AMERICAN ASSOCIATION of PHYSICISTS IN MEDICINE

Awards Ceremony

AAPM 2021

JULY 25–29 | VIRTUAL

63RD ANNUAL MEETING & EXHIBITION

CREATIVE SCIENCE. ADVANCING MEDICINE.

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.

2021 VIRTUAL PROGRAM

James T. Dobbins, III, PhD
AAPM President

Honoring Deceased AAPM Members

AAPM Fellowships, Grants & Other Awards

Jack Fowler Early-Career Investigator Award

Jack Krohmer Early-Career Investigator Award

John R. Cameron Early-Career Investigator 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 Early-Career Scientist Award

Marvin M.D. Williams Professional Achievement Award

Edith H. Quimby Lifetime Achievement Award

William D. Coolidge Gold Medal

Closing Remarks

AAPM FELLOWSHIPS, GRANTS & OTHER AWARDS

- **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 2021 grant recipient is:

  Devin Miles, PhD (Johns Hopkins University School of Medicine)

- **AAPM/RSNA Imaging Physics Residency Program Grant**
  These grant awards, funded by the AAPM and RSNA, provide support for institutions to provide positions in Diagnostic Imaging Physics and/or Nuclear Medicine Physics residencies. Each year two deserving high-quality residency programs are selected to receive support for two residents each to receive matching support during their training. The 2021 awardees are:

  University of Pennsylvania/Penn Medicine and
  University of Texas/Southwestern

- **AAPM/RSNA 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:

  Skylar Gay (The University of Texas MD Anderson Cancer Center)

- **2021 "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 Summer Undergraduate Fellows for 2021 are:

Edward Robert Criscuolo
Jade Fischer
Joshua H. Genender
Marissa Allison Iraca
Alaina C. Kelley
Caleb Yong Kwon
Jason Costa Lima
Corbin Gabriel Maciel
Henry Meyer
Karen Rex
Chase E. Ruff
Ethan Douglas Stolen
Caitlin Welch
Andrew J. White
Ye Wan Evan Wong

- **The AAPM Science Council Associates Mentorship Program**
  This program has been established to recognize and cultivate outstanding researchers at an early stage in their careers, with the goal of promoting a long-term commitment to science within AAPM. The program uses the process of "shadowing" to integrate the Associates into the scientific activities of the organization. The 2021 Associates are:

  Rachel B. Ger
  Michelle E. Howard
  Qihui Lyu
  Arthur Lalonde
  Haidy G. Nasief
  Phillip D. H. Wall
  Stella (Shu) Xing
  Afua A. Yorke

- **2021 "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. ***Funding for four additional grants has been provided by the American Institute of***

Physics (AIP) Diversity Action Fund and **additional support has been provided by the AAPM Northwest Chapter. The DREAM Fellows for 2021 are:

Corrie Burroughs
****Carlos G. Colon-Ortiz***
****Wilson Delmas***
****Beatriz Guevara***
Joana Krasimirova Hadzhilazova
Erika Jank
Baylie Jensen
*****Kristiana Ramos***
Paul Teng
Sara T. Zeidan
Nahom Zewde

- **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 2021 are:

  Yang Sheng — Duke University Medical Center
  Oleksandra Ivashchenko — Leiden University Medical Center
  Qihui Lyu — University of California, Los Angeles

- **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. The EXHG 2021 Round 1 Travel Grant recipients are:

  Nitish Chopra
  Maduka M. Kaluarachchi

- **Summer School Tuition Scholarships**
  These scholarships are offered to applicants who are early in their careers in medical physics. The 2021 scholarship recipients were:

  Tirthraj Adhikari
  Daniel Hernandez
  Borna Maraghechi
  Patricia Oliver
  Andrew Santoso
  Shima Yaghoobpour Tari

- **MedPhys Slam**

  MedPhys Slam is a research communication competition for student, resident, and junior members of AAPM in which participants prepare a three-minute presentation aimed at sharing the significance of their science to the general public in a compelling and coherent manner. Participants are judged by a non-medical physics panel on two equally weighted categories: comprehension/content and communication/engagement. The MedPhys Slam takes place on Tuesday, July 27, and the winners will be announced at the ceremony.

- **Grand Challenges**

  - The Deep Learning for Inverse Problems: Sparse-View Computed Tomography Image Reconstruction Challenge (DL-sparse-view CT)

  The DL-sparse-view CT Challenge was conducted in advance of the AAPM Annual Meeting and provided an opportunity for investigators in CT image reconstruction using data-driven techniques to compete with their colleagues on the accuracy of their methodology for solving the inverse problem associated with sparse-view CT acquisition.

  - The DAIR Digital Breast Tomosynthesis Lesion Detection Challenge: Phase 2 (DBTex2)

  The DBTex2 Challenge was concluded just prior to AAPM Annual Meeting and tasked the participants to detect breast lesions within test scans that subsequently underwent biopsy.

  The two top-performing team leaders from both Challenges will present their methods at the AAPM Grand Challenges symposium on Wednesday, July 28.

- **AAPM Award for Innovation in Medical Physics Education**

  The Award for Innovation in Medical Physics Education is generously supported by a bequest from the estate of Dr. Harold Marcus. It is given for innovative programs in medical physics education of physicists, physicians, ancillary personnel, and the public. The 2021 winner was determined on Monday and will be announced during this ceremony.

JACK FOWLER EARLY-CAREER INVESTIGATOR AWARD

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

Tess Reynolds, PhD

JACK KROHMER EARLY-CAREER INVESTIGATOR AWARD

Established in honor of Dr. Jack Krohmer, 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 2021 award is presented to:

Sang Ho Lee, PhD

JOHN R. CAMERON EARLY-CAREER INVESTIGATOR SYMPOSIUM AWARDS

The 10 Early-Career 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. 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 2020 is presented to:

  Yunfeng Cui, Hao Gao, Jiahan Zhang, John P. Kirkpatrick, and Fang-Fang Yin for the paper entitled "Retrospective quality metrics review of stereotactic radiosurgery plans treating multiple targets using single-isocenter volumetric modulated arc therapy." *J Appl Clin Med Phys* 2020; 21:6:93–99.

- **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 2020 is presented to:

  Jeffrey E. Snyder, Joel J. St-Aubin, Sridhar Yaddanapudi, Amanda Boczkowski, David A.P. Dunkerley, Stephen A. Graves, and Daniel E. Hyer for their paper entitled "Commissioning of a 1.5T Elekta Unity MR-linac: A single institution experience." *J Appl Clin Med Phys* 2020; 21:7: 160–172.

- **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 2020 is presented to:

  Owen J. Brace, Sultan F. Alhujaili, Jason R. Paino, Duncan J. Butler, Dean Wilkinson, Brad M. Oborn, Anatoly B. Rosenfeld, Michael L. F. Lerch, Marco Petasecca, and Jeremy A. Davis for their paper entitled "Evaluation of the PTW microdiamond in edge-on orientation for dosimetry in small fields." *J Appl Clin Med Phys* 2020; 21:8:278–288.

- **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 2020 is presented to:

  Daniela Poppinga, Jana Kretschmer, Leonie Brodbek, Jutta Meyners, Bjoern Poppe, and Hui Khee Looe for their paper entitled "Evaluation of the RUBY modular QA phantom for planar and non-coplanar VMAT and stereotactic radiations." *J Appl Clin Med Phys* 2020; 21:10: 69–79.

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 2020 is presented to:

  Ran Zhang, Amy M. Fowler, Lee G. Wilke, Frederick Kelcz, John W. Garrett, Guang-Hong Chen, and Ke Li for their paper entitled "Fast acquisition with seamless stage translation (FASST) for a trimodal x-ray breast imaging system." *Medical Physics* 2020; 47:9:4356-4362.

- **Farrington Daniels Paper Award**
  The Farrington Daniels Award for an outstanding paper on radiation therapy dosimetry, planning or delivery published in *Medical Physics* in 2020 is presented to:

  Conor H. McFadden, Shirin Rahmanian, David B. Flint, Scott J. Bright, David S. Yoon, Daniel J. O'Brien, Aroumougame Asaithamby, Amir Abdollahi, Steffen Greilich, and Gabriel O. Sawakuchi for their paper entitled "Isolation of time-dependent DNA damage induced by energetic carbon ions and their fragments using fluorescent nuclear track detectors." *Medical Physics* 2020; 47:1:272-281.

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 their societies. 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.

Jenghwa Chang, PhD
Erli Chen, MS
Quan Chen, PhD
Jaydev Dave, PhD
Keyvan Farahani, PhD
Ryan Foster, PhD
Alonso Gutierrez, PhD
Scott Hadley, PhD
Michael Howard, PhD
Grace Gwe-Ya Kim, PhD
Eugene Lief, PhD
Liyong Lin, PhD
Holly Lincoln, MS
An Liu, PhD
Dale Michael Lovelock, PhD
Wei Luo, PhD
Alex Markovic, PhD
Rebecca (Marsh) Milman, PhD
Andrea Molineu, MS
Ke Nie, PhD
Jennifer O'Daniel, PhD
Stephanie Parker, MS
Marianne Plunkett, MS
Julianne Pollard-Larkin, PhD
Gregory Sharp, PhD
Koren Smith, MS
Stephen Thompson, MS
Neelam Tyagi, PhD
Michelle Wells, MS
Ning Wen, PhD
Xiaowei Zhu, MS

GOLDEN ANNIVERSARY MEMBERSHIP

Members with 50+ years of membership will be recognized during the ceremony.

JOHN S. LAUGHLIN EARLY-CAREER SCIENTIST AWARD

This award recognizes outstanding scientific achievement in medical physics for an early-career scientist member of 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 2021 recipient is:

Clemens Grassberger, 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

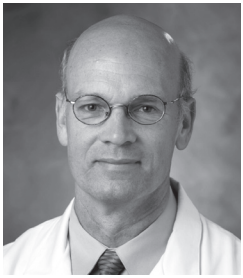
This award recognizes an AAPM member for an eminent career in medical physics. It is the highest award given by AAPM. The 2020 recipient is:

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 and Pediatrics, a faculty member of the Medical Physics Graduate Program and Vice Chair of Radiology at Duke Medical Center. He recently returned to Duke after serving as Professor of Radiology at Stanford School of Medicine and Lucile Packard Children's Hospital.

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

Jenghwa Chang, PhD

Dr. Jenghwa Chang received his BS degree in Control Engineering and MS degree in Telecommunication Engineering from the National Chiao-Tung University, and his PhD degree in Electrical Engineering from the Polytechnic University of New York. He is currently an Associate Professor of Radiation Medicine at the Donald and Barbara Zucker School of Medicine, Hofstra/Northwell. In addition, he is an Adjunct Associate Professor of the Medical Physics Program at the Physics & Astronomy Department of Hofstra University. Dr. Chang is certified by the ABR and ABMP and is currently the lead physicist for the Gamma Knife SRS/SBRT program at the Radiation Medicine Department of Northwell Health. In addition, he is the Director of the Radiation Oncology Medical Physics Residency Program at Northwell Health and serves as a site surveyor for the ACR ROPA program. Dr. Chang's research interest involves applying engineering and physics principles to medicine. He was a pioneer in optical diffusion tomography for early detection of breast cancers, EPID dosimetry, and onboard CBCT for image-guided radiotherapy. He is currently focusing on quality improvement, automation, artificial intelligence, and small field dosimetry. Dr. Chang is actively involved in professional activities and has served on multiple committees and held office for AAPM and RAMPS. He has also offered several SAM educational/professional lectures to colleagues at various professional meetings. Dr. Chang is a member of IEEE, AAPM and ASTRO, and a reviewer for multiple international journals.

Erli Chen, MS

Ms. Chen received her BS degree from Northeast University, Shenyang, China, in July 1983, and her MS degree from DePaul University, Chicago, IL, in June 1989. She has been an ACR Radiation Oncology accreditation surveyor since 2008, along with holding volunteer positions as an ASTRO and AAMP workforce subcommittee Chair and AAPM WAC Committee Chair. Ms. Chen has co-authored three chapters of the ASTRO 2018 Radiation Oncology Coding resource book. In December of 2017, she was a faculty member for

the 1st ASTRO Radiation Oncology Coding Seminar. In addition, Ms. Chen was responsible for updating the 2018, 2019, 2020, and 2021 ASTRO radiation oncology coding resource. She was one of the authors of "The ASTRO 2017 Radiation Oncologist Workforce Study" (2018), published in the *International Journal of Radiation Oncology • Biology • Physics* as well as "A special report of the current state of the medical physicist workforce — results of the 2012 ASTRO comprehensive workforce study", Published in *Journal of Applied Clinical Medical Physics*, published in 2015. She has also served as RSO and Radiation Oncology QMP in five states and currently works at Cheshire Medical Center in Keene, NH.

Quan Chen, PhD

Quan Chen received his PhD in Medical Physics from the University of Wisconsin-Madison in 2004. He began his career as a senior research physicist at TomoTherapy Inc. and helped develop many features of that system that are now widely used in clinics, most notably VoLo, and TomoEdge. He joined the University of Virginia in 2011 as a clinical faculty and later moved to the University of Kentucky. Dr. Chen has authored and co-authored 70+ peer-reviewed journal articles, two book chapters, and eight patents. He has also received NIH SBIR support to develop AI solutions for radiation therapy. Dr. Chen currently serves on multiple AAPM committees and task groups, NRG working groups, the journals *Medical Physics* and *JACMP* as an Associate Editor, and on NIH study sections. He is actively engaged in medical physics education, including didactic lectures, mentoring students and residents, and public outreach.

Jaydev Dave, PhD

Dr. Dave was born in Mumbai, India. He earned his BE degree in Biomedical Engineering from Mumbai University, India, in 2006, and his MSc and PhD degrees in Biomedical Engineering from Drexel University, Philadelphia, PA, in 2008 and 2012, respectively. He received his Radiology Physics (Diagnostic) certification from the American Board of Radiology in 2011 and is currently an Associate Professor of Radiology at Thomas Jefferson University in Philadelphia, PA. Dr.

Dave has been a full member of AAPM since July 2009 and has received numerous honors, awards, and recognition from national and international organizations. He has served as co-chair and is an active member of several AAPM task groups and working groups. Additionally, Dr. Dave is involved with several committees of the ABR. Dr. Dave is an NIH-funded researcher and has led externally-funded research projects as PI and authored/co-authored 35 peer-reviewed manuscripts, 18 conference proceedings, and 110 abstracts. In his spare time, he enjoys long-distance open-water swimming events.

Keyvan Farahani, PhD

Dr. Farahani is the program director in imaging informatics and the federal lead on the Imaging Data Commons (IDC) at the Center for Biomedical Informatics and Information Technology (CBIIT) at the National Cancer Institute (NCI) in Bethesda, Maryland. He joined CBIIT in January of 2020 after serving in the NCI Cancer Imaging Program as the Program Director for Image-Guided Interventions since 2001 and the deputy director for technology development in the Quantitative Imaging Network since 2018. Dr. Farahani has held leadership positions to address algorithmic challenges in cancer imaging and digital pathology since 2013. In addition, Dr. Farahani has co-authored over 60 peer-reviewed manuscripts, ten book chapters and served as a guest editor to several scientific journals. A fellow of the American Institute for Medical and Biological Engineering (AIMBE), Dr. Farahani obtained a BS in Physics from Sonoma State University in California and a PhD in Biomedical Physics from the University of California at Los Angeles.

Ryan Foster, PhD

Ryan Foster received his PhD in experimental nuclear physics from North Carolina State University and completed a medical physics residency at the Nebraska Medical Center, where he was an instructor from 2006-2008. Dr. Foster joined the UT Southwestern Medical Center faculty in 2008, where he served as associate director of the medical physics residency program for six years. In 2013, he was appointed Director of Clinical

Medical Physics; in that position, he oversaw the clinical medical physics program in a progressive department with cutting-edge technology. In 2015, he joined the Levine Cancer Institute at Atrium Health in Charlotte, NC, and was named the Chief Physicist at Atrium Health Cabarrus in 2017, where he leads a team of two other physicists and two dosimetrists in a busy department performing SRS, SBRT, and brachytherapy. He has served on committees for ACMP and AAPM. His research interests include patient localization and intra-fraction motion.

Alonso Gutierrez, PhD

Dr. Gutierrez currently serves as an Assistant Vice President and Chief Physicist at Miami Cancer Institute and Vice-Chair of Radiation Oncology at Herbert Wertheim College of Medicine at Florida International University. Dr. Gutierrez has several years of experience in medical physics with a specialization in advanced radiotherapy delivery techniques. At MCI, he has led the clinical team to operationalize the latest radiotherapy platforms, including a three-room PBS proton therapy system and an MRgRT program. Over the years, Dr. Gutierrez has trained numerous medical physicists, radiation oncologists, and medical dosimetrists. He continues to perform research and volunteers for professional organizations such as AAPM, ABR, and ACR. Internationally, he actively mentors medical professionals in Latin American radiotherapy centers. Dr. Gutierrez received his PhD from the University of Wisconsin – Madison School of Medicine and his MBA from the University of Texas-San Antonio College of Business.

Scott Hadley, PhD

Professor Hadley completed his PhD in Medical Physics at the University of Chicago. Dr. Hadley joined the University of Michigan as the first physics resident and was appointed to a faculty position after completing his clinical training. His clinical expertise is in IGRT, SBRT, and respiratory motion management. Dr. Hadley has trained 30 physics residents, taught radiation therapists as well as graduate-level physics courses, and authored 18 manuscripts. Dr. Hadley has been the IHE RO Technical Committee co-chairman for six years and is a member of DICOM WG-7. He has proposed,

authored, and tested data exchange profiles for radiotherapy used every day across the globe in this role.

Michael Howard, PhD

Dr. Howard has a passion for the technology associated with the profession of medical physics but also has an enduring commitment to providing direct patient care. Utilizing science to help patients beat cancer is one of the most rewarding aspects of a career. His passion for learning and teaching others has been evident throughout his career. He became board certified in 2001 after completing his MS degree in 1995. After many years of working in the field, he decided to pursue his PhD, received from the University of Tennessee in 2012. Dr. Howard is the Program Director of Medical Physics for the graduate program in medical physics at the University of Tennessee. He oversaw the CAMPEP accreditation process and program development. He has a passion for teaching and developing the medical physics careers of his students, as well as providing leadership in the research programs at his institution. Michael also serves as a mentor to many early-career medical physicists.

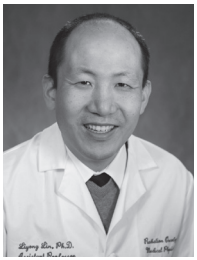
Grace Gwe-Ya Kim, PhD

Dr. Kim is an Associate Professor and Assistant Vice-Chair of Clinical Medical Physics in the Department of Radiation Medicine and Applied Sciences at the University of California, San Diego. Dr. Kim earned her doctoral degree from Yonsei University in Korea. After her graduation in 2001, she worked as a scientific officer for seven years in the Medical Device Safety Bureau at the Ministry of Food and Drug Safety in Korea. Dr. Kim completed her post-doc fellowship in the Department of Radiation Oncology at Stanford. She is an active AAPM member and is currently Chair of the Working Group on Prevention of Errors in Radiation Oncology. She is a member of TPC, IC, CLAX, QASC, WG ROILS, WGIMRT, TG262, TG292, TG327, and other committees. She also serves as a member of the IEC United States Technical Advisory Group (US-TAG) as a representative of ASTRO. Her research focuses on implementing novel treatment techniques, patient safety, and improvements in intracranial radiosurgery procedures.

Eugene Lief, PhD

Eugene Lief was born in St. Petersburg, USSR, and received his PhD in Nuclear and Particle Physics from St. Petersburg Polytechnic University. He immigrated to the US in 1991 and became a naturalized citizen in 1996. Dr. Lief held a Fellowship in Medical Physics at Memorial Sloan-Kettering Cancer Center from 1993-1996. He became a full member of AAPM in 1994, and has served on the AAPM Board of Directors, Administrative Council, 16 Committees, Subcommittees and Workgroups. Additionally, he has chaired the AAPM International Affairs Committee and European Affairs Subcommittee and served as liaison to EFOMP. His additional service to AAPM includes organizing a new International Information Subcommittee and service as President of the Greater New York Chapter of AAPM for two terms. Dr. Lief taught at the Hofstra University CAMPEP-Accredited Graduate Program, an AAPM Summer School, MSKCC and NYU Radiation Oncology Residency programs, MSKCC School for Radiologic Technologists, eight International AAPM Schools and two IAEA International Courses. He organized two AAPM courses in Developing Countries and six AAPM International Symposia at AAPM Summer meetings. Dr. Lief is triple Board-certified and NYS licensed in Radiotherapy Physics, Diagnostic Physics, and Nuclear Medicine Physics. He has served as Chief of Physics/Dosimetry groups since 2004. Dr. Lief's accomplishments include twelve peer-reviewed papers, four book chapters, 31 conference presentations, 19 invited talks. First Prize at the AAPM Young Investigators Competition, AAPM Travel Award, and grants from the NIH & a private foundation.

Liyong Lin, PhD



Dr. Lin developed the "pair/magnification" technique, described in three consecutive papers from 2013 to 2014 with over 100 citations, to improve spot scanning proton therapy dose calculation. In addition, he developed a widely cited technique using a beam specific PTV with 4DCT and participated in developing the world's first clinical proton CBCT. As an expert on Monte Carlo techniques and Proton Therapy, he serves as chair of the NRG workgroup for the application of Monte Carlo

methods in clinical trials and the AAPM TG349 "Commissioning of Monte Carlo Dose Calculation in Proton Therapy." In addition to participation in scientific task groups, he has contributed professionally to AAPM as an Editorial Board member of *JACMP* and a member of the Medical Physics Leadership Academy's Case Committee. Further, he has contributed to the ABR through the Online Longitudinal Assessment Therapy Medical Physics Committee and Particle Therapy Co-Operative Group Subcommittee Chair.

Holly Lincoln, MS

Ms. Lincoln is a Regional Chief Physicist at Yale-New Haven Hospital and Lecturer for the Department of Therapeutic Radiology, School of Medicine at Yale University. She received her MS in Radiological Medical Physics from the University of Kentucky in 2007. Her contributions to AAPM began in 2010 through her involvement in the regional chapter. There she has served in the roles of Secretary, President, and currently as Chapter Representative on the AAPM Board of Directors. Ms. Lincoln's AAPM service has included contributions in the areas of new professionals, leadership initiatives, and continuing professional development. She currently chairs the AAPM Summer School Subcommittee and serves on the Strategic Planning Committee. Ms. Lincoln is honored to be chosen for the distinguished recognition as a Fellow of the AAPM.

An Liu, PhD

Dr. Liu currently serves as a clinical professor and the Director of Radiation Physics at the City of Hope National Medical Center. He is a board-certified radiation oncology physicist and plays an important leadership role in the City of Hope's clinical and research programs. Dr. Liu has been active in AAPM and served in multiple officer roles, including the President of the AAPM Southern California Chapter. He has over 20 years of experience in the field of Nuclear Medicine, Radiation Oncology, and Medical Physics. Dr. Liu was a pioneer in Radioimmunotherapy Dosimetry and IMRT based Total Marrow Irradiation to replace conventional Total Body Irradiation. He has published extensively, lectured,

and conducted medical physics and healthcare management workshops in both the US and Asia. Dr. Liu earned his BS in physics from Beijing University and later earned his PhD in Biomedical Physics from the UCLA School of Medicine.

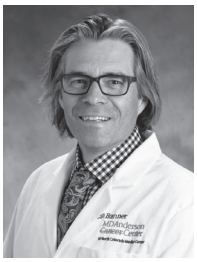
Dale Michael Lovelock, PhD

Dr. Lovelock is the Deputy Director of the Dosimetry Core at Memorial Sloan Kettering Cancer Center, where he has worked for 30 years. His core responsibility is developing, implementing, and managing quality assurance procedures for a network of over 30 Linacs and many CT and PET-CT simulation suites. Over this time, he has developed didactic courses and mentored 35 medical physics residents and post-docs on the quality assurance procedures of Linacs and image guidance systems. The focus of his research work has been, and remains, the development and implementation of accurate image guidance and other targeting systems to provide clinicians with new options in the treatment of spine, prostate, lung, and abdominal cancers.

Wei Luo, PhD

Dr. Luo has been working as a clinician, a teacher, and a researcher in medical physics for 19 years. Currently, he is an associate professor at the University of Kentucky. As a faculty member, Dr. Luo has taught graduate students and medical residents for over ten years. He is an advisor to PhD candidates and a primary mentor of graduate students. He is also a mentor of residents in both clinical rotations and research. As a researcher, Dr. Luo has broad interests and has publications on many different topics. As an AAPM member, Dr. Luo considers serving AAPM and other professional organizations as his responsibility as well as an honor. He has served as President of the AAPM-ORVC chapter. He is also a member of five AAPM committees and an associate editor of the *Journal of Applied Clinical Medical Physics*.

Alex Markovic, PhD



Dr. Markovic is the Program Director of Banner MD Anderson Medical Physics

in Northern Colorado. He oversees medical physics activities at three hospitals in the Northern Colorado region and supervises two physicists and four dosimetrists. Dr. Markovic received his MS in Medical Physics from McGill University in Montreal, Canada, and his PhD from Rosalind Franklin University in North Chicago, IL. He was Director and Assistant Professor of the Medical Radiation Physics Program at Rosalind Franklin University from 2007-2012, where he led the restructuring and development of the program, conducted research, taught several courses, and directed the CAMPEP accreditation process. In addition, he held the role of Lead Medical Physicist at NorthShore University Health System in Evanston, IL, and previously was a medical physicist at Lutheran General Hospital in Park Ridge, IL, for 15 years. He has been in practice since 1992.

Rebecca (Marsh) Milman, PhD

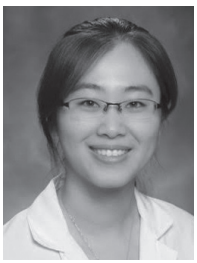
Dr. Millman's primary professional goal is to advocate for clinical medical physics practices rooted in science and common sense. She has an ardent belief that the medical physics community has an obligation to ensure that patients have access to accurate, science-backed information to make informed decisions about their own healthcare. Her goal is to help create, implement and support clinical medical physics practices that are efficient, effective and improve patient safety and quality of care. One example of this is her recent role as a driving force behind local, national, and international efforts to remove patient gonadal and fetal shielding from routine use during imaging exams. Dr. Milman is "Professor Mama" to two wonderful kids and three amazing step-children. Outside of work, she spends her time with her family, especially enjoying playing music and hiking in the beautiful Colorado mountains.

Andrea Molineu, MS

Ms. Molineu received her MS degree from the University of Kentucky. She works at MD Anderson Cancer Center and is the Associate Director of the MD Anderson Phantom Lab and the Assistant Director of IROC Houston. Ms. Molineu is interested in quality assurance, accuracy, and consistency in multi-institutional cancer clinical trials and educating physicists about trials and good physics practices. She has traveled to institutions nearly 100 times to

take measurements and instruct local physicists on practice-improving methods that will enhance both clinical trials as well as all patient care. In addition, she leads IROC's and MD Anderson's remote phantom program that provides independent comparisons of the institution's advanced-technique treatment plans to the actual deliveries and methods for improvement when results are poor. Her AAPM efforts are focused on helping sites improve methods that ultimately improve patient care. She is also interested in diversity and inclusion and has served on AAPM's Women's Subcommittee, led table discussions at the subcommittee's luncheons, and earned the title of Diversity Champion at her institution.

Ke Nie, PhD



Dr. Nie is an Associate Professor at Rutgers - Cancer Institute of New Jersey. She received her PhD in radiological physics from the University of California, Irvine. Following two years as Research Scientist at Carestream Health Inc., Dr. Nie accomplished her residency training at the University of California, San Francisco. In the same year, she joined the Department of Radiation Oncology at Rutgers and has worked there since then. Dr. Nie's research focuses on imaging guided radiotherapy and bioinformatics. Her research is supported by several grants in which she serves as Principle Investigator. She has authored over 50 articles, three book chapters, and over 100 proceedings. She currently holds two US patents. In recognition of her dedication and accomplishments, Dr. Nie has received several honors and awards, including the Science Council Award, Best-In-Physics Award, and Science Highlights from AAPM. She is the Director of the Medical Physics Residency Program and Director of the Gamma Knife Physics service at Rutgers. She is active in educating the next generation of medical physicists and currently serves on the Board of Directors of the AAPM.

Jennifer O'Daniel, PhD

Dr. O'Daniel began her career in medical physics as a graduate student at M. D. Anderson Cancer Center UTHealth Graduate School of Biomedical Sciences, where she earned her MS working with Dr. Isaac Rosen and her PhD working with Dr. Lei Dong. After completing her residency at MDACC, she

moved to Duke University Medical Center in Durham, North Carolina. She is currently the lead physicist and RSO at Duke Cancer Center – North Durham and an assistant professor at Duke University Medical Center. Dr. O'Daniel has volunteered with AAPM on various committees since the start of her career, including as one of the founding members of the Students and Trainees Subcommittee. Most recently, she has been very involved with WG-100 as a member then vice-chair. In addition, Dr. O'Daniel worked on creating workshops, a repository, and a national survey to assess the current uptake of TG-100. She has organized TG-100 sessions at national meetings and has led a TG-100 workshop along with Dr. Saiful Huq. She has also served on the Therapy Physics Committee and was elected as Board-Member-at-Large in 2019.

Stephanie Parker, MS

Ms. Parker is a medical physicist at Wake Forest Baptist Health High Point Medical Center, where she is Chair of the Quality and Safety Committee. For the past 23 years, Ms. Parker has worked as a medical physicist in both academic and community practices. Her professional interests include patient safety, quality improvement, and global health. Ms. Parker earned a Master of Science Degree in Radiological Medical Physics from the University of Kentucky, a graduate certificate in Public Health Leadership from UNC-Chapel Hill, and a graduate certificate in Quality Management from the University of Wisconsin – Stout. She actively participates in several AAPM groups (councils, committees, subcommittees, working groups, and a task group), is completing her third and final year in the 2021 SEAAPM Chapter Presidential chain, serves as an ACR Radiation Oncology Practice Accreditation Surveyor, is Co-Director of the Kenyan Physics Forum (a multi-institutional global medical physics collaboration), and serves on an advisory committee for the State of North Carolina's Radiation Protection Division.

Marianne Plunkett, MS

I am so thankful for the many opportunities that AAPM has afforded me over my 30-year career. As a medical physics graduate student at the University of Kentucky, I was introduced

to AAPM and volunteered to categorize historical AAPM photos for Drs. Joseph Sayeg, and Guy Simmons. I continued with my academic/professional/scientific career at Harvard, JCRT, where I worked on the implementation, QA, and testing of an early 3D Treatment Planning System with help from my AAPM colleagues. In later positions, my primary responsibilities have always been clinical. I have multiplexed my evening and weekend free time to ensure that AAPM and the AAPM Southern California Chapter have grown and provided educational opportunities to students and residents post-doctoral fellows, regulatory inspectors, and fellow physicists. Since 1998 I have worked continuously on all of the Baily Student Awards, Midwinter Symposium, and Fall meetings for the Southern California Chapter.

Julianne Pollard-Larkin, PhD

Dr. Pollard-Larkin is an Associate Professor of Medical Physics at the University of Texas, MD Anderson Cancer Center in Houston, TX. She is the medical physicist Service Chief over MD Anderson's Thoracic and Gastrointestinal Radiation Oncology Clinics. Her primary research interests include ultrahigh dose rate radiotherapy, dose measurements, and improving the efficacy of motion management in thoracic treatments and radiobiology. Julianne is also the Chair of the AAPM Diversity and Inclusion Subcommittee. Ensuring that more underrepresented students and women follow in her footsteps is Dr. Pollard-Larkin's passion. To that end, she spends an extensive amount of time on outreach with physics and related STEM societies to increase the numbers of talented students of color in our field. Her current goals are to help improve AAPM's diversity initiatives and to use a data-driven approach to monitor and assess equity within our field.

Gregory Sharp, PhD

Dr. Sharp is a clinical medical physicist at Massachusetts General Hospital. He has an engineering background with degrees in Electrical Engineering from the University of Wisconsin and Computer Science Engineering from the University of Michigan. Dr. Sharp maintains an active research program in medical image processing and is the author

or co-author of more than 100 peer-reviewed scientific articles. In addition, he proudly volunteers service to AAPM, the New England Chapter, and his local community.

Koren Smith, MS

Ms. Smith currently serves as a Medical Physicist and Physics/ Dosimetry Manager for IROC RI/QARC at the University of Massachusetts. Previously, she worked as a Medical Physicist and Chief Quality Officer at Mary Bird Perkins with oversight of policies, education, training and accreditation, and regulatory standards. During her tenure, Ms. Smith has helped to design and publish robust, risk-based QA programs. She has led numerous groups through simulated and real-life TG100-based risk analyses for various clinical processes. Ms. Smith has served on many committees, working groups, and the Board of Directors for AAPM. Under the Working Group for the Implementation of TG100, she built educational tools for AAPM to be used as an introduction to risk analysis methods for training programs. Ms. Smith currently chairs a Task Group to recommend validation procedures for black-box systems. She has served as a lecturer and project mentor to medical physics graduate students, residents, and medical residents.

Stephen Thompson, MS

Mr. Thompson is a Diagnostic and Therapy Physicist with a 24-year career in imaging, therapy, and the commercial sector. Stephen began his professional career in 1996 in Northern California as a consulting Diagnostic Imaging Physicist. In 1999, Stephen joined the Imaging Physics section at MD Anderson Cancer Center (MDACC), focusing on the migration to electronic radiology. In 2003, Stephen switched focus from Diagnostic Imaging to Therapy Physics and assumed the Lead Physicist role at Memorial Medical Center in California. After a short stint with Varian from 2010 to 2012, Stephen returned to clinical practice as a solo physicist covering treatment centers in Salinas and Santa Cruz, California. In 2015, Stephen again joined Varian to focus on treatment planning development and led several releases of advanced optimization toolsets. As Sr. Product Manager within Varian, he now leads the development of new imaging and delivery features for the Halcyon linear accelerator.

Neelam Tyagi, PhD

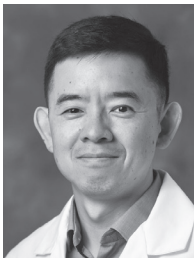
Dr. Tyagi is an associate attending physicist at Memorial Sloan-Kettering Cancer Center, where she leads the clinical program in MR-guided radiotherapy. She has been actively involved in developing radiotherapy simulation workflows for combined MR-CT and MR-only simulation and the use of anatomical and functional MRI as a biomarker for assessing response to therapy. Her efforts have resulted in MSKCC being the first institution to clinically implement MR-only simulation for prostate radiotherapy. She received her PhD in Nuclear Engineering and Radiological Sciences from the University of Michigan. She is certified by the American Board of Radiology in Therapeutic Radiologic Physics. Dr. Tyagi feels very fortunate to collaborate with scientists, clinicians, students, and postdoctoral fellows from multidisciplinary fields on nearly fifty peer-reviewed journal articles. In addition, she is a member of multiple AAPM task groups, including TG 284, TG294, and TG352, and Vice-Chair of the Ad Hoc Committee on MR in RT, working towards developing guidelines and recommendations as well as identifying gaps and unmet needs on the use of MRI in radiation oncology.

Michelle Wells, MS

Ms. Wells is an employee of Piedmont Healthcare and leads the technical operations and staffing of seven radiation oncology centers and one Gamma Knife center. Michelle is passionate about continuous process improvement to advance patient outcomes and increase the staff's technical expertise. Under her leadership, Piedmont successfully obtained both ACR and ASTRO Apex accreditation certifications. Her vision for a physics residency program came to fruition in 2019. Board-certified in both Therapeutic Medical Physics and Diagnostic Radiological Physics, she graduated from Francis Marion University in Florence, South Carolina, with a dual bachelor's degree in physics and mathematics. As a Presidential Fellow at Georgia Institute of Technology, she earned a Master of Science degree in Health Physics. A native of Latta, South Carolina, Ms. Wells is an avid community volunteer with Atlanta organizations

that promote leadership and STEM education. She and her husband (William) love attending the theater, watching football, and traveling.

Ning Wen, PhD



Dr. Wen received his PhD degree in Medical Physics from Wayne State University and obtained his MBA degree from the University of Michigan. Dr. Wen has worked at Henry Ford Health System and serves as Director of Clinical Physics. He has extensive experience and interest in stereotactic radiosurgery and is Co-director of a stereotactic radiosurgery course at Henry Ford, which has trained over 300 physicians, physicists and therapists from across the globe. His current research aims to develop supervised and unsupervised machine learning algorithms to analyze omics data derived from medical images and cancer genomes for patient risk stratification and treatment response assessment. Dr. Wen is a recipient of multiple grant awards from the American Cancer Society and other agencies.

Xiaowei Zhu, MS

Ms. Zhu has been a medical physics and health physics professional for over three decades. For 18 years, she has been the Director of Radiology Physics and Engineering at the Children's Hospital of Philadelphia (CHOP). Previously, she worked at the Cleveland Clinic Foundation and the University of Pennsylvania. Ms. Zhu has served on six AAPM task groups and served as President of the AAPM Delaware Valley Chapter in 2019. From 2009 to 2014, she was a member of the ACR Appropriateness Criteria Subcommittee on Relative Radiation Exposure and Dose. Ms. Zhu has actively collaborated with clinicians and medical fellows, publishing over 30 peer-reviewed manuscripts and 70 abstracts. She has been a mentor to many fellows and junior staff over her career and has actively supported various educational programs through CHOP, AAPM, and the Pan-American Health Organization. Ms. Zhu is an Assistant Editor for the *American Journal of Roentgenology* and has been a reviewer for P*ediatric Radiology, British Journal of Radiology*, and AAPM symposia.

JOHN S. LAUGHLIN EARLY-CAREER SCIENTIST AWARD

Clemens Grassberger, PhD

Dr. Grassberger received his undergraduate degree and PhD in physics at ETH Zurich.

His PhD was in collaboration with Massachusetts General Hospital (MGH), supervised by Tony Lomax and Harald Paganetti, where he studied intensity modulated proton therapy, particularly how it can be used to modify linear energy transfer distributions and how the interplay effect impacts the treatment of moving targets. His PhD work was awarded second place in the AAPM Early-Career investigator competition.

After completing his PhD in 2014, he stayed in Boston as a postdoctoral fellow and transitioned to studying the effects of radiotherapy in combination with biological agents. After joining the faculty in 2016, he is now Assistant Professor at Harvard Medical School and Associate Program Director of the department's radiation biology & research program. His research received foundation and NIH funding, and his group continues to investigate outcomes after radiation therapy alone and in combination with immunotherapy and molecularly targeted agents. He uses mechanistic and data-driven modeling to describe the interaction of these systemic therapies with radiation in the context of specific clinical indications, with the aim of designing rational clinical trials and patient-specific treatments.

He is passionate about education and mentoring and has served AAPM as chair of the Working Group on Student and Trainee Research and currently a member of the Biological Effects Subcommittee. In addition, he was an Early Career Scholar at the Winter Institute in Medical Physics and still serves as Organizing Committee member.

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 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 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 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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www.aapm.org