participation from AAPM members ensures that congressional offices hear not only from organizations, but from medical physicists themselves, bringing forward practical insights, technical expertise, and real world perspectives that strengthen policy discussions.

AAPM will continue to build on these efforts through ongoing collaboration with partner organizations and expanded member engagement opportunities. As these efforts grow, continued participation will remain critical to ensuring that the voice and expertise of medical physicists are represented at all levels of policymaking. ■

AAPM President-Elect Andrew Maidment (center) participates in the SNMMI Hill Day on Capitol Hill.

AAPM member Paul Kinahan, PhD (fourth from left) met with Sen. Patty Murray's office.

Declining Funding for U.S. Radiation Metrology: A Call to Action for the Medical Physics Community

RADIATION METROLOGY

A recent letter published by us in the *Cal Lab: The International Journal of Metrology* raises serious concerns about the deteriorating state of radiation metrology infrastructure at the National Institute of Standards and Technology (NIST). We argue that unaddressed staffing and resource shortfalls within NIST's Radiation Physics Division are creating potentially dangerous measurement gaps with direct consequences for patient safety and product use in the United States.

Background

NIST has served as the primary source of radiation measurement standards in the United States since 1901. Its Radiation Physics Division is the cornerstone of traceability for clinical dosimetry, ensuring that the dose delivered to patients is accurate and consistent across institutions. The authors previously highlighted NIST's contributions to accredited calibration laboratories in an earlier publication (Jan-Mar 2025 issue of Cal Lab), but note that longstanding staffing shortages, ongoing since at least 1996, have progressively hampered the Division's capacity to fulfill its mission to advance medical standards.

Identified Metrology Gaps

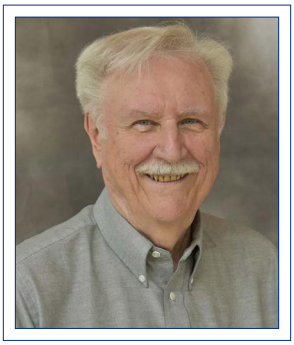
The letter identifies several critical areas where the absence of adequate NIST standards poses unacceptable risks:

- **Dosimetry Traceability:** Despite decades of need, the infrastructure for traceable dosimetry calibrations in several clinical modalities remains incomplete. External-beam calibration chains exist for some photon and electron sources, but significant gaps persist in emerging treatment modalities.
- **Brachytherapy Source Standards:** NIST has developed air-kerma standards for certain brachytherapy seeds, but the transfer of these standards to clinical calibration programs has been delayed due to inadequate staffing, leaving institutions to rely on approximations. Furthermore, new brachytherapy sources lack appropriate standards.
- **Radiobiology and Pre-Clinical Research:** Growing reliance on x-ray systems and novel radionuclide sources in cancer research, space medicine, and radiological emergency preparedness has outpaced the availability of reference beam quality standards. Currently, no such standards exist for many of these sources.

Patient Safety Implications

The authors emphasize that the consequences of dosimetric inaccuracy in cancer care are severe and asymmetric: delivering too little radiation allows disease to progress unchecked, while administering too much can

Ahtesham Khan, PhD
University of Wisconsin-Madison



Larry DeWerd, PhD
University of Wisconsin-Madison

cause irreversible injury to healthy surrounding tissues. With multiple accredited calibration laboratories in the United States depend on NIST traceability, the downstream impact of these gaps extends across virtually every radiotherapy facility in the country. The authors warn that without corrective investment, the U.S. risks falling behind international peers whose national metrology institutes have maintained adequate staffing and program development.

A Call to the AAPM Community

The AAPM community is uniquely positioned to elevate these concerns. As practitioners and scientists who depend daily on accurate dosimetry standards, members can advocate at institutional, federal, and professional levels for restored investment in NIST's Radiation Physics Division. The letter urges sustained attention to this issue, noting that the integrity of radiation medicine in the United States depends on a well-resourced national metrology program. ■

References:

DeWerd LA, Khan AU. Letter to the Editor. Cal Lab: *The International Journal of Metrology*. Oct-Dec 2025.

Strengthening Medical Physics Through Community Engagement: Serving as Grant Proposal Reviewers

A REPORT FROM THE WORK GROUP ON RESEARCH FUNDING

Written on behalf of The Work Group on Research Funding (WGFG)

Research is a central mission of the American Association of Physicists in Medicine (AAPM) and a cornerstone of progress in patient care through innovation in medical physics. From imaging and radiation therapy to rapidly expanding areas such as artificial intelligence (AI), FLASH radiotherapy, and radiopharmaceutical applications, our field continues to make important contributions to modern medicine. Sustaining this impact, however, depends heavily on research funding, and today's funding environment is increasingly competitive.

Federal agencies such as the National Institutes of Health (NIH) face constrained paylines alongside a growing number of submissions. In this environment, success depends not only on the strength of a proposal, but also on how it is evaluated. Peer review therefore plays a central role in shaping the future of science.

This points to an important reality for our field: our responsibility cannot stop at writing strong proposals. We must also engage in shaping how science is evaluated. In today's environment, participation in grant proposal peer review is not merely a service activity; it is an essential part of sustaining and advancing medical physics research.

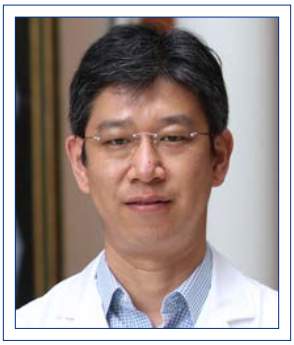
Why Reviewer Representation Matters for Medical Physics

Grant proposal reviewers do more than score applications. They help define research priorities, shape standards of significance and innovation, and influence which scientific directions receive investment. In that sense, peer review is a form of scientific stewardship.

Medical physics occupies a unique position at the intersection of physics, engineering, computation, imaging, and clinical medicine. Much of our research is inherently translational, requiring both technical sophistication and a deep understanding of clinical workflows. Compared with many larger biomedical disciplines, medical physics is relatively small and highly specialized. As a result, proposals from our field are often reviewed by experts in adjacent disciplines who are highly accomplished, but who may not fully appreciate the specific clinical constraints, technical nuances, or translational challenges that define our work.

When that happens, important aspects of medical physics research may be undervalued. Clinically meaningful innovations may appear incremental without the proper context. Technical barriers may be misunderstood. Projects that address real-world clinical needs may receive less recognition than they deserve. This challenge is becoming even more important as NIH moves to the

Xiaofeng Yang, PhD
Emory University



Xun Jia, PhD
Johns Hopkins University

A call to action: Medical physics needs stronger representation in the grant review process. By serving as NIH reviewers, especially through programs such as the Early Career Reviewer program, young medical physicist faculty can help ensure that proposals from our field are evaluated by experts who understand both the science and the clinical relevance. Building this reviewer pipeline is essential to the future of medical physics research.

Simplified Peer Review Framework, which places greater emphasis on significance and innovation — criteria that often depend strongly on context and domain-specific understanding.

For new frontiers such as AI, quantitative imaging, adaptive radiotherapy, FLASH radiotherapy, and radiopharmaceutical therapy, fair evaluation requires reviewers who understand both the science and the clinical relevance. Increasing the number of medical physicists serving as grant reviewers helps ensure that our proposals are assessed in a fair, informed, and context-aware way. If we are not represented in the review process, our field is not fully represented in funding decisions.

Why Serving as a Reviewer Benefits the Individual Investigator

Serving as a reviewer benefits not only the field, but also the individual investigator. Reviewing provides direct insight into how proposals are discussed, scored, and critiqued, and what distinguishes fundable applications from those that fall short. It reveals common weaknesses across submissions and helps investigators better understand how significance, innovation, clarity, and feasibility are judged in practice.

This experience can significantly strengthen grantsmanship. Reviewers learn how to communicate ideas more clearly, organize proposals more effectively, and anticipate the concerns of a study section. These are lessons that are difficult to gain fully from the applicant side alone.

Reviewer service also contributes to broader professional development. It sharpens critical thinking, improves scientific judgment, and builds experience in constructive evaluation. It increases visibility within the national research community and creates opportunities to engage with peers, scientific review officers, and program staff across disciplines.

A Valuable Pathway: The NIH Early Career Reviewer Program

For early-career faculty, the benefits of serving as a reviewer can be especially important. Participation in peer review helps young investigators better understand the NIH process, strengthen their future proposals, and build confidence as emerging scientific leaders. For those interested in serving, the NIH Early Career Reviewer (ECR) Program is an excellent entry point: https://public.csr.nih.gov/ForReviewers/BecomeAReviewer/ECR. This program is designed to provide promising early-career investigators with firsthand experience in NIH peer review and to prepare the next generation of reviewers.

The ECR program is particularly valuable for medical physicists. Many early-career faculty in our field already work in highly interdisciplinary environments that combine imaging, radiation oncology, AI, engineering, and translational science. These experiences position them well to make meaningful contributions to NIH review. At the same time, participation helps NIH identify qualified reviewers from the medical physics community—an outcome that benefits both the reviewers and the field as a whole.

Cultivating early-career reviewers is also critical for the long-term future of medical physics. A strong pipeline of young reviewers helps ensure that our field remains visible, engaged, and influential in national research review and funding decisions. Developing that pipeline now will strengthen the future of medical physics research for years to come.

Effort and Impact: A Balanced Perspective

Serving as a grant reviewer requires meaningful time and intellectual effort. It involves careful reading, thoughtful critique, and active participation in panel discussions. However, the impact of this effort is substantial. Reviewers help ensure that funding decisions are informed, balanced, and aligned with scientific and clinical needs. Their contributions influence not only individual proposals, but also the broader direction of research.

Reviewer participation should therefore be viewed as both a professional responsibility and a meaningful form of community service. Broad participation distributes the workload more fairly and strengthens the collective voice of medical physics in the national research enterprise.

A Community Call to Action

Engagement in peer review is needed across all career stages. Early-career investigators can build experience through structured opportunities such as the NIH ECR

Program. Mid-career faculty can contribute valuable technical and translational expertise. Senior leaders can provide visibility, mentorship, and strong representation for the field.

For department leadership and senior faculty, supporting early-career colleagues in this process is especially important. Encouraging young faculty to serve as reviewers helps strengthen individual career development while also increasing the long-term influence of medical physics in national funding decisions.

As a community, we should actively encourage our young medical physicist faculty to step into these roles. Their participation will help NIH identify more qualified reviewers from our field, ensure that medical physics proposals are reviewed by people who truly understand the science, and build the next generation of leaders in medical physics.

Serving as a grant proposal reviewer is not simply about giving back. It is about helping shape the future of medical physics. The future of our field depends not only on the science we produce, but also on how that science is evaluated. Now is the time for more medical physicists — especially early-career faculty — to step forward and take part in that process. ■

2026 JOINT AAPM | COMP MEETING

JULY 19–22 | VANCOUVER, BC

STUDENT & TRAINEE EVENTS

Student & Trainee Kickoff

18 SATURDAY

Student Night Out
7:00 pm – 9:00 pm
GRETA YVR Bar
(50 W Cordova St)

Get Connected

19 SUNDAY

Residency Fair
1:30 pm – 3:00 pm
3:30 pm – 5:00 pm
Exhibit Hall

Society of Physics Students Gathering
4:00 pm – 5:00 pm
Early Career Lounge

Connect & Grow

20 MONDAY

International Impact through Collaboration in Global Health
8:40 am – 9:40 am
Early Career Lounge

Student Luncheon - Innovation and the Expanding Role of the Medical Physicist
12:00 pm – 1:15 pm
Early Career Lounge

Exhibit Hall Guided Tours
1:15 pm – 2:15 pm
Exhibit Hall

Speed Mentoring Session
5:00 pm – 6:00 pm
Early Career Lounge

Explore & Showcase

21 TUESDAY

Resident & Prospective Applicant Connect
8:40 am – 9:40 am
Early Career Lounge

Expanding Horizons Travel Grant
9:40 am – 10:20 am
Exhibit Hall

Exhibit Hall Guided Tours
1:15 pm – 2:15 pm
Exhibit Hall

MedPhys Slam
4:00 pm – 6:00 pm
Ballroom A

COME FOR THE SCIENCE. STAY FOR THE CONNECTIONS.

Expanding Global Access & Virtual Education: Access Awards for Medical Physicists & Early Career Researchers in Resource-Limited Countries

INTERNATIONAL COUNCIL REPORT

The AAPM Annual Meeting & Exhibition offers a vital forum for sharing clinical solutions, spotting emerging trends, and showcasing research that advances patient care. AAPM meetings bring diverse medical physicists together to create rich opportunities to exchange science, education, and professional practice. However, for many medical physicists globally, financial and logistical barriers can make participation out of reach.

The Access Awards emerged from efforts to widen participation in the AAPM Annual Meeting for medical physicists in Low- and Middle-Income Countries (LMICs). The Access Awards provide recipients with complimentary registration for on-demand virtual attendance to the Annual Meeting, with one year of access to recordings starting within 24 hours of each session. Awardees have the opportunity to learn, revisit key sessions, and engage with the program in a way that fits individual clinical responsibilities and research demands. This article highlights the experiences and perspectives of some of the 2025 Access Award recipients in the spotlight section below.

This effort builds upon the established Access Awards for Clinical Medical Physicists (CMP), founded in 2020 by Medical Physics for World Benefit (MPWB) in response to pandemic-driven shifts in conferences. The Access Awards for Early Career Researchers (ECR) were created in 2025 to expand opportunities for early career researchers and broaden access to AAPM's educational and scientific content to the next generation. The awards for ECR are an initiative driven by the Global Early Career Research Subcommittee (GECRSC) of the Global Research and Scientific Innovation Committee (GRSIC), reflecting a shared commitment of the International Council (IC) to support emerging researchers worldwide.

For the upcoming 2026 Joint AAPM/COMP Annual Meeting, the Access Awards have been expanded to support Established Medical Physicists (EMP) in collaboration with the AAPM Global Representatives Subcommittee (GRSC), for medical physicists engaged in research beyond the first five years of an independent position. The application and details regarding eligibility for the CMP, ECR, and EMP Access Awards are available online.

2025 CMP Access Awards Spotlight

The Access Awards program unlocks virtual attendance around the world to empower physicists from LMICs to advance medical physics in their home institutions and countries through knowledge transfer and local impact. Interest in the inaugural collaborative program was substantial, with more than 60 applications representing over 30 countries, underscoring both the global demand for AAPM educational resources and the value of virtual pathways that lower barriers to participation. A total of 15 CMP Access Awards and

Derek Tang, PhD
NYU Langone Health

Afua Yorke, PhD
University of Washington Seattle

Claire Park, PhD
Mass General Brigham & Harvard Medical School

10 ECR Access Awards were granted. Awardees were selected to prioritize demonstrated need and equitable access, including consideration of geographic diversity and balanced representation. Post-meeting reports highlighted the program's impact on their clinical practice, research development, and professional growth.

Priyanka Agarwal from Homi Bhabha Cancer Hospital, Tata Memorial Center in Varanasi, India

With due respect, I am very grateful and thank you for the MPWB award for providing me the opportunity to join the AAPM conference. Presently I work as a medical physicist and Radiological Safety Officer (RSO), and as a researcher in Tata Memorial Center (TMC), Varanasi.

In the conference, there were many talks on artificial intelligence (AI) and machine learning based on image fusion, contouring and treatment planning, which was very useful for learning and understanding. Particle therapy (specially Proton Therapy) talks, Brachytherapy talks, Image Guidance Radiation Therapy talks, and Adaptive Radiation Therapy talks were very interesting and informative. MR guided treatment unit and treatment planning was new for me. Many new imaging modalities for advanced treatment planning, SRS and SBRT concepts were also very useful, as we are performing those kinds of planning and patient specific quality assurances. One talk related to kV-CBCT treatment planning was interesting for me, as I am performing the related research on TrueBeam linear accelerator. Many researchers have proved that about the treatment planning on kV-CBCT images. Ethos linear accelerator has a specialty in online planning on kV-CBCT. Now, Truebeam linear accelerators have the ability to take extended kV-CBCT, meaning it may extend the CBCT longitudinally. After that, it reconstructed the CBCT in 3-D views. I am performing the adaptive planning on the same CBCT and on heterogeneous phantom with validation for Head & Neck patients. In summary, as a researcher, the conference was very useful for me to improve my routine department work, and provide me with many new innovative ideas.

Darko Stojanovic from University Clinical Center Kragujevac in Kragujevac, Serbia

Participation in this year's online annual AAPM meeting opened a chance to attend several lectures that helped me reach a better understanding on the current state of radiotherapy. Like in previous years, I have gained more insight on trends concerning applications of AI in the field of my interest, cleared several questions I had, and it helped me formalize the direction my Department of Radiotherapy and medical physics should take in the near future. It also helped me find new interests in certain directions of my own work in the field of AI implementation. Also, it opened up new ways of thought specially in connecting the AI and QA programmes. The lecturers were clear and competent, as expected. Continued access to the material is very helpful in overcoming the issue of not being able to ask questions to presenters. Hopefully, things seen and learned will also help me push for overall improvement of procedures in UCC Kragujevac, especially in terms of improving automation and implementing AI solutions we have and hope to acquire. Extremely grateful for the opportunity given.

2025 ECR Access Awards Spotlight

Riska Amilia from Diponegoro University in Semarang, Indonesia

I am a research assistant from the Department of Physics and student in the Professional Medical Physics Program at Diponegoro University, Indonesia. For three years, I have been involved in laboratory research to develop IndoQCT, an automated software designed to assist in CT image quality evaluation.

Attending the AAPM 2025 Annual Meeting was a new experience that allowed me to engage with global research exposure. As a newcomer, every session provided insights making me realize how vast the field of medical physics truly is.

I was particularly moved by the session "Mitigating Health Disparities in Radiation Oncology: Technology-Driven Assessment and Risk Assessment." This session explained health disparities comprehensively, from root causes to strategic steps a medical physicist can take. I recognize that as a developing country, Indonesia needs improvements in radiation technology, but I was previously unsure of where to begin or felt hesitant to push for change. However, this session broadened my horizons; I now understand the tangible role I can play in addressing them. I realized I am capable of being part of the solution. It is not just about conducting research and hoping for implementation, nor is it just about serving patients within the limits of existing technology. I have a proactive role to play, and I can spark change starting with my own work.

Furthermore, I am preparing to pursue my MSc in Medical Physics at the University of Manchester as an LPDP awardee (Indonesia's government-managed education endowment fund) starting this September. During briefings, the LPDP reminds us to be "agents of change," and the concrete steps for that mission were answered by this webinar. As Dr. Ingrid Lozano shared, I must strive to be a Medical Physicist H.E.R.O. and provide real action for my country and future patients. I hope this program continues. I highly recommend it to early-career researchers to gain vital new perspectives.

Courage Mahuvava, PhD from University of the West Indies in St. Augustine, Trinidad and Tobago

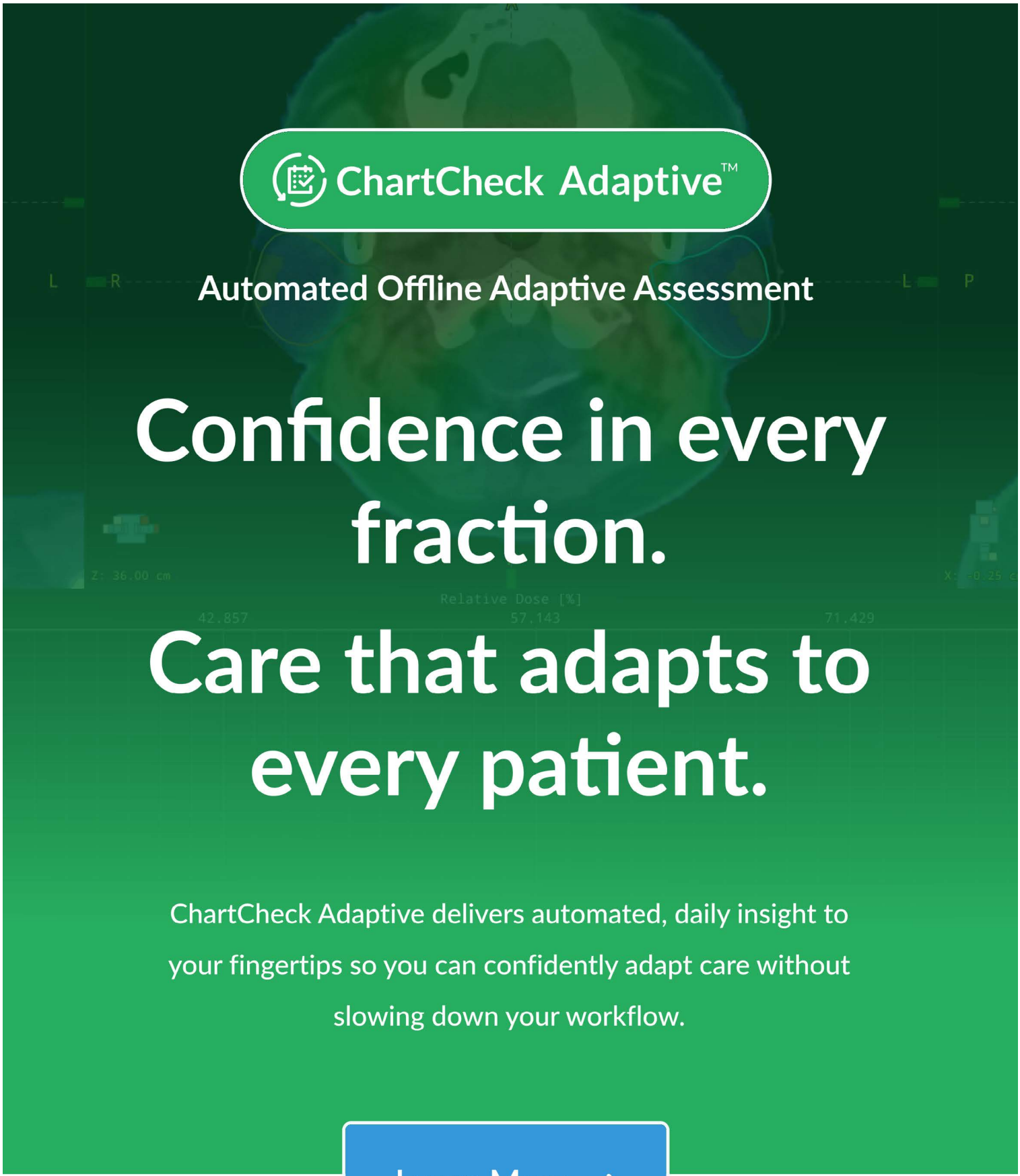
I am a Lecturer in Medical Physics at The University of the West Indies, St. Augustine, Trinidad and Tobago, and a core faculty member of the MSc Biomedical Physics programme. My research focuses on computational radiation dosimetry using Monte Carlo methods, particularly EGSnrc-based simulations for radiotherapy applications. I am also involved in research on Diagnostic Reference Levels (DRLs), medical physics education, and workforce development in LMICs. The sessions and poster presentations at the AAPM annual meeting focused on medical physics education, workforce development, and protocol optimization stood out as most relevant. In particular, contributions addressing standards-based curriculum design, residency models, and scalable clinical workflows closely aligned with my interests in strengthening medical physics capacity in LMICs.

Attending the meeting virtually reinforced the importance of aligning curriculum development, education initiatives, and clinical practice with international standards. It has strengthened how I approach research projects to ensure they are quality-assured and internationally benchmarked, while remaining adaptable to the realities of LMIC healthcare systems. I gained clearer insight into how international best practices can be applied consistently across medical physics. These perspectives are now shaping my research toward developing evidence-based, standardised frameworks that strengthen training and clinical implementation.

I plan to reach out to presenters to explore potential collaborations, particularly in DRLs and curriculum development. The meeting has expanded my professional network by identifying future collaborators with complementary expertise. Given that the medical physics community in Trinidad and Tobago is relatively small, this experience has been valuable in expanding opportunities for collaboration beyond my immediate environment. The meeting highlighted pathways for international research, helping bridge local capacity with global expertise.

The meeting prompted honest reflection on my work, particularly the challenge of balancing teaching and research within a resource-constrained environment. It made clear that I need to be more deliberate in prioritising high-impact projects that directly strengthen training quality and clinical standards. I would strongly recommend this program to other early career researchers. The access allows meaningful engagement with clinical best practices while lowering financial barriers. The program offers clear value in supporting professional development and global inclusion.

In summary, the Access Awards are a resoundingly impactful collaboration between MPWB and AAPM, which actively promotes the global exchange of effective practices, emerging trends, and impactful research. This initiative advances AAPM's broader mission and ensures that the global medical physics community can benefit from and contribute to the Annual Meeting experience, and its meaningful downstream impact on patient care. ■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Special Interest Feature: Women's Professional Subcommittee

FEATURED PHYSICIST: KALPANA KANAL, PHD, DABR, FAAPM, FSABI, FACR

Alyssa Alvarez, DMP | Northwest Medical Physics Center

Kalpana Kanal, PhD

Alyssa Alvarez, DMP

"Remember that this is a people-centered profession. Your work ultimately serves patients, colleagues, and trainees who will follow you. Build a reputation for integrity, reliability, and kindness alongside your technical skills. Those qualities compound over a career and will matter long after individual technologies or protocols have changed."

I recently had the pleasure of interviewing **Kalpana Kanal, PhD, DABR, FAAPM, FSABI, FACR**, a diagnostic medical physicist at the University of Washington. It was immediately clear why she is such a respected leader in medical physics. Thoughtful, generous with her time, and deeply committed to patient safety and professional service, Dr. Kanal spoke candidly about mentoring the next generation, giving back through professional organizations such as AAPM, ABR, and ACR, and building a collaborative culture. She emphasized the importance of speaking up, taking space, and advocating for both oneself and patients. Her career reflects a sustained commitment to lifting others and strengthening the field.

Q: You were recently awarded the AAPM Edith Quimby Lifetime Achievement Award. When you reflect on your career, what accomplishments or moments feel most meaningful to you personally? Was there a moment when your definition of success fundamentally changed?

I came to this country in 1989 for my MS and then PhD, followed by a residency at the Mayo Clinic at a time when residencies were not required. When I look back at my career of 30 or so years, the moments that feel most meaningful aren't tied to a single event, publication, academic title, or metric of professional success. What stands out most is the cumulative impact of those 30 years — cultivating relationships in radiology and other departments, participating in professional society activities, building programs within my department, implementing changes that had an impact, mentoring students and junior colleagues who went on to do work far beyond what I could have imagined, and helping shape a culture where patients came first and where prioritizing patients guided everything I did at work. Some of my proudest moments include starting a residency program at UW and venturing into an area I initially knew nothing about to establish a new forensic radiology service, among others.

Early in my career, success meant personal achievement — publishing or perishing in an academic jungle, often under time constraints, as well as recognition, invitations to give lectures or abstract acceptances. Over time, that definition changed to something more outward facing. Success became about influence and helping others succeed: mentoring younger colleagues, giving others opportunities that I was lucky to get early in my own career and seeing people look up to you and respect your input. When people tell me they follow my career or know about my work, it brings a sense of satisfaction that is unmatched. To me, the Edith Quimby Lifetime Achievement Award represents the shared journey and sense of community that defined my career, more than any single personal achievement.

Q: You have been deeply involved in professional service through organizations such as AAPM, ABR, and ACR, including serving as an ABR Trustee. What motivated you to

volunteer and what have you found most rewarding about that service?

My motivation to volunteer with organizations such as AAPM, ABR, and ACR came from a strong belief that the profession only moves forward when people are willing to invest in something larger than their own institutions. Early in my career, I benefited tremendously from AAPM standards and policies as well as ABR certification; all of which others had built previously through their volunteer service. At some point, it felt less like an option and more like a responsibility to give back in return.

I initially became involved when **Dr. Morin** asked me to serve on committees within ACR and ABR and I owe him a debt of gratitude for giving me those incredible opportunities where I had a chance to make an impact. Being chair of the ACR DIR (Dose Index Registry) led to the publication of two landmark papers and to working with some amazing physicists, including **Penny Butler**, whom I worked closely with in the ACR. **Dr. Phil Heintz** gave me the opportunity to be involved with the AAPM curricula committee, which led to additional opportunities, greater responsibility, and eventually leadership roles. Serving as a trustee of the ABR for last eight years has been one of the highlights of my career! I loved every minute of it and was fortunate to work alongside incredible colleagues — both physicists and radiologist — forming lifelong friendships along the way. It would be difficult to name everyone who made this experience so meaningful, but I would especially like to acknowledge my fellow trustees: **Dr. Matthew Podgorsak, Dr. Robert Pooley, Dr. Jennifer Stickel**, and **Dr. Jerry Allison** as well as the Associate Executive Directors for medical physics, **Drs. Donald Frey** and **Geoffrey Ibbot**.

Through these experiences, I learned that professional service is less about self-promotion and more about showing up consistently, listening carefully, and being willing to do unglamorous but necessary work. Over time, those efforts compounded into experiences that were among the most meaningful of my career.

What I found most rewarding was the opportunity to help shape the direction and integrity of the field — whether that meant strengthening ABR certification, advancing educational standards in AAPM, or ensuring that patient safety remained central as technology and practice evolved. Working alongside deeply committed volunteers from diverse backgrounds was energizing and often humbling; it reinforced how much thoughtful, behind-the-scenes work is required to sustain a profession.

Q: As director of an imaging physics residency program, you're directly involved in training the next generation of physicists. What is the best advice you can give to students and residents just starting out in the field?

The best advice I can give students and residents is to focus first on becoming fundamentally solid — technically, ethically, and professionally — before worrying about being exceptional. Master the basics, ask thoughtful questions, and take responsibility for understanding why things are done a certain way, not just how. Competence builds confidence, and confidence opens doors.

Be curious and say yes to learning opportunities, even when they stretch you outside your comfort zone. Pay attention to how people work together, how decisions are made, and how communication affects outcome — those skills will matter just as much as your technical expertise. Seek feedback early and often, and don't confuse critique with failure; it's one of the fastest paths to growth.

Finally, remember that this is a people-centered profession. Your work ultimately serves patients, colleagues, and trainees who will follow you. Build a reputation for integrity, reliability, and kindness alongside your technical skills. Those qualities compound over a career and will matter long after individual technologies or protocols have changed.

Q: What belief did you hold early in your career that you've since had to unlearn?

Early in my career, I believed that if I worked hard enough, stayed technically excellent, and did the right thing, progress would naturally follow — that good work would always speak for itself. While I still believe deeply in the value of rigor and integrity, I've had to unlearn the idea that systems are inherently fair or that silence is rewarded.

What I came to understand is that impact often requires intentional visibility, advocacy, and sometimes discomfort. Important work can go unnoticed unless someone is willing to

explain its value, defend it, and push it forward. I also learned that leadership doesn't automatically come to those who "deserve" it most; it often comes to those who step into it deliberately. Unlearning that passive model of success helped me become more effective — not by compromising my values, but by pairing them with voice, presence, and action.

Q: How do you approach work–life balance? What passions define who you are beyond medical physics?

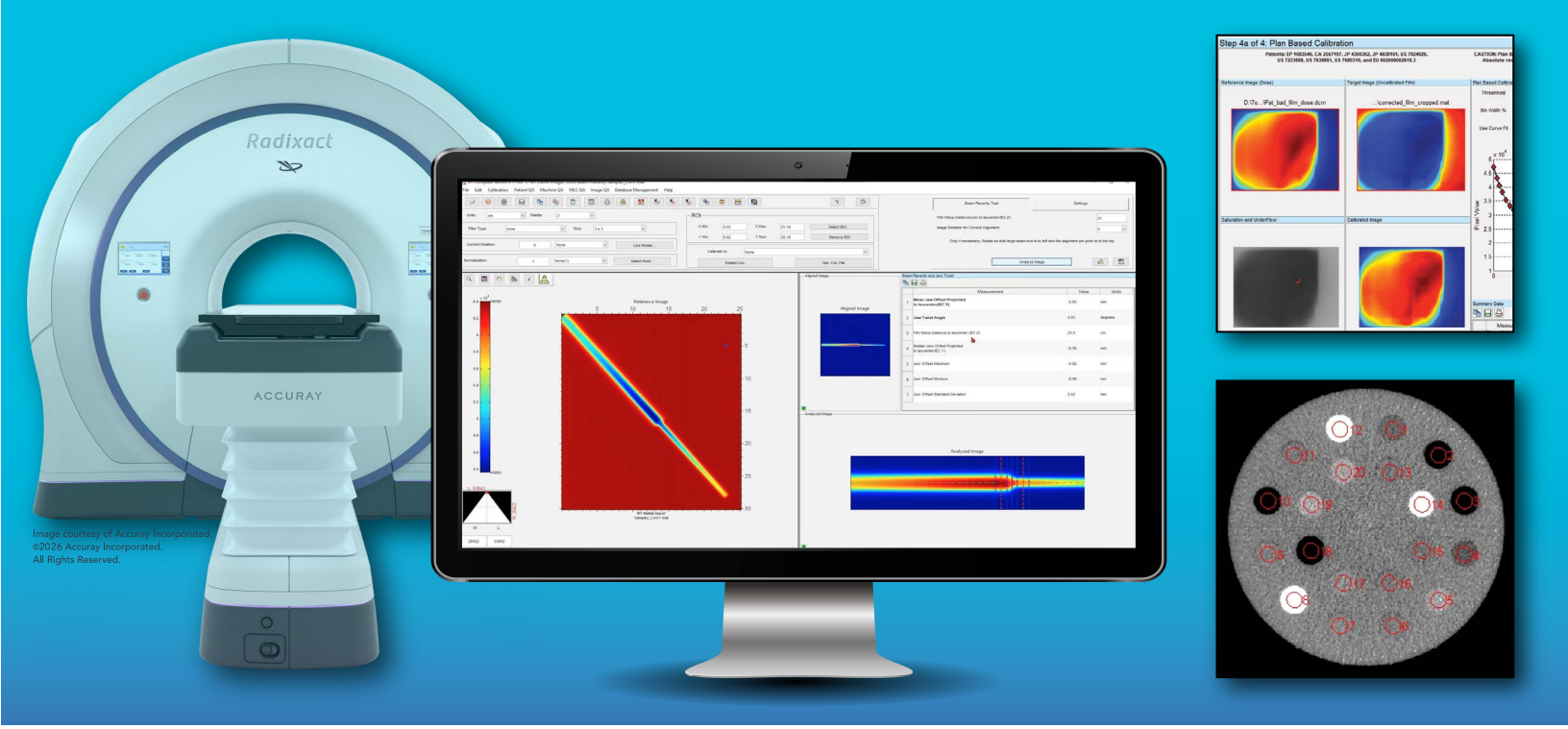
I've learned to think of work–life balance less as a perfect equilibrium and more as a series of intentional choices over time. There were phases in my career when work demanded more — new programs, leadership roles, moments of real urgency—and other phases when I deliberately pulled back. What mattered was being honest with myself about those seasons and not letting imbalance become the default.

Beyond medical physics, the passions that ground me are relationships, learning, and service in broader forms. Time with family and close friends keeps me anchored and reminds me why the work matters. I also value pursuits that have nothing to do with productivity — reading, hiking, travel, and time in nature — because they restore perspective and curiosity. I also love the game of cricket and frequently travel around the world to watch Cricket World Cup tournaments. I frequently travel — across the U.S. and even internationally — to visit pandas, my absolute favorite animals. These interests don't compete with my professional identity; they strengthen it. They help me return to my work more patient, more thoughtful, and more human, which ultimately makes me a better physicist and mentor. ■

Kalpana visiting Big Ben during her travels to London, UK.

Kalpana enjoying the natural beauty of Iceland during her travels.

Kalpana at Seattle's Panda Festival.



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Special Interest Feature: Women's Professional Subcommittee

SEEING THE INVISIBLE: WHY I WROTE "MY MOM IS A MEDICAL FIZZICIST"

Anu Grover, MS | University Hospitals Cleveland Medical Center

Writing this book was my way of showing my daughter that she can be a scientist, a mother, a mentor, and a storyteller all at once. The book is available online.

If you look at the cover of my children's book, you'll notice a glaring typo. It isn't "physicist." It's **fizzicist**.

That intentional misspelling is the heart of the project. It came from a scrap of paper where my daughter first tried to write down what her mom does for a living. To her, I wasn't just the person making sure the hospital's imaging equipment met state and federal regulations or ACR accreditation; I was doing something that sounded a bit like magic. Seeing our complex, highly technical profession through her five-year-old eyes changed my perspective.

That intentional misspelling is the heart of the project.

Anu Grover, MS

I've actually wanted to write a children's book since she was very small. We spent countless hours curled up together with picture books, and I saw firsthand how those stories shaped her understanding of the world. I kept thinking, *"Why isn't there a book that shows her what I do?"* As a diagnostic physicist, my job is often a mystery to those outside the hospital and sometimes even to those inside it. I wanted to create something that bridged that gap, but I'll admit, I sat on the idea for a while. I doubted if I had the "author" credentials to pull it off. It was my mentor, **David Jordan**, who finally pushed me over the edge and encouraged me to just go for it.

One of the most rewarding parts of this journey was the partnership that brought the pages to life. During the height of the COVID-19 pandemic, I spent my evenings virtually tutoring a bright middle schooler in math and science. Years later, that same student is now a remarkably talented high school artist. Asking her to illustrate this book felt like the ultimate "Women in STEM" full-circle moment. Watching her transition from a student struggling with equations to a young woman visualizing the invisible world of diagnostic physics was a powerful reminder of why we mentor in the first place.

I recently had the opportunity to visit my child's classroom for a book reading, and it was a humbling reality check. I walked in ready to explain how we use physics to see inside the human body and keep patients safe. I expected the kids to be "wowed" by the science of imaging.

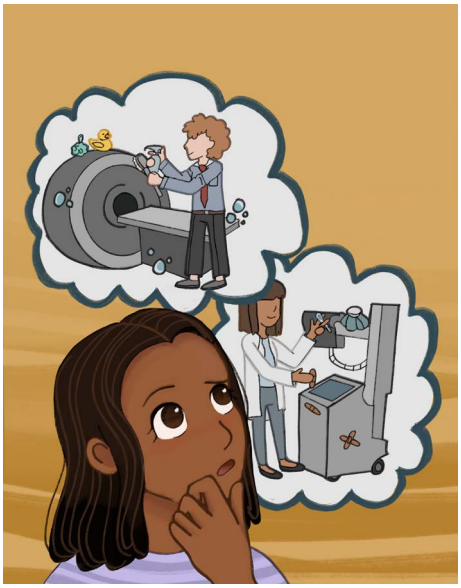
I was wrong.

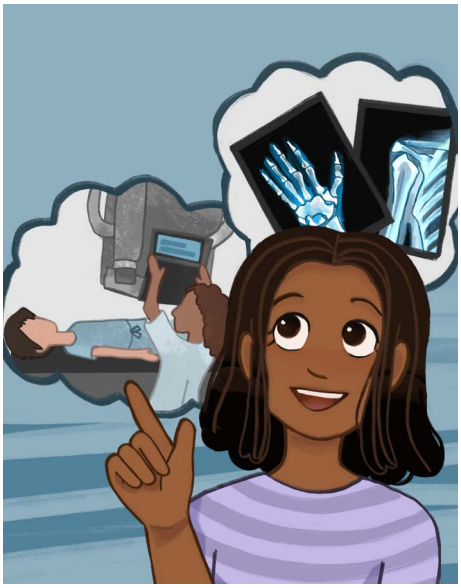
To a room full of second graders, the fact that I was a scientist was "cool," but the fact that I was an author made me a rockstar. They were mesmerized by the idea that a regular person, "a mom they saw at drop-off", could create a book they could hold in their hands. It taught me an important lesson: if we want the next generation to see themselves in STEM, we have to meet them where they are. We have to be approachable. We have to be "Fizzicists."

As diagnostic physicists, we are the "behind-the-scenes" experts. We ensure the images are sharp and the doses are optimized, but we aren't always visible to the families we serve. By sharing our stories through the lens of parenthood and literature, we pull back the curtain. Writing this book was my way of showing my daughter

SEEING THE INVISIBLE: WHY I WROTE "MY MOM IS A MEDICAL FIZZICIST", Cont.

that she can be a scientist, a mother, a mentor, and a storyteller all at once. I hope this encourages my colleagues in the AAPM to find their own unique ways to share the "fizzics" of what we do. ■





I spent my evenings virtually tutoring a bright middle schooler in math and science. Years later, that same student is now a remarkably talented high school artist. Asking her to illustrate this book felt like the ultimate "Women in STEM" full-circle moment.

Our Condolences

William R. (Bill) Hendee, PhD • Elizabeth M. McKenzie, PhD, MS • Paul Shaheen, MS

Our deepest sympathies go out to the families. We will all feel the loss in the Medical Physics community.

If you have information on the passing of members, please inform HQ ASAP so that these members can be remembered appropriately. We respectfully request the notification via email to: 2026.aapm@aapm.org
(Please include supporting information so that we can take appropriate steps.)

Clinical Physics Outreach: Showcasing Radiation Oncology and Radiology

APS MEDICAL PHYSICS TOUR AT ANSCHUTZ MEDICAL CENTER

On the evening of March 16, 2026, the University of Colorado Anschutz Medical Campus welcomed a group of approximately 20 trainees and physicists from diverse backgrounds for a clinical physics tour given by CU Radiation Oncology and Radiology faculty at University of Colorado Hospital in Aurora. The tour was sponsored and promoted by the American Physical Society Topical Group on Medical Physics (APS GMED) in collaboration with University of Colorado faculty. Tour attendees were in Denver to participate in the 2026 APS Global Physics Summit, a meeting spanning all areas of physics, including biophysics and medical physics. After a full day at the meeting, tour attendees boarded a bus provided by GMED for a ride from the Denver convention center to the Anschutz campus. The theme for the 2026 Global Physics Summit was"Science for a Shared Future" and this theme was on display in our cross-disciplinary demonstrations.

The evening began with an engaging presentation by **Leah Schubert, PhD**, where the attendees learned just how involved and expansive the field of medical physics can be. Afterwards, smaller break-out groups embarked on focused tours of Radiation Oncology and Radiology.

Mike Silosky, MS and **Rebecca Milman, PhD** led a tour through the diagnostic discipline in the Radiology Department, introducing them to general radiography, SPECT, and CT. After hearing Mr. Silosky talk about nuclear medicine earlier in the day at the APS meeting, several tour participants were excited to see this equipment in person. Attendees asked insightful questions about imaging technology and radiation risk, and many expressed interest in learning more about education and training pathways for careers in medical physics. Dr. Milman discussed the wide range of jobs held by medical physicists, including clinical, research, and industry roles, as well as other careers that are instrumental to radiation oncology and radiology departments.

Group photo of tour members and leaders in the lobby of Anshutz Medical Campus

Heidi Urquidi, MS
University of Colorado-Anschutz Medical Campus

Rebecca Milman, PhD
University of Colorado-Anschutz Medical Campus

On March 16, 2026, approximately 20 trainees and physicists from the APS Global Physics Summit visited the University of Colorado Anschutz Medical Campus for a clinical tour hosted by Radiation Oncology and Radiology faculty at UCHealth University of Colorado Hospital. Faculty emphasized the breadth of medical physics careers and the critical role physicists play across imaging and cancer care.

APS MEDICAL PHYSICS TOUR AT ANSCHUTZ MEDICAL CENTER, Cont.

Meanwhile, Leah Schubert, PhD, **Adam Mahl, PhD**, and **Heidi Urquidi, MS** provided a demonstration of therapeutic medical physics in the Radiation Oncology wing. The Radiation Oncology group began their tour in the CT simulation room, the starting point for radiation therapy planning. Here they emphasized the close relationship between Radiology and Radiation Oncology, while also noting the strict immobilization devices and setup requirements that sets the simulator apart from its diagnostic counterpart.

Next, the group was directed to the HDR suite where Dr. Mahl presented the principles of radiation therapy that uses internal radioactive sources and specialized applicator sets. Attendees were interested to hear the logistics behind source exchanges and decay calculations. At the last stop in the therapeutic venture, Dr. Schubert took the wheel (or hand-held pendant, in this case) and dazzled the group with a show of MLCs in-action. She rotated the gantry, explained the beam generation mechanics, and invited attendees to peer past the mylar at the moving leaves inside. This tied together the timeline of simulation, planning, and delivery to give the attendees a clear picture of radiation oncology end-to-end.

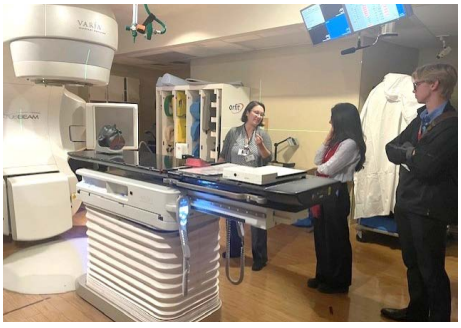
This outreach event served as a valuable platform for education, collaboration, and inspiration. By providing direct exposure to clinical environments, it helped bridge the gap between classroom physics and real-world application in the clinic. Engaging with physicists from other disciplines also fostered meaningful interdisciplinary dialogue and brought attention to our important role in patient healthcare — a role very few tour attendees had exposure to before that evening! One tour member from a biophysics background remarked that she "…feels so much better knowing there is an expert physicist behind the scenes at every stage of cancer care."

We look forward to continuing these outreach efforts in the future. Opportunities like this not only strengthen connections with the broader communities like APS, but also help inspire the next generation of medical physicists. Sharing our work and experiences remains one of the most effective ways to give back and to ensure the growth and visibility of the field. ■

Heidi Urquidi and Adam Mahl demonstrating the importance of immobilization devices during CT simulation.

Rebecca Milman showcasing the Siemens radiography unit.

Michael Silosky discussing the SPECT/CT unit.



Leah Schubert reviewing the function of the LINAC, assisted by the Rando Head phantom.

ACR Accreditation & More: Info for Medical Physicists

UPDATES FROM ACR HQ

Congratulations to Lucas Liu!

Lucas Liu was awarded ACR's 2026 Medical Physics Graduate Student Scholarship. His research at the University of Wisconsin – Madison applies quantitative and functional MRI to study placental perfusion and oxygenation in vivo. Lucas will attend the 2026 ACR Annual Meeting in DC to network with active ACR physician and physics members and observe the business of the College.

Blue Ribbon Panel on Fluoroscopy Safety

The ACR convened a Blue Ribbon Panel on Fluoroscopy Safety (BRP-FS), including 32 organizations and 40 panelists and authors. From the abstract: "There are many challenges associated with the safe use of fluoroscopy. These challenges include but are not limited to highly variable regulatory requirements, scope of practice concerns, inconsistent education and training, and lack of staff empowerment. Challenges are further compounded by the increasing use of fluoroscopy across a wide range of medical specialties. To facilitate consensus on how to address the issues, the ACR convened the multidisciplinary Blue Ribbon Panel on Fluoroscopy Safety (BRP-FS), with 32 organizations represented. The goal of the BRP-FS is to establish multi- and interspecialty consensus standards for the safe use of fluoroscopy in health care, including minimum and uniform standards for the education and training of fluoroscopy users that apply across geographic and professional boundaries, for the benefit of all patients and health care providers."

You can read the open access paper here. Most of what the BRP-FS discusses and recommends in the paper is not novel and was not intended to be. The project was initiated because the time was right for fluoroscopy stakeholders across specialties and professions to collectively agree that these ideas and principles are indeed good and worthy of pursuit. We hope the structural blueprint provided by the BRP-FS advances patient and personnel safety and satisfaction, motivates standardization, and inspires innovation.

Physician view: New MIPS Value Pathways

In the 2026 Medicare Physician Fee Schedule Final Rule, CMS added two new Value Pathways (MVPs) for the Merit-Based Incentive Payment System (MIPS) related to diagnostic radiology and interventional radiology as reporting options for MIPS-eligible radiologists. Learn about 2026 MVPs.

Dustin A. Gress, MS
Senior Advisor for Medical Physics
ACR Quality and Safety, Reston, VA

In each issue of this newsletter, I present information of particular importance or relevance for medical physicists. You may also check out the ACR's accreditation support page for more accreditation information and QC forms. **Thank You** to all the other staff that keep ACR programs running and assist with creating the content in this column. This page has forms and quick links for all ACR accreditation programs.

Lookback Period for Non-Mammography Modality Submission Extended to Accommodate Previous Annual Survey

I am pleased to share that for all ACR diagnostic accreditation modalities except mammography, the lookback period for phantom submission images has been extended to allow images acquired during the previous annual medical physicist's survey, effective immediately. The following updated paragraph can now be found in the four accreditation support articles pasted below it:

- **All phantom examinations submitted must have been performed within 14 months of the date on the testing package that was released to the facility. Phantom images from the most recent annual medical physicist's survey may be used, provided they meet all other submission requirements. No images will be accepted for review that predate the testing package date by more than 14 months.**

Testing Overview: MRI
Testing Overview: CT
Testing Overview: Nuclear Medicine and PET
Testing Overview: Stereotactic Breast Biopsy

Please note that no change has been made for clinical images, i.e., the lookback period for clinical images remains six months.

Advanced DICOE Tiers Now Available

As most of you know, ACR's Diagnostic Centers of Excellence program, ***DICOE***, allows facilities to demonstrate the infrastructure, policies and procedures required to assure consistently high-quality care and service. New in November of 2025, ACR now offers two additional tiers of DICOE:

- ***DICOE With Distinction*** facilities meet DICOE requirements and demonstrate elements of outstanding performance in some advanced DICOE domains.
- ***DICOE Pinnacle*** facilities meet DICOE with Distinction criteria and demonstrate excellence in many advanced DICOE domains.

You can read a Q&A with Ben Wandtke, MD, MS, Vice Chair for the ACR Quality and Safety Commission and Chair of the DICOE Committee online here. Learn more on the DICOE landing page and see the comprehensive list of criteria here.

Also: Complimentary Access to ACR Learning Network With DICOE

When a site submits a complete DICOE application they receive complimentary enrollment in an ACR ImPower project through ACR's Learning Network — nine Learning Network projects were submitted to RSNA last year and all nine were accepted!

The ACR Medical Image Quality Assessment System

The ACR Medical Image Quality Assessment System (MIQAS) establishes a unified, task based framework for assessing diagnostic image quality, defining it as the degree to which an image approximates the true representation of patient anatomy in ways that matter for the intended clinical task. MIQAS introduces a reproducible 5 point scoring system (0–4), differentiating between bounded factors, where quality requires balancing risks or costs, from unbounded factors like positioning or labeling, for which excellence is always the target. MIQAS emphasizes descriptive (not prescriptive) evaluation, composite scoring with weighted quality elements, and reproducible measurement characteristics (trueness, precision, stability, comprehensiveness). As specific modality and clinical task scoring systems are developed, diagnostic medical physicists will be able to evaluate and optimize image quality more consistently and effectively across modalities. Opportunities should materialize for benchmarking performance, contributing to AI readiness, and participating in clinical quality improvement projects. You can read the paper in JACR here. ■

ABR Trustees Listen to Comments from Candidates and Diplomates

ABR UPDATE

An important component of the ABR's exam quality improvement process is to assess the exam experience from the candidate's perspective. To this end, candidates who take any of the ABR's computer-based exams or the oral certifying exam are invited to complete a survey describing their experiences with the platform and their thoughts about the exam. We also invite examiners to complete a survey after each oral exam, and diplomates can leave comments on Online Longitudinal Assessment (OLA) questions.

Most of the survey questions for examinees ask them to pick an answer option, but in several places, they may enter free-form comments. The survey questions ask about the scope, relevance, and difficulty of exam topics; the performance of the exam software; and the availability and helpfulness of ABR staff, if assistance was needed. Examinees often take this opportunity to describe their expectations about the mix of topics on the exam or their opinions about the exam's difficulty.

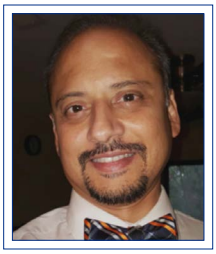
For the oral certifying exam, the examiner's survey asks about the appropriateness and relevance of questions, the performance of the software, the quality and value of the training they received, and the availability and helpfulness of staff. Candidates are asked similar questions, but theirs focus more on their perceptions of the exam questions and their examiners' interactions and demeanor.

Sometimes, candidates include in their comments the request that they be notified of the ABR's reaction to their thoughts. Because the survey responses are anonymous, it isn't possible for the ABR to respond on an individual basis. Likewise, comments on OLA questions are also anonymous, so it is not possible to respond directly to the individual.

However, the ABR reads and takes very seriously the comments made by candidates, diplomates, and examiners. For the surveys completed by examinees, the comments used to be read by the associate executive director, who then summarized them for the Trustees. Summaries are now prepared by the ABR's psychometrics team, which can invoke statistical methods to evaluate trends. For comments submitted regarding OLA questions, the ABR has developed an algorithm that triggers a review when any of several measures is reached; one of which is the number of comments received on a question.

The ABR encourages oral examinees who wish to report issues with an examiner to submit their concerns directly to the headquarters office by phone or email. The ABR's response depends both on the exam and the type of comment.

Geoffrey Ibbott, PhD
ABR Associate Executive Director for Medical Physics



Sameer Tipnis, PhD
ABR Trustee
Medical University of South Carolina

Jennifer Stickel, PhD
ABR Trustee
Colorado Associates in Medical Physics

Matthew Podgorsak, PhD
Chair, ABR Board of Trustees
Roswell Park Cancer Institute

The Medical Physics Trustees review comments made by examinees and OLA participants.

When candidates submit comments about examiners immediately after an oral exam, and when a sufficiently detailed description is provided, the ABR can review the recording of the specific exam session and respond appropriately. If the examiner's behavior is found to conflict with the ABR's standards, or with commonly accepted standards of professional behavior, the response will be commensurate and might range from counseling and retraining to exclusion from future oral exams. It may also result in more severe disciplinary action.

The exam session recordings mentioned above are retained for only a short time as a matter of security and confidentiality.

On occasion, we receive anonymous comments from certifying exam candidates who make specific, and sometimes serious, allegations regarding an examiner's behavior. The ABR cannot take any action in these cases because there is no way to determine the validity of the concerns.

The ABR also monitors social media for comments regarding our Initial Certification and Continuing Certification mechanisms. While the ABR does not respond directly to these comments and questions, we often use our articles in *The Beam* and the AAPM newsletter to address the concerns that have been raised. In fact, this article addresses the question "Why doesn't the ABR respond to my comments?" Other articles have addressed questions about OLA scoring, exam administration dates, and the exam question development process.

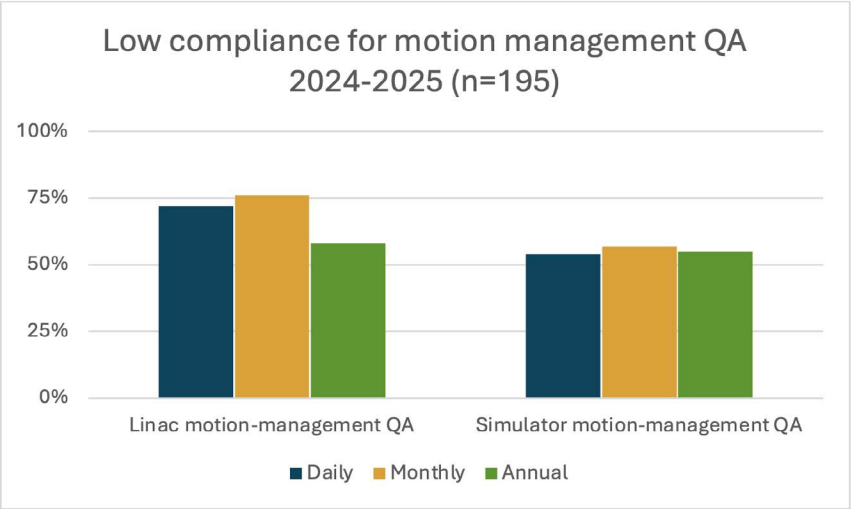
In addition, our webinars are structured to address questions that have been submitted through one of the mechanisms listed above. For example, our AAPM webinar last September answered questions about the timing of exams, recommendations for preparing for ABR exams, and the life cycle of an exam question. ■

Mind the Gap: The Divide Between QA Guidance and Reality

ASTRO QUALITY IMPROVEMENT

Radiation oncology quality assurance (QA) is built on a strong foundation of professional guidance, but day-to-day practice remains highly variable across facilities, shaped by differences in staffing, clinical complexity, equipment, and culture. As emphasized in the AAPM Newsletter (March/April 2023) feature article, *Where the Rubber Hits the Road*, the most consequential challenges often emerge not in what guidance says, but in how it is interpreted and implemented. Data from ASTRO's APEx – Accreditation Program for Excellence were shared in that article focusing on common variabilities in linac QA. While the trend data show overall improvement, some new issues have come to light.

Recent APEx data demonstrate that QA variability is on the rise. In rare cases, aspects of QA aren't happening at all. However, most data show that the deficiencies are more often about how guidance is interpreted. Aggregate APEx data from 2024–2025 (195 facilities total; 172 with SBRT/SRS services) show that "daily linac QA" Evidence Indicators were met at an aggregate compliance of 90% overall, but only 74% among SBRT/SRS programs. In the same dataset, end-to-end testing results were within an expected range of 85% overall. Motion-management QA showed even larger gaps: linac motion-management QA compliance was 72% (daily), 76% (monthly), and 58% (annual) overall; and simulator motion-management QA compliance was 54% (daily), 57% (monthly), and 55% (annual) overall.



Radiation oncology practices may have different reasons for this variability, including:

- Resource constraints and competing priorities — limited physics time to perform QA and staffing can shift QA toward the minimum viable task list rather than a risk-informed program.

Michael Howard, PhD
Tennova Oncology
ASTRO's Practice Accreditation Subcommittee Co-Chair

APEx Strengthens QA

APEx provides a structured way to identify gaps and fix them.

- Makes expectations concrete: APEx clarifies what to document and how to demonstrate compliance.
- Exposes blind spots: APEx Self-Assessment highlights missing elements before they become normalized.
- Drives action: APEx feedback supports sustainable corrective actions.

Get started:
Email APExSupport@astro.org today

- Growth in clinical complexity — advanced techniques (e.g., respiratory management, adaptive processes) introduce more dependencies and more opportunities for small process gaps to become clinically meaningful.
- Documentation and change-management burden — Processes and documentation can lag behind equipment upgrades, new clinical services, and staff turnover, increasing the likelihood of "drift" from the intended program.
- Weak feedback loops — when small deviations are not reviewed, the practice loses the opportunity for improvement before a larger failure occurs.

Why QA Can Become a Challenge

These compliance gaps, especially in complex domains, reflect a wider truth within radiation oncology: QA must evolve to match advancing technical capabilities, varied staffing and infrastructure conditions. Even when a facility is highly motivated, the gap between what guidance intends and what is implemented in day-to-day practice can grow over time.

AAPM Task Group reports and vendor documentation provide essential foundations, but they cannot fully specify how each practice should translate recommendations into processes, responsibilities, thresholds, and documentation that fit local workflows. In this context, APEx data is valuable not only as an analysis of individual practices, but as a profession-level signal. Some QA elements are more difficult to maintain, particularly when practical implementation needs clear operational guidance.

By itself, the variability in QA can be addressed, through additional guidance, external reviews and regular analysis; however, the influx of automation and other vendor solutions will only increase the complexity. Vendor-provided tools can meaningfully improve consistency and reduce manual burden, but automation also changes the failure modes of a quality program. These tools can conceal gaps behind reassuring pass/fail outputs, normalize "green checkmarks" as a surrogate for clinical understanding, and unintentionally weaken independent verification when staffing and time pressures are real.

Some of these QA variabilities may not be new, but automated QA systems can compound small gaps. If commissioning is light, the automated test becomes a highly repeatable way to be consistently wrong; if trending is weak, subtle drift becomes invisible; if documentation is poor, software updates quietly redefine what "passing" means.

Over the last two years, APEx data have shown some common themes related to automation use:

1. Automated QA tools are used as a primary daily linac QA method, but vendors specify that tools should not be used to replace routine QA practice.
2. Automated QA tools are used for output and/or MLC checks and often paired with another device weekly. Regular documentation and oversight gaps are prevalent when automated QA tools are part of daily QA as shown by these examples of feedback:
   - "…physics review is done weekly or when out-of-tolerance, but there is no documentation of physics review of daily QA results."
   - "…they did DQA3 and ran an MPC, but nobody reviewed the results."
3. Automated tools are tied to gaps in other linac QA elements (EDW, wedges, motion management, imaging QA frequency)
   - "No daily QA documented for the EDW. … Daily imaging QA is done using MPC…"
   - "No daily motion management equipment QA…"
   - "Only doing 6-month magnification check on imaging. No monthly imaging QA was evidenced other than MPC."

As QA automation and on-board vendor solutions become more prevalent, medical physicists increasingly need guidance that is specific to the realities of "closed" systems. What needs to be independently validated? What can be relied upon with appropriate controls? What additional checks are required to ensure that automated QA strengthens, rather than substitutes for, physicist oversight?

The Need for More Guidance (Not Less)

Guidance such as TG-142 provides a strong backbone for machine QA, and TG-218 provides a framework for establishing tolerances and action limits for IMRT QA. However, these documents were written when many tests were performed with physics-owned instrumentation and relatively transparent measurements. Automation changes that assumption in a few important ways.

Issue	Description
Measurement opacity	Tools may be partially or fully proprietary. Physicists must still establish confidence that the tool is sensitive to the failures that matter and understand what it cannot see.
Frequent software change	Automated QA tools evolve rapidly. Updates can alter algorithms, reference datasets, tolerances, or pass/fail logic. Without explicit controls, the QA program can drift simply because the software changed.
Hidden dependencies	Automated tests may depend on upstream calibrations or DICOM configuration. Failures can masquerade as machine issues, or be falsely cleared, when the real problem is elsewhere.
Scope creep from convenience	When a test is fast, it tends to be used across modalities and clinical scenarios that extend beyond its intended domain.

These concerns align closely with the broader message of AAPM guidance on evaluating vendor-provided and "black box" tools. The gap is that busy facilities need practical implementation details: what to do on day one, what to repeat after an upgrade, and what minimum independent checks must remain in place when automation is adopted.

What's Needed?

Radiation oncology would benefit from additional guidance focused on adopting and implementing automation. New resources should:

- Define which clinical techniques, energies, imaging modes, and accessories are in or out of scope pending validation.
- Establish timing and frequency of baseline settings, and guidelines for managing daily variability.
- Identify essential physics measurements for validating automated metrics (e.g., isocenter proxy, MLC indicators) and conduct sensitivity testing where possible.
- Define a re-validation timeline and process after upgrades or new features.
- Require independent checks after major service or parts replacement, regardless of auto QA results.
- Align end-to-end tests with highest-risk workflows (e.g., SBRT, gating, adaptive) to ensure workflow integrity.
- Develop protocols for discrepancies between automated QA and independent checks, including when to halt treatment, repeat tests, or call service engineers.
- Maintain a list of undetectable failure modes to avoid assumptions about tool coverage.

Use APEx Lessons to Strengthen Automated QA Adoption

APEx has helped identify where QA programs most often weaken, including incomplete procedures and inconsistent execution. Automation and on-board tools can directly address some of these problems, by standardizing setup and improving repeatability. However, these solutions can also cement deficiencies if facilities are not given practical guidance on commissioning and independent verification.

Automation can be a powerful component of a QA program, but it should not eliminate independent measurement. A practical guide built from APEx-identified deficiency patterns and aligned with existing Task Group recommendations, could help practices understand exactly how to QA the QA: how to validate vendor automation, how to maintain independence, and how to keep automated results meaningful across software updates and evolving clinical use. Ultimately, closing this loop is how we mind the gap between QA guidance and reality. ■

2026 CALL FOR GRAND CHALLENGE PROPOSALS

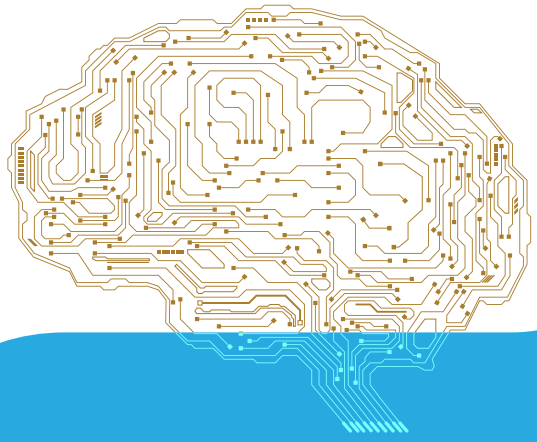
AAPM Working Group on Grand Challenges

AMERICAN ASSOCIATION of PHYSICISTS IN MEDICINE

Do you know an important, unsolved medical physics scientific issue?
Let AAPM's Working Group on Grand Challenges (WGGC) help you organize a Grand Challenge, an engaging way to address scientific dilemmas while connecting with the AAPM membership and the broader medical physics research community!

WGGC is dedicated to promoting Grand Challenges focused on enhancing medical imaging in diagnostic and therapeutic applications. We're currently welcoming proposals from groups interested in hosting a Challenge ahead of the 2027 Annual Meeting. Selected proposals will receive sponsorship, including some financial support, and guidance from WGGC to facilitate successful execution.

Don't miss this opportunity to make an impact! Learn more and download the proposal application form HERE.



Please e-mail proposals to Emily Townley (emily@aapm.org) by 5:00 PM EDT on Friday, July 10, 2026.

AAPM Southern California Chapter 2026 Midwinter Symposium Recap

AAPM SOUTHERN CALIFORNIA CHAPTER UPDATE

The 2026 AAPM-SCC Midwinter Symposium showcased advances in radiopharmaceutical therapy, reirradiation modeling, artificial intelligence, and modern treatment techniques including liver radiotherapy and IMRT-based TBI/TMI. Speakers addressed regulatory readiness, dose accumulation uncertainties, and workforce challenges, emphasizing multidisciplinary collaboration, rigorous validation, and clear communication to safely translate innovation into effective, patient-centered clinical practice.

The American Association of Physicists in Medicine Southern California Chapter (AAPM-SCC) hosted its annual Midwinter Symposium on January 30, 2026, bringing together medical physicists, radiation oncologists, trainees, and industry partners for a full day of education and professional engagement. The program featured timely topics spanning radiopharmaceutical therapy, reirradiation modeling, artificial intelligence, workforce development, advanced treatment techniques, and professional communication.

Jessica Clements opened the symposium with a comprehensive roadmap for implementing a radiopharmaceutical therapy (RPT) program. She outlined regulatory preparation, radioactive materials licensing, Authorized User requirements, SOP development, radiation safety considerations, patient release criteria, and accreditation pathways. Her presentation emphasized multidisciplinary coordination and practical infrastructure planning, equipping attendees with a structured, real-world framework for safely launching or expanding RPT services.

Dr. Jimm Grimm delivered an engaging exploration of reirradiation dose modeling, focusing on biologically effective dose (BED), time-discounted prior dose approaches, and recovery modeling for critical structures such as the spinal cord and carotid artery. He reviewed clinical data, maximum likelihood fitting strategies, and limitations of current NTCP models, while emphasizing the urgent need for collaborative data pooling to refine evidence-based retreatment guidance.

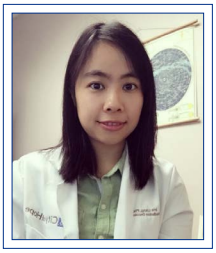
Dr. Julianne Pollard-Larkin addressed the evolving workforce landscape in radiation oncology and provided strategies for resilience and professional growth. She discussed staffing shortages, burnout prevention, leadership development, and adaptability in a rapidly changing healthcare environment. Her session offered actionable insights for physicists at all career stages to sustain engagement and thrive amid institutional and technological shifts.

Zhilei Shen, PhD
University of Southern California

Mengying Shi, PhD
University of California Irvine

Steven J. Goetsch, PhD
San Diego Medical Physics

Talon Thompson, MS
Kaiser Permanente



Jieming Liang, PhD
Kaiser Permanente

AAPM SOUTHERN CALIFORNIA CHAPTER UPDATE, Cont.

AAPM President-Elect **Andrew Maidment** presented a forward-looking overview of artificial intelligence applications in diagnostic radiology. He examined AI tools for image analysis, workflow optimization, and decision support, while discussing validation challenges, bias mitigation, regulatory considerations, and clinical integration. His talk highlighted both the transformative potential of AI and the critical role physicists play in ensuring safe and responsible implementation.

Dr. Julie Shen discussed the complexities of dose summation across multiple treatment courses and modalities. She reviewed deformable image registration challenges, uncertainty propagation, and composite dose evaluation in retreatment scenarios. Her presentation emphasized the importance of validation and critical interpretation when evaluating cumulative organ-at-risk doses in complex cases.

Dr. Wensha Yang introduced emerging strategies in liver radiotherapy, focusing on motion management, advanced imaging, and biologically informed planning approaches. She discussed the technical challenges of hepatic treatments and innovative paradigms aimed at improving tumor control while minimizing toxicity, reflecting the continued evolution of precision radiotherapy in abdominal sites.

Dr. Benjamin Wedro delivered a compelling session on the role of clarity in professional communication and clinical decision-making. He explored how simplifying complex technical information enhances patient safety, teamwork, and leadership effectiveness. His presentation reminded attendees that technical excellence must be paired with clear thinking and communication to maximize clinical impact.

Dr. Chunhui Han concluded the symposium with a comprehensive review of modern intensity-modulated techniques for total body irradiation (TBI) and total marrow/lymphoid irradiation (TMI/TMLI). He discussed advanced planning strategies, dose optimization, organ sparing, and implementation considerations that have transformed whole-body irradiation into a more precise and patient-centered modality. During his presentation, he also took a moment to honor the memory of Grace Kim, recognizing her contributions to the medical physics community and her lasting impact on colleagues and patients alike. The tribute added a meaningful and heartfelt close to an inspiring scientific session.

The 2026 AAPM-SCC Midwinter Symposium highlighted the breadth and depth of contemporary medical physics practice—from regulatory program development and radiobiological modeling to artificial intelligence, workforce resilience, and advanced treatment innovation. The Chapter thanks all speakers, attendees, and industry partners for contributing to another outstanding educational event.

We look forward to continued collaboration and to seeing you at future AAPM-SCC meetings. ■

AAPM-SCC officers and speakers enjoyed dinner and camaraderie at the pre-meeting reception.

AAPM-SCC leadership and invited speakers gathered for a group photo at the 2026 Midwinter Symposium. From left to right: Chengyu Shi, Talon Thompson, Jessica Clements, Andrew Maidment, Steven Goetsch, Xiaoyu (Sherry) Liu, Zhilei (Julie) Shen, Benjamin Wedro, and Michael Reilly.

2026 SWAAPM Annual Meeting and Chapter Activities

AAPM SOUTHWEST CHAPTER UPDATE

Recap of SWAAPM's 2026 Annual Meeting

On February 5–7, 2026, the Southwest Chapter of AAPM (SWAAPM) hosted its annual meeting at the Grapevine Great Wolf Lodge near Dallas, TX. The family-centered, wolf-themed park and conference venue was the perfect backdrop for our laidback family atmosphere, meant to remove barriers between the academic and clinical community practice physicists and focus on the science and practical clinical advice that benefits us all. The meeting hosted >100 regional medical physicists, vendors, and trainees from Louisiana, Oklahoma, Arkansas and Texas.

The program kicked off with a fascinating panel discussion with SWAAPM members sharing their experiences participating in last summer's AAPM Advocacy Day in Washington, DC. Throughout the conference, invited speakers shared the latest research and clinical developments across imaging and therapy, and AAPM President Robin Miller spoke about navigating AAPM.

A perennial highlight of our SWAAPM meeting, Early Career Investigator Symposium winners included MD Anderson students **Taylor Meyers** winning first place, **Anna Marks** in second and **Skylar Gay** in third. The top three overall posters were awarded to **Derek Garcia** (MDACC), **Olivia Magneson** (LSU), and **Ali Rohani** (LSU). Unique to SWAAPM is a mentorship award named after one of AAPM's top educators and mentors, Dr. Kenneth "Kip" Matthews II, PhD. This year's winner of the Kip Matthews Mentorship Award is **Brian Wichman**, MS, DABR, a clinical medical physicist and residency program director at

SWAAPM 2026 Group Pic with AAPM President Robin Miller, MS.

Arjit Baghwala, MSc
Houston Methodist Hospital

Bethany Broekhoven, MS
Integrated Willis-Knighton Cancer Center

Sara Lynn Thrower, PhD
UT MD Anderson Cancer Center

Kip Matthews, PhD
Louisiana State University

Julianne Pollard-Larkin, PhD
UT MD Anderson Cancer Center

Texas Oncology. LSU students swept SWAAPM's 2026 Med Phys SLAM with **Shanice Manning** winning first place, **Murtuza Taqi** in second and **Emma Sargent** in third. Shanice Manning will go on to represent our region at the national Med Phys SLAM competition at this year's AAPM Annual Meeting in Vancouver.

An added feature of this year's SWAAPM meeting was the inclusion of a one-day theranostics workshop where therapy and imaging physicists got hands-on experience calculating radiopharmaceutical dose using MIM.

Beyond the great scientific meeting and socializing experience that SWAAPM brings each year, SWAAPM is known for its robust ABR Part 3 Mock Oral exam. And this year's mock oral was one of our best yet!

SWAAPM ABR Part 3 Therapy and Diagnostic Mock Exam

If you fail to plan, you plan to fail!

On January 24, 2026, SWAAPM hosted its annual ABR Part III Mock Oral Examination, continuing a longstanding educational tradition aimed at preparing candidates for one of the most challenging milestones in medical physics certification. The event brought together 20 registered examinees and 20 volunteer examiners, creating a realistic and supportive environment that closely simulated the American Board of Radiology (ABR) oral examination experience.

For nearly 20 years, SWAAPM has organized mock oral examinations as a cornerstone educational initiative, reflecting the chapter's commitment to mentorship, professional development, and clinical excellence within the medical physics community. The program provides candidates with a structured opportunity to practice the skills required for oral board success while receiving direct feedback from experienced board-certified physicists.

Educational Value of Mock Examinations

Mock oral exams provide a unique opportunity for candidates to identify knowledge gaps and refine examination strategies before facing the actual boards. Participants benefit by learning how to:

- Recognize and strengthen areas of clinical or physics weakness
- Communicate complex concepts clearly and professionally
- Structure answers efficiently within strict time constraints
- Build confidence in responding to unfamiliar scenarios
- Gain insight into examiner expectations and questioning styles

Given that ABR certification remains a rigorous process with historically moderate passing rates, preparation experiences such as mock examinations play an important role in supporting candidate readiness and long-term clinical success.

A Community-Driven Effort

The success of this year's event was made possible by the dedication of 20 volunteer examiners, along with our SWAAPM leadership, whose participation ensured a diverse range of clinical perspectives and realistic questioning scenarios reflective of modern radiation oncology and imaging physics practice. The balanced examiner-to-examinee ratio allowed for meaningful interaction and

individualized feedback, which participants consistently cite as one of the most valuable components of the experience.

Beyond examination preparation, the mock oral exam fosters mentorship and professional connection within the regional medical physics community. Experienced physicists contribute not only as evaluators but also as mentors, helping guide the next generation of professionals toward board certification and independent clinical practice.

Continuing a Tradition of Excellence

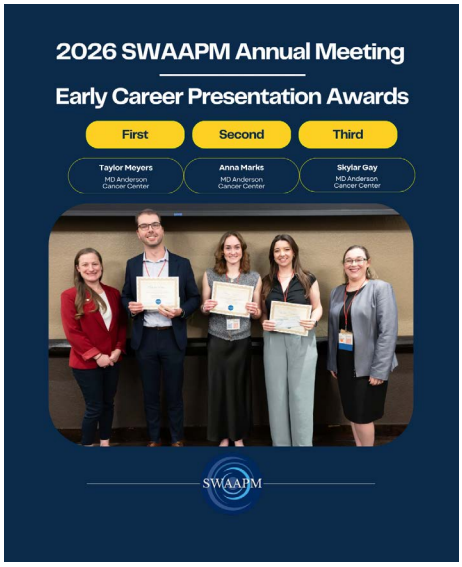
The 2026 SWAAPM Mock Oral Examination was widely regarded as a success by both examinees and examiners. Participants left with clearer expectations of the ABR oral boards, actionable feedback to guide further preparation, and increased confidence in their ability to communicate clinical reasoning effectively under time constraints. As certification pathways continue to evolve and clinical practice grows increasingly complex, educational initiatives like the SWAAPM mock exam remain essential. By supporting trainees through mentorship and realistic preparation, SWAAPM continues to strengthen the pipeline of future board-certified medical physicists and uphold the high standards of quality and safety that define the profession

Mark Your Calendars

Whether you are from our region or not, we hope that all of you will consider joining us for next year's 2027 SWAAPM Annual meeting, which will be held at the Little Rock Marriott from February 11-13, 2027, in Little Rock, Arkansas.

If you want to get involved or volunteer, please do not hesitate to reach out to us at swaapm@aapm.org. ■

2026 SWAAPM Annual Meeting Best Poster Winners.



2026 SWAAPM Annual Meeting Early Career Presentation Awards Winners.

2026 SWAAPM Annual Meeting MedPhys SLAM Awards Winners.

2026 SUMMER SCHOOL

ADAPTIVE RADIOTHERAPY: Transforming Technology, Modern Practice, and Clinical Impact

JUNE 16–20 | UNIVERSITY OF MICHIGAN

REGISTRATION Now Open!

AAPM.ME/2026SS

AAPM Specialty Meetings

SAVE the DATE

PHYSICS PLAN REVIEW TOOLKIT

The AAPM Physics Plan Review Toolkit Specialty Meeting is a virtual, interactive experience designed to support high-quality physics plan review through practical learning, real-world scenarios, and peer collaboration. Stay tuned for details.

OCTOBER 29–30, 2026 | VIRTUAL

Northern California Chapter Hosts 2026 Therapy Physics Mock Oral Exam

AAPM NORTHERN CALIFORNIA CHAPTER UPDATE

Written on behalf of: Northern California Chapter of AAPM

The Northern California Chapter of AAPM successfully hosted its annual Therapeutic Medical Physics Mock Oral Exam on February 21, 2026. The event was conducted virtually over two full sessions — morning and afternoon — and supported 20 candidates preparing for their American Board of Radiology (ABR) Part III examination.

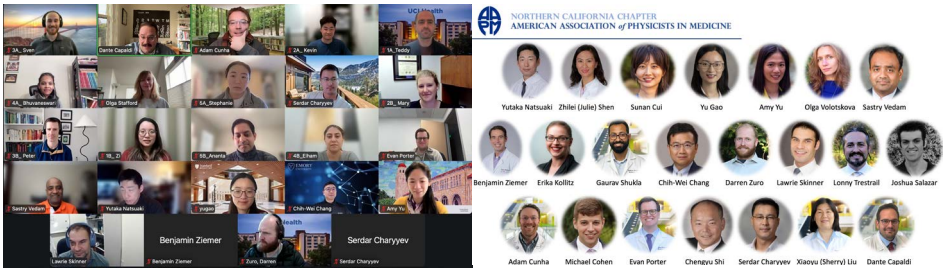
This longstanding Chapter initiative is designed to support early-career physicists as they prepare for one of the most significant milestones in their professional training. Importantly, the program is offered completely free of charge to Chapter members, reflecting our commitment to reducing barriers and fostering equitable access to high-quality board preparation resources.

The success of this event is entirely due to the dedication of our volunteer examiners. More than 20 experienced medical physicists generously gave their time and expertise to participate across both sessions. Their thoughtful engagement, mentorship, and willingness to invest a Saturday in supporting candidates exemplify the collaborative spirit of our Chapter.

Feedback from participants has been overwhelmingly positive, with many expressing appreciation not only for the realism of the experience, but also for the constructive and supportive environment created by the examiners.

The Northern California Chapter remains committed to investing in the next generation of medical physicists through initiatives like this Mock Oral Exam. We extend our sincere gratitude to all volunteers who made this event possible and to the candidates who participated with professionalism and enthusiasm.

We look forward to continuing this tradition in the years ahead. ■



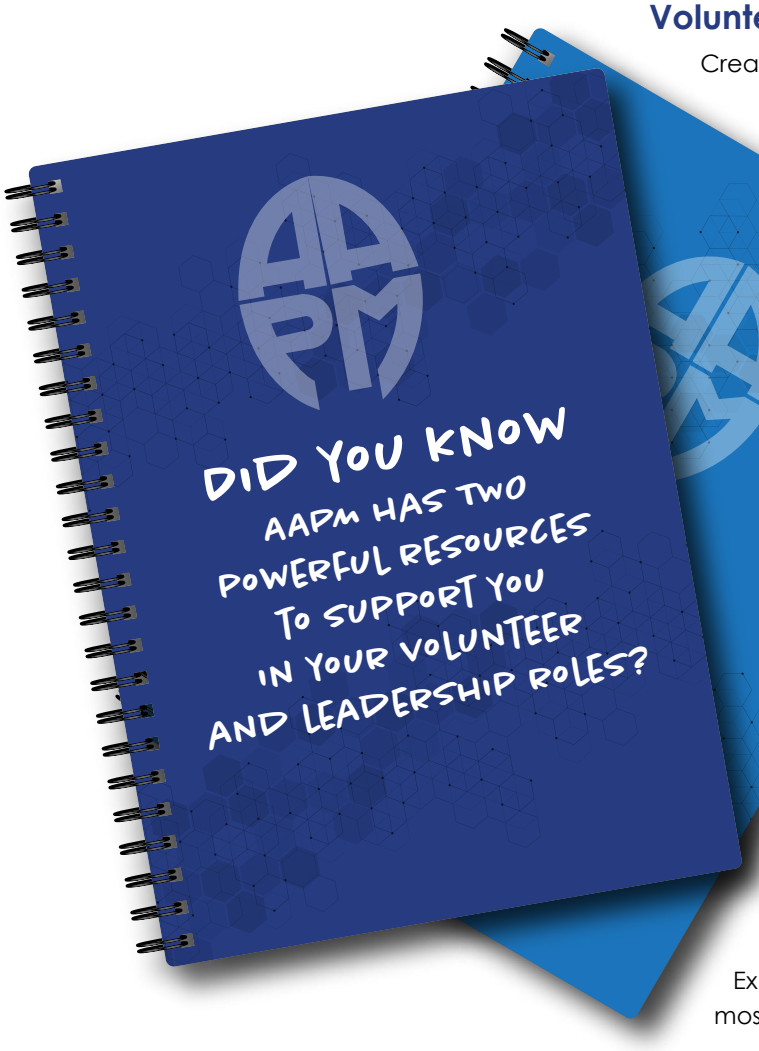
Community in action: candidates preparing for boards and the dedicated examiners who showed up to mentor, guide, and give back.

Dante Capaldi, PhD
University of California, San Francisco

Amy (Shu-Jung) Yu, PhD
Stanford University

This year's Mock Oral Exam was made possible through the dedication of more than 20 volunteer examiners who generously gave their time and expertise. We extend our sincere thanks to each of them for their mentorship, professionalism, and commitment to supporting candidates preparing for the ABR Part III examination. Their service reflects the strong spirit of collaboration within our Chapter.

Attention Volunteer Members!



Volunteer Handbook

Created by AAPM Headquarters, this guide provides essential information for volunteers during their service to the Association. Key features include:

- **HQ Staff Support:** Get the help you need.
- **Governance & Policies:** Links to AAPM Policies, Position Statements, By-Laws, and Rules.
- **Budget Process:** Guidance on accessing committee-specific financial details.
- **Scheduling Meetings:** Tools for Zoom, F2F meetings, templates, and minutes.
- **Committee Rosters:** Tips for filling positions with the "Committee Classifieds" system.
- **New Group Creation:** Includes the *New Group Creation Form*.
- **Task Groups:** Sunsetting policies and progress reporting tools.
- **AAPM Reports:** Step-by-step guidance on how to get started and navigate the reporting process.

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Leadership Handbook

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AMERICAN ASSOCIATION of PHYSICISTS IN MEDICINE

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Imaging Repository Fuels Developments in Medical AI

RESEARCH SPOTLIGHT #1

The potential of artificial intelligence (AI) in medicine had become clear as the 2010s wound down. Research and clinical applications showed that AI was a transformative technology that could automate time-consuming tasks, optimize workflow, and help triage cases, among other things.

But one major problem limited uptake in the clinic: a lack of quality imaging data. Low-quality images, duplicate cases, and biases plagued the datasets that developers relied on to create algorithms.

In response, researchers and leaders from the National Institute of Biomedical Imaging and Bioengineering (NIBIB) developed a medical imaging repository that investigators across the globe could freely access to facilitate the development of trustworthy machine learning algorithms.

All they needed was a use case — a specific clinical problem to help build the repository's infrastructure.

"We were thinking of a use case in 2019, perhaps one like chronic lung disease or breast cancer diagnosis," said medical physicist and past NIBIB Advisory Council member **Maryellen L. Giger, PhD**, the A.N. Pritzker Distinguished Service Professor of Radiology at the University of Chicago. "And then COVID hit."

Within months, clinicians and technologists were generating thousands of chest images, including X-rays and CT scans, from COVID-19 patients across the country. The images helped create AI-based algorithms to predict disease severity, prognosis, and outcomes. However, the resulting algorithms were often still flawed due to lack of medical expertise, poor annotations, and duplicate images.

Enter NIBIB's Medical Imaging and Data Resource Center (MIDRC). Launched in August 2020 and hosted at the University of Chicago, where Dr. Giger serves as its contact PI, MIDRC collects, harmonizes, and stores thousands of deidentified images along with associated clinical and demographic data.

The repository is a collaboration of the American Association of Physicists in Medicine (AAPM), the Radiological Society of North America (RSNA) and the American College of Radiology (ACR).

"The leadership team has two AAPM members, two RSNA members and two from ACR, as well as the Gen3 data platform lead, working together to create what I now call a smart data commons for medical imaging," said Dr. Giger.

In the years since its formation, MIDRC has expanded to conditions beyond COVID-19. The numbers are staggering: more than 575,000 imaging studies ingested, over 200,000 imaging studies released to the public, and imaging and data from more than 84,000 patients as of April 2026.

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The numbers are staggering: more than 567,000 imaging studies ingested, over 200,000 imaging studies released to the public, and imaging and data from more than 84,000 patients.

More important than the quantity of the data, though, is its quality. Imaging data that come to MIDRC from multiple clinical sites throughout the country are carefully curated, starting with AI-assisted deidentification to protect patient privacy. Curation ensures that the data in the image matches the information in the DICOM header.

"We want medical imaging data that are curated, representative of different populations, and reusable — a smart data commons from the chain of ingestion all the way to making it publicly available," said Dr. Giger.

Data harmonization is also critical to MIDRC's mission. The MIDRC DICOM harmonization mapping tool, developed under the oversight of MIDRC's other AAPM lead, **Paul Kinahan, PhD**, Professor of Radiology and Bioengineering at UW Medicine in Seattle, is an open-source utility aimed at standardizing and harmonizing DICOM files across diverse medical imaging datasets. Harmonization helps account for differences in nomenclature. For instance, one institution might refer to a "chest CT with contrast" while another calls it a "contrast chest CT."

"If you have to ask for the same image with many different potential names, it's going to make life difficult," Dr. Giger said. "Thus, we harmonize the data so they're all called the same name, which will help when building a cohort."

Approximately 80% of the imaging studies that MIDRC ingests are freely accessible to the public for research use. The remainder is kept in a separate, sequestered dataset to be used for testing algorithms. Such a dataset allows researchers the opportunity to have their algorithm evaluated for a specific task on an intended population from a cohort that is entirely independent from the initial dataset used for algorithm development to see if it works as anticipated—a key step for algorithm evaluation and for expediting the process of receiving regulatory approval such as from the U.S. Food and Drug Administration (FDA) for clinical use.

"About 20% of what comes into MIDRC is sequestered," said Dr. Giger. "The goal is to use that data to help investigators and companies go through FDA clearance."

The MIDRC website is the beating heart of the repository. There, investigators will find, beyond data access, various resources to address problems like bias, a major challenge in medical imaging AI development, testing, and deployment.

Bias can creep into algorithms in many ways. An algorithm developed using data collected from patients at a single institution may not perform as described in another institution in which a different imaging protocol is used. In addition, algorithms that use images from the same patients for development and testing will be biased and unlikely to perform well across multiple patient populations. MIDRC's online Bias Awareness Tool describes potential sources of bias, how these biases arise, and suggestions for how to best correct them.

Along with curation, harmonization, and sequestration, MIDRC provides a cache of freely available, web-based or downloadable tools to help investigators understand their data such as the MIDRC Representativeness Exploration and Comparison Tool (REACT), a downloadable tool designed to compare the representativeness of biomedical data.

"For example, if you want a cohort of real-world data of a specific population — say, images acquired on only one manufacturer's systems — then you can create such a cohort," said Dr. Giger. "There are many, many other tools, and you just have to go to our web site and find them."

Beyond its central repository, MIDRC also indexes other high-quality data commons, a major boost for investigators building a cohort to study rare diseases.

"MIDRC is not just a data repository or a data accountant," Dr. Giger said. "It's a smart data commons, because it has AI integrated throughout its processes and includes a wide variety of resources for the user."

To further foster innovation, benchmarking, and standardization in medical imaging, MIDRC conducts Grand Challenges that focus on developing AI models using curated, often proprietary datasets to address clinical questions. The data from the three Grand Challenges have been used to understand representativeness, methods of doing challenges, and how to compare algorithms, not just in terms of their performance, but how much bias might be in that algorithm.

The 2024/25 Grand Challenge focused on explainable AI. Participants developed models to classify frontal-view

RESEARCH SPOTLIGHT #1, Cont.

chest X-rays for pneumonia-associated lung opacities and provided explainability maps to interpret the AI's decision-making process.

To receive the prize money, winners must put their algorithm on MIDRC's GitHub repository. MIDRC works with investigators to prepare the data and annotations and contribute it to the repository.

"The challenges just keep getting better and better," said Dr. Giger. "They represent a very fruitful cross-society collaboration."

Dr. Giger envisions MIDRC expanding in the future to include different specialties and clinical scenarios, such as theranostics and traumatic brain injuries. She also expects an increased amount of longitudinal data to allow comparisons between baseline images and subsequent ones.

"I see MIDRC as the one-stop shop for people wanting medical images," she said. "And it may also ultimately be the one-stop shop for those wanting to take an imaging AI algorithm through FDA."

It will also be a valuable resource for medical physicists looking to collaborate with other researchers, Dr. Giger said.

"I think this all comes down to, not just the societies working together and playing nice in the sandbox, but the individual investigators, medical physicists, radiologists, data scientists, and so on, all working together," she said.

Such collaborations are a natural fit for medical physicists, who have been leaders in the development of AI since its early days. Dr. Giger points out that medical physicists developed the very first FDA-cleared system for computer-aided detection in screening mammography. Within that first system was an early version of a convolutional neural network called a shift and variant neural network.

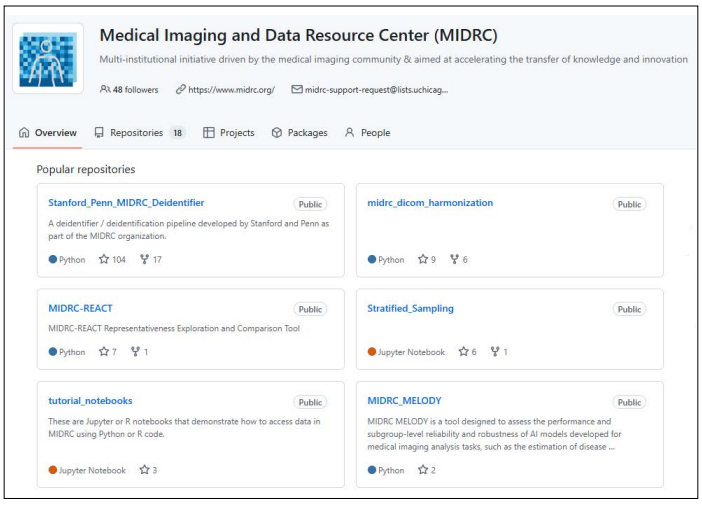
"Medical physicists have been there for many of the most important developments in AI," she said. "In fact, if you go to the FDA website and look at all the Software as a Medical Device approved items, more than 75% come from radiology."

Those contributions from medical physics will only grow as MIDRC provides fuel for future innovations and breakthroughs in patient care. ■

Maryellen Giger, PhD, at the MIDRC booth during the RSNA 2025 annual meeting.

AAPM members Joel Toledo-Urena, Natalie Baughan and Jordan Fuhrman at the MIDRC booth during AAPM 2024.

MIDRC has ingested more than 500,000 imaging studies between its launch in August 2020 and April 2026.



MIDRC's GitHub page hosts repositories related to research projects, tools, and tutorials.

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Mentoring Up, Down, and Across: Building a Mentorship Mindset

New Professional Symposium

Tuesday, July 21, 2026
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As a new member of AAPM, it is easy to feel overwhelmed by the size and complexity of the association and to be unaware of the benefits and opportunities available to members. At this year's AAPM Annual Meeting in Vancouver, BC, we will host a New Professional Symposium where you can learn more about the organization, member resources, opportunities to get involved, and about topics of particular interest to new professionals. We encourage you to take advantage of this great opportunity to learn valuable information and to grow your professional network.

Registered attendees will receive a raffle ticket. Enter to win a complimentaryregistration for the 2027 Annual Meeting & Exhibition in Columbus, OH!

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Innovation Informs Storied Career

RESEARCH SPOTLIGHT #2

The science of radiation therapy advanced steadily in the decades following its first use in 1896, but shortcomings in treatment planning limited its potential. Conventional simulators provided an incomplete picture of a tumor, bringing too much conjecture into the process.

"The joke was that we were treating an invisible tumor with an invisible beam," said **Thomas Mackie, PhD**, Professor Emeritus in Medical Physics and Human Oncology at the University of Wisconsin in Madison. "You could only really see the bony anatomy and the markers that surgeons had put in, supplemented by palpation by the radiation oncologists and a lot of guesswork."

Early in his career, Dr. Mackie recognized the limitations of simulators and saw a solution in the form of 3-D planning with CT. His work in the 1980s led to the development of the Pinnacle Radiotherapy Treatment Planning System, a former gold standard for treatment planning worldwide.

"That is probably the biggest success of my career, in terms of helping change the field," Dr. Mackie said. "Within five years after Pinnacle came out, people weren't buying simulators anymore. And 10 years after that, the simulators had all been mothballed."

That ability to identify a major problem and find a solution has defined a remarkable career in medical physics that began in Saskatoon, the largest city in Canada's prairie province of Saskatchewan. As the location of the original Cobalt-60 Beam Therapy Unit, also known as the "cobalt bomb", Saskatoon was already a hub for medical physics when Dr. Mackie began his undergraduate studies at the university there in 1972. He had designs on being a writer, but his work experience and aptitude for math set him on a path to medical physics.

After graduation, he moved west for graduate school at the University of Alberta in Edmonton, where he completed his master's and PhD in four years. While there, he began developing a groundbreaking convolution/superposition method for more accurate dose calculation.

After a three-year stint as a clinical medical physicist in Saskatchewan's capital of Regina, he moved to the University of Wisconsin in Madison in 1987 to take a job as an assistant professor. He planned to stay there only a few years before returning to Edmonton, but Madison's quality of life and thriving medical physics program won him over.

"Madison's a Canadian-like city, liberal and safe, with tons of smart people," he said. "It's the kind of place where your cab driver might be working on their PhD"

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RESEARCH SPOTLIGHT #2, Cont.

His convolution method for dose calculation was still a work in progress, so he and his Wisconsin colleague, Mark Gehring, developed a painstaking interim solution for treatment planning that involved the placement of a bathing cap on the patient's head in the morning just before the neurosurgeon put the stereotactic frame in place. After a CT scan to show the location of the tumor, the team would use the cap to plan the arc passes.

"We figured out what the arc paths were by literally drawing them on the bathing cap," Dr. Mackie said. "And then the patient would wear the bathing cap with the stereotactic frame the whole day."

They treated their first patient in 1989. Within two years, hundreds of patients had undergone treatment with their home-grown system.

Advancements came quickly after that. Mark Gehring's work on virtual 3D treatment planning eliminated the need for the bathing cap, and then Dr. Mackie completed his convolution/superposition dose calculation. The algorithm enabled clinicians to get within 2% of the required dose, a significant improvement over existing technology.

To get U.S. Food and Drug Administration clearance for the technology, Dr. Mackie and colleagues started a company called Geometrics Inc., with Mark Gehring serving as CEO.

"We were the right people at the right time to help with that transformation," Dr. Mackie said.

Having achieved better treatment planning, Dr. Mackie turned his attention to the treatment itself. He first developed serial tomotherapy, a form of intensity-modulated radiation therapy (IMRT) that delivers radiation in discrete slices using fan beams. However, the serial method required precise patient immobilization due to high sensitivity to misalignment in the abutment region between slices.

The key breakthrough came in 1989, when **Willi A. Kalender, PhD**, a German medical physicist who received his PhD at Wisconsin, introduced the first clinical spiral CT scanner.

"I was reading his paper and within a few minutes I knew that this is the way to do helical, or spiral, tomotherapy," Dr. Mackie said.

With initial funding and CT scanners from General Electric (GE) and a licensing deal from the Wisconsin Alumni Research Foundation (WARF), Dr. Mackie set to work. By pairing a linac and CT scanner, he created a system that directs a continuous helical delivery pattern of radiation and protects healthy tissue from unnecessary dose exposure.

When GE got out of radiotherapy, Dr. Mackie and Paul Reckwerdt, a senior scientist in his university group, launched a company called TomoTherapy and completed the first prototype machine in 2001. Just as he was readying the equipment for testing on humans, his neighbors in the university's veterinary radiotherapy program were treating sinus tumors in dogs with cobalt beams. The treatment left all the dogs blind. Sensing an opportunity, Dr. Mackie and his team treated 20 dogs with tomotherapy starting in the spring of 2002. Not only did the tumors respond, but the dogs retained their eyesight.

"For the first time, we showed that tomotherapy could spare these concave ovoid structures, which is the orbit and the optic chiasm of the dogs, but still treat the sinus cavity," he said. "We knew then that we were onto something."

The team performed palliative treatments on the first human patients in August 2002. Five years later, TomoTherapy went public, with a whopping $960 million valuation at its initial public offering.

"It's the largest University of Wisconsin spinoff in terms of valuation," Dr. Mackie said.

Dr. Mackie's innovations continued into the new century even as he balanced clinical work in both medical physics and oncology with grant writing and pure research. He tried to develop a compact proton therapy machine for treating cancer and, more recently, created an upright radiotherapy system that promises to be a major disruptor in the field.

For the first 60 years of radiation therapy, Dr. Mackie said, treating patients in an upright position was common. The arrival of CT changed that. Since CTs are designed to be as multipurpose as possible and are often needed for emergency diagnostic procedures on unconscious patients, upright equipment went out of fashion, even

RESEARCH SPOTLIGHT #2, Cont.

though most patients spend their days upright.

"We have all these people who come into our clinics having had breakfast sitting up, having driven to the clinic sitting up," he said. "They walk into the clinic, sit in the waiting room, walk into the treatment room and then we tell them to lie down."

Conventionally, the supine position results in a sudden shift in orientation, setting internal organs in motion, especially in the abdomen, and reducing lung volume, which causes more movement due to breathing. An upright system reduces this motion, enabling more accurate and targeted radiation delivery.

Through a new company called Leo Cancer Care, Dr. Mackie and colleagues are bringing upright radiation therapy back with Marie, a combination CT/patient positioning system named after Nobel laureate and radioactivity research pioneer Marie Curie.

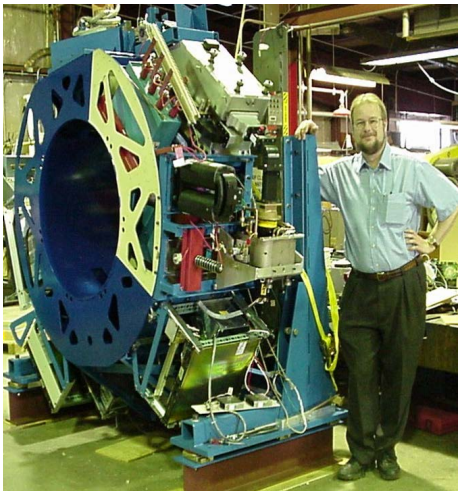
Marie enables delivering therapy to patients while they are supported in an upright position. The chair slowly rotates the patient as treatment is administered. This eliminates the need for a rotating gantry, dramatically reducing space requirements and infrastructure costs. The chair and the shin and heel supports allow the patient to relax without slouching. Its smaller footprint and lower costs will potentially expand access to cutting-edge radiation therapy.

In addition, its upright design is likely to reduce injuries related to positioning a patient for treatment among radiotherapy technologists.

Both the CT element and the patient positioning system have gained 510k regulatory clearance from the FDA. UW Health in Madison has installed a Marie upright system that is expected to go into clinical use this year.

"I'm fully convinced that by the time I leave this world, we'll be getting radiation therapy upright," Dr. Mackie said.

Based on his previous accomplishments, which earned him the Coolidge Gold Medal of the AAPM in 2014 and the Gold Medal Award from the American Society for Radiation Oncology (ASTRO) in 2019, this seems like a prediction worth watching. ■



Dr. Mackie stands next to the first clinical helical tomotherapy unit at the UW-Madison Physical Sciences Laboratory in 2000, where it was assembled based on a GE CT scanner rotating bearing, a xenon CT detector and a Siemens linear accelerator. The unit was delivered to the UW-Madison Radiotherapy Clinic in 2001.

Dr. Mackie joins his former mentee Todd McNutt, Ph.D., Johns Hopkins medical physicist and entrepreneur (OncoSpace), as Dr. McNutt tries out the upright positioning on a Leo Cancer Care Marie® system display at ASTRO 2025.

Dr. Mackie (far right) poses with the other founders of Geometrics Inc., developers of the Pinnacle treatment planning system, in a law office during negotiations for the sale of Geometrics to ADAC in 1996. Pictured with Dr. Mackie are, from left to right, Paul Reckwerdt, Cameron Sanders and Mark Gehring.

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