RSNA Research & Education Foundation

New Grants Approved for Funding

2021

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 Universiity 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

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

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

Julianna 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

Michael Connor, MD | University of California, San Diego
Patterns of Injury Along White Matter Tracts After Stereotactic Radiosurgery: A Quantitative Multi-b-value Diffusion Imaging Study with Cognitive Correlates

Guilherme M. Cunha, MD | University of California, San Diego
Signal Intensity Trajectories for Multi-class Liver Segmentation

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