AMERICAN ASSOCIATION of PHYSICISTS IN MEDICINE

IMPROVING HEALTH
THROUGH MEDICAL PHYSICS

AAPM NEWSLETTER

July/August 2022 | Volume 47, No. 4

Special Interest Feature:

Students and Trainees Subcommittee

IN THIS ISSUE:

COVID-19 UPDATE

Notice as of Friday, July 1, 2022, 9AM Eastern Time.

- As of August 1, 2021, AAPM allows in-person meetings and AAPM-funded travel for those fully vaccinated, with the understanding that individuals may participate virtually if they do not feel comfortable traveling. Meetings at AAPM HQ must follow guidelines established by EXCOM as appropriate to circumstances at the time of the meeting.

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AAPM is located at 1631 Prince Street, Alexandria, VA 22314

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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: September/October 2022
Submission Deadline: August 5, 2022
Posted Online: Week of September 5, 2022

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.

We pioneer breakthroughs in healthcare.

For everyone. Everywhere.

Join the Varian Phyz Quiz
Sunday, July 10, 6:00pm – 7:15pm
Convention Center Room 149AB

Before you head to dinner on Sunday evening, play the Phyz Quiz! Answer multiple-choice format questions covering physics and Varian products using your phone. Speed and accuracy affect your score. So, grab a drink, put your skills to the test, and join the challenging fun. Bragging rights awarded!

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EXCITEMENT GROWING FOR AAPM ANNUAL MEETING

NEWSLETTER EDITOR'S REPORT

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Welcome to the July/August edition of the 2022 AAPM Newsletter, coming to you just in time for the AAPM 64th Annual Meeting & Exhibition. Unfortunately, this newsletter also comes at a time of upheaval for the USA, as recent decisions from the Supreme Court removed federal protections for abortion access. As members of the healthcare field, access to safe, effective, and affordable care for all are a high priority, and I am encouraged to see AAPM members speaking up and debating how their organizations and the AAPM can respond to these challenges. As discussions continue online and at the Annual Meeting, I hope all members continue to communicate their thoughts and feelings, as I'm certain the leadership of AAPM is taking these considerations for the members seriously when thinking about future events.

Meanwhile, the excitement and anticipation for the first in-person Annual Meeting since 2019 are palpable throughout this issue of the newsletter. Check out the Website Editor's Report for ways to follow and post updates on social media using the hashtag #AAPM2022. The Special Interest Group for this issue is the Students & Trainees Subcommittee; they have a lot to report on their recent activities and events at the Annual Meeting. Several other events are advertised in this newsletter, please visit the Annual Meeting website early and often for a complete list of events to plan your days around. I look forward to seeing many AAPM members in-person at the meeting, and I also hope those attending virtually will participate online to enhance their experience of the Annual Meeting.

In addition to Annual Meeting updates, this newsletter contains a host of interesting and informative articles from our regular contributors and first-time submitters. We have event recaps from two recent AAPM chapter meetings, and topics from regular contributors ranging from the process by which medical physicists become ABR oral board examiners to updates on IHE-RO efforts. Don't miss the Education Council's excellent article on science communication and medical physics outreach to students, written by **Jessica Fagerstrom** and **Sydney Jupitz**!

As always, we hope every AAPM member finds something of interest to them in this issue of the newsletter. Our goal is to keep the AAPM Newsletter relevant to everyone who wants to learn what's happening in medical physics. We're always in search of submissions and suggestions from AAPM members, which can be submitted directly through the link on the Newsletter page. Please enjoy this issue of the Newsletter and send us your feedback and ideas for the future. And as always, please share the Newsletter articles you enjoy with your social media network. The next issue of the newsletter will focus on content from the Annual Meeting, and I look forward to seeing everyone's biggest takeaways from the meeting! ■

AAPM LAUNCHES NEW MENTORSHIP PROGRAM: VOLUNTEERS NEEDED!

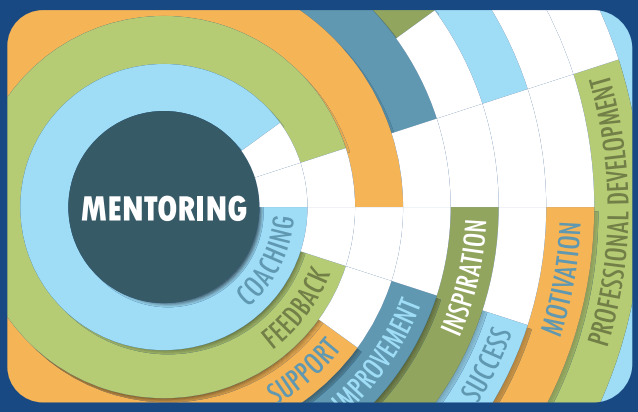
Call for Mentors to participate in the launch of the AAPM Mentorship Program! The AAPM Mentorship Program is actively recruiting volunteers from all disciplines, work environments and education levels to serve as mentors to other AAPM members. Participation is open to any AAPM member. The Program is currently recruiting mentors at this stage of the launch and will open to mentee sign-ups once mentor recruitment goals have been achieved. More details including an FAQ and sign up can be found here.

What is Mentorship?

Mentorship is 1 on 1, virtual or in person. The AAPM Mentorship Program is not just for professional mentorship, it can be used to support any form of personal or career development, including navigating an early career post-residency, being more productive in research and grant writing, how to climb the academic ladder, becoming a better educator, strategizing career changes and moves, management and leadership skills, or even retirement! The individual aims of the mentoring relationship are up to the participants.

What Mentorship is Not:

This is not a clinical training program. Mentorship offers a personalized opportunity to work on your individual career development goals, develop new skills and expertise and access objective evaluation of your performance from an experienced member of AAPM. Mentorship can increase your networking opportunities, help to clarify your career direction, and provide support and motivation in meeting the challenges of work and home life.



#AAPM2022: COME ONE, COME ALL TO THE 2022 ANNUAL MEETING!

PRESIDENT'S REPORT

J. Daniel Bourland, MSPH, PhD
Wake Forest School of Medicine
Email: bourland@wakehealth.edu

Greetings AAPM Colleagues:

OKAY! The excitement continues to build as we are meeting ***in-person*** and ***face-to-face*** at the AAPM 64th Annual Meeting and Exhibition later this month in Washington, DC — What A Deal! For those unable to travel to the meeting — while you may miss out on the in-person experience, you certainly will NOT miss out on the robust scientific, professional, and educational program planned!

The #AAPM2022 theme, "Celebrating Medical Physics: Transforming Human Health," celebrates the accomplishments of medical physicists over decades as well as our opportunity to ***meet together***. Whether having impact through a new technology or scientific discovery, or through the compassionate provision of medical physics-based care for a particular patient, ***medical physicists are transforming human health*** by the applications of medical physics — ***we improve health through medical physics.***

The 2022 Presidential Symposium: Important Conversations will be held at 10:15 AM (EDT) on Monday, July 11 and I commend to you the three keynote speakers who will provide "important conversations" about humanity and healthcare innovation for the medical physics community:

- **The Alzheimer's Epidemic**
  - *Helping us confront challenging diseases*

  Edward Shaw MD, MA, Radiation Oncologist and Geriatric/Family Counselor from Wake Forest School of Medicine, will speak about Alzheimer's disease, the most common type of dementia. He will compare the diseases of cancer and Alzheimer's, sharing his professional and personal perspectives as an academic radiation oncologist who treated brain tumors and who then provided 9 years of care for his 53-year-old wife, who was diagnosed with early-onset Alzheimer's disease.
- **What We Can Learn from Patients and Why We Need to Listen**
  - *Helping us understand the patients we serve*

  Rebecca Milman, PhD, Imaging Physicist from the University of Colorado School of Medicine, will detail the dynamics of patient engagement and how patients have been absent from discussions about diagnostic imaging and radiation-based therapies. Milman will outline how actively seeking patients' perspectives and experiences can help further AAPM's mission of improving health through medical physics.

AAPM 2022
JULY 10–14 | WASHINGTON, DC
64TH ANNUAL MEETING & EXHIBITION
CELEBRATING MEDICAL PHYSICS
TRANSFORMING HUMAN HEALTH

- **Advanced Research Project Agency for Health – ARPA-H - and the Cancer Moonshot**
  - *Helping us innovate and transform healthcare for the future*

Tara Schwetz, PhD, Acting Principal Deputy Director from the NIH, will provide the latest information about two key health research initiatives prioritized by the Biden Administration: The Advanced Research Project Agency for Health (ARPA-H) aims to discover breakthroughs to improve the health of all Americans, while The Cancer Moonshot 2.0 has ambitious goals to end cancer as we know it today.

Again, We're Meeting In-Person in Washington, DC! The entire #AAPM2022 meeting program spans a range from classic to new medical physics, offering exceptional scientific, educational, and professional symposia, proffered sessions, and the ever-important Early-Career Investigators Symposium along with a host of continuing education opportunities. Our technical exhibition (!!) will allow the opportunity to meet with vendors, experience their new products on the floor, and discuss their services and support.

Come One, Come All to the 2022 Annual Meeting!

And, thank you all! As I've written before, the richness of AAPM resides in our remarkable members, volunteers, headquarters staff, and other colleagues. Together, we bring a diverse mix of expertise, experiences, interests, and cultures to AAPM's mission of *Improving Health*. Please let me know if you have comments or suggestions about AAPM's mission, priorities, and committees or would like me to participate in an upcoming meeting or seminar; my email remains bourland@wakehealth.edu. ■

MEMBERSHIP DUES INCREASE

TREASURER'S REPORT

During its November 2021 meeting, the AAPM Board of Directors voted to recommend to the membership a proposal to increase dues each year for seven years (2023-2029). Rather than imposing a flat 3% annual increase as had been used for prior dues increases, the Board's current proposal seeks to link dues increases to the core consumer price index (CPI) to achieve a greater level of fairness and transparency. Under this approach, annual membership dues would be *"automatically adjusted based on the preceding 12 months of core CPI, as of September of the current year, within the range of 1 to 4% maximum. The annual increase percentage will be applied across all appropriate categories in accordance with AP-41 — Fee tiers for Membership and Affiliation."*

By utilizing the core CPI as opposed to the traditional CPI, the Board has attempted to mitigate some marketplace volatility: the core CPI strips outs food and energy prices from its calculations, thus removing these indexes that are often subject to great volatility. The current CPI index is 8.6%, while the core CPI index is 6.0%. When the Board approved this recommendation, nobody could have anticipated the extraordinary inflation we are currently experiencing. However, the Board set a cap of 4% for situations such as this.

Total Expenses

During the period 2013-2019 total expenses (as reported in the audited financial statements) increased by 3.88% per year on average. There are many reasons for the increase in expenses, including inflation and the fact that AAPM is doing more every year.

Mission Costs

The costs of AAPM's scientific, educational, and professional mission continue to rise, with budgets allocated to councils and committees increasing a total of 24% over the past five years. One way to look at this increased activity is by considering the number of active groups (councils, committees, subcommittees, working groups, and task groups). In 2014, AAPM had 272 active groups. At the end of 2021, there were 382 groups, an increase of 40%. Recently the membership approved the establishment of the International Council, which will help expand the footprint of AAPM globally and further increase the level of activities in pursuit of AAPM's mission.

Samuel G. Armato, III, PhD
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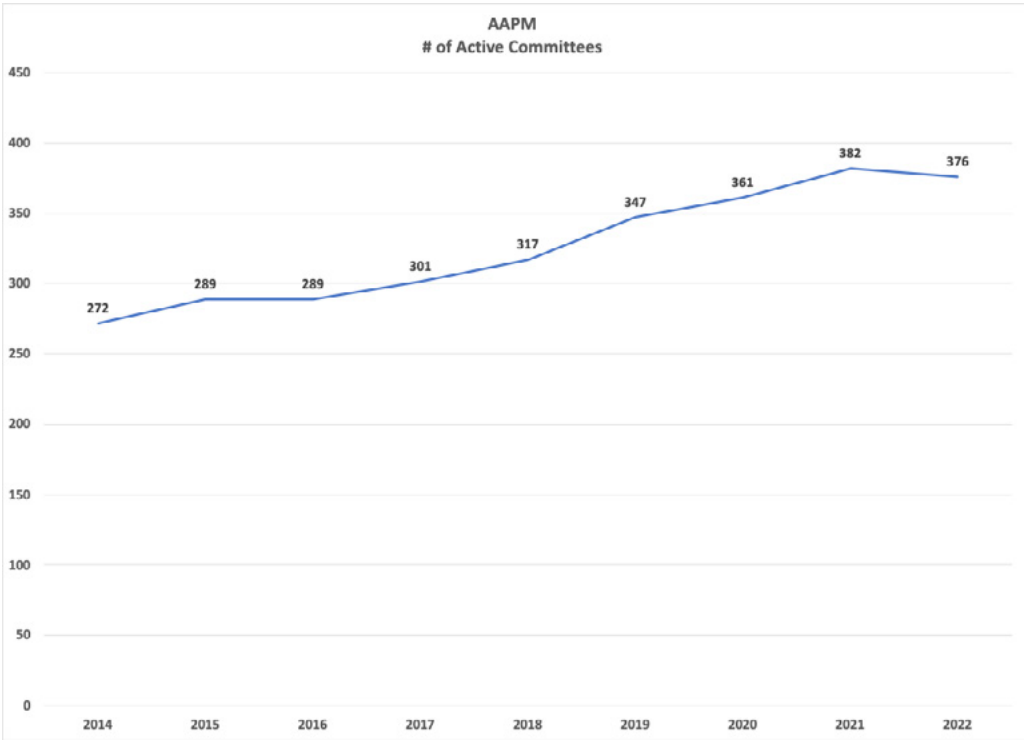

Infrastructure

In 2014 AAPM purchased the Headquarters Office in Alexandria, Virginia. This acquisition has allowed AAPM to bring many council and committee meetings "in-house," thus lowering our overall operating costs.

Additionally, since that time, AAPM has made investments in:

- Association Management System (AMS)
- Content Management System (CMS)
- Financial Management System (FMS)
- Learning Management System (LMS)

These investments have helped to increase IT security, reduce IT risk, increase the speed of operations, and increase our capacity to grow. One of the keys for future growth of AAPM is its ability to process and analyze data quickly. Investments in these systems not only strengthen AAPM today but position us for the future.

Future

The Board of Directors has a fiduciary responsibility that requires Board members, as stewards of the public trust, to always act for the good of the organization. AAPM is a fiscally responsible and financially strong organization that has been a leader in the industry since its inception; the Board must ensure that AAPM is able to fulfill its mission in an ever-changing landscape. Medical physics will look different in 5-10 years, and the Board must ensure that AAPM is well positioned to lead these changes not only in the United States, but globally. The proposed dues increase will ensure that AAPM continues to have the resources necessary to deliver the programs to make this happen while simultaneously continuing to deliver value to you as a member of this Association. ■

INFORMATION FROM HQ

EXECUTIVE DIRECTOR'S REPORT

#AAPM2022
64th AAPM Annual Meeting & Exhibition

Celebrating Medical Physics: Transforming Human Health.

I write this article with only five weeks remaining until the Annual Meeting. I am very encouraged by the Early Bird registration counts and the number of corporate partners that will be with us in Washington, DC. My sense is that everyone is ready to meet *LIVE* and IN-PERSON! If you haven't registered yet, there is still time. The theme of the meeting is *Celebrating Medical Physics: Transforming Human Health* and I hope you can join in the celebration.

Reminder! Meeting content will be available only to Meeting Registrants for one year following the meeting regardless of AAPM membership status. Registration for in-person or virtual participation includes access to one live-streamed session room and on-demand content made available 24 hours post session.

Registrants

After the meeting, Registrants will continue to have post-meeting access to the meeting content via the AAPM website as a benefit of their meeting registration.

Earn your credits the easy way...

For designated content, Registrants are eligible to receive continuing education credit (e.g., CAMPEP MPCEC hours, MDCB, and ASRT Category A credits*) and self-assessment modules (SAM) during the meeting and for six weeks following via the meeting online evaluation system. The online evaluation system will close at 11:59 PM ET, Thursday, August 25. Credits will be posted by September 8.

Registrants are strongly encouraged to use the online evaluation system process to greatly simplify earning your credits.

Continue to Earn Credits, But Passing a Quiz Now Required...

After six weeks, the content will move out of the meeting platform to the AAPM website. Registrants can then continue earning medical physics continuing education credits (MPCEC) and self-assessment modules (SAM).

During this phase, to successfully earn MPCEC or SA-CE, a registrant:

- Must correctly answer quiz questions; 100% pass rate.
- Cannot attempt the same quiz in the same 24-hour block; you must wait a day before attempting the same quiz.

Angela R. Keyser
AAPM
Email: akeyser@aapm.org
Twitter: @AngelaKeyser

AAPM's HQ Team...At Your Service!
Who does what on the AAPM HQ Team? See a list with contact information and brief descriptions of responsibilities online. An Organization Chart is also provided. We are now providing information about the diversity of our team as well.

Non-Registrants

Non-Registrants, regardless of AAPM membership status, will be able to access the meeting content after an interval of time via the AAPM website.

- AAPM members will gain access through the AAPM Virtual Library **one year** after the meeting.
- Non-members will gain access **two years** after the meeting.

Want Access to the 2022 Meeting Content Earlier?

Both AAPM members and non-members may purchase Post-Meeting Access six weeks following the meeting to access meeting content on the AAPM website.

With the purchase of Post-Meeting Access, both AAPM members and non-members are eligible to earn self-assessment modules (SAM) through successful quiz completion as described above.

Support our corporate partners:

Tuesday, July 12 from 9:30 AM – 11:00 AM is dedicated time to **Visit the Vendors**. An online Buyers Guide is available, with information about the exhibiting companies. Exhibit hours are:

Sunday, July 10: 12:30 – 5:00 PM

Monday, July 11: 9:00 AM – 5:00 PM

Tuesday, July 12: 9:00 AM – 5:00 PM

Wednesday, July 13: 9:00 AM – 2:00 PM

If your schedule allows, please attend AAPM committee meetings that may be of interest to you. The schedule is online. Remember, according to the AAPM Rules: 3.3.2: *Any AAPM member may attend any meeting of the Board, any council, any committee except the Executive Committee, any subcommittee, any working group, or any task group except for executive sessions.*

Due to the COVID-19 Safety Protocols put in place by AAPM for the Annual Meeting and related events, **anyone traveling to Washington, DC solely to participate in AAPM Committee Meetings must register through the Annual Meeting Registration system**. A "*Committee Meetings Only*" category in the registration system will accommodate this new requirement for AAPM volunteers at no cost. Follow the "*Affiliated Society Meetings*" registration path to be offered the option for this new category and to make housing reservations in the AAPM room block.

IMPORTANT: As a "Committee Meetings Only" registrant, your badge will not allow access to the sessions or exhibits.

2022 AAPM Annual Business Meeting and Town Hall

Led by President Dan Bourland, Secretary Jennifer Johnson, and Treasurer Sam Armato, the AAPM Annual Business Meeting provides members with the opportunity to hear critical updates on the status of the Association.

Immediately following the close of the Annual Business Meeting, members of the AAPM Board of Directors will host a Town Hall that aims to answer the question: H*ow can the Association better serve you?*

Both events will be held and streamed Live from the Walter E. Washington Convention Center. Participation from both our In-Person and Virtual audiences is welcomed and highly encouraged.

New AAPM Reports:

- Report No. 251 — AAPM Task Group Report 251: Survey of Pediatric Fluoroscopic Air Kerma Rate Values and Recommended Application of Results
- Report No. 302 — AAPM Task Group Report 302: Surface guided radiotherapy

OUR CONDOLENCES

Philip D. Bourland, PhD
Palavila C. Philip, MS
Richard E. Haas, BA

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 e-mail to: 2022.aapm@aapm.org
(Please include supporting information so that we can take appropriate steps.)

Staff Recognition

Celebrating successes is vital to building a positive organizational culture. I firmly believe that part of the success of AAPM HQ operations is our ability to attract and retain an excellent team of high-performing association management professionals. The following team members celebrated an AAPM anniversary in the first half of 2022. I want to thank the entire team and acknowledge these milestones publicly. ■

Nancy Vazquez	26 years of service
Zailu Gao	21 years of service
Jennifer Hudson	21 years of service
Karen MacFarland	19 years of service
Lisa Schober	17 years of service
Laurie Madden	15 years of service
Viv Dennis	12 years of service
Melissa Liverpool	11 years of service
Rachel York	11 years of service
Richard Martin	8 years of service
Robert McKoy	8 years of service
Jill Moton	5 years of service
Ashley Zhu	5 years of service
Mariana Gallo	1 year of service

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AAPM MEMBERS PARTICIPATE IN CRCPD NATIONAL CONFERENCE

LEGISLATIVE AND REGULATORY AFFAIRS REPORT

The Conference of Radiation Control Program Directors (CRCPD) held its 54th Annual National Conference on Radiation Control in Tucson, Arizona May 16–19, entitled, "The Future of Radiation Protection-Better Together." The conference's main program included presentations by a number of AAPM members, including "Radiation Skin Injury: A Preclinical Model" by **Dan Bourland**, AAPM President; "Changes in Patient Gonadal and Fetal Shielding — Implications for Other Aspects of Radiation Safety," by **Rebecca Millman**; "Committee on Radiation Medical Events Update," by **Jennifer Elee**, CRCPD Subcommittee Liaison, and **Kate Hintenlang**; and "Multi-Institution Consensus for Acquisition of Portable Chest Radiographs Through Glass Barriers," by **Matt Wait**.

The Nuclear Regulatory Commission also had a significant presence at the conference. This year Katie Tapp (NRC Liaison to GRAC) provided the NRC's update on emerging technologies as well as a presentation about the NRC's medical and veterinary rulemaking activities. Duncan White, also from the NRC, talked about the future of the National Materials Program in light of the number of states with Agreement State status and those moving toward that status.

The CRCPD is an organization whose voting members are directors of state radiation protection agencies. It is not an advocacy or lobbying organization: It provides a forum for collaboration amongst stakeholders in radiation protection and radiological health. The organization works diligently to achieve its goals of promoting radiological health and fostering uniformity of radiation control laws and regulations across the country. AAPM values the work of the CRCPD and welcomes the opportunity to work with the CRCPD in achieving these goals. AAPM's participation at the conference and throughout the year in CRCPD working groups and other activities is coordinated by AAPM's CRCPD Subcommittee (under GRAC) with Kate Hintenlang (Chair). As in prior years, the CRCPD Subcommittee put on a top-notch, meticulously planned two-day training program for state agency participants. This year's program themed "The Future is Now" addressed issues regarding innovation in the radiation medicine field. In-person presenters included **Kevin Little, Robert Staton, Debbie Gilley, Melissa Martin, Kate Hintenlang, Jessica Clements**, and **Seyi Oderinde**. Virtual presentations included those by **Bette Blankenship, Carri Glide-Hurst** and **Chris Beltran**. ■

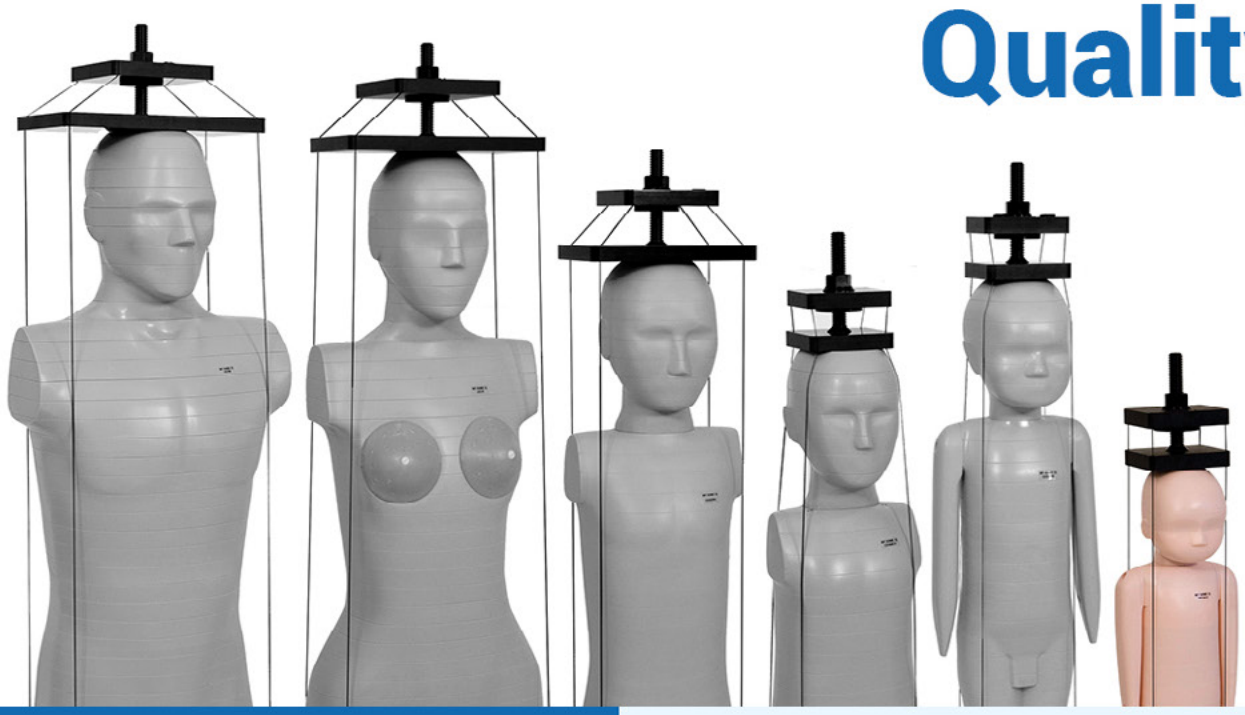
Richard J. Martin, JD
AAPM
Government Relations Program Manager
Email: richard@aapm.org

Additional information about the CRCPD and the great work they do is available here. If you have any questions or require additional information, contact Richard J Martin, JD, AAPM's Government Relations Program Manager, at richard@aapm.org.

Chairperson's Reception, 2022 CRCPD Meeting

Left to right: Kevin Little (CRCPDS), Robert Staton (AAPM), Jessica Clements (AAPM), Seyi Oderinde (AAPM), Debbie Gilley (AAPM), Kate Hintenlang (AAPM), Miroslav Pinak (IAEA), Richard Martin (AAPM Staff), Jennifer Elee (CRCPD), Rebecca Millman (AAPM), Mary Ann Spohrer (CRCPD)

Increase Patient Safety and Improve Image Quality



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The ATOM® Phantom Family represents a full line of anthropomorphic, cross-sectional dosimetry phantoms that leverage a wealth of tissue simulation experience and expertise that only CIRS can offer.

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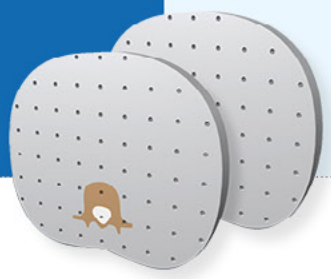

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CMS DELAYS RADIATION ONCOLOGY (RO) MODEL INDEFINITELY

HEALTH POLICY AND ECONOMIC ISSUES REPORT

(written on behalf of the Professional Economics Committee)

The Centers for Medicare and Medicaid Services (CMS) issued a proposed rule that would delay the Radiation Oncology (RO) Model's start date and performance period until a yet-to-be-determined time.

The controversial demonstration would provide bundled payments for a 90-day episode of care to certain radiotherapy providers and suppliers furnishing radiotherapy for: anal cancer, bladder cancer, bone metastases, brain metastases, breast cancer, cervical cancer, CNS tumors, colorectal cancer, head and neck cancer, lung cancer, lymphoma, pancreatic cancer, prostate cancer, upper gastrointestinal cancer, and uterine cancer. Providers in randomly selected locations across the country would participate in the mandatory model.

Despite pushback from providers, the Biden administration hasn't made changes to how the demonstration would be set up. AAPM, along with other advocates, have raised concerns with the model's mandatory nature and severe discounts, arguing they could negatively impact patient care.

AAPM submitted written comments on May 23rd and supports the CMS proposed rule to delay implementation of the RO Model until our previously reported issues of concern are resolved. Excerpts from the comment letter are below:

While AAPM supports CMS efforts to establish a value-based alternative payment methodology for radiation oncology that would reduce Medicare expenditures while preserving or enhancing the quality of care for Medicare beneficiaries, we continue to have grave concerns regarding the RO Model, specifically the payment and pricing methodology, undue administrative and financial burden, and the potential negative impact on Medicare beneficiary access to safe and high-quality cancer care. Severe consequences include limiting access to care by closure of radiation oncology facilities or reduction of services, which, in particular will especially impact underserved populations and initiatives seeking to address healthcare disparities.

Reducing payment will not improve quality but jeopardize access to safe and effective radiation treatments by putting too much financial strain on radiation oncology practices that have no choice but to participate. With no positive incentives, payment cuts of this magnitude to required RO Participants are unjustified. The current RO Model policy does not meet the intent of the MACRA legislation nor move toward value-based payments.

Wendy Smith Fuss, MPH
Health Policy Solutions
Email: wendy@healthpolicysolutions.net

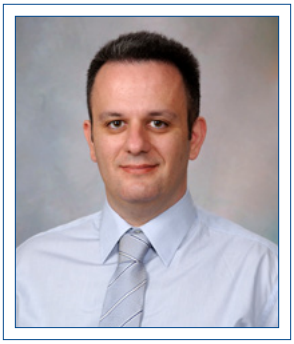
HEALTH POLICY AND ECONOMIC ISSUES REPORT, Cont.

The current RO Model policy is complicated and requires changes to coding, claims generation, claims processing, participant-specific modifiers and adjustments, withhold calculations, payment programming, and software updates for electronic health records (EHRs). Operationalizing the RO Model on both the Medicare contractor side and mandatory RO Participant side will be extremely challenging.

The AAPM has submitted numerous comment letters to CMS regarding the current policy and provided recommendations to improve the RO Model. The AAPM urges CMS to modify the current RO Model design to simplify and reduce administrative and financial burdens to mandatory RO Participants. ■

AAPM WEBSITE UPDATES

WEBSITE EDITOR'S REPORT



This issue of the Newsletter is being published just before the 2022 AAPM Annual Meeting & Exhibition. This is the first annual meeting that will be held in-person after two years of virtual meetings, and we are all excited about that. Furthermore, this excitement is even higher because it will be held July 10–14, 2022 in Washington, DC, the USA capital. Quite a few colleagues recall the great time we had during the 2016 AAPM Annual Meeting & Exhibition that was also held in Washington, DC, and we were looking forward to meeting there again.

AAPM has created a Twitter channel with the #AAPM2022 hashtag.

It is therefore recommended to use this hashtag when posting content related to the conference to social media sites. The goal of a discrete hashtag every year is to facilitate searching on tweets related to the Annual Meeting. The IS team will post information about interesting events, talks, and information for the Annual Meeting, so please follow this hashtag for useful updates. We are also interested in seeing your valuable and exciting posts related to the conference before, during, and after the Annual Meeting.

As you might have already experienced, our website is being renovated, striving to meet the high standards of new IT technologies and provide accurate, reliable, and fast information to all membership. To this end AAPM has licensed a Content Management System (CMS) where all available AAPM information is being transferred after being updated and linked to all other connected information. At the same time, the website is being re-organized and updated. At the end, we anticipate the new website to be elegant, neat, having accurate information, avoiding redundancy, and being at the edge of IT technology and design. During this process AAPM IS staff will communicate with all committees and sub-committees to update their information and material.

Furthermore, I am pleased to inform you that the AAPM's Public Education website debuted earlier this year, on March 21. This page is the result of the hard work of the Public Education (PE) Committee and the Public Education Web Site (WS) Subcommittee members. The website has a lot of information, nicely put together for the public, and is being continuously followed by the PE and the WS members for updates.

With regard to our Social Media presence, I am pleased to report that as of May 19th, 2022 we have 48,259 images posted to AAPM's Flickr, 13,403 likes on Facebook 8,295 followers on LinkedIn, 2,302 followers on Instagram, and

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University of Patras, Greece
Email: gkagad@gmail.com
Twitter: @gkagad

WEBSITE EDITOR'S REPORT, Cont.

10,800 followers on Twitter.

The AAPM IS team and I are pleased to serve you and advance the internet presence of our society. Please, do not hesitate to contact us should you need any further clarification about the policy and the guidelines for posting any material in the AAPM social media pages.

I hope you find the AAPM website useful, visit it often, and send me your feedback or contact me directly at george@aapm.org. ■

AAPM MEETINGS: CHANGES WILL KEEP COMING

ANNUAL MEETING SUBCOMMITTEE REPORT

R. Stern

I. Reiser

(written on behalf of the AMSC)

We live in a changing world. This also applies to AAPM meetings. Reflecting back a few years, we had three major yearly in-person meetings — Spring Clinical Meeting, Annual Meeting, and Summer School, plus occasional Specialty Meetings. The meeting programs changed with exciting new and up-to-date content, but the meeting formats were pretty much the same each year.

With the onset of the pandemic, this mode of operation changed drastically. For two years, all meetings were held virtually. And many of us learned to our surprise that a cloud-based meeting platform can be more costly than a convention center rental.

In-person meetings are making a welcome come-back. However, from a meeting organizer perspective, much is still different from pre-pandemic. We've come to appreciate the value that having a virtual component can add. No more missing out on a session because it occurs at the same time as another you want to hear. No more having to choose between hearing a session and spending time in the exhibit hall. No more missing out on the meeting entirely because you can't get away. But this added value isn't free. It requires a software platform that not only securely stores the session content with easy on-demand playback, but also allows eposter viewing, supports live-streaming, handles registration, and tracks attendance for those all-important CE credits.

In late summer 2021, then AAPM President **Jim Dobbins** convened an ad hoc group of meeting and financial stakeholders to discuss how best to set meeting registration fees. At first glance it might seem that virtual-only registration should be less than in-person. However, not only do virtual attendees need to help cover the additional cost of the virtual meeting platform, they also need to contribute to the costs of the in-person meeting itself. After all, the content on the virtual platform comes from the in-person meeting. In-person attendance has advantages such as visiting the Exhibit Hall and networking, but has added travel and accommodation costs. In the end, the decision was made that the fairest solution was to have virtual-only and in-person attendees share the registration load equally.

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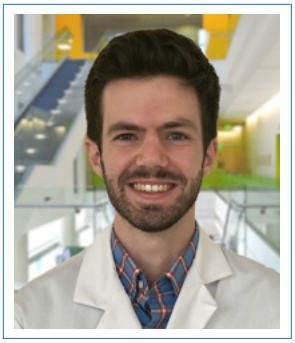
ANNUAL MEETING SUBCOMMITTEE REPORT, Cont.

The 2022 Annual Meeting will start a couple days after this article appears. We have every confidence that both in-person and virtual-only attendees will find it enjoyable and educational. The Ad Hoc Committee on the Future Format of Meetings continues to consider how to make our meetings more valuable and more accessible to all. However, there is never a dull moment: With the ABR announcement of Self-Assessment Modules (SAM) no longer required for participants of the Online Longitudinal Assessment (OLA), the wheels are turning again. In prior years, the vast majority of invited symposia at AAPM meetings offered SAM credit, which will no longer be required by the 99% of ABR-certified medical physicists enrolled in OLA. How will this impact meetings in 2023? Stay tuned! ■

SPECIAL INTEREST FEATURE: Students and Trainees Subcommittee

STUDENTS AND TRAINEES AT THE 2022 AAPM ANNUAL MEETING: A PREVIEW

Phillip Wall, PhD | UCS | phillipdhwall@gmail.com | @phillipdhwall



The 2022 Students and Trainees Subcommittee (STSC) consists of 20 student & trainee voting members, three voting faculty advisors, one voting liaison from Professional Council, and three non-voting members.

With so many volunteers, we have been working diligently over the past several months in planning and organizing a number of events for the AAPM Annual Meeting (and beyond) for students and trainees.

We are incredibly excited to be returning to in-person events and we cannot wait to reconnect with colleagues and make new ones through science and socializing at the meeting!

For the 2022 AAPM Annual Meeting in Washington, DC, we will host several events on Sunday, July 10 geared towards students and trainees that we encourage everyone to attend:

- **Annual Student Meeting**
  Ballroom C, Walter E. Washington Convention Center (Level 3)
  8:30–10:30 AM

  This year's Annual Student Meeting is titled "Global Medical Physics: Experiences, Lessons, and Getting Involved!"

  This session will discuss medical physics in the international community, with an emphasis on increasing accessibility through global medical physics volunteerism.

  STSC members **Stephanie Wang** and **Reed Kolany** have organized this session to help fellow students and trainees learn about the importance of global medical physics and how to get involved.

  We are delighted to have four outstanding speakers — **Wilfred Ngwa, Afua Yorke, Ashley Rubinstein,** and **Stephen Avery** — discuss their role in global medical physics and highlight how students can participate.

  We are looking forward to seeing you there for this exciting meeting and we thank the speakers for their time and valuable perspectives.

- **Residency Fair**
  Exhibit Hall, Walter E. Washington Convention Center (Level 2)
  1:00–2:00 PM (Part I) and
  3:00–4:00 PM (Part II)

  We are excited to resume hosting an in-person Residency Fair at the upcoming 2022 AAPM Annual Meeting!

  The AAPM Residency Fair aims to provide prospective residents and trainees an opportunity to learn more about individual residency programs and meet representatives from the participating institutions.

  This event is also an excellent opportunity for program directors and current residents to promote their programs directly to trainees and meet prospective applicants across North America and beyond that might be a good fit for their team in the future.

  To best accommodate for the increase in participating programs, this event will be held in the Exhibit Hall in two one-hour sessions with a one-hour break in between.

  Transitioning back to an in-person event at the 2022 AAPM Annual Meeting, the STSC Residency Fair Team (**Huiming Dong, Yushi Chang, Kai Huang, Eric Morris, Celeste Winters, Daniela Branco, Phillip Wall,** and **Claire Park**) is exploring formats to best optimize the quality and accessibility of this event to all participants. If you have any further questions about the event or want to provide feedback or insights to help shape future events, please contact Claire Park at cpark223@uwo.ca.

- **MedPhys Slam: Final Competition**
  Ballroom B, Walter E. Washington Convention Center (Level 3)
  4:00–6:00 PM

  STSC members **Mary Gronberg, Soleil Hernandez, Kelsey Bittinger,**

STUDENTS AND TRAINEES AT THE 2022 AAPM ANNUAL MEETING: A PREVIEW, Cont.

Emilie Carpentier, and **Claire Park** are working hard to plan the annual MedPhys Slam competition.

The MedPhys Slam is a research communication competition for student, resident, and junior members of the AAPM in which participants prepare a three-minute presentation aimed at sharing the significance of their science to the general public in a compelling and coherent manner.

A preliminary round of competition takes place at local AAPM Chapter meetings throughout the year, and winners of the Chapter competitions compete in the final competition organized by STSC at the 2022 AAPM Annual Meeting.

If you are a trainee who is interested in participating in the MedPhys Slam in the future, please contact your local AAPM Chapter for more information. Eligible individuals who are not affiliated with an AAPM chapter (e.g., COMP or other international applicants) or whose AAPM chapter is not holding a qualifying competition still have an opportunity to submit an application and qualification video. For more information on the MedPhys Slam, please visit our website at https://www.aapm. org/students/MedPhysSlam.asp. If you have further questions, please contact medphys.slam@gmail.com.

- **Annual Student Night Out**
  Penn Social (801 E St NW, Washington, DC 20004)
  7:00–9:00 PM

  STSC members **Holly Paschal** and **Victoria Bry** have been working to plan the annual Student Night Out event at Penn Social.

  We are excited to see you in-person this year! Registration for this event can be added through the general meeting registration.

  In the event we still have tickets remaining on the day of the event, tickets may be purchased at the door.

  Please check our social media for up-to-date information!

  If you have any further questions about the event or want to provide feedback for future events, please contact bry@livemail.uthscsa.edu or Parenica@uthscsa.edu.

There are several other events for students and trainees happening throughout the meeting! Join us for a welcome reception hosted by our friends at the American College of Radiology on the night of Saturday, July 9 to kick-off the meeting.

(Keep an eye on the meeting website for updates on the exact timing and location).

Also, join the Working Group on Student and Trainee Research on Sunday, July 9 in Ballroom C from 11:00 AM–12:30 PM for a student and trainee luncheon.

Finally, stop by the exhibit hall on Tuesday, July 12 from 9:30–10:30 AM for poster presentations from this year's winners of the Expanding Horizons Travel Grant Program.

The STSC is proud to represent students and trainees within AAPM and is excited to see you in DC!

I want to thank the members of STSC for their efforts and service in improving the trainee experience in our field; I am fortunate to work with such a collaborative and spirited group!

If you are currently a trainee wanting to learn about the STSC, feel free to attend our group meeting in DC, scheduled for July 9 from 1:30-3:00pm EST in Shaw - M3.

You can also email me directly (phillipdhwall@gmail.com) anytime with any questions or feedback!

Be sure to keep an eye out for updates and for a few of our other events coming up in the near future! (including a virtual residency fair!)

To stay up-to-date on these events and on all things STSC, follow our social media accounts. Find us on Facebook, Twitter or Instagram: @aapmstsc. We look for new members every year — typically in late fall or early winter — so stay on the lookout in the committee classifieds and our social media if you're interested! ■

SPECIAL INTEREST FEATURE: Students and Trainees Subcommittee

COMP/AAPM CAREER CATALYST NETWORKING SESSION

Claire Park, BMSc | Western University | cpark223@uwo.ca | @ClaireKSPark
Aly Khalifa, BEng | University of Toronto | aly.khalifa@mail.utoronto.ca | @alyskhalifa

C. Park

A. Khalifa

In collaboration with the Canadian Organization of Medical Physicists (COMP) Students Council (SC), the AAPM STSC hosted the first-ever COMP/AAPM Career Catalyst Networking Session on Friday, June 3, 2022.

The inaugural COMP Career Catalyst (C3) seminar series was a monthly professional development seminar series designed for motivated students and trainees to gain exposure on various topics in medical physics to accelerate their career in medical physics. These sessions aim to enhance knowledge and develop skills for improving career prospects, and help build a network with like-minded students, trainees, and experts in medical physics.

This special two-hour COMP/AAPM Networking Session featured an all-star lineup of invited expert speakers for students and trainees to meet and engage with in a highly interactive, moderated small-group networking format.

The event was extremely well-received by students and trainees with over 120 registrations for the event across Canada, the United States, and internationally.

Each small-group focused on one of the following themes with invited expert speakers: 1) Therapy Medical Physics with **Dr. Emily Hirata** (UCSF) and Brad Gill (BC Cancer), 2) Diagnostic Imaging Physics and Nuclear Medicine with **Dr. Jonathan Nye** (Emory) and **Dr. Azeez Omotayo** (Cancer Care Manitoba), 3) Academic Medical Physics with **Dr. Brian Winey** (Harvard) and **Dr. Rebecca Howell** (MD Anderson), 4) Application Advice with **Dr. Jonas Fontenot** (Mary Bird Perkins) and **Heather Warkentin** (Cross Cancer Edmonton), 5) Industry and Commercialization with Doris Grant (Nova Scotia Health Authority) and **Dr. Michelle Svatos** (Palette Life Sciences), and 6) Leadership, Professional Development, and Equity, Diversity, and Inclusion (EDI) with **Dr. Julianne Pollard-Larkin** (MD Anderson) and Dr. Rowan Thomson (Carleton).

Although this was our first virtual collaboration between COMP SC and AAPM STSC, it is certainly not our last. We hope this collaboration will further strengthen our connection with COMP to reach more students and trainees across North America and beyond.

We look forward to our continued collaboration in the upcoming year.

We would like to thank the members of the event organization committee: **Emilie Carpentier**, Celeste Winters, **Huiming Dong, Phillip Wall, Parisa Sadeghi, Samuel Ouellet**, and Yujing Zou. ■

Screenshots from the Networking Session on June 3. We had over 80 participants on the call and attendees were able to rotate through six breakout rooms to interact with different speakers and topics. We thank the speakers, moderators, and attendees for making this initiative a success!

SPECIAL INTEREST FEATURE: Students and Trainees Subcommittee

INAUGURAL ELEVATOR PITCH VIRTUAL WORKSHOP

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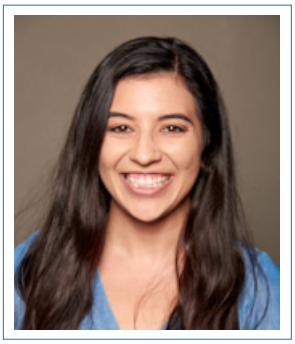
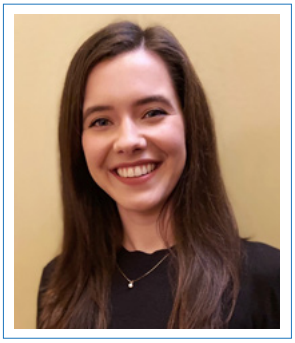
Mary Gronberg, MS | MD Anderson Cancer Center | gronberg.mary@gmail.com | @MaryGronberg
Emilie Carpentier | University of British Columbia | emilie.carpentier@bccancer.bc.ca



S. Hernandez

M. Gronberg



E. Carpentier

For the first time, STSC hosted a MedPhys Slam elevator pitch virtual workshop for students and trainees on June 10, 2022.

The idea for this workshop came about when reviewing feedback from surveys of local AAPM chapters and past Slam participants.

The surveys highlighted a need for more education as to the scope of an elevator pitch and why it is a useful skill for trainees. To this end, the STSC Slam committee elected to bring in an expert in scientific communication to help students understand the scope of an elevator pitch and why science communication to a lay audience is so important.

The workshop featured a lecture covering the principles and applications of elevator speeches followed by an interactive Q&A period.

To plan the event, the committee began by reaching out to Dr. Tamara Laskowski, PhD. She is a graduate of the UTHealth MD Anderson Graduate School of Biomedical Sciences and regularly hosts elevator pitch workshops for their students. She currently serves as a Senior Director and Head of Clinical Development for Personalized Medicine at Lonza.

In Dr. Laskowski's words: "An elevator speech is an invaluable tool that enables communication of science and medicine to scientific and non-scientific audiences in a way that sparks excitement and enthusiasm in the listener.

By learning the elements of an elevator speech, you will be able to effectively communicate the significance of your research in the short amount of time you may have to grab someone's attention.

Whether it is presenting a poster, speaking to the local community, or taking a quick elevator ride with a potential sponsor, knowing how to effectively and enthusiastically share your science makes all the difference!"

The SLAM committee sent out an email to AAPM students and trainees encouraging them to sign up for the first workshop. Within days of sending the email, over 30 students had signed up to participate. Over 60 students registered their attendance to the event indicating a strong interest from current trainees to gather a better understanding of elevator speeches.

STSC enjoyed hosting this workshop and we hope it helps clarify the scope of an elevator pitch and gives students more confidence to participate in their regional MedPhys Slam competitions in the future! ■

Screenshot from the Elevator Pitch Workshop on June 10 , led by Dr. Tamara Laskowski. We had a great group of participants and learned how to improve our scientific communication skills. We thank Dr. Laskowski and all the attendees for helping make this workshop productive and engaging!

2022 AAPM ANNUAL MEETING SESSION: "EXCELLING AS A MEDICAL PHYSICIST OUTSIDE THE CLINIC"

WGNC 2022 AAPM ANNUAL MEETING EVENTS

At the 2022 AAPM Annual Meeting, join us on **Monday July 11, 2022, 7:30 am–8:30 am** in Room 206, please join the Working Group for Non-Clinical Professionals (WGNC) for the SAM Professional Symposium "Excelling as a Medical Physicist Outside the Clinic." Hear perspectives and insights from three physicists on their journeys as medical physicists and key decisions they made to get to where they are today. Moderated by WGNC Chair, **Christine Gnaster**, MS, DABR, FAAPM, the speakers include: **Sasa Mutic**, PhD, DABR, FAAPM presenting on "Resources and Involvement for Non-Clinical Medical Physicists in the AAPM"; **Heather Whitney**, PhD on "Non-Clinical Professions: What are They and How Do I Get Started?" and **Young Lee-Bartlett**, PhD on "Real Stories: A Clinical Physicist Finds Industry." The remaining time following these presentations will be open for Question and Answers with the panel speakers.

What: SAM Professional Symposium "Excelling as a Medical Physicist Outside the Clinic"

When: Monday, July 11, 2022 from 7:30 am–8:30 am

Where: Walter E. Washington Convention Center, Room 206 ■

Brandon Nelson
Mayo Clinic
Email: nelson.brandon@mayo.edu

2022 AAPM Annual Meeting Networking: WGNC Night Out

At the 2022 AAPM Annual Meeting, come join AAPM's Working Group for Non-Clinical Physicists (WGNC) on **Monday, July 7, 2022, 7:30 pm at Dacha Beer Garden (address below)** for an evening happy hour and networking session with fellow physicists, AAPM members, student, and trainees. Discuss the events from the day's conference, share your insights, meet new people, and ask your questions in a more casual atmosphere. ALL are invited!

What: WGNC Happy Hour

When: Monday, July 7, 2022 beginning at 7:30 pm

Where: Dacha Beer Garden
1600 7th St. NW, Washington, DC 20001

Who: **Everyone is welcome!**

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Access the
AAPM Planned Giving website
tto learn how fortifying the future of medical physics can be part of your legacy!

https://aapm.myplannedgift.org/

focus on our future

For over 20 years, the AAPM Education & Research Fund has been a vital catalyst within medical physics in funding strategic programs such as seed grants for early-career researchers; matching support for clinical residency programs; and fellowships for PhD students. In addition, the Fund attracts undergraduates to the field and promotes diversity, and to-date has funded well over 100 grants, fellowships, and residencies.

Please join your fellow members in contributing to the Education & Research Fund. Together, we can ensure this valuable platform — and our field — remain vibrant and continue to prosper and grow.

DONATE NOW: www.aapm.org/education/edfundintro.asp

ARTHUR BOYER AWARD FOR INNOVATION IN MEDICAL PHYSICS EDUCATION

DEVELOPMENT COMMITTEE & COMMITTEE ON MEDICAL PHYSICISTS AS EDUCATORS REPORT

K. Hogstrom

V. Montemayor

The AAPM Development Committee (DEV) is pleased to report that it has raised funds to endow the Arthur Boyer Award for Innovation in Medical Physics Education and has named the award in honor of AAPM member Art Boyer, whose career has significantly impacted medical physics education. Yearly, at the Innovations in Medical Physics Education Session of AAPM Annual Meeting, an awardee is selected from six invited presentations of an innovative program in medical physics education of physicists, physicians, ancillary personnel, and the public. The awardee receives a $2,000 prize and plaque at the AAPM Annual Meeting Awards & Honors Ceremony.

Art Boyer has made numerous contributions to medical physics education, some of them highly innovative. In the 1980s, he created two significant short courses while at The University of Texas at San Antonio. The first, one-week short course translated software from research to the clinic. This included software for (1) designing missing tissue compensators from patient anatomy acquired using a Moire' camera and (2) electron beam treatment planning using a pencil beam dose algorithm developed at The University of Texas M. D. Anderson Cancer Center at Houston. Both technologies were of clinical importance at the time. A second, one-week short course educated medical physicists in anatomy and physiology. This was significant, because at that time, prior to widespread accredited medical physics graduate programs, many physicists entering our field were being educated in medical physics by on-the-job training and short courses limited to medical physics and dosimetry.

Another significant contribution was Art's establishing a web-based curriculum for medical dosimetrists. At the turn of the century, medical dosimetrists were moving toward certification and accredited B.S. programs in medical dosimetry, although only a few existed at that time. Many clinics were willing to provide clinical training, but few had the resources to offer the required didactic training. The web-based curriculum provided access to didactic instruction for new and existing medical dosimetry programs. This effort was supported by AAPM and American Society for Radiation Oncology (ASTRO) in collaboration with the American Association of Medical Dosimetrists (AAMD).

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Victor Montemayor, PhD
Past Chair, Committee on Medical Physicists as Educators
Germantown Academy
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Awardees to Date	
Adam Riegel, PhD	2021
No Award (pandemic)	2020
Andrea L. McNiven, PhD	2019
Wilfred F. Ngwa, PhD	2018
Debbie B. Gilley, MPA	2017
Marco C Carlone, PhD	2016
Joseph I. Perl	2015
Todd Pawlicki, PhD	2014
Chris G. Brown, MS	2013
Eric C. Schreiber, PhD	2012
Perry Sprawls, PhD	2011
Mary Ellen M. Smajo, PhD	2010
Perry Sprawls, PhD	2010
Jerry D. Allison, PhD	2009
Nathan E. Yanasak, PhD	2009

DEVELOPMENT COMMITTEE & COMMITTEE ON MEDICAL PHYSICISTS AS EDUCATORS REPORT, Cont.

The Innovation in Medical Physics Education Award, first awarded in 2009, is managed by the Committee on Medical Physicists as Educators (MPESC). In 2012, following the receipt of a $20,000 bequest from the estate of Harold Marcus, AAPM began using those funds to support the Award. The Marcus will stipulated that the bequest fund 10 or more annual (or less frequent) awards of $2,000 each in memory of Max Marcus and Harold Marcus to individuals for a significant contribution to Radiological Physics. These funds will be depleted in 2022. Due to success of the award, DEV and MPESC decided to endow its funding. The required $50,000 endowment was achieved through the combined, generous gift from Art and Suzanne Boyer, gifts from twenty-plus of Art's ex-colleagues and trainees, and partial matching AAPM funds. As a result, the first Arthur Boyer Award for Innovation in Medical Physics Education will be awarded at this year's Annual Meeting in Washington, DC. ■

REPORT FROM THE MEDICAL IMAGING AND DATA RESOURCE CENTER (MIDRC)

MIDRC SUBCOMMITTEE UPDATE

M. Giger

P. Kinahan

The Medical Imaging and Data Resource Center (MIDRC) — a multi-institutional initiative led by AAPM, ACR, and RSNA, hosted at the University of Chicago, and funded by the National Institute of Biomedical Imaging and Bioengineering (NIBIB) — is actively publishing COVID medical images to its open data portal on the Gen3 Data Commons ecosystem. MIDRC continues to make advances in fostering machine intelligence research in the development of algorithms for the detection, diagnosis, monitoring, and prognosis of COVID-19. MIDRC's linked Data Commons is also strengthening its interoperability and functionality with NCATS' National COVID Cohort Collaborative (N3C), NHLBI's PETAL Network on BioData Catalyst, and the Argonne National Laboratory (on federated learning methods), positioning MIDRC to eventually become a wider comprehensive resource for other chronic diseases and potential future infectious pandemics.

The MIDRC team has accomplished an incredible amount as it winds down Year Two of funding and prepares for Year Three, including the publication of over 32,000 publicly available imaging studies, with another 124,400 contributed imaging studies ingested into the data pipeline and undergoing de-identification, curation, annotation, and quality assurance.

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Paul Kinahan, PhD
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Earn MIPS Improvement Activity Credits By Contributing COVID images and data through two data intake portals: ACR's COVID-19 Imaging Research Registry (CIRR) and RSNA's International COVID-19 Open Radiology database (RICORD).

Medical imaging practices and radiologists now can claim Merit-based Incentive Payment (MIPS) "Improvement Activity" credits for contributing COVID-related data and images to MIDRC's two data intake portals: ACR's COVID-19 Imaging Research Registry (CIRR) and RSNA's the RSNA International COVID-19 Open Radiology Database (RICCORD).

Practices and clinicians can earn Centers for Medicare and Medicaid Services (CMS) points by completing MIPS requirements.

Figure 1: MIDRC data publication as of June 1, 2022

MIDRC SUBCOMMITTEE UPDATE, Cont.

Members of AAPM's MIDRC subcommittee continue to play a vital role. Recent accomplishments include:

- a multi-institutional phantom study performed to inform MIDRC quality control (led by **John Boone**),
- MIDRC's internal beta 'Challenge Zero' completed, using MIDRC data and accepting dockerized/black box data submissions, with preparations underway for MIDRC's first public scientific Grand Challenge to be announced this fall (led by **Sam Armato**),
- "lessons learned" and explainability articles published in JMI and Medical Physics by **Issam El Naqa** et al. and **Jordan Fuhrman**, et al., respectively,
- creation of the Sequestered MIDRC Data Commons for testing already-developed AI algorithms, with its sequestration method running across 6 core MIDRC data elements and allowing for future long-term sustainability through industry support as it potentially fast-tracks translation to and regulatory approval of clinical use (led by **Maryellen Giger** and **Kyle Myers**),
- an interactive metrics and resource recommendation tool via a decision tree-type model for MIDRC data users was built and published online (led by **Mike McNitt-Gray**), and
- a structured curation approach for diverse incoming study descriptions was devised and applied to the MIDRC data model using the hierarchy of the RadLex Playbook and the LOINC (Logical Observation Identifiers, Names, and Codes) standard, allowing MIDRC data users to more easily browse, search data, and build imaging cohorts (led by **Paul Kinahan**).

Please come visit us, speak with our investigators and learn more about MIDRC at AAPM's upcoming Annual Meeting — **MIDRC is Booth 1085** on the convention floor! Additionally, AAPM-MIDRC subcommittee members will give both oral and e-poster presentations during the Annual Meeting on subjects ranging from task-based sampling of the MIDRC Sequestered Data Commons for algorithm performance evaluation (by **Natalie Baughan**) to the work of the MIDRC Bias & Diversity Working Group, conducting assessments of various types of data bias and developing methods to mitigate algorithmic bias (by **Karen Drukker**), to assessing the diversity of MIDRC data over time (by **Heather Whitney**).

You can also stay current on advances by signing up to receive MIDRC's quarterly newsletter (here) or by subscribing to MIDRC's free YouTube channel (here) to access videos of all public MIDRC Town Halls and monthly Seminars, including June's most recent Seminar featuring AAPM member Grace Hyun Kim speaking on predictive values of quantitative CT lung (QCT) in rapid progression and associations with other COVID-related clinical and laboratory markers.

We urge you to enable this important work by facilitating a data contribution from your academic institution, private practice, or community hospital (in an effort to ease the administrative burden of contribution, MIDRC has created this Data Contribution 101 Guide). Please visit us at AAPM Annual Meeting (Booth #1085), reach out to any member of the AAPM MIDRC Subcommittee to discuss what may be possible, or contact us through a MIDRC data contribution inquiry. AAPM member support of this initiative remains vital and your data could make a difference!

Please direct inquiries to:

Maryellen Giger, PhD, FAAPM, Paul Kinahan, PhD, FAAPM, or AAPM MIDRC Program Manager, Emily Townley. ■

Visit us during AAPM Annual at MIDRC's Booth #1085

EXCHANGE OF RADIOTHERAPY SUMMARIES (XRTS) – IHE-RO PROFILE TO SHARE RADIOTHERAPY TREATMENT SUMMARY DATA WITH ELECTRONIC HEALTH RECORD SYSTEMS

INTEGRATING THE HEALTHCARE ENTERPRISE – RADIATION ONCOLOGY (IHE-RO) REPORT

Integrating the Healthcare Enterprise – Radiation Oncology (IHE-RO) is an effort, currently sponsored by AAPM, to improve the interoperability of systems involved in radiation oncology. Created in 2004, IHE-RO is composed of members of the radiation oncology clinical team, administrators, and industry representatives who work together to ensure a safe and efficient radiation oncology clinic. The overall aim of IHE-RO is to identify how existing industry standards, such as DICOM, HL7 and FHIR, should be effectively utilized to solve clinical issues with interoperability & interconnectivity amongst multiple vendor systems. IHE-RO does not directly create these data communication standards, but rather assists vendors in finding a common way of using them based on specific clinical use cases.

To assess and prioritize what technical challenges are most pressing to the radiation oncology community, biannual surveys of ASTRO, ESTRO and AAPM members have been conducted with the purpose of using this feedback to identify new interoperability issues. These identified issues and use cases form the basis for the IHE-RO Technical Committee to develop solutions by using existing data standards or by working with the standards organizations such as NEMA to improve or build new standards.

One of the top use cases identified on these surveys was the inability for clinicians to electronically share radiotherapy treatment summary information from radiation oncology information systems to electronic health record systems (EHRs) that are used by healthcare systems for care coordination amongst multiple clinical disciplines. There is high variation in documentation of radiation therapy-specific data and sharing between information systems is often done manually rather than automatically, leading to a potential breakdown of efficiency and accuracy. For the past two years, IHE-RO Technical Committee has been working to develop an FHIR (Fast Health Interoperability Resources)-based interoperability profile called Exchange of Radiotherapy Summary (XRTS) to seamlessly bridge this critical communication gap and make the minimal treatment summary information readily available to reuse and share across systems. For this effort, IHE-RO has partnered with CodeX, an HL7 FHIR Accelerator, and is contributing to the Radiation Therapy Treatment Data (RTTD) use case (Radiation Therapy Treatment Data for Cancer - CodeX - Confluence (hl7.org)). The RTTD project team consists of AAPM, ASTRO with its minimum data elements initiative, clinical subject matter expert physicists, physicians, and Radiation Oncology and EHR vendors to build FHIR-based data communication protocols. HL7 FHIR is a next generation standards framework created by HL7 which combines the best features of HL7's v2, v3 and CDA product lines while leveraging the latest web standards and applying a tight focus on implementability. HL7 FHIR is suitable for use

Rishabh Kapoor, MS
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Email: rishabh.kapoor@vcuhealth.org

How can you contribute?

IHE-RO Technical Committee – XRTS workgroup meetings, comprising IHE members interested in the XRTS profile, are generally held on a bi-weekly basis. These are mostly teleconference meetings held for 1 hour and the meeting calendar is updated yearly. Interested AAPM members can ask to become guests on this committee by contacting Jill Moton at AAPM Headquarters. However, only IHE members are considered voting members of the Technical Committee. The terminology and FHIR data model discussions are being held in the CodeX RTTD Work Group meetings on a bi-weekly basis. Interested AAPM members can ask to become guest members on this committee by contacting Anthony DiDonato.

INTEGRATING THE HEALTHCARE ENTERPRISE – RADIATION ONCOLOGY (IHE-RO) REPORT, Cont.

in a wide variety of EHR-based data sharing, server communication in large institutional healthcare providers, clinical context-based data sharing and much more.

As mentioned, CodeX is a member-driven HL7® FHIR® Accelerator, building communities to create interoperable data models and applications leading to step-change improvements in cancer patient care and research. CodeX projects center on use cases that address cancer care and research. CodeX members are achieving interoperability by implementing the FHIR standard mCODE (minimal Common Oncology Data Elements), which defines key cancer characteristics in an interoperable framework. The data model and FHIR message structures for this work are being developed in the CodeX RTTD Terminology Work Group meetings, and the architecture, FHIR transactions, testing and validation work is being performed in the IHE-RO XRTS subgroup meetings. The CodeX RTTD and IHE-RO XRTS workgroups have contributed to building the Radiotherapy Contents of mCODE Standard for Trial Use (STU2) FHIR based specifications and are defining the CodeX RT Implementation Guide (IG) that further extends the exchanged data elements for Radiotherapy Treatment Summary.

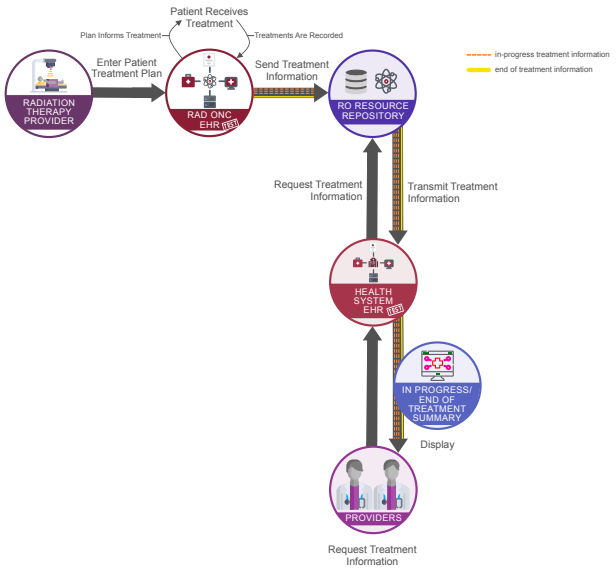
XRTS Validator Test Tool

The IHE-RO Technical Committee is responsible for the development of Test Tools software that assist the vendors in their software development process and enable them to test their software products against an IHE-RO profile. An XRTS Validator Test Tool has been developed by Demcon under contract from AAPM. The results of the XRTS Validator are part of the testing procedure for vendors prior to participation in a formal IHE-RO testing event (popularly known as Connectathon).

XRTS Testing Process

IHE-RO has hosted two informal testing events (IHE-RO XRTS Workshops) where vendor systems were given an opportunity to demonstrate adherence to the XRTS profile and perform system-to-system testing. This interoperability testing was performed based on clinically relevant test patient scenarios. All this testing was performed to gather the required discrete data elements in the radiation oncology information systems and electronically communicate the end of treatment summary information to the electronic health record system. These scenarios simulate real-world examples that include single/multiple treatment targets treated with single/multiple treatment phases & courses. The learnings from these workshops have been greatly beneficial for our vendors to make improvements in their implementations and helps the Technical Committee get a real-world implementation perspective, build effective test procedures, and find and address any technical gaps in the profile. Testing at these workshops helps to mature the communication protocols, transactions, etc. that are defined in the core of the technical profile. We would like to acknowledge the efforts from major vendors such as Varian, Elekta, RaySearch and Epic with shaping the development of the profile, test tools and participation at these workshops.

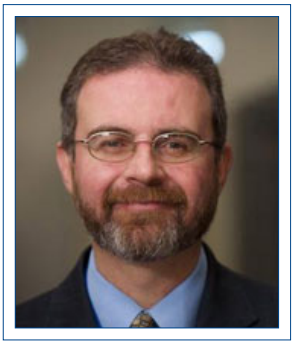
IHE-RO plans to host a formal Connectathon for the XRTS profile soon where vendor systems would have to transmit and receive information from at least three other vendors who support the information flow for the exchange of radiotherapy summaries. This formal vendor-to-vendor testing procedure will be monitored and judged by independent IHE-RO members, typically medical physicists. The vendors that successfully show adherence to the profile for their applications would effectively pass the test and are able to publish this successful adherence in their IHE Integration Statements. For such important initiatives to be successful, we need more vendor participation, and we would encourage AAPM members to request and use IHE-RO-compatible products and increase their awareness of IHE-RO activities in the radiation oncology community, use IHE-RO integration profiles in their request for proposals for their new products, and recommend their vendors to participate in IHE-RO. ■



Workflow for the XRTS profile and CodeX RTTD use case to exchange end of treatment and in-progress summary information between radiation oncology information systems and electronic health record systems.

SELECTION OF MEDICAL PHYSICS ORAL EXAMINERS AND THEIR TRAINING AND ENGAGEMENT

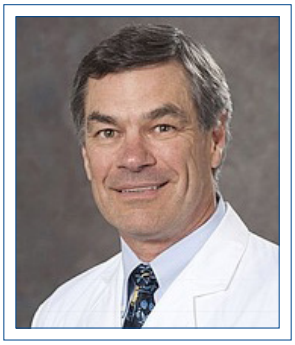
ABR UPDATE



M. Podgorsak, ABR Trustee

K. Kanal, ABR Trustee

R. Pooley, ABR Trustee



J. A. Seibert, ABR Governor

G. Ibbott, ABR Associate Executive Director

The ABR's mission is to certify that our diplomates demonstrate the requisite knowledge, skill, and understanding of their disciplines to the benefit of patients. This is accomplished, in part, through the administration of three written qualifying exams (Part 1 general, Part 1 clinical, Part 2 specialty) followed by an oral certifying exam, all of which must be passed for a candidate to qualify as a diplomate of the ABR. Content for these exams is developed throughout the year by exam-specific item writing committees comprised of medical physicist volunteers and ABR support staff.

Several months before an oral exam, potential examiners are selected by the ABR trustee for the specialty or the ABR associate executive director (AED). As is the case for all ABR volunteers, medical physicists who are selected to participate as oral examiners must hold an ABR certificate that meets the requirements of the Continuing Certification (MOC) program. Other prerequisites for a potential examiner typically include prior or current engagement with an ABR committee and at least five years elapsed since Board certification, although exceptions to these two requirements are occasionally made in response to an extraordinary need for examiners.

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ABR oral examiners are selected from senior, experienced diplomates and undergo extensive training. Each examiner is observed multiple times during exam administration by one or more trustees, the medical physicist governor, and the associate executive director.

An invitation to participate as an oral examiner is sent by the Exam Delivery team several weeks before an exam. The invitation includes the dates of the exam and, starting with the next round of invitations, required training and other examiner virtual meetings will be explicitly noted in the invitation. Our goal is to inform a potential examiner of the full scope of their expected engagement so they will understand the time commitment if they accept their invitation.

As of 2022, medical physics oral exams will be offered twice per year, once in the spring in April or May and a second time in the fall, usually in September or October. The number of examinees in an exam differs among the three medical physics disciplines (diagnostic, nuclear, and therapeutic). Consequently, the number of examiners and the number of consecutive days an examiner is engaged in giving exams will differ with discipline and whether the spring or fall exam is being considered. For example, the April 2022 exams required 27 examiners for the diagnostic exams over a period of two days, nine for the nuclear exams on a single day, and 50 for the therapy exams over a period of four days.

Additional examiner engagement prior to the actual exams includes role-specific training and group meetings. All examiners participate in a general orientation, usually two to three weeks before the start of the exam. New examiners and panel chairs receive additional in-depth training covering specifics associated with their roles. Examiners selected to interact with candidates who will receive special accommodations (e.g., candidates with disabilities recognized by the ADA) are trained to manage these exams. Special training is also provided for examiners who are selected to administer conditioned exams. Finally, all examiners who have been assigned to ask the same question sets meet prior to the start of an exam to discuss and agree upon expectations for examinee responses.

Once an exam begins, each examiner's performance is assessed at least twice through real-time observation of their administrations. Observers can be a trustee, the AED, or the ABR governor who is also a medical physicist. During these observations, an examiner's adherence to ABR guidelines regarding professional attire, virtual office setting, time management, and appropriate interactions with an examinee are assessed. If necessary, feedback can be given to an examiner shortly after an observation.

Prior to administering their first exam, new examiners are scheduled to observe two senior examiners, and they are provided an opportunity to seek clarification on any part of the process. Subsequently, during their first exam administration, all new examiners are themselves observed and provided with appropriate feedback.

A post-exam survey is sent to examiners to provide feedback about their experiences with training and with the entire exam process. Examiners are also encouraged to provide comments about the questions they were assigned to ask. This valuable feedback is reviewed and actionable suggestions are implemented.

We are grateful to all examiners for their willingness to share their time and expertise so that we can continue to fulfill our mission. ■

ACR ACCREDITATION & MORE: INFO FOR MEDICAL PHYSICISTS

UPDATES FROM ACR HQ

Helical CTDI Study Continues! Participate!

The study group submitted an abstract to RSNA, and we will continue collecting data through the summer and perhaps into fall for a manuscript. The current Excel template for recording measurements is here, and you can upload your data through the study landing page. Background and additional details are as follows:

Leon et al published in 2020 a paper demonstrating the feasibility of using a helical acquisition technique for estimating CTDI during medical physics annual surveys. Their results indicate that the helical measurement method can work, and we are now investigating whether the helical method can reliably work for everyone. Anecdotally, colleagues who have tested this helical method all report that it is much quicker than the standard axial measurements that require translation of helical clinical protocols to axial techniques for CTDI measurements.

Please consider adding a handful of extra measurements to their CT testing routine and contribute data to the study—anecdotal reports are that the helical method takes about 15 minutes. The more data we can collect for analysis, the more we will all learn from the results! You can download the Excel template with instructions here, and you can drag & drop your completed Excel templates at the study landing page. You can also find a shortened link to the study landing page in my Twitter profile.

When you submit data, you'll need to attest that your dosimetry equipment has been calibrated within 24 months of your measurements, and that you are not submitting PHI, facility information, or CT device identifiers.

New CT Resources Available

The Alliance for Quality CT (AQCT) — convened by AAPM with representation from the ACR, equipment manufacturers and the FDA — recently published updated tools. On the AQCT webpage, visit the "CT AEC Education" tab to view updated Automatic Exposure Control and dose education slides from manufacturers, the "Lexicon" tab for manufacturer-specific features translated to standardized terms, and the "Role of the QMP" tab to download consensus guidance on medical physics issues related to CT system installation. Access the resources»

Do You Know How ACR's Practice Parameters and Technical Standards Are Created?

The Practice Parameters and Technical Standards are developed through consensus by experts from various practice settings and radiological subspecialties. These documents are not intended to establish, imply, or reflect "best practice" guidance, but are important tools for understanding the

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In each issue of this newsletter, I will present information of particular importance or relevance for medical physicists. You may also check out the ACR's accreditation web site portal for more accreditation information and QC forms. A big THANK YOU to all the other staff that keep ACR programs running and assist with creating the content in this column.

The ACR Nuclear Medicine and PET Accreditation Program has updated its nuclear medicine phantom testing instructions. Changes include but are not limited to images for positioning the ACR phantom for tomography and overall clarification on what is required for accreditation submission to assist sites in successfully submitting phantom images. See the changes»

basic elements in providing quality radiological care. The documents follow a well-organized development process which requires members' and collaborating society representatives' active participation at each stage of drafting, reviewing, and approving. A complete discussion of the program can be found in the Practice Parameters and Technical Standards Development Handbook.

Document Drafting

A writing committee is constituted prior to drafting or revising documents for a given year. The documents go through an iterative review process until the committee reaches consensus. Literature searches are conducted to provide supporting evidence for recommendations of the documents. The documents that are collaborative with multiple medical specialty societies result in stronger recommendations that reduce potential bias and harmonize clinical recommendations. AAPM has long been an important collaborating partner on many of these documents.

Document Review

After completion of the initial draft or revision of a Practice Parameter or Technical Standard document, the document undergoes "field review"; the process where the draft document is available for any ACR member and collaborating society to provide comments. All Practice Parameters and Technical Standards must complete field review before being considered for adoption by the ACR. This is the opportunity for stakeholders external to the document drafting/revision process to comment. The comments are collated by staff, and then reviewed by the Chair of the Comment Reconciliation Committee, to determine which editorial comments can be accepted, or if substantive, should be considered by the Comment Reconciliation Committee for inclusion in the final draft to be presented for adoption. When a document completes the comment reconciliation process, it is considered final and ready for approval.

Document Approval

The final documents are sent to the relevant collaborating societies for acknowledgement if they are going through the Council approval process. The final version of the documents that Council has adopted or adopted as amended will be sent to the collaborating societies for each society's final approval.

Documents that are not considered part of the Medical Physics approval process or the Radiation Oncology approval process are presented to the ACR Council for approval. Medical Physics and Radiation Oncology approval processes are described below.

Council Approval Process

Each document that has completed field review will be presented to the ACR Council on a consent calendar as a resolution in accordance with the Standard Code of Parliamentary Procedure (formerly the Sturgis Standard Code of Parliamentary Procedure by Alice Sturgis). The Practice Parameters and Technical Standards will be adopted, adopted as amended, not adopted, or referred to the Board of Chancellors for action. There may be a specific BOC action with time restriction requested by the Council.

Medical Physics Approval Process

For Medical Physics documents that are collaborative with AAPM only, the final documents are reviewed and approved by AAPM, the Commission on Medical Physics, and the ACR Council Steering Committee and Board of Chancellors (Resolution 54 2015). For details see the section "Expedited Approval of ACR-AAPM Collaborative Medical Physics Practice Parameters and Technical Standards" in the Practice Parameters and Technical Standards Development Handbook.

Radiation Oncology Approval Process

For Radiation Oncology documents that are collaborative with only radiation oncology societies (e.g., ASTRO, ABS, ARS, etc.), the ACR Commission on Radiation Oncology and the ACR Commission on Medical Physics review and approve the final documents after the collaborating societies have reviewed and approved them. Based on the recommendation of the ACR Commissions, the ACR Council Steering Committee and the ACR Board of Chancellors review and approve the final document (Resolution 8, 2010).

Overall Process Timeline

The overall process to develop or revise a Practice Parameter or Technical Standard document takes approximately 18 months. View timeline. ■

THE ROLE OF QUALITY ASSURANCE ACTIVITIES

ASTRO QUALITY IMPROVEMENT

Sarah Han-Oh, PhD
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Email: yhanoh1@jhmi.ed

The accreditation program, APEx, promotes QA as defined by NCQA.

The APEx process provides detailed **assessment and evaluation of quality**.

Practices **identify problems or issues** and address them early in the accreditation process.

APEx standards ensure practices have **quality improvement activities** in place.

APEx encourages practices to continue to **monitor and follow-up** with any items where there could be improvement.

The field of radiation oncology is technologically complex and rapidly evolving, and the safe delivery of radiation therapy requires the coordinated efforts of the entire radiation oncology team alongside proactive assessments of current processes and outcomes. Safety considerations are woven into all aspects of radiation therapy and medical physics sits at the center of it all. Quality and safety are often interrelated in radiation oncology, but nowhere is this more apparent than within quality assurance (QA) activities in equipment and clinical workflows. The National Committee on Quality Assurance (NCQA) defines quality assurance in health care as "*assessing or evaluating quality; identifying problems or issues with care delivery and designing quality improvement activities to overcome them; and follow-up monitoring to make sure the activities did what they were supposed to.*" As physicists, much of our work falls into the NCQA's definition of QA, so let's take time to dissect each part of the definition.

Assessing or evaluating quality: Within radiation oncology, most of our time is spent interacting with equipment. Therefore, ensuring the proper function of hardware and software is critical to the overall quality and safety of patient treatment. Many publications exist detailing different aspects of QA activities for a variety of equipment.[1-6] For example, the AAPM Task Group (TG) 142 report[7] details the specific actions, tests and frequency for linear accelerators and TG 198[8] provides specific guidance on the implementation of the TG 142 report. The differentiated assessments guide physicists to evaluate different functionalities separately and perform tasks in a standardized manner. However, when performing facility visits, surveyors for ASTRO's APEx – Accreditation Program for Excellence® observe radiation oncology practices that deviate from these suggested QA practices, for example repeating monthly QA activities instead of performing a more comprehensive annual QA. This has the potential of missing a key deficiency in equipment performance, which can lead to inaccurate treatment. Performing QA using the appropriate frequency and procedures presents an opportunity to prevent suboptimal treatment or a safety event from occurring.

The recent update to ASTRO's QA White Paper on SRS and SBRT[9] is another example of a resource that can assist practices in assessing and evaluating their clinical processes. While some of the paper discusses the establishment of a new line of service, the recommendations can be used to assist existing programs. The summary table of key recommendations is a quick way to compare current practice to a consensus-based guidance.

As we know, the complex connectivity of various equipment, possibly from different vendors, must also be evaluated. Opportunities to identify

irregularities and deviations from expected data can be found in QA activities related to information management and system integration as well as planning and treatment processes. 2022 APEx data shows that only 56% of practices are performing and documenting a verification of an accurate DICOM transfer from simulation to the TPS. This is important to ensure that the correct image set is being used for treatment planning and is an area where we can improve.

Identifying problems or issues with care delivery: Incident learning is a key mechanism by which we can track errors and concerns to improve patient care. RO-ILS: Radiation Oncology Incident Learning System® is a free program that collects safety events from practices across the United States in a protected and confidential environment, and disseminates lessons learned to users and the community. Among various types of safety events reported in RO-ILS, the ones called "good catches" are effective to encourage medical staff to recognize and report a potential risk in patient care. A "good catch" is recognition of an event or circumstance that had the potential to cause damage, injury or illness but did not occur thanks to corrective action and/or timely intervention. RO-ILS Case Study 09[10] highlighted a good catch regarding an incorrect expansion of a target volume. A treatment plan was created and approved with smaller than intended expansion from GTV to CTV. Fortunately, the error was caught during the physics initial plan/chart check. QA processes, such as this one, enable medical physics staff to evaluate treatment plan data and identify an error before it reaches the patient. This is just one example that demonstrates the fundamental benefits of physics QA activities, and also the importance of reporting and tracking safety event data in a standardized manner for systematic incident learning. For this reason, APEx has an entire standard on culture of safety (Standard 7). Practices must prioritize safety and create a suitable work environment where issues can be raised and learned from. More than 35% of facilities in the U.S. are enrolled in RO-ILS. As a field, we'd be better positioned to address safety issues if that number were even higher.

Designing quality improvement activities: QA activities must start internally within each practice, but it cannot stop there. Practices must leverage both internal and external opportunities to continue to improve their clinical work.

Within the practice, peer review takes on many forms. Based on APEx data, 26% of radiation oncology practices don't have intradisciplinary peer review processes in place for physicists, dosimetrists or therapists.[11] Intradisciplinary peer review is performed between members of the same discipline (e.g., physicist to physicist), and its deficiency is a significant failing for integral radiation oncology team members and a loss of opportunity to assess current practices. Peer review provides an opportunity for staff at all levels with varying experience to learn from one another and has the potential to catch errors, as highlighted in a RO-ILS themed report.[12]

External review validates the internal QA work of the practice. For example, the independent assessment of equipment performance by an outside entity is a key part of physics safety checks and can go beyond measuring machine output accuracy. Comparing dosimetry data with established benchmarks, verifying treatment planning algorithms, and validating treatment technique specific dose delivery can assist with the identification and resolution of non-conformances. These specialized audits are available from service providers such as IROC Houston or can be performed by an outside physicist using their own equipment. APEx Evidence Indicator 12.5 requires external validation of machine output prior to clinical use of new external beam equipment and then annually for photons and protons and biennially for electrons. If we close ourselves off to external feedback and reassurance in our work and processes, we are not ensuring our best for patients.

Programs like APEx and RO-ILS are used by hundreds of radiation oncology practices in the U.S. and act as another form of external review. Practices that participate in these programs continually track quality and safety information, learn from their own performance or that of others to improve processes as needed.

Follow-up monitoring: Both RO-ILS and APEx create yet another opportunity to implement monitoring and corrective actions on a regular basis, keeping quality and safety at a high level. Within the RO-ILS portal, users can watch for reoccurring or new errors after the facility has made a response to an event or trend. Simply identifying and implementing a mitigation strategy to address an error pathway is not enough. There could be unforeseen

consequences or, over time, a reduction in adhering to new improved processes. Ongoing monitoring and evaluating the success of new processes are critical to all safety and quality work.

At every step in the process, APEx promotes QA, as defined by NCQA. The APEx process provides a transparent, measurable, evidence- and consensus-based review of compliance with standards that emphasize a radiation oncology practice's commitment to safety and quality. Practices can be assured that engagement in the APEx process will provide a detailed assessment and evaluation of quality. Practices start with an internal self-assessment, allowing facility staff the opportunity to measure their current practice against APEx Standards prior to the facility visit. This allows the practice to identify problems or issues and address them early in the accreditation process. Once this is completed and the practice has met the compliance requirements, they then proceed to the facility visit. Through an objective and transparent peer review (facility visit), radiation oncology professionals (APEx Surveyors) evaluate the quality and safety based on evidenced compliance with the APEx Standards. A separate group of APEx Surveyors review the blinded findings from the site visit and determine accreditation status. A focus of APEx Standards is to ensure practices have quality improvement activities in place. In the multi-layered assessment, allowing for internal and external evaluation, APEx helps practices uncover potential blind spots in processes. In between accreditation cycles, APEx encourages practices to continue to monitor and follow-up with any items where there could be improvement. ■

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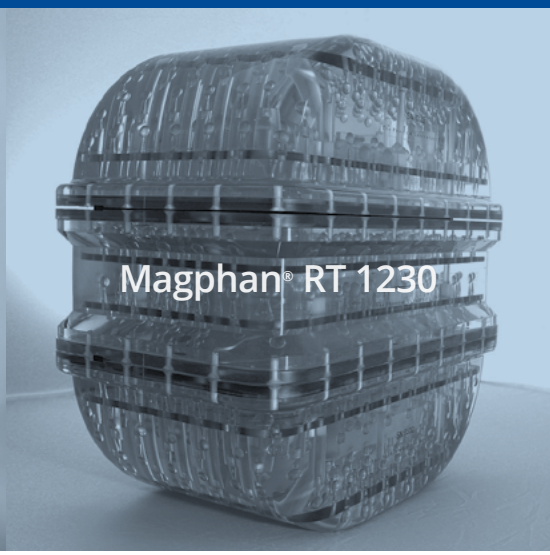

The modular design enables the Magphan® RT phantom to be handled by a single person without special equipment. All configuration options measure geometric distortion and uniformity along with tests for laser alignment, slice thickness, resolution, and Signal-to-Noise Ratio. The central section contains 24 contrast spheres that cover a range of T1, T2, and ADC values, and an optional insert for ion chamber dosimetry measurements.

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MANY FACES OF MEDICAL PHYSICS EDUCATIONAL OUTREACH

EDUCATION COUNCIL REPORT

J. Fagerstrom

S. Jupitz

How did you find your way into medical physics? How did you find your way into STEM (Science, Technology, Engineering, and Math)? Odds are, at some point, you talked to someone who sparked your interest, who encouraged you as you sought to learn more. I (Sydney Jupitz) remember the day I decided to take high school physics and further pursue physics in college. I was watching a scientific TV show segment about space. The details are fuzzy, but I do remember that they interviewed physicists to share their expertise on the subject. That's it, that's the moment. I don't remember the TV show, or the TV channel, or the specific subject, or the scientist; but I was intrigued. That form of informal science education and communication got me hooked!

Years later, I am now a graduate student at the University of Wisconsin-Madison working on my PhD in Medical Physics and chairing the graduate student-led Medical Physics Outreach Committee at UW Madison. This committee organizes and participates in events on and off-campus, bringing portable activities to youth community members in community spaces (e.g., community centers and public schools) and also invites students into the department for interactive demonstrations that cannot be taken offsite.[1] For me, it is incredibly rewarding to share medical physics with the community, especially with young students. Even if they don't "learn" anything, I love seeing their faces light up with excitement and fielding their unique, inquisitive questions. My hope is that they are walking away from the activity with an appreciation of science and confidence in their scientific aptitude. Beyond young students, the importance of building relationships with our fellow community members and strengthening our trust and respect for each other cannot be overstated.

A number of AAPM members have been engaged in educational, community-based outreach for many years, including at STEM fairs, after-school programs, virtual programming, science museums, internships, and through on-site lab and clinic visits. On a video posted to the YouTube channel "Cancer Zappers by Aba", AAPM member **Dr. Aba Mensah-Brown Lippuner**, Clinical Assistant Professor at the University of Kansas Medical Center, explains some principles of tumor motion management in radiation therapy. The video uses approachable language and lasts about five minutes. It's one of several posted to her vlog, all aimed at explaining aspects of medical physics and

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AAPM Public Education Committee website launch March 21, 2022

- www.medicalradiationinfo.org
- Information focused on general public audience
- History and timeline
- Career guidance for students
- "Ask the Experts" section

radiation therapy in an easy-to-understand way.

The Quantitative Image Analysis in Medicine Lab at Ryerson University in Toronto has developed an online platform where students can engage in virtual modules to learn about medical imaging. **Meghan Koo**, a graduate student member of the lab, explained that the original activity was developed prior to the COVID-19 pandemic as a computer literacy outreach activity for high school students, but has since been adapted to an online platform for a range of student grade levels, all focused on inclusive outreach.

The AAPM's annual meeting offers the popular "Med Phys Wiz Kidz" program, led by **Dr. Julianne Pollard-Larkin**, Associate Professor at MD Anderson Cancer Center, also for a range of student grade levels.[2] Past events have included tours of the AAPM meeting exhibit hall, presentations about medical imaging and therapy, poster construction, and tower building. This year, Wiz Kids was a virtual event and moved to the spring. Students had the opportunity to get to know a unique medical physicist (and newly named NASA astronaut!) **Dr. Christopher Williams**. Dr. Pollard-Larkin is a board-certified clinical therapy physicist at the University of Texas MD Anderson Cancer Center, and has been engaged in various dynamic outreach efforts for years.

I (Jess Fagerstrom) recently had the opportunity to work with incredibly talented staff at the Burke Museum, a natural history and culture museum in Seattle, Washington. I used to do in-person work with their Girls in Science Program, but they put that program on hold during the pandemic. To reach students away from the museum, I worked with staff to design a grant-funded virtual event to interest middle school girls in STEM careers complete with online games, live streams, and activity bags. The event showcased medical physics as one of four career paths presented by local women in STEM. Students could follow along at home on an activity developed by the American Nuclear Society to help students visualize the process of radioactive decay using M&Ms®.[3]

These are just a few of the many outreach efforts conducted by AAPM members. Some of the activities designed for K–12 audiences include informal learning environments that have previously been presented in meetings and journals.[4,5,6] These activities provide resources for physicists to use and adapt in their own communities. Steffel[7] and van Zyl et al[8] recently noted the importance of science communication and outreach for medical physicists. These efforts can be supportive of AAPM's strategic goals in cultivating excellence in medical physics education; improving communication with the general public; and championing equity, diversity, and inclusion (EDI) in the field of medical physics. For physicists interested in working with established AAPM groups committed to educational outreach, several AAPM subcommittees developing outreach materials include the Undergraduate Summer Fellowship and Outreach Subcommittee, the Regional Organization Outreach Subcommittee, and the Global Clinical Education and Training Committee. The Women's Professional Subcommittee manages a

Dr. Blake Smith and students observing a cloud chamber's response to a Cesium-131 check source at University of Wisconsin-Madison during an on-site visit.

Dr. Pollard-Larkin leading students in a Monte Carlo "plinko" game during a Science Night event through the MD Anderson Cancer Center UT Health Graduate School of Biomedical Sciences in Houston, TX.

dynamic list of outreach opportunities (follow them on Twitter for updates: @AAPM_WPSC). The Committee on Medical Physicists as Educators and the Public Education Committee both maintain and develop outreach resources, including the new AAPM Public Education website. In addition, AAPM supports an official affiliation with the American Institute of Physics' sister society American Association of Physics Teachers (AAPT), which offers an abundance of resources for physics educators including curricula and lesson plans published in the peer reviewed journals, *The Physics Teacher* and *American Journal of Physics*.

Science communication and outreach can be incredibly fulfilling activities. If you or members of your group are interested in jumping into outreach activities, we encourage you to leverage previous work and available resources, and to share your work with the medical physics community. ■

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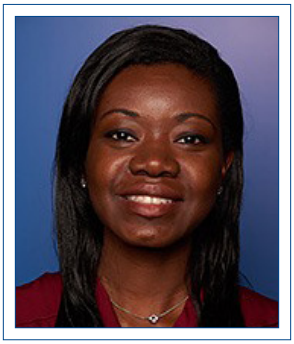
AMERICAN ASSOCIATION *of* PHYSICISTS IN MEDICINE

membership@aapm.org

CHAPTER MEETING INCLUDES NIGHT OF PUBLIC ENGAGEMENT

MISSOURI RIVER VALLEY AAPM CHAPTER REPORT



On May 13, 2022, the Missouri River Valley (MRV) Chapter of the AAPM hosted a virtual Night of Public Engagement with the goal of spreading the word about Medical Physics. This was their first time holding such an outreach program. Members of the chapter were encouraged to attend with their families. The program targeted middle-schoolers through college students and beyond. **Dr. Jessica Fagerstrom** was invited to hold a demonstration on exponential decay using an everyday treat — M&Ms. Following this, members of the chapter answered general questions about Medical Physics. A trivia filled with science and random fun came next. After dismissing the early learners, the following hour involved the Med Phys Slam and the Early Career's Symposium. The MRV AAPM chapter hopes to increase attendance in the future by focusing on individual classrooms instead of putting out a broad invitation.

The following day, the MRV AAPM held a conference on Adaptive Radiotherapy. This brought together experts from far and wide to cover offline, online, and real time applications, QA, and adaptive proton therapy considerations. The chapter even got to hear talks in Flash Therapy and Biology Guided Radiation Therapy. Lastly, the conference ended with an interactive debate on whether we are ready to go fully online in Adaptive Radiotherapy. During the debate, the audience split into two groups to argue for and against the proposition, following a format similar to the popular *Medical Physics* Point/Counterpoint articles. The debate was a great way to excite and stir up the audience after a long virtual meeting! We hope to continue to include some of these fun and interactive components in our meetings even when we resume in-person meetings. ■

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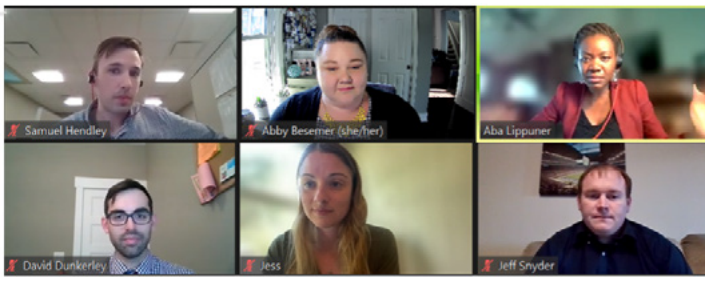


AMERICAN ASSOCIATION of PHYSICISTS IN MEDICINE

AAPM'S WORKING GROUP ON GRAND CHALLENGES ANNOUNCES ITS 2022 CALL FOR GRAND CHALLENGE PROPOSALS

The AAPM Working Group on Grand Challenges (WGGC), charged with promoting the conduct of Grand Challenges designed to assess or improve the use of medical imaging in diagnostic and/or therapeutic applications, is now accepting proposals from groups that wish to host a Challenge in advance of the 2023 Annual Meeting (more information on current and past AAPM-sponsored Grand Challenges can be found **here**). The WGGC will identify up to two proposals that merit sponsorship and assist the organizing groups to move forward with the Challenges. The timeline for a proposed Challenge should allow for the conduct and conclusion of the Challenge in time for presentation at the 2023 Annual Meeting (Summer 2023).

Please e-mail proposals to **Emily Townley** by 5:00 PM EDT on Friday, July 29, 2022. Proposals should contain the following elements:

Page 1:

- Title of Challenge (including proposed nickname) name, institution, and contact information of each member of the organizing group
- Proposed timeline (e.g., public announcement date, dataset release date(s), results submission date)

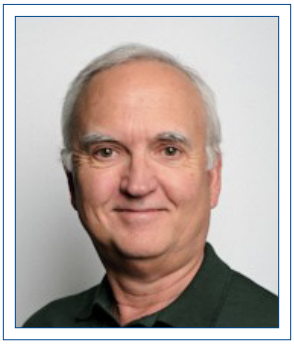
Pages 2-3:

- Statement of the unmet need that will be served by the Challenge assistance (logistical and/or financial) sought from WGGC background on the issue that the Challenge is meant to address (including literature review)
- Source and numbers of cases for training/testing
- Proposed challenge hosting platform and proposed data hosting platform, Challenge methodology and logistics, including parameters to be held fixed or to be "matched" across cases, reference standard, performance assessment metric(s), publication plan, plan for data persistence, and optional "prize" for winning group(s) (note that some of these Challenge aspects might not be known to the organizers at the time of proposal submission, and other aspects might require input from the WGGC; please indicate which issues are unknown or require further consideration)

Download Proposal Application Template »

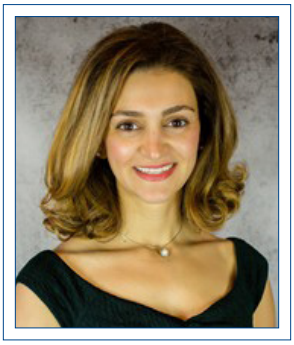
AAPM SOUTHERN CALIFORNIA CHAPTER LATE WINTER WORKSHOP 2022

SOUTHERN CALIFORNIA AAPM CHAPTER REPORT



S. Goetsch

M. Plunkett



M. Bostani

X. Liu

The AAPM Southern California Chapter held its annual "Late Winter" workshop on March 18, 2022, at the legendary Sheraton Universal Hotel in Los Angeles. The meeting was postponed from January due to the Omicron coronavirus surge. Fortunately, nearly all pandemic precautions had become voluntary by mid-March, and more than 100 people registrants attended. The meeting, as always, included medical physicists, dosimetrists, radiation therapists, residents, and students. Nineteen commercial sponsors, who sent 36 representatives, generously supported the meeting through grants and booth fees. Ten exhibitors gave sponsored product presentations.

This meeting featured invited speakers **Nels Knutson** from Washington University Medical Center talking about his work with Cardiac Radioablation and Emilie Roncali from University California Davis discussing radiopharmaceutical dosimetry. The other seven speakers were all Chapter members, who discussed cutting-edge work on a host of topics. **An Liu** from City of Hope described Biologically Guided Radiation Therapy. **Minsong Cao** from UCLA and **Zhaoyang Fan** from USC described their center's pioneering work in MRI-Guided Radiotherapy. Sherry Liu from Kaiser Permanente presented the results of two surveys of all physicists in California regarding post-pandemic changes and job satisfaction. Sean Zhang from City of Hope described the process of APEx accreditation, while Sabee Molloi gave an update on state-of-the-art CT Scanning Technologies. Finally, **Ke Sheng** from UCLA gave a talk on these development efforts for a FLASH Photon Therapy using a high-powered linear accelerator.

The chapter was pleased to welcome 18 medical physics residents and students from as far away as San Diego and Phoenix as our guests, as well as five staff members of the California Department of Public Health. This Midwinter Workshop, the chapter's flagship meeting, has been held in Los Angeles for at least the last 50 years. ■

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Joyce Novicky (Choyce Events), Marianne Plunkett, Steve Goetsch, Xiaoyu (Sherry) Liu, Zhilei (Julie) Shen

Member asking questions during Late Winter workshop

See www.aapm-scc.org for more details.

M. MAHESH, MS, PHD, FAAPM, FACR, FACMP, FSCCT, FIOMP ELECTED TO ICRP COMMITTEE 3

PEOPLE IN THE NEWS

Dr **M. Mahesh**, Professor of Radiology and Cardiology at the Johns Hopkins University School of Medicine was elected to the **International Commission on Radiological Protection (ICRP)** Committee 3 (Radiological Protection in Medicine). He served as Treasurer (2016–2021) and as Newsletter Editor (2007–2015) for AAPM.

Dr. Mahesh was elected as Chair of **International Organization of Medical Physics (IOMP)** Science Council. His term will begin after June 2022 at the end of the World Congress of Medical Physics and Biomedical Engineering.

He was also invited to serve as member of **Technical Electronic Product Radiation Safety Standards Committee (TEPRSSC)** of the United States Food and Drug Administration (US-FDA) within the Center for Devices and Radiological Health (CDRH). ■

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M. Mahesh

PROFESSOR XIE GEORGE XU AWARDED THE IUPESM AWARD OF MERIT, 2022

PEOPLE IN THE NEWS

X. Xu

The IUPESM (International Union for Physical and Engineering Sciences in Medicine) World Congress on Medical Physics and Biomedical Engineering is held once every three years and met this year on June 12-17 in Singapore. At the meeting, the International Organization for Medical Physics (IOMP) honors one medical physicist and one biomedical engineer with its Awards of Merit. In 2022, the Medical Physics Award of Merit recipient is Xie George Xu, PhD, FAAPM, Professor of Nuclear Science and Radiation Oncology and director of the Institute of Nuclear Medical Physics, the University of Science and Technology of China (Hefei, China). Prof. Xu has made significant contributions to the field of radiation dosimetry, most notably for his work involving Monte Carlo simulations on computational phantoms, which has wide-ranging applications in quantifying radiation dose to organs. He was named a Fellow of the AAPM in 2009 and was honored with the Edith H. Quimby Lifetime Achievement Award in 2020. AAPM is pleased to congratulate Prof. Xu on this prestigious and well-deserved award! A biography of Prof. Xu is available in the AAPM History section of the website along with a video interview conducted on April 1, 2021. ■

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