AMERICAN ASSOCIATION of PHYSICISTS IN MEDICINE

IMPROVING HEALTH
THROUGH MEDICAL PHYSICS

AAPM NEWSLETTER

May/June 2020 | Volume 45, No. 3

IN THIS ISSUE:

COVID-19 UPDATE

Notice as of Monday, May 6, 2020.

- AAPM BBS Threads for COVID-19 materials have been created
- COVID-19 Information for Medical Physicists
- 2020 Summer School Postponed to 2021
- 2020 Joint AAPM | COMP Meeting GOING VIRTUAL
- Ad Hoc Committee to Respond to the Impact of the Coronavirus (COVID-19) on AAPM Meetings (AHRICM)
- All AAPM in-person meetings, plans for AAPM-funded travel and meetings of other groups at HQ are to be canceled through May 31, 2020.

AAPM NEWSLETTER is published by the American Association of Physicists in Medicine on a bi-monthly schedule. AAPM is located at 1631 Prince Street, Alexandria, VA 22314

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EVENTS/ANNOUNCEMENTS

SUBMISSION INFORMATION

Please e-mail submissions
(with pictures when possible) to:
newsletter@aapm.org
AAPM Headquarters
Attn: Nancy Vazquez

Submission Information

PUBLISHING SCHEDULE

The AAPM Newsletter is produced bi-monthly.
Next issue: July/August
Submission Deadline: June 5, 2020
Posted Online: Week of June 29, 2020

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.

AMERICAN ASSOCIATION of PHYSICISTS IN MEDICINE

Congratulations to the 2020 Journal Paper Award Recipients

JOURNAL OF APPLIED CLINICAL MEDICAL PHYSICS PAPER AWARDS

Michael D. Mills Editor in Chief Award of Excellence for an Outstanding General Medical Physics Article

Jennifer Johnson, Eric Ford, James Yu, Courtney Buckey, Shannon Fogh, and Suzanne B. Evans

"Peer support: A needs assessment for social support from trained peers in response to stress among medical physicists," *JACMP* 20 (9), 157–162 (2019).

Peter R. Almond Award of Excellence for an Outstanding Radiation Measurements Article

Jessie Y. Huang, David Dunkerley, and Jennifer B. Smilowitz

"Evaluation of a commercial Monte Carlo dose calculation algorithm for electron treatment planning," *JACMP* 20 (6), 184–193 (2019).

George Starkschall Award of Excellence for an Outstanding Radiation Oncology Physics Article

Laure Vieillevigne, Catherine Khamphan, Jordi Saez, and Victor Hernandez

"On the need for tuning the dosimetric leaf gap for stereotactic treatment plans in the Eclipse treatment planning system," *JACMP* 20 (7), 68–77 (2019).

Edwin C. McCullough Award of Excellence for an Outstanding Medical Imaging Physics Article

Elisabetta Sassaroli, Calum Crake, Andrea Scorza, Don-Soo Kim, and Mi-Ae Park

"Image quality evaluation of ultrasound imaging systems: advanced B-modes," *JACMP* 20 (3), 115–124 (2019).

MEDICAL PHYSICS JOURNAL PAPER AWARDS

Farrington Daniels Award (awarded for an outstanding paper on radiation therapy dosimetry, planning or delivery)

Ryan T. Flynn, Q. E. Adams, K. M. Hopfensperger, X. Wu, W. Xu, and Y. Kim

"Efficient 169Yb high-dose-rate brachytherapy source production using reactivation," *Medical Physics* 46 (7), 2935-2943 (2019).

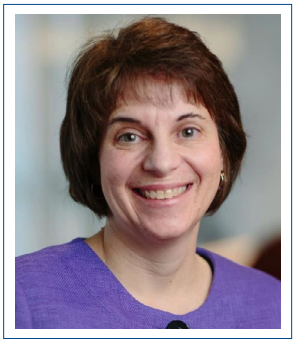
Moses & Sylvia Sorkin Greenfield Award (awarded for an outstanding paper on imaging)

Patricia. A. K. Oliver and R. M. Thomson

"Investigating energy deposition in glandular tissues for mammography using multiscale Monte Carlo simulations," *Medical Physics* 46 (3), 1426-1436 (2019).

TURNING LEMONS INTO LEMONADE

CHAIR OF THE BOARD'S REPORT Cynthia McCollough, PhD | Rochester, MN



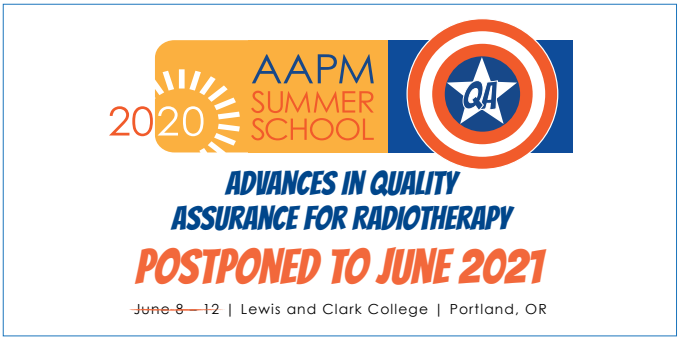
In the midst of this unprecedented and disruptive time, I sincerely hope that this Newsletter finds you and your loved ones healthy (and employed)! With a 22-year-old and 26-year-old back in the house, our family of four has experienced more togetherness than we have since the eldest's first year in high school. While I so wish that the world-wide losses wrought by COVID-19 had never happened, I must admit to enjoying spending so much time together — just the four of us (and Grandpa too). What about AAPM's family? How has it weathered this not-yet-over storm?

I am proud to report that, true to AAPM's "can do spirit," AAPM's Meeting Coordinator Committee, Spring Clinical Meeting Subcommittee, meeting presenters, exhibitors, and *amazing* headquarter staff, we were able to "turn on a dime" and transform our in-person April meeting in Minneapolis into AAPM's *first ever* Spring Clinical Virtual Meeting. Indeed, this was our *first virtual meeting*. The logistical challenges to pull this off in such a short time were daunting, yet thanks to so many individuals, virtual attendees were able to participate in the meeting from the comfort, and safety, of their home or office. And, with the support of CAMPEP and the ABR, MPCEC and SAM credits were still able to be awarded.

Collectively, AAPM turned a major disappointment into a great opportunity. Our meetings teams, both staff and volunteers, learned what worked (a lot!) and what they can work on in the future (hey, there's always something to tweak). And as it turns out, this experience will be put to good use as we transition the highlight of our organization's year — the 2020 Joint AAPM | COMP Meeting — into another virtual meeting.

Twitter: @chmccollough

CHAIR OF THE BOARD'S REPORT, Cont.



Due to the focus on in-person interactions and hands-on curriculum, it was decided to postpone AAPM's Summer School on Quality Assurance for Radiotherapy to June, 2021 rather than to try and hold it virtually.

AAPM's meetings not only provide exceptional education, professional networking, comradery, and scientific knowledge, they help to generate income for the AAPM, defraying the cost of operating such a large organization. So what do these meeting changes mean for AAPM's 2020 financial situation?

In short, what could have been a devasting hit to the organization's finances has turned out better than we could have hoped for thanks to the meeting planning and business acumen of AAPM's Executive Director, **Angela Keyser** and her phenomenal **meetings team**. Not only is there a large financial commitment to the convention center, even for cancelled meetings, the hotel penalties for not using our reserved room blocks are huge. AAPM could have been responsible for almost $2 million in penalties for the Annual Meeting alone. In addition to a strong *force majeure* clause in our contracts, Angela and her staff worked magic with the venues, and for example, by planning to return to Vancouver at our next open opportunity (probably with COMP in 2026), AAPM incurred virtually no losses!

So overall, the hit to AAPM's bottom line is primarily the loss of the income budgeted for 2020. But, don't think for a minute that AAPM is going to just accept that outcome. Instead, **Corey Zankowski** and our Corporate Advisory Board, and **Norman Brown**, Chair of our Technical Exhibits Subcommittee, are already working with our corporate partners to develop exciting formats for interacting with their customers in a virtual environment. The Annual Meeting Scientific Program Subcommittee Chair, **Robin Stern**, and her dedicated team of incredibly hard working volunteers are looking at creative ways to package our superb meeting offerings. We also anticipate many more international registrants due to their not having to cover travel expenses. So I'm excited about what is happening and am confident that the 2020 AAPM Annual Meeting will provide the high quality content that it always has, in a new and creative format. Please plan on virtually attending.

2020 will go down in the books as a year like none other for AAPM and for each of us as individuals. But mark my words, AAPM plans to make it a great year for our members anyway.

Stay well,

Cynthia

WHAT DO YOU DO WHEN THE BUDGET GOES OUT THE WINDOW?

TREASURER'S REPORT Mahadevappa Mahesh, PhD | Baltimore, MD

I hope that this article finds you and your families in good health and safe. So much has changed in the world since my previous report.

From June-November 2019, volunteers and staff put forth a great deal of painstaking work pulling together the 2020 AAPM budget. The Board of Directors approved the budget during its meeting at RSNA in December 2019. With the budget approved, the plan was in place, and AAPM was ready to start the year and achieve its strategic objectives.

On December 31, 2019, Chinese government officials alerted the World Health Organization of a viral outbreak in Wuhan, China. In early January, the first case of Coronavirus (COVID-19) was reported in the United States. At the time, little was known about the potential threat of the virus. However, before the end of the first quarter:

- The number of reported cases in the United States had grown to over 160,000, with nearly 3,000 deaths.
- The Dow Jones industrials reported its four most significant one-day declines in history from March 9–16.
- Local governments instituted social distancing requirements to decrease the spread of the virus.

Simply put, in the span of a few short weeks, the plans for 2020 put together over the course of about eight months were null and void. While the budgetary impact of the COVID-19 pales in comparison to the human impact, as your treasurer, I want to discuss the fiscal implications for AAPM.

In the early stages of the outbreak, leadership recognized the impact the virus would have on AAPM activities and created a new ad hoc committee, Ad Hoc Committee to Respond to the Impact of Coronavirus (COVID-19) on AAPM Meetings (AHRICM), chaired by **Bruce Curran**. The Committee was charged with guiding AAPM's decision-making process in response to COVID-19 for AAPM meetings following guidance from the WHO and Center for Disease Control (CDC). Immediately the committee, consisting of volunteers and staff, began working on compiling data on the disease and communications from the WHO and CDC. The three primary meetings (Annual Meeting, Spring Clinical Meeting, and Summer School) account for nearly 37% of AAPM's budgeted revenue, so the decision made would have a tremendous impact on operations for the year. Furthermore, the timing of the outbreak required a tremendous amount of agility as decisions had to be made rapidly so it could be effectively communicated to our membership.

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I would like to thank Robert McKoy, AAPM Director of Finance, for his work on this report. Please feel free to reach out to me if you have any questions concerning this report.

After careful consideration, the committee recommended and EXCOM approved the following actions:

Spring Clinical Meeting

As a result of social distancing requirements and an abundance of caution for AAPM members and guests, the decision was made to convert the Spring Clinical Meeting (SCM) from a face-to-face meeting to a virtual meeting.

Often when meetings/events are canceled, organizations and groups face significant penalties for attrition and lost revenue incurred by the venue. As a result of very strong force majeure clauses negotiated into the AAPM contracts, the association wasn't required to pay any penalties for canceling the meeting.

Additionally, exhibitors were refunded any monies given and were provided two free registrations for the virtual meeting. Participants were given the option to convert to the virtual meeting or receive a refund for registration fees paid. Given the new format, AAPM promoted the virtual meeting to generate new registrations. In fact, to our surprise, the registration numbers for the virtual meeting were higher than expected.

The budget called for a return to the association of approximately $25,000. If AAPM were required to pay penalties as a result of canceling the meeting, the potential loss to the association could have been as high as $250,000. As a result of increased registrations, reduced expenses, and no cancellations fees, it is anticipated that the meeting might break-even after overhead costs are applied.

Summer School

After careful consideration, the decision was made to postpone the 2020 Summer School to 2021. Once again, strong force majeure clauses helped AAPM avoid potential penalty clauses. Deposits paid in advance for the 2020 meeting will be applied to the 2021 Summer School.

The budget estimated a return to the association of approximately $62,000. Given the cancellation of the meeting, this is the potential loss to the association. The final actual loss will be based upon the amount of overhead that is allocated to the meeting after the end of the year.

Annual Meeting

After careful discussion with the Board, with the meeting venue coordinators and others, it was decided to hold the Annual Meeting virtually. The Meeting Coordination Committee is working on how to deliver the virtual meeting with details to follow soon.

The Annual Meeting budget estimated a return to the association of approximately $685,000. Now that the Annual Meeting will be held virtually, the immediate known financial impact is the loss of the exhibitor's revenue. The other financial implications to the organization are being evaluated, and the meeting budget will be updated to reflect any changes made to the program.

To help slow the spread of the virus, governments have ordered the closing of many non-essential businesses and issued stay-at-home orders for people. As a result, many companies and organizations faced the immediate cessation of revenue generation. When we come out of this crisis, many businesses and organizations will not survive. The ones who do will do so as the result of several actions:

Agility

The rapid spread of COVID-19 caught many businesses by surprise. The forced closing and stay-at-home orders resulted in many organizations seeing a complete shut-off of revenue. Many were ill-prepared for the rapid shifts in operations and product delivery, while others were caught up in bureaucratic decision-making structures and struggled to make changes that would allow them to continue to deliver products and services to their constituents.

AHRICM was able to quickly assess the situation and make recommendations to EXCOM, who immediately approved them. As a result of this quick action, the Spring Clinical Meeting was successfully converted to a virtual meeting. Headquarters staff were quickly able to expand their teleworking practices already in place and shift to having all staff teleworking. This action was taken without any impact on service to the members.

TREASURER'S REPORT, Cont.

Cash Flow

The reduction in revenue experienced by many companies and organizations has had a significant negative impact on cash flow. When forced to shutter its doors, many companies and organizations have struggled to continue to pay fixed costs as a result of the decline in revenue. With the decrease in revenue, many of these organizations are forced to rely upon reserves to make up the shortfall. Unfortunately, many companies lack the reserves to enable them to survive this crisis.

In the early stages of this crisis, the finance team at headquarters quickly assessed the impact on cash flow resulting from the financial implications of COVID-19. By continually updating its cash plan, management is immediately able to communicate with volunteer leadership any potential shortfalls in the future.

Another thing needed by organizations is adequate reserves to survive this storm. As a result of solid financial management, AAPM has significant reserves to sustain it through these perilous times. However, even with healthy reserves, AAPM has not been exempt from declines in the market. During the first quarter of 2020, AAPM experienced a 13% decline in reserves (9% in March alone). As a result of a slight recovery thus far in April, reserves are down approximately 10% for the year at the time of this writing.

Forecast

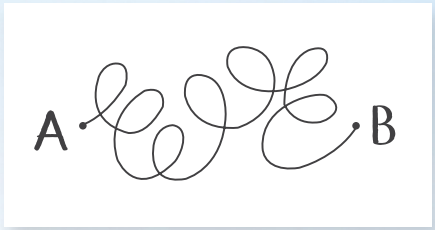
I titled this report, "What do you do when the budget goes out of the window?" You adapt. The budget approved back in December 2019 was based upon assumptions that are no longer valid. The approved budget is no longer the blueprint for 2020. The key moving forward is successfully forecasting in a continually changing environment and preparing our best assumptions as to what will happen the rest of this year and beyond in this ever-changing landscape. Whereas in the past assumptions might change quarterly, some assumptions are changing nearly daily.

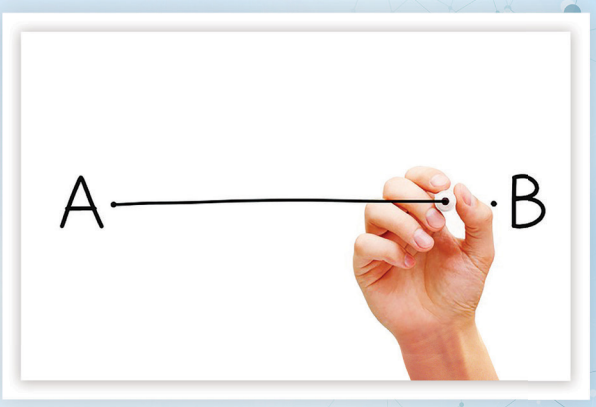
AAPM is fortunate to have a headquarters team that is quickly and accurately analyzing the data and updating the assumptions to help AAPM weather this storm. Despite the strengths of the AAPM forecasting process, management is continually making process improvements.

In the business world today, there are two spectrums of organizations in existence: ocean liners and speed boats. Ocean liners are large and are slow to adapt to change. Speed boats are fast and agile and quickly adapt to change. While AAPM often operates as an ocean liner, as it faced the iceberg in front of us that is COVID-19, it quickly put on the characteristics of a speed boat to navigate its way through this crisis. As a result of actions taken in the past several weeks, AAPM is well-positioned to not only survive this crisis but emerge to continue to fulfill its strategic mission. ■

CAREER SERVICES

Looking to ***simplify*** your job search?





Find your future at **aapm.org/careers**

AAPM Education & Research Fund

For over 20 years, the AAPM Education & Research Fund has been a catalyst in raising awareness and obtaining support within our proud profession in the form of funding strategic education and research programs, such as seed grants for early-career researchers, matching support for clinical residency programs, and fellowships for PhD students. The Education & Research Fund is also used to attract undergraduates to the field of medical physics and to promote diversity.

Without the generous contributions from AAPM members, we could not have funded over 100 grants, fellowships, and residencies.

Please join your fellow colleagues by donating now to the Education & Research Fund. Together, we can ensure that this valuable platform of funding remains vibrant and continues to prosper and grow.

To Donate: www.aapm.org/education/edfundintro.asp

focus on our **future**

YOU JUST CAN'T KEEP THE GREAT AAPM HQ TEAM FROM SOLDIERING ON, EVEN IF YOU'RE A GLOBAL PANDEMIC

EXECUTIVE DIRECTOR'S REPORT Angela R. Keyser | Alexandria, VA

AAPM's (Virtual) HQ Team… *continues* at your service! As of Monday, March 16 all members of the HQ team were temporarily granted the ability to work remotely. This decision was made in an effort to be proactive in protecting the health of our team, stakeholders, our families, and the wider community, while at the same time ensuring that we can maintain our ability to conduct business effectively. A few members of the team are going into HQ to handle essential functions (mail, packages, processing payments). I was reviewing this decision every two weeks, but now we are governed by the "stay-at-home order" issued in the state of Virginia through June 10.

I've often commented that the AAPM HQ team is truly a family, and for this family to not come together for what could be 90+ days is challenging! When I announced the move to "virtual" I warned folks that we planned to use webcams to help us remain engaged, and that has been well received I believe. (Or, maybe they are just being good sports!) We hold frequent online meetings with video to help stay connected! And, each Wednesday at 10:00 AM we hold a "Team Meeting" via GoToMeeting, as illustrated here with a screen shot of our April 1 meeting:

A bright spot in our month of March was the news that **Ashley Zhu**, AAPM's Front End Developer, and her husband Eugene Liu welcomed their first child, Zachary, in the wee hours of the morning on March 7. Ashley hopes to return to work part-time at the end of April. One good thing about HQ team meetings with webcams? We can "virtually" meet Zachary really soon and welcome him to the AAPM family!

Can you imagine starting a new job on March 9 and learning at the end of your first week that you will be teleworking starting week two? That is what happened to our newest team member and Customer Service Representative, **Erin Shamleffer**. Erin has done a fabulous job, overcoming a teleworking learning curve as she takes on responsibility for the main phone line, general email inquiries and setting up Doodle polls and GoToMeetings for AAPM groups.

The decision to move the 2020 Spring Clinical meeting to a virtual meeting was announced on Thursday, March 12. The volunteer and HQ team effort to pilot the first-ever virtual meeting was colossal. To put it into perspective, over 1,500 staff hours were allocated to the meeting over a 4-week period. While the physical meeting was budgeted to have 486 registrants, I'm thrilled to report that there were ultimately 600 virtual registrants. The meeting survey results are not yet available, but preliminary reports are that the meeting was very well received. There were the inevitable glitches and snafus that highlighted some "improvement opportunities," but overall, this will go down in my books as one of the biggest successes in my 26+ years as a member of the HQ team. Congratulations to all the volunteers and HQ team members on a superb job!

The HQ team held a bittersweet "social distancing send-off" for **Shayna Knazik** on Friday, April 17 as she left AAPM to join the staff of the Medical Imaging and Technology Alliance (MITA), a division of NEMA. Shayna joined AAPM in 2014 as the Customer Service Representative and served for the past five years as Program Manager supporting the Science Council and subgroups. We wish Shayna all the best in her new adventure and are glad that she will remain a part of the imaging community.

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.

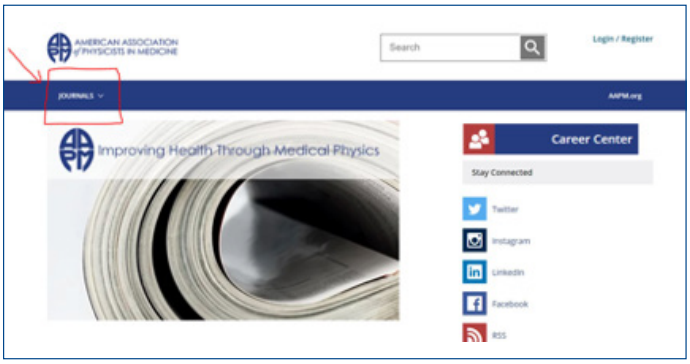
Election Process Online Only!

Elections for the 2020 Officers, Board Members-At-Large and Nominating Committee Members will open on June 3 and will run through June 24. The AAPM Bulletin Board System (BBS) will be used during the election process to allow members to discuss issues of concern with the candidates and the election in general. The election process will be online only so be alert for e-mail announcements.

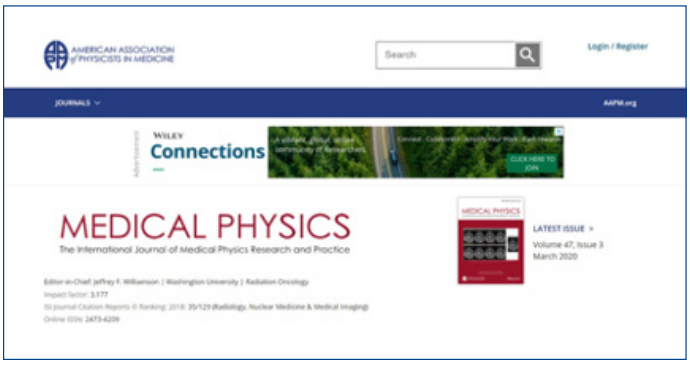
Receive Alerts When New *JACMP* or *Medical Physics* Content is Available

You can sign up to receive e-mail alerts when new content is published, and determine the frequency of the alerts, by following the instructions below.

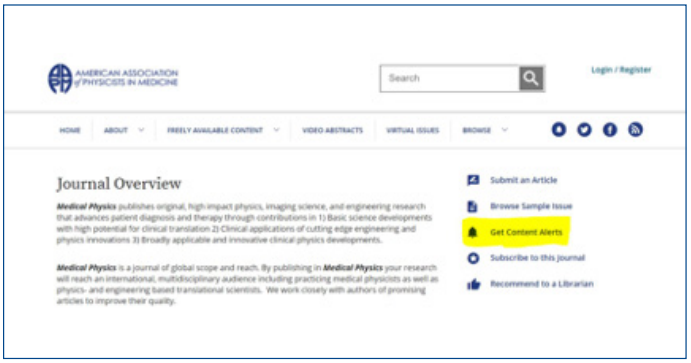
1. Navigate to https://aapm.onlinelibrary.wiley.com/ and select the journal for which you'd like to get content alerts.



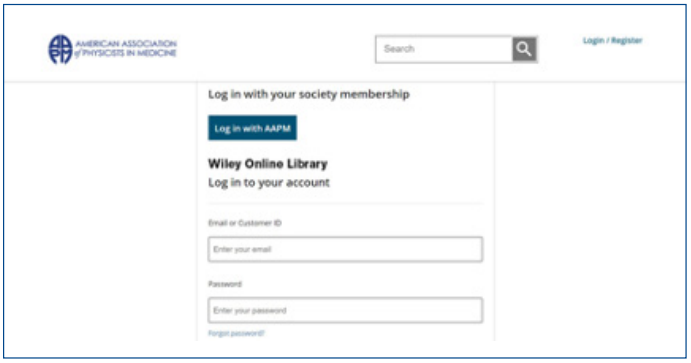
2. Once there, you will see a page that looks like this:

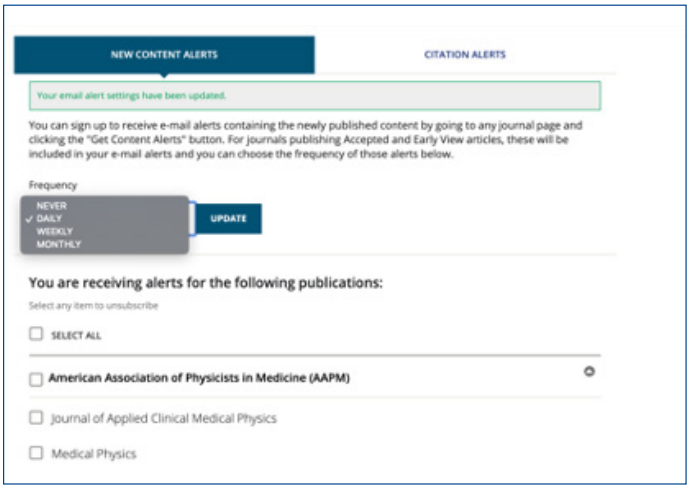


3. Scroll down until you see options on the right hand side and select the highlighted "Get Content Alerts" button next to the bell icon.



4. Sign in with your AAPM or Wiley Online Library login and select which lists you'd like to receive via email:





EXECUTIVE DIRECTOR'S REPORT, Cont.

New reports available online

- AAPM TG 191: *Clinical use of luminescent dosimeters: TLDs and OSLDs* View Report
- AAPM TG 329: *Reference dose specification for dose calculations: Dose-to-water or dose-to-muscle?* View Report
- AAPM TG 202: *Physical Uncertainties in the Planning and Delivery of Light Ion Beam Treatments* View Report
- ICRU Report No. 94: *Methods for Initial-Phase Assessment of Individual Doses Following Acute Exposure to Ionizing Radiation*
  View Report | View Publication Announcement

Your Online Member Profile

This is a reminder to keep your AAPM Membership Profile information up to date by going to the AAPM Member Profile Page and making any changes necessary. Please, upload your picture if you have not already done so.

Remember to review the "Conflict of Interest" area of the Member Profile to self-report conflicts per the AAPM Conflict of Interest Policy.

AAPM recognizes that not everyone is interested in every topic that we communicate to our membership, so we are now organizing our e-mail communications into "campaigns" that are typically time and event based. The first time you receive an e-mail about a particular event, you may opt out of receiving future e-mails on this topic at the bottom where it says, *"To inhibit future messages of this kind, click here."* For example, if you know you aren't able to participate in the 2020 Virtual Joint AAPM I COMP Meeting and don't want communications about the meeting, you may opt out from any e-mail in the campaign, or from the e-preferences screen in your member profile. ■

#AAPMSCMGoesVirtual
AAPM SPRING CLINICAL MEETING 2020

April 4–7
Renaissance Minneapolis Hotel, the Depot
Minneapolis, MN

Young Investigator Clinical Symposium Best Poster Competition

1st	Justine Cunningham	Enhanced Cardiac Substructure Sparing Using MR-Guided Adaptive Radiation Therapy
2nd	Kayla (Ficarrotta) Blunt	Appropriateness of Using Portable Radiography to Detect Retained Foreign Objects: Quantification of Suture Needle Detection
3rd	Andrew Headley	Intermachine Reproducibility of R2* Measurements Using Least-Squares Fitting
Poster Winner	Zheng Zhang	A Clinical Application for Real-Time Motion Verification and Monitoring During Proton Treatment

OUR CONDOLENCES

James R. Marbach, PhD

Our deepest sympathies go out to the family. 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: 2020.aapm@aapm.org
(Please include supporting information so that we can take appropriate steps.)

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NRC REEVALUATING CHARACTERIZATION OF EXTRAVASATIONS IN MEDICAL EVENT REPORTING SCHEMA

LEGISLATIVE AND REGULATORY AFFAIRS' REPORT Richard Martin, JD | Alexandria, VA

The US Nuclear Regulatory Commission (NRC), which currently does not classify radiopharmaceutical extravasations as medical events, is reevaluating whether extravasations should be included in its medical event reporting schema in light of recent advancements in nuclear medicine. Extravasation is the leakage or infiltration of injected fluid into the extravascular tissue around the injection site.

The NRC has been working on this issue in collaboration with its Advisory Committee on the Medical Uses of Isotopes (ACMUI). In April 2019, an external stakeholder engaged in device manufacturing made a presentation at an ACMUI meeting to describe a new device that can monitor injection sites during and after radiopharmaceutical injections. That stakeholder expressed its view that its device may help in lowering extravasation rates, and it advocated for the NRC to revise its medical event reporting requirements to include extravasations.

The ACMUI has been reluctant to recommend that extravasations be included in medical event reporting, citing the numerous factors that may result in extravasation, including the anatomy of the patient, and patient activity. In September 2019, the ACMUI concluded that there is no evidence to support reclassifying extravasation as a medical event, and it made recommendations that extravasations be considered a type of "passive" patient intervention and that extravasations be reportable as medical events only when they lead to unintended permanent functional damage. As reported at the March 2020 ACMUI meeting, the advisory committee continues its work on review of the regulatory definition of "patient intervention," and how that definition would be modified to incorporate extravasations. Most recently, the NRC responded to House and Senate committees' requests for the NRC to provide updates to injection quality monitoring, classification, and reporting requirements with regard to extravasations. See report here.

The NRC has stated that it has not yet made a decision to include extravisations in its medical event reporting requirements. If it does decide to do so, the NRC will address reporting criteria, including whether a different reporting threshold should be applied, and whether a distinction should be made between diagnostic and therapeutic extravasations.

We will update you on developments as the NRC continues its reevaluation as to whether extravasations should be included in medical event reporting.

Contact **Richard J. Martin, JD, AAPM Government Relations Program Manager**, at richard@aapm.org if you have any questions or would like additional information. ■

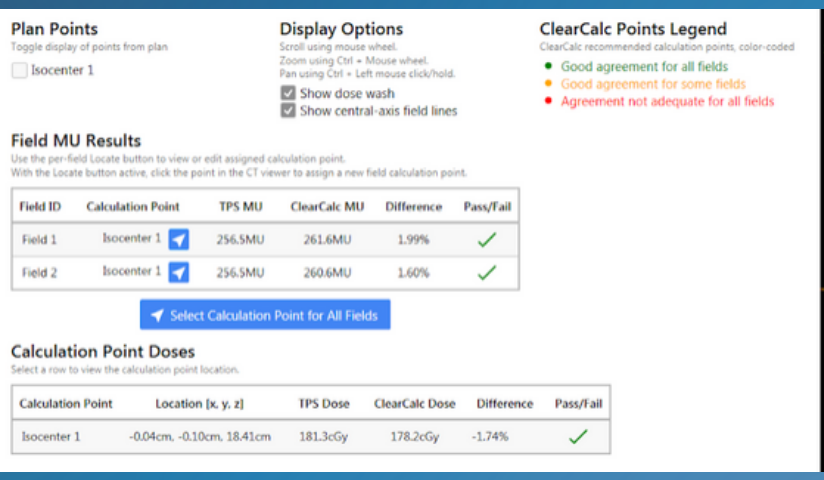
New!

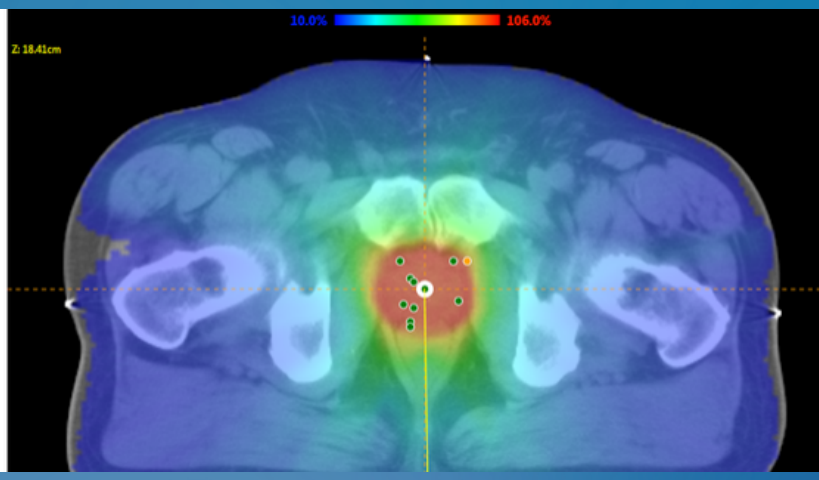
ClearCalc

Second Check Software

One platform to perform all of your second check needs.

- ✓ Integrated solution within Eclipse. No DICOM-transfer needed.
- ✓ ClearCalc results are automatically included within the ClearCheck final plan report.
- ✓ Automatic calculation point selector facilitates efficient results and workflows.
- ✓ Supports 3D, IMRT, VMAT, SBRT, brachytherapy, electrons, and more in one single solution.





ClearCalc is a ClearCheck extension for independent secondary dose calculations that leverages direct plan import and analysis to further automate planning workflows. Documenting results is now effortless with the option to include ClearCalc results in ClearCheck plan reports with a single click.

Learn more at radformation.com/clearcalc

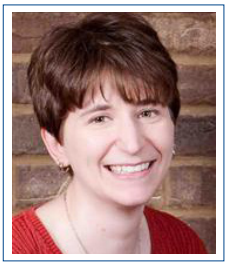
RAD formation

Intelligent automation for the hardest working cancer clinics.

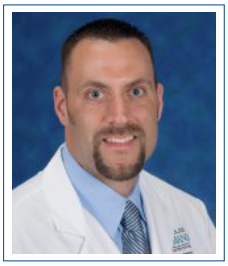
SPECIAL INTEREST FEATURE: COVID-19

EDUCATION COUNCIL REPORT

Joann I. Prisciandaro, PhD | Ann Arbor, Michigan ■ Jay W. Burmeister, PhD | Detroit, MI



J. Prisciandaro



J. Burmeister

Responding to the Concerns of COVID-19: An Educational Perspective

On Wednesday, March 11th, the World Health Organization officially declared the novel coronavirus (COVID-19) a pandemic. Since that date, we have experienced significant changes in our home and work lives as a result of travel restrictions and social distancing recommendations. AAPM has been monitoring this situation and working diligently to respond to the concerns of our members. Presented below is a summary of some of the activities Education Council and its respective committees have been involved in with response to COVID-19.

On March 17, the Executive Committee and Education Council leadership submitted a letter to the American Board of Radiology (ABR) requesting that they consider alternative provisions for the ABR medical physics diplomates to meet their 2020 continuing education requirements. Suggested alternatives included waiving the normal continuing education requirements and allowing an additional year to achieve the required number of credits. The ABR Board of Governors continues to monitor the effects of the COVID-19 crisis, but at present, has decided that it is too premature to make changes to the maintenance of certification requirements. In the meantime, we would like to remind members that AAPM has an extensive collection of presentations and continuing education offerings in the Virtual Library and the Online Learning Center, including opportunities to earn self-assessment continuing education credits. Please visit the Online Learning Center for more information.

Education council has been working closely with CAMPEP and SDAMPP to develop recommendations in light of the new and evolving challenges that COVD-19 presents to medical physics didactic and training programs. To date, we have collectively issued five letters addressed to graduate and residency program directors, resident candidates participating in the MedPhys Match, and current residents. These letters are available for review on the AAPM What's New link and the bulletin board.

Graduate program directors were reminded that per CAMPEP policies and procedures, remote instruction is permitted, as long as institutional guidelines for remote instruction are in place and followed (see sections G.01.07 and H.01.06), and the course material and level of instruction remain unchanged. Additionally, to address concerns about the completion of laboratory courses, programs were reminded that CAMPEP standards do not have specific requirements for laboratory courses, therefore, necessary changes that are made to these courses would be left to the discretion of the instructors and program directors.

Residency program directors were reminded that CAMPEP's residency standards allow some flexibility when complying with residency standards, especially given these exceptional circumstances (see standards 3.1 and 3.2). Additionally, the MedPhys Match agreement states that programs must "Provide complete and accurate information to applicants prior to the Rank Order List deadline concerning the position(s) available through the MedPhys Match, including all institution, residency and program policies related to eligibility requirements for appointment." Residency program directors were encouraged to reach out to residency candidates they interviewed to inform them of their institution's employment conditions, especially as it pertains to deferment of start dates caused by delays in completing their current programs, travel restrictions, quarantines, etc., and that start dates and employment conditions may change due to unforeseen circumstances.

A separate letter was submitted to resident candidates enrolled in MS, PhD, Post-Doctoral Certificate and DMP programs, to address concerns regarding potential delays in their completion dates that may affect their ability to begin residency programs on time. Doctoral students were encouraged to reach out to their thesis advisor and graduate program to determine whether their program could confer an MS degree. For residency programs that admit candidates with either MS and PhD degrees, proof of completion of their graduate degree might be sufficient for them to initiate a residency as they continue to work on completing their PhD requirements. Further, it was recommended that resident candidates review the employment conditions of the residency programs they ranked, as some programs allow for delays in the start date of their residency due to circumstances such as visa or degree delays, family or personal emergencies, etc. In the absence of this information, candidates were advised to contact programs and request this information to allow them to complete their rank list. Lastly, current residents received a letter to address concerns that COVID-19 may impact the timely completion of clinical milestones in their medical physics residency, or result in delays in the completion of their residency training. Residents were encouraged to review and discuss institutional policy for sick leave and remediation with their program directors.

The Subcommittee on the Oversight of the MedPhys Match (chaired by **John Antolak**) reported that the 2020 MedPhys Match went smoothly, and the results of the match were announced to residency program directors and resident candidates on March 27.

The Education and Training of Medical Physicists Committee chaired by **Jacqueline Zoberi** has discussed concerns related to the impact of COVID-19 on the Diversity Recruitment through Education and Mentoring (DREAM) and Summer Undergraduate fellowships. The chairs of the Diversity and Inclusion subcommittee chaired by **Julianne Pollard-Larkin** and of the Undergraduate Summer Fellowship and Outreach subcommittee chaired by **Parminder Basrin** have reached out to awardees to inform them that the subcommittees will continue to monitor the situation, and discuss potential contingency plans with Education Council and the Executive Committee. They will relay pertinent information to awardees as soon as possible.

The Students and Trainees Subcommittee chaired by **Ara Alexandrian** initiated a discussion with medical physics residents to learn how their respective programs have responded to COVID-19 with respect to their clinical training. The subcommittee compiled a summary based on contributions from residents from 23 programs that has been circulated through social media. Additionally, the subcommittee leadership reached out to the Association of Residents in Radiation Oncology (ARRO), who put together a similar list. A compiled list is available in Google Docs with links to information for radiation oncology and medical physics residency programs. Additionally, in preparation for the Annual Meeting, the subcommittee is continuing to plan student events for the 2020 Joint AAPM | COMP Meeting. They have initiated discussions on possibly virtualizing their events should travel restrictions continue through July.

The International Education Activities Committee chaired by **Caridad Borrás** is working with the organizing committee of international programs that AAPM has co-sponsored or endorsed. A number of these meetings have been postponed to the fall of 2020 or into 2021.

Lastly, Public Education chaired by **George Sandison** has decided to delay participating in state fairs and smaller outreach events given the current travel restrictions and concerns related to COVID-19.

Education Council and its respective committees will continue to monitor the impact of COVID-19 on educational and training activities, and we will continue to respond to concerns expressed by AAPM members. We wish our colleagues and friends much health, and look forward to seeing you once again, face-to-face once this pandemic has resolved. ■

SPECIAL INTEREST FEATURE: COVID-19

EDUCATION COUNCIL REPORT

Emily Marshall | Boynton Beach , FL ■ Kayla Blunt | Chicago , IL

Below, please find a contribution summarizing one program's initial experience adapting to COVID-19. This piece shares the perspectives of a program mentor and a first-year resident enrolled in the program.

E. Marshall

K. Blunt

Twitter: @EMarshallCHI

Introduction

As shelter in place orders came down swiftly on cities across the US throughout early March, I watched those around me scramble to begin putting in place a new digital world of "normalcy." From kindergarten classrooms to your weekly therapy session, we were all seeking solutions to continue our lives and keep up with our commitments amidst social distancing and COVID-19. As luck would have it, it was within this wholly disrupted time that my first teaching responsibility as a medical physics residency rotation mentor would arise. After putting in place steep restrictions on our medical physics residents entering the medical center, I would be tasked with teaching them the ins and outs of interventional radiology (IR) despite their having no access to an IR suite. We are now more than halfway through this rotation, and our first-year resident and I have come together to offer our shared experiences and lessons learned. The following points offer insight into our attempts to maintain training continuity within our diagnostic imaging physics residency program. Our goals are tri-fold:

- Clearly define expectations in a time of reduced communications;
- Alleviate anxieties surrounding training plan progress and engagement; and
- Stay on track for timely completion of clinical milestones.

Define Resident Learning Objectives Clearly

(Instructor's perspective) First and foremost, I considered it essential to demonstrate to the residents that rotation learning objectives (LOs) would remain attainable even in a remote setting. To do this, I spent the week prior to the kick-off of their rotation revisiting our "IR rotation training plan." This scenario demanded that I redefine the key learning objectives we were communicating to the residents for coverage during their IR rotation. To ensure no clear gaps in knowledge were present, sub-topics of each LO were provided to highlight critical focal points. Each LO was then assigned "self-study" material and "activities" to solidify reading content (as an example, see IR remote work content.

(Resident's perspective) Through this process, I have learned that working remotely does not mean we need to forgo or delay any learning objectives of our clinical training program. Instead we need to get creative, take advantage of technology, and perhaps most importantly, we need mentors who are dedicated to our education and willing to commit their time to developing modified, effective training programs. The remote IR rotation training plan was more structured than in the past, which I believe is critical for success in this new environment.

Creating an Autonomous Learner Environment

(Instructor's perspective) Times are strange! We are all doing our best transitioning to remote work, watching the kids, and supporting our families and friends, but each of these tasks requires extra effort. Current conditions make a strong argument for promoting an autonomous learning environment, where our residents take charge of their own learning. Residents were given a "remote learning guide" that lists LOs, self-study options, and activity options, and were asked to plan and present their three-week rotation timeline to their mentor. Under normal conditions, frequent in-person check-ins with the residents are commonplace and create constant awareness of any burdens within their personal and professional lives. To ensure I was not pushing residents to conform to my own scheduling practices, I gave them the responsibility of developing a personalized timeline for each LO (including accompanying activities and group discussions) and encouraged them to distribute these

tasks to fit within their new schedules.

(Resident's perspective) Our first task was to develop a personalized, daily plan to ensure timely completion of all assignments in parallel with other personal- and work-related obligations. We chose from a menu of reading assignments and exercises, choosing to focus our time on topics we felt less proficient in, and distributed the workload as we saw fit. We were only asked to share our personalized plan with program mentors and provide regular progress updates. Our schedules are not completely rigid and our mentors understand some flexibility is required as we embark upon this together for the first time. Still, having well-defined, daily objectives has been paramount to personal success and also provided a regular sense of accomplishment.

Building in Remote Clinical Engagements

(Instructor's perspective) One of the biggest roadblocks I envisioned when I started planning this virtual environment was the lack of exposure to clinical workflow and observations of patient treatments. Most rotations require the resident to shadow a technologist in the clinical area, a physician in the reading room, and a physician in the procedure room. Typically, these activities are completed over multiple clinical days as the resident becomes familiar with common examinations and their associated image quality requirements. To work around this lack of clinical exposure, we've incorporated the following key virtual engagements:

- "Remote case reads" with our IR fellows;
- "Case of the week" presentations pulled from our PACS, discussing items such as clinical indication, intervention route, images taken, role of bedside ultrasound, and documentation;
- Review of procedure videos presented on YouTube; and
- PACS procedure review, which involves a review of 10 case reports and accompanying patient images with various clinical indications for the resident's self-review.

(Resident's perspective) The wealth of information on the internet is truly amazing. There's an abundance of educational videos demonstrating clinical procedures, which arguably provide a better vantage point than is possible in-person. Between clinical procedures and group- and independent case reviews, clinical engagement is perhaps the strongest component of the remote rotation.

QC Testing . . . Without Contact?

(Instructor's perspective) Quality control (QC) annual testing is the bread and butter of diagnostic physics. As residents are restricted from entering the medical center, they have no access to IR equipment, making it difficult to complete an annual QC and demonstrate proficiency in clinical testing. To alleviate resident concerns surrounding this deficiency of direct access to IR equipment during their rotation, we asked the residents to create a presentation which incorporates the entire QC process. From scheduling the testing to defining the appropriate communications when deficiencies are discovered — each step was articulated to rotation mentors - and relevant clinical questions were fielded.

(Resident's perspective) Developing and demonstrating proficiency in QC testing is perhaps the most challenging clinical milestone to achieve when constrained to a remote learning environment. I was tasked with developing an instructional presentation that outlines every step of the QC process, paying special attention to testing procedures, equipment configuration and operation, data analysis, and pass/fail criteria. This allowed me to slow down, sit in the driver's seat, and walk my mentors through how I would independently conduct an annual equipment evaluation if they were not available to help. I was able to demonstrate proficiency to my mentors and build confidence in my own abilities. This presentation will be an excellent reference for me and other residents in the future.

Staying Organized and Well-Connected

(Instructor's perspective) While our residents are currently completing their IR rotation, this is by no means their only responsibility. I serve as one of five mentors in our diagnostic physics group. We quickly realized that our 'social distancing' practice was inhibiting our own internal communications regarding our residents' commitments to each mentor/task. One of our residents initiated a 'live' Google Doc to track and display her progress at

the end of each day. We combined this 'real time feedback' with early morning group emails summarizing the resident's commitments to their rotation mentor for that day. This communication ensures we all understand the day-to-day commitments of our residents. The residents and I also have a weekly wrap-up and look forward to this session to discuss progress, challenges, and plans for the upcoming week. Check-ins keep us honest! As a part of the bigger community, we benefit from the continued education activities provided at both the medical center and department level including radiology noon conferences and medical physics colloquiums, all in a virtual format. In addition, our Medical Center initiated a daily wellness series that provides guided practices, and tools and tips for staying healthy during stressful times that are led by faculty experts in the Department of Psychiatry. Finally, as the faculty physicists remain connected through weekly virtual huddles, our residents are invited and actively participate in these huddles.

(Resident's perspective) One benefit of this experience is that we have been pushed to rely heavily on valuable technological tools. We've been forced to shift the paradigm of our training experience, which I believe could provide long-term benefits. Specifically, shared Google Drive folders, Google Docs, and Google Sheets have allowed us to share and store pertinent training documents. My mentors can literally see my progress as I enter summaries of my daily reading assignments into Google Docs, or observe my progress in real-time as I write lines of code to process and analyze images. I now have electronic summaries of all relevant reading material backed up to cloud storage. I have PowerPoint Presentations to describe concise, step-by-step methods with associated schematics for conducting equipment performance evaluations, and a detailed task log of my progress.

Final Thoughts

(Instructor's perspective) Based on our initial experience with distance learning amid COVID-19, to ensure a successful training environment, you should focus your efforts on organization, clarity, expectations, autonomy, and trust. This approach has been effective for our team, and we hope by sharing these tools and tips, you too will find a 'new normal' for safe and successful remote teaching!

(Resident's perspective) We've found open, regular communication and establishing clear expectations to be crucial in this environment. While this discussion focused on interventional radiology, in particular, I believe our model could be effectively extended to other imaging modalities and medical physics training programs. ■

SPECIAL INTEREST FEATURE: COVID-19

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

ACR Accreditation: Frequently Asked Questions for Medical Physicists

To all of ACR's accredited facilities:

In this unprecedented time, we want to make sure you know that the ACR is working hard to keep business as usual and be available and provide support to our accredited facilities. We recognize that there will be uncertainty of patient volumes, limited resources, limitations on physics support etc. that may affect the ability to meet accreditation deadlines and we will provide as much flexibility on accreditation processes as possible. Thank you for all of your hard work and providing the safest care possible to your patients.

Annual Medical Physicist Surveys for Accreditation

In response to increasing limitations and restrictions of physicist access to imaging facilities due to the COVID-19 outbreak, the ACR will extend the annual medical physicist equipment survey accreditation requirement to a 16-month window from date of last equipment evaluation. Facilities needing a longer extension and those who are unable to obtain physics testing or acceptance testing on new units are asked to contact the ACR for further guidance.

COVID-19 Radiology-Specific Clinical Resources Page

ACR is drafting guidance, compiling information, and curating its COVID-19 Radiology-Specific Clinical Resources page, where you can find the following, among other helpful resources:

- Letter urging the president to speed PPE resupply
- Information on field radiology
- Recommendations for use of chest CT and radiography for suspected COVID-19
- Radiology department preparedness for COVID-19 — expert panel
- COVID-19 Outbreak: What the Department of Radiology Should Know (*JACR* COVID-19 Resources)
- Statement on teleradiology during COVID-19 pandemic

I recommend checking the resources page regularly, as it is being constantly curated. I also recommend browsing the huge collection of well-being resources here.

Twitter: @DustinGress

In each issue of this Newsletter, I'll present frequently asked questions (FAQs) or other information of particular importance for medical physicists. You may also check out the ACR's accreditation web site portal **for more FAQs, accreditation application information, and QC forms.**

I want to congratulate AAPM staff and the Spring Clinical Meeting Subcommittee on a successful virtual conference. The dedication and professionalism from AAPM staff should make us all proud to be members. The decision has been made to hold the AAPM Annual Meeting virtually as well and I am confident that AAPM staff and the dedicated members volunteering to put on a great meeting will again pull it off.

ACR 2020 **will also be completely virtual, May 16-19, 2020. The ACR Annual Meeting is quite different from AAPM meetings, mostly because the primary purpose of the ACR meeting is organization governance. I am sure that our Meetings staff and member-volunteers will rise to the occasion, and I look forward to being part of it.**

FDA Grants Automatic Two-Month Extension for Mammography

From the FDA's MQSA Inspection Information Related to COVID-19, "Due to the evolving COVID-19 impact on travel and facility operations, mammography facilities for which the annual medical physicist survey falls within the time period, January 2020 to June 2020, FDA intends to automatically grant a two-month extension (from the FDA recommended 14-month timeframe) for the facility to complete the annual survey. A request for an extension does not need to be filed with FDA."

ACR Quality Control Manuals Free to Public

As of April 1, 2020, all of ACR's QC manuals are now available for free in the public domain, on our Medical Physics Resources page. By the time this article is published, I expect that we will have published a new revision of the Digital Mammography QC Manual. I am also actively working with other ACR teams to redesign that page to be a more useful collection of resources, so please bookmark it and stay tuned. ■

SPECIAL INTEREST FEATURE: COVID-19

AAPM/CRCPD ACTIVITIES IN RESPONSE TO THE COVID-19 PANDEMIC

Jennifer Elee | CRCPD Liaison to AAPM ■ Kathleen Hintenlang | AAPM Liaison to CRCPD

J. Elee

K. Hintenlang

Twitter: @KHintenlang

For many years, CRCPD and AAPM have worked together on issues that are important to both groups. In the past few weeks, this relationship has proven to once again be invaluable. In these uncertain times, we know that both the States and the medical physicists who work with regulated facilities are facing new challenges every day. To assist, the CRCPD H-46 Committee on Standards, Guidance, and Outreach has developed guidance documents on issues related to COVID-19, including access, testing, regulatory relief, etc. An additional document has been developed to address the registration and use of x-ray devices in temporary locations. These documents have been shared with State agencies to use as guides and can be found here.

In addition to guidance, we are aware that many State staff are working remotely. We have shared with State regulators the links to the AAPM virtual library for each year of the previous training sessions AAPM has provided at our annual National Conference on Radiation Protection. Many regulators have taken advantage of this time to view those trainings, and the feedback we have received has been tremendous. In addition to the use of the virtual library, the AAPM Executive Committee very graciously allowed State regulators to attend the virtual Spring Clinical Meeting. Over one hundred regulators took advantage of this remarkable opportunity. This year's CRCPD meeting has been canceled, and with that, the valuable training that AAPM presents each year. Thus, the ability to attend the Spring Clinical Meeting was an excellent way to continue this beneficial relationship and still provide State regulators with an important educational opportunity. ■

AMERICAN ASSOCIATION *of* PHYSICISTS IN MEDICINE

At this time, RSNA plans to hold the

RSNA 106th Scientific Assembly and Annual Meeting
November 29 – December 4, 2020
in Chicago, IL

RSNA will continue to monitor the situation closely and consider the recommendations of the Centers for Disease Control and Prevention and state and local health authorities.

Be Sure to Book Your Room at the AAPM Headquarters Hotel:

The Hyatt Regency Chicago

151 E. Wacker Drive

AAPM Meetings and Annual Reception will be held at the Hyatt Regency Chicago

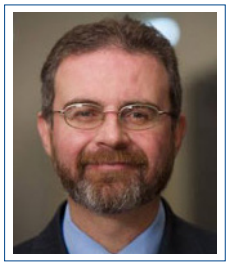
July 22: Registration Opens

SPECIAL INTEREST FEATURE: COVID-19

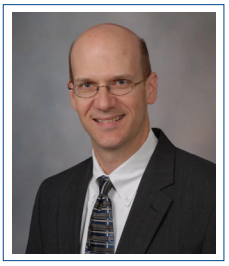
THE AMERICAN BOARD OF RADIOLOGY RESPONDING TO THE PANDEMIC

Kalpana M. Kanal, PhD | Matthew B. Podgorsak, PhD | Robert A. Pooley, PhD, ABR Trustees
J. Anthony Seibert, PhD, ABR Governor

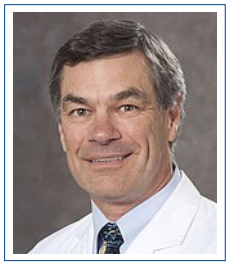
K. Kanal
Twitter: @KalpanaKanal



M. Podgorsak



R. Pooley
Twitter: @rapooley



J.A. Seibert

The situation with the novel coronavirus (COVID-19) pandemic is very fluid. This material is accurate as of 2020-04-07. Please check the ABR Coronavirus Information page for the latest updates on ABR activities.

The ABR has a daunting task even in normal times. We must develop and administer many exams. These exams must perform well. The exams must have accurate material, presented in a way that is psychometrically sound, on the dates they were scheduled, and in a secure fashion. Eleven of these exams are for medical physicists, and medical physicists participate in the preparation of the Core and Certifying exams for diagnostic and interventional radiology and the biology and physics exams for radiation oncology. The work of developing the exam content is done by dozens of medical physics volunteers. The work of administering the exams is done by our professional staff. We can justly boast that this process was a well-oiled machine until the coronavirus threw a wrench of gigantic proportions into the machinery. Since then we have been working in an atmosphere of uncertainty, where our actions are hindered by the prudent restrictions necessary to protect our staff, our volunteers, and the candidates.

Our actions have been driven by several principles:

- Protect the health and safety of everyone involved.
- Keep, as much as possible, to our normal schedule except when forced to change by the circumstances.
- Uphold our mission to provide meaningful certification.
- Meet the needs of the candidates.

The management problem is exacerbated by uncertainty about the future course of the pandemic. Some of the actions we have taken include converting all our face-to-face meetings to online conferencing and conducting daily conference calls for the leaders to work on plans and communications. Below are important issues for medical physicists.

Medical Physics Oral Exam

The MP Oral Exam has been postponed until October 24-27. The scheduling of the Oral Exam requires avoiding internal conflicts (e.g., we could not offer the interventional radiology Certifying Exam or the RO Oral Exam at the same time as the MP Oral Exam). We must also be able to secure hotel space. We try, as much as possible, to avoid major meetings, religious events, and holidays (e.g., the AAPM Annual Meeting). In this case, we could not avoid a conflict with the ASTRO annual meeting. The number of candidates that we can accommodate at the Oral Exam is limited by the number of examiners and hotel rooms. This precludes allowing any candidates who pass the Part 2 written exams this year a slot in this year's Oral Exam.

Part 1 and Part 2 Written Exams

The Part 1 and Part 2 written exams are scheduled for the first week in August. As of today (April 7), they have not been cancelled. However, there are several factors that could cause them to be postponed. First, there is a great deal of uncertainty as to what the course of the pandemic will be. We will need to make our decision around May 1. The second issue is that the exams are administered by a testing company (Pearson Vue). At the moment, Pearson Vue is shut down because of the virus. Our ability to schedule the written exams depends on Pearson Vue reopening. The situation is murky. If the exam is postponed, it will probably be would not rescheduled until late fall. Please check the Coronavirus Information

page on the ABR website for the latest updates.

CAMPEP Residencies

The ABR Board of Governors has issued a statement on CAMPEP Residencies, which you can access here. As noted in the statement, the ABR depends on CAMPEP and the program directors for determining completion of a residency. It should be noted that the NRC sets the rules for recognized status for authorized medical physicist (AMP) and radiation safety officer (RSO). The ABR cannot change those requirements.

Maintenance of Certification

At present, the ABR Board of Governors (BOG) has not made any changes to the MOC program. The BOG has considered the effects of the COVID-19 crisis and has decided that it would be premature to make changes to MOC at this time. The BOG is communicating frequently, and this decision could change.

The current requirements for medical physicists are:

MOC Component	Element	Compliance Requirement
Part 1: Professionalism and Professional Standing	Licensure	Valid and unrestricted (FL, HI, NY, TX) or professional standing attestation
Part 2: Lifelong Learning and Self-Assessment	CME	At least 75 Category 1 CME in previous 3 years
	SA-CME	At least 25 of the 75 Category 1 CME must be self-assessment CME (SA-CME).
Part 3: Assessment of Knowledge, Judgment, and Skill	OLA or traditional exam	Passed the most recent performance evaluation for ABR Online Longitudinal Assessment (OLA) or passed a traditional exam in the previous 5 years
Part 4: Improvement in Medical Practice	PQI Project or Activity	Completed at least 1 PQI Project or Participatory Quality Improvement Activity in previous 3 years

Referencing the chart about, except for Part 1 and Part 3, all MOC components are evaluated on a three-year running total with annual attestation by the diplomate.

We don't believe diplomates will have problems meeting Part 1.

Part 2 has two requirements. The first is 75 hours of CME within the previous three years. The second is that 25 of the 75 CME credits must be SA-CME.

A recent change is that all diplomates, including medical physicists, who are meeting the Online Longitudinal Assessment (ABR-OLA) annual progress requirement may reduce their SA-CME to 15 for the previous three-year period. There are many ways that medical physicists can meet their SA-CME and CME requirements remotely.

- The AAPM Virtual Library allows physicists to obtain SA-CME (and thus CME). It is relatively easy to obtain CME this way.
- There are many other organizations that also provide remote SA-CME. The ABR accepts MPCEC, Cat 1, and several others.
- The Self-Directed Educational Project (SDEP), which is available only to medical physicists, can be used to obtain up to 15 SA-CME hours per year. This appears to be underutilized. Details are on our website.

SPECIAL INTEREST FEATURE [THE ABR RESPONDING TO THE PANDEMIC], Cont.

When the MOC program was set up, significant effort was made to ensure that all necessary credits could be obtained without travel.

Part 3 was changed to ABR-OLA this year. This program is intended for remote participation. Because of the way it is set up, diagnostic medical physicists and therapeutic medical physicists could skip participation for up to 6 months. Because of unfortunate, but important, statistical limits, nuclear medical physicists must answer an average of one question per week. Again, this process is remote and question opportunities are available for four weeks after they are issued.

Part 4 evaluated annually over the work done in the previous three years. An easy way to meet the Part 4 requirement is to do an SDEP on a quality and safety topic.

Part 4 can also be met by participatory quality improvement activities, many of which are episodic. (More information is available here.)

A PQI project is a wonderful way for physicists to demonstrate their value to a department. Many of these can be done remotely by data mining.

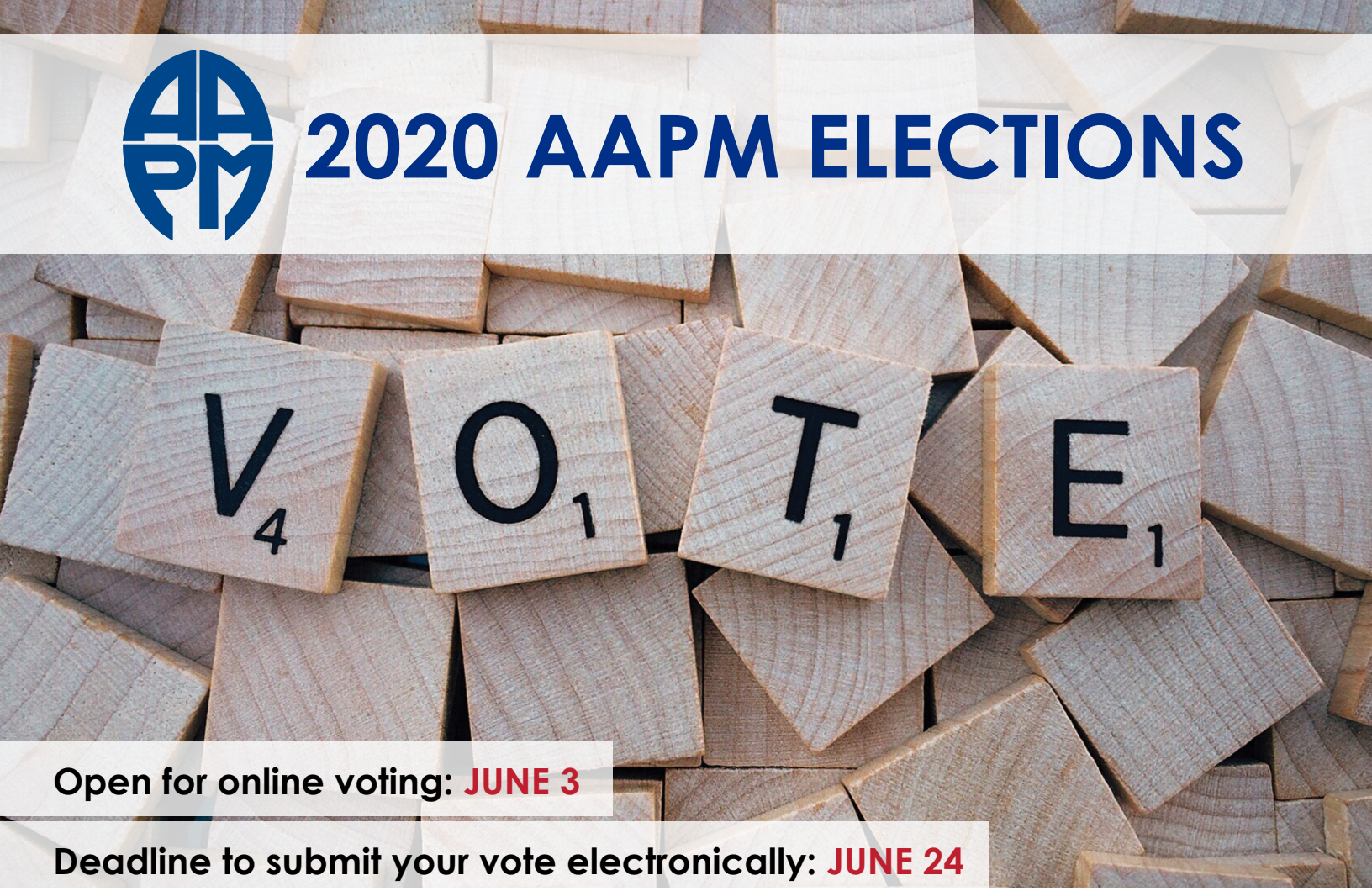
If something extreme happens, like extended illness, we have a process to modify MOC to meet your needs. Please contact us at information@theabr.org or (520) 790-2900.

Summary

The ABR will continue to monitor this unfortunate situation and provide regular updates. Please follow our website for the latest information.

Always ask the ABR first. ■

2020 AAPM ELECTIONS



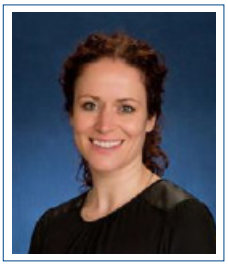
Open for online voting: JUNE 3

Deadline to submit your vote electronically: JUNE 24

SPECIAL INTEREST FEATURE: COVID-19

ETHICS, RADIATION PROTECTION AND COVID-19

Christina Skourou, PhD | Dublin, Ireland ■ Jim Malone, PhD | Dublin, Ireland



C. Skourou

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The unique nature of the Coronavirus and the rate with which it has been infecting whole populations pose a new threat and ask us to function in unfamiliar circumstances. While adhering to guidelines issued by governments, regional, local, and professional organisations, medical physicists must face day-to-day dilemmas that challenge familiar practices and ethics. But we, as radiation scientists and healthcare professionals, soon realise that there are striking parallels between the issues involved in the COVID-19 crisis and those we experience in radiation protection. Both deal with uncertainties, although those associated with COVID-19 are greater than those we normally encounter. They both also contend with unknowns in individual clinical outcomes, and with allocation of expensive therapeutic interventions with limited availability (e.g. radiosurgery and intensive care of seriously ill COVID-19 patients). It is therefore to be expected that our professional codes of ethics and value systems can be useful where formal advice is lacking, inadequate for the situation, temporarily suspended or unavailable.

Here are examples of some situations where a personal sensitivity to ethics is both necessary and useful:

- Situations where law/protocols lack maturity (e.g. use of CT for COVID-19 detection or monitoring).
- Where what ought to be done can't be done (e.g. when correct equipment or specialists are not available for example, when appropriate MRI is unavailable, but CT is).
- Where there is unresolvable uncertainty (e.g. when a radiotherapy patient on treatment has symptoms of COVID-19 but the facility to confirm by test is not available).
- When new services, or ways of managing existing services, are being contemplated (e.g. hypofractionation or change in the frequency of equipment testing).
- When the work environment changes significantly (e.g. multidisciplinary team meetings or patient chart reviews must be conducted remotely).
- When services must be (re) configured to render them more patient centered in the context of public health / population approaches mandated for COVID-19 (e.g. moving QA outside of clinical hours to facilitate patients' wishes to honor distancing protocols).

Well accepted value systems agree that dignity/autonomy, beneficence (do good), non-maleficence (do no harm), justice, and prudence ought to drive our ethical reflections.[1,2,3,4] Balancing these values can be problematic in practice. In outbreaks like COVID-19, additional considerations from the field of Public Health may be required, when the health of the population (as opposed to individuals) is the focus. We already have limited experience of this to draw from in screening programmes such as mammography.

This pandemic is unprecedented in the speed of its spread and the associated mortality and morbidity. Control measures to deal with it may challenge autonomy. The virus's preferential attack on the elderly in a context of limited therapeutic resources challenges both dignity and justice. Beneficence and non-maleficence are challenged in the use of existing medications off license, and in the limited availability of ventilators. In practice, a wider group of values may need to emerge which can be given greater prominence in addressing the pandemic more directly. The World Health Organisation (WHO) is a useful source on ethics in general and with radiation in particular. It routinely deals with epidemics on several continents involving pathogens ranging from mosquitoes to Ebola and has a depth of knowledge and experience, including guidance, on ethical issues and delivery of quality health services.[5]

WHO advises that the only powerful weapon we have in dealing with COVID-19 is solidarity. Its press briefings consistently take the view that in the absence of vaccines, or effective therapies, the only way to

address the problem is to harness public health measures that rely on solidarity for their effectiveness. Solidarity is an ethics value, which can be derived from those above, and places greater emphasis on the health of all than on (financial) security for a few (or the economy). Solidarity is to society, in part, what beneficence and non-maleficence are to the individual. In the words of Tischner: "Solidarity establishes specific interpersonal bonds; a man binds himself to another man in order to protect the one who needs care."[6] Likewise, to paraphrase Meskens who asserts that: - solidarity requires dialogue, exchange of words, ideas, and knowledge. This value beckons us to recognize the knowledge we collectively have; to acknowledge the imperative character of the complexity of the issues we are addressing; and to seek intellectual solidarity and engage in deliberation with other concerned participants.[7] There is a strong case for this in radiation protection and it is essential with COVID-19. Even more important, solidarity, wedded to prudence and precaution, obliges us as scientists to recognise the reality of the uncertainty in our current situation and collectively adopt a responsible attitude to it. Solidarity and inclusiveness strengthen our codes of ethics and the value sets above when consideration of the common good is important.

The world is highly interconnected, and we are all vulnerable to a viral pandemic. It must be confronted both locally and internationally. As radiation scientists, healthcare professionals and citizens, we must be aware of the bonds that hold us together and act for the good of society. This is why we respond favourably when asked to come to work when many others will be safe at home. This is also why we share knowledge on many matters of fact, great and small (e.g. of methods to compensate for gaps in radiotherapy treatments or best practices for chest-CT scans in the context of multiple scans over a short period of time[8,9]). We are educated on aspects of managing uncertainty, and in voluntarily accepting higher occupational radiation risks than those borne by the public or patients. We are given a unique trusted position to advise on complex, incompletely understood risk management situations.

The ethical conundrums of pandemics and natural disasters have some common features. But each major event also has its own unique defining characteristics. For example with COVID-19, unlike with hurricanes, we still have equipment and buildings, but are losing human capital. Each of us navigates these strange times in his/her clinic, government body, research lab, or industry. But, we have a collective duty to solidarity to advise on stewardship and risk management with healthcare resources, including time, personnel, and equipment.

Solidarity, and the idea that 'we are all in it together', informs the view that we should care for our relations with each other, not only in the sense that we need to be reflexive with respect to how our complex relations 'emerge' and 'work', but also in the sense that we need each other to make sense of the complexity of issues such as health risk governance in general and of diagnostic and therapeutic radiological practices in particular.[7]

Stay safe! ■

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[7]*See Chapter 7 of reference 4 above.*

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[9]*AAPM COVID-19 Information for Medical Physicists (accessed April 4 2020)* https://www.aapm.org/COVID19/

2020 RESEARCH SEED FUNDING GRANT

Three $25,000 grants will be awarded to provide funds to develop exciting investigator-initiated concepts, which will hopefully lead to successful longer term project funding from the NIH or equivalent funding sources. Funding for grant recipients will begin on July 1 of the award year. Research results will be submitted for presentation at future AAPM meetings. The award is not intended to provide salary support for the applicant, however any other research-related expenses, including travel to scientific meetings, will be supported. Travel expense should be included in the submitted budget. At the end of the 12-month period a report must be forwarded to the AAPM, along with itemized expenses. The award will not support indirect costs. Any unspent funds should be returned to the AAPM.

Sponsored by the AAPM Science Council through the AAPM Education and Research Fund.

A list of Award Recipients can be found here.

Eligibility:

- 5 years or less since awarding of PhD.
- Must be a member of the AAPM at the time of application. (any membership category) Pending membership status not eligible.
- No previous grants >$50,000 as principle investigator.
- Previously funded projects are ineligible.
- Prior Seed Grant recipients are ineligible.

Application Requirements:

Five-page description of research project (including figures and tables), separated as follows:

a. specific aims
b. background and significance
c. preliminary results
d. research plan
e. literature cited
f. budget
g. Letter of support from division/ department chair demonstrating support for the project and authorization of time and resources to complete the proposed research.
h. CV (no more than 4 pages).

Note that sections (e), (f), (g) and (h) do not count towards the five-page limit.

As the competition for the seed grant is high, eligible applicants are encouraged to also submit their applications for other awards, e.g. www.cancer.gov/researchandfunding/training/.

Review Criteria

- 50% Scientific merit of proposal (significance, innovation, environment, and soundness of approach)
- 25% Potential for project to develop into a major project fundable by NIH, DOE, DOD, etc.
- 25% Background of investigator

Application Deadline: May 29, 2020

(All supporting documents are due by the application deadline.) **You must log onto the AAPM website to view the apply button.**

Award duration:
July 1, 2020 – August 31, 2021

Recipients notified by:
June 22, 2020

FOR MORE DETAILS, VISIT:

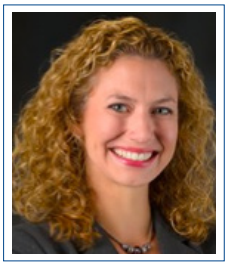
http://gaf.aapm.org/index.php#SEED

SPECIAL INTEREST FEATURE: COVID-19

SCIENCE COUNCIL REPORT: SUPPORTING MEDICAL PHYSICS RESEARCH DURING THE COVID-19 PANDEMIC

Paul Kinahan, PhD | Seattle, WA ■ Kristy Brock, PhD | Houston, TX
Benedick Fraass, PhD | Los Angeles, CA

P. Kinahan



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Abstract

By the time this article comes to print, we may have passed the peak of hospital resource use in the U.S. in response to the COVID-19 pandemic, according to projections from the IHME [1]. However, the impact on medical physics research will persist for months, if not years. The goal of this article is to briefly summarize areas of consideration for AAPM members with respect to research in medical physics and to offer guidance where possible. This article focuses on five areas: Clinical trials, transition plans and maintaining research productivity, supporting medical physics research, working with grant and contract sponsors, and emerging opportunities.

Clinical Trials and Clinical Research

Many medical centers have deferred elective procedures to reduce the spread of COVID-19. In addition, many facilities that conduct clinical trials have also placed clinical trials on hold if they are not related to COVID-19 research or deemed essential for patient care. While an understandable initial response to the pandemic might be to cancel all clinical trials as a blanket action to reduce interactions of research staff with patients and reduce the complexity of patient treatments, there are considerations of patient health and research productivity that argue against such a blanket cancellation plan.

Anecdotally, there have been inter- and intra-institutional variations in how changes to clinical trials are being implemented. For example, some policies are enacted by an institution's IRB or Human Safety Division or Board, but individual departments and ambulatory clinics have also implemented their own policies, some of which may further restrict clinical trials. Clinical research guidelines that are in alignment with NIH [2] and FDA [3] guidance include the following:

- A pause of on-going and new research activities (except those specifically allowed as described next) involving in-person interactions with participants. These pauses are often set with an end date in the future, but with a caveat that the end date may be pushed out.
- Research that may be allowed to start or continue:
  1. A significant likelihood of direct and meaningful benefit for individual participants.
  2. Necessary in-person safety monitoring procedures that cannot be eliminated or done in an alternative manner, for subjects who are already participating in study procedures.
  3. Research for which all in-person interactions can occur as part of a needed clinical care visit, and also only if all interactions are with only the clinical care providers the participant would see even if not participating in the research (i.e., no interactions with research staff).
  4. Research focused on COVID-19 or SARS-CoV-2.
  5. Studies where in-person interactions can all be eliminated or modified to appropriate remote interactions (e.g., phone calls, emails) that don't compromise participant safety or the scientific integrity of the research.

Typical approaches range from clinical trial status being determined on a case-by-case basis to most trials being suspended if they cannot use remote methods of interactions, with exceptions made for trials with curative intent or where the trial is needed for life prolonging or life-saving opportunity over current standard of care options, or when there are no standard of care options [4,5].

- Requirements for clinical trials that can start or continue:
  1. To the extent possible, study activities that can be done

remotely should be done that way.
2. COVID-19 screening of participants and staff before in-person interactions.
3. Researchers and clinicians should carefully consider if new enrollment is advisable.

- New applications for clinical trials should still be accepted and reviewed. IRB approval is one of many steps necessary to set up a study, and it is important for researchers to continue to work on startup activities during the temporary pause. This will help research to more quickly begin or resume when the pause has ended.

Transition Plans and Maintaining Research Productivity

During the early days of response to the COVID-19 pandemic, especially in those states and countries implementing distancing requirements (e.g. stay at home orders) researchers had to transition to remote work. A loss in research productivity was unavoidable, but ideally this loss will be a temporary disruption due to the transition.

For both individuals and groups, **a transition plan** is highly recommended to avoid compounding losses to our productivity (e.g. hazardous waste not properly disposed of, incomplete experiments abandoned on benches, a confusion of materials in refrigerators and freezers, data not backed up on computers that may fail, etc.). A transition plan can also help ramp research programs back up. This is also important from the viewpoint of retaining funding streams and employment in the long term. One example of a concise and effective transition plan that is based on experience from a prior crisis situation is posted on the AAPM Announcements website [6]. Some transition plan suggestions for maintaining or re-establishing research productivity are:

- For each person, develop a list of goals that can be completed remotely, e.g. data analysis, manuscript preparation, reading literature, preparing grant materials, acquisition of new skills or other professional development activities.
- Establish a plan for ongoing interactions, i.e. regular group or 1-1 meetings.
- Who can work in the lab? Typically, every researcher who can work remotely, should or must stay home. At the same time, research is critically important to assist in recovery afterwards, and in some cases, that work can only continue with in-person effort. If safety criteria can be met, types of in-person research that are appropriate are:
  - Research that will help the nation recover after the pandemic eases.
  - Research that is critical to meet thesis requirements for a final defense, or requirements of a new position that has already been accepted.
  - Long-term experiments, or maintaining vital equipment, cell lines, animals, and other time-sensitive research items, for which a pause would cause undue harm and/or cost.
- Maintaining and/or operating core or shared research facilities can be determined by the considerations described above.

Supporting medical physics research

Specific to medical physics research, which is typically coupled with clinical radiology and radiation oncology departments, is the use of 'big box' systems such as CT or MRI scanners, cyclotrons, LINACs, proton therapy units and others. These systems often produce big data that we use in the form of DICOM images and objects, treatment plans, and other data. Consideration of these common medical physics research operations points to two main priorities:

1. Access to big systems (e.g. CT scanners, LINACs): Physical access, such as for phantom scans, dosimetry readings modifying image acquisition or beam delivery protocols, etc. generally requires in-person access. This can be challenging during the pandemic for several reasons. However, research is recognized as important in the longer term, and most centers involved in medical research have this in their mission statement. In addition, the limited experience that we do have indicates that it appears possible to have safe access to the large clinical systems if proper procedures are carefully followed. Note also that with the postponement of elective procedures, clinical volumes are currently reduced by 50% or more at many centers. Thus, a thoughtful approach with careful

communication with clinical staff and leadership may enable in-person access to the clinical systems while maintaining physical distancing measures. As COVID-19 testing becomes more available, accessibility may improve.

2. Access to data and computing resources: These generally do not require in-person access, but do rely on access to on-site systems from remote or home systems. Maintaining up-time of the on-site systems is an appropriate designation for critical personnel as described above. Ensuring access through firewalls and adequate computing resources for home-based research activities is clearly important.

   In the past, home-based computing research resources have often been personally supported, or informally supported via institutional resources. With the potential for an extended-duration pandemic, careful thought should be given to home-based computing research resources, both for capital investments in equipment, and for recurring costs such as internet access. Although the costs for such resources may be significant, they are typically small relative to salary and benefits costs.

   Another resource to be looked at carefully is the expansion of on-site servers to provide data and computational resources for researchers working remotely. It is worth considering enhancing such facilities on a departmental level to support all researchers.

A few other suggestions for maintaining research productivity are:

- Disruptions are a bit like changing jobs. There is always a dip in productivity, but you can recover.
- We are not sure (at this point) of the time course or path of the SARS-CoV-2 outbreak, so prudence in planning for the long term is appropriate.
- As we hope our colleagues will do, be prepared to review papers and grant applications.
- It is also important to remember that group culture is important to productivity. Virtual happy hours or coffee breaks can help to maintain the sense of community within both research and clinical teams.

Working With Grant and Contract Sponsors

NIH [7], NSF [8], DOD [9] and other federal agencies are now providing information on making allowances for some delays and costs. However, please check carefully with the sponsor. In particular this applies to industry-supported grants and contracts, especially if they are for clinical trials.

The NIH in particular is providing extensive information and is accepting late applications through May 1, 2020 for deadlines between March 9 and May 1. In addition NIH is allowing salaries and stipends to be charged to NIH grants, even if those on the grant are unable to work on grant or training activities, but only if your organization's policy allows such charges from all federal and non-federal funding sources. NIH is also allowing pre-award costs to be incurred, extensions of post-award reporting, prior approval requirement waivers, and other numerous flexibilities regarding expenditures of funds [7].

Emerging Opportunities for Medical Physics Research

NIH is rapidly adding to a series of funding opportunities specific to COVID-19 [7]. While industry and state governments will be budgetarily challenged to support research in the coming year(s), the federal government enacted the $2.2 trillion Coronavirus Aid, Relief and Economic Security (CARES) Act on March 27, 2020. The CARES Act includes $940 million for NIH, which remains available until September 30, 2024. These funds will certainly be used for funding new initiatives, and some are in development already, so attention to announcements from NIH and other federal agencies for research opportunities is warranted.

Summary

These are difficult times when many of us are dealing with new demands in our lives, including conducting research remotely, teaching students, changing work habits, all while having young children at home or caring for our families, and certainly accommodations may be necessary when people or families are forced into quarantine or hospitalization because of the virus. However, as society and science tackle the COVID-19 pandemic, it is both essential and rewarding for those engaged in research to continue their pursuits. Given that the new normal is that there is no normal, at

least for now, the observations and suggestions here may even grow in importance as we learn more about the path of the SARS-CoV-2 outbreak and its impact on society. Feedback is most welcome, as we may need to update these observations as the pandemic and its long-term effects become clearer.

Acknowledgements

Thanks to the research leadership at our institutions, the RSNA Vice-chairs of Radiology Research, and members of the AAPM Science Council and Research Committee for helpful discussions. ■

References

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[8] Frequently Asked Questions (FAQs) About the Coronavirus Disease 2019 (COVID-19) for National Science Foundation (NSF) Proposers and Awardees. April 2, 2020. https://www.nsf.gov/bfa/dias/policy/covid19/covid19faqs_proposerandawardee.pdf

[9] Frequently Asked Questions for DOD Research Proposers and Awardees Impacted by the Novel Coronavirus (COVID-19). Effective March 19, 2020. https://basicresearch.defense.gov/COVID-19/Frequently-Asked-Questions/

2020 AAPM GRADUATE FELLOWSHIP

The fellowship is awarded for the first two years of graduate study leading to a doctoral degree in Medical Physics (PhD or DMP). Both BSc and MS holders are eligible to apply. Applicants must be a member of AAPM at the time of application, (any membership category). Pending membership status not eligible. A stipend of $13,000 per year, plus tuition support not exceeding $5,000 per year is assigned to the recipient. The amount of tuition support granted will be at the discretion of AAPM. The award will be paid to the recipient's institution and distributed in accordance with the institution's disbursement procedures. It is AAPM's policy that none of the funds may be diverted to the institution's "facilities," "administrative," or other overhead categories and the full $13,000 stipend must be provided to the recipient.

Sponsored by the AAPM Education and Research Fund.

A list of Award Recipients can be found here.

Each applicant must be a graduate of an undergraduate program in physics or equivalent majors (e.g., engineering-physics, math-physics, or nuclear engineering or applied physics) from an accredited university or college in North America. The undergraduate grade point average must be greater than 3.5 (based on a 4.0). Each applicant must have submitted an application for graduate study to one of the accredited programs with subsequent acceptance.

Required Supporting Documentation:

- All post-secondary study transcripts (official transcripts only)
- Copy of Graduate Record Exam results (If applicable)
- Recommendation Form
- TWO reference letters (optional)
- Acceptance letter from intended CAMPEP Accredited Program
- CV including GPAs and publications (use CV Template)

Merge all files into one PDF and upload the complete application (PDF).

Send supporting documentation *only* to:

American Association of Physicists in Medicine
1631 Prince Street
Alexandria, VA 22314
ATTN: Jacqueline Ogburn
jackie@aapm.org

Award Duration: September 2, 2020 - September 2, 2022

Application Deadline: June 8, 2020
(All supporting documents are due by the application deadline.)

Recipient Notified on: June 23, 2020

SPECIAL INTEREST FEATURE: COVID-19

SCMPCR COVID-19 ACTIVITIES

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M. U Shemanto

H. A Azhari

Since the rise of the COVID-19 pandemic at the end of last year, the infection has spread to each and every continent.

Nations everywhere throughout the world are attempting to deal with this worldwide emergency. Bangladesh is similar. In many cases, still, Bangladesh is struggling to provide fundamental medical services to one of the most densely populated nations. The 2019–20 coronavirus pandemic was confirmed to have spread to Bangladesh on March 2020. The first three known cases were reported by the country's Institute of Epidemiology, Disease Control and Research (IEDCR) on 7 March 2020. As of 15 April, there are a total of 1231 confirmed cases, 49 recoveries, and 50 deaths in the country [1].

The South Asia Centre for Medical Physics and Cancer Research (SCMPCR) usually works to improve the cancer care scenario in Bangladesh as well as South Asia through training workshops, seminars and cancer awareness programs, but considering this emerging global health crisis, SCMPCR has taken the initiative with several activities to prevent COVID-19.

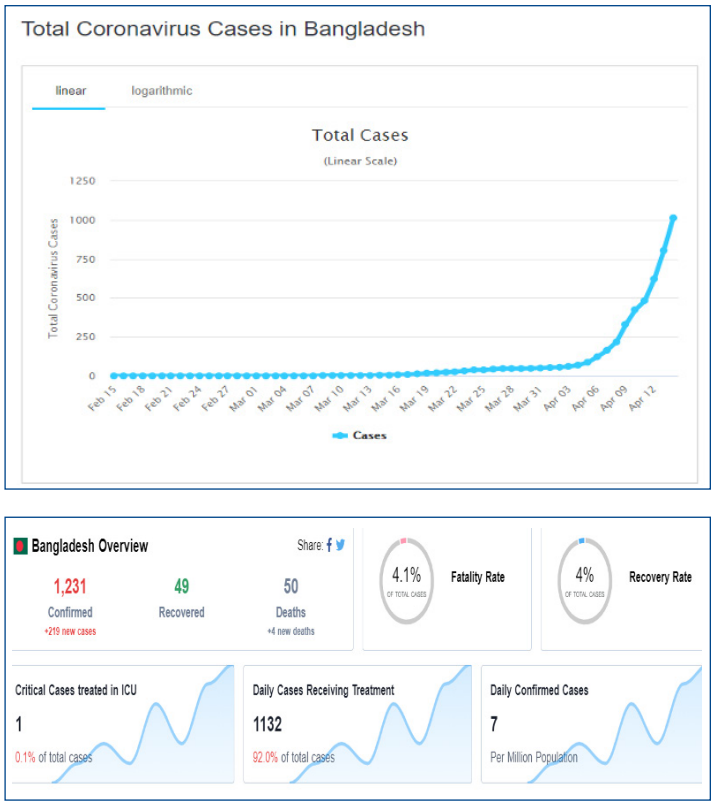

Figure 1: Corona cases in Bangladesh till 15th April

Activities of SCMPCR During COVID-19 Emergency

1. Working with DGHS, Ministry of Health: As an initial response to this emergency from the March 2020 Directorate General of Health Services (DGHS), Ministry of health and Family Welfare, Bangladesh has opened a new integrated control room for managing and supervising the coronavirus state of affairs and to lift awareness among folks concerning coronavirus. Its fifteen teams' area units are coordinating their work. The groups are: quarantine management, information communication and awareness, laboratory and diagnosis, contact tracing, protocol and guidelines, orientation and training, hospital and patient care, legislative and supply, coordination, security and cleaning, partnership with development and Public Private Partnership (PPP) and oversight supervising and oversight monitoring.

In order to help in this pandemic our team contacted with DGHS. The coordinator of information communication, awareness and PPP Dr Md. Rizwanul Karim (Shameem) DGHS, Ministry of Health welcomed us. With response to this, members of Alo Bhubon Trust (Alo-BT) and its sister project SCMPCR have jointly started working at the integrated control room under the Public Private Partnership team under the coordination of Dr Karim (Shameem). Our main work was translation of the WHO guidelines, generation of images, PowerPoint for the awareness of the general people, and preparation of guidelines for the health workforce

in the Bangla language for the community.

2. Raising Awareness through Circulation of Posters and Leaflets: In the meantime, SCMPCR has made several PowerPoints, posters and leaflets on coronavirus which are uploaded regularly to the SCMPCR website, Facebook and other social media for creating awareness on the COVID-19. Those contents were distributed within the mass people to raise awareness.

3.Working with other Organization: In addition to SCMPCR members, we also provided the international (IAEA and AFOMP) guidelines to the Radiotherapy and Nuclear Medicine departments at the time of COVID-19 emergency.

4. Relief Distribution Program: The Bangladesh government has executed a comprehensive lockdown to prevent the coronavirus from spreading since 25 March, but the move has carried difficulties for millions of people in the highly dense population in Bangladesh. The economic closure caused by COVID-19 caused fear in millions living in the country. Poor people have lost their work and are not getting any financial aid. As per World Bank information, just 15% of Bangladesh's population makes income of 500 takas ($5.90) a day. At this point about 10 million rickshaw drivers, daily labor, factory workers, part time maids and others lost their ability to obtain daily food and they don't have any savings to face this situation.

Regarding this, SCMPCR authority has taken an initiative to help the poor. Instead of distributing food one by one on the street, SCMPCR is trying to do something a bit more sustainable. SCMPCR authority is scrutinizing and listing some needy families in different areas with their expert health team and will provide food for two months. In parallel, SCMPCR has started to seek help from several individuals and organizations to help the more needy people during this crisis.

Figure 2(a): SCMPCR members (in green circle) are working at integrated control room, DGHS, Ministry of health, Bangladesh

Figure 2 (b): Guidelines and PowerPoints in Bangla language

5.Completion of online course on Covid-19 organized by the DGHS, Ministry of Health: An online course has conducted by the DGHS, Ministry of Health through "Muktopath" an e-learning platform of the

SPECIAL INTEREST FEATURE [SCMPCR COVID-19], Cont.

Figure 3: Posters and Leaflets of SCMPCR to Raise Awareness

Figure 4: Relief Distribution leaflet

Bangladesh government. All are welcomed in this online training on COVID-19. This training was organized to spread awareness messages about the COVID-19 to the general public and the training is prepared in such a way that anyone could complete the course at his convenience by spending just two to four hours by connecting to the internet with mobile service. There are seven modules in this training. Each module is open to students and there is a quiz at the end of each module. The participants need to pass the quiz to continue to the next module. The participants would be able to download a certificate online after completing the quiz and completing the course. SCMPCR members have completed the online course so that they can help the people regarding COVID-19.

Conclusion: The COVID-19 outbreak has influenced all of us, but those of us who are in relative comfort can help the individuals who are in crisis. In countries like Bangladesh, and even in more developed countries, post-pandemic effects will spawn economic, political, social, and other crises. On the other hand, the ideas and philosophies of the healthcare, educational, and organizational systems will be viewed in a different light in the near future. In the meantime we have learned a good experience from China, Europe, and the USA that despite being developed countries, their health systems are not appropriate for managing the emergency crisis. We should reorganize the health system, which is of prime importance for living. So, SCMPCR is thinking how to overcome this post-pandemic effect and needs to do research on health system, as quality health and education is our prime motto. This crisis is not the end, so emergency management of this type of crisis without borders needs to be onsidered and special research should be done on how to collaborate with each other without thinking about taking the leading position in the world. ■

Figure 5: Certificate of the online course

Reference

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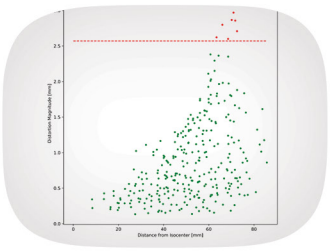
Measure and Evaluate MRgRT 3D Distortion

distortioncheck

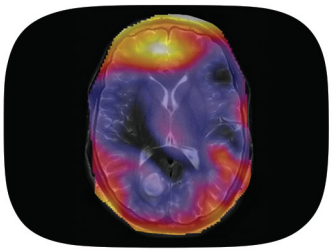
CLOUD SOFTWARE FOR EVALUATION OF IMAGE DISTORTION

SCAN

UPLOAD IMAGES



REVIEW REPORTS & TREND ANALYSIS



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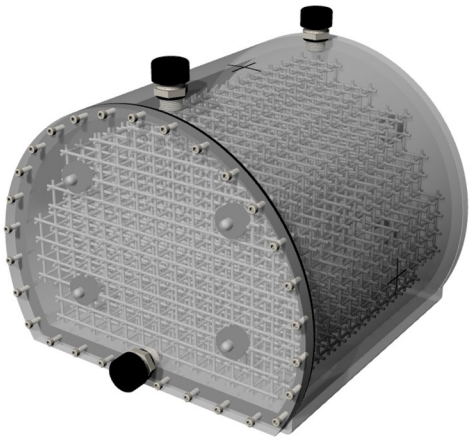

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GEOFFREY IBBOTT, PhD JOINS ABR STAFF

PERSON IN THE NEWS
Geoffrey S. Ibbott, PhD | Jericho, VT

The ABR has hired **Geoffrey Ibbott, PhD** (medical physics) to serve as part-time ABR staff member and to act as liasion to the board and other stakeholders. Both will begin their new duties July 1.

As Associate Executive Director, he will join three others, including those for diagnostic radiology, interventional radiology and radiation oncology.

Dr. Ibbott is professor emeritus and former chair of the department of radiation physics at the University of Texas MD Anderson Cancer Center in Houston. He earned a bachelor's degree in physics from the University of Colorado, a master's in medical physics from the University of Colorado Health Sciences Center, and a PhD in radiation biology from Colorado State University.

He was the director of the Ibbott Lab, which investigated three-dimensional dosimetry techniques, most recently developing dosimetry systems for use in MRI-guided radiation therapy. He has been author or coauthor of approximately 200 publications in refereed journals.

Dr. Ibbott was the chair of Subcommittee 62C of the International Electrotechnical Commission from 2004 to 2016 and is an active member of the American Association of Physicists in Medicine, for which he served as president in 1999, the American College of Radiology (ACR), the American Society for Radiation Oncology, and the International Organization of Medical Physics.

He was an ABR trustee and governor from 2007 to 2017, including time as secretary-treasurer. ■

SOUTH ASIA CENTRE FOR MEDICAL PHYSICS AND CANCER RESEARCH (SCMPCR): A REGIONAL COMPETENCE CENTRE FOR CANCER CONTROL IN SOUTH ASIA

SOUTH ASIA CENTRE FOR MEDICAL PHYSICS AND CANCER RESEARCH (SCMPCR)
SAVAR, DHAKA, BANGLADESH
T. H Patwari ■ M. U Shemanto ■ H. A Azhari


T.H Patwari


M.U Shemanto


H.A Azhari

The cancer burden continues to grow globally, exerting tremendous physical, emotional and financial strain on individuals, families, communities and health systems. Many health systems in low- and middle-income countries are least prepared to manage this burden and large numbers of cancer patients globally do not have access to timely quality diagnosis and treatment [1].

The South Asia (SA) region with its eight countries (Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan and Sri Lanka) has about 1.891 billion inhabitants which is approximately one-fourth of the world's population. This region is presently experiencing a shift in infectious disease to an increased incidence of non-communicable diseases like cardiovascular and cancer. Despite massive diversity across the South Asian countries, they face a big challenge to develop cancer control programs. Therefore, a strategic collective approach is required to ensure the access to quality cancer care for this region as cancer will appear as an epidemic in the SA countries in the coming decades. Though in radiotherapy the number of radiation oncologists is somewhat manageable in South Asia region, nevertheless medical physicists are quite a new profession except for India, and there are almost zero in some countries (Bhutan, Afghanistan and Maldives). On the other hand, in modern times there are lots of updated new technologies are being introducing into our health treatment sectors. From diagnostic to treatment techniques all the equipment needs good maintenance and high quality control. According to international rules and regulations, medical physicists are mandatory to run these departments along with medical doctors and technicians. Without qualified manpower, especially a Qualified Medical Physicists (QMP) on its cancer team, a radiotherapy department cannot operate precisely and accurately — otherwise serious detrimental effects will lead to death or secondary carcinoma.

Considering the urgent need of qualified manpower in these treatment sectors, the South Asia Centre for Medical Physics and Cancer Research

"To meet the challenge of 21 century's medicine especially for advanced cancer treatment in Bangladesh and South Asian region, SCMPCR will act as a centre of excellence in near future. Our beginning journey since its establishment has already shown a positive impact on the SA region."

SOUTH ASIA CENTRE FOR MEDICAL PHYSICS AND CANCER RESEARCH (SCMPCR), Cont.

(SCMPCR) — a project of Alo Bhubon Trust— was established in the year 2018 with the philanthropic vision of Prof. Golam Abu Zakaria, Germany. From his experience in this field for more than 40 years in Germany and approximately 30 years in Bangladesh and other developing countries, he decided to establish SCMPCR. The motto of SCMPCR is quality education and health science for patient benefit.

To manage the huge growing demands of patients, SCMPCR is trying to create skilled manpower for the cancer treatment team by international experts along with a national and international collaborative approach. Germany is playing a vital pioneer role for this initiative through the DAAD scholarship program and subsequently other countries of SA have consensus to agree on our mission and vision (www.scmpcr.org). The ongoing activities and future activities are briefly described below.

Current Activities of SCMPCR [Fig 1]

Training: SCMPCR organizes a series of International Organization of Medical Physics (IOMP) and European Board for Accreditation in Medical Physics (EBAMP) accredited hands on workshops and in-service training (2-3 per year) in collaboration with several national and international organizations and hospitals for cancer team professionals (Doctors, Medical Physicists, Nurses, and other providers). Hands-on training (Table 1) is more practical and very interactive so that participants from different countries can update their knowledge of recent technologies and become better prepared for the certification process.

Table 1: Training and Educational Program

Types of training	Number of Training Program till 2019	Co-organizers	Participants	Trainer	Accreditation	Structure	Countries
Service training	3 in service training for the medical physicists, radiation oncologists, biomedical engineers and nuclear medicine doctors.	SES, German Organization, Institute of Nuclear Medicine Centres, Bangladesh Atomic Energy Commission	Doctors, RO, MP, Technicians of the Local hospitals	Germany	Internationally certified Doctors, RO, MP, Technicians	3 weeks long training	Bangladesh
Hands on workshop	5 hands-on training programs on Contouring, Dosimetry, Treatment Planning, QC of CT, Commissioning of Linac, VMAT, IMRT Small field dosimetry.	IBA, AAPM, University of Medical Centre, Mannheim, Germany, Square hospital, National Institute of Cancer Research and Hospital, Ahsania Mission Cancer and General hospital	Medical physicists from South Asian countries including Bangladesh.	Taiwan, Germany, Canada, India, Japan	EBAMP and IOMP	3 days long training (Theoretical 16 hours + Practical 8 hours)	Bangladesh Srilanka (2020) Nepal (2021) India (Discussion and MOU complete, under process)

SOUTH ASIA CENTRE FOR MEDICAL PHYSICS AND CANCER RESEARCH (SCMPCR), Cont.

The selection of the participants is done after sending the invitation to the key personnel of SA countries for nomination and then final selection is done by the SCMPCR organizing committee. Normally at the end, there is an examination and certificates are provided to the participants. Besides these, SCMPCR also provides for accommodations and partial travel costs for the participants from SA countries for training purposes.

In-Service Training: From experience, for many years we have realized that the outcome of training in foreign countries is less effective than in-service training. With in-service training, more personnel can be involved in the hospitals and daily hospital-based cases, their problems according to the country can be solved using local equipment. In parallel, the advice for better treatment outcomes compared to the techniques of the local hospital can be provided by the experts.

Awareness Program on Cancer: "Prevention is Better than Cure." From this belief, to reduce mortality and suffering for cancer, SCMPCR organizes several cancer awareness programs regularly twice a year as well on special days like world cancer day and others.

Self-help Group: Though it is a very known term in developed countries, this idea is quite new in SA countries. So SCMPCR introduced a self-help group of/for cancer patients for the first time in Bangladesh. SCMPCR has made a community of self-help groups where patients with the same types of a cancer can discuss with each other, and thereby can help each other, share their experience, and especially support each other, which may enhance the mental strength of cancer patients.

Health Education: A health education program is organized in school, college, university and different levels in cities and rural areas to educate the people on how to maintain a healthy life keeping diseases away.

SCMPCR Newsletter: SCMPCR publishes its newsletter bi-annually (June and November issue) to represent its activities. The editorial board comprises members of SA regions and also from other developed countries. SCMPCR has published two newsletters since November 2019.

Research: In the meantime, SCMPCR has focused its research on 3D printer and Artificial Intelligence (AI) with collaboration of Germany, China and EFOMP AI group which was presented in different conferences. Also, SCMPCR is continuous doing research with MP students, researchers on radiotherapy, diagnostic radiology and nuclear medicine area.

1: At a Glance: SCMPCR Current Activities Fig.

Upcoming Programs of SCMPCR

E-Learning Program: SCMPCR is working with Global health catalyst Harvard University to initiate the program for online courses and training. This accommodates more participants at a time. The interested participants will register on the SCMPCR website, and the SCMPCR office can store the program in the server for future purposes.

Welfare Home for Cancer Patients: In countries like us in the SA region, more than 80% of people live under the poverty level. People from rural areas sell all of their property to treat their relatives with cancer, ultimately becoming destitute. Radiotherapy and other modes of cancer treatments are a long-term treatment (minimum 30 days). To obtain better treatment, they come to the city which is very costly, and which in turn imposes a further burden on them. Considering this, SCMPCR aims to build a welfare home for poor cancer patients providing the cheapest accommodation with food, counselling, outdoor facilities and palliative care during the treatment period.

SOUTH ASIA CENTRE FOR MEDICAL PHYSICS AND CANCER RESEARCH (SCMPCR), Cont.

Digital Library: It is difficult to collect all the hard copies of books on medical physics, oncology, radio diagnostic and other books due to economic strain. On the other hand, a large space will be needed for keeping those books, limited to only a defined society. To cover the SA region and also beyond this digital library is most important.

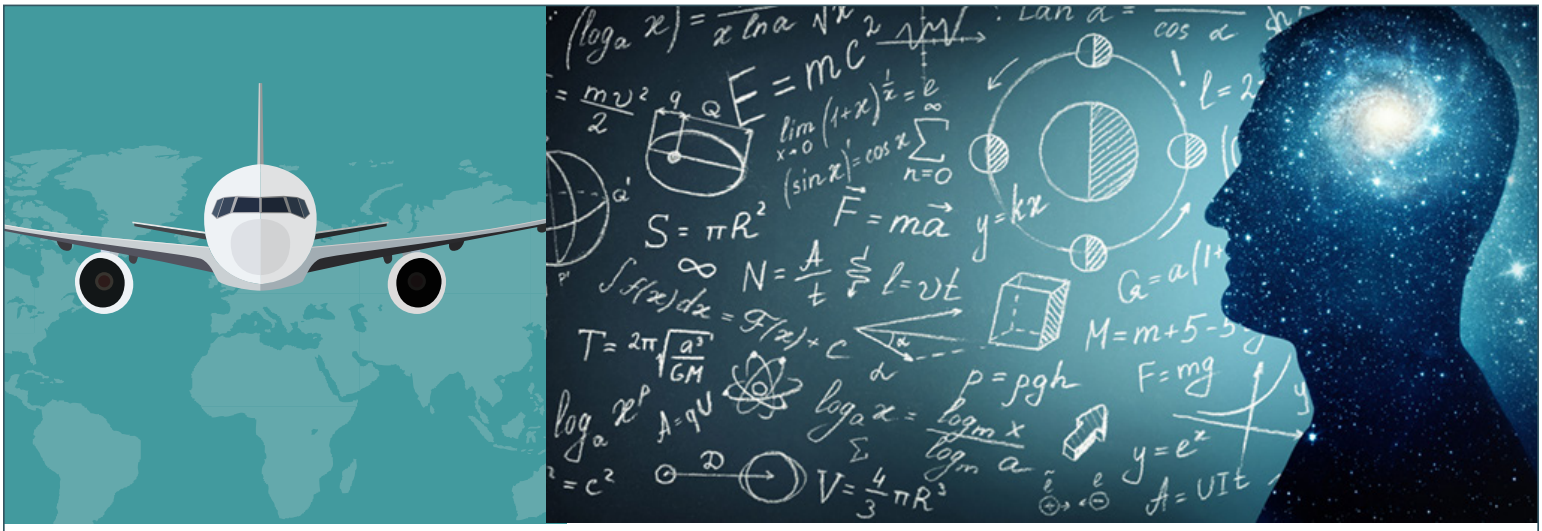
SCMPCR Institute for Residency Program: After a postgraduate course in medical physics, a two-year residency course in an accredited hospital is mandatory for individual certification in the specialties of nuclear medicine, diagnostic medical physics and radiation oncology. There is no accredited hospital in Bangladesh or in the SA region except India. It is not possible to send the students to foreign countries for 2 years. SCMPCR would like to establish an institute for residency programs and cancer research through collaboration of other research institutes in the world. The Institute should be a regional center for the SAARC countries and act as a meeting point for the scientists of all SAARC countries and all other neighbor countries like Myanmar, Thailand and Vietnam etc.

Nutrition Medicine for Prevention: SCMPCR research specifically focused on nutrition medicine for prevention of disease in Bangladeshi and South Asian patients.

Conclusion: To meet the challenge of 21st century's medicine, especially for advanced cancer treatment in Bangladesh and South Asian region, SCMPCR will act as a center of excellence in the near future. Our beginning journey since its establishment has already shown a positive impact on the SA region. Many academics, researchers, and members of cancer teams from different countries in the SA region have commented with their positive views and suggestions in our newsletter and hopefully we can build an excellent hub for Cancer Control in South Asia Region with the cooperation of well-wishers and philanthropic persons. ■

References

1. *"Cancer." World Health Organization,* www.who.int/westernpacific/health-topics/cancer



Congratulations to the 2020 AAPM

EXPANDING HORIZONS TRAVEL GRANT AWARD WINNERS

2020 EXPANDING HORIZONS WINNERS ROUND 1

Clara Fallone

Attending: International Society of Magnetic Resonance in Medicine 28th Annual Meeting

Jiahan Zhang

Attending: IEEE Conference on Computer Vision and Pattern Recognition (CVPR)

2020 EXPANDING HORIZONS ROUND 2

Opens: Monday, July 6, 2020

Closes: Monday, September 7, 2020

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AAPM / RSNA IMAGING PHYSICS RESIDENCY GRANT

The AAPM Board of Directors has approved $420,000 in support over 6-years ($70,000/year starting in 2019) to fund six spots in existing or new imaging residency programs. The RSNA Board of Directors approved $210,000 in funding for 3 additional slots in existing or new imaging residency programs.

Sponsored by the AAPM Education and Research Fund.

A list of Award Recipients can be found here.

Applicant Eligibility:

The purpose of the AAPM funding is to provide 50% support of a resident's salary for two imaging physics residents. The awardee institution(s) will provide the other 50% support. After the period of the award is over, the intent is that the awardee institution(s) will continue to fully support this new imaging physics residency position. Demonstration of this intent should be included in the application materials.

- CAMPEP accreditation is expected within the first year of the funding period, if a program is not currently accredited.
- Open to existing or new imaging residency programs.
- 1st priority – New programs (hence new slots), no previous funding from any AAPM program. A new program is defined as one that has applied for CAMPEP accreditation after January 1, 2019, or has not yet applied for CAMPEP accreditation.
- 2nd priority – Existing program but with new slots, no previous funding from any AAPM program. A new slot is defined as one that has been created or filled after January 1, 2019.
- 3rd priority - Existing program but with new slots, has had previous funding from any AAPM program. A new slot is defined as one that has been created or filled after January 1, 2019.

Award Duration: July 1, 2021 – July 1, 2023

Application Deadline: October 1, 2020

Recipients Notified by: October 29, 2020

FOR MORE DETAILS, VISIT: http://gaf.aapm.org/index.php#IPRWG

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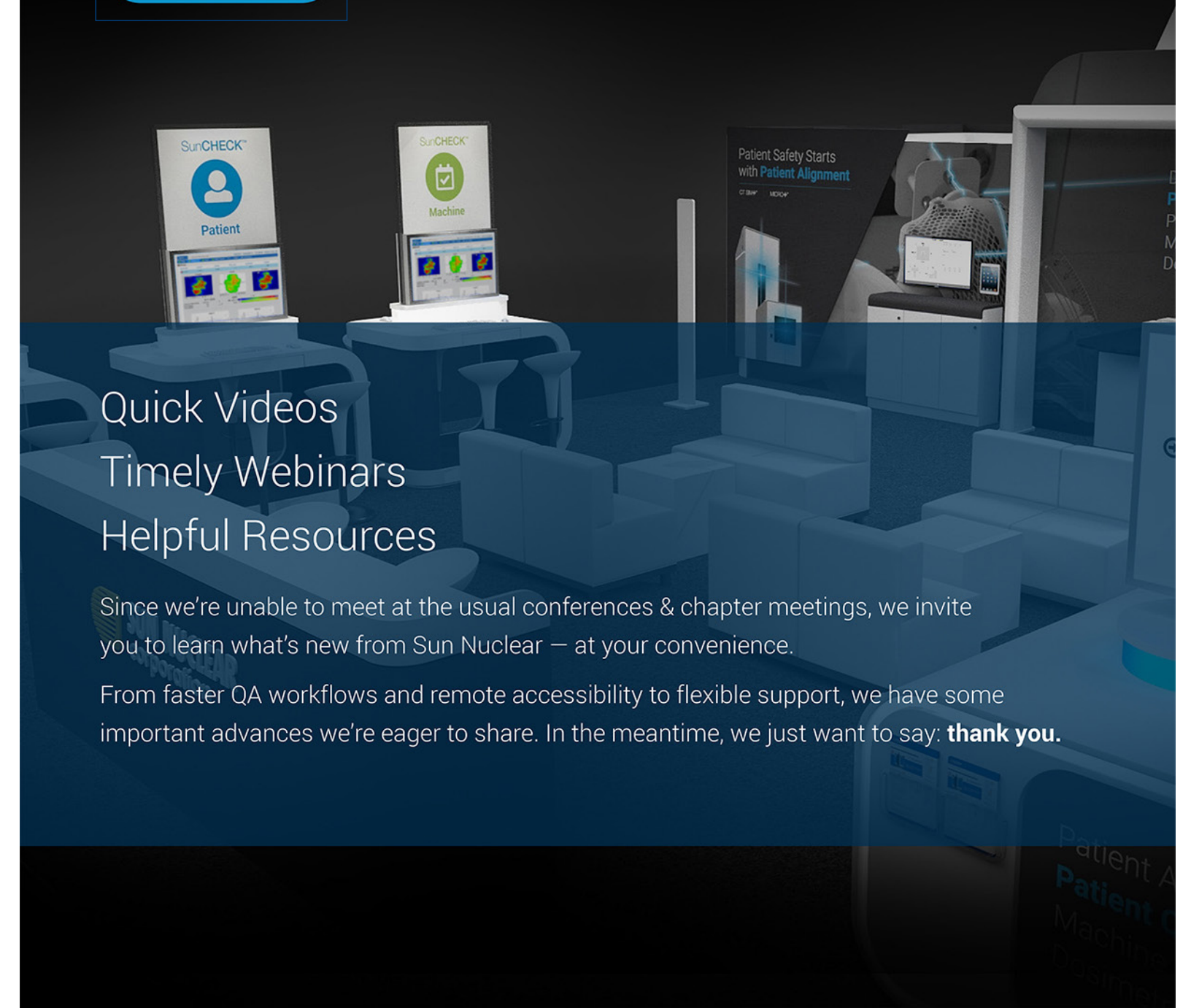

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