RSNA Research & Education Foundation

New Grants Approved for Funding

2019

**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. The Research Scholar Grant is a two-year grant of $150,000.

Sandeep Singh Arora, MBBS | Vanderbilt University  
Analyzing Immune Responses Generated by Transrectal and Transurethral Sono-ablation of Prostate Cancer Using Advanced Quantification Methods

Peter Chang, MD | University of California, Irvine  
Leveraging Deep Learning for Stroke Imaging Triage

Sandeep Subhash Hedgire, MD | Massachusetts General Hospital  
Vascular Inflammation in Patients with HIV as Measured by Macrophage Specific Ultrasmall Superparamagnetic Iron Oxide (USPIO) Nanoparticle-enhanced MRI

Nima Kokabi, MD | Emory University  
Theranostic Approach Towards Personalized Medicine Using Low-dose Y90 Microspheres for Radioembolization Therapeutic Planning

Yi Li, MD | University of California, San Francisco  
MRI and Short-term Outcomes from the Neonatal Seizure Registry (NSR-MRI)

**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.

Paco E. Bravo, MD | University of Pennsylvania  
Somatostatin Receptor-targeted Imaging for Monitoring Disease Activity in Cardiac Sarcoidosis

Miriam Peckham, MD | University of Utah  
Treatment for Sacroiliac Joint Pain Using Platelet-rich Plasma (PRP) Regenerative Therapy: A Randomized Controlled Trial in Comparison with Steroid/Anesthetic Injection with Advanced MR Analysis

Cyrus A. Raji, MD, PhD | Mallinckrodt Institute of Radiology, Washington University in St. Louis  
Diffusion Basis Spectrum Imaging for Quantifying Neuroinflammation in Metabolically Abnormal Overweight and Obese Persons at Risk for Alzheimer’s Disease

Jae W. Song, MD, MS | University of Pennsylvania  
Sex-differences in Intracranial Arterial Wall Changes Using 3T and 7T Multicontrast Vessel Wall Imaging

Tony T. Wong, MD | Columbia University  
Enabling Personalized Precision Treatment for Femoroacetabular Impingement

Eric James Hohenwalter, MD | Medical College of Wisconsin  
Evaluation of Hemodynamic Parameters Following Transjugular Intrahepatic Portosystemic Shunt (TIPS)
Matthew Donald Fernand McInnes, MD, PhD | University of Ottawa
Understanding the Basis for Reporting of Imaging Diagnostic Accuracy Studies: The "UnBIAS" Study Series

Jie C. Nguyen, MD, MS | Children’s Hospital of Philadelphia
Osteosarcoma Imaging with UTE MR: Validation and Optimization with CT and Histopathology Correlation

Sam Payabvash, MD | Yale University School of Medicine
Automated Detection of Acute Ischemic Infarct On "Code Stroke" Head CT Using Deep Neural Networks

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.

Alexander Augustyn, MD, PhD | MD Anderson Cancer Center
Multiparametric Response Assessment of Intratumoral Hypoxia and Acidosis to IACS-010759 As a Marker of Radiation Sensitization

Jamaal Benjamin, MD, PhD | University of Pennsylvania
Leveraging Epigenetic Alterations to the Tumor Microenvironment to Potentiate the Endogenous Immune Response in HCC

Grace C. Blitzer, MD | University of Wisconsin
Salivary Gland Autotransplantation of Marrow Mesenchymal Stromal Cells for Treatment of Radiation-induced Xerostomia - FDA IND Enabling Studies

Brian Joseph Burkett, MD | Mayo Clinic
7-Tesla Magnetic Resonance Imaging for Epilepsy: Added Value in Clinical Practice

Cameron Callaghan, MD, MPH, MS | University of Iowa Hospitals and Clinics
Pharmacologic Ascorbate Combined with DNA Repair Inhibitors Enhances the Therapeutic Index of Radiation Therapy

Joshua Choi, MD | University of Pennsylvania
The Effects of Increased Intracranial Pressure on Brain Perfusion Using Contrast-enhanced Ultrasound in a Pediatric-aged Porcine Model of Post-hemorrhagic Hydrocephalus

Charlotte Yuk-Yan Chung, MD, PhD | Emory University

Pippa Cosper, MD, PhD | University of Wisconsin
Chromosomal Instability As a Potential Mechanism and Marker of Radiation Sensitivity in Head and Neck and Cervical Cancers

Sarah Eskreis-Winkler, MD | Memorial Sloan Kettering Cancer Center
Multi-site Deep Learning Initiative with Decision Support to Improve Diagnostic Accuracy of Breast MRI and Reduce Unnecessary Biopsies

David Konieczkowski, MD, PhD | Massachusetts General Hospital
Impact of Androgen Receptor Splice Variant Expression on Outcomes of Post-prostatectomy Therapy

Lubdha M. Shah, MD | University of Utah
Focused Ultrasound Neuromodulation of Dorsal Root Ganglion for Noninvasive Mitigation of Back Pain in Swine Model

Nelly Tan, MD | Loma Linda University
Impact of Provider and Patient Ratings of Radiologists? Reports to Drive Improvements to Radiology Reports

Elizabeth Tong, MD | Stanford University
Design and Validate an Imaging-based Clinical Assessment Tool for Acute Ischemic Stroke - Functional-MRI Stroke Scale (FMRISS)

Kathleen Mary Capaccione, MD, PhD | Columbia University
Image-guided Molecular Targeted Irradiation Against Malignant Melanoma
Michael Craig Larson, MD, PhD | Banner-University Medical Center, University of Arizona
Furthering the Foundation of Clinical Optical Biopsies

Sangjune Laurence Lee, MD, MENG | University of Wisconsin - Madison
Serial .35 and 1.5 Tesla MRIs of Esophageal Carcinoma Patients Undergoing Concurrent Chemoradiation to Assess Early Tumor Response Through Changes in Apparent Diffusion Coefficient Map, Dynamic Contrast Enhancement Parameters, and Morphology and to Assess

Kirti Magudia, MD, PhD | University of California, San Francisco
Prediction of Clinically Significant Prostate Cancer from Only T2 Weighted Imaging Using Machine Learning

Tyler Clark Mandt, MD | University of California, San Diego
Stimulating the Abscopal Effect in Hepatocellular Carcinoma with Cryoablation and Combinatorial Immunoadjuvants

Amirali Modir Shanechi, MD | Johns Hopkins University
Development of a Deep Learning System to Identify Human Papilloma Virus-positivity of Oropharyngeal Squamous Cell Carcinoma

Adam Christopher Mueller, MD, PhD | University of Colorado
Investigating the Role of Crosstalk Between ADAM10 and EphrinB2/EPHB4 in Mediating Radiation Induced Fibrosis, Invasion and Metastasis in Pancreatic Cancer

Arash Nazeri, MD | Washington University in St. Louis
MR-guided Focused Ultrasound-enabled Liquid Biopsy (FUSE-Lx) for Frontotemporal Lobar Degeneration Proteinopathies

Anatoly Nikolaev, MD, PhD | University of Alabama at Birmingham
Mutant p53 Reactivation As a Targeted Approach for Radiosensitization of Malignancies Harboring Disruptive Mutations in TP53 Gene.

Michael O'Reilly, MBBCh | University of Washington
Rates and Outcomes of Vertebral Augmentation for the Treatment of Osteoporotic Vertebral Compression Fractures Among the Commercially Insured

Brian Park, MD | University of Pennsylvania
Development of Intraoperative 3D Holographic Augmented Reality-assisted Navigation System for CT-guided Percutaneous Ablations

Neil Pfister, MD, PhD | Winship Cancer Institute of Emory University
Defining a Novel Role for respiratory Complex I Subunits in the Radiation Response: Basic Discovery of Therapeutic Targets and Functional Imaging Tracers

Corbin Lurrie Pomeranz, MD | Thomas Jefferson University

Jason Barzel Ross, MD, PhD | Stanford University
Enhancing the Therapeutic Index of Radiation Therapy with Macrophage Checkpoint Blockade

Michelle Roytman, MD | Joan & Sanford I. Weill Medical College of Cornell University
Dynamic 68-gallium-DOTATATE PET and DCE Perfusion MRI in Meningioma: Correlation with Molecular Pathology and Clinical Outcomes

Ali Salavati, MD, MPH | University of Minnesota
The Optimal Timing to Perform 18F-FACBC PET/CT in Patients with Biochemical Recurrence of Prostate Cancer: Multivariate Modeling of Prostatic Specific Antigen Kinetics and Clinical/Pathological Features

Kai-Yin See, MD | University of Southern California
7 Tesla MRI Neuroimaging Biomarkers of Prostate Cancer-related Cognitive Impairment

Chintan Shah, MD, MS | University of Pennsylvania
Impact of Intensive Systolic Blood Pressure Control on Brain Functional Network Integrity

Aaron Benjamin Simon, MD, PhD | University of California, San Diego
4D Flow MRI for Physiologically-guided Radiosurgery and Quantification of Treatment Response for Cerebral Arteriovenous Malformations
Tyler Andrew Smith, MD | University of Utah
Identification and Development of Radioprotective Agents to Reduce DNA Damage Caused by Ionizing Radiation

Andrew B. Thompson, MD | Beaumont Health
A Deep Learning Framework for Deformable Image Registration to Improve Radiotherapy Planning and Delivery

Garth William Tormoen, MD, PhD | Oregon Health & Science University
Characterization of the Effect of Warfarin on the Tumor Immune Microenvironment Following Stereotactic Ablative Radiotherapy

Justin Tse, MD | Stanford University
CT Angiography for Acute Gastrointestinal Bleeding: Quantitative Imaging Biomarkers to Predict Clinical Outcomes

Lucas Vitzthum, MD | University of California San Diego
Quantitative Assessment of Swallowing After Radiation (QUASAR): Longitudinal Comparison of Swallowing Function by Systemic Therapy in Head and Neck Cancer Patients

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.

Michelle Bardis, MS | University of California, Irvine
Prostate Cancer Detection, Quantification, and Characterization with Artificial Intelligence

Amogh Chandupatla, BS | Joan & Sanford I. Weill Medical College of Cornell University
Texture Feature Deep Learning Analysis of Anatomic Images from Multiparametric Prostate MRI Correlated with Functional MRI Data, PSMA PET, and Histopathology Derived from PSMA PET-MRI

Enoch Chang, BA | Yale University School of Medicine
Identifying Imaging Characteristics of Leptomeningeal Disease Using Deep Learning

Tina Chen | University of Maryland School of Medicine
Outcome Prediction Using Semi-automated and Automated Volumetric Analysis of Liver Injury in Blunt Trauma

Andrew Louis Wentland, MD, PhD | Stanford University
An Artificial Intelligence Approach to Improve the Differentiation of Surgical from Non-surgical Cystic Renal Lesions

Adam R. Wolfe, MD, PhD | The Ohio State University
Elucidating and Targeting BRAFV600E Mediated Radioresistance in Anaplastic Thyroid Cancer to Increase Tumor-selective Radiosensitization

Dylan Wolman, MD | Stanford University
Prospective Utilization of Dual-energy CT for the Detection and Aging of Vertebral Compression Fractures in Trauma

Brendan Crabb, BS | University of Utah
Motion Correction in Digital Subtraction Angiography Using Machine Learning

Eric Esslinger | University of British Columbia
Multi Factorial Comparative Study of Dual Energy CT Scanners in Acute Pulmonary Embolism

Brandon Kenneth-Kouso Fields, BA, BM | Keck School of Medicine of USC
Treatment Response Assessment in Soft Tissue Sarcomas Using MRI-based Texture Analysis

Austin Fullenkamp, BS | Keck School of Medicine of USC
Predicting CD8+ T Cell Infiltration in Renal Cell Carcinoma Using Radiomic Signatures
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<thead>
<tr>
<th>Name</th>
<th>Institution/University</th>
<th>Title/Description</th>
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<tr>
<td>Aakash Gupta, BS</td>
<td>Northwestern University</td>
<td>4D Flow MRI-derived Energy Biomarkers for Grading of Mitral Regurgitation Severity</td>
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<tr>
<td>Alex Hall, BS</td>
<td>The Medical College of Wisconsin, Inc</td>
<td>Incidence and Risk Factors for Venous Thromboembolic Disease in Patients with Hepatic Malignancy Undergoing Liver-directed Therapy</td>
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<td>Lap-Heng Keung</td>
<td>The Medical College of Wisconsin, Inc</td>
<td>Development of an Interventional Radiology Specific Algorithm for Pre-procedural Laboratory Testing</td>
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<td>Charissa Kim, PhD</td>
<td>McGovern Medical School at UTHealth</td>
<td>Applying Radiomics to a Cohort of HCC Patients from the Cancer Genome Atlas to Validate Prognostic Capabilities of Ancillary LIRADS Findings on MRI</td>
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<td>Sera Kim</td>
<td>Emory University</td>
<td>Can Brain Tumor Reporting and Data System Determine Brain Tumor Prognosis?</td>
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<td>Derek Liu, BS</td>
<td>Keck School of Medicine of USC</td>
<td>Radiogenomics Analysis of TCGA Muscle Invasive Bladder Carcinoma</td>
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<td>Jack W. Luo</td>
<td>McGill University</td>
<td>Automated Surveillance of Thoracic and Abdominal Radiographs for Acute Incidental Findings: A Deep-learning Based Approach</td>
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<tr>
<td>Monica Matsumoto, BA</td>
<td>Enrolled at University of Chicago - Research conducted at Northwestern University</td>
<td>Y90 Radioembolization Combined with Immune Checkpoint Blockade in an Animal Model of Hepatocellular Carcinoma</td>
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<td>Amal Musa</td>
<td>MD Anderson Cancer Center</td>
<td>Investigating How Intestinal Microbiome Variations Modulate Anal Cancer Development and Treatment Response</td>
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<td>Sean Nurmsoo, MSc</td>
<td>Dalhousie University</td>
<td>Development and Validation of a Deep Machine Learning Tool for Automated Hematoma Volume Segmentation Using 3D Convolutional Neural Networks</td>
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<tr>
<td>Mara Rosenberg</td>
<td>Oregon Health &amp; Science University</td>
<td>Tumor-intrinsic Markers of Cachexia in Patients with Pancreatic Ductal Adenocarcinoma</td>
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<td>John Rutland</td>
<td>Icahn School of Medicine at Mount Sinai</td>
<td>Dynamic Contrast Enhancement of Pituitary Adenoma at Ultra-high Field MRI</td>
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<td>Vignesh Selvakumaran, BSE</td>
<td>Duke University</td>
<td>Prediction of Upstaging DCIS to Invasive Disease: Performance Comparison Between Breast Radiologists and Computer Vision Algorithms</td>
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<td>Amar H. Sheth, BS</td>
<td>Yale University School of Medicine</td>
<td>Genomic and Immune Profiling for Locoregional Therapy in Intrahepatic Cholangiocarcinoma</td>
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<td>Ethan Zee Sy, BS</td>
<td>A.T. Still University School of Osteopathic Medicine in Arizona</td>
<td>Optimal Frequency Evaluation of G* Quantification in 3D Magnetic Resonance Elastography</td>
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<td>Ai Phuong S. Tong</td>
<td>University of Washington</td>
<td>Radiomic Analysis of Diffusion Tensor Imaging to Predict Unfavorable Seizure Outcome One Year After Laser Thermal Ablation for Mesial Temporal Lobe Epilepsy</td>
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<td>Robert Howard Unger, BS</td>
<td>Cleveland Clinic</td>
<td>Neuroplastic Mechanisms of Noninvasive Brain Stimulation in Stroke Rehabilitation: A Resting-state Functional MRI Study.</td>
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<td>Colin Wang, BA</td>
<td>University of Chicago</td>
<td>Baseline CT Radiomic, Genomic, and T Cell Inflammation Assessment of Head and Neck Squamous Cell Carcinoma Treated with Immunotherapy</td>
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<td>Robin Wang, BA</td>
<td>Perelman School of Medicine, University of Pennsylvania</td>
<td>Using CT Perfusion and Diffusion-weighted Imaging MRI in Deep Learning to Predict Endovascular Therapy Response in Ischemic Stroke Patients</td>
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<td>Yuehyl Gloria Wu, PhD</td>
<td>Joan &amp; Sanford I. Weill Medical College of Cornell University</td>
<td>PET Imaging of Parenchymal Tau- and Beta-amyloid Deposition in Alzheimer Disease: Correlation with Cerebrospinal Fluid Matrix Metalloproteinase-9.</td>
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EDUCATION INNOVATION GRANT
To enhance education for the benefit of radiology faculty as educators and radiologists or radiology support personnel through creation of educational content, educational products or other innovative means. Grants of up to $125,000 per year for up to 3 years ($375,000 maximum) are available.

Erin Gillespie, MD  |  Memorial Sloan Kettering Cancer Center
Improving Radiation Contour Quality at the Point of Care by Integrating 3D Image-based Contouring Guidelines, Radiographic Anatomy, and Feedback into the Clinical Workflow

Richard Joseph Thomas Gorniak, MD  |  Thomas Jefferson University
MissMap: A Point-of-Care Tool to Show Study Specific Infographics Displaying the Location, Frequency and Types of Commonly Missed Findings Based on 10 Years of Discrepancy Data and Associated Example Cases and Educational Content

EDUCATION DEVELOPMENT GRANT
To enhance education for the benefit of radiology faculty as educators and radiologists or radiology support personnel through creation of educational content, educational products or other innovative means. Grants from $30,000 (minimum) to $100,000 (maximum) per year for up to 3 years projects are available.

Dorothy Amy Sippo, MD  |  Massachusetts General Hospital
Development and Assessment of an Interactive Electronic Breast Cancer Imaging Educational System

Mark A. Kliewer, MD  |  University of Wisconsin - Madison
How Informed Consent Affects Patients’ Trust and Assessment of Risk: Effects of Message Framing, Denominator Neglect, Anchoring and Rhetoric

Tessa S. Cook, MD, PhD and
Hanna M. Zafar, MD, MHS  |  Perelman School of Medicine, University of Pennsylvania
Improving Patients’ Understanding of Common Actionable Imaging Findings in the Abdomen and Pelvis

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.

Jon A. Jacobson, MD  |  University of Michigan
Establishing a Shoulder Ultrasound Program in Rural Uganda to Diagnose and Guide Treatment for Shoulder Disease

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.

Gretchen Marie Foltz, MD  |  Mallinckrodt Institute of Radiology
Crisis Management During Image-guided Procedures: Assessing the Roles of Checklists and Team Training

Michael Joseph LaRiviere, MD  |  University of Pennsylvania
Custom Patient-specific 3D-printed Models for Radiation Oncology Education