Imaging Physics Residency Program

THE UNIVERSITY OF TEXAS
MD Anderson Cancer Center
Making Cancer History®

Program Overview

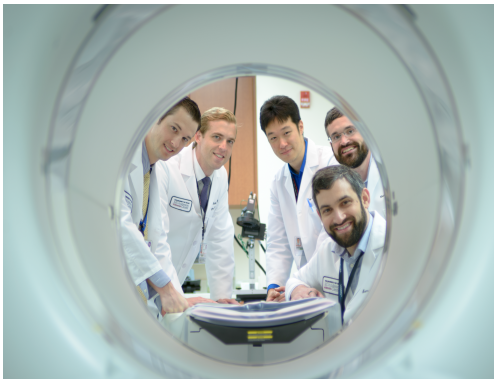
The Residency Program is a two-year clinical training experience at The University of Texas MD Anderson Cancer Center, for medical physicists who intend to work in Imaging Physics and wish to qualify for examination by the American Board of Radiology, the American Board of Medical Physics, or the American Board of Science in Nuclear Medicine.

The program is accredited by the Commission on Accreditation of Medical Physics Education Programs, Inc. (CAMPEP).

Program Objective

The objective of the residency program is to provide structured clinical medical imaging physics training and experience to those wishing to practice professional imaging physics. Residents, working under the supervision of Board Certified medical physicists, will participate in the breadth of routine clinical duties of a medical imaging physicist. The resident will gain experience with the full range of state-of-the-art medical imaging equipment. At the conclusion of the program the resident will demonstrate competency in:

- Evaluating radiological and medical nuclear imaging equipment performance
- Developing quality control procedures
- Estimating and monitoring patient radiation doses
- Monitoring a radiation safety program
- Investigating abnormal radiation exposures
- Providing consultation regarding technical aspects of equipment purchase
- Consulting on imaging problems, quality, and artifacts
- Planning for the purchase of equipment, site preparation and testing
- Providing in-service instruction regarding radiation safety and imaging physics
- Performing clinical investigation in medical imaging physics



Residents participate in seminars, colloquia, clinical rounds, and other educational opportunities.

First Year Training

The following broad areas will be covered during the first year:

- X-Ray, CT, MR, ultrasound and nuclear medicine equipment performance, evaluation, acceptance testing, and quality control
- Image receptor review
- Quality control programs
- Radiation safety surveys
- Patient dose monitoring
- Additional experiences in equipment purchase, design of QA and radiation safety programs, x-ray shielding design, patient doses, and image quality improvement

In parallel, remediation of didactic course work can be pursued through The University of Texas MD Anderson Cancer Center UTHealth Graduate School of Biomedical Sciences.

Second Year Training

During the second year of residency the trainee will be assigned duties to be carried out under the direction of medical physics faculty and staff. The resident will be involved in the same types of experiences as the first year but will work more independently.

Nuclear Medicine Emphasis

Optional specialization in Nuclear Medicine (NM) physics is provided to residents who express interest in this area of specialization. Residents must declare interest by the end of their first year of residency. The second year is then subsequently adjusted to emphasize the NM and PET rotations of the residency program.

Hybrid Pathway

We are recruiting highly motivated young scientists who aspire to be among the best academic medical physicists and to be able to complete their clinical residency training while simultaneously pursuing a focused research program for a period of three or four years.

During a three-year appointment as an MD Anderson Fellow in Medical Physics, you will receive two years of full-time equivalent clinical experience in our CAMPEP-accredited residency program while performing one full-time equivalent year of research. This will meet the American Board of Radiology requirement for the examination process while you continue to advance academically. An optional fourth year of full-time research may be available.

Each fellow is matched with an MD Anderson faculty member who serves as his or her research mentor. This relationship is based upon a mutual interest in an area of research in biomedical imaging.

All medical physics fellows work with a wide variety of state-of-the-art medical imaging equipment and computational systems.

Other support of their training includes attendance at scientific meetings and participation in specialized training opportunities.

Dr. Jimenez inspecting a state-of-the-art biological irradiator that permits image-guided radiation therapy of small animals using built-in CT and bioluminescence imaging.

Admissions

Preference is given to candidates who graduated from CAMPEP-accredited medical physics graduate programs. However, candidates from related fields who graduated from a CAMPEP-accredited certificate program are also encouraged to apply.

For the Hybrid Pathway a Ph.D. or equivalent degree is required.

On average, two residents will be recruited each year.

Candidates must obtain a temporary license to practice professional medical physics from The State of Texas.

Program Faculty
Department of Imaging Physics


Dianna Cody, Ph.D.
(2)


William Erwin, M.S.
(4)


William Geiser, M.S.
(2)


John Hazle, Ph.D.
(1, 2, 3)

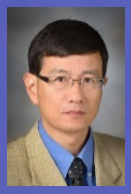

Ping Hou, Ph.D.
(2)


Cheenu Kappadath, Ph.D.
(2, 4)


Rick Layman, Ph.D.
(2)


Anthony Liu, Ph.D.
(2)


Xinming Liu, Ph.D.
(2)


Jingfei Ma, Ph.D.
(2)


Osama Mawlawi, Ph.D.
(2, 4)


Thomas Nishino, Ph.D.
(2)


Tinsu Pan, Ph.D.
(2, 4)


Donna Reeve, M.S.
(1, 2)


John Rong, Ph.D.
(2)


Jason Stafford, Ph.D.
(2)


Richard Wendt III, Ph.D.
(1, 4)


Charles Willis, Ph.D.
(2)

Apply Online

aapm.org/cap
natmatch.com/medphys

Board Certifications

(1) ABMP Magnetic Resonance Imaging Physics

(2) ABR Diagnostic Radiologic Physics

(3) ABR Therapeutic Radiologic Physics

(4) ABSNM Nuclear Medicine Physics & Instrumentation

Program Faculty Outside of MD Anderson

- **Ben Archer, Ph.D.**
- **Charles W. Beasley, Ph.D.**
- **Joseph S. Bravenec III, M.S.**
- **Charles W. Dodge, Ph.D.**
- **Cristina T. Dodge, M.S.**
- **Janet Ching-Mei Feng, Ph.D.**
- **Edwin R. Giles, M.S.**
- **Bahadir Ozus, Ph.D.**

Administration

Questions about the program should be directed to the Program Director:
Ho-Ling Anthony Liu, Ph.D.
Department of Imaging Physics
MD Anderson Cancer Center
1400 Pressler Street, Unit 1472
Houston, TX 77030
hlaliu@mdanderson.org

Inquiries

Inquiries should be directed to Anne Baronitis, M.Ed. :
aibaronitis@mdanderson.org
713.563.2548

Additional Information

Applicants will be required to meet all visa and documentation requirements.

Drug and tobacco testing will be administered upon arrival to MD Anderson Cancer Center.

The University of Texas MD Anderson Cancer Center is a smoke-free EEP/AA environment.

mdanderson.org/imaging-physics-residency-program

The University of Texas MD Anderson Cancer Center in Houston ranks as one of the world's most respected centers focused on cancer patient care, research, education and prevention. As one of the comprehensive cancer centers designated by the National Cancer Institute (NCI), MD Anderson's sole mission is to end cancer for patients and their families around the world. MD Anderson Cancer Center again has ranked No. 1 for cancer care by U.S. News & World Report's annual "Best Hospitals" rankings. Since the rankings began in 1990, MD Anderson has been named one of the top two cancer hospitals in the nation and has received the top position nine times in the last 10 years.