AMERICAN ASSOCIATION of PHYSICISTS IN MEDICINE

IMPROVING HEALTH
THROUGH MEDICAL PHYSICS

# AAPM NEWSLETTER

**March/April 2025** | Volume 50, No. 2

## Special Interest Feature:

### Communication Coordination Committee

**IN THIS ISSUE:**

# SAVE *the* DATES

# 2025 AAPM MEETINGS

## MARCH/APRIL

**3/29–4/1** **Spring Clinical Meeting**
*Henderson, NV*

## JUNE

**19–24** **Summer School: *Clinical MR Physics: State-of-the-Art Practice***
*Denver, CO*

## JULY

**27–30** **67th Annual Meeting & Exhibition:**
***Coming Together to Forge Ahead in Medical Physics***
*Washington, DC*

aapm.org

AMERICAN ASSOCIATION *of* PHYSICISTS IN MEDICINE

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### EVENTS/ANNOUNCEMENTS



**Jennifer Pursley, PhD, Editor**
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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: May/June 2025
Submission Deadline: March 29, 2025
Posted Online: Week of May 5, 2025

### CORPORATE AFFILIATE ADVERTISING

Advertising Rates & Deadlines

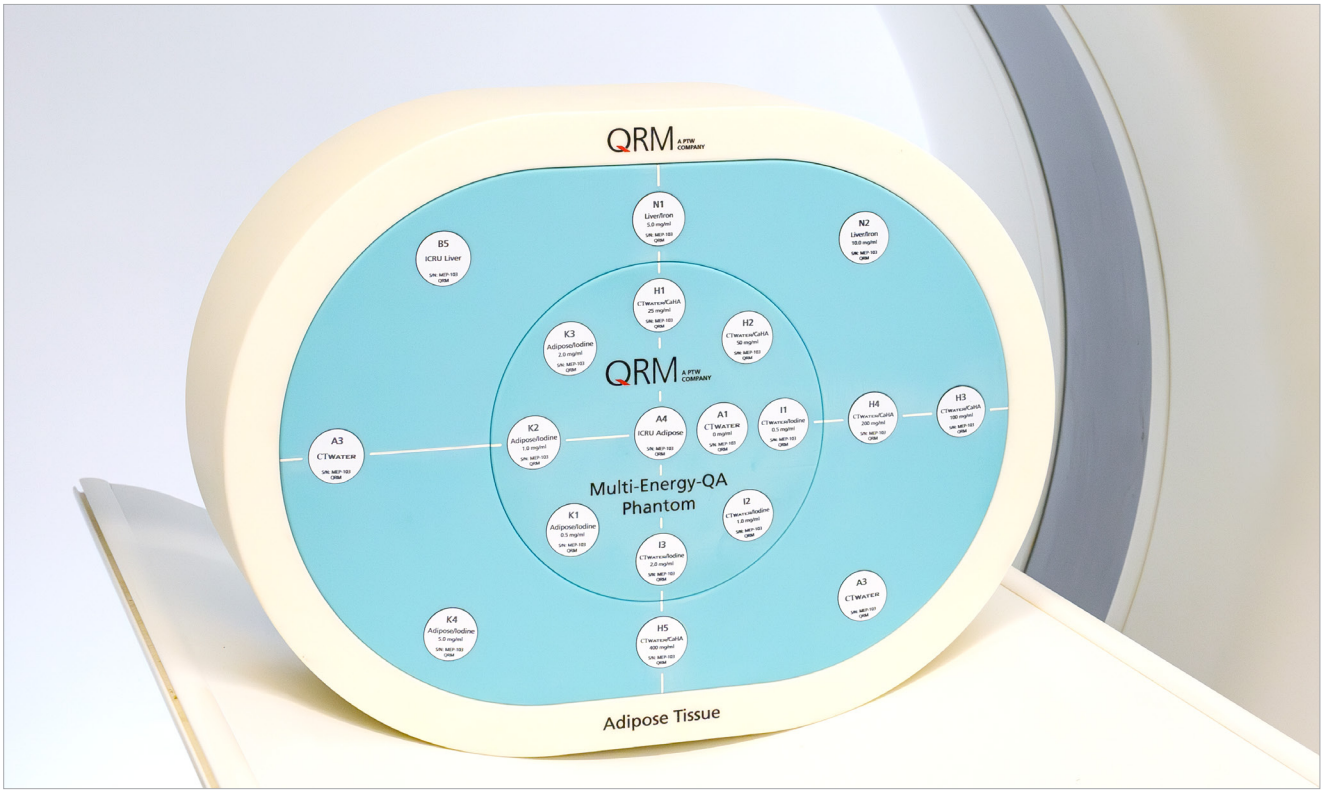
### CONNECT WITH US!

### EDITOR'S NOTE

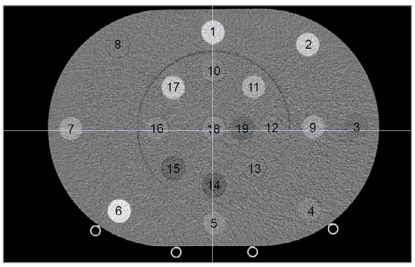
I welcome all readers to send me any suggestions or comments on any of the articles or features to assist me in making the AAPM Newsletter a more effective and engaging publication and to enhance the overall readership experience. Thank you.

# Multi-Energy QA Phantom

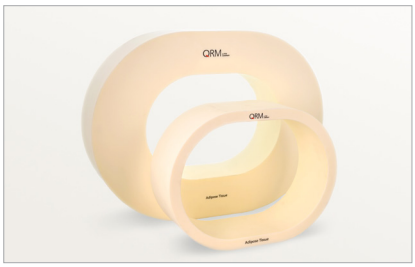
## Comprehensive Testing of Photon-Counting CT Protocols




Widest range of materials, including Gadolinium



Automated analysis software with opaquely numbered rods



Extension rings to simulate adipose patients

- For dual-energy, multi-energy, and photon-counting CT protocols
- 26 exchangeable rods of various materials, including Gadolinium for multi-contrast studies
- Optional tissue-equivalent rods (ICRU 44/46 standards)
- Removable head phantom for standalone use
- Complies with AAPM TG-299 protocol

Scan to download phantom catalog, including "Code of Practice" for testing!

# Communication is Key

## NEWSLETTER EDITOR'S REPORT

Welcome to the March/April edition of the 2025 AAPM Newsletter. It's been a tumultuous few months, with numerous changes at the federal level that may impact healthcare and research across many fields. Now more than ever, it's important to communicate who medical physicists are and the value our field provides. The Government Affairs Report in this issue of the Newsletter outlines ongoing efforts of AAPM's Government Affairs Team to monitor developments and encourages AAPM members to make their voices heard. As a reminder, Thursday July 31, the day after the Annual Meeting ends, will be AAPM's inaugural *Advocacy Day on Capitol Hill.* All AAPM members are invited to join, and registration information will be announced in the coming weeks and months. The Special Interest Group for this issue is CCC, the AAPM's Communication Coordination Committee, and their report highlights their efforts to assess AAPM's communication needs and develop programs to engage the right audience, whether internal to AAPM or external, i.e. the general public.

Also in this issue, you'll find the first report from AAPM President-Elect **Robin Miller** reflecting on what's coming for AAPM this year. There are updates on AAPM's DREAM Fellowship, a report from the Annual Meeting Subcommittee with details on special tracks planned for this year's meeting, a Research Spotlight article on digital phantoms and their potential use in virtual clinical trials, and many more topics. Please enjoy this issue of the Newsletter, and we welcome your feedback and ideas for future editions.

Whether you read the Newsletter cover-to-cover or only have time to read a few articles that catch your eye, we hope that you find the information in the Newsletter to be relevant and interesting. All AAPM members are encouraged to submit content and ideas for the Newsletter through the submission link on the Newsletter page. And as always, please share the articles you enjoy with your social media network; the Newsletter is available for all to read. Happy first day of spring, which will be here soon! ■

**Jennifer Pursley, PhD**
**Mayo Clinic**

Don't Miss Out!

REGISTER NOW!

# AAPM SPRING CLINICAL MEETING

w4.aapm.org/meetings/2025SCM/


## REGISTRATION NOW OPEN!

For more information, go to https://w4.aapm.org/meetings/2025SS

# 2025 AAPM SUMMER SCHOOL

## CLINICAL MR PHYSICS: State-of-the-Art Practice

University of Denver, Denver, CO

JUNE 19–24

# Inside Scoop: What's Next from the President-Elect

## PRESIDENT-ELECT'S REPORT

### Looking Ahead

As we march into 2025, it's time to look ahead to a promising and transformative year. I'm both honored and slightly apprehensive about beginning this journey as your AAPM President-Elect. Over the past months, I've had the privilege of giving talks at AAPM chapter meetings and connecting more deeply with members through the MPLA Cohorts Pathways to Leadership in AAPM, a program expertly led by **Ashley Cetnar** and her Working Group. One question has come up frequently: *How will I balance my clinical responsibilities with my new role in AAPM?* The honest answer is: I'm still figuring that out. More on that as the year progresses.

**Todd Pawlicki**, AAPM Chairman of the Board, has led a focused effort to distinguish between mandatory obligations and optional activities, allowing for more informed participation choices. The goal is to make the executive roles more accessible to a wider range of members. As the sixth woman to serve in the AAPM Presidential Chain, it is crucial to clarify the core responsibilities of the Presidential and Executive positions. This will ensure a diverse pool of highly qualified candidates, while also ensuring that potential candidates feel that executive roles within AAPM are attainable alongside professional commitments and family life.

### Start, Stop, Continue

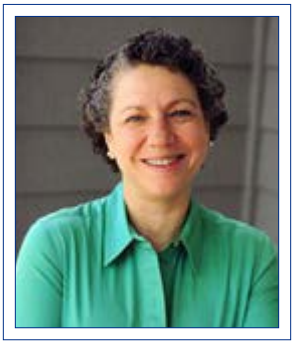
I was fortunate to participate in an American Institute of Physics Member Society Leadership Workshop with **Todd Pawlicki, M. Mahesh**, and **David Gammel**. Key questions for discussion and consideration were to contemplate AAPM's leadership and governance. As part of the program, we were asked to name something we would *Start*, something we would *Stop*, and something we would *Continue*. This is a common framework for improving performance and achieving goals. It is an opportunity to reflect.

Here are my thoughts using that structure.

To Start: We need to examine the efficiencies and inefficiencies in how and why we establish committees, subcommittees, working groups, and units. Historically, our organization has focused on expansion, continually adding new structures. Only recently have we embraced the mindset to subtract and refine, streamlining our efforts for greater impact.

To Stop: We need to stop fearing that saying no will automatically lead to negative outcomes. It's impossible, and unsustainable, to say yes to everything. What worked in the past may no longer serve our needs today or align with our future goals.

To Continue: We must continue to find fulfillment in the deep sense of pride that comes from our role in improving patient outcomes. Let's also remain committed to using the Strategic Plan as our guide to ensure our efforts stay focused and aligned.



**Robin A. Miller, MS**
**Northwest Medical Physics Center**

***From the Archives***

*2005 Board of Directors meeting in Seattle, WA*

Bruce Curran, MEng, FAAPM, FACR, FACMP:
AAPM President 2016

Robin Miller, MS, FAAPM:
AAPM President-Elect 2025

Melissa Martin, MS, FAAPM, FACR, FACMP, FIOMP:
AAPM President 2017

If this format resonates with you, please share with me what you think the AAPM should start, stop, and continue.

## Workforce

TG 423 Update:

In response to workforce constraints and challenges, Task Group 423 was established in 2024 under the leadership of **David Jordan**. The TG's primary charge is to investigate and analyze the available workforce staffing data. The group is making swift progress and has already begun the initial writing phase. A distinctive feature of this task group is its engagement with invited speakers from various sectors of the medical physics field, including a physician, a consultant group principal, and a recruiter, among others. These diverse perspectives provide valuable insights into the staffing challenges faced across different practice environments.

My Reflections:

Every work environment is a blend of unique challenges and shared experiences. Staffing shortages, however, create a universally frustrating and stressful reality. Medical physicists often face decisions that are not entirely within their control, requiring careful analysis of cost versus benefit — or risk versus reward. Each choice presents its own set of trade-offs, and the time needed to teach, train, and implement new processes or technologies can feel like an added burden, especially when resources are already stretched thin.

There are several approaches to consider (this is not an all-inclusive list):

- **Staffing Solutions:** Utilizing locum tenens, Medical Physics Assistants (MPAs), or extending work hours, including weekends.
- **Technological Aids:** Leveraging advanced technology or artificial intelligence tools.
- **Adjusting Priorities:** Postponing non-urgent projects to alleviate immediate pressures.
- **Optimizing Workflows:** Conducting a Failure Modes and Effects Analysis (FMEA) or similar assessments to re-evaluate processes. This can help determine if tasks are still necessary, are done purely out of habit, or genuinely add value.

Each of these strategies requires thoughtful consideration to ensure they align with the ultimate goal of maintaining high standards of patient care while mitigating the strain on resources. What has worked (or not worked) in your environment? Share your thoughts on the BBS.

## Upcoming Meetings Where I Hope to Connect

The Spring Clinical Meeting in Henderson, Nevada starts March 29. President Mahesh will lead an insightful Presidential Symposium on AI in Medical Physics.

The 67th Annual Meeting & Exhibition in Washington DC starts July 21. This year will offer a new meeting format, a day on Capitol Hill, and a vibrant program with President Mahesh's theme of *Coming Together to Forge Ahead in Medical Physics*.

## Special Thanks to Volunteers and Staff:

Thank you to all AAPM members and staff for your invaluable contributions to our meetings and organization. A special thanks to the Executive Committee team — **Todd Pawlicki, M. Mahesh, Sam Armato, Sonja Deitrich,** and **David Gammel** — and the Board of Directors for their unwavering dedication. I look forward to an exciting year ahead!

Robin
robin.miller95@gmail.com

# Supporting Our Volunteers

## EXECUTIVE DIRECTOR'S REPORT

As I write this column, I am on my way to the AAPM Southwestern Chapter's Annual Meeting while also keeping an eye on the latest news from the new administration in Washington, DC. This is a time of potentially significant change in federal policy, regulation, and funding that could impact medical physics and the broader biomedical community. AAPM is working closely with partner organizations to amplify our voice, highlight the vital role of medical physics, and advocate for policies that support your ability to advance human health.

Given the rapid developments, I won't go into specifics here, but please watch for email updates and other communications from AAPM. We are strengthening our advocacy and communication efforts to ensure you stay informed and prepared.

Now, I want to share how we are improving the support we provide to AAPM volunteers and what you can expect in the months ahead.

### Making Volunteer Work More Efficient and Impactful

Our strategic plan calls for freeing our volunteers of administrative work so you can focus more on the science and practice of medical physics. We know that your time is valuable, and we want to make your volunteer experience as efficient and rewarding as possible. To help with this, we are streamlining how AAPM groups request support from Headquarters. Going forward, your staff liaison will be your primary contact for all AAPM-related needs, including technology support. If your group does not have a liaison, you should contact the staff assigned to your parent group. This change will reduce confusion, ensure requests are handled more efficiently, and help you stay focused on the work that matters most.

Additionally, we are introducing a more structured process for approving technology-related projects to evaluate their cost, ongoing support requirements, contribution to strategic priorities and mission, and other factors. While this likely means fewer projects may be approved than in the past, the ones that do move forward will receive the attention, quality, and resources needed for success. Clear expectations will be set for project timelines, ensuring better results with less frustration.

### Upgrading Technology to Improve the Volunteer Experience

Many of the digital tools we rely on via the AAPM website have served us well for years, but they are now outdated and difficult to maintain and update. That's why we are making major technology upgrades, improvements that will enhance your ability to collaborate, communicate, and contribute as a volunteer.

**C. David Gammel**
**Executive Director, AAPM HQ**

Here's how these changes will benefit you:

- Simpler, More Secure Voting — We are launching a new hosted election system that will make association-wide elections easier to administer, provide a better user experience, and strengthen security.
- Better Communication Tools — We are upgrading our email, membership renewal, and continuing education systems to modern platforms, improving reliability and ease of use.
- More Effective Volunteer Collaboration — We are evaluating new tools to replace the committee tree and volunteer support applications. The goal is to provide better discussion forums, document-sharing capabilities, and lightweight polling tools while allowing members to manage message volume and improve transparency across the organization. This new system will also serve as the updated home for the AAPM BBS.

These technology updates will reduce the time spent navigating inefficient systems and give you more flexibility in how you engage with AAPM and fellow volunteers. You can expect updates throughout the year as these systems are developed and rolled out.

### Keeping the Focus on What Matters Most

Ultimately, our goal is to allow you to focus on what truly matters: advancing the science and practice of medical physics. To achieve this, AAPM staff will take on more administrative responsibilities, reducing the burden on volunteers. Our hope is that this shift will make your time with AAPM more meaningful and impactful, allowing you to contribute your expertise where it is needed most.

Thank you for your continued dedication to AAPM. We are committed to making your volunteer experience better than ever and look forward to sharing these improvements with you. ■

# Executive Order Uncertainty and AAPM Advocacy Efforts

## GOVERNMENT AFFAIRS REPORT

### Executive Order Uncertainty

Almost two months into his second presidency, President Trump has signed Executive Orders (EOs) at a record-setting pace. These orders stoked a high degree of uncertainty across various sectors. Particularly, the scientific and healthcare communities scramble to establish new norms.

As of this writing in early February, the AAPM Government Affairs Team had recently tracked and informed members of the earliest batch of EOs via an *e-News* article. Our reporting covered freezes on rulemakings, new contracts, grants, the hiring of federal positions, and a White House Office of Management and Budget (OMB) memo aiming to temporarily pause all federal grants, loans, or other financial assistance programs. Fortunately, the OMB memo that stood to interrupt existing funding received rapid injunctive relief by a federal judge, ultimately causing that memo to be rescinded.

While we cannot know the long-term impacts of these directives on NIH, one of the world's premier scientific ecosystems, the EOs' effects could be potentially wide-ranging. Disruptions in communications or funding may dissuade future clinical investigations. Research efforts could be delayed, slowing important breakthroughs, and researchers may exit (or never enter) the sector entirely.

To better assist our members in navigating this uncertainty, AAPM's Government Affairs Team will continue to monitor developments closely and report out accordingly. It is important to note that opportunities can still be created by proactively advocating for the advancement of medical physics. Some recent efforts by our team include:

- Responding to a Request for Information from a handful of Senators on draft legislation to reform the federal Graduate Medical Education (GME) program. Our letter aimed to introduce the medical physics profession while also highlighting the benefits of amending the GME program to include medical physicist residency programs.
- Signing on to the Ad Hoc Group for Medical Research's letter to the 119th Congress broadly supporting medical research.
- Thanks to CHAMPSC, organization for AAPM's State Champions Program is underway. This group seeks to recruit and train medical physicists interested in government affairs, regulation, and legislation from across the 50 states, DC, and other territories. Champions will acquire knowledge, tools, and resources needed to build relationships for grassroots advocacy at local, state, and federal levels. More details coming soon!

**David Crowley**
**Senior Government Relations Manager, AAPM HQ**

**Emily Townley,**
**MIDRC Program Manager, AAPM HQ**

A Research!America-commissioned survey released earlier this year demonstrated that there is solid bipartisan support by Americans for the importance of medical progress and health research. We remain hopeful that the education, work, and research of AAPM members will be a priority to this new administration and the 119th Congress. We very much look forward to advancing the profession of medical physics — with your help — through advocacy.

## AAPM Advocacy Efforts — Get Involved and Take Action at *AAPM Advocacy Day*!

The Government Affairs Team is quickly ramping up preparations for our inaugural ***AAPM Advocacy Day on Capitol Hill***. This will take place **Thursday, July 31** — the day immediately following AAPM's 67th Annual Meeting and Exhibition in Washington, DC. Members extending their visit for the extra day can participate in this great opportunity to engage directly with policymakers on the Hill!

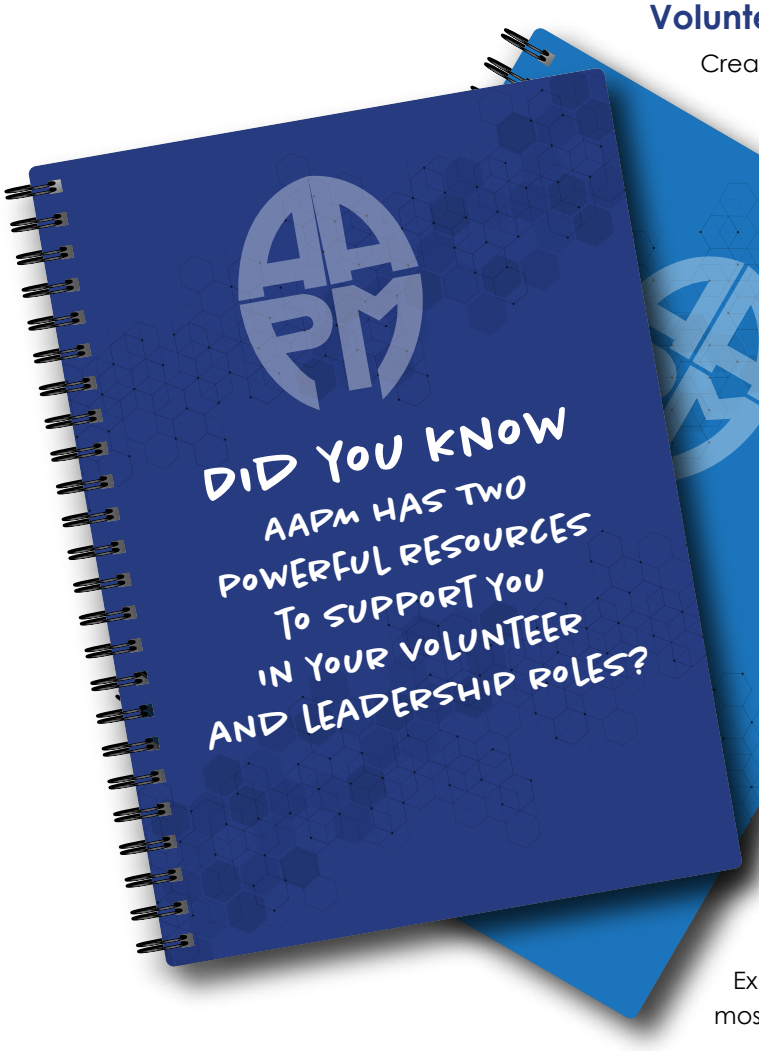
Many more details and logistics for *Advocacy Day* will be shared in the coming weeks and months, but for now, here are some details to know:

- AAPM members wishing to participate must register in advance to attend. Sign-up will be linked via the annual meeting registration platform. We will also update an informational website for those wanting to learn more.
- Participants will receive comprehensive Advocacy Day training, both in-person the day prior, and via webinars in the preceding weeks. We plan to include peer testimonials about past advocacy experiences and the chance to role-play meetings.
- Participants will be grouped in small teams for their arranged Congressional office meetings. They will be encouraged to discuss, among other topics, the importance of the medical physics profession, impactful research developments, perceived barriers for the profession, and the role federal funding or policies play to support their work.

You are our greatest voice for informing lawmakers of the role that medical physicists play in Americans' healthcare! Please consider supporting or participating in *Advocacy Day*.

Have questions or suggestions regarding any of the efforts discussed here? Please contact AAPM's Senior Government Relations Manager, David Crowley. ■

# 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.

Explore the Volunteer Handbook today to make the most of your volunteer experience!

## Leadership Handbook

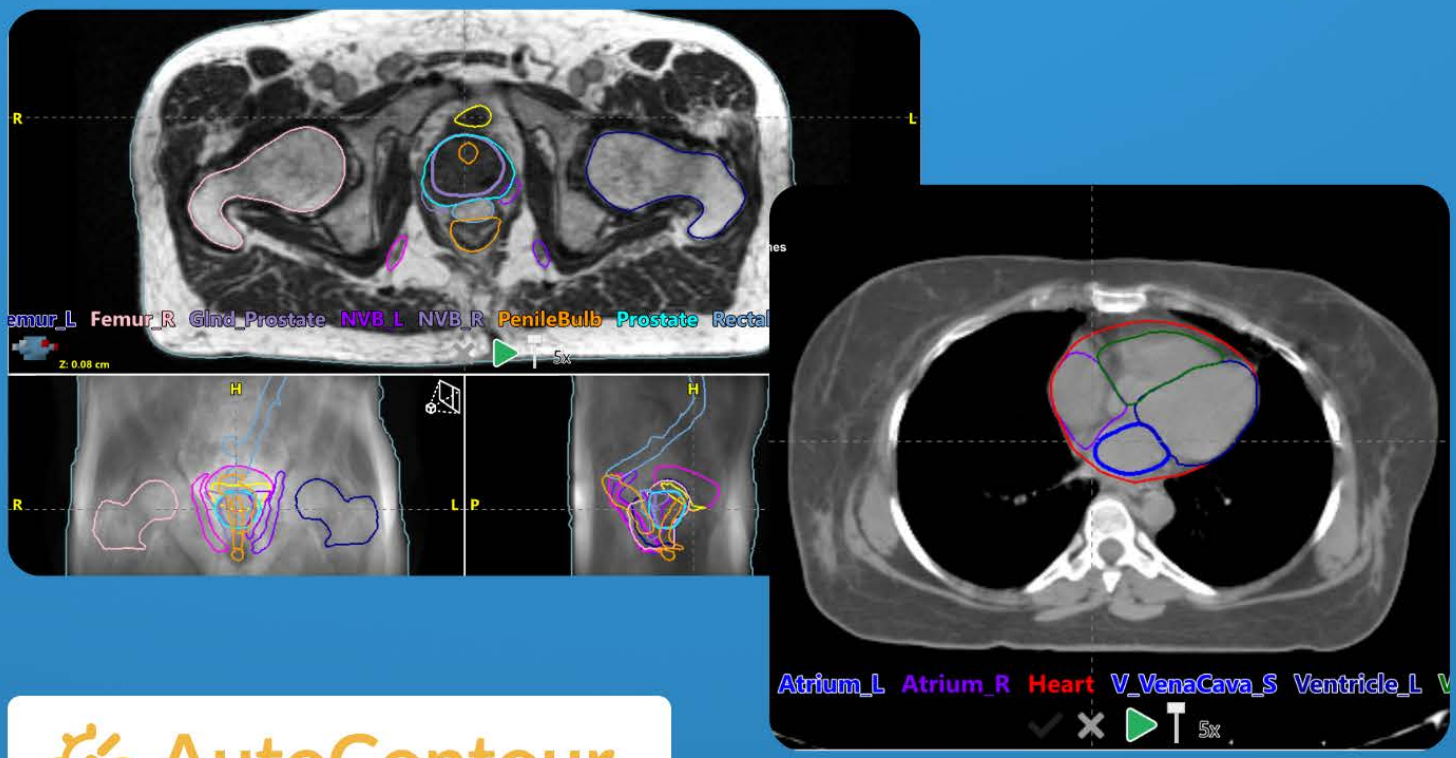
Brought to you by the **Medical Physics Leadership Academy (MPLA)**, this handbook is designed to equip medical physicists stepping into leadership roles. It offers:

- **Practical Tools:** Set up AAPM Zoom calls, manage committee tasks, and more.
- **Professional Guidance:** Learn how to review applications and fulfill leadership responsibilities.
- **Personal Development:** Assess and refine your leadership style.

View the Leadership Handbook to take your leadership to the next level!

AMERICAN ASSOCIATION of PHYSICISTS IN MEDICINE

MPLA Medical Physics Leadership Academy
American Association of Physicists in Medicine




AutoContour

# New! 90+ Structure Models

*COMING SOON*

- HDR Models
- ESTRO Node Models
- Male Pelvis MR Models
- Cardiac Substructures

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Read the Blog to Learn More

*AutoContour 2.6 with 90+ new models is coming soon and not yet available for clinical use.*

RAD formation

# CMS Issues Outpatient Correction Notice

## HEALTH POLICY & ECONOMIC ISSUES REPORT

The Centers for Medicare and Medicaid Services (CMS) recently published a technical correction notice regarding the 2025 Hospital Outpatient Prospective Payment System (HOPPS) and Ambulatory Surgical Center (ASC) final rule.

CMS inadvertently assigned payment rates for brachytherapy APCs that were not designated as Low Volume APCs, which was based on mean unit cost. This error artificially inflated brachytherapy source reimbursement for eight source codes. Brachytherapy source payment is based on geometric mean cost unless designated by CMS as a Low Volume APC. The revised and updated payment applies to hospital outpatient departments and ambulatory surgical centers.

Impacted brachytherapy sources:

- C1717 HDR Ir-192
- C2616 Yt-90
- C2634 High Activity I-125
- C2638 Stranded I-125
- C2639 Non-stranded I-125
- C2640 Stranded Pd-103
- C2641 Non-stranded Pd-103
- C2643 Non-stranded Ce-131

| HCPCS | Long Descriptor | 2025 APC | 2025 Payment |
|---|---|---|---|
| A9527 | Iodine I-125, sodium iodide solution, therapeutic, per millicurie | 2632 | $208.58 |
| C1716 | Brachytherapy source, Gold-198, per source | 2645 | $868.33 |
| C1717 | Brachytherapy source, High Dose Rate Iridium-192, per source | 2646 | $342.39 |
| C1719 | Brachytherapy source, Non-High Dose Rate Iridium-192, per source | 2647 | $564.50 |
| C2616 | Brachytherapy source, Yttrium-90, per source | 2616 | $17,485.10 |
| C2634 | Brachytherapy source, High Activity, Iodine-125, greater than 1.01 mCi (NIST), per source | 2634 | $162.84 |
| C2635 | Brachytherapy source, High Activity, Palladium-103, greater than 2.2 mCi (NIST), per source | 2635 | $69.38 |
| C2636 | Brachytherapy linear source, Palladium-103, per 1MM | 2636 | $52.91 |
| C2638 | Brachytherapy source, stranded, Iodine-125, per source | 2638 | $37.04 |
| C2639 | Brachytherapy source, non-stranded, Iodine-125, per source | 2639 | $35.11 |
| C2640 | Brachytherapy source, stranded, Palladium-103, per source | 2640 | $69.69 |
| C2641 | Brachytherapy source, non-stranded, Palladium-103, per source | 2641 | $79.77 |
| C2642 | Brachytherapy source, stranded, Cesium-131, per source | 2642 | $107.86 |
| C2643 | Brachytherapy source, non-stranded, Cesium-131, per source | 2643 | $96.56 |
| C2644 | Brachytherapy source, Cesium-131 chloride solution, per millicurie | 2644 | $0 |
| C2645 | Brachytherapy planar source, Palladium-103, per square millimeter | 2648 | $4.69 |
| C2698 | Brachytherapy source, stranded, not otherwise specified, per source | 2698 | $37.04 |
| C2699 | Brachytherapy source, non-stranded, not otherwise specified, per source | 2699 | $35.11 |

**Wendy Smith Fuss, MPH**
**Health Policy Solutions**

For additional information including Medicare rule summaries, 2024 final payments and impacts visit the AAPM website.

# GET READY!

## FOR THE NEW EARLY CAREER/MENTOR LOUNGE AT THE 2025 AAPM ANNUAL MEETING & EXHIBITION!

The Early Career/Mentor Lounge is a networking space for student, trainee, and early career members to relax, connect with peers, and take advantage of programming specific to students and trainees. ***The lounge will be open Sunday – Wednesday during the 2025 Annual Meeting & Exhibition.***

**AAPM 2025**
JULY 27–30 | WASHINGTON, DC
67TH ANNUAL MEETING & EXHIBITION
COMING TOGETHER TO FORGE AHEAD IN MEDICAL PHYSICS

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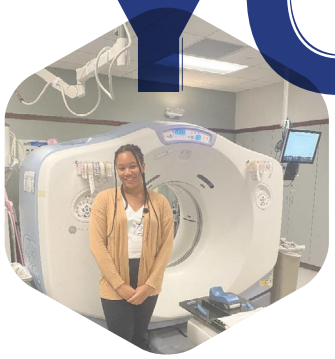
AMERICAN ASSOCIATION of PHYSICISTS IN MEDICINE

# THANK YOU



The Diversity and Inclusion Subcommittee (DISC)
DREAM (Diversity Recruitment through Education and Mentoring) Program

*and the*

Undergraduate Summer Fellowship and Outreach Subcommittee (SFP)
The Summer Undergraduate Fellowship Program

gratefully acknowledge the following chapters, whose support allowed AAPM to provide a total of **three additional summer fellowships to undergraduates this year!**

- **North Central Chapter (NCCAAPM)** *DREAM*
- **Northwest Chapter (NWAAPM)** *DREAM*
- **Southwest Chapter (SWAAPM)** *Summer Undergraduate*

# Forging Ahead Together: Highlights and Updates for the 67th AAPM Annual Meeting

## ANNUAL MEETING SUBCOMMITTEE REPORT

Greetings from the AMSC! We are thrilled to update you on the preparations for the AAPM 67th Annual Meeting & Exhibition taking place in Washington, DC, from Sunday, July 27, through Wednesday, July 30. This year's theme, "**Coming Together to Forge Ahead!**", reflects our collective drive to advance medical physics through collaboration and innovation.

### Proffered Program

As of this writing, the submission deadline for the proffered program has passed, and we are excited to announce that we received an impressive 2,104 abstracts! The scientific proffered sessions are a cornerstone of our meeting, providing a platform for AAPM experts to present cutting-edge research, exchange valuable feedback, and drive innovation within our field. This year's program will feature oral, snap oral, and poster sessions, showcasing a diverse range of research topics and advancements.

New for 2025, the snap oral program will have its own dedicated meeting room, running continuously from Sunday through Wednesday, rather than being limited to a single day. Additionally, we are excited to introduce two poster receptions — one on Sunday and another on Monday—where attendees can engage with presenters while enjoying drinks and snacks. These sessions offer a fantastic opportunity to network, collaborate, and immerse ourselves in the latest scientific breakthroughs.

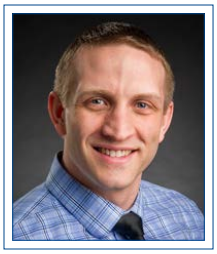
### Ultrasound Specialty Program

We are pleased to host a one-day ultrasound program on Tuesday, July 29, featuring groundbreaking advancements in ultrasound research and applications. The program will begin with the prestigious Zagzebski-Carson Lectureship, honoring Dr. Kathryn Nightingale, who will present her pioneering work in ultrasound elasticity imaging with acoustic radiation force and its transformative clinical applications.

Following the lecture, two scientific sessions will highlight recent advancements in ultrasound therapy and imaging:

- "Recent Advances in Ultrasound Therapy – Mechanical and Thermal Mechanisms" will explore innovative therapies utilizing mechanical and thermal ultrasound mechanisms.
- "Thermoacoustic/Photoacoustic Imaging and Application to Radiation Therapy" will showcase emerging imaging technologies and their applications, particularly in real-time in vivo dose visualization.

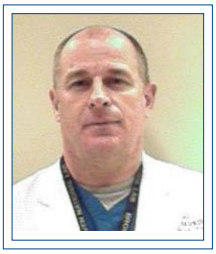
Attendees will also have the chance to participate in the hands-on ultrasound QA/QC workshop, where they can gain practical experience in assessing equipment performance and troubleshooting common issues. Additionally,



**Samuel L Brady, PhD**
**Cincinnati Children's Hospital Med Center**

**Zaiyang Long, PhD**
**Mayo Clinic**

**Xueding Wang, PhD**
**University of Michigan**



**Rob Hobbs, PhD**
**Johns Hopkins University**

**ANNUAL MEETING SUBCOMMITTEE REPORT**, Cont.

a special recorded session on wearable ultrasound research will be available on the Annual Meeting website throughout the meeting, highlighting its exciting applications in imaging and therapy.

### Radiopharmaceuticals, Theranostics, and Nuclear Medicine Track

Building on the success of last year's specialty track, the Radiopharmaceuticals, Theranostics, and Nuclear Medicine program returns as a permanent feature of the Annual Meeting! This year's program offers introductory educational sessions tailored for those new to the field, including:

- "Radiopharmaceutical Therapy from the Radiation Oncology Perspective"
- "Why Do Dosimetry?"
- "How to Do Dosimetry"
- "Radiobiology Basics"

For attendees seeking advanced insights, the track also includes sessions on Radiopharmaceutical Devices, Pharmacology Concepts for RPT, and an SNMMI session on AI in Nuclear Medicine. Additionally, there will be updates on PET, SPECT, pediatric imaging and therapy, and much more. This track provides a comprehensive and dynamic exploration of the latest innovations in nuclear medicine and theranostics, ensuring valuable learning experiences for both newcomers and seasoned professionals.

### Opening Program — Sunday, July 27

To officially kick off this year's Annual Meeting, we invite you to join us for an opening celebration at the National Museum of American History on Sunday evening. As part of the Smithsonian Institution, this iconic museum preserves and showcases the rich history of the United States, housing more than three million artifacts, including the Star-Spangled Banner, First Ladies' Inaugural Gowns, and Abraham Lincoln's top hat.

This evening promises to be a fantastic opportunity to reconnect with colleagues and friends while exploring the museum's engaging exhibits. We look forward to celebrating the start of another incredible AAPM meeting with great company, engaging conversations, and a memorable night of history and camaraderie.

See you in Washington, DC! ■

## *Our Condolences*

Samuel C. Kao, MS • Helvecio C. Mota, PhD • Robert J. Schulz, PhD
Robert P. Specht, MS • Marilyn Stovall, PhD

***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: 2025.aapm@aapm.org
(Please include supporting information so that we can take appropriate steps.)

# Special Interest Feature: Communication Coordination Committee Report

## COMMUNICATION COORDINATION COMMITTEE CELEBRATES SUCCESS, LOOKS FORWARD TO 2025

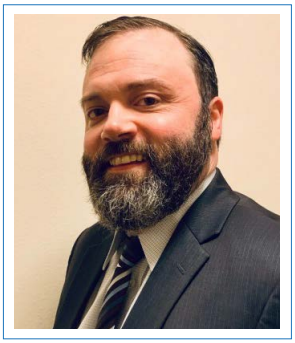
Glen Hawkins | Communications Manager, AAPM

Whether it's audiences, algorithms, or analytics, the one constant in the world of communications is change. The AAPM Communication Coordination Committee (CCC) is preparing for a busy 2025, and it's a good time to look back at our successes and plan for the future.

Recognizing that public understanding and trust are significant factors in AAPM's ability to advance its mission, the Communication Coordination Committee was created under Administrative Council in late 2021. The group came into being as a recommendation from the Ad-Hoc Committee on External Communications and Social Media (AHECSM), which was formed by then-AAPM President **Cynthia McCollough**, who also curated its membership roster. The complete AHECSM report, which features explanations of various pilot programs its members engaged in, may be found here.

The purpose of the group is to bring together staff and volunteers to discuss and make recommendations around AAPM communications, with the goal of generating the goodwill, credibility, and support needed to develop programs that advance AAPM's mission and engage the medical physics community.

CCC assesses whether and how to respond to events or news stories, and whether the audience for that response is internal — meaning the membership is the audience — or external, i.e. the general public.



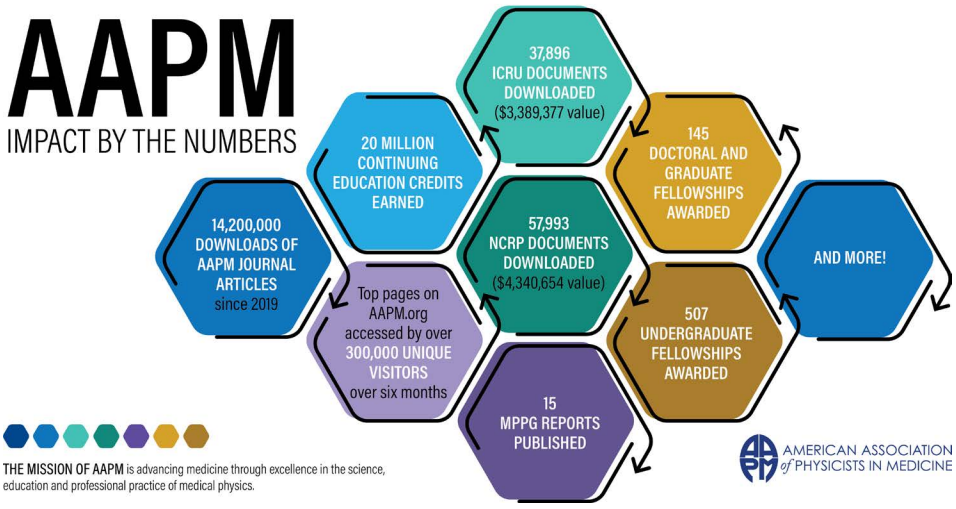
CCC typically meets monthly to discuss what's happening in the world of medical physics and within AAPM — like upcoming events and news items relating to the profession — to evaluate whether communication is needed, and – if so – strategizes what kind. Campaigns typically involve posting multiple communications products across several platforms over weeks or months, with all the pieces working towards one overarching goal.

### Impact Storytelling

One example of a CCC success was 2024's #MYAAPM campaign. This campaign was designed to highlight some of the less-talked-about, even "hidden" benefits of AAPM membership in advance of the dues increase vote. To kick things off the committee brainstormed the ways membership in AAPM adds value — specifically, tangible things like journal downloads, CE credits earned, and fellowships awarded.

Next, CCC needed to devise a plan to share this information. We discussed a few different options but settled on social media as the quickest and most efficient way to get as many eyes on the content as possible.

We developed a visual concept- an infographic with a set of interlocking gears, representing the interconnectedness of these benefits:



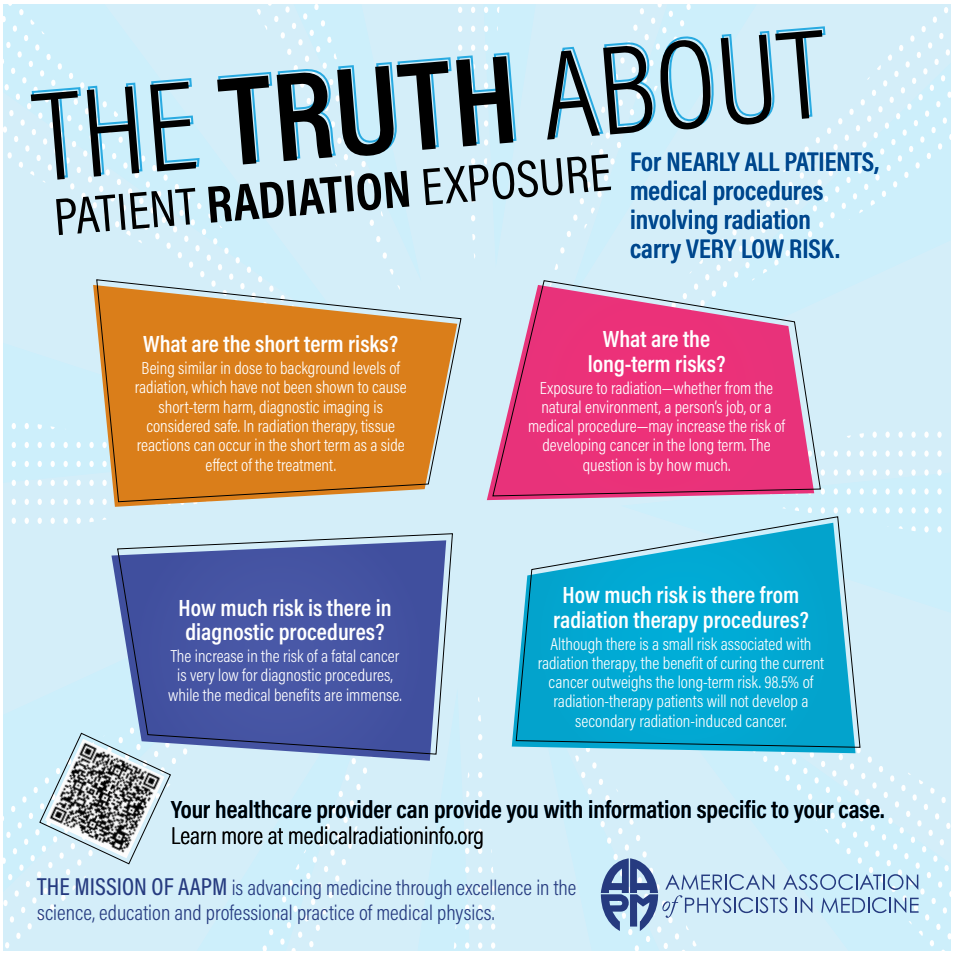
We then broke out each individual "gear" so that we could share it separately over the course of about a month, building momentum towards sharing the entire graphic. The graphic reached over 1,400 accounts on Instagram and generated 2,600+ impressions on LinkedIn. We also recorded interviews at the 2024 Annual Meeting, asking members what AAPM meant to them, and shared these on social media as well, centering member voices.

## Focus on the Future

Starting in late 2024 and rolling into 2025, the committee has been working on a campaign around radiation safety. For this project, CCC determined that the Medical Physics Public Education website was the right place for the content, at least for starters. In addition to updating the text on that page, we worked with AAPM's in-house designer to create a web graphic which could also be used on social media or made poster-sized for practitioners to hang up in their clinics.

More communication around this topic will be coming in 2025 so stay tuned!

The committee is also excited to be supporting the upcoming AAPM *Advocacy Day on Capitol Hill*, which will be held immediately following the 2025 Annual Meeting; a joint CCC-EDIC planning meeting is scheduled for early February.




## A Deeper Dive

Interested in learning more about the work of the committee? The CCC website is a great place to start. There you can view the group's structure and contact information for members, view scheduled meetings, and read the minutes of past meetings.

Have an idea you'd like for the committee to consider or need to express a concern? You can contact the full committee by emailing 2025.CCC@aapm.org, or reach out to an individual member by clicking their email address on the committee website, or contact me directly.

## A Changing Landscape

There are a number of headwinds communicators are facing in 2025: changes to the algorithms by which social media platforms determine which content to serve, an increasingly competitive information space, and the proliferation of new platforms with new rules and new ways of delivering messages are just a few examples. Responding to them will require investing time and energy into developing strategic communications.

"The Communication Coordination Committee has the resources and the talent to separate AAPM's signal from the noise," said Julie Pollard-Larkin, CCC Chair. "We're looking forward to a busy and impactful 2025." ■

# Turning DREAMs into Reality: AAPM's DREAM Fellowship

## EQUITY, DIVERSITY AND INCLUSION COMMITTEE REPORT

Do you remember when you first fell in love with medical physics? Well, the Diversity and Inclusion Subcommittee (DISC) is introducing undergraduates at the rate of about seven undergraduate students a year to our field. Back in 2006, the Women and Minority Recruitment Subcommittee (WMRSC, the precursor to DISC), led by luminaries like **Drs. Stephen Avery and Paul Gueye**, helped create this DREAM program (Diversity Recruitment through Education and Mentoring Fellowship Program). DREAM's goals were to welcome underrepresented undergraduates to medical physics before they made decisions on what to study for graduate school. Inclusion in medical physics has always been a worthwhile cause, with only 20% of full members identifying as women and just about 2% identifying as Black, African, or African American.

Over the last 18 years, DREAM has awarded 115 fellowships to some of the brightest young future medical physics leaders. Several former DREAM awardees like **Drs. Judith Rivera, Soleil Hernandez**, and **Nyasha Maforo** are now full members of AAPM and are helping lead groups within our organization. DREAM was their first introduction to our field and the impact of the direct mentorship from the research mentors and entire team of DISC members coaching them throughout their research project time leaves lasting effects that have benefitted the students, our field and the patients they are treating.

This year, we had another fantastic group of students and mentors. Among them, we want to highlight the work done by **Dr. Ashley Cetnar** and her DREAM Fellow, **Careesa Billante**. Through the summer, Careesa was involved in several projects. Careesa explored the characterization of a novel collimator to be used with FLASH radiation therapy for a large animal study, the optimization of on-board imaging protocols for Varian's HyperSight imaging panel, and the quantification of superficial vasculature using near-infrared imaging. While working on these projects, Careesa wanted to answer the following questions: 1) How can medical images be accessible to a person with visual impairment? 2) Can a person with visual impairment become board-certified in medical physics? She had the leading role in looking for these answers and, alongside her peers, developed a tactile imaging prototype and questions through a qualitative research project to collect data on visual impairment for our profession. The survey data is currently being analyzed with the intent to share the findings with the medical physics community soon.

DREAM provides a once-in-a-lifetime opportunity for students and mentors. At the end of the program, the fellows gained a fantastic experience in medical physics by working with outstanding medical physicists on great projects and a network of AAPM members who will support them throughout their careers. Witnessing our DREAM fellows' work fills us with hope for what's to come and

**Angelica Perez-Andujar, PhD**
**Memorial Sloan Kettering Cancer Center**

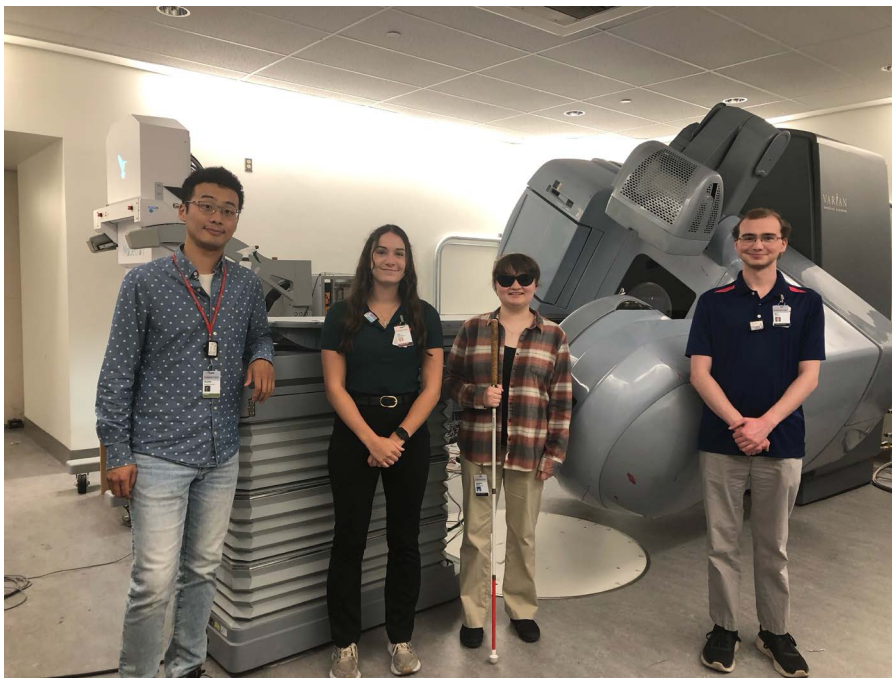
**Julianne M. Pollard-Larkin, PhD**
**MD Anderson Cancer Center**

Over the last 18 years, DREAM has awarded 115 fellowships to some of the brightest young future Medical Physics leaders.

the future of our field. If you want to help support DREAM by signing up as a research or clinical mentor or by having your local chapter of AAPM donate towards the program, please email nvazquez@aapm.org so we can tell you how to help us encourage the next generation of AAPM leaders! ■

*Careesa Billante, DREAM Fellow 2024.*


*Dr. Ashley Cetnar's research group (from left to right): Careesa Billante, Lily Bertemes, Max Meineke, Runhe Tan, and Ashley Cetnar.*



*Students from Dr. Ashley Cetnar's research group (from left to right): Runhe Tan, Lily Bertemes, Careesa Billante, and Max Meineke.*

# Facilitating Global Collaboration through the International Council Volunteer Database

## INTERNATIONAL COUNCIL REPORT

**The International Council is looking for volunteers to help with its initiatives. If you are interested in volunteering, update the International Council Volunteerism section of your member profile. Thank you to everyone who has already updated their profile!**

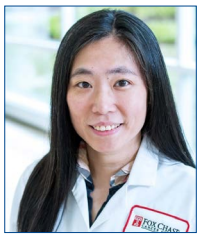
The International Council (IC) was formed in 2020 to develop strategies to advance the practice of medical physics globally and to foster collaboration with other international organizations in order to address disparities in healthcare. IC committees have established initiatives that would benefit from the knowledge and skills of the larger AAPM membership. Individual AAPM members have expertise and resources that could ideally be matched with these volunteer opportunities. For example, volunteers may have expertise in a particular treatment or imaging modality, extensive experience with training and education, or contacts in a specific geographic region. Potential volunteers also have time and financial resources that should be considered. Understanding a potential volunteer's strengths and preferences facilitates matching volunteers with the best available opportunity. Thus, to optimize the IC's impact, the IC Volunteer Database Subcommittee created three discipline-specific questionnaires (i.e., therapy, diagnostic imaging, and nuclear medicine) within the AAPM member profile to allow members to indicate their willingness and ability to volunteer for various IC committee initiatives. The responses to these questionnaires provide a database that can be used by committees and subcommittees within the IC to match volunteers to service opportunities.

The member profile update was deployed to all AAPM membership in March 2023. As of December 2023, a total of 427 responses were received, including 18 members who indicated experience in multiple disciplines. All classes of membership responded to the questionnaires (82.0% full members, 6.1% general members, 7.7% associate members, and 4.2% affiliate members). The majority of responses were to the therapy questionnaire (70.7%), while 20.6% completed the diagnostic imaging questionnaire and 8.7% completed the nuclear medicine questionnaire.

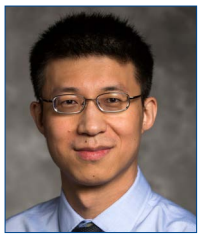
The questionnaires allow members to indicate their areas of expertise and areas in which they are comfortable providing teaching and training. The therapy-specific responses are shown in **Figure 1**, while the diagnostic imaging and nuclear medicine responses are presented in **Figure 2** and **Figure 3**, respectively. The percentages represent the percentage of people who responded to the discipline-specific questionnaire. Among the therapy responses, more than 200 people indicated expertise in C-arm machines, and more than 100 indicated expertise in brachytherapy. About 200 respondents

**Courtney K. Morrison, PhD**
**Rush**

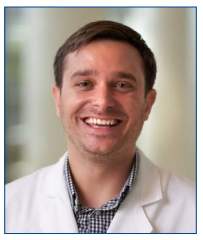
**Minsun Kim, PhD**
**University of Washington**



**Teh Lin, PhD**
**Fox Chase Cancer Center**



**Jiahan Zhang, PhD**
**Mount Sinai Medical Center**



**Kevin J. Little, PhD**
**Ohio State University**

**Eun Young Han, PhD**
**UT MD Anderson Cancer Center**

said they were comfortable providing training related to IMRT/VMAT and SRS/SBRT. The number of respondents indicating expertise in various diagnostic imaging modalities ranged from 11 in radiomics to 55 In CT. Within nuclear medicine, the highest number of respondents indicated expertise in quality control and image quality assessment, gamma cameras, PET/PET-CT, and SPECT/SPECT-CT.

Beyond discipline-specific preferences, the questionnaire also gauges AAPM members' regional preferences for volunteering. The responses were equally distributed among all options (12-18%), suggesting a willingness among AAPM members to contribute to international initiatives regardless of the geographic region. Additionally, members can provide information regarding visiting preferences and funding needs (**Figure 4**). Most respondents indicated no preference for online versus in-person opportunities and were willing to volunteer with the IC for up to one week. Most respondents do not have funding for potential travel (63%), compared to 35% and 3% of respondents who have partial or full funding, respectively. Lastly, respondents demonstrated active participation in international activities (**Table 1**), including participation in the EFOMP, ESTRO, IAEA, ICRU, and IOMP.

Along with the tools in development through the IC External Request Intake Process Subcommittee, the IC volunteer database provides a structure through which AAPM members can be matched with global opportunities based on their expertise and availability. With this member profile update, committees within the IC can search for volunteers based on their responses to the questionnaires, as well as basic information provided in the member profile (e.g., language fluency). In doing so, they can find AAPM members best suited to the goals of their global initiatives. On the volunteer side, AAPM members can update their profile at any time, ensuring the information provided to IC committees reflects members' current area of expertise and availability to volunteer.

This member profile update highlights the diverse expertise and willingness of AAPM members to contribute to the advancement of global medical physics. It also provides a framework for the IC to utilize AAPM members' skills and knowledge to improve access to high quality healthcare worldwide. We are always in need of more volunteers—please consider updating your member profile to get involved. ■

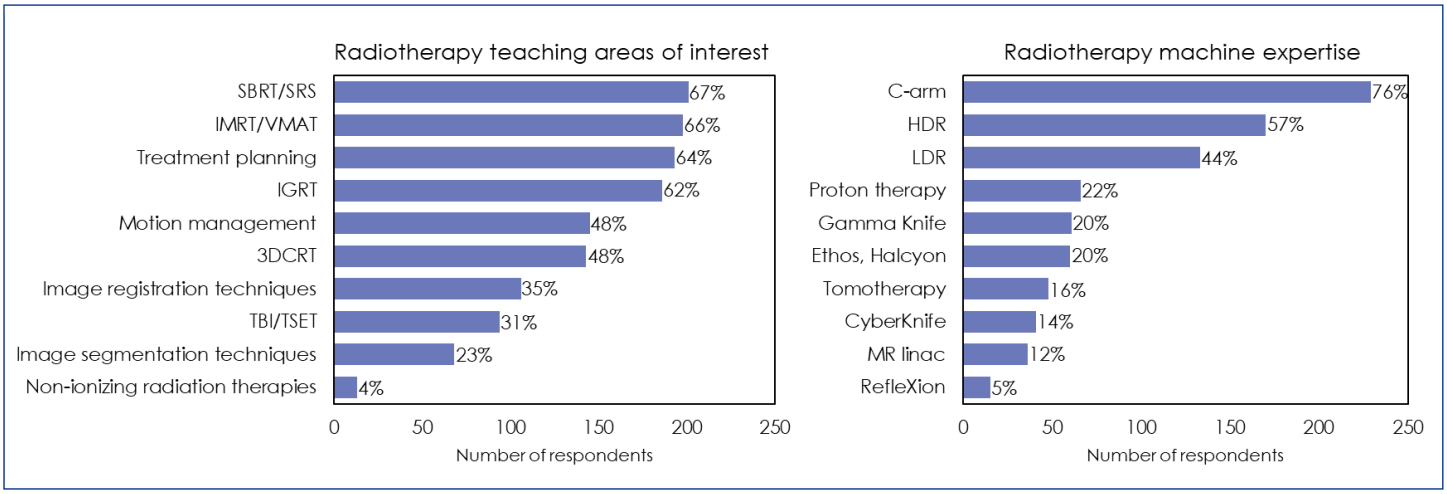



**Figure 1.** *Radiotherapy responses.*

## INTERNATIONAL COUNCIL REPORT, Cont.

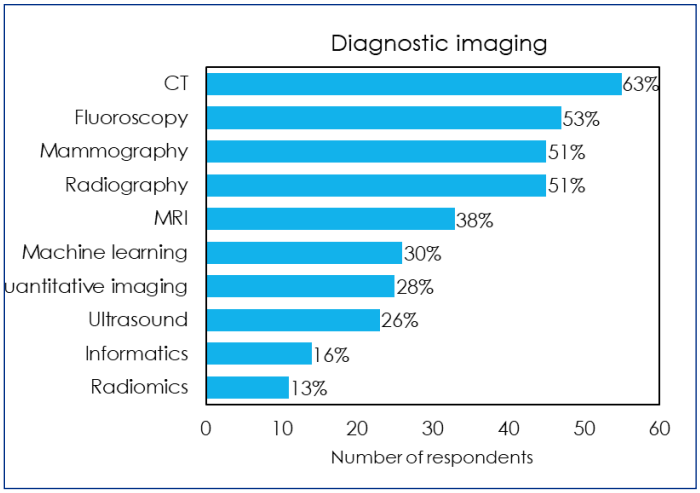



**Figure 2.** *Diagnostic imaging responses.*

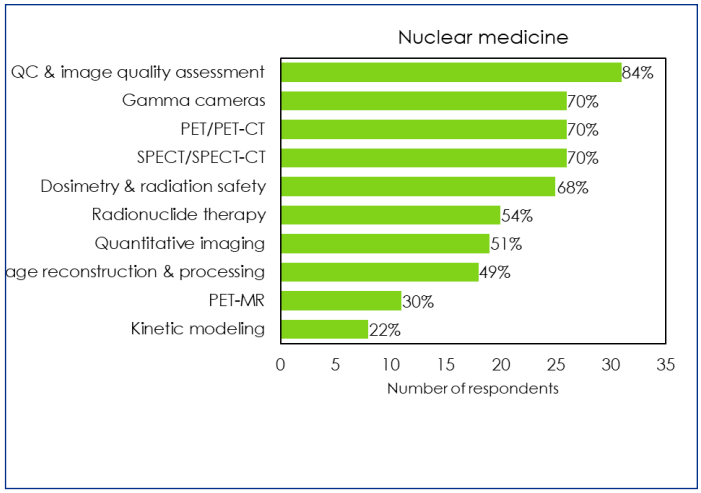



**Figure 3.** *Nuclear medicine responses.*

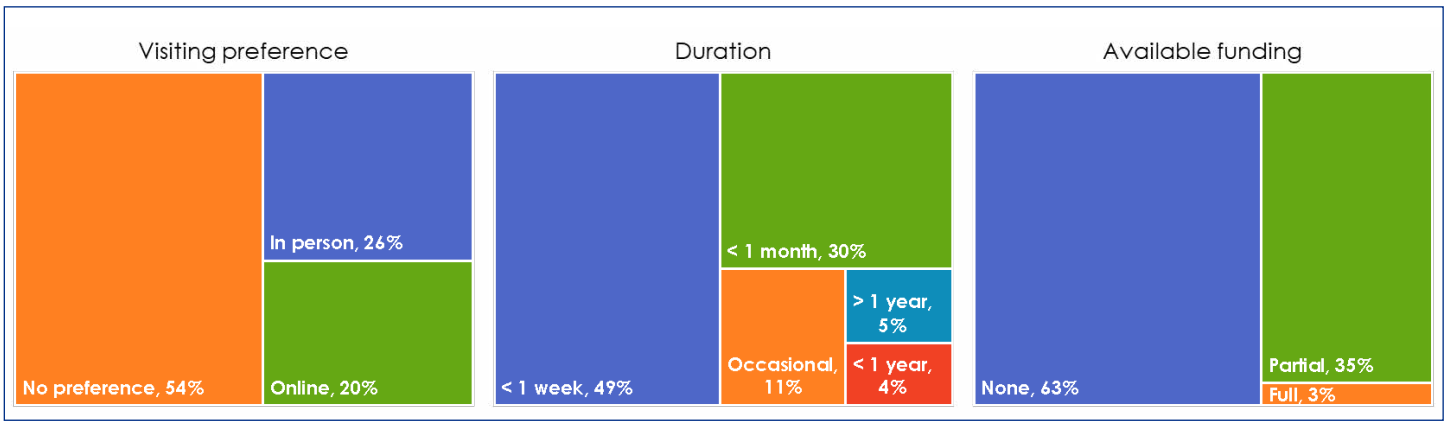
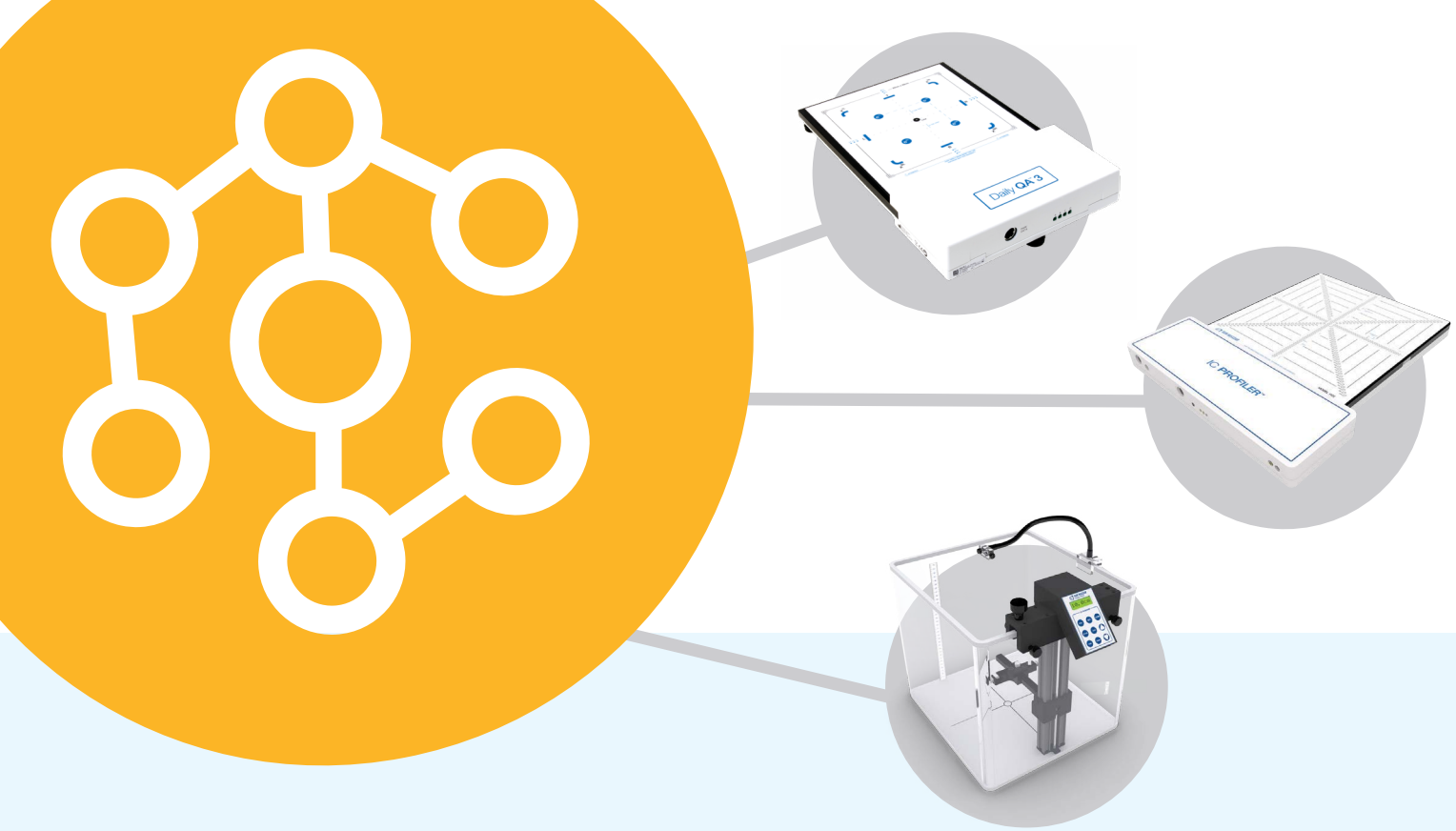



**Figure 4.** *Visiting preferences and funding availability.*

**Table 1.** Current involvement in international activities.

| Category | Number of respondents |
|---|---|
| Non-profits/NGOs | 108 (25%) |
| AAPM | 57 (13%) |
| Institutional efforts | 51 (12%) |
| Personal connections | 51 (12%) |
| Other | 26 (6%) |

**Figure 4.** *Visiting preferences and funding availability.*

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# Updates From the Working Group for Non-Clinical Professionals

## WORKING GROUP FOR NON-CLINICAL PROFESSIONALS REPORT

The AAPM Working Group for Non-Clinical Professionals (WGNC) is dedicated to supporting medical physicists exploring careers beyond the clinic. Here's what's new:

### Resource Center

To explore non-clinical career insights, access the AAPM Webinar Archives for recordings from our three-part AAPM webinar series on Non-Clinical Medical Physics Careers, Resources, Opportunities and Networking:

- **Breaking Out of the Clinic and Extending Your Reach (September 2022):** Speakers **Anuj Kapadia, PhD** (academia), **Brandon Nelson, PhD** (regulatory government), and **Jennifer Clark, MS** (industry) share their experiences and pathways.
- **Navigating Non-Clinical Careers, Returning to the Clinic, and MOC (February 2023): Jean Moran, PhD**, Alan Cohen, MS, and **Varun Sehgal, PhD** discuss transitioning careers, re-entering clinical roles, and maintaining certification.
- **MPLA and EDIC Applied to Non-Clinical Careers (April 2023): Ashley Cetnar, PhD** highlights leadership development through MPLA, while **Lindsay Jones, MS** shares insights from the AAPM Accessibility Subcommittee.

These webinars provide valuable guidance for medical physicists considering non-clinical opportunities.

### Events

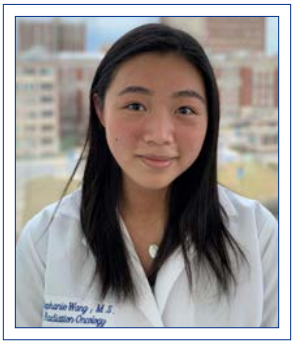
Join us at the 2025 AAPM Annual Meeting & Exhibition, where we're excited to announce this year's Symposium, featuring the theme: "***Navigating Freelance and Consulting Careers: From Side Hustles to Full-Time Success.***"

Be sure to attend our happy hour and networking session during the meeting—an excellent opportunity to connect with peers! Details will be shared on Twitter: @AAPM_WGNC. Follow us for updates!

### Looking Ahead

As 2025 progresses, the WGNC is planning more events, resources, and opportunities to support medical physicists pursuing non-clinical paths. Stay tuned for more exciting updates!

We hope these resources and events inspire you to explore the diverse opportunities available in medical physics. For more updates, visit us on Twitter: @AAPM_WGNC. ■



**Stephanie Wang, MS**
**Northwest Medical Physics Center**

**Abdelhai Benali, PhD**
**ATEOhio**

# Digital Phantoms, Virtual Trials Drive Improvements in Care

RESEARCH SPOTLIGHT

Advances in digital phantom technology are accelerating the timeline for clinical implementation of new therapies while powering virtual clinical trials that will lead to more accurate, personalized treatment, according to leading experts in the field.

Digital phantoms are data files that provide a virtual model of patient anatomy and physiology. With their significant convenience and cost advantages over physical phantoms, they have been used in simulations for decades; however, earlier simulations were limited by overly simplistic patient models. Recent advances in computing power and graphics processing have driven vast improvements in the realism of these computational human body models.

"With today's computational resources at our disposal, we can approach reality more closely than ever before," said **Ehsan Samei, PhD**, professor at Duke University in Durham, NC.

A recent observer study shows just how far the technology has advanced. In the study, researchers asked experienced radiation oncologists to review a mix of real and simulated CT images and score them for realism and overall appearance. Both sets of images achieved similar scores.

"The physicians couldn't tell which images were real and which were simulated," said study lead author **Lei Ren, PhD**, professor in the Department of Radiation Oncology at the University of Maryland School of Medicine in Baltimore. "That means our generated data is very close to the real images."

This realism has helped make virtual trials with digital phantoms a viable, efficient, and ethically conscious alternative to clinical trials.[1]

"Virtual trials allow us to do things that clinical trials cannot do," said Dr. Samei. "For example, we cannot go to a trial and image the patient 50 times and see what happens. It's ethically unfeasible. But we can do that with virtual trials."

As founder of the Center for Virtual Imaging Trials at Duke, Dr. Samei has published more than a hundred papers in recent years that demonstrate the potential of this technology. In one such study, he and his colleagues created a virtual analogue of the National Lung Cancer Screening Trial (NLST), a major study that compared low-dose CT with chest X-rays for the early detection of cancer in smokers. The researchers created hundreds of unique computational phantoms, each with inserted simulated lung nodules. The model replicated the results of the NLST in months while achieving comparative results.[2]

Importantly, the same study can easily be updated for new imaging technology, a key advantage over large-scale and long-term clinical trials that are fixed in design from start to finish. While the technology used in these


**Richard S. Dargan, BS**
**Contributing Writer, AAPM**

**Victoria Yu, PhD**
**Memorial Sloan Kettering Cancer Center**

trials is often outdated by the time the results are ready to be interpreted, digital phantoms and virtual clinical trials can easily be adapted for the latest imaging technology without substantial additional time and resources.

"With the push of a few buttons, we can replicate the trial with our new photon-counting CT scanners," said Dr. Samei. "So, we can answer important ancillary questions in a way that we could never do with clinical trials because they are very constrained."

A comparison of two trials comparing tomosynthesis and mammography from the U.S. Food and Drug Administration (FDA) further underscores the advantages of virtual trials.[3] The clinical trial involving 400 women recruited from seven hospitals and 31 radiologists took four years to finish before submission for FDA review. The simulated trial with 3,000 virtual patients was completed in less than half the time.

"The virtual trial reached the same conclusion as the clinical trial with much less time and money spent and no dose to any patient," Dr. Ren said. "This really shows the power of virtual clinical trials."

In the near term, virtual trials have several promising applications, according to Dr. Samei.

"I don't think that we can replace clinical trials completely in the immediate future, but there are many things we can do. First, we can use a virtual trial to design a clinical trial more efficiently," he said. "Secondly, we can use a hybrid approach with a full-scale virtual trial, and then a smaller supplemental clinical trial as a way to validate the results."

Along with fueling virtual trials, digital phantoms have promising applications in motion management during radiation therapy. Respiratory motion, deformations and positioning changes can make the tumor move outside the area receiving radiation, resulting in a lower dose than intended to the target and/or a higher dose to surrounding healthy tissues. The traditional approach of adding a large margin to the target often exacerbates the problem.

Digital phantoms improve targeting by simulating different patient anatomies, breathing amplitude irregularities and imaging parameters. When used in combination with artificial intelligence (AI) technology involving convolutional neural networks, patient-specific simulations can produce individualized strategies for motion management that account for these differences so that clinicians can target the tumor precisely.

Dr. Ren has devoted much of his research to motion management. In one recent study, he and colleagues were able to build realistic and controllable respiratory motions in the extended cardiac-torso (XCAT) phantoms of the Center for Virtual Imaging Trials at Duke.[4] His research group developed, trained, and validated a motion generation deep learning model using 71 4DCT images from lung cancer patients. They then applied the model to XCAT end-of-inhale phase images to generate 4D-XCAT with realistic respiratory motions, thus enhancing the value of these phantoms for various 4D imaging and therapy studies. His group is currently developing patient-specific simulations for customizing motion management strategies in both photon and proton therapy to achieve high-precision treatment.

"The ultimate goal is to provide these useful tools to clinicians and medical physicists so we can design effective motion management strategies for individual patients to enhance the precision and hopefully the outcome of those treatments," said Dr. Ren.

The holy grail of digital phantom research is the creation of a digital twin, or digital avatar, of every person. This avatar could be pulled up much like a medical chart and updated as the patient ages and undergoes more imaging and interventions. These twins would also have significant value in virtual trials while offering a potential solution to address data shortages and imbalances and biases in the model training.

Significant obstacles remain before digital twins reach the clinic: foremost among them, a limited understanding of the complex biological processes in the human body. The body has 11 major internal systems and 78 organs, all interacting with each other and all affected by variables like genetics, metabolism, and the environment. Modeling something so complex requires enormous computational power.

"It's very challenging to model everything together to build a truly digital twin," Dr. Ren said. "I think that's a gap in this field and should be the main direction we're pushing toward."

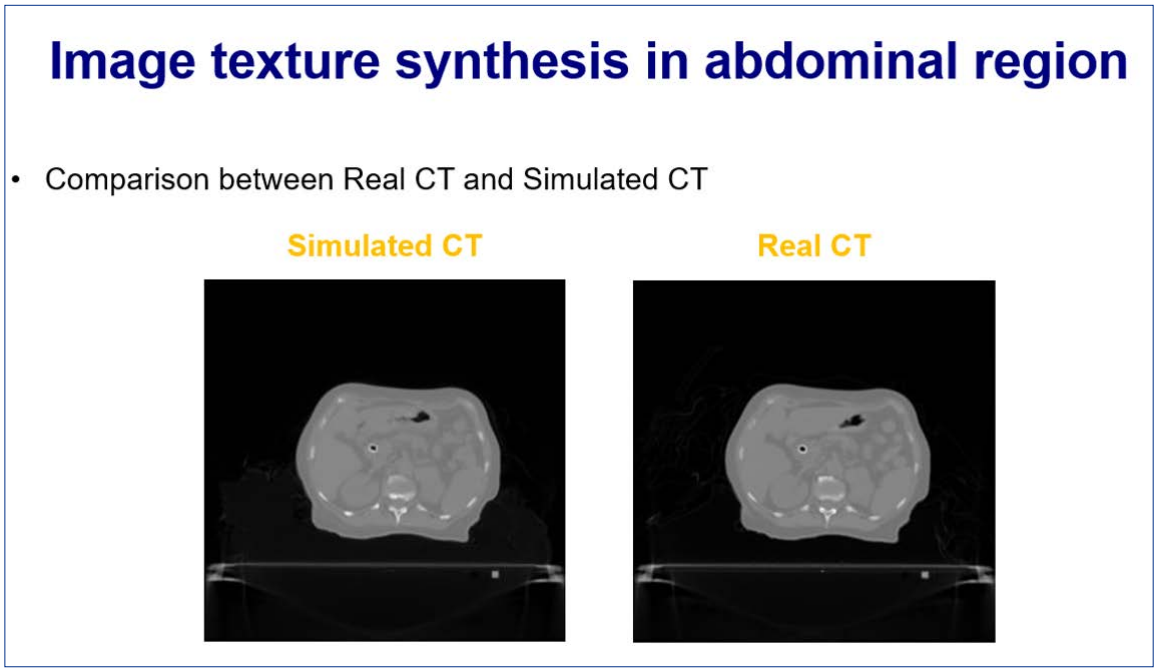
With their capabilities in modeling complex processes, large foundation AI models are a promising avenue for closing this gap. Quantum computing offers a potential way to address the computational power requirements for these large models.

Momentum in this area has been steadily increasing. Last year, Dr. Samei hosted the first Virtual Imaging Trials in Medicine summit at Duke University, where more than 130 stakeholders gathered to discuss the latest research, development, and use cases. Continued collaboration among researchers will be vital to further progress, experts say. Biomedical engineers, computer scientists, radiologists, and clinicians all have important roles in advancing the science into different forms of imaging and therapy. Even pharmacological interventions can be virtually modeled.

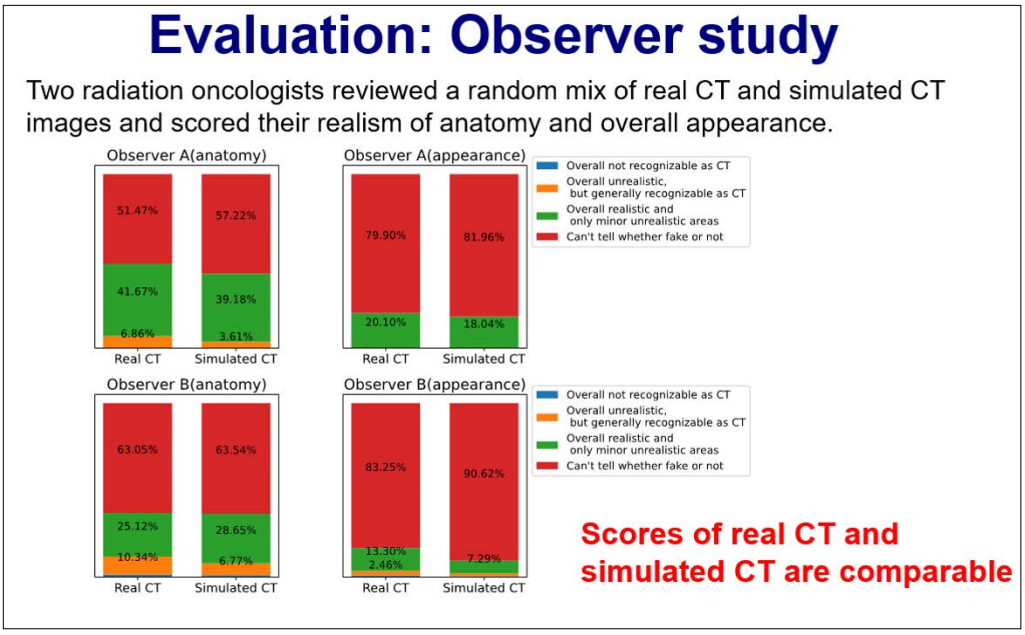
"This research needs to go beyond medical physicists to medicine at large," Dr. Samei said. "We are working to encourage others to join this fray and talk about how we can energize the movement going forward."

As a bridge between technology and clinical practice, medical physicists will continue to occupy a central position in the development of digital phantoms and virtual trials.

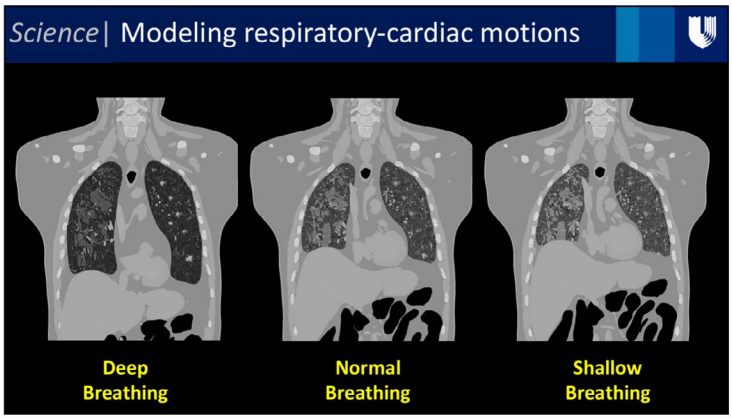
"Medical physicists can be important in building and interpreting the models since we understand both the technical aspects and clinical utilities," Dr. Ren said. "We will also play an important role in incorporating the models into the clinical procedures and providing vital quality assurance to certify that models are accurate and unbiased."




*Advances in graphics processing and artificial intelligence have made simulated images almost indistinguishable from real images, as seen in this comparison of abdominal CTs. Credit: Lei Ren, PhD, University of Maryland School of Medicine.*




*In a recent observer study led by Len Rei at the University of Maryland, two experienced radiation oncologists gave similar scores to real and simulated abdominal CT images. Credit: Lei Ren, PhD, University of Maryland School of Medicine.*




*By simulating different breathing patterns, patient-specific simulations can produce individualized strategies for motion management that allow for more precise tumor targeting. Credit: Ehsan Samei, PhD, Center for Virtual Imaging Trials, Duke University.*

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# ACR Accreditation & More: Info for Medical Physicists

## UPDATES FROM ACR HQ

### Renew your Pledge to Image Wisely!

**Nuclear Medicine QC Manual is Published!**

You can find the new Nuclear Medicine QC Manual and all of ACR's other QC manuals on the Medical Physics Resources page on acr.org. We have also added a link to provide feedback on select QC manuals via webform, which you can find below the manuals on the Medical Physics Resources page.

**New ACR Website**

At the end of January ACR rolled out a refreshed www.acr.org. Please pardon the dust as it settles and the last handful of our 1600+ pages go live. Please note that the URL above for the Medical Physics Resources page has changed from the prior site design. Feedback on the new website can be sent to membership@acr.org. Links to marketing toolkits for ACR-accredited facilities changed, so please pass the links below to your accredited facilities if they ask:

- https://www.acr.org/Accreditation/Resources/Breast-Ultrasound-Toolkit
- https://www.acr.org/Accreditation/Resources/CBIC-Toolkit
- https://www.acr.org/Accreditation/Resources/CT-Toolkit
- https://www.acr.org/Accreditation/Resources/DICOE-Toolkit
- https://www.acr.org/Accreditation/Resources/LCS-Toolkit
- https://www.acr.org/Accreditation/Resources/Mammography-Toolkit
- https://www.acr.org/Accreditation/Resources/MRI-Toolkit
- https://www.acr.org/Accreditation/Resources/Nuc-Med-Toolkit
- https://www.acr.org/Accreditation/Resources/PET-Toolkit
- https://www.acr.org/Accreditation/Resources/Prostate-Cancer-Toolkit
- https://www.acr.org/Accreditation/Resources/Radiation-Oncology-Toolkit
- https://www.acr.org/Accreditation/Resources/Stereotactic-Breast-Biopsy-Toolkit
- https://www.acr.org/Accreditation/Resources/Ultrasound-Toolkit

**Changes to ACR Mammography Accreditation Program Testing Packet Personnel Qualification Forms**

The Food and Drug Administration (FDA) has approved *the removal* of Personnel Qualification Forms from the ACR Mammography Accreditation Program (MAP) applications effective November 25, 2024. The ACR requested this change in process with the FDA to help decrease burden at already stressed mammography facilities. Although the facility will no longer be

**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.

**Congratulations to Srijyotsna Volety on being awarded the ACR Medical Physics Graduate Student Scholarship!**
Ms. Volety's research at the University of Wisconsin focuses on motion-compensation techniques in quantitative diffusion MRI for earlier and more reliable detection of liver fibrosis. The ACR Medical Physics Graduate Student Scholarship fully funds a medical physics graduate student to attend the ACR Annual Meeting May 3–7 in Washington, DC.

required to submit the personnel qualification forms to the ACR for the Interpreting Physicians, Technologists or Medical Physicists, the facility is still required under federal law (MQSA) to ensure that all personnel meet these requirements prior to performing mammography. The Lead Interpreting Physician attests in the Mammography Survey Agreement that all personnel meet the qualifications under MQSA.

The ACR is in the process of updating our online accreditation system. Until the changes are made, please upload a non-completed form or blank sheet of paper in a PDF format in each required field. This information has been updated in the MAP Testing Overview and a notification was sent to all MAP facilities. ■

# Spotlight on the ABR Diagnostic Medical Physics Qualifying Exam Committee

**ABR UPDATE**

One of the primary responsibilities of ABR medical physics volunteers is to write questions for various ABR exams. This includes not only the medical physics exam questions but also physics questions for exams given to candidates in the three other ABR disciplines: diagnostic radiology, interventional radiology/diagnostic radiology, and radiation oncology. To streamline the question-writing process, volunteers are grouped into committees based on their specific areas of expertise. For certification in medical physics, the ABR administers two written qualifying exams, followed by a final oral certifying exam. The eligibility requirements and timelines for each exam can be found here: theabr.org. The MP exams consist of:

- Part 1 qualifying exams — general and clinical which can be taken together or separately
- Part 2 qualifying exam specific to diagnostic medical physics [DMP], nuclear medical physics [NMP], or therapeutic medical physics [TMP]
- Part 3 oral certifying exam specific to DMP, NMP, or TMP.

Committees of medical physicist volunteers develop content for each exam. Each committee has approximately 10 members who are subject matter experts, along with a chair who is responsible for the committee's activities. An associate chair is chosen during the chair's last year on the committee to ensure a seamless transition to new leadership. A committee is also assigned two ABR staff exam developers who provide administrative assistance. In this article, the spotlight is on the Diagnostic Medical Physics (DMP) Part 2 Qualifying Exam Committee.

The DMP Part 2 Qualifying exam committee is chaired by **Thomas Oshiro** and had the following members as of December 2024: **Jaydev Dave, David Hintenlang, Andrew Hoy, Steven LaFontaine, Sarah McKenney, Anna Mench, Douglas Pfeiffer, Ingrid Reiser**, and **Bryan Schwarz**. **Douglas Pfeiffer** is the newly selected Associate Chair of this committee for 2025. **David Hintenlang** and **Ingrid Reiser** rotated off the committee at the end of 2024 and we welcomed two new members, **Shalmali Dharmadhikari** and **Shuai Leng** for the writing cycle in 2025. The exam developers assigned to this committee are Amaris Castellanos and Anya Samaniego.

Committee members are typically selected by the committee chair and the trustee and are appointed initially for a 3-year term, with the possibility of re-appointment for an additional 3-year term. The ABR places great importance on the active and effective participation of each committee member throughout their tenure. To maintain the quality of the examinations, annual assessments are conducted to evaluate both committee productivity and individual contributions. When selecting committee members from the pool of approved volunteers, the committee chair and the DMP trustee prioritize

**Kalpana Kanal, PhD**
**University of Washington**

The difficult work of writing exam questions and assembling them into exams is done by volunteer medical physicists. Most of the work is conducted independently and through virtual meetings, but committees such as this one meet annually to assemble the exams for the next year.

subject matter experts with deep, hands-on knowledge of the material that forms the foundation of the exams.

The annual item writing cycle for this committee is from January to June. This committee submits their questions during this time frame and meets frequently during the cycle to review, edit, and ultimately approve questions that are used for the DMP qualifying exam. Volunteer engagement throughout an item writing cycle is typically many hours of independent work, followed by several committee meetings, and finally a 1.5 day in-person annual meeting. An exam is constructed using both new and previously used questions and is reviewed during the annual meeting in June attended by several committee members and the DMP trustee. Once approved by the committee, the DMP trustee provides final approval of an exam.

We express our gratitude not only to the members of this committee but also to all the medical physics item-writing committees. The ABR's mission could not be fulfilled without the dedication and expertise of the medical physicists who generously volunteer countless hours to develop, review, and approve the examination questions that the ABR uses to certify that all their diplomates demonstrate the requisite knowledge, skill, and understanding of their disciplines to the benefit of patients. ■

*Committee members in attendance at the June 2024 Exam Creation Meeting at RSNA Headquarters in Chicago. Shown, from left to right in the front row are Anya Samaniego (exam developer), Amaris Castellanos (exam developer), Mr. Pfeiffer (associate chair), Dr. Kanal (DMP trustee), Dr. Oshiro (committee chair), Dr. Dave, and Dr. Mench. Shown, from left to right in the back row are Dr. Ibbott (associate executive director), Dr. Hoy, and Dr. Schwarz. Committee members not shown are Drs. David Hintenlang, Steven LaFontaine, Sarah McKenney, and Ingrid Reiser. Drs. Hintenlang and Dr. Reiser rotated off the committee at the end of 2024.*

# Patient Safety Awareness Week: Strengthening Radiation Oncology Practices

## AMERICAN SOCIETY FOR RADIATION ONCOLOGY (ASTRO) QUALITY IMPROVEMENT

Patient Safety Awareness Week (PSAW), March 9–15, 2025, is an annual event that aims to recognize and celebrate health care safety initiatives. In radiation oncology, where precision and accuracy are key, several specialty-specific initiatives play an important role in confirming that these standards are understood and consistently met.

### Enhancing a Culture of Safety

A critical component of PSAW and ongoing engagement in safety and quality is safety culture. To promote a culture of safety, a practice must create an environment where patient safety is prioritized, open communication is encouraged, and staff are supported when reporting errors or concerns without fear of retribution. Accreditation and incident learning are mechanisms to foster a culture of safety as they emphasize staff training, communication and transparency. Additionally, radiation oncology staff should be encouraged to participate in ongoing quality improvement and interdisciplinary safety meetings. These measures build a collective responsibility for patient safety, where every team member, from medical physicists and radiation therapists to oncologists, understands their role in protecting patients.

### The Role of Accreditation in Patient Safety

Accreditation programs, like ASTRO's APEx – Accreditation Program for Excellence, provide radiation oncology practices with structured frameworks for implementing best practices and adhering to evidence-based guidance from organizations like AAPM, ASTRO and others. APEx is designed to identify potential risks before they become patient safety incidents and assist practices in making process improvements.

In radiation oncology, even small errors in dose calculation, imaging alignment, or equipment calibration can have significant consequences. APEx measures the quality management systems and suggests improvements to minimize such risks. External reviews, like APEx, bring a fresh perspective and highlight areas for improvement that may not be immediately obvious to internal teams. APEx uncovers potential blind spots in processes like QA and peer review.

### The Role of Incident Learning Systems Like RO-ILS

An essential component of a strong safety culture in radiation oncology is the use of error reporting and analysis tools, such as RO-ILS: Radiation Oncology Incident Learning System®. RO-ILS provides a confidential and protected platform for collecting, studying and learning from safety events. By aggregating and analyzing data on near misses and adverse incidents, RO-ILS helps identify trends and areas for improvement, enabling teams to

**Ksenija Kujundzic**
**Senior Quality Improvement Manager, ASTRO**

**Patient Safety Awareness Week**
March 9–15, 2025

Leverage existing safety protocols to host events, workshops and awareness campaigns:

- Safety Workshops
- Interdisciplinary Learning Sessions
- Incident Learning Awareness
- Patient Education Sessions
- Staff Acknowledgment and Celebration

implement corrective actions proactively. During PSAW, review RO-ILS education, such as the latest themed report on specialized treatment techniques, a case study on vertebral body alignment, and a physicist great catch, and discuss the provided safety check questions in a team setting.

Integration of RO-ILS into an accredited radiation oncology program enhances accountability and promotes continuous improvement. Facilities that actively participate in incident learning systems demonstrate a commitment to transparency and an open dialogue around safety.

## Supporting Patient Safety Awareness Week Initiatives

During Patient Safety Awareness Week, radiation oncology practices can leverage their existing safety protocols to host events, workshops and awareness campaigns. These initiatives can include:

- Safety Workshops: Hands-on training for staff focusing on recent advancements in treatment safety.
- Interdisciplinary Learning Sessions: Reviewing policies and procedures so all staff are aware.
- Incident Learning Awareness: Highlighting the importance of systems like RO-ILS and sharing success stories where incident learning led to meaningful changes.
- Patient Education Sessions: Informing patients about safety measures in radiation therapy.

**Staff Acknowledgment and Celebration:** Recognizing staff for their submissions of safety events, engagement in quality improvement activities, and for going above and beyond for patient care promotes safety culture. RO-ILS recognized the following three physicists for their extensive work in patient safety at your facilities; read about more these 2024 safety stars and the positive impact they had on patients and their colleagues.

## Real-World Impact

A culture of safety, incorporating accreditation and incident reporting, cements the idea that safety isn't just a checkbox but an ongoing journey. For example, regular audits and reviews required by accreditation bodies often uncover opportunities to enhance workflows, reduce errors, and improve communication across inter- and multidisciplinary teams.

## PSAW Challenge

PSAW serves as a perfect platform to highlight the many opportunities for radiation oncology practices to promote safe and effective radiation therapy and celebrate their progress and accomplishments. Accreditation and incident learning not only validates an institution's commitment to safety but also empowers teams to prioritize patient well-being every day. As radiation oncology continues to evolve with new technologies and treatment approaches, accreditation and incident learning will remain a cornerstone in advancing patient safety and quality care.

This PSAW, let's recognize APEx and RO-ILS not just as a standard to meet, but as a promise to uphold — for every patient, every treatment, every time. Patient Safety Awareness Week starts March 9. What will you do to promote safety in your practice? ■

***Michael Dance, MS, DABR***
*Medical Physicist*
*University of North Carolina at Chapel Hill*
*RO-ILS Enrolled 2013*

***Thomas Mazur, PhD***
*Assistant Professor of Radiation Oncology*
*Washington University - St. Louis*
*RO-ILS Enrolled 2016*

***Tatsiana Reynolds, PhD***
*Medical Physicist*
*Minnesota Oncology*
*RO-ILS Enrolled 2016*

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

COMING TOGETHER TO FORGE AHEAD
IN MEDICAL PHYSICS

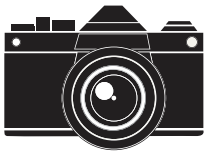
# NEW PROFESSIONAL SYMPOSIUM

**Tuesday, July 29, 2025 | 4:30–6:00 pm**
**Room 201 (Level 2), Walter E. Washington Convention Center**

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 Washington, DC, 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 complimentary registration for the 2026 Annual Meeting & Exhibition in Vancouver, BC!**

In addition, all new members who register for the Symposium will receive a drink ticket, good for one complimentary soda or beer served after the Professional Symposium during the social with committee chairs from five AAPM Councils: Science, Education, Professional, Administrative, and International.



**Get Your Picture Taken.**
A Headshot Lounge will be available in the Exhibit Hall to have a professional photo taken for your AAPM Member Directory profile.

**aapm.me/annual**

# Melissa Martin Recognized for Over 30 years of Service and Support

**PERSONS IN THE NEWS**

In the December 2024 issue of the Conference of Radiation Control Program Directors (CRCPD) Newsbrief, **Melissa Martin, MS, FAAPM, FACR, FACMP, FIOMP**, was recognized with a tribute for over 30 years of continuous service on behalf of the AAPM to the CRCPD and the State Radiation Control Programs. Upon learning that Melissa would be stepping down as the AAPM liaison, the CRCPD Board voted unanimously to make her an Honorary Member of CRCPD so she can continue to support and provide input on the committees she has participated in for so long. Melissa is well known to AAPM members, and her contributions are too numerous to list; as a few highlights, she received the Marvin M.D. William Professional Achievement award in 2009, the Edith H. Quimby Lifetime Achievement Award in 2015, and served as AAPM President in 2017. The AAPM History Committee recorded an interview with Melissa in 2019, which is available to view online. The AAPM is deeply appreciative of Melissa Martin's many contributions and congratulates her on this well-deserved recognition! ■

**Jennifer Pursley, PhD**
**Mayo Clinic**

AAPM EDUCATION & RESEARCH FUND

# 2025 AAPM FUNDING OPPORTUNITIES

**SCAN THE QR CODE AND VISIT:**
**for regularly updated information on all AAPM funding opportunities.**

**gaf.aapm.org**

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