RESEARCH SCHOLAR GRANT
The Foundation's premier career development grant transitions junior faculty to independent investigators. Funding protects research time to conduct complex projects under the guidance of a mentor and scientific advisor in preparation for NIH funding. Two-year grant of $150,000.

Emily Ambinder, MD, MSc | Johns Hopkins University
Breast Cancer Screening in the Era of Precision Medicine: Evaluating the Role of Liquid Biopsy in Early Breast Cancer Detection

Majid Chalian, MD | University of Washington
Predicting Treatment Response to Neoadjuvant Radioimmunotherapy (NRIT) in High Grade Soft Tissue Sarcoma (STS) with MRI-based Radiomic Signature

Peiman Habibollahi, MD | The University of Texas MD Anderson Cancer Center
Modulation of Immune Response within Hepatocellular Carcinoma Tumor Microenvironment Using Locoregionally Delivered Glypican-3-directed Targeted Immunotherapy

Thomas J. Hayman, MD, PhD | Yale University School of Medicine
STING-dependent Regulation of the DNA Damage Response in Head and Neck Squamous Cell Carcinoma

Julian C. Hong, MD, MS | University of California, San Francisco
Artificial Intelligence and Natural Language Processing for Patient-centric Supportive Care During Radiotherapy

Christopher D. Malone, MD | Washington University in St. Louis
Yttrium-90 Stimulated Photodynamic Therapy to Enhance Radioembolization of Liver Tumors

Colin D. McKnight, MD | Vanderbilt University Medical Center
Magnetization Transfer Imaging of the Human Spinal Cord and Cerebrospinal Fluid to Characterize Myelin Metabolism in Multiple Sclerosis

Adam C. Mueller, MD, PhD | Thomas Jefferson University
Investigating ADAM10 Mediated EMT and Therapeutic Resistance in PDAC

Jennifer Soun, MD | University of California, Irvine
Evaluation of the Implementation of an AI Tool for Large Vessel Occlusion: Impact on Radiologists' Workflow and Patient Outcomes

Jessica K. Stewart, MD | University of California, Los Angeles
Effectiveness of Fallopian Tube Embolization With N-butyl-2-cyanoacrylate Using Selective Catheterization for Sterilization in a Rabbit Model

Neil K. Taunk, MD, MS | University of Pennsylvania
Evaluation of [18F]FTT PET/CT as an Imaging Biomarker to Select for PARPi Therapy in Patients with Metastatic Castrate-Resistant Prostate Cancer

Randy Yeh, MD | Memorial Sloan Kettering Cancer Center
Harnessing PSMA PET Radiomics and Machine Learning for Precision Medicine in Prostate Cancer
RESEARCH SEED GRANT
Every great discovery starts with a spark. This grant provides seed money to test hypotheses and conduct pilot studies in preparation for major grant applications to corporations, foundations, and government agencies. One-year grant of up to $40,000.

Tahani Moh'D Tawfeeq Ahmad, MD | IWK-Health Centre
*Cranial Ultrasound for Prediction of Neurodevelopment Outcomes in Preterm Infants: The Role of Deep Learning and Convolutional Neural Network Methods*

Dania Daye, MD, PhD | Massachusetts General Hospital
*Machine Learning-based Virtual Tumor Biopsy as an Early Predictor of Response to Immunotherapy in Metastatic Melanoma*

Shadi Abdar Esfahani, MD, MPH | Massachusetts General Hospital
*Hyperpolarized [1-13C]Pyruvate Magnetic Resonance Spectroscopic Imaging for Monitoring and Prediction of Response to Neoadjuvant Treatment in Gastric Cancer*

Gloria J. Guzman Perez-Carrillo, MD, MSc | Washington University in St. Louis
*Precision Diffusion Weighted Imaging of Head and Neck Squamous Cell Carcinoma*

Fernando U. Kay, MD | University of Texas Southwestern Medical Center
*Deep Learning Models for Feature Identification and Outcome Prediction in Coronary Artery Calcium Computed Tomography Scans*

RESEARCH RESIDENT/FELLOW GRANT
This grant provides investigators a chance to explore powerful ideas. Working alongside an experienced advisor, trainees gain insight in research methods and techniques; it is a catalyst to pursue research at a critical point in a radiologist’s career. One-year grant of $30,000/$50,000.

Shariq Ali | University of Texas Southwestern Medical Center
*Detection of Oxidative Stress by Ultrasound Using Nanoparticle-encapsulated Enzymes*

Juliana Bronk, MD, PhD | University of Texas MD Anderson Cancer Center
*Expanding the Therapeutic Window for Radiation in Brain Tumors with Ultra-high Dose Rate Proton Flash Radiotherapy*

Edward Kuoy, MD | University of California, Irvine
*Measuring Operational and Clinical Impact of Point-of-care Portable MRI for ER and ICU Patients*

Laurent Letourneau-Guillon, MD, MSc | Centre Hospitalier de l’Université de Montréal
*Steering Away From Full Supervision: Using Weakly- and Self-supervised Learning to Track and Predict Intracerebral Hematoma Expansion*

Aaron W. Maxwell, MD | The Warren Alpert Medical School of Brown University
*Investigating the Effects of Hypoxia and pH on Pro-survival Signaling and Immune Cell Function in Hepatocellular Carcinoma: Implications for Liver-directed Embolotherapies*

Andy Tsai, MD, PhD | Boston Children’s Hospital
*How to Improve a Radiologist’s Ability to Date Fractures in Suspected Infant Abuse?*

Vivek Yedavalli, MD | Johns Hopkins University
*Utilizing a Novel MR Spectroscopic Method to Assess Two Antioxidants, Glutathione and Ascorbate, as Potential Biomarkers in Stroke Evolution and Recovery*
**Brian De** | The University of Texas MD Anderson Cancer Center  
*Development and Validation of an Imaging-based Deep Learning Neural Network Model to Predict Tumor-related Liver Failure in Unresectable Intrahepatic Cholangiocarcinoma*

**Elizabeth Germino, MD, PhD** | City of Hope  
*Investigating the Role of CD8 Immunopet for Prediction of Response to Combined Radiation Treatment and Immunotherapy in an Orthotopic Mouse Model of Breast Cancer*

**Olsi Gjyshi, MD, PhD** | The University of Texas MD Anderson Cancer Center  
*Defining the Immunophenotypic Changes and Disease-related Outcomes with the Therapeutic HPV Vaccine PDS0101 in Combination with Chemoradiotherapy for Locally Advanced Cervical Cancer*

**Christopher T. Hensley, MD, PhD** | University of Pennsylvania  
*Elucidating Organelle Compartmentation of Breast Cancer Glutamine Metabolism to Understand Whole Tumor PET Data*

**Shinjini Kundu, MD, PhD** | Johns Hopkins University  
*Discovering Brain Structure Alterations in Heritable Autism Using Automated Pattern Learning*

**Asona J. Lui, MD, PhD** | University of California, San Diego  
*Feasibility, Accuracy and Reliability of Using Restriction Spectrum Imaging (RSI) MRI to Define Prostate Cancer Target Volume for Radiotherapy Boost*

**Valeria Makeeva, MD** | Emory University  
*HL7-Shield: A Versatile HL7 Listener Software for Automated Follow-up Tracking*

**Shruti Mishra, MD** | Brigham & Women’s Hospital  
*Functional Imaging with Magnetic Resonance Elastography*

**Ali Mozayan, MD** | Yale University School of Medicine  
*Microstructural and Functional Connectomics of Autism*

**Luca Pasquini, MD** | Memorial Sloan Kettering Cancer Center  
*Rethinking Pre-operative Planning of Brain Tumors: Graph Theory can Identify Essential Language Areas to Guide Surgical Resection and Biomarkers of Language Reorganization*

**Avik Som, MD, PhD** | Massachusetts General Hospital  
*Image Guided Delivery of Controlled Release Immunoadjuvants to Augment Cryoablation for Immunotherapy-resistant Cancer*

**Whitney A. Sumner, MD** | University of California, San Diego  
*Combining CD40 and TLR9 Agonists with Radiation to Improve B Cell Immune Response in Head and Neck Cancer*

**Kathryn R. Tringale, MD, MS** | Memorial Sloan Kettering Cancer Center  
*Resting-state Functional Connectivity MRI Biomarkers of Impaired Neurocognitive Functioning After Whole-brain Proton Beam Radiotherapy for Treatment of Pediatric Brain Tumors*

**Anna Trofimova, MD, PhD** | Emory University  
*Spatiotemporal Dynamics of Whole Brain Functional Connectivity in Subacute and Chronic Post-concussive Vestibular Dysfunction*

**Elliot Thomas Varney, MD** | University of Mississippi Medical Center  
*Prospective Cardiometabolic Assessment of Bariatric Surgery Patients*

**Alexander Villalobos, MD** | Emory University  
*Prediction and Assessment of Hepatocellular Carcinoma Response to Yttrium-90 Selective Internal Radiation Therapy by Characterization of the Hypoxic Tumor Microenvironment with Blood Oxygen Level-dependent Magnetic Resonance Imaging*

**Zi Jun Wu, MD** | University of Washington  
*Fat Quantification with Dual-energy CT: Toward Cross-vendor and Patient Validation*

**Kailin Yang, MD, PhD** | Cleveland Clinic  
*Targeting Extrachromosomal Oncogene Amplification to Radiosensitize Glioblastoma Stem Cells*
RESEARCH MEDICAL STUDENT GRANT

Exposure to radiology research in medical schools ignites a passion for the specialty. With support of the community and a network of mentors, a summer project can turn into a career-long pursuit of research and discovery. Grant of $3,000, matched by the sponsoring department.

Elisa R. Berson | Yale University School of Medicine
Prediction of Intracerebral Hematoma Expansion Using Radiomics and Atlas-based Risk-stratification

Ivica J. Bratanovic, MSc | University of British Columbia
Evaluation of Dual-energy CT Brain Edema and Virtual Monoenergetic Reconstructions for the Earlier Detection of Cerebral Infarcts and Evaluation of Final Infarct Volume in Patients with Suspicion of Stroke

Jocelyn Cheng | Women and Infants Hospital
Impact of Point of Care Breast Cancer Risk Assessment on Rates of Supplemental Screening Completion Among Women Undergoing Screening Mammography

Jessica Colin Escobar | University of California, Irvine
Health Disparities in Radiologic Initial Staging of Rectal Cancer

Erin Gaudette, BSC, MSc | Dalhousie University Faculty of Medicine
Characterizing the Relationship Between Glioma Neovascularity and Extracellular Vesicle Release with Dynamic Susceptibility Contrast MRI and Liquid Biopsy

David Hodgson, BEng | Dalhousie Medical School
Retrospective Review of Tumor Response and Adverse Event Occurrence as a Function of Absorbed Radiation Dose After Glass Y-90 Radioembolization for Liver Cancers Treated at the QEII Health Sciences Centre (Dalhousie University)

Brian Huang | University of Pennsylvania
Predicting Survival Outcomes in Stage III and IV Non Small Cell Lung Cancer Using a Recurrent Neural Network with Pre and Post-treatment PET/CT

Daniel D. Kim | Rhode Island Hospital
Deep-learning Based Pipeline for Automatic Adult and Pediatric Brain Tumor Segmentation Robust to Missing Sequences and for Quality Assurance

Sean Kim, BS | Weill Cornell Medical College
Diagnostic and Prognostic Values of Dynamic [68Ga]-DOTATATE PET/MRI in the Management of Intracranial Meningiomas

Nikhil V. Kotha, BS | University of California, San Diego
Patterns of Failure After Chemoradiation Treatment for Muscle-invasive Bladder Cancer - Big Data and Natural Language Processing Analysis of Veterans Affairs' National Database

Victor Lee, BSc | Yale University School of Medicine
The Use of Margin Distribution to Predict Generalization Gap in Deep Learning Models for Medical Imaging

Diana Lin | Memorial Sloan Kettering Cancer Center
A Crowdsourced Contour Challenge to Engage International Radiation Oncologists in the Improvement of Radiotherapy Treatment Planning

Katherine E. Link, BS | Icahn School of Medicine at Mount Sinai
Deep Learning Enabled Screening and Monitoring of Brain Metastases on Longitudinal MRI Using Segmentation Through Time (STT)

Hayden B. Lydick, MS | The University of Texas MD Anderson Cancer Center
Quantitative Analysis of T1 MRI Data in Osteoradionecrosis of the Mandible

Evan Masutani | University of California, San Diego
Multi-task Deep Inference of Cardiac Hemodynamics for Hypertrophic Cardiomyopathy

Maria Mihailescu, BEng | University of North Carolina at Chapel Hill
Comparison of 1H UTE Versus Dynamic 19F Derived Ventilation Maps in Cystic Fibrosis Patients

David K. Nam, BA | Yale University School of Medicine
Investigating Effects of Cryoablation and Glycolysis Inhibition on Anti-tumor Immunity and Extracellular pH in a Mouse Model of Hepatocellular Carcinoma

Shane S. Neibart | Rutgers Robert Wood Johnson Medical School
Non-infectious Pneumonitis in Advanced Non-small Cell Lung Cancer: Is There an Interaction Between Immune Checkpoint Inhibition and Radiotherapy?
John R. Sollee, BS | Rhode Island Hospital
*Fully Automated Artificial Intelligence Pipeline Based on Deep Learning for Longitudinal Assessment of Renal Tumor on Magnetic Resonance Imaging*

Brett Tortelli | Washington University in St. Louis
*The Vaginal Microbiome and Chemoradiation in Locally Advanced Cervical Cancer*

Edward Wang | University of Western Ontario
*Development of a Clinical Prediction Tool for Determining Feasibility of Radiotherapy Treatment in Patients with Multiple Lung Lesions*

Thomas Yi | Rhode Island Hospital
*Employing Quantitative Image Analysis Based on Deep Learning to Improve Treatment Efficacy in Image-guided Liver Tumor Ablation*

Cathy Yu | Washington University in St. Louis
*Forecasting Demand for Image-guided Endovascular Thrombectomy*

Helen Yue Zhang, BS | Virginia Commonwealth University School of Medicine
*Utilizing a Novel Hybrid Brachytherapy Technique FINITO (Freehand Interstitial Needles in Addition to Tandem and Ovoid) for Locally Advanced Cervical Cancer*

Meihui Zhang, MS | The Ohio State University
*Ultra-high Temporal Resolution Dynamic Digital Pet Imaging as a Potential Biomarker for Regional Neurologic Disease Characterization*

**DEREK HARWOOD-NASH INTERNATIONAL EDUCATION SCHOLAR GRANT**

Innovation in education can transform the way radiologists learn, understand, and care for patients. This grant funds investigators looking to affect radiology education around the world. One-year grant of up to $75,000; two year grants will be considered in exceptional cases.

Kevin Diao, MD | The University of Texas MD Anderson Cancer Center
*Development of a Scalable Clinical Research Training Program for Clinical Oncology Fellows at a Cancer Teaching Hospital in Zambia*

**RSNA/AUR/APDR/SCARD RADIOLOGY EDUCATION RESEARCH DEVELOPMENT GRANT**

This grant helps to build a critical mass of radiology education researchers and promotes the careers of those with a passion to advance the science of radiology education. One-year grant of up to $10,000.

Courtney M. Tomblinson, MD | Vanderbilt University Medical Center
*RADIENT: An Interdisciplinary Head and Neck Imaging Curriculum and Training Program for Radiology and Otolaryngology Residents*