AMERICAN ASSOCIATION of PHYSICISTS IN MEDICINE

Awards Ceremony

JULY 12–16

2020 VIRTUAL JOINT AAPM | COMP MEETING

Improving Health QUALITY. Increasing Global IMPACT.

The American Association of Physicists in Medicine is the premier organization in medical physics, a broadly-based scientific and professional discipline encompassing physics principles and applications in biology and medicine.

The mission of the American Association of Physicists in Medicine is advancing medicine through excellence in the science, education and professional practice of medical physics.

Improving Health QUALITY. Increasing Global IMPACT.

2020 VIRTUAL PROGRAM

M. Saiful Huq, PhD
AAPM President

Honoring Deceased AAPM Members

AAPM Fellowships and Grants

IROC Houston Service Recognition

Early Career Investigator in Imaging Travel Award

Jack Fowler Junior Investigator Award

Jack Krohmer Junior Investigator Award

John R. Cameron – John R. Cunningham
Young Investigators Symposium Awards

Journal of Applied Clinical Medical Physics Paper Awards

- George Starkschall Award of Excellence for an Outstanding Radiation Oncology Physics Article
- Edwin C. McCullough Award of Excellence for an Outstanding Medical Imaging Physics Article
- Peter R. Almond Award of Excellence for an Outstanding Radiation Measurements Article
- Michael D. Mills Editor in Chief Award of Excellence for an Outstanding General Medical Physics Article

Medical Physics Journal Paper Awards

- Moses and Sylvia Greenfield Paper Award
- Farrington Daniels Paper Award

Honorary Membership

Fellows

Golden Anniversary Membership

John S. Laughlin Young Scientist Award

Marvin M.D. Williams Professional Achievement Award

Edith H. Quimby Lifetime Achievement Award

William D. Coolidge Gold Medal

Closing Remarks

Informal Conversation With Coolidge Award Winner

AAPM FELLOWSHIPS & GRANTS

- **AAPM Fellowship for the Training of a Doctoral Candidate in the Field of Medical Physics**
  Awarded for the first two years of graduate study leading to a doctoral degree in Medical Physics. The recipient is:

  Daniela Olivera Velarde – University of Chicago

- **ASTRO-AAPM Physics Resident/Post-Doctoral Fellow Seed Grant**
  The Physics Seed Grant is a joint effort to advance the field of radiation oncology in novel ways through the support of talented early-career scientists performing physics and radiation oncology-related research. The aim of the Physics Seed grant is to support the next generation of researchers. The 2020 grant recipient is:

  Lydia Wilson – St. Jude Children's Research Hospital

- **AAPM/RSNA Imaging Physics Residency Program Grant**
  On November 29, 2017, the AAPM Board of Directors approved $140,000 in funding for two new imaging physics residency positions, in diagnostic, diagnostic with a nuclear medicine option, or nuclear medicine. With this funding, the selected institution(s) will receive $35,000 per year for two years as matching support for one resident. **Program Update:** The AAPM Board of Directors has approved $420,000 in support over six 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 three additional slots in existing or new imaging residency programs. The 2020 winners are:

  Lindsay DeWeese – Oregon Health & Science University
  David Jordan – University Hospitals Cleveland Medical Center

- **2020 "Virtual" DREAM — Diversity Recruitment through Education and Mentoring Program**

  The American Association of Physicists in Medicine (AAPM) Diversity Recruitment through Education and Mentoring Program "DREAM" is a 10-week summer program designed to increase the number of underrepresented groups in medical physics by creating new opportunities, outreach and mentoring geared towards diversity recruitment of undergraduate students in the field of medical physics. Students participating in the program are placed into summer positions that are consistent with their interests. Students are selected for the program on a competitive basis to be a DREAM fellow. Each DREAM fellow receives a $5,500 stipend from AAPM. The AAPM Northwest Chapter provided additional support. The DREAM Fellows for 2020 are:

  Gary Henderson Jr.
  Cindy Marie McCabe
  Tarik Rashada
  Genesis Suarez
  Hui Ju Wang

- **Research Seed Funding Grant**

  These grants are awarded to provide funds to develop exciting investigator-initiated concepts, which will hopefully lead to successful long-term project funding from the NIH or equivalent funding sources. It is expected that subsequent research results will be submitted for presentation at future AAPM meetings. The recipients for 2020 are:

  Bruno Barufaldi ***William T. Hrinivich*** ***Yi Lao***

- **2020 "Virtual" Summer Undergraduate Fellowships**
  Designed to provide opportunities for undergraduate university students to gain experience in medical physics by performing research in a medical physics laboratory or assisting with clinical service at a clinical facility. In this program, AAPM serves as a clearinghouse to match exceptional students with exceptional medical physicists, many of whom are faculty at leading research centers. Students participating in the 10-week program are placed into summer positions that are consistent with their interests. Students are selected for the program on a competitive basis to be an AAPM Summer Fellow. Each summer fellow receives a $5,500 stipend from AAPM. The AAPM Northwest Chapter provided additional support. The Summer Undergraduate Fellows for 2020 are:

  Mena N. Bushra
  William D. Engelhardt
  Roberto Fedrigo
  Helena M Frisbie-Firsching
  Jessica Paige Gillcrist
  Kevin Y. Guo
  Duncan Xavier Haddock
  Mimi (Xinyi) Li
  Luke David Lussier
  Claudia R. Miller
  Andrew Niecikowski
  Joseph Galen Piccolo
  Zion Shih
  Hunter Jacob Spivey
  Jacob Pierce Sunnerberg
  Spencer Harrison Welland
  Cindy P. Zhang

- **The AAPM Expanding Horizons Travel Grant**
  This travel grant program is designed to provide an opportunity to broaden the scope of scientific meetings attended to introduce students and trainees to new topics that may be of relevance to medical physics research and which may subsequently be incorporated into future research to progress the field in new directions. EXHG 2020 Round 2 will open Monday, July 6 and close Monday, September 7. The EXHG 2020 Round 1 Travel Grant recipients are:

  Clara Fallone
  Jiahan Zhang

- **IROC Houston Service Recognition**
  The radiation therapy community has benefited from the activities of the Radiological Physics Center since it was created in 1968. In 2014 the cooperative trial groups combined to create the Imaging and Radiation Oncology Core with the RPC becoming IROC-Houston.

  The organization has supported independent audits of beam quality for more than 50 years. It continues to play a fundamental role in supporting national and international clinical trials. Due to its robust evaluation of beam quality and its phantom program, numerous clinical trials have been able to shape clinical practice. The phantom program was especially instrumental in identifying deficiencies in the planning and delivery of IMRT for the early clinical trials in head and neck cancer. They perform a similarly crucial service with respect to assuring the dosimetry and delivery accuracy for patients treated for trials involving proton therapy.

  The members of IROC-Houston continue to influence national and international protocols through their leadership, especially with respect to dosimetry in clinical protocols. Such work impacts the treatment of every patient treated in the United States, not only those participating in clinical trials. Each year their impact both nationally and internationally continues to expand. The AAPM presents this Service Recognition Award to:

  David S. Followill, PhD – Director, IROC-Houston

- **Early Career Investigator in Imaging Travel Award**
  The Science Council has established a travel award administered by the Research Committee to support the attendance of 1 or 2 early-career, research-oriented AAPM members to participate in the Medical Imaging Technology Showcase (MedTech), sponsored by the Academy of Radiology and Biomedical Imaging Research (the Academy). Awardees become part of the Academy's Council of Early Career Investigators in Imaging (CECI2), who with the Academy advocates for federal investments in imaging research. CECI2 also serves as a valuable networking and educational resource for its members. AAPM's representatives to this year's CECI2 class are:

  Megan Lipford, PhD – University of Wisconsin
  Adam Wang, PhD – Stanford University Jiahan Zhang

JACK FOWLER JUNIOR INVESTIGATOR AWARD

Established in honor of Dr. Jack Fowler, PhD, Emeritus Professor of Human Oncology and Medical Physics, University of Wisconsin. Junior Investigators were encouraged to submit abstracts for the competition. The top scoring Junior Investigator submission determined by abstract reviewers was selected and the award is presented to:
Jue Jiang, PhD

JACK KROHMER JUNIOR INVESTIGATOR AWARD

Established in honor of Dr. Jack Krohmer, PhD, a pioneer in the medical physics community, and sponsored by the Krohmer Memorial Fund and Science Council through the AAPM Education and Research Fund. The award is based on abstracts submitted to the Scientific Program of the AAPM Annual Meeting, judged according to criteria of significance, innovation, and the potential for major scientific impact in an area of cutting edge interest in medical physics. The 2020 award is presented to:

Kayla Blunt, PhD

JOHN R. CAMERON – JOHN R. CUNNINGHAM YOUNG INVESTIGATORS SYMPOSIUM AWARDS

The 10 Young Investigator submissions scored highest by abstract reviews were selected to be presented in a special symposium, held yesterday, in honor of the University of Wisconsin Professor Emeritus John R. Cameron, PhD, and John R. Cunningham from the University of Alberta. The top three scoring abstracts will be announced during this ceremony.

JOURNAL OF APPLIED CLINICAL MEDICAL PHYSICS PAPER AWARDS

- **George Starkschall Award of Excellence for an Outstanding Radiation Oncology Physics Article**
  The George Starkschall Award of Excellence for an outstanding radiation oncology physics article published in JACMP in 2019 is presented to:

  Laure Vieillevigne, Catherine Khamphan, Jordi Saez, and Victor Hernandez for the paper entitled "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 Oustanding Medical Imaging Physics Article**
  The Edwin C. McCullough Award of Excellence for an outstanding medical imaging physics article published in *JACMP* in 2019 is presented to:

  Elisabetta Sassaroli, Calum Crake, Andrea Scorza, Don-Soo Kim, and Mi-Ae Park for their paper entitled "Image quality evaluation of ultrasound imaging systems: advanced B-modes," *JACMP* 20 (3), 115–124 (2019).

- **Peter R. Almond Award of Excellence for an Outstanding Radiation Measurements Article**
  The Peter R. Almond Award of Excellence for an outstanding radiation measurements article published in *JACMP* in 2019 is presented to:

  Jessie Y. Huang, David Dunkerley, and Jennifer B. Smilowitz for their paper entitled "Evaluation of a commercial Monte Carlo dose calculation algorithm for electron treatment planning," *JACMP* 20 (6), 184–193 (2019).

- **Michael D. Mills Editor In Chief Award of Excellence for an Outstanding General Medical Physics Article**
  The Michael D. Mills Editor in Chief Award of Excellence for an outstanding general medical physics article published in *JACMP* in 2019 is presented to:

  Jennifer Johnson, Eric Ford, James Yu, Courtney Buckey, Shannon Fogh, and Suzanne B. Evans for their paper entitled "Peer support: A needs assessment for social support from trained peers in response to stress among medical physicists," *JACMP* 20 (9), 157–162 (2019)

MEDICAL PHYSICS JOURNAL PAPER AWARDS

- **Moses & Sylvia Greenfield Paper Award**
  The Moses & Sylvia Greenfield Award for an outstanding paper on imaging published in *Medical Physics* in 2019 is presented to:

  Patricia. A. K. Oliver and R. M. Thomson for their paper entitled "Investigating energy deposition in glandular tissues for mammography using multiscale Monte Carlo simulations," *Medical Physics* 46 (3), 1426-1436 (2019).

- **Farrington Daniels Paper Award**
  The Farrington Daniels Award for an outstanding paper on radiation therapy dosimetry, planning or delivery published in *Medical Physics* in 2019 is presented to:

  Ryan T. Flynn, Q. E. Adams, K. M. Hopfensperger, X. Wu, W. Xu, and Y. Kim for their paper entitled "Efficient ^{169}Yb high-dose-rate brachytherapy source production using reactivation," *Medical Physics* 46 (7), 2935-2943 (2019).

HONORARY MEMBERSHIP

Honorary Membership into AAPM is bestowed upon individuals to recognize distinguished service that they have provided to other societies that support medical physics. Thus the award not only honors the individual but also strengthens the links between AAPM and the other society. The 2020 Honorary Membership recipients are:

John Buatti, MD ***Donald Frush, MD***

FELLOWS

The category of Fellow honors members who have distinguished themselves by their contributions in research, education, and leadership in the medical physics community.

Hania Al-Hallaq, PhD
Parham Alaei, PhD
Frank Ascoli, MS
Laura Cervino, PhD
Karen Drukker, PhD
Jonas Fontenot, PhD
David Gladstone, ScD
Kristi Hendrickson, PhD
Loretta Johnson, PhD
David Jordan, PhD
Siyong Kim, PhD
Harold Li, PhD
Joseph Och, PhD
Mark Pankuch, PhD
Jose Perez-Calatayud, PhD
Lei Ren, PhD
Yi Rong, PhD
Mihaela Rosu-Bubulac, PhD
David Schlesinger, PhD
Varun Sehgal, PhD
Chengyu Shi, PhD
William Song, PhD
Sotirios Stathakis, PhD
Rowan Thomson, PhD
Yoichi Watanabe, PhD
John Weiser, PhD
Habib Zaidi, PhD
Jie Zhang, PhD

GOLDEN ANNIVERSARY MEMBERSHIP

JOHN S. LAUGHLIN YOUNG SCIENTIST AWARD

This award recognizes outstanding scientific achievement in medical physics for a young scientist member of the AAPM. The award will usually be given to a member who is no more than 40 years old as of December 31 of the year of nomination, and who has been an AAPM member (student, resident, junior or full) for at least five years. The 2020 recipient is:

Xiaofeng Yang, PhD

MARVIN M.D. WILLIAMS PROFESSIONAL ACHIEVEMENT AWARD

This award recognizes AAPM members for an eminent career in medical physics with an emphasis on clinical medical physics. The 2020 recipients are:

Priscilla Butler, MS

Christopher Serago, PhD

EDITH H. QUIMBY LIFETIME ACHIEVEMENT AWARD

This award recognizes AAPM members whose careers have been notable based on their outstanding achievements. The 2020 recipients are:

Frederic Fahey, DSc

X. George Xu, PhD

WILLIAM D. COOLIDGE GOLD MEDAL

This award recognizes an AAPM member for an eminent career in medical physics. It is the highest award given by AAPM. The 2020 recipient is:

Randall Ten Haken, PhD

HONORARY MEMBERSHIP

John M. Buatti, MD

John M. Buatti, MD, earned his medical degree at Georgetown University in Washington, D.C. He completed a residency in internal medicine at Georgetown and a residency in radiation oncology at the University of Arizona. He joined the faculty of the University of Florida in 1993 and obtained an endowed chair in Stereotactic Radiosurgery from the Department of Neurosurgery. In 1999 he became Professor and Vice-Chair of Radiology and Director of Radiation Oncology at the University of Iowa. He immediately developed the plans for the creation of the Center of Excellence in Image-Guided Therapy for a new Department of Radiation Oncology, of which he became the chair in 2001. The Department moved into its new facility in 2005, which was innovative in having a 40-slice respiratory-gated PET/CT and 3T MR as standard simulation devices. He maintains active NCI funded research on quantitative imaging (U01) and clinical translational research (P01), is an Associate Director of the Iowa Institute for Clinical and Translational Science, and jointly holds patents related to the utilization of optic guidance for digital localization in radiotherapy. His research and clinical interests include a core emphasis in non-invasive and quantitative image-guided stereotactic techniques, algorithm development for radiation treatment planning and delivery, as well as free radical basic and translational science. He has written more than 215 peer-reviewed papers and more than 20 book chapters. He has served and continues to serve in a vast array of administrative leadership roles within the Carver College of Medicine at the University of Iowa.

Donald P. Frush, MD

Donald P. Frush, MD, is currently Professor of Radiology, Stanford School of Medicine, at Lucile Packard Children's Hospital. He was until that time the John Strohbehn tenured Professor of Radiology and Professor of Pediatrics and a faculty member of the Medical Physics Graduate Program, at Duke Medical Center, where he will return as a faculty member in October 2020.

Dr. Frush earned his undergraduate degree from UC Davis, MD from Duke University School of Medicine, was a pediatric resident at UCSF and completed a radiology residency at Duke Medical Center and a fellowship in pediatric radiology at Children's Hospital in Cincinnati.

Dr. Frush's research interests are predominantly involved with pediatric body computed tomography (CT), including technology assessment, techniques for pediatric multidetector computed tomography (MDCT) examinations, assessment of image quality, CT radiation dosimetry and radiation protection, and risk communication in medical imaging. Other areas of investigation include CT applications in children and patient safety in radiology. He received the Society for Pediatric Radiology Gold Medal in 2019.

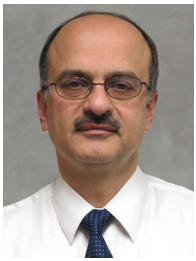
Dr. Frush is or has been past chair of the Commission on Pediatrics, ACR; Trustee (Pediatrics), Chairman of the Board of Trustees, and member of Board of Governors, ABR; past chair of the board and past president for the SPR; board member, NCRP; chair of the RSNA Refresher Course Committee; as well as current chair of the Image Gently Alliance. Dr. Frush has also worked internationally with both the WHO and International Atomic Energy Agency with radiation protection projects in medical imaging.

FELLOWS

Hania Al-Hallaq, PhD

Hania Al-Hallaq received her PhD in Medical Physics from the University of Chicago. She has been a faculty member at the University of Chicago for 15 years, becoming an Associate Professor in 2015. Throughout this time, she has taught two graduate courses annually and mentored 11 PhD dissertation students and physics residents. In recognition of her efforts to initiate a certificate program, she was appointed Director of the Certificate Program in 2011. To date, she has co-authored 49 publications and four book chapters focusing on IGRT for breast radiotherapy and the use of radiomics to detect radiation treatment-related toxicities. She has served as PI on three clinical trials for NRG/Alliance. Her AAPM service includes presenting multiple educational seminars, membership in 8 committees, and chairing TG-302 and the Medical Physics Residency Training and Promotion subcommittee. Nationally, Dr. Al-Hallaq serves as an examiner for the ABR, an Associate Editor for the Red Journal, and as a board member of SDAMPP.

Parham Alaei, PhD



Parham Alaei is Professor and Director of Medical Physics at the Department of Radiation Oncology, and Director of the Medical Physics Graduate Program at the University of Minnesota. He has authored or co-authored 34 peer-reviewed publications, six book chapters, and has contributed to 57 oral or poster presentations at national and international meetings. He served as the program director for the 2018 AAPM Summer School and co-edited the Summer School proceedings. He has practiced and taught medical physics for over 20 years and has served on many AAPM committees, including two task groups. He is a member of the *Medical Physics* editorial board and has served as the reviewer for many journals in medical physics, radiation oncology, and related fields. During his career, he has taught medical physics to numerous graduate students, medical physics residents, radiation oncology residents, and radiation therapy technology students.

Frank Ascoli, MS

Mr. Ascoli began his career in medical physics as a trainee under Dr. Jacob Spira at Boston City Hospital. He continued his education in Cincinnati, receiving a master's degree under Dr. James Kereiakes in 1976. In his early career, he regularly saw patients with radiation oncologists and worked directly with them to develop treatment plans. He enjoys teaching and sharing his knowledge for the betterment of patient care. He has taught radiology residents, post-doctoral fellows, and medical students. For his work with radiation therapy students, he was twice awarded distinguished teacher of the year. He continues to lecture therapy students preparing for the registry exam. Service to the AAPM and ACR includes holding several offices in his local chapter, volunteering as an ACR practice accreditation surveyor for many years, voluntarily participating in MOC, and becoming an ABR oral examiner and question writer. The ACR awarded him fellowship in 2010.

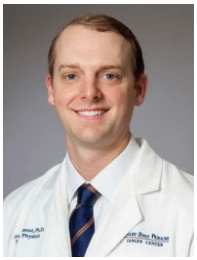
Laura Cervino, PhD

Dr. Cervino was raised in Spain, where she received an education in aeronautical engineering. She then moved to the US to pursue a PhD in aerospace engineering from the University of California, San Diego. After briefly lecturing in the school of Engineering in Seville, she returned to San Diego, following her growing interest in the medical field. She completed consecutive post-doc fellowships in Radiology and Radiation Oncology and then joined the medical physics faculty at UC San Diego Radiation Oncology. Her primary clinical and research interests lie in image-guided radiation therapy and motion management. She serves and leads multiple AAPM committees and task groups and is an active advocate for women in medical physics. She joined the Department of Medical Physics at Memorial Sloan Kettering Cancer Center in 2019 as the Radiotherapy Physics Service Chief.

Karen Drukker, PhD

Dr. Drukker has been involved in medical imaging research for almost two decades, focusing on radiomics and performance evaluation in cancer detection, diagnosis, and prognosis. Apart from co-authoring many publications in respected peer-reviewed journals, she has co-authored 3 Medical Imaging book chapters and is listed on 2 United States patents. Over the past years, Dr. Drukker has played an active role as part of the University of Chicago team of researchers both within her institution and in collaboration with other research groups such as the University of California San Francisco, University of Hawaii, Moffitt Cancer Center, the Cancer Genome Atlas, and the Cancer Imaging Archive (NIH). Dr. Drukker was on the organizing committee of the *LUNGx, PROSTATEx* 1 and 2, and *BreastPathQ* challenges (funded in part by AAPM) and has been a member of the AAPM WGGC since its inception. Other AAPM involvement: CADSC, TG273, and EBM MedPhys.

Jonas Fontenot, PhD



Jonas Fontenot was born in Crowley, LA, in 1979. He earned his B.S. in Physics from the University of Louisiana-Lafayette in 2002. He went on to study Medical Physics at the University of Texas M. D. Anderson Cancer Center-Graduate School of Biomedical Sciences at Houston, where he earned an M.S. and Ph.D. in 2005 and 2008, respectively. He then moved to Mary Bird Perkins Cancer Center in Baton Rouge, LA, where he currently holds positions as Chief of Physics, Chief Operating Officer, and adjunct faculty at Louisiana State University. Dr. Fontenot has supervised numerous graduate students and residents, published approximately 50 scientific papers, and received more than $2 million in sponsored research funding. He is certified by the American Board of Radiology and is involved in numerous professional economics activities of AAPM and ASTRO.

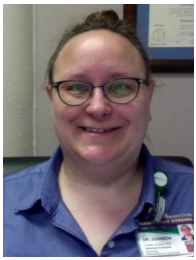
David Gladstone, ScD

David Gladstone received his Doctor of Science in Physical Chemistry from MIT. Following a post-doctoral fellowship in Medical Physics at the Joint Center for Radiation Therapy, he joined the medical physics faculty at Harvard, where he served for five years. Dr. Gladstone is currently Chief of Clinical Physics, Professor of Medicine, Adjunct Professor of Engineering, and co-director of the Medical Physics Education Program at Dartmouth. He is co-director of the shared radiation resource at the Norris Cotton Cancer Center, is a member of the NRG physics committee, and is Past President of the New England Chapter of the AAPM. Under Dr. Gladstone's leadership, Dartmouth was the first clinic in New England to implement routine use of CT-derived tissue heterogeneity corrections and routine use of IMRT. He co-led the first observation of Cherenkov emission in patients and pioneered radiobiological protection of the heart by gating the accelerator to the cardiac cycle.

Kristi R. G. Hendrickson, PhD

Kristi R. G. Hendrickson earned her PhD in Experimental Atomic Physics from the University of Washington. She accepted a postdoctoral position, contributing to research to incorporate functional PET imaging into radiotherapy planning. This research position was followed by a medical physics therapy position in the Radiation Oncology Department at the University of Washington Medical Center, where she is currently an Associate Professor. Dr. Hendrickson is certified by the American Board of Radiology in Therapeutic Radiologic Physics. She is the Residency Program Director at the University of Washington and active in residency education in her department and at the national level. Dr. Hendrickson has served the AAPM on task groups and is currently the Vice-Chair of the Women's Professional Subcommittee. She was a co-director of the AAPM Summer School on SBRT/SABR/SRS. Dr. Hendrickson is the author of 17 peer-reviewed articles, one book chapter, and over 25 abstracts.

Loretta Johnson, PhD



Originally, Dr. Johnson studied neutrinos and taught at Grinnell and Kalamazoo Colleges. In her second career, medical physics, she has worked in consulting, in a private hospital group. She is now the Director of the Medical Physics and Engineering Division of the Radiology Department at the University of Alabama at Birmingham. Outside of work, Dr. Johnson plays violin, sings, raises orchids, cacti, aloe, and palms, and enjoys gardening, her cats, and puzzles.

David Jordan, PhD

David Jordan is a medical imaging physicist who works with physicians and other healthcare professionals to educate them about physics and technology and improve patient care quality and safety. Having spent nearly a decade in consulting practice followed by a staff appointment in an academic medical center, he understands the needs and concerns of patients and medical professionals and how to distill data and jargon into clear recommendations. He revived the defunct hands-on MRI workshop for physicists in 2012 and redesigned the curriculum, training nearly two hundred colleagues over the next six years. David is certified in physics and safety of diagnostic imaging, nuclear medicine, and MRI by five national boards. He is a six-time Teacher of the Year honoree for his work with radiology residents. David holds a PhD in Nuclear Engineering and Radiological Sciences from the University of Michigan.

Siyong Kim, PhD

Siyong Kim, PhD is Professor and Director of Clinical Physics, Radiation Oncology, Virginia Commonwealth University. He earned his PhD from the University of Florida with a thesis on MLC in 1997. Through the PhD project, he developed a software module of MLC for a commercial treatment planning system and introduced a method of more accurate in-air output calculation, especially in IMRT. Since then, he has performed research in diverse areas, including dose uncertainty estimation, patient motion management, and image guidance, resulting in over 70 peer-reviewed journal articles and over 160 conference abstracts. He has also mentored students nationally and internationally, totaling over 40, served as either a member of an Editorial Board or reviewer for about 20 scientific journals, edited a book, and published 13 book chapters. He has been actively involved in professional activities, including serving multiple AAPM and IMPCB (International Medical Physics Certification Board) committees.

Harold Li, PhD

H. Harold Li received his PhD in Materials Physics from Friedrich-Alexander-Universität Erlangen-Nürnberg in Erlangen, Germany, in 2001. After a postdoctoral appointment at Vanderbilt University and a medical physics residency at the University of Florida, he joined Washington University in St. Louis in 2004 where he is currently Professor and Chief of External Beam Physics Service. He has been a member of three subcommittees and task groups of the AAPM. He has supervised more than 10 graduate students and postdoctoral researchers and contributed toward training over 30 medical physics residents. Dr. Li has written over 70 peer-reviewed publications and is an Associate Editor of Medical Physics. He has been Principal Investigator of three NIH grants and served as Scientific Reviewer on NIH dosimetry study sections. His contributions to the field include developing high-resolution electronic dosimetry films for IMRT/IMPT and experimental and computational dosimetry techniques for online adaptive MRgRT.

Joseph Och, PhD

After graduating from the University of Pittsburgh in 1975, Joe settled on a career in medical physics in 1978. He worked as an in-house medical physicist until the early eighties when he discovered and became fascinated by the burgeoning application of MRI. This led him to accept a position with an MRI vendor/manufacturer in 1984. When the company ceased operations in 1985, Joe returned to hospital Medical physics. In addition to his in-house physicist role, he established a successful part-time consulting business. In 2010, he joined Geisinger Medical Center as the System Director of Medical and Health Physics. He has since discovered a new medical physics passion and spends most of his time in clinical CT. He is very active in AAPM and ACR committees.

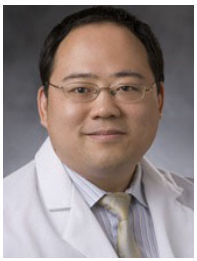
Mark Pankuch, PhD

Mark Pankuch earned his PhD in Medical Physics from Rush University of Chicago in 2001. After graduation, he was offered a position in a large hospital network and worked at several photon centers throughout the Chicagoland area. He was given the position of Manager of Medical Physics of this group. In 2010, the physician's group that he worked with entered into a joint venture to open the first proton center in the Chicago area. Mark accepted the role as Director of Medical Physics at the proton center, which also provides medical physics support to five nearby photon centers. Mark's interests have been focused on providing patients the ideal treatment modality based on potential clinical benefits. The education of proton therapy plays a significant role in this effort. He currently acts as the Physics Chair of the Proton Collaborative Group and is the Co-Chair of Physics for the NIH/PCORI sponsored randomized breast study.

Jose Perez-Calatayud, PhD

Jose Perez-Calatayud holds the position of Chief Medical Physicist in Radiation Oncology at the La Fe Hospital in Valencia (Spain). He has been working continuously in the field of Medical Physicist for the last 35 years. In addition to his clinical work, his research activity has been mainly focused in brachytherapy, participating, and sometimes leading, in the development of commercial solutions as the Valencia applicators. He has published more than 200 articles and given more than 150 invited lectures, both in scientific meetings and training courses. He has been honored to serve in several AAPM, ESTRO, ABS, and SEFM Committees. In 2013 he received, from the International Organization of Medical Physics, recognition as one of the 50 Medical Physicists who have made outstanding contributions to the advancement of medical physics over the last 50 years. He wants to share the honor of becoming an AAPM Fellow with his wife (Carmen) and his sons (Maria Jose and Ignacio). He also wants to share this honor with his colleagues from Valencia University and La Fe Hospital. This AAPM Fellow recognition honors their long, productive, and amazing collaboration during all these years.

Lei Ren, PhD



In society services, Dr. Ren has been serving as the Therapy Scientific Track Co-Director for the 2020 AAPM | COMP Virtual Meeting and will continue to serve as the Track Director in 2021. He has also served on multiple committees for AAPM and ASTRO, and has served as Associate Editor for *Medical Physics* since 2011. He also served in editorial roles for other journals and as a reviewer for the NIH study section. In research, Dr. Ren is currently funded by an NIH R01 grant. His lab focuses on developing novel imaging techniques for IGRT. Dr. Ren has over 50 peer-reviewed journal publications, six book chapters, and over 60 oral presentations, including 17 invited/featured talks given at AAPM, ASTRO Annual Meetings, and AAPM Summer School. His research also won several awards from AAPM, ASTRO, and ISMRM. He has mentored 21 master/PhD students with the Mentorship Award from Duke and has served in thesis committees for 12 students.

Yi Rong, PhD

Dr. Rong earned her PhD in Medical Physics at the University of Wisconsin – Madison in 2008. She has been working as a faculty medical physicist for 11 years and is currently an associate professor in Radiation Oncology at the University of California – Davis. She has been serving as an Associate Editor and a reviewer for *Medical Physics* and *JACMP* journals for more than eight years. Dr. Rong has been serving on multiple AAPM committees, (including Public Education, Website Design, Award Selection, etc.) and task groups, including Chair of TG306 on machine and patient QA for tomotherapy, member of TG 253 for Surface Brachytherapy, member of TG296 on MPLA resources, etc. Dr. Rong has published around 60 peer-reviewed high-impact journal papers and editorials and has extensive clinical experience on tomotherapy, C-arm linacs, Gamma Knife, HDR Brachytherapy, various treatment planning systems, 3D printing technology, quality assurance methods, etc.

Mihaela Rosu-Bubulac, PhD

Dr. Rosu-Bubulac received her PhD in 2005 from the University of Michigan. She is currently an Associate Professor and Director of the Medical Physics Residency Program at Virginia Commonwealth University. A teacher at heart, Dr. Rosu-Bubulac is guided in her professional activities by her belief that medical physicists are scientists who have the opportunity to lead, use their position to educate, be an active part of the clinical team and assist in implementing the latest technology for patients' benefits. She had opportunities to have her voice heard through her service as a member of several major professional organizations and believes that her active involvement in service provides a continuous opportunity to learn and share knowledge, and adds to her intrinsic job satisfaction. Dr. Rosu-Bubulac distinguished herself in the early development of dose accumulation framework and, as the concept found its way to clinical physicist's daily e-toolbox, her interests evolved towards the dosimetrically driven implementation of IGRT and

ART, and the chartering of the meaningful deployment of medical image deformable registration as a tool for treatment delivery evaluation and adaptation.

David Schlesinger, PhD

David Schlesinger is an Associate Professor of Radiation Oncology and Neurological Surgery at the University of Virginia, where he serves as chief medical physicist at the UVA Gamma Knife Center. Dr. Schlesinger has authored or co-authored more than 70 publications related to SRS/SBRT, including co-authoring the report of AAPM TG-101 on SBRT. He is a frequent speaker at national and international conferences and training courses, including the 2014 AAPM Summer School and an ASTRO/AANS sponsored SRS/SBRT resident training course. Dr. Schlesinger joined the AAPM in 2008. Highlights of his AAPM service include tenure as Secretary/Treasurer of the Mid-Atlantic chapter, program director for the therapy education track of the 2015 AAPM Annual Meeting, and a co-author for TG-241 on MR-guided focused ultrasound (currently under review). Dr. Schlesinger also serves as a primary instructor teaching medical physics to UVA's radiation oncology residents and a mentor to visiting foreign-trained radiosurgery research fellows.

Varun Sehgal, PhD

Varun Sehgal obtained his master's and doctoral degrees at the University of Florida and joined the Department of Radiation Oncology at UC Irvine in 2003, where he is currently serving as a professor. Since 2005, he has served as the Co-Director of the Medical Physics Residency Program at UC Irvine. The residency program, first accredited in 2008, was the first program in Southern California to receive CAMPEP accreditation. Dr. Sehgal also serves as physics faculty/mentor in the Radiation Oncology Residency Program, JRCERT-accredited Medical Dosimetry Program, as well as radiation therapy training programs in Southern California and has received multiple awards for his teaching contributions. Dr.

Sehgal is an active volunteer for the AAPM, ASTRO, ABR as well as the Southern California Chapter of the AAPM. The Department of Defense has funded his research efforts in the design of novel brachytherapy delivery devices, and he has also been awarded multiple patents.

Chengyu Shi, PhD

Dr. Shi is an associate attending medical physicist and the lead physicist overseeing clinical physics operations at Memorial Sloan Kettering's outpatient locations in Basking Ridge and Monmouth, New Jersey. His responsibilities include providing and ensuring clinical coverage, supervising faculty physicists and planners, implementing new advanced treatment techniques, and promoting more productive research activities for faculty physicists. Dr. Shi's research interests are in Monte Carlo simulation, virtual human phantom development and applications, machine learning and deep learning applications, quality assurance for LINAC, image-guided radiation therapy technologies, special treatment techniques including stereotactic body radiotherapy, stereotactic radiosurgery, and more. Dr. Shi has published more than 78 peer-reviewed articles and 183 abstracts and has frequently served as guest associate editor and reviewer for many prestigious journals. He received his PhD in nuclear engineering and science from Rensselaer Polytechnic Institute in Troy, New York, in 2004 and did his medical physics residency training at the UAMS.

William Song, PhD

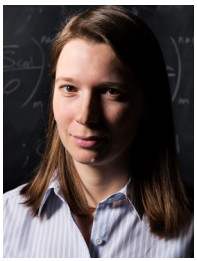
William Song received his PhD from the University of Western Ontario, Canada, in 2006. He has been the Director of the Medical Physics Graduate Program at Virginia Commonwealth University since 2017. Dr. Song is an ABR board-certified medical physicist in therapeutic radiologic physics (2010-) with 12+ years of experience post clinical residency training and 12+ years of AAPM membership. Ever since receiving his PhD on the topic of image-

guided RT techniques in prostate cancer in 2006, he has pursued research on the subject of image guidance systems, 4D motion management technologies, image reconstruction algorithms, and his latest passion, intensity-modulated brachytherapy (IMBT), resulting in over 70 peer-reviewed publications and >150 conference abstracts. Along the way, he feels fortunate to have supervised 3 PhD candidates, 8 MS students, three postdoctoral fellows, and numerous physics and medical residents, all of whom currently practice medical physics in various parts of the world.

Sotirios Stathakis, PhD

Dr. Stathakis is a clinical medical physicist, researcher, and teacher. He holds the position of Professor in the Department of Radiation Oncology and the Department of Radiology at the University of Texas Health San Antonio. He is a graduate of Physics (with honors) from the University of Waterloo, Canada, where he also obtained a minor in Mathematics and Computer Science in 1995. His Medical Physics career started when he entered the Medical Physics graduate program at the University of Aberdeen, UK, in 1996. He graduated a year later with the MSc in Medical Physics. Dr. Stathakis started his PhD studies in Radiation Physics at the University of Patras, Greece. His PhD work focused on dose calculation algorithms in radiation therapy. Upon completion of his PhD studies in 2003, Dr. Stathakis joined Fox Chase Cancer Center as a Research Associate under the supervision of Dr. Charlie Ma until 2006.

Rowan Thomson, PhD



Rowan Thomson is Professor and Canada Research Chair in the Department of Physics at Carleton University in Ottawa, Canada. Her PhD research in theoretical high-energy physics (Superstring Theory) at Perimeter Institute was awarded the University of Waterloo's Pearson Medal (2007). Post-PhD, Dr. Thomson's research focuses on the development and application of computational techniques to study the interactions of radiation with matter. She is a leader in the development and application of advanced Monte

Carlo dose calculation algorithms for brachytherapy, most recently developing and releasing egs_brachy as open-source code. In complement, she is very active in developing multi-scale simulation techniques, from patients to cells to subcellular length scales, and applying these to investigate novel treatment approaches and understand measured cellular radiation response. Dr. Thomson has been recognized through awards that include the Polanyi Prize for Physics, Canada Research Chair, and Early Researcher Award. She is a member of AAPM's Therapy Physics Committee and Board of Associate Editors for *Medical Physics*. She is co-chair of AAPM TG-221 and a member of other task/working groups. Dr. Thomson has great enthusiasm for teaching and mentoring future generations of physicists, as well as advocating for equity, diversity, and inclusion in science.

Yoichi Watanabe, PhD

Dr. Yoichi Watanabe is a professor of Radiation Oncology at the University of Minnesota (UMN). He received his PhD in Nuclear Engineering (nuclear fusion technology and neutron transport theory) from the University of Wisconsin-Madison. He spent ten years in the nuclear engineering field, working on the nuclear fusion reactor design, studies of space nuclear reactors/propulsion systems, applied plasma physics, and landmine-detection technology. He started his medical physics career under Drs. Lowell Anderson and Clifton Ling at Memorial Sloan Kettering Cancer Center as a research fellow. Upon completing his training, he took an assistant professorship in radiation oncology at the Department of Radiation Oncology, Columbia University. Then, in 2005, he moved to UMN, mainly to start the new Gammaknife program. Since joining UMN, he worked equally in medical physics education, research, and clinical service. He has trained several Ph.D. students and medical physics

residents, and taught medical physics courses to medical physics students, radiation oncology residents, and radiation therapy school students. He engaged in extensive research in medical physics (3D dosimetry, Gammaknife physics, mathematical modeling of cancers, etc.), which resulted in over 50 journal publications and numerous presentations in professional meetings. In the clinic, he serves as the chief of clinical physics and the lead Gammaknife physicist. Professionally, he is the current chair of the AAPM Working Group of Molecular Imaging in Radiation Oncology, and a member of ASTRO and ABR professional committees. He is the past president of the North Central Chapter of AAPM.

John Weiser, PhD

The span of Dr. John Weiser's 34-year membership in the AAPM has seen the transition of radiology from a film-based operation to an all-digital department. He joined the AAPM in 1985 when he was an Army Medical Service Corps commissioned officer, assigned as the Radiation Protection Officer for Brooke Army Medical Center. He received his doctorate from the University of Pittsburgh in 1990. He performed research into an emerging technology, computed radiography, which was a critical enabler of the transition from film to digital acquisition of x-ray imaging. He then became actively involved in the early efforts to implement PACS and digital imaging, including his assignment as a technical lead for the Army's first PACS installation at Madigan Army Medical Center. After retiring from active duty in 1996, he has continued to be actively involved in practical applications of digital imaging technologies, enterprise image management systems, and systems interoperability and integration.

Habib Zaidi, PhD

Professor Habib Zaidi is Chief Physicist and head of the PET Instrumentation & Neuroimaging Laboratory at Geneva University Hospital and faculty member at the Medical School of Geneva University. He is also a Professor at the University of Groningen (Netherlands) and the University of Southern Denmark. He serves as founding Editor-in-Chief (scientific) of the BJR | Open and is a member of the editorial boards of Medical Physics and other leading journals. He is a Fellow of the IEEE and AIMBE, is a member of the IMPCB accreditation committee and the Imaging Physics Committee of the AAPM. His academic accomplishments have been well recognized since he is a recipient of many awards and distinctions, including the prestigious ($100,000) 2010 Kuwait Award of Applied Sciences and the 2013 AAPM John S. Laughlin Young Scientist Award. Professor Zaidi has authored over 278 peer-reviewed articles in prominent journals and is the editor of four textbooks.

Jie Zhang, PhD

Dr. Jie Zhang is a Professor and Chief Medical Physicist at the University of Kentucky. He is certified by the ABR in both Diagnostic and Nuclear Medical Physics. Dr. Zhang has served on 7 AAPM committees/task groups, 1 ACR committee, and 2 ABR Core Examination committees. He is an Associate Editor of the JACMP and has reviewed for nine prestigious journals and moderated and chaired/co-chaired multiple conferences. In 2019, he received the "Volunteer Service Award" for his exceptional service in fulfilling the ABR missions. Dr. Zhang has strived to improve the physics education of graduate students and radiology residents. His innovative hands-on physics curriculum won him the RSNA Education Scholar Grant. Dr. Zhang has authored/co-authored 56 papers, 108 presentations, eight book chapters, 4 AAPM reports, and 2 RSNA physics modules. He has led/co-led several research projects, including active NIH R21 and KLCR on the radiomics of lung cancer.

JOHN S. LAUGHLIN YOUNG SCIENTIST AWARD

Xiaofeng Yang, PhD

Dr. Yang received his BS, MS, and PhD in biomedical engineering from Xi'an Jiaotong University in China. He completed part of his PhD training at Emory University before conducting postdoctoral and medical physics residency training in the Department of Radiation Oncology at Emory University. After postgraduate training, he joined the medical physics faculty team in 2016. Currently, he is an assistant professor and the Director of the Medical Physics Residency Program in the Department of Radiation Oncology at Emory University School of Medicine. Dr. Yang's research work is to develop novel analytical and computational tools to enhance the role of quantitative imaging in cancer radiotherapy to improve the accuracy and precision of radiation therapy. His current research projects include artificial intelligence in radiotherapy, image-guided radiotherapy (brachytherapy), quantitative imaging biomarker development, and advanced image analysis algorithm development and clinical applications. He has published over 100 peer-reviewed journal papers and four granted patents. He has received more than 20 scientific awards from the SPIE Medical Imaging, AAPM, ASTRO, and SNMMI in the past several years. His research has received support from federal (NIH R01, DoD), industrial, and institutional funding agencies. Dr. Yang has served on several NIH study sections and international grant review panels (UK, German and Austrian). He is a guest Associate Editor of *Medical Physics* and a reviewer for over 30 international journals, including *JACC: Cardiovascular Imaging*, *Cancer Research*, *MIA*, *IEEE TMI*, *EJNMMI*, *JNM*, and *IJROBP*.

MARVIN M. D. WILLIAMS PROFESSIONAL ACHIEVEMENT AWARD RECIPIENTS

Gail D. Adams	1989
Peter R. Almond	1990
Ann E. Wright	1991
John S. Laughlin	1992
Robert O. Gorson	1993
Robert J. Shalek	1994
Nagalingam Suntharalingam	1995
James A. Purdy	1996
Colin G. Orton	1997
Faiz M. Khan	1998
Jimmy O. Fenn	1999
Moses A. Greenfield	2000
Stewart C. Bushong	2001
Bhudatt R. Paliwal	2002
James B. Smathers	2003
Kenneth R. Hogstrom	2004
Edwin C. McCullough	2005
Edward S. Sternick	2006
Michael D. Mills	2007
Edward Lee Nickoloff	2008
Melissa Carol Martin	2009
Walter Grant	2010
Benjamin R. Archer	2011
William F. Hanson	2012
Marilyn Stovall	2013
Herbert W. Mower	2014
Christopher H. Marshall	2015
Jean M. St. Germain	2015
Keith J. Strauss	2016
Stephen Balter	2017
Michael T. Gillin	2017
Muthana S.A.L. Al-Ghazi	2018
Louis K. Wagner	2018
Bruce J. Gerbi	2019
Larry E. Sweeney	2019
Priscilla Butler, MS	2020
Christopher Serago, PhD	2020

MARVIN M. D. WILLIAMS PROFESSIONAL ACHIEVEMENT AWARD

Priscilla (Penny) F. Butler, MS

Ms. Butler has devoted her career to improving the quality of breast imaging and reducing unnecessary radiation doses to patients. With the American College of Radiology (1998 – 2018), she served several roles. As Senior Director and Medical Physicist, she was responsible for their dose-related projects (Image Gently®, Image Wisely® and Diagnostic Reference Level development), physics activities (Mammography Accreditation Program QC manuals and the Commission on Medical Physics) and BI-RADS®. For 13 years, she was Senior Director for the ACR's Breast Imaging Accreditation Programs, including Mammography, Stereotactic Breast Biopsy, Breast Ultrasound, and Breast MRI.

Prior to joining ACR, Ms. Butler was a medical physicist and professor in the Department of Radiology at the George Washington University for 13 years. Ms. Butler also served for 10 years as a US Public Health Service commissioned officer in the FDA's Centers for Devices and Radiological Health. She participated in their Breast Exposure: Nationwide Trends (BENT) program in the late-70s, co-authoring several pioneer articles on mammography radiation dose and image quality. Ms. Butler received her graduate degree in medical physics from the University of Florida in 1976.

Ms. Butler is certified by the ABR in Diagnostic Radiological Physics and is a fellow of the AAPM, the Society of Breast Imaging, and the ACR. She was a member of the DHHS Agency for Health Care Policy and Research's Panel for the Quality Determinants of Mammography, a member of the FDA's first National Mammography Quality Assurance Advisory Committee, and consultant to of the National Academy of Sciences Institute of Medicine's Committee on Improving Breast Imaging Quality Standards.

Christopher Serago, PhD

Dr. Christopher F. Serago began his career in 1975 at Presbyterian University Hospital, renamed the University of Pittsburgh Medical Center, following an MS in radiological physics from Carnegie Mellon University. He completed his PhD in Medical Physics from the University of Pittsburgh while working for Presbyterian Hospital. From 1981 to 1992, he was the Director of Medical Physics at Baptist Hospital of Miami, one of the first Florida facilities to offer IORT, HDR brachytherapy, and stereotactic radiosurgery. Dr. Serago joined the faculty of Harvard Medical School, Massachusetts General Hospital in 1992. For three years, his efforts were mostly dedicated to the treatment of patients with protons from the Harvard Cyclotron. Dr. Serago accepted his current position at Mayo Clinic in Jacksonville, Florida, in 1995 as the chief physicist in radiation oncology and is now an Associate Professor in the Mayo Clinic College of Medicine. Within the AAPM he has served on the Board of Directors, President and Chapter Representative of the Florida Chapter, Chair of the Ethics Committee when the Code of Ethics was adopted, Chair of the Meeting Coordination Committee, and Chairman of the Board of the American College of Medical Physics when the AAPM and ACMP joined together. Judi, his lifetime love and best friend, has been his wife for 40 years. His beautiful daughters he adores, Nicole and Joanna, married to Seth and Ryan, have graced Judi and him with grandchildren Luke, Emily, Alexander, and Eliana, who fill his life with love and laughter beyond measure.

EDITH H. QUIMBY LIFETIME ACHIEVEMENT AWARD RECIPIENTS

Arnold Feldman	1996
Robert O. Gorson	1997
John Hale	1998
Jon H. Trueblood	1998
Kenneth A. Wright	1998
Perry Sprawls	1999
Joe P. Windham	1999
William F. Hanson	2000
Mary L. Meurk	2000
Amos Norman	2002
Stewart C. Bushong	2003
Radhe Mohan	2003
Donald E. Herbert	2004
Azam Niroomand-Rad	2006
Lawrence N. Rothenberg	2007
Marilyn Stovall	2007
James M. Galvin	2008
Kenneth R. Kase	2008
James A. Deye	2009
Lawrence E. Reinstein	2009
Raymond L. Tanner	2009
Benjamin R. Archer	2010
Laurence P. Clarke	2010
Joel E. Gray	2011
Martin S. Weinhous	2011
Charles A. Mistretta	2012
Edward S. Sternick	2012
Kenneth N. Vanek	2012
Caridad Borras	2013
Norbert J. Pelc	2013
George Starkschall	2013
Howard Ira Amols	2014
Bruce H. Curran	2014
Edward Lee Nickoloff	2014
Larry A. DeWerd	2015
Kunio Doi	2015
Melissa Carol Martin	2015
Wendell R. Lutz	2016
Robert J. Pizzutiello	2016
Michael V. Yester	2016
G. Donald Frey	2017
John W. Wong	2017
Jerry D. Allison	2018
Frank J. Bova	2018
James C. Chu	2019
Ellen D. Yorke	2019
Frederic Fahey, DSc	2020
X. George Xu, PhD	2020

EDITH H. QUIMBY LIFETIME ACHIEVEMENT AWARD

Frederic H. Fahey, DSc

Frederic H. Fahey, DSc, has practiced nuclear medicine physics for over 35 years and is currently a Professor of Radiology Emeritus at Harvard Medical School. He served as the Director of Nuclear Medicine/PET Physics at Boston Children's Hospital from 2003 to 2020. He received his Doctor of Science from the Harvard School of Public Health in Medical Radiological Physics in 1986. Dr. Fahey is certified in nuclear medical physics by the American Board of Radiology. Prior to coming to Boston Children's Hospital, he had worked at Georgetown School of Medicine from 1984 to 1991 and Wake Forest School of Medicine from 1991 to 2003. He served as president of the Society of Nuclear Medicine and Molecular Imaging in 2012-2013. He also served as president of both the MidAtlantic and New England chapters of the AAPM and on the AAPM Board of Directors as the New England Chapter representative from 2015 to 2018. He has acted as a consultant to the International Atomic Energy Agency and sits on the Nuclear Medicine Technologist Certification Board. He is a fellow of the Society of Nuclear Medicine and Molecular Imaging, the American College of Radiology, and the American Association of Physicists in Medicine. His research interests include PET and SPECT instrumentation, image processing, reconstruction of tomographic data and radiation dosimetry, particularly in the realm of pediatric nuclear medicine. He currently serves on the steering committee for Image Gently.

X. George Xu, PhD

Prof. Xie George Xu is the Edward E. Hood Endowed Chair Professor of Engineering at Rensselaer Polytechnic Institute (Troy, New York). He received a PhD in Nuclear Engineering from Texas A&M University (College Station, TX) in 1994. Since 1995, Prof. Xu has mentored 40 PhD and MS students. His research focuses on radiation dosimetry for radiation protection, medical imaging, and radiotherapy applications. His research has been continuously funded, and his publication list includes two books, 200 peer-reviewed papers/chapters, 400 abstracts, and 130 invited talks. Widely known for his work on computational phantoms and advanced Monte Carlo simulations, Prof. Xu is a fellow of the American Nuclear Society (ANS), the Health Physics Society (HPS), and the American Association of Physicists in Medicine (AAPM), as well as a council member of the National Council on Radiation Protection and Measurements (NCRP) and a past president of the Council on Ionizing Radiation Measurements and Standards (CIRMS). He is currently on the editorial boards of Medical Physics and Physics in Medicine & Biology. Prof. Xu has received numerous awards, including NSF's CAREER Award, ANS Radiation Protection and Shielding Division's Professional Excellence Award, CIRMS's Randal S. Caswell Award for Distinguished Achievements, HPS's Distinguished Scientific Achievement Award, and ANS's Arthur Holly Compton Award in Education. Prof. Xu is the co-founder and president of Virtual Phantoms Inc. that commercializes VirtualDoseTM (a CT and IR patient dose reporting software) and ARCHERTM (a dose computing software currently undergoing clinical testing).

WILLIAM D. COOLIDGE GOLD MEDAL RECIPIENTS

William D. Coolidge	1972
Robert J. Shalek	1973
John S. Laughlin	1974
Marvin M. D. Williams	1975
Harold E. Johns	1976
Edith E. Quimby	1977
Lawrence H. Lanzl	1978
Herbert M. Parker	1979
John R. Cameron	1980
James G. Kereiakes	1981
Gail D. Adams	1982
Edward W. Webster	1983
Robley D. Evans	1984
Jack S. Krohmer	1985
Warren K. Sinclair	1986
Gordon L. Brownell	1987
John R. Cunningham	1988
William R. Hendee	1989
Peter R. Almond	1990
Moses A. Greenfield	1991
Nagalingam Suntharalingam	1992
Colin G. Orton	1993
F. Herb Attix	1994
Robert Loevinger	1995
Leonard Stanton	1996
James A. Purdy	1997
Bengt E. Bjarngard	1998
Faiz M. Khan	1999
Lowell L. Anderson	2000
Ravinder Nath	2001
Bhudatt R. Paliwal	2002
Kenneth R. Hogstrom	2003
C. Clifton Ling	2004
Gary T. Barnes	2005
Ervin B. Podgorsak	2006
Arthur L. Boyer	2007
Paul L. Carson	2008
Willi A. Kalender	2009
David W. O. Rogers	2010
Richard L. Morin	2011
Stephen R. Thomas	2012
Benedick A. Fraass	2013
Thomas Rockwell Mackie	2014
Maryellen L. Giger	2015
Paul M. DeLuca	2016
Jatinder R. Palta	2017
Radhe Mohan	2018
John Boone	2019
Randall Ten Haken, PhD	2020

WILLIAM D. COOLIDGE GOLD MEDAL

Randall Ten Haken, PhD

In 1978, after receiving his PhD in Nuclear Physics at the University of Wisconsin, Dr. Ten Haken took up training in Medical Physics at Tufts-New England Medical Center, Boston, MA. There, he also helped study tissue perfusion, measured following photon activation of oxygen in vivo. Early in 1980, Dr. Ten Haken accepted a position as a Medical Physicist in the Neutron Therapy Facility at Fermi National Accelerator Laboratory, Batavia IL, where he performed physics research in neutron beam dosimetry and treatment planning. In July 1984, Dr. Ten Haken was recruited to a position as an Assistant Professor in the newly formed Radiation Oncology Department at the University of Michigan, Ann Arbor, MI. It was the beginning of a fulfilling career, which included promotion to Associate Professor in 1989, Full Professor in 1996, Co-Director of the Physics Division in 2004, and Director of the Physics Division 2011-2018.

At Michigan, Dr. Ten Haken enjoyed a rich and varied, collaborative career in applications of physics to radiation oncology, ranging from investigations into photon and electron beam dosimetry followed by early innovations in 3-D treatment planning and up to mid-career assessments of the impact of geometric uncertainties and organ motion on radiation therapy treatments. The development of a phase I dose escalation methodology for conformal radiation therapy treatments was most gratifying to him. Such strategies did not exist before the team's efforts, and a one-size-fits-all approach to radiation treatments was the standard. Dr. Ten Haken was the primary innovator of an iso-toxicity dose escalation scheme that led to clinical trials demonstrating the ability to safely deliver higher doses of radiation to tumors in the liver and lung than had previously been thought possible. Analyses of the results of those dose escalation studies led to the parameterization of normal tissue complication probability (NTCP) models for use in subsequent clinical trials. These published results were among the first of their kind. During this period, he also served as co-guest editor for a

special supplement of the Red Journal dedicated to the Quantitative Analyses of Normal Tissue Effects in the Clinic (QUANTEC). More recently, Dr. Ten Haken collaborated with others toward the use of physiological imaging and machine learning into treatment response assessment of both tumors and normal tissues to irradiation, with the goal of incorporating these techniques into individualized response-based adaptive therapy regimens. This was a central theme of the later years of a program project grant for which he was the co-Director.

Dr. Ten Haken is privileged to be associated with over 250 publications in scientific journals and over 50 book chapters and reports from scientific symposia. He has served on numerous AAPM and ASTRO committees and working groups and was elected to the board of directors of both societies. He is a Fellow of AAPM, the Institute of Physics, ASTRO, and ACR.

Dr. Ten Haken shares his career and life with his wife Babette, their four children, Alex, Jill, Anna and Andrew, and soon to be two grandchildren.

Congratulations

to all of the Award Recipients!

American Association of Physicists in Medicine
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