Seeding the Future of Radiology

2018 RSNA R&E Foundation
GRANTS & AWARDS

RSNA
R&E
FOUNDATION

2018

As the RSNA Research & Education Foundation embarks on another year of funding radiology's future, we would like to take a moment to express our sincerest gratitude to our donors.

Thank you for your commitment to seeding the future of the specialty. Thank you for understanding that the seeds of innovation we plant today will yield improved patient care in the seasons to come.

In short, thank you for making what we do possible.

In 2018, the Foundation's Board of Trustees approved grant funding of $4 million for over 100 projects. This level of support is only possible because of your generosity.

Your contributions ensure these talented investigators and educators can begin their research journeys with a strong funding partner and the support of the entire radiologic community.

But remember, the money we give is an investment in the future or radiology.

A survey of past R&E grant recipients shows that for every $1 granted by the Foundation, recipients receive an additional $50 in funding as principal investigator or co-investigator from sources such as the NIH. Now, that's a tremendous return on your investment.

We are delighted you've made a commitment to be part of that future by helping plant the seeds for radiology's tomorrow.

We hope you continue to be a part of this journey to find out what the future holds for radiology.

Sincerely,
N. Reed Dunnick, MD
Chair, R&E Foundation
Board of Trustees

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GRANT AND AWARD DESCRIPTIONS

RESEARCH SCHOLAR GRANT

Our 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.

RESEARCH RESIDENT/FELLOW GRANT

This grant provides investigators a chance to explore powerful ideas. Working alongside an experienced advisor, trainees gain insight into specific investigation and practice 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 to $50,000.

EDUCATION SCHOLAR GRANT

Innovation in education can transform the way radiologists learn, understand and care for patients. This grant encourages development of new methods of teaching and evaluation and enables effective delivery for lifelong learning. One-year grant of up to $75,000.

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.
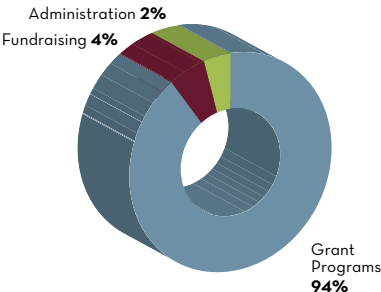
RESEARCH MEDICAL STUDENT GRANT

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.

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 passion to advance the science of radiology education around the world. One year grant of up to $10,000.

Where Do Your Donations Go?
Low overhead puts more of your donations toward grant funding

Administration **2%**
Fundraising **4%**
Grant Programs **94%**

How Are Grant Dollars Distributed?
Percent of grant dollars awarded by grant type in 2018

Education **13%**
Resident and Fellow Trainees **35%**
Junior Faculty and Career Development **34%**
Seed and Pilot Studies **16%**
Medical Students **2%**
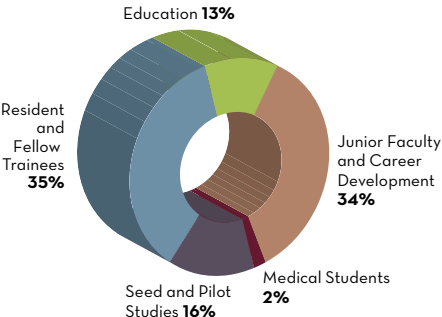
RECOGNITION AND THANKS

Through the generosity of our donors, the RSNA R&E Foundation is able to continue its investment in R&D for radiology.

The Foundation acknowledges the distinguished individuals and the Visionaries in Practice (VIP) program donors who have established endowments and awards in their names or in the names of those honored.

Austin Radiological Association
Derek Harwood-Nash, MD
Martin R. Prince, MD, PhD
Ralph Schlaeger Charitable Foundation
Richard L. Baron, MD
RSNA Presidents Circle
Silver Anniversary Campaign Pacesetters
Strategic Radiology

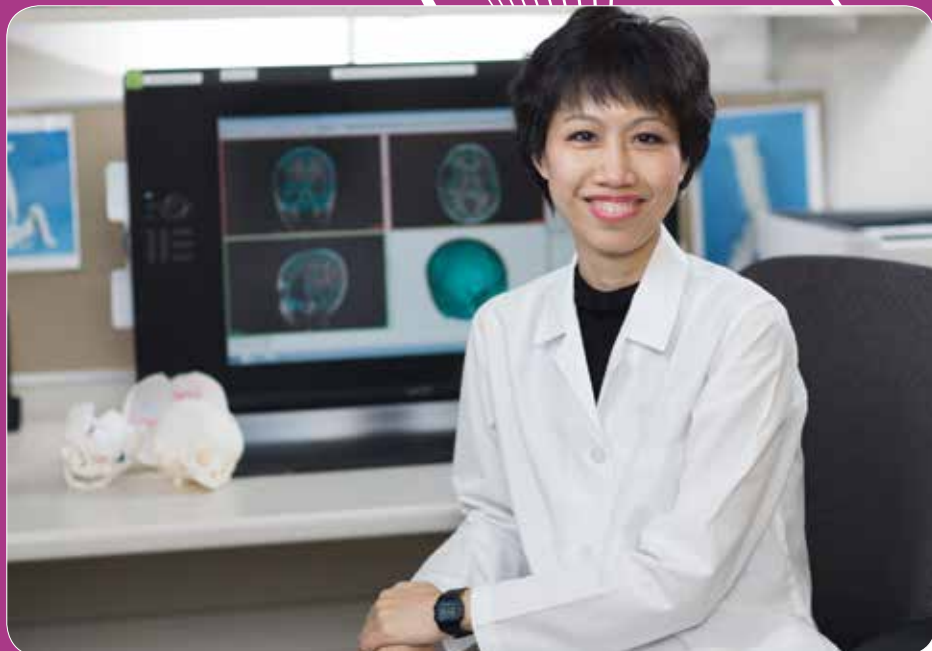
The Foundation is grateful for the major contributions from corporate donors through the Vanguard program.

RESEARCH SCHOLAR GRANT

Mai-Lan Ho, MD will investigate zero echo time MRI forradiation-free pediatric bone imaging

"The RSNA Research Scholar Grant is an extraordinary opportunity for me to develop Zero Echo Time (ZTE) MRI for radiation-free cortical bone imaging. This novel technology will drastically decrease pediatric radiation exposure and help improve care for children across the world. Through this research, I have found so many opportunities to form uniquely positive collaborations among radiologists, physicists, and clinicians — which makes a visionary goal like this possible."

— Mai-Lan Ho, MD

Timothy J. Amrhein, MD
Duke University

A Randomized Trial of CT Fluoroscopy-guided Targeted Autologous Blood and Fibrin Glue Patching for Treatment of Cerebrospinal Fluid Leaks in Spontaneous Intracranial Hypotension
GE Healthcare/RSNA Research Scholar Grant

GE Healthcare

Manisha Bahl, MD, MPH
Massachusetts General Hospital

Machine Learning to Predict Risk of Upgrade and Recurrence of Ductal Carcinoma In Situ
Agfa HealthCare/RSNA Research Scholar Grant

AGFA HealthCare

Nicholas Scott Burris, MD
University of Michigan

Hemodynamic Biomarkers of Aneurysmal Degeneration in Type B Aortic Dissection
RSNA Research Scholar Grant

Jamal J. Derakhshan, MD, PhD
Washington University in St. Louis

Improved Non-contrast Brain Perfusion Imaging Using Integrated Tagging in bSSFP
ASNR/RSNA Research Scholar Grant

Ryne Didier, MD
Children's Hospital of Philadelphia

Contrast-enhanced Brain Ultrasound in Extreme Premature Fetal Lambs Maintained by the Extra-uterine Environment for Neonatal Support (EXTEND): Visibility Studies, Evaluation of Perfusion Parameters, and Assessment of Intracranial Pressure
RSNA Research Scholar Grant

Christine E. Edmonds, MD
Massachusetts General Hospital

Precision Imaging for Improved Therapeutic Guidance in Breast Cancer
Carestream Health/RSNA Research Scholar Grant

Carestream

Mai-Lan Ho, MD
Mayo Clinic

Zero Echo Time MRI for Radiation-free Pediatric Bone Imaging
Siemens Healthineers/RSNA Research Scholar Grant

SIEMENS Healthineers

Misun Hwang, MD
Children's Hospital of Philadelphia

Improved Diagnosis and Prognostication of Neonatal Hypoxic Ischemic Injury with Combined Contrast Enhanced Ultrasound and Elastography
RSNA Research Scholar Grant

Laura Jimenez-Juan, MD
Sunnybrook Research Institute

Towards an Early Detection of Coronary Artery Bypass Graft Failure: A Computational Fluid Dynamics Approach Based on CT and 4D-flow MRI
Agfa HealthCare/RSNA Research Scholar Grant

AGFA HealthCare

Anusha Kalbasi, MD
University of California, Los Angeles

Uncoupling the Tumor Promoting and Wound Healing Properties of Macrophages in the Irradiated Microenvironment
RSNA Research Scholar Grant

Joseph George Mammarappallil, MD, PhD
Duke University

Utilization of Hyperpolarized 129Xe MRI for Diagnosis of Idiopathic Pulmonary Fibrosis
Bracco Diagnostics Inc./RSNA Research Scholar Grant

Robert J. McDonald, MD, PhD
Mayo Clinic

Assessment of the Clinical Effects of Intracranial Gadolinium Tissue Deposition Following Intravenous Administration of Gadolinium Based Contrast Agents Using a Preclinical Rat Model
Bayer HealthCare/RSNA Research Scholar Grant

Avner Meoded, MD
Johns Hopkins University

Comprehensive Omics Approach in the Study of Brain Neuroplasticity in Pediatric Arterial Ischemic Stroke
Guerbet/RSNA Research Scholar Grant

Sohil H. Patel, MD
University of Virginia

Radiogenomics of Diffuse Cerebral Gliomas
RSNA Research Scholar Grant

Ronnie Alex Sebro, MD, PhD
University of Pennsylvania

Integrated Biomarker PET/CT Imaging Trial for Assessing Hypoxia in Soft Tissue Sarcomas Using a Novel PET/CT Tracer
RSNA Research Scholar Grant

Rahul Anil Sheth, MD
The University of Texas MD Anderson Cancer Center

Antitumor Immune Activation by Molecularly Targeted Photothermal Ablation for the Treatment of Hepatocellular Carcinoma
RSNA Research Scholar Grant

Salil Soman, MD, MS
Beth Israel Deaconess Medical Center

Improving Intracranial Hemorrhage Risk Stratification with Advanced Cerebral Microhemorrhage (CMH) Imaging Using Preconditioned Quantitative Susceptibility Mapping (PQSM) MRI
RSNA Research Scholar Grant

Man Zhang, MD, PhD
University of Michigan

Assessment of Predictive Value of Cervical Stiffness in Preterm Labor and Outcome of Labor Induction Using Transvaginal Shear Wave Elastography
RSNA Research Scholar Grant

RESEARCH SEED GRANT

Laura Heacock, MD, MS (left) with scientific advisors Linda Moy, MD (center) and S. Gene Kim, PhD (right) will investigate the use of a high temporal resolution compressed sensing MRI sequence in abbreviated breast MRI (AB-MRI).

Laura Heacock, MD, MS, will investigate the use of a fast temporal resolution compressed sensing MRI sequence in an abbreviated breast MRI (AB-MRI) screening protocol.

"Incorporating fast temporal resolution imaging may improve the specificity of AB-MRI examination by providing quantitative information on the wash-in of gadolinium. Use of this imaging technique in AB-MRI could therefore increase breast MRI screening accessibility, particularly for intermediate-risk women."

— Laura Heacock, MD, MS

Edson Amaro Jr., MD, PhD
Hospital Israelita Albert Einstein, Brazil

Multi-centric Standard Practices in Quantitative Diffusion Weighted Imaging: Implementation and Evaluation in Clinical Practice in Brazil
RSNA Research Seed Grant

Sandeep Singh Arora, MBBS
Vanderbilt University Medical Center

Improving Breast Cancer Response to Immunotherapy Using Micro-bubble Enhanced Therapeutic Ultrasound in a Highly Aggressive 4T1 Murine Breast Cancer Model
RSNA Research Seed Grant

Ji Young Buethe, MD
Johns Hopkins University

Cryoablation-immune Checkpoint Combination Therapy to Improve Anti-tumor Responses in Triple Negative Metastatic Breast Cancer
RSNA Research Seed Grant

Amy Robin Deipolyi, MD, PhD
Memorial Sloan Kettering Cancer Center

Role of Anti-tumor Immunity in Modulating the Impact of PI3K Pathway Mutations on Response to Radioembolization in Metastatic Breast Cancer
Philips/RSNA Research Seed Grant

PHILIPS

Laura Heacock, MD, MS
New York University

Abbreviated Breast MRI (AB-MRI) with Golden-angle Radial Compressed-sensing and Parallel Imaging (GRASP): A Short, Comprehensive Breast MRI Exam Ready for Clinical Prime Time
Fujifilm Medical Systems/
RSNA Research Seed Grant

FUJIFILM
Value from Innovation

Pedram Heidari, MD
Massachusetts General Hospital

Immune PET Imaging of Cytotoxic Lymphocyte Function in Inflammatory Bowel Disease
Canon Medical Systems, USA/RSNA Research Seed Grant

Amar Upadhyaya Kishan, MD
University of California, Los Angeles

Genomics of Gleason Score 9-10 Prostate Cancer
Philips/RSNA Research Seed Grant

Gregory Jon Nadolski, MD
University of Pennsylvania

Clinically Relevant Point of Care Testing to Improve Quality of Solid Tumor Biopsies
RSNA Research Seed Grant

Prashant Nagpal, MD
University of Iowa

Comparison of Free-breathing Self-gated 3D Cardiac MRI with Manifold Reconstruction Algorithms and Standard Breath-hold Sequence in Patients with and without COPD
Canon Medical Systems, USA/RSNA Research Seed Grant

Rupa Radhakrishnan, MBBS, MS
Indiana University

Effect of Prenatal Exposure to Opioids on Neonatal Brain Structure and Function
Philips/RSNA Research Seed Grant

Gelareh Sadigh, MD
Emory University

Patient-reported Financial Toxicity in Multiple Sclerosis: Predictors and Association with Neuroimaging and Medication Non-adherence
RSNA Research Seed Grant

Stuart E. Samuels, MD, PhD
University of Miami

Symptomatic and Functional Impact of Radiation-induced Fibrosis of the Neck in Patients Treated for Head and Neck Cancer
Philips/RSNA Research Seed Grant

PHILIPS

David Shultz, MD, PhD
Princess Margaret Cancer Centre

Measuring and Molecularly Defining Intra-tumoral Hypoxia Using FAZAPET/MRI and Pimonidazole in High-risk Sarcoma
Hitachi Medical Systems/RSNA Research Seed Grant

HITACHI
Inspire the Next

Adam D. Singer, MD
Emory University

Performance of a Standardized Scanning and Reporting Method for Sonographic Soft Tissue Sarcoma Surgical Resection Bed Surveillance
Canon Medical Systems, USA/RSNA Research Seed Grant

Canon

Ramya Srinivasan, MD
University of California, San Francisco

The Use of Dual and Multi Energy CT for the Detection of Bone Marrow Metastases — A Phantom Study with Preliminary Patient Validation
RSNA Research Seed Grant

Sina Tavakoli, MD, PhD
University of Pittsburgh

Quantitative Imaging of 18F-fluoroglutamine and 18F-FDG Uptake in Atherosclerosis: A Metabolic Approach to Immuno-metabolic Characterization of Macrophages in the Vessel Wall
Strategic Radiology Research Seed Grant

Strategic Radiology

RESEARCH RESIDENT/ FELLOW GRANT

Praveen Ranganath, MD is investigating a novel dual-layer spectral CT technique in characterizing coronary artery calcium from coronary CT angiography data.

"Although we know that coronary calcium is strongly correlated with coronary artery disease morbidity and mortality, current imaging techniques in characterizing coronary calcium are rudimentary. We aim to evaluate a novel spectral CT technique called 'spectral CT fingerprinting' in coronary calcium characterization. We hope that this technique will complement the current armamentarium in coronary artery disease diagnostics and prognostics."

— Praveen Ranganath, MD

Harrison X. Bai, MD
University of Pennsylvania

Utilization of Deep Learning to Predict Characteristics and Treatment Response in Renal Tumors
Siemens Healthineers/RSNA Research Fellow Grant

David Hilton Ballard, MD
Washington University in St. Louis

Image-guided Molecular Profiling of the Renal Cell Carcinoma Immune Microenvironment Using 3D Printing
Varex Imaging/RSNA Research Resident Grant

Michael Sargent Binkley, MD, MS
Stanford University

Inferring Gene Expression Using Cell Free DNA for Prediction of Radiation Pneumonitis After Definitive Chemoradiotherapy of Locally Advanced Non-small Cell Lung Cancer
RSNA Research Resident Grant

Zachary Buchwald, MD, PhD
Emory University

The Impact of Corticosteroids on Combined Radiation and Anti-PD-L1 in the Control of Oligo-metastatic Melanoma
RSNA Research Resident Grant

Lindsay P. Busby, MD, MPH
University of California, San Francisco

Advanced Imaging of Ovarian Cancer Using 68GA-PSMA-11 PET/MRI
RSNA Research Fellow Grant

Jessica Chan, MD
University of Utah

Detection of Obstructive and Restrictive Lung Disease on Chest Radiography Using Machine Learning and Integrated Pulmonary Function Data
RSNA Presidents Circle Research Resident Grant

Bryan Chang, MD, PhD
University of Pennsylvania

Tracking Engineered T Cell Therapies with an RNA-based Reporter Gene
RSNA Research Resident Grant

Leonid Chepelev, MD, PhD
University of Ottawa

Deep Learning for Radiological Image Quality Improvement: Impact on the Accuracy of Diagnosis and Organ Segmentation
RSNA Research Resident Grant

Florence L. Chiang, MD
The University of Texas Health Science Center at San Antonio

Imaging Biomarker Development in Multiple Sclerosis Using Multi-modality Network Modeling
RSNA Research Resident Grant

Dania Daye, MD, PhD
Massachusetts General Hospital

Machine Learning-based Virtual Metastasis Biopsy as an Early Predictor of Tumor Progression and Resistance Mutation Acquisition in Colon Cancer Patients
GE Healthcare/RSNA Research Resident Grant

Laura Burns Eisenmenger, MD
University of California, San Francisco

Evaluation of Intracranial Aneurysm Wall Inflammation Using Ferumoxytol and Four Dimensional Flow Magnetic Resonance Imaging
RSNA Research Fellow Grant

Alexander M. El-Ali, MD
University of Pittsburgh

Placental MRI BOLD and Impaired Neurodevelopment in Congenital Heart Disease
RSNA Research Resident Grant

Adnan Elhammali, MD, PhD
The University of Texas MD Anderson Cancer Center

Single Cell Transcriptome Analysis of Radiation Response in Advanced Pancreatic Cancer Patients
RSNA Research Resident Grant

Ahsan Farooqi, MD, PhD
The University of Texas MD Anderson Cancer Center

Targeting the Alternative Lengthening of Telomeres Phenotype in Glioblastoma to Enhance Cellular Response to Radiotherapy
Prince Research Resident Grant

Benjamin Freeze, MD, PhD
Cornell University

Regional Brain Atrophy and Network Propagation of Pathology in Prodromal Parkinson Disease
RSNA Research Resident Grant

Lewis Dirk Hahn, MD
Stanford University

Segmentation and Quantitative Assessment of Prognostic Features in Type B Aortic Dissection Using Machine Learning
Silver Anniversary Campaign Pacesetters Research Fellow Grant

Mark Jeffrey Hoegger, MD, PhD
Washington University in St. Louis

Targeted Alpha Particle Therapy in Lymphoma with Human Anti-CD20 Antibodies
RSNA Research Resident Grant

William L. Hwang, MD, PhD
Massachusetts General Hospital

Molecular Signatures of Circulating Tumor Cells to Predict Treatment Response in Muscle-invasive Bladder Cancer
RSNA Research Resident Grant

John Kang, MD, PhD
University of Rochester

Combining Genomic and Clinical/Dosimetric Variables to Predict Radiation Toxicity in Localized Prostate Cancer Patients Via Computational Genomics and Machine Learning
RSNA Research Resident Grant

Geunwon Kim, MD, PhD
Beth Israel Deaconess Medical Center

Development and Validation of MRI-based Quantitative Fat and Fluid Volumetrics for Lymphedema Staging and Guidance of Liposuction and Lymphatic Reconstruction in Upper and Lower Extremities
RSNA Research Resident Grant

Joseph Leach, MD, PhD

University of California, San Francisco

Combined Magnetic Resonance Imaging and Biomechanical Analysis of Abdominal Aortic Aneurysms to Predict Disease Progression
Richard L. Baron, MD Research Fellow Grant

Kathryn Mittauer, PhD

University of Wisconsin-Madison

Evaluation of Gastroduodenal Toxicity for Pancreatic Radiotherapy Using Stereotactic MR-guided Online Adaptive Radiation Therapy (SMART) in Wisconsin Miniature Swine (WMS)
Ralph Schlaeger Charitable Foundation Research Fellow Grant

Everett James Moding, MD, PhD

Stanford University

Circulating Tumor DNA Kinetics During Radiation Therapy as a Prognostic Biomarker for Non-small Cell Lung Cancer
RSNA Research Resident Grant

Thomas S.C. Ng, MD, PhD

Brigham and Women's Hospital

Multiscale, Translational Molecular Imaging to Guide Combination Nano- and Immunomodulatory Therapy in Anaplastic Thyroid Cancer
RSNA Research Resident Grant

Matthew Stephen Ning, MD

The University of Texas MD Anderson Cancer Center

The Utility of Intraoperative MRI-guided Interstitial Brachytherapy in Optimizing the Therapeutic Ratio for Gynecologic Malignancies
RSNA Research Resident Grant

Suchit H. Patel, MD, PhD
Memorial Sloan Kettering Cancer Center

Utilizing Next Generation Sequencing and Cardiac MRI to Profile the Transcriptional and Physiologic Pathogenesis of Radiation Induced Cardiac Toxicity in a Mouse Model
GE Healthcare/RSNA Research Resident Grant

GE Healthcare

Ryan Phillips, MD, PhD
Johns Hopkins University

Inhibition of Centrosome Clustering to Enhance the Interplay Between Radiotherapy and Immunotherapy
RSNA Research Resident Grant

Priya Rajagopalan, MBBS, MPH
Indiana University

Increased White Matter Hyperintensity in Carriers of Folate Gene Polymorphism: A Novel Gene-amyloid Interaction Pathway
RSNA Research Resident Grant

Shushan Rana, MD
Oregon Health & Science University

Endothelial miR-15a Regulation of the Tumor Microenvironment Radiation Response
RSNA Research Fellow Grant

Praveen Ranganath, MD
UT Southwestern

A Novel Approach to Coronary Calcium Scoring Using Spectral CT Fingerprinting with Coronary CT Angiography
Bracco Diagnostics Inc./RSNA Research Resident Grant

BRACCO
LIFE FROM INSIDE

Tara Retson, MD, PhD
University of California, San Diego

A Deep Learning Approach for Identifying Imaging Biomarkers and Outcome Modeling in Chronic Obstructive Pulmonary Disease
Cook Medical Cesare Gianturco/RSNA Research Resident Grant

COOK MEDICAL

Zaid Ali Siddiqui, MD
Beaumont Health System

A Deep Learning Framework for Radiotherapy Delivery in Thoracic Oncology
RSNA Research Resident Grant

Mikhail Silk, MD
University of Pennsylvania

Developing Tace 2.0: Targeting Hepatocellular Carcinoma Cells Through the Unfolded Protein Response, Hypoxia Inducible Factor, and Autophagy Inhibition
RSNA Research Resident Grant

Catherine S. Spina, MD, PhD
Columbia University

Metronomic Delivery of Radimmunotherapy to Induce a Durable (mRAID) Anti-tumor Response in Solid Tumors
RSNA Research Resident Grant

Karthik Meenakshi Sundaram, MD, PhD
Vanderbilt University Medical Center

Evaluating Microbubbles as an Immunotherapy Adjuvant for Breast Cancer
RSNA Research Resident Grant

Anna Trofimova, MD, PhD
Emory University

Functional and Structural Brain Connectivity Alterations in Visual Vertigo Syndrome: A Prospective MRI Study of Central Vestibular Impairment in Mild Traumatic Brain Injury
RSNA Research Resident Grant

Kang Wang, MD, PhD
University of California, San Diego

Automated Liver Biometry and Fat Quantification in Non-alcoholic Fatty Liver Disease with Convolutional Neural Networks
RSNA Research Resident Grant

Ghiam Yamin, MD, PhD
University of California, San Diego

Virtual Reality Application for Evaluating Progression of Early Parkinson's Disease
RSNA Research Resident Grant

Felix Yuh-Chern Yap, MD
University of Southern California

The Shapely Renal Mass: Quantitative Contour Evaluation of Renal Cell Carcinoma
RSNA Research Fellow Grant

RESEARCH
MEDICAL
STUDENT GRANT

Chloe Genevieve Cross, BSc will investigate the quantification of blood spinal cord barrier openings after the application of magnetic resonance guided focused ultrasound

"As a first-year medical student, I would like to pursue interventional radiology as a potential specialty — the RNSA research project aligns with my goal as focused ultrasound is an exciting clinical application of interventional radiology techniques. We will investigate quantification methods to assess the permeability of the blood-spinal cord barrier opening after MRgFUS in rodents. This model will allow us to further optimize the potential use of MRgFUS in the treatment of spinal cord injury in humans."

— Chloe Genevieve Cross, BSc

Peter Abraham, BA
University of California, San Diego

Cost-effectiveness of Intraoperative MRI in the Treatment of High Grade Gliomas
RSNA Research Medical Student Grant

Norman Atagu, BSc
Washington University in St. Louis

Construction of a Predictive Model for Future Liver Remnant Hypertrophy After Portal Vein Embolization
RSNA Research Medical Student Grant

Jake Bowling, BS
The University of North Carolina at Chapel Hill

Cranial Nerve Cisternal Segment Enhancement in Multiple Sclerosis: Prevalence on 3.0 Tesla Volumetric T1 MRI and Clinical Implications
RSNA Research Medical Student Grant

Chloe Genevieve Cross, BSc
University of Utah

Quantification of Blood Spinal Cord Barrier Opening After Application of Magnetic Resonance Guided Focused Ultrasound
RSNA Research Medical Student Grant

Brittany DeClouette, BA
University of Southern California

Increased Glutathione Measured by Single Voxel MR Spectroscopy After 6 Months of Ketogenic Diet in Patients with Intractable Epilepsy — Pilot Study
RSNA Research Medical Student Grant

Weimeng Ding, BEng, MSc
McGill University

Automated Detection and Outcome Prediction of Subarachnoid Hemorrhage Using Advanced Convolutional Neural Networks
Fujifilm Medical Systems/RSNA Research Medical Student Grant

FUJIFILM
Value from Innovation

Ammoren Edward Dohm, BS
Wake Forest University

Validation of an Imaging-based Mathematical Model for Differentiating Radiation Necrosis from Tumor Progression Following Stereotactic Radiosurgery for Brain Metastases
RSNA Research Medical Student Grant

Brandon Kenneth-Kouso Fields, BA, BM
University of Southern California

Quantitative Magnetic Resonance Imaging (Q-MRI) for the Assessment of Soft-tissue Sarcoma Necrosis, Viable Tumor Volume, and Treatment Response with Comparison to Contrast-enhanced Ultrasound (CEUS)
Canon Medical Systems, USA/RSNA Research Medical Student Grant

Canon

Chengcheng Gui, BSE
Johns Hopkins University

Radiomic Modeling to Predict Risk of Vertebral Compression Fracture After Stereotactic Body Radiation Therapy for Spinal Metastases
RSNA Research Medical Student Grant

Yu-hui Huang, MS
University of Illinois College of Medicine at Chicago

Characterizing Associations Between T-cell Populations in Hepatocellular Carcinoma and Clinicopathological Features and Outcomes
RSNA Research Medical Student Grant

Amit Jethanandani, MPH

Enrolled at The University of Tennessee Health Science Center College of Medicine

Research conducted at The University of Texas MD Anderson Cancer Center

Predicting Radiation-attributable Changes in the Temporomandibular Joints of Nasopharyngeal Cancer Patients
RSNA Research Medical Student Grant

Kunal Baiju Karani, BA

Cincinnati Children's Hospital Medical Center

Ultrasound-enhanced Cerebrovascular Thrombolysis in an in Vivo Porcine Model
RSNA Research Medical Student Grant

Tae Kyung Kim, BA

Johns Hopkins University

Development and Visual Assessment of a Deep Learning System for Automated Tuberculosis Screening Using Chest Radiographs
RSNA Research Medical Student Grant

Connor Jarrett Kinslow, BS

Columbia University

Targeting IDH1-mutant Gliomas with Radiation Therapy and Glutamine Blockade
RSNA Research Medical Student Grant

Christopher Lau, BS

University of Southern California

Association of CT Texture and Epigenomics in Clear Cell Renal Carcinoma
RSNA Research Medical Student Grant

John E. Miller, BA

University of Alabama at Birmingham

Comparison of Liver Surface Nodularity Score and Ultrasound Elastography for Predicting Cirrhosis Decompensation
RSNA Research Medical Student Grant

Christian J. Park, BS

Enrolled at Alabama College of Osteopathic Medicine
Research conducted at University of Wisconsin-Madison

Ultra Low Dose PET/MRI Imaging of Crohn's Disease Using a Novel Deep Learning Reconstruction Method
Philips/RSNA Research Medical Student Grant

PHILIPS

Thomas Park, BA

The Medical College of Wisconsin

Does Implementation of an Effective Midline Catheter Program for Vascular Access in a Large Academic Hospital Decrease Rates of Central Line Associated Bloodstream Infections?
RSNA Research Medical Student Grant

Cortlandt Sellers, BS

Yale University

Immune-profiling and Loco-regional Therapy for Hepatocellular Carcinoma
RSNA Research Medical Student Grant

Junjie Shangguan, BA

Northwestern University

Development of HPF-labeled DC Vaccines for Treatment and Prognosis of Pancreatic Cancer
RSNA Research Medical Student Grant

Katie Shpanskaya, BS

Stanford University

Towards Personalized Prognostics in Pediatric Medulloblastoma: Discovery of MRI-based Radiomic Signatures From a Multi-institutional Cohort
RSNA Research Medical Student Grant

Shanmukha Srinivas, BS

University of California, San Diego

Quantification of Hemodynamics of Cerebral Arteriovenous Malformations After Stereotactic Radiosurgery Using 4D Flow MRI
RSNA Research Medical Student Grant

Alex David Waldman, BS

Emory University

Sexually Dimorphic Multiple Sclerosis Pathogenesis and Progression
RSNA Research Medical Student Grant

Amy E. Wilson, BA

Medical College of Wisconsin

Transnasal Sphenopalatine Ganglion Block: An Under Utilized Treatment for Migraines
RSNA Research Medical Student Grant

Anthony D. Yao, BS

Rhode Island Hospital

Utilization of Deep Learning on CT Angiogram to Aid in the Diagnosis of Emergent Large Vessel Occlusion (ELVO)
Canon Medical Systems, USA/RSNA Research Medical Student Grant

Canon

EDUCATION SCHOLAR GRANT

RSNA Education Scholar Grant recipient, shown here visiting a Ugandan traditional healer to study remedies women receive for breast problems.

Despite strides in cancer-control planning by the Ugandan government, including access to free treatment, outcomes for breast cancer patients remain poor. This is in part attributable to delays in diagnosis, ranging from women's lack of knowledge to suboptimal referral systems — factors that lead to late-stage diagnoses, when treatment is less effective.

"The RSNA-funded study will allow me to identify health system delays in breast cancer diagnosis in Uganda and use a 4-level educational strategy with stakeholders to develop a plan to reduce late-stage diagnosis. This project contributes to the long-term effort in Uganda to reduce breast cancer mortality."

— John R. Scheel, MD, PhD, MPH

Eric Steven Bartlett, MD, MPH
University of Toronto

North American Assessment of Early Emergency Radiology Competence Via an Online Simulator with PGY2 Diagnostic Radiology Residents
RSNA Education Scholar Grant

Aritrick Chatterjee, PhD
University of Chicago

An Interactive App with Multi-parametric MRI — Whole Mount Histology Correlation for Enhanced Prostate MRI Training of Radiologists
RSNA Education Scholar Grant

Kathryn Darras, MD
University of British Columbia

Technology-Enhanced Undergraduate Anatomy Education: Development of a Blended Curriculum for Digital Dissection
RSNA Education Scholar Grant

Richard Duszak, MD
Emory University

Radiology Economics and Policy Learning Electronic Toolkit (REPLeT)
GE Healthcare/RSNA Education Scholar Grant

GE Healthcare

Jillian Rebecca Gunther, MD, PhD
The University of Texas MD Anderson Cancer Center

Development of a Contour Evaluation Platform to Improve Radiation Oncology Education
Philips/RSNA Education Scholar Grant

PHILIPS

Michael James Potchen, MD

University of Rochester

PRACTERRA — A Portable Radiology Curriculum for Training, Evaluating and Retaining Radiologists for Africa

Derek Harwood-Nash Education Scholar Grant

John R. Scheel, MD, PhD, MPH

University of Washington

Reducing Patient and Health System Delays Contributing to Late Stage Breast Cancer Diagnosis in Uganda
RSNA Education Scholar Grant

Monica Majmundar Sheth, MD

Zucker School of Medicine at Hofstra/Northwell

Bridging the Gap Between Residency Training and Clinical Practice: The Development of Entrustable Professional Activities for Breast Imaging (EPA-BR), EPA-BR Based Curriculum and Self-assessment Modules
RSNA Education Scholar Grant

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

Megan Mills, MD

University of Utah

Eye of the Beholder: Quantitative and Qualitative Measures of Radiology Residents' Perceptual Skills
RSNA/AUR/APDR/SCARD Radiology Education Research Development Grant

Kawan S. Rakhra, MD

University of Ottawa

The Radiology E-score: Developing a Dedicated Metric for the Evaluation of Educational Scholarly Activity of Academic Radiologists
RSNA/AUR/APDR/SCARD Radiology Education Research Development Grant

ROENTGEN
AWARDS

Roentgen Resident/Fellow Research Award recipient Byung Chul Yoon, MD, PhD (right) with Radiology Residency Program Director Payam Massaband, MD of Stanford University.

"One of the greatest lessons I have learned from my research experience has been the importance of collaboration. When I first started doing research, my impression of a researcher was someone who worked alone. After all, my undergraduate course in research was called an 'independent study.' As I started doing more research, however, I realized that nearly every project requires a team of people. In fact, all of my research projects during residency have involved colleagues outside radiology including surgery, biostatistics, computer science, and engineering. I would encourage others thinking about doing research to keep an open mind and communication with other fields in medicine and science."

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