AAPM EDUCATION & RESEARCH FUND

FOCUS ON OUR FUTURE

2025 ANNUAL REPORT

AMERICAN ASSOCIATION *of* PHYSICISTS IN MEDICINE

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The Education & Research (E&R) Fund is a vital force in advancing our profession. Donor generosity drives strategic research initiatives, innovative educational programs, and meaningful awards that support the next generation of medical physicists.

AAPM continued to expand its professional impact in 2025, investing approximately $662,000 in research seed grants, mentorship programs, travel grants, PhD student fellowships, distinguished lectureships, and travel and tuition awards. Every gift transforms ideas into action and helps ensure a strong, vibrant future for our field.

The AAPM Development Committee invites you to review the award recipient testimonials included in this report. These firsthand reflections underscore the profound impact donor support has on career development, innovation, and professional growth — and we hope they inspire you as much as they inspire us. The report also provides an overview of the current state of the E&R Fund and recognizes the meaningful contributions of our individual donors.

Since the E&R Fund was established in 1989, AAPM has awarded well over $5 million in support of education and research across our profession. **Would you help sustain and grow this remarkable legacy?** Donor levels and gift options are available at https://www.aapm.org/education/edfundintro.asp, and we encourage every AAPM member to consider contributing.

If you have questions or would like to explore development opportunities, please don't hesitate to reach out — we would be delighted to hear from you.

Michelle Wells, FAAPM
Chair, AAPM Development Committee

AMERICAN ASSOCIATION *of* PHYSICISTS IN MEDICINE

2025 REVIEW | GRANTS & FELLOWSHIPS

The Research Seed Funding Grant

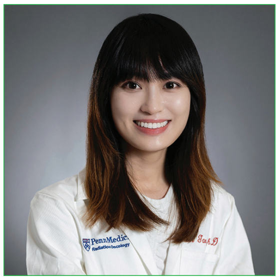
Four $25,000 grants were awarded to provide funds to develop exciting investigator-initiated concepts, which will hopefully lead to successful longer term project funding from the NIH or equivalent funding sources. Funding for the 12-month grant period began July 2025. Research results are submitted for presentation at future AAPM meetings.

Eric Aliotta, PhD

Memorial Sloan Kettering Cancer Center
Department of Medical Physics

Fast, High-Definition and Motion-Robust Diffusion MRI of Pancreatic Cancer for Adaptive Radiotherapy

High-dose radiotherapy is one of few effective treatments for patients with unresectable pancreatic cancer. A major challenge is that required doses greatly exceed the tolerance of nearby mobile gastrointestinal organs such as the bowel, stomach, and duodenum. Magnetic resonance imaging (MRI) guided radiotherapy using a hybrid MRI linear accelerator (MR-LINAC) is critical for the safe delivery of curative radiotherapy doses because it enables visualization of these organs before each treatment and allows for online treatment plan adaptations to account for real-time motion. Unfortunately, with current MRI capabilities, visualizing pancreatic tumors online is extremely challenging, which limits targeting precision and accuracy. Existing methods also do not quantify treatment response, which could help identify non-responders early-on. The aim of this project is to develop novel diffusion-weighted MRI (DWI) technologies that will enable robust online pancreatic tumor targeting and early response assessment. DWI is a promising quantitative imaging technique that can visualize and quantify pancreatic cancer, but several key technical limitations have prevented its clinical adoption in radiotherapy (distortions, motion sensitivity, and long scan times). We aim to overcome these challenges and enable high-fidelity, motion-robust, and efficient DWI on MR-LINAC systems through a novel Motion-Compensated Spiral (Spiral-MC) acquisition strategy and AI-powered reconstructions (AI-Recon).



Yin Gao, PhD

University of Pennsylvania
Department of Radiation Oncology

AI-Assisted Dose and Dose Rate Optimization for Deliverable Proton Conformal FLASH Radiotherapy

Proton conformal FLASH, delivered at ultra-high dose rates (UHDRs), has demonstrated superior normal tissue sparing while preserving tumor control in multiple preclinical studies. Ongoing clinical trials are evaluating its feasibility and safety to enable clinical translation. Treatment planning is a cornerstone of radiotherapy, as plan quality directly affects treatment delivery and ultimately clinical outcomes. Unlike conventional radiotherapy, FLASH planning must simultaneously satisfy clinical dosimetric goals and deliver UHDRs under machine constraints to induce FLASH effects. This highly-coupled optimization problem is currently addressed through manual trial-and-error, resulting in inefficient workflows that hinder clinical trials, limit scientific investigation, and slow the broader adoption of proton conformal FLASH. This study aims to develop an AI-assisted dose and dose-rate optimization framework that integrates a deep reinforcement learning (DRL)–based auto-planning agent, spot sequence optimization, and QA for dose and dose-rate verification. Preliminary results demonstrate that the DRL agent can autonomously generate robust plans with high-quality dosimetric and dose-rate performance for head-and-neck cancer reirradiation. Post-planning spot sequence optimization further enhances dose-rate without altering dose. With this AAPM Research Seed Funding Grant, this work is expected to contribute to the upcoming FLASH clinical trial at Penn and serve as the foundation for the future NIH-funded research proposal.

Hieu Nguyen, PhD

Stanford University
Departments of Radiation Oncology and Medical Physics

Radioresistant T Cells to Enhance the Therapeutic Impact of T Cell Therapy

Treating metastatic cancer remains a major challenge, with metastasis accounting for up to 90% of cancer-related mortality. Immunotherapy—particularly T-cell therapy—offers a patient-specific treatment approach, but its success in solid tumors has been limited. Combining T-cell therapy with radiotherapy holds promise; however, radiation often eliminates tumor-infiltrating T cells, reducing the synergy between the treatments. My proposal aims to enhance T-cell therapy for solid tumors by leveraging advances in PET imaging and radiotherapy. First, we will engineer radioresistant T cells using small-molecule radioprotectors and gene editing to improve survival during radiolabeling and radiotherapy. Second, we will evaluate these engineered cells in vivo for two complementary applications: (1) PET-based tracking using a small radiolabeled reporter subset, and (2) combined radiotherapy plus T-cell therapy using the radioresistant population. This strategy is intended to lay the groundwork for eventual translation to human studies and has the potential to advance understanding of T-cell biodistribution following infusion, ultimately improving the efficacy of combined radiotherapy and immunotherapy. The 2025 AAPM Seed Funding Grant is critical at this early stage of my research program, providing essential resources to generate preliminary data for future R grants focused on developing radioresistant T cells as theranostic agents for solid tumor treatment.

Mitchell Yu, PhD

Memorial Sloan Kettering Cancer Center
Department of Medical Physics

Deep Learning Empowered FreeWill Gated CBCT for Respiratory Gating Radiotherapy

Respiratory gating radiotherapy (RG-RT) allows patients to breathe freely while delivering radiation only during a specific portion (“gating window”) of the breathing cycle. RG-RT is advantageous for treating thoracic and abdominal cancers: it reduces radiation-induced toxicity and enables dose escalation to the tumor. Pre-treatment imaging verification, which includes a gated cone-beam CT (gCBCT) scan, is critical for safe RG-RT delivery. However, current gCBCT implementations on C-arm linear accelerators are inefficient. Each scan requires 2–8 minutes due to frequent gantry interruptions, and any adjustment to gating thresholds necessitates a complete repeat scan. To address these limitations, we propose a novel approach – FreeWill gated CBCT – that decouples image acquisition from gating decisions. This “scan first, gate later” paradigm significantly shortens imaging time (to only 1 minute) and eliminates the need for repeat scans. This project aims to develop a deep-learning-based dual-domain reconstruction framework tailored to the unique data acquisition characteristics of FreeWill gated CBCT, followed by comprehensive evaluations using phantom and patient data. Support from the AAPM seed grant is essential to demonstrate the technical feasibility of this approach and to generate preliminary data for a future NIH proposal, ultimately enabling clinical translation and improved care for patients undergoing RG-RT.

ASTRO-AAPM Physics Resident/Post-Doctoral Fellow Seed Grant

Two $25,000 grants were jointly awarded by AAPM and the American Society of Radiation Oncology (ASTRO) with the goal of advancing the field of radiation oncology in novel ways through the support of early-career scientists involved in radiation oncology physics-related research.

Harkiran Kooner, PhD

Johns Hopkins University
Department of Radiation Oncology and Molecular Radiation Sciences

AIRTox - Airway Imaging for Radiation-induced Toxicity

Lung cancer is the leading cause of cancer-related deaths, disproportionally affecting older adults with reduced pulmonary reserve and pre-existing cardiopulmonary conditions. For centrally located and non-operable tumors near the proximal bronchial tree (PBT), radiotherapy is often the sole curative option, yet current dose constraints are largely based on expert consensus rather than clinical data. Emerging evidence suggests that airway toxicity varies based on airway size, wall thickness, and dose exposure. However, precise dose-response relationships for airway tolerance remain undefined. We aim to address this gap by quantifying radiation-induced airway changes and establishing dose thresholds. This retrospective study will analyze CT imaging and radiotherapy data from patients treated at Johns Hopkins Hospitals using three dose fractionation schemes: conventional, hypofractionated, and stereotactic. Airway segmentation will generate three-dimensional airway models, enabling precise measurement of volumetric radiation dose delivered to specific airway segments. Follow-up CT images will be segmented to evaluate longitudinal changes in airway dimensions, providing a method to detect radiographic airway toxicities. We hypothesize that radiotherapy will induce dose-dependent changes in airway dimensions, where the extent of airway remodeling will inform on dose thresholds for specific airway segments. By identifying subclinical radiation-induced airway changes, the study findings will help refine dose tolerances.

Jose Antonio Lopez-Valverde, PhD

Dana Farber Cancer Institute/ Brigham and Women's Hospital and Massachusetts General Hospital/Harvard Medical School
Department of Radiation Oncology

Characterization of the internalization dynamics of AGuIX/ AGuIX-Bi and their role on the mechanism of action of the radiosensitization effect

AGuIX are high atomic number theranostic nanoparticles that have advanced to multiple clinical trials after showing a strong radiosensitization effect in numerous preclinical studies. However, little is known about their mechanism of action for radiosensitization, and the impact of their intracellular internalization dynamics on therapeutic efficacy remains poorly understood. Proceeding without optimizing these parameters risks the failure of this promising technology in its early stages. This project hypothesizes that synchronizing radiation delivery with peak nanoparticle internalization maximizes the cell-killing effect and treatment outcomes. We aim to characterize these dynamics using an integrated strategy, cycling between in silico modeling and experimental validation. Methods include quantifying internalization via fluorescence microscopy and ICP-MS, in vivo MRI, and single-cell RNA sequencing to profile molecular mechanisms. Preliminary data have already validated our initial computational models and internalization assays. This award is a pivot point in my career development: as the first project I am leading at this early stage of my career, it is enabling me to steer a translational study bridging complex physical modeling with rigorous biological validation, supporting my long-term goal of becoming an independent researcher at the intersection of experimental and computational radiation oncology.

Global Health Research Seed Funding Grant

A $25,000 grant was awarded to provide funds to develop investigator-initiated concepts focused on global health research, which will ideally lead to successful longer-term project funding from the NIH or equivalent funding sources.

Yiding Han, PhD

Baylor College of Medicine
Department of Radiation Oncology

Automated tumor contouring using a foundational imaging segmentation integrated with large language models: A seed project for liver cancer radiotherapy in Mongolia

This funded seed project addresses a major barrier to high-quality liver cancer radiotherapy in low- and middle-income countries (LMICs): accurate tumor contouring remains labor-intensive, inconsistent, and highly dependent on clinician experience. We hypothesize that integrating a foundation image-segmentation model with a bidirectional image-text transformer can improve the accuracy, consistency, and clinical usability of liver tumor delineation across CT and MRI, while also supporting radiology report generation. The project has two aims: (1) fine-tune and validate a robust liver tumor segmentation foundation model using limited multi-modal training data; and (2) develop and validate a Bidirectional Anatomical Image-Text Transformer (BAITT) that links tumor geometry with radiology report text in both directions. Methods include multi-institutional data collection, few-shot model fine-tuning, geometric and text-based prompting, and validation using Dice similarity, HD95, Likert scoring, and physician review. Preliminary work from our group showed that transformer model-based auto-segmentation substantially reduced contouring time in LMIC settings and improved tumor segmentation performance. This grant advances my career by expanding my expertise in foundation models, multimodal AI, and global health radiotherapy research while building an international collaborative research program.

2025 REVIEW | GRADUATE STUDENT FELLOWSHIPS

Awarded 2024 | 1st Year Funding 2025 | 2nd Year Funding 2026

Janet Ching-Mei Feng, PhD
The University of Texas Health Sciences Center at Houston/McGovern Medical School
Department of Diagnostic and Interventional Imaging

John Holmes, DMP
University of Pittsburgh/UPMC
Department of Radiology and Radiation Safety

Awarded 2023 | 1st Year Funding 2024 | 2nd Year Funding 2025

E. Russell Ritenour, PhD
Medical University of South Carolina
Department of Diagnostic Radiology

Christopher C. Smitherman
Petrone Associates, LLC
Department of Diagnostic Medical Physics

AAPM/RSNA Imaging Physics Residency Grants

The AAPM Board of Directors approved $420,000 total in support over six years ($70,000/year starting in 2020 and through 2026) to co-fund, with the awardee institution(s), six positions in existing or new imaging physics residency programs. In support, the Radiological Society of North America (RSNA) Board of Directors approved $210,000 for an additional three positions, which provided matching funds for a total of nine imaging physics. The intent of these funds is that, after the award period has concluded, the awardee institution(s) will continue to fully support these imaging physics residency positions.

2025 REVIEW | GRADUATE STUDENT FELLOWSHIPS

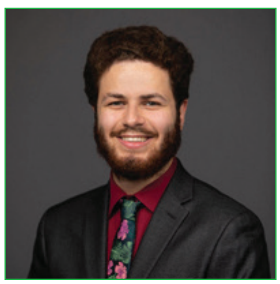
The AAPM/RSNA Doctoral and Masters Graduate Fellowships are comprised of four Doctoral awards (PhD or DMP) and three Masters awards each in the amount of $10,000. Additionally, one each of the Masters and Doctoral awards is reserved for under-represented applicants. Awardees are outstanding students based on their academic record, recommendations, curriculum vitae, and self statement of how an award would benefit their graduate studies.

Doctoral Recipients

Giavanna Jadick
Second Year or Higher
University of Chicago

Joseph Schulz
Second Year or Higher
University of Wisconsin-Madison

Darren Fang
First Year
University of California Los Angeles



Alejandro Martinez
First Year
Georgia Institute of Technology

Masters Recipients

Madison Allen
Duke University

Xiaokun Teng
University of Pennsylvania

Michael Yang
The University of Texas MD Anderson Cancer Center

2025 REVIEW | SUMMER UNDERGRADUATE FELLOWSHIP PROGRAM

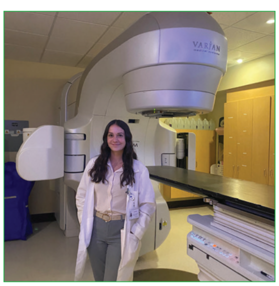
Shiho Amster

University of California Los Angeles
Senior, Physics

Mentor: *Michael Lauria, PhD*
University of California Los Angeles
Department of Radiation Oncology

Investigating CT Motion Model-Derived Ventilation as a Biomarker for Lung Disease

My project's goal was to determine the feasibility of using CT-based ventilation as a biomarker for COPD severity. In particular, the jacobian determinant of the deformation vector field from each patient's end-exhalation to end-inhalation image registration was used to quantify the regional ventilation within the lungs. My role was to use this metric to analyze heterogeneity in three ways: finding the relationship between the worst ventilating lobe and other lobes (VHI), creating a lobar heat map for mean ventilation at varying COPD severity, and determing the percentage of voxels with Jacobian values below certain thresholds. This work can hopefully create a biomarker for COPD disease states and identify candidates for functional sparing. I worked with a baseline of code my PI had started during his PhD to get the methodology for conducting the image registration and calculating the jacobian, and then further expanded on this with the heterogeneity analysis. I was able to familiarize myself with Matlab and working with CT scans. I also presented my research in a poster at AAPM's Annual Conference this year. This fellowship has strengthened my desire to get a medical physics PhD and eventually become a medical physicist. Thank you for this opportunity!



Lily Bertemes

The Ohio State University
Senior, Physics

Mentor: *Damodar Pokhrel, PhD*
University of Kentucky
Department of Radiation Medicine

Offline Adaptive Radiation Therapy using Halcyon Equipped with HyperSight

For my AAPM SUFP, I went to the University of Kentucky, and my mentor was Dr. Damodar Pokhrel. My project explored offline adaptive therapy using a Halcyon Linac equipped with HyperSight. This project allowed me to experience important aspects of the treatment process such as familiarizing myself with the Eclipse treatment planning system. My focus was on SBRT prostate cancer patients, and I copied the CT treatment plan onto the daily CBCT images to show how beneficial it would be to treatment plan from the HyperSight images day of treatment. This work is significant because it would allow for more precise treatments, which is a major goal medical physicists work towards. Coming into

The Summer Undergraduate Fellowship Program (SUFP) is a 10-week (40 hours per week) summer program 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. The mentor and fellow determine the exact 10-week schedule (May-September). In this program, AAPM matches exceptional students with exceptional medical physicists, many whom are faculty at leading research centers. Students participating in the program are placed into summer positions that are consistent with their interest. Selected for the program on a competitive basis, summer fellows receive a $6,000 stipend from AAPM. Additional funding provided by the AAPM Southwest Chapter.

this experience, I had prior knowledge of the field, so I was able to push myself to grasp a deeper understanding. There were times when I found myself stuck or not sure how to do something, which is when I would go to the students, residents, or my mentor for help. Not only did I gain tremendous experience for medical physics, but I also learned how to work as a team. I learned a lot from this experience, and it will help me with my future endeavors.

Benjamin Black

Brigham Young University – Provo
Junior, Applied Physics

Mentor: *Daniel Robertson, PhD*
Mayo Clinic – Arizona
Department of Radiation Oncology

Grace Chamberlain

James Madison University
Senior, Physics

Mentor: *James Ververs, PhD*
Wake Forest University Medical Center
Comprehensive Cancer Center

Ensuring patient safety by reducing gantry collision risk with an improved virtual model

This summer, I generated a 3D virtual model of an Elekta linear accelerator (linac) in RayStation treatment planning software, and I authored Python scripts to identify collisions between the gantry and couch. Collisions found during dry runs of radiation therapy treatments require medical physicists and oncologists to rewrite patients' treatment plans, potentially delaying cancer patients' timelines for receiving vital radiation. Moving collision detection further upstream in the treatment planning process can prevent these delays. To build the collision model, I integrated built-in functions from RayStation with my own scripting and a graphical user interface (GUI) to simulate gantry and couch rotations, couch translations, and patient orientations. I also wrote code to identify the maximum vertical coordinate of the couch within a CT scan and translated the virtual model of the couch to align with this coordinate, accounting for breast cancer cases in which specialized couchtops allow part of the patient's body to lie below the couchtop. This fellowship allowed me to use physics and my detail-oriented mindset to solve problems with tangible impact in cancer treatment, proving to me that I want to pursue a career in medical physics.

Beatrice Croteau

Mount Holyoke College
Senior, Physics

Mentor: *Sarah Quirk, PhD*
Brigham and Women's Hospital
Department of Radiation Oncology

Impact of Patient Positioning and Treatment-Course Anatomical Changes on Seroma Volumes in Breast Radiotherapy

I went into my summer of medical physics research as a part of SUFP considering medical physics as an option for my future career. I came out confident that I want to pursue medical physics. My project on patient positioning for breast radiotherapy was the first research work I had done where I had real independence and ownership over the work. With guidance from my mentor, I got to make the decisions about how data should be analyzed and I got to follow any unexpected directions the work went in. When I found something interesting in the data, I got to explore it. I had been missing that kind of scientific curiosity in other undergraduate research experiences. Complete with shadowing opportunities on a variety of treatment and imaging machines, writing an abstract for the first time, and attending my first conference, my summer of research with SUFP has set me on a path towards becoming a medical physicist.

Isaac DeBord

Ohio University
Senior, Physics and Applied Mathematics

Mentor: *Ozgur Ates, PhD*
St. Jude Children's Research Hospital
Department of Radiation Oncology

QA for AI Auto-Segmentation in Pediatric CSI Patients

This summer, I developed a quality assurance tool for AI-based auto-segmentation in pediatric craniospinal irradiation (CSI) patients. My role involved researching implementation strategies and creating an original tool, building upon prior work by a previous student. The tool is designed for integration into routine clinical practice and treatment planning at St. Jude, directly supporting physicians in CT image segmentation and improving care for children undergoing treatment. The project required collaboration across Radiation Oncology and Biostatistics, combining clinical insight with computational approaches.

Our work has resulted in a manuscript that will be submitted for publication in the near future. Through this fellowship, I strengthened my skills in physics, computer science, and interdisciplinary teamwork. More importantly, it affirmed my commitment to applying my background in physics to the medical field, with the goal of advancing cancer treatment and patient care.

Juan Desmaras

Northwestern University
Senior, Biomedical Engineering

Mentor: *Piotr Zygmanski, PhD*
Dana Farber Cancer Institute/Brigham Women's Hospital
Departments of Medical Physics and Radiation Oncology

Mariaceleste Florian

Southern Connecticut State University
Senior, Physics

Mentor: *Christopher Njeh, PhD*
Indiana University Health
Department of Radiation Oncology

Impact of BMI on the delivery of radiation therapy: a retrospective study

My project concerned how obesity affects cancer radiation treatment, specifically the shifts when aligning CT Simulator images with Linear Accelerator (LINAC) images, in the pelvic area. This project is important because about 20% of all cancers are caused by lifestyle choices, such as obesity. Although there are significant amounts of high body mass index (BMI) patients in the cancer community, there are few studies that explain the correlation between weight and treatment. I began with reading literature and shadowing various procedures and imaging processes to gain proper background knowledge. Then, with the help of physicists, I was able to extract data, such as necessary BMI quantities and LINAC table shifts. My analysis included graphs and tables that helped me reach a conclusion about the relationship between the two. I am currently working on a publication which will be completed soon. This fellowship made a positive impact on my skills and outlook on the future. It not only solidified my decision to pursue a career in medical physics, but it deepened my appreciation for the field and its dedicated workers. I reminded of the field I am proud and excited to be a part of. I remain grateful for the experience.

Kiana Gallagher

University of Victoria
Senior, Physics and Computer Science

Mentor: *Adam Wang, PhD*
Stanford University
Department of Radiology

Anthropomorphic CT Phantoms Using Office Laser Printers

Computed Tomography (CT) delivers a significant dose of ionizing radiation to patients, necessitating the use of phantoms for calibration and testing. However, commercial CT phantoms are often costly, lack anatomical specificity, and are not patient-specific. The objective of my summer research project was to develop a low-cost, accessible method for creating anthropomorphic CT phantoms using office laser printers. The primary materials included a laser printer, toner cartridges, and standard printing paper. A calibration phantom was scanned using a photon-counting CT scanner to generate a calibration curve mapping grayscale values to Hounsfield Units (HU). This curve enabled the printing of anatomically realistic phantoms by modulating grayscale density in printed images. A 3D cardiac phantom was printed, assembled, and scanned. Results showed that the printed phantom effectively replicated soft tissue HU values, though limitations were observed in reproducing the attenuation properties of lung and bone. This project marked my first hands-on experience with experimental research, contrasting with my previous computational work. It provided valuable insight into real-world problem-solving and the challenges of experimental design. Overall, this experience deepened my interest in medical physics and reinforced my intention to pursue graduate studies in the field.

Scott Hiltner

Rutgers University
Senior, Physics

Mentor: *Teh Lin, PhD*
Fox Chase Cancer Center
Department of Radiation Oncology

Organ at risk localization modeling for GU CT based Adaptive therapy

Online adaptive radiotherapy (oART) improves treatment precision by allowing physicians to adapt to the patient's daily anatomy. However, some problems are still present, especially in pelvic cases. Intra-fractional changes, like bladder growth, can affect dose accuracy by displacing nearby targets and organs at risk (OARs). The estimated glomerular filtration rate (eGFR), a measure of renal function, may have a correlation with bladder inflow rate. Using retrospective data from prostate and pelvic lymph node patients, we analyzed intra-fraction bladder growth and compared this with each patient's eGFR. We then ran dose comparisons between the cone beam CT from the start of treatment (CBCT1) and from the verification scan (CBCT2) to see if there was a difference in dose received, since treatment is based on CBCT1 and not CBCT2. A correlation was found between eGFR and bladder inflow rate, as well as a difference in dose received by the OARs in the plan. The small and large bowel received less dose than thought, while the bladder received more. This fellowship laid the groundwork for my future work in medical physics, gaining insight into data analysis and treatment planning, and confirmed my passion for the field.

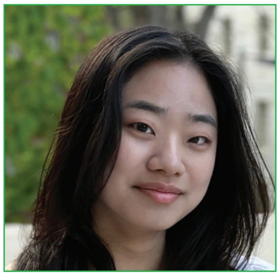
Vivian Hughes

Queen's University
Senior, Mathematical Physics

Mentor: *Andrew Robertson, PhD*
BC Cancer Vancouver
Department of Medical Physics

Impacts of magnetic susceptibility distortions on stereotactic radiation therapy planning

In MR imaging, differences in magnetic susceptibility at tissue interfaces cause local magnetic field perturbations. These perturbations shift the local resonance frequency of the protons, which then leads to spatial mislocalizations of the imaging signal. My project focused on quantifying the impact of these distortions on stereotactic radiotherapy treatment planning. While MRI distortions have been studied previously, relatively little work has specifically isolated and evaluated the role of susceptibility shifts. To address this, I implemented a MATLAB-based FFT simulation workflow that segmented CT images into bone, air, and soft tissue, assigned bulk susceptibility values, and calculated the resulting magnetic field perturbations and voxel shift maps. The workflow (which was validated with phantom experiments) was then applied to clinical datasets. Results showed that distortions were most pronounced in smaller targets located near air-tissue interfaces, where spatial shifts can alter radiation dose metrics. This project is progressing toward a manuscript submission, with further work focused on assessing the clinical relevance of these susceptibility-related distortions. Through this fellowship, I gained experience in applying computational methods to medical imaging, while developing skills in algorithm implementation and data interpretation. Overall, the work has deepened my interest in pursuing research at the interface of imaging and radiation oncology.



Sophia Kim

Harvard College
Junior, Physics

Mentor: *Dr. Madan M. Rehani*
Massachusetts General Hospital
Radiation Safety Committee

Radiation Exposure and Mortality among Patients and Staff

Under Dr. Madan Rehani's mentorship at Massachusetts General Hospital, I spent the summer conducting quantitative research on radiation safety in medical practice. I examined three key areas: relative radiation exposures between patients and staff, mortality rates among patients undergoing fluoroscopy-guided procedures and CT scans, and trends of frequent imaging use among elderly populations. This work addresses critical gaps in radiation safety oversight. While strict regulations protect medical staff from daily radiation exposure, no dose limits exist for patients. My analysis of large institutional datasets revealed concerning trends, such as elderly patients receiving more frequent CT examinations, as well as increasing mortality rates among patients undergoing fluoroscopy and CT. Through biweekly meetings with Dr. Rehani, I developed essential skills in computational data analysis, manuscript drafting, and scientific communication. This fellowship resulted in three manuscript submissions currently under review. I also enjoyed the conference, which provided an exceptional introduction to the vast opportunities in medical physics. Newly inspired, I'm now conducting computational medical physics research under Dr. Zygmanski at Brigham and Women's Hospital. This fellowship not only enhanced my technical skills but also opened my eyes to medical physics as a potential career path—a field I'm increasingly excited to pursue.

Stephanie Merkl

University of British Columbia Okanagan
Senior, Physics and Mathematics

Mentor: *Cynthia Araujo, PhD*
BC Cancer – Kelowna
Department of Medical Physics

Assessment of needle displacement in gynecological brachytherapy

The focus of the project was hybrid interstitial gynecological high-dose rate brachytherapy (HDR-BT). The aim was to perform a retrospective review to evaluate the inter-fraction motion of applicators and its effect on dosimetry single-insertion, multi-fractionation HDR-BT. This work is an addition to the clinical quality assurance and communication and understanding of the technique. My role included analyzing CT scans, exporting the three-dimensional position coordinates of the radioactive seeds, computing displacements and other metrics, and analyzing the results. I also began work to perform calculations of changes to dosimetry using both brachytherapy and biologically normalized (EQD2) dose and volume metrics, which will be completed in the future. Preliminary results suggest that inter-fraction applicator motion is small and does not result in clinically significant changes in treatment quality. Through participation in the fellowship experience, I gained valuable insight into the clinical applications of medical physics. This experience deepened my appreciation of the field and my interest in pursuing further studies and a career in medical physics.

Noah Silverberg

Yale University
Senior, Physics and Mathematics

Mentor: *Hao Zhang, PhD*
Memorial Sloan Kettering Cancer Center
Department of Medical Physics

Next-generation nonstop gated CBCT technique for respiratory gating radiotherapy

During the AAPM SUFP, I worked on the development of "nonstop gated" cone-beam CT (CBCT) for respiratory-gated radiotherapy. Conventional gated CBCT prolongs scan time and increases patient discomfort due to frequent interruptions during gantry rotation. The nonstop gated CBCT acquisition reduces scan time and imaging dose while maintaining high image quality. My role focused on implementing and evaluating deep learning-based reconstruction methods for nonstop gated CBCT. I specifically studied uncertainty quantification in a dual-domain convolutional neural network (which my mentor had developed prior to the SUFP), benchmarking five different methods to assess image quality and the quality of model uncertainty outputs. This framework provides uncertainty maps alongside the reconstructions, which could potentially support quality control workflows in clinical settings. Through this fellowship, I advanced my skills in deep learning learned about the medical physics field. Now, I am working on a first-author manuscript on this work. This experience deepened my understanding of how physics-driven innovation and AI can directly improve cancer care, and it solidified my interest in pursuing a career in medical physics. I would like to thank Hao Zhang, Mitchell Yu, the MSK medical physics department, and the AAPM for this incredible opportunity!

Austin Smith

Vanderbilt University
Junior, Physics

Mentor: *Shadab Momin, PhD*
Emory University
Winship Cancer Institute

Dysphagia Optimized Knowledge Based Planning for Head and Neck Cancer

As an AAPM Summer Fellow, I worked on improving treatments for Head and Neck cancer to reduce the risk of dysphagia. The overarching goal of my project was seeing if including new organs related to swallowing (Functional Swallowing Units) in treatment planning would improve plan outcomes. I compared several treatment plans with a new plan which incorporated several of these swallowing units using Eclipse RapidPlan. We found that significant improvement in plans including pharyngeal constrictor muscles, but not for plans including other swallowing units. This fellowship provided new insights into the importance of and day-to-day responsibilities of a medical physicist. I also gained experience using Eclipse RapidPlan to create new treatment plans.

Matthew Stempel

Bucknell University
Senior, Physics

Mentor: *Jeffrey Wong MS*
Northwestern Memorial Hospital
Department of Radiation Oncology

Prostate Seed Implant Needle Configuration Optimization and Verification

This summer, I worked in the Northwestern Medicine radiation oncology department to develop new optimization methods for one of their prostate brachytherapy procedures. As it stands now, the low-dose brachytherapy seed implantation is a complicated process involving multiple ultrasound image studies to be conducted both before and during the operation. However, this means the seed implantation plan (i.e. where the seeds will be implanted) changes between the pre-operative imaging study and the intra-operative imaging study. To account for this the physician and medical physicist must quickly reconfigure needles during the operation to fit the new plan. We implement a new optimization algorithm based on the Hungarian algorithm which reduces the needle reconfiguration into a simple assignment problem. This means with the help of a computer, needle plans can be instantly reconfigured, saving time in the operating room and removing all sources of human error. It was truly amazing to conduct research which I know is directly benefitting cancer patients. This experience, however, helped me understand that I would prefer to pursue a PhD in pure physics, as I enjoy research at the fundamental level and don't prefer the clinical aspects of medical physics.

Blessing Akinro

University of Notre Dame
Junior, Physics and Mathematics

Mentor: *Peter Klages, PhD*
The Ohio State University Wexner Medical Center
Department of Radiation Oncology

3D Imaging to assist patient positioning in proton and photon treatments

Through the fellowship I spent 10 weeks in the summer of 2025 working with Dr. Peter Klages and Dr. Parisa Sadeghi at the Ohio State Wexner Medical Center. I contributed to the development of a non-ionizing 3D imaging system that would increase patient setup accuracy and precision. I investigated what 3D reconstruction techniques would be best for the project and settled on 3D Gaussian splatting. The technique proved to be adequate for the use of reconstruction of patient set-up because of its success in reducing rendering time, being computationally less expensive, and having the ability to facilitate downstream tasks like dynamic reconstruction, geometry editing, and physical simulation. As one of 41 institutions with proton therapy centers in the US, my time at the Ohio State Wexner Medical Center exposed me to unique patient cases, radiation therapy treatment planning, as well as machine and patient specific quality assurance tests. The experience also provided me with a plethora of opportunities to engage in conversation with physicians, dosimetrists, therapists, as well as photon and proton physicists, fostering a greater understanding of why medical physics is important, and the role I could play in the lives of millions by obtaining a medical physics PhD.

Emma Bao

Duke University
Junior, Physics and Mathematics

Mentor: *Assen Kirov, PhD*
Memorial Sloan Kettering Cancer Center
Department of Medical Physics

Resolution Effects of Alpha Autoradiography of Po-210

My research project this summer aimed to address the critical issue of resolution limitations in alpha particle autoradiography imaging by rigorously quantifying the impact of detector response characteristics on spatial accuracy. Utilizing a combined approach of Monte Carlo simulations alongside experimental imaging analyses, I systematically investigated how various physical and instrumental factors (including the choice of scintillator materials, source geometries, and detector design parameters) affect image quality and spatial resolution. The importance of this work is lies in its relevance to improving the accuracy of radionuclide therapy dosimetry, which is fundamental for optimizing targeted cancer treatments and enhancing therapeutic efficacy. By extracting and

Diversity Recruitment through Education and Mentoring Program (DREAM) is a ten-week (40-hours per 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 interest. Selected for the program on a competitive basis, DREAM fellows receive a $6,000 stipend from AAPM. Additional funding provided by the AAPM Northwest and North Central Chapters.

analyzing quantitative measures such as edge spread functions and point spread functions from both simulated and experimental data, this study characterized the resolution distortions introduced by detector-specific effects. Such insights provide a vital foundation for developing correction algorithms that will refine imaging accuracy. Through this fellowship, I significantly advanced my computational modeling capabilities and gained valuable hands-on experience with radiation detection techniques and image processing methodologies. Moreover, this opportunity deepened my understanding of radiation physics applications in medicine and broadened my perspective on the diverse and impactful research conducted within the field of medical physics.

Divya Bartley

Michigan State University
Junior, Physics and Mathematics

Mentor: *Evangelia Kaza*
Dana-Farber/Brigham and Women's Cancer Center, Harvard Medical School
Department of Radiation Oncology

Magnetic resonance diffusion-weighted image analysis for apparent diffusion coefficient (ADC) extraction as a biomarker of cancer response to radiotherapy

My project focused on denoising images taken on a 0.35T MR-Linac to determine if existing computer algorithms could be applied to diffusion-weighted images to improve visual image quality. After denoising, I calculated the apparent diffusion coefficient (ADC) maps from the DWI with the hopes that the quantitative accuracy of the maps was preserved. With success in multiple phantom data sets, I began to assess images from prostate cancer patients to see how denoising the DWI improves lesion visibility. The overall ADC in the prostate region was then compared over the course of treatment to determine localized effects, with increased values indicating a good response. Over the course of this fellowship, I determined which computer algorithms best fit the needs of this task and implemented them to both diffusion phantoms and clinical data beyond the scope of the project, including skin brachytherapy images and sarcoma patient data from a 3T MR-simulator. I also learned valuable technical skills, including how to use medical imaging software (MIM) and acquire images on the MRI. This fellowship has further motivated me to pursue a career in medical physics and given me insight into what directions I want to take in future research.

Karisa Liaw

Case Western Reserve University
Senior, Physics and Neuroscience

Mentor: *Gabriel Sawakuchi, PhD*
The University of Texas MD Anderson Cancer Center
Department of Experimental Radiation Oncology

Targeting Radioresistant Cancer Cell Lines with Alpha Particles for Enhanced Cell Death

High linear energy transfer (LET) radiation such as alpha (α) particles offers a promising strategy to overcome radioresistance in tumors by producing clustered damage. However, modeling α-particle radiation in vitro presents technical challenges due to the limited range of α-particles. We developed and tested a protocol for α-particle delivery using custom mylar wells and an Americium-241 irradiator. Using the radioresistant murine 4T1 (breast cancer), PANC02 and KPC (pancreatic cancer) models, we demonstrated significant cytotoxicity from alpha particles compared to x-rays. These findings support continued investigation of alpha-emitting radiotherapies to target radioresistant cancers. Beyond research, I explored the clinical side of medical physics by shadowing stereotactic body and intraoperative radiation therapy, observing patient plan checks, and assisting with linear accelerator quality assurance. As part of the DREAM fellowship, I attended the AAPM Annual Meeting, connecting with fellow summer interns and gaining deeper appreciation for the remarkable breadth of the field. The most meaningful moments, however, came from celebrating with patients completing radiation treatment. Whether finishing one phase of a plan or enduring yet another round after multiple treatments, these celebrations were joyful reminders of the profound impact medical physicists have on patient care and strengthened my passion for the field.

Lourdes Lopez

Wake Forest University
Senior, Biophysics

Mentor: *Paul Black, PhD*
Wake Forest Baptist Health
Department of Radiation Oncology

Characterization of 3D-Printed High-Density Material Properties for Clinical Beam Modulation

For my DREAM fellowship, I worked on developing low-cost, non-toxic shielding devices for radiation therapy using 3D-printed materials. Traditional attenuators, such as those made from cerrobend, are effective but expensive and toxic. Our objective was to characterize safer alternatives by testing PETG infused with tungsten and PLA infused with copper. My role was to measure material properties, analyze attenuation performance, and compare clinical and computational results. Additive manufacturing can reduce costs and improve safety in radiation oncology. Safer shielding benefits both patients and providers, filling the gap left by reliance on toxic alloys. We carried out experiments using an Elekta linear accelerator, measuring dose changes when electron and photon beams interacted with copper and tungsten attenuators placed on water phantoms. We collected depth-dose data, graphed results, and began using a 1D water tank for percent depth-dose curves. Equipment issues shifted our focus toward Monte Carlo simulations in RayStation, which allowed us to validate measurements and test new attenuator shapes for maximum effectiveness. From this work, we are preparing a manuscript for publication. Overall, the fellowship strengthened my technical skills, broadened my perspective on the role of medical physicists, and reinforced my commitment to pursuing a career in medical physics.

Alexis Parker

Georgia Institute of Technology
Senior, Nuclear and Radiological Engineering

Mentor: *Alejandro Bertolet, PhD*
Massachusetts General Hospital
Department of Radiation Oncology

Sophia Roth

University of Kentucky
Junior, Agricultural and Medical Biotechnology, Physics

Mentor: *Liqiang Ren, PhD*
University of Texas Southwestern Medical Center
Department of Radiology

A Pilot Clinical Study on Differentiating Bismuth and Iodine in Bowel Imaging Using Spectral Computed Tomography

This summer, I worked with Dr. Ren to improve dual-contrast imaging in photon-counting CT technology. Our objectives were to evaluate the efficacy of using bismuth in Pepto-Bismol as an oral contrast, along with iodinated intravenous contrast. This project is relevant because it bridges the gap between phantom/animal studies and clinical application. This technique can be used to visualize the lumen of the digestive tract and extravasation that may occur following surgery. In addition to phantom studies, dual-contrast iodine & bismuth was assessed in IRB-approved patients. I assisted in this project by performing data analysis and error propagation. Over the course of 10 weeks, I learned how to utilize MATLAB to process images and do qualitative and quantitative analysis. I learned various techniques for image analysis, including root-mean-square-error, noise power spectrum, and contrast-to-noise ratios. We are currently in the process of publishing the research done this summer. I learned a lot about the techniques medical physicists use, what their daily duties are, and who they work with. This fellowship solidified my decision to pursue a career in medical physics, and I am beyond grateful to have had this opportunity.

Ryan Tsiao

University of California Riverside
Senior, Physics

Mentor: *Lydia Min-Ying Su, PhD*
University of California Irvine
Department of Radiological Sciences

Photomagnetic Imaging: Improving MRI Diagnostic Accuracy

This summer, I worked under Dr. Lydia Su and Dr. Gultekin Gulsen at UC Irvine on a project focused on advancing Photomagnetic Imaging (PMI), an emerging technique to detect tumors that MRI can miss. The goal of my research was to simulate inclusions within a tissue-like medium and reconstruct their absorption coefficients using heat maps generated from simulated MRI measurements. My project was split into three phases: solving the forward problem in MATLAB to model how heat diffuses in tissue, iteratively solving the inverse problem to recover absorption coefficients from the simulated data, and recreating the simulation experimentally in the lab. As a result, I learned a great deal about MATLAB, as well as physics concepts like heat diffusion and scattering. At the end of the fellowship, I presented my work at the AAPM DREAM online symposium. I also aim to contribute to a publication of my work after the fellowship finishes, and present a poster version at the next AAPM summer conference. Throughout I was privileged to receive valuable career advice from both UCI faculty and the attendees of the AAPM summer conference; advice that will guide my decisions while choosing my career in medical physics.

2025 REVIEW | PUBLICATION AWARDS

Medical Physics Journal Best Paper Awards

Farrington Daniels Award

(Funded by the endowed Farrington Daniels Fund)

This award is for an outstanding paper on radiation therapy dosimetry, planning, or delivery published in *Medical Physics* in 2024. Presented in 2025, the awardees were **Mads L. Jensen, Brian Julsgaard, Rosana M. Turtos, Peter S. Skyt, Morten B. Jensen, Ludvig P. Muren** and **Peter Balling** for their paper entitled "High-resolution three-dimensional dosimetry in clinically relevant volumes utilizing optically stimulated luminescence". *Med Phys. 2024; 51: 2200–2209. https://doi.org/10.1002/mp.16796*

Moses and Sylvia Greenfield Award

(Funded by the endowed Moses and Sylvia Greenfield Fund)

This award is for an outstanding paper on imaging, published in *Medical Physics* in 2024. Presented in 2025, the awardees were **Scott S. Hsieh** and **Katsuyuki Taguchi** for their paper entitled "Spectral information content of Compton scattering events in silicon photon counting detectors". *Med Phys. 2024; 51: 2386–2397. https://doi.org/10.1002/mp.16990*

Journal of Applied Clinical Medical Physics (JACMP) Best Paper Awards

(Funded by the endowed JACMP Editors' Fund)

Michael D. Mills Editor In Chief Award

This Award of Excellence is for an outstanding general medical physics article published in *JACMP* in 2024. Presented in 2025, the awardees were **Jessica M. Fagerstrom, Grace Eliason, Hania Al-Hallaq, Brian A. Taylor, Muhammad Ramish Ashraf** and **Natalie Viscariello** for their paper entitled "Improving access in medical physics residency programs for physicists with disabilities". *J Appl Clin Med Phys. 2024; 25:e14518. https://doi.org/10.1002/acm2.14518*

George Starkschall Award

This Award of Excellence is for an outstanding radiation oncology physics article published in the *JACMP* in 2024. Presented in 2025, the awardees were **Fre'Etta M.D. Brooks, Mallory Carson Glenn, Victor Hernandez, Jordi Saez, Hunter Mehrens, Julianne Marie Pollard-Larkin, Rebecca Maureen Howell, Christine Burns Peterson, Christopher Lee Nelson, Catharine Helen Clark** and **Stephen Frasier Kry** for the paper entitled "A radiotherapy community data-driven approach to determine whichcomplexity metrics best predict the impact of atypical TPS beam modeling on clinical dose calculation accuracy". *J Appl Clin Med Phys. 10 2024; 25:e14318. https://doi.org/10.1002/acm2.14318*

Peter R. Almond Award

The Peter R. Almond Award of Excellence is for an outstanding radiation measurements article published in *JACMP* in 2024. Presented in 2025, the awardees were **Pingfang Tsai, Yunjie Yang, Mengjou Wu, Chin-Cheng Chen, Francis Yu, Charles B. Simone II, Jehee Isabelle Choi, Wolfgang A. Tomé** and **Haibo Lin"** for their paper entitled "A comprehensive pre-clinical treatment quality assurance program using unique spot patterns for proton pencil beam scanning FLASH radiotherapy". *J Appl Clin Med Phys. 2024; 25:e14400. https://doi.org/10.1002/acm2.14400*

Edwin C. McCullough Award

The Edwin C. McCullough Award of Excellence is for an outstanding medical imaging physics article published in the *JACMP* in 2024. Presented in 2025, the awardees were **Bente Konst, Linus Ohlsson, Lilian Henriksson, Mårten Sandstedt, Anders Persson** and **Tino Ebbers,** for their paper entitled "Optimization of photon counting CT for cardiac imaging in patients with left ventricular assist devices: An in-depth assessment of metal artifacts". *J Appl Clin Med Phys. 2024; 25:e14386. https://doiorg/10.1002acm2.14386*

2025 REVIEW | PRESENTATION AWARDS

Jack Krohmer Early-Career Investigator Award

(Funded by the Krohmer Memorial Fund)

This award was established in honor of Jack Krohmer, PhD, a pioneer in the medical physics community. The award was presented to **Tianzhe Li, PhD**, University of Nebraska Medical Center, for the best abstract submitted by Early-Career Investigators 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 abstract was entitled *"Direct Measurement of an Early Change in Tumor Oxygenation in Response to Radiation with Oxygen Enhanced Electron Paramagnetic Resonance Imaging (OE-EPRI)"*.

Arthur Boyer Award for Innovation in Medical Physics Education

(Funded by the Boyer Innovation in Medical Physics Education Fund)

This award is given for the best presentation at an Education Council session concerning innovative programs in medical physics education of physicists, physicians, ancillary personnel, and the public. Presentations can be concerned with scientific research, novel teaching strategies (team teaching or adult learning efforts), or novel educational materials (lectures, websites, or other innovations). This year's award went to **Nataliya Kovalchuk, PhD**, Stanford University Cancer Center, for a presentation entitled, *"Large Scale Deployment of a Tailored and Hybrid Educational Strategy for Wartime Capacity Building: AAPM/HUG/UAMP Initiative to Transition Ukraine from Co-60 to IMRT through a Comprehensive Medical Physics Training Program."*

Carson/Zagzebski Distinguished Lecture On Medical Ultrasound

(Funded by the endowed Carson/Zagzebski Fund)

On Tuesday, July 29 at the 2025 AAPM Annual Meeting & Exhibition, invited lecturer **Kathryn Nightingale, PhD**, Duke University, delivered the lecture, "*Ultrasonic Elasticity Imaging with Acoustic Radiation Force.*"

The Anne and Donald Herbert Distinguished Lectureship in Modern Statistical Modeling

(Funded by the endowed Anne and Donald Herbert Fund)

On Tuesday, July 29 at the 2025 AAPM Annual Meeting & Exhibition, invited lecturer **Elana J. Fertig, PhD**, Johns Hopkins Medical Institute, Baltimore, delivered the lecture, "*Forecasting Carcinogenesis by Blending Data-Driven Modeling With Mechanistic Mathematical Modeling.*"

John R. Cameron Early-Career Investigators Symposium Award

(Funded by the endowed John Cameron Fund)

The Early-Career Investigators Symposium is a competition in honor of University of Wisconsin Professor Emeritus John R. Cameron, PhD and John R. Cunningham, PhD, from Princess Margaret Hospital, and subsequently from the University of Alberta. The 10 highest scored abstracts submitted for the Symposium are selected for presentation, from which the top three presentations receive awards. 2025 winners were:

1st Place
Kevin Liu, MS
The University of Texas MD Anderson Cancer Center
"Differential Gastrointestinal Responses to Synchrotron-Produced Proton and Electron Irradiation Under Flash and Conventional Conditions"

2nd Place
Jose Eduardo Freire
University of Sao Paulo
"Assessment of Viscoelastic Changes in Ex Vivo Liver Tissue Using Pulsed Magnetomotive Ultrasound during Magnetic Hyperthermia"

3rd Place
Benedict Neo, MS
University of San Francisco
"A Clinically Aligned Embedding Model for Glioma Prognostication Via Radiology-Pathology Report Matching"

2025 REVIEW | CULTIVATION AWARDS

- **Shengwen (Sean) Deng, PhD**
  University Hospital Cleveland Medical Center
  Mentor: Paul Kinahan, PhD
  University of Washington
- **Huiming Dong, PhD**
  University of California Los Angeles
  Mentor: Carri Glide-Hurst, PhD
  University of Wisconsin-Madison
- **Carlos Huesa-Berral, PhD**
  Massachusetts General Hospital
  Mentor: Robert Hobbs, PhD
  Johns Hopkins University
- **Parisa Sadeghi, PhD**
  The Ohio State University Wexner Medical Center
  Mentor: Stephen Kry, PhD
  The University of Texas MD Anderson Cancer Center
- **Ahmad Sakaamini, PhD**
  University of Pennsylvania
  Mentor: Jeff Siebers, PhD
  University of Virginia Health System
- **Irene Zhang, PhD**
  Memorial Sloan Kettering Cancer Center
  Mentor: Issam El Naqa, PhD
  Moffitt Cancer Center

Science Council Associates Mentorship Program (SCAMP) 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. Science Council Associates participate in the program for one year and are funded up to $4,000 per Associate (to cover travel costs including flight, hotel, and meeting registration) to attend two consecutive AAPM Annual Meetings.

- **Hana Baroudi, PhD**
  The University of Texas MD Anderson Cancer Center MD Anderson Cancer Center
  Mentor: Eenas Omari, PhD
  Medical College of Wisconsin
- **Kaelyn Becker, PhD**
  University of Washington
  Mentor: Shannon O'Reilly, PhD
  University of Wisconsin-Madison
- **Elvia Odalis Reyes Guevara, MS**
  University of Pennsylvania
  Mentor: Ana Maria Marques da Silva, DSc
  University of Sao Paulo (USP) and Medical Imaging & Data Analytics (MEDIIMA)
- **Alamgir Hossain, PhD**
  University of Rajshahi, BD
  Mentor: Manju Sharma, PhD
  University of California San Francisco
- **Lyu Huang, MS**
  Northwell Health
  Mentor: Matthew Goss, MS
  Allegheny Health Network
- **Dishane Luximon, PhD**
  University of California Los Angeles
  Mentor: Eric Ford, PhD
  University of Washington

International Council Associates Mentorship Program (ICAMP) is a prestigious program that recognizes and cultivates outstanding medical physicists at an early stage in their careers, and aims to promote a long-term commitment to global health and international activities within AAPM. ICAMP uses a mentorship and shadowing model, allowing Associates to engage and participate with the International Council and its related internationally focused activities. International Council Associates participate in the program for one year and are funded up to $4,000 per Associate (to cover travel costs including flight, hotel, and meeting registration) to attend two consecutive AAPM Annual Meetings.

AAPM Expanding Horizons Travel Grants are awarded twice annually. As many as ten grants, each up to $1,250, are given for the purpose of providing additional support for student and trainee travel to conferences that are not specifically geared toward medical physics. The travel grant is designed to provide an opportunity to broaden the scope of scientific meetings attended in order to introduce students and trainees to new topics which may be of relevance to medical physics research and which may subsequently be incorporated into future research in order to progress the field in new directions.

Round 1

- **Androniki Mitrou, MS**
  The University of Texas MD Anderson Cancer Center
- **Chase Ruff, MS**
  University of Wisconsin-Madison
- **Erin Snoddy**
  The University of Texas MD Anderson Cancer Center
- **Nicholas Summerfield, MS**
  University of Wisconsin-Madison

Round 2

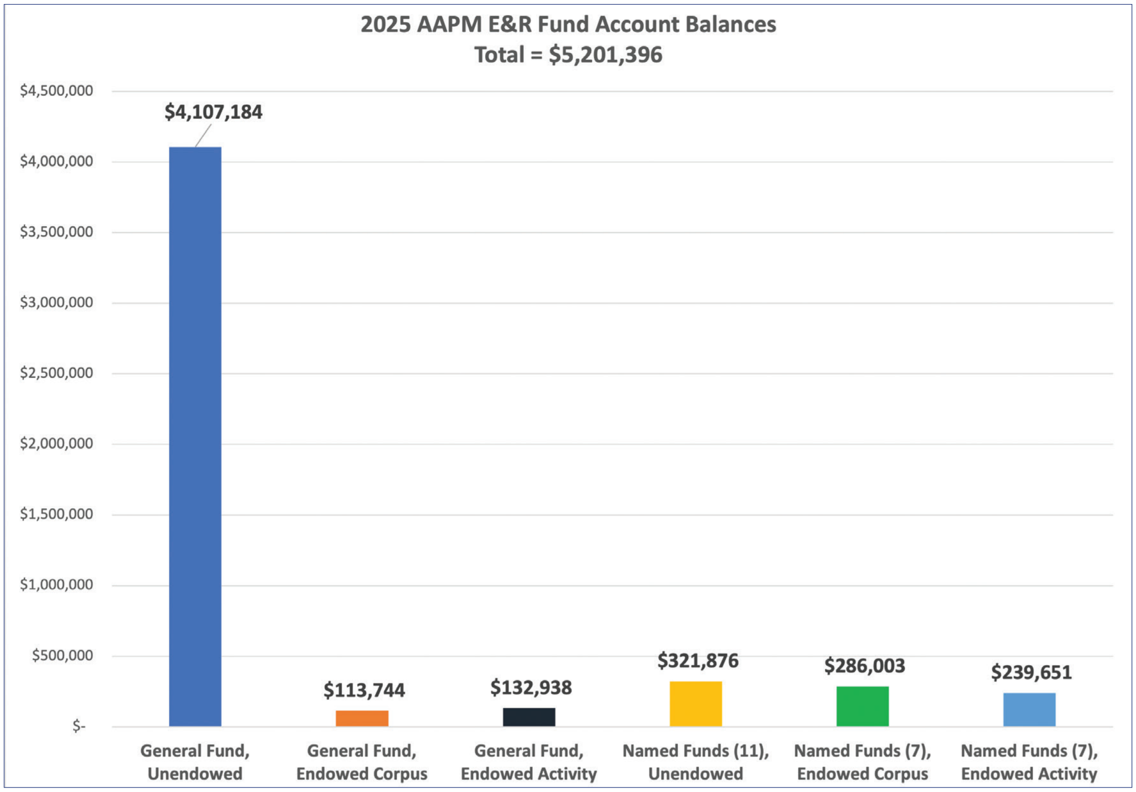
- **Lixiang Guo**
  University of Texas Southwestern Medical Center
- **Zihan Li**
  University of Washington
- **Rebecca Lim**
  The University of Texas MD Anderson Cancer Center
- **Weibing Yang, PhD**
  University of Pennsylvania

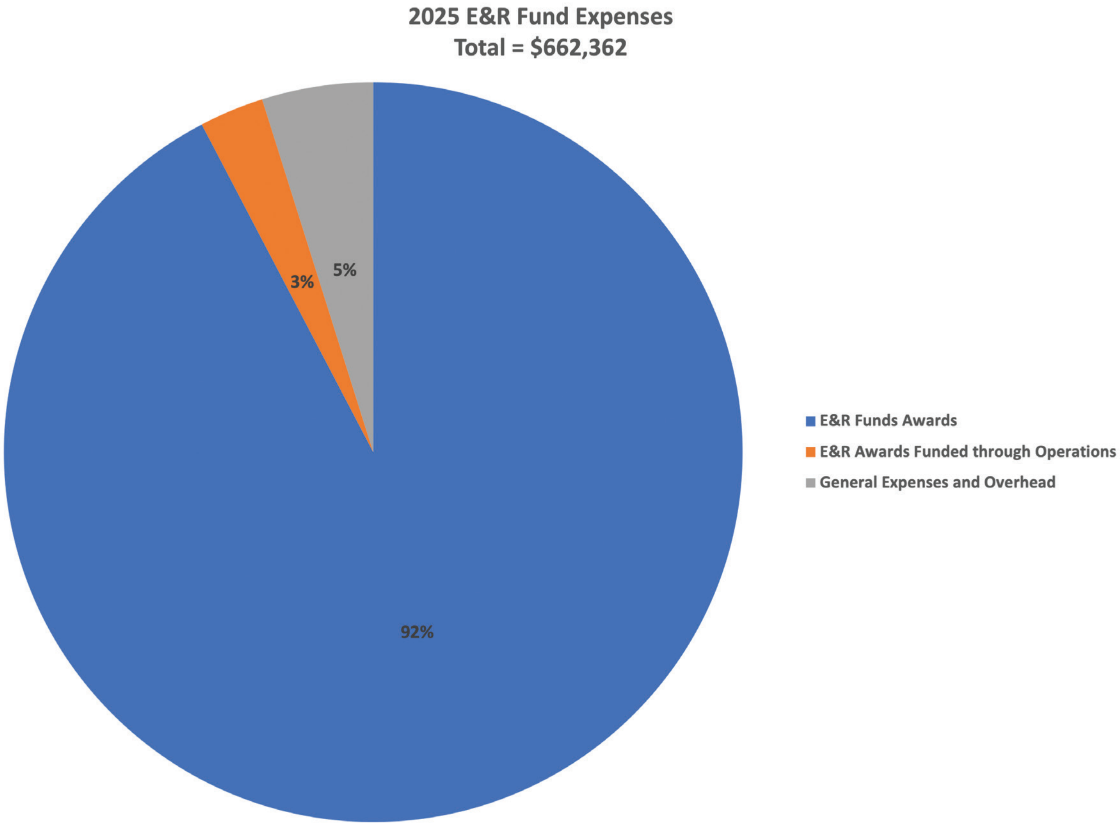
Summer School Tuition Scholarships are in the form of a full waiver of tuition fees for the entire AAPM 2025 Summer School. This award is available to applicants who are in the first five years of their careers in medical physics.

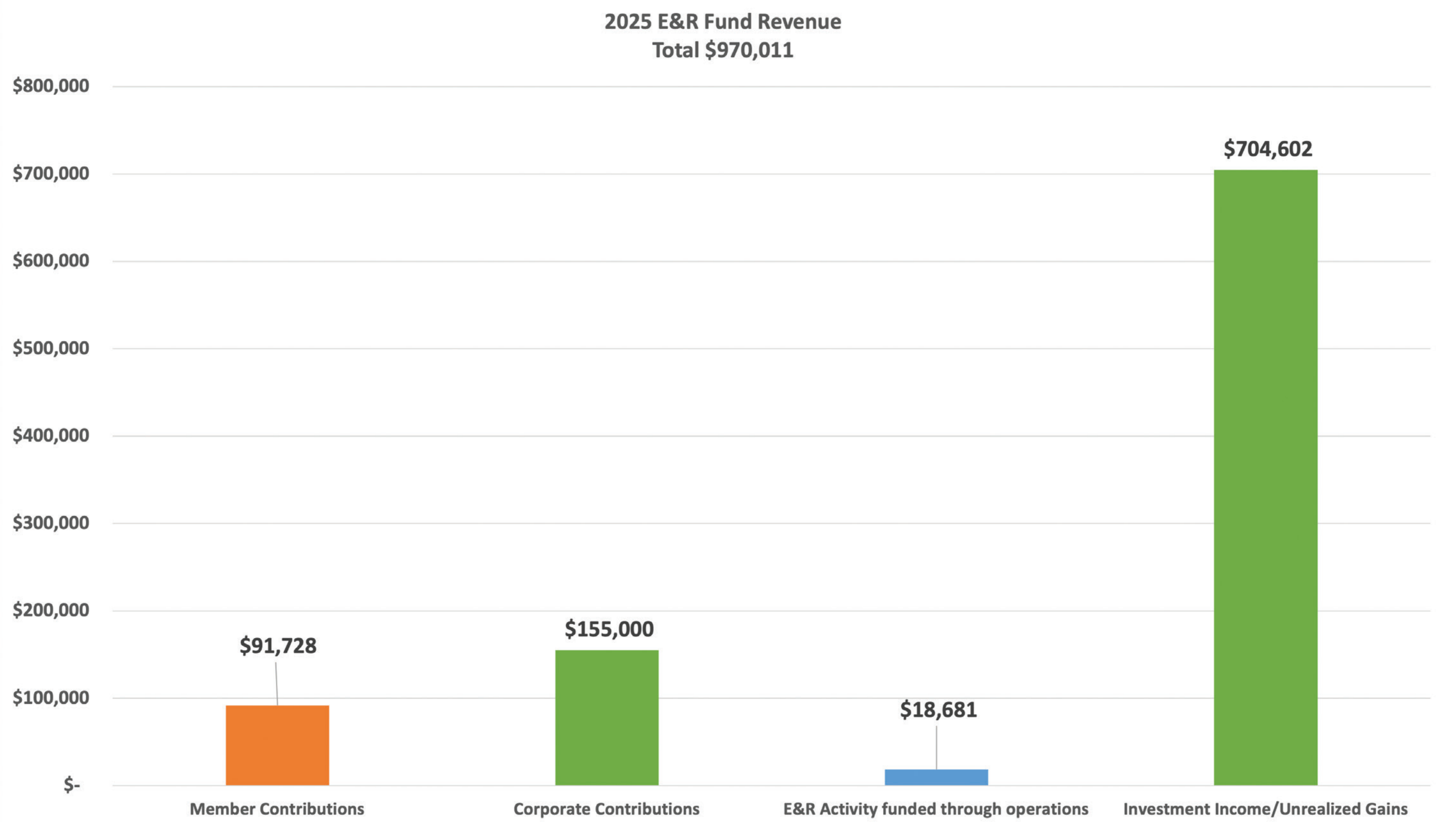
- **Morgan Aire, MS**
  Louisiana State University
- **Shiva Bhandari, PhD**
  Dartmouth Health
- **Reagan Dugan, PhD**
  University of Chicago
- **Mu-Lan Jen, PhD**
  The University of Texas MD Anderson Cancer Center
- **Zahra (Zara) Razi, PhD**
  Alexander T. Augusta Military Medical Center
- **Justin Yu, MS**
  Henry Ford Health System

Global Research Mentorship Program (GREMP) is a structured mentorship program that fosters both short-term project development and long-term research collaborations. It connects five international mentor/mentee pairs from developing medical physics programs around the world with AAPM mentor/mentee pairs from established and recognized medical physics research programs based on their research interests, mentorship objectives, and informational interviews. Funding is for the global mentor to attend the AAPM Annual Meeting and for the global mentee to visit their AAPM mentor's institution.

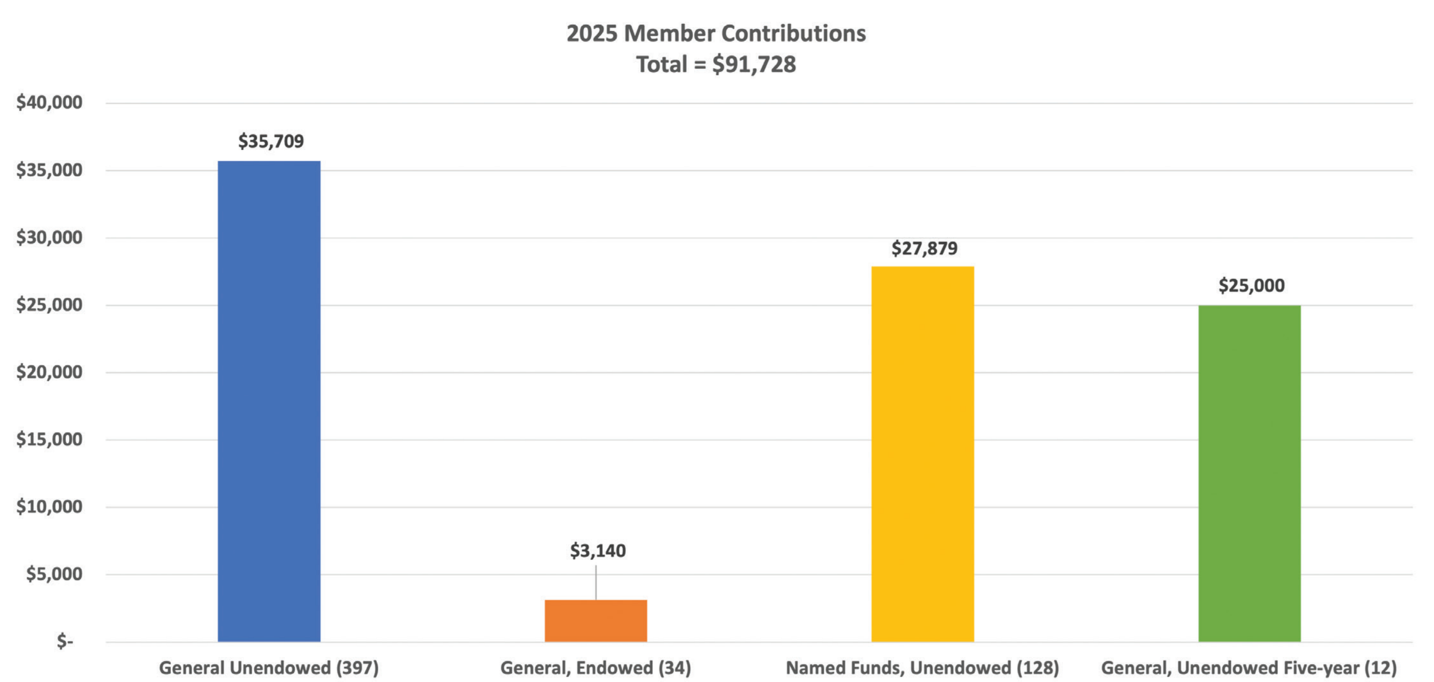
- **Momoh Hameed Adavize**
  Universiti Sains - Penang, Malaysia
  Global Mentor: Nurul Hashikin Ab. Aziz, PhD
  Universiti Sains - Penang, Malaysia
  AAPM Mentor: Dewaraja Yuni, PhD
  University of Michigan
- **Muhammad Shafi'u**
  Baze University - Abuja FCT, Nigeria
  Global Mentor: Nuraddeen Nasiru Garba, PhD
  Bello University - Zaria, Kaduna State, Nigeria
  AAPM Mentor: Kalpana M. Kanal, PhD
  University of Washington
- **Osim Shemanto**
  Evercare Hospital Chattogram - Bangladesh
  Global Mentor: Hasin Anupama Azhari, PhD
  United International University - Dhaka, Bangladesh
  AAPM Mentor: X. Sharon Qi, PhD
  University of California Los Angeles


2025 AAPM E&R Fund Account Balances
Total = $5,201,396
$4,500,000
$4,000,000
$3,500,000
$3,000,000
$2,500,000
$2,000,000
$1,500,000
$1,000,000
$500,000
$-
$4,107,184
$113,744
$132,938
$321,876
$286,003
$239,651
General Fund, Unendowed
General Fund, Endowed Corpus
General Fund, Endowed Activity
Named Funds (11), Unendowed
Named Funds (7), Endowed Corpus
Named Funds (7), Endowed Activity


2025 E&R Fund Expenses
Total = $662,362
3%
5%
92%
E&R Funds Awards
E&R Awards Funded through Operations
General Expenses and Overhead



Total revenue is up versus the prior year as overall investment income activity was up 52% over the prior year.



Distribution of member contributions to different types of accounts of the E&R Fund in 2025. The number in Parentheses represents the number of gifts.
The General Unendowed five-year year amount represents new pledges received during 2025.

(As of December 31, 2025)

APM acknowledges and sincerely thanks the following individuals and organizations that have made contributions to the Education & Research Fund since its inception in 1990:

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