Penn
University of Pennsylvania

Training Future Leaders in Imaging

THE INTERFACES PROGRAM

GRADUATE PROGRAM IN BIOMEDICAL IMAGING AND INFORMATIONAL SCIENCES

A *NEW APPROACH* TO TRAINING IMAGING SCIENTISTS

The **HHMI-NIBIB Interfaces Program in Biomedical Imaging and Informational Sciences** at the University of Pennsylvania was established under the auspices of a partnership between the **Howard Hughes Medical Institute (HHMI)** and the **NIH National Institute of Biomedical Imaging and Bioengineering (NIBIB)** to *catalyze* development of innovative new programs in interdisciplinary graduate education.

- Builds on the world-class imaging research environment at Penn
- Trains scientists with the knowledge and vertically integrated skill set to conduct research at the interface between clinical imaging and the biomedical, physical, chemical, engineering, and computational sciences.

Curriculum *integrates* **quantitative and technical training** with a systematic and immersive exposure to biomedical and health sciences through **concurrent coursework in medicine and imaging sciences**, taught by faculty from the *Schools of Medicine, Engineering and Arts and Sciences*.

We are seeking exceptional interdisciplinary candidates with both the potential and motivation to become the next generation of leaders in hypothesis driven, clinically focused, quantitative biomedical imaging research.

HOW TO APPLY

CONTACT

Dr. James Gee, Director (gee@mail.med.upenn.edu)
Kathleen Venit, Grad Program Coordinator (kvenit@seas.upenn.edu).

Richards Medical Research Laboratories
3700 Hamilton Walk, 6th Floor
Philadelphia, PA 19104-6025
Phone: 215-746-7073
Email: interfaces@seas.upenn.edu
interfaces.seas.upenn.edu

PROGRAM CURRICULUM

YEAR 1	FALL	**Medical School Module 1** *Anatomy, Genetics, Biochemistry, Cell & Tissue Biology, Immunology, Microbiology* **Imaging Principles** *BE583 Molecular Imaging*
	SPRING	**Medical School Module 2** *Mechanisms of Disease, Brain & Behavior, Reproduction, Endocrinology, Gastrointestinal* **Imaging Labs** *BE546/547 Fund. Techniques of Medical Imaging I and II*
	SUMMER	**Research Rotation**
YEAR 2	FALL	**Medical School Module 2** *Pulmonary, Dermatology, Renal, Microbiology & Infectious Disease* **Image Analysis** *BE537 Biomedical Image Analysis*
	SPRING	**Capstone Course** *BE650 Adv Biomedical Imaging Applications* **Image Reconstruction** *MATH584 Mathematics of Medical Imaging and Measurement* **Research Rotation(s)**
	SUMMER	**Thesis Research**
YEAR 3	FALL	**Preliminary Examination** **Thesis Research**

selected PROGRAM FACULTY

**denotes leadership*

Dr. Andrew Maidment* (Radiology)
Breast imaging and tomosynthesis

Dr. Andrew Tsourkas (Bioengineering)
Molecular imaging

Dr. Felix Wehrli (Radiology/Biochem&Biophys)
Quantitative characterization of tissue microarchitecture

Dr. Jason Burdick (Bioengineering)
Degradable polymeric biomaterials

Dr. Jim Gee* (Radiology/Comp&Inf Science) *Image computing, informatics and analysis*

Dr. Ravinder Reddy (Radiology)
Musculoskeletal imaging

Dr. Robert Gorman (Cardiovascular Surgery)
Pathophysiology and treatment of structural heart disease, cardiac imaging

PROGRAM BENEFITS

Individuals will be awarded a 2-year fellowship to cover didactic training and access to opportunities, including:

- Multidisciplinary faculty mentorship
- Professional development workshops, events , and networking opportunities specifically designed for Interfaces program students
- Travel and training materials funding