RSNA R&E Foundation Announces 2014 Grant Recipients

The RSNA Research & Education (R&E) Foundation funded 94 grants totaling $3.6 million. This represents a 25 percent funding rate and the highest amount ever awarded by the Foundation. The Foundation's Board of Trustees thanks the Vanguard companies, individuals and private practices whose generous contributions have made the following grants possible.

RESEARCH SCHOLAR GRANT

Stephen R. Bowen, Ph.D.
University of Washington
Multimodality Quantitative Molecular Imaging for Personalized Radiation Therapy of Lung Cancer Through Differential Tumor Dose Escalation and Functional Lung Avoidance

SIEMENS

James Ernest Hansen, M.D.
Yale School of Medicine
Targeting Glioblastoma with a Lupus Autoantibody

Wolf E. Heberlein, M.D.
University of Arkansas for Medical Sciences
IRE-based Multi-modality Loco-regional Tumor Therapy for Pancreatic Cancer

Charles Y. Kim, M.D.
Duke University Medical Center
Trans-arterial Embolization of Hypervascular Liver Tumors with Electrically Conductive Particles for Modulation of Percutaneous Radiofrequency Ablation Zone Size and Configuration

GE Healthcare

Tae Kim, Ph.D.
University of Pittsburgh
Magnetic Resonance Imaging of Early Biomarker for Hypertension-induced Cerebrovascular Alterations

AGFA HealthCare

Kenneth S. Lee, M.D.
University of Wisconsin
Quantitative Imaging of the Tendon: Use of Ultrasound Shear Wave Elastography as a Biomarker to Predict Tendon Rupture

Joseph Scott McNally, M.D., Ph.D.
University of Utah
Role of the Angiotensin Pathway and Redox State in Carotid Plaque Permeability

Bayer HealthCare

Michael A. Ohliger, M.D., Ph.D.
University of California, San Francisco
Non-invasive Monitoring of Liver Inflammation and Fibrosis Using Hyperpolarized Carbon-13 MRI

Mallinckrodt Pharmaceuticals

Sean Sunghun Park, M.D., Ph.D.
Mayo Clinic, Rochester
11C-Choline PET/CT Image-Guided Stereotactic Ablative Radiotherapy (IG-SABR) in Oligometastatic Prostate Cancer

Habib Rahbar, M.D.
University of Washington
Improving Treatment Outcomes of Ductal Carcinoma in Situ with Breast MRI

Haris Iqbal Sair, M.D.
The Johns Hopkins University
Intrinsic Language Network Assessed with Resting State Functional Magnetic Resonance Imaging: Potential Role in Presurgical Mapping

Atul Bhanudas Shinagare, M.D.
Brigham and Women's Hospital, Harvard Medical School
Optimization of Chest CT Utilization in Patients with Advanced Ovarian Cancer

Roberta M. Strigel, M.D., M.S.
University of Wisconsin-Madison
High Spatio-temporal Resolution Breast MRI: Improving the Characterization of Breast Cancer

GE Healthcare

Janice S. Sung, M.D.
Memorial Sloan Kettering Cancer Center
Clinical Utility of Whole Breast Screening Ultrasound in Patients Undergoing Digital Breast Tomosynthesis

Sarah Beth White, M.D.
Medical College of Wisconsin
Magnetically Triggered Oxaliplatin Release for the Treatment of Colorectal Liver Metastasis

BRACCO
LIFE FROM INSIDE

Junqian Xu, Ph.D.
Icahn School of Medicine at Mount Sinai
Development of Whole Spinal Cord Functional Assessment with Multiband Magnetic Resonance Imaging

Anna E. H. Zavodni, M.D., M.H.Sc.
Sunnybrook Health Sciences Centre, University of Toronto
CT Myocardial Tissue Characterization: Utility in CTA Bypass Graft Assessment

AGFA HealthCare

Michael M. Zeineh, M.D., Ph.D.
Stanford University
Multimodal MRI to Detect Brain Injury in Athletes
ASNR/RSNA Research Scholar Grant

Jeff L. Zhang, Ph.D.
University of Utah
Real-time Monitoring of Renal Hypoxia and Hypoperfusion with Quantitative MRI

RESEARCH SEED GRANT

Mohamed Abazeed, M.D., Ph.D.
Cleveland Clinic
Integrative Radiogenomics and Precision Therapy in Squamous Cell Lung Cancer

Ayaz Aghayev, M.D.
Brigham and Women's Hospital, Harvard Medical School
The Gravitational Gradient in Abdominal Aortic Aneurysms

TOSHIBA
Leading Innovation ≫

Jalal B. Andre, M.D.
University of Washington
Arterial Spin Labeling - A Novel and Accurate MRI Metric to Predict Clinically Significant Vasospasm Following Aneurysmal Subarachnoid Hemorrhage
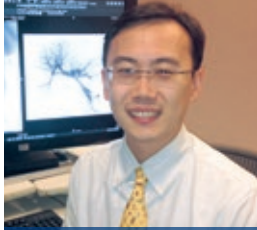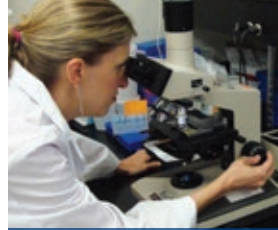
TOSHIBA
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Hanneman Lee Hansen White Geeslin Jaremko

Herberlein
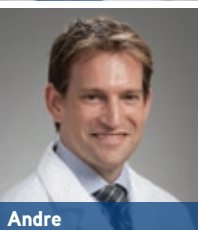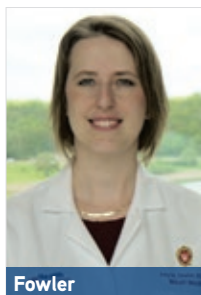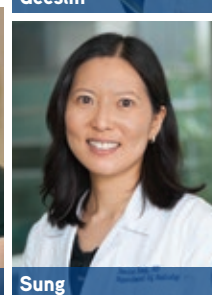
Andre Koay Fowler Brown Ivanidze Sung Lee

Amy Marie Fowler, M.D., Ph.D.
University of Wisconsin-Madison
Impact of Endocrine-resistant Estrogen Receptor-alpha Variants on [18F] Fluoroestradiol Imaging of Breast Cancer

PHILIPS

Brian Andrew Hrycushko, Ph.D., M.S.
The University of Texas Southwestern Medical Center
Local Hypothermia as a Radioprotector During Prostate Stereotactic Body Radiotherapy

Jacob L. Jaremko, M.D., Ph.D.
University of Alberta
3D Ultrasound of Infant Hips: Toward an Understanding of Normal Development and Improved Detection of Hip Dysplasia

Eugene Jon Koay, M.D., Ph.D.
The University of Texas MD Anderson Cancer Center
Predicting Gemcitabine Delivery in Pancreatic Cancer with Principles of Mass Transport

PHILIPS

Wen Ling, Ph.D.
University of Pittsburgh
Selective and Quantitative Detection of Proteoglycan in disc by iTIP gagCEST

Gregory Jon Nadolski, M.D.
Hospital of the University of Pennsylvania
Near Infrared Fluorescence Imaging of Matrix-Metalloprotease-2 Activity as a Biomarker of Vascular Remodeling in Hemodialysis Access

Edwin H.G. Oei, M.D., Ph.D.
Erasmus MC, University Medical Center Rotterdam, Netherlands
Quantitative Dynamic Contrast-enhanced MRI for Studying Bone Perfusion

Akhilesh Keshav Sista, M.D.
Joan and Sanford I. Weill Medical College of Cornell University
Assessment of a Multi-variable Physiologic Profile's Ability to Determine Catheter-directed Thrombolysis Efficacy in Real-time using a Porcine Model of Submassive Pulmonary Embolism

FUJIFILM

Joel M. Stein, M.D., Ph.D.
Hospital of the University of Pennsylvania
Glioblastoma Radiosensitization with Polymeric Micelles Containing Gold and Iron Oxide Nanoparticles

Alda Lui Tam, M.D.
The University of Texas MD Anderson Cancer Center
Developing an Electroporation and Nanoparticle-based Therapeutic Platform for Bone Metastases: Evaluation of Local Delivery Strategies to Optimize Intratumoral Nanoparticle Uptake

BAYER Bayer HealthCare

Tokihiro Yamamoto, Ph.D.
University of California, Davis
CT-based Pulmonary Gas Exchange Imaging for Personalized Radiotherapy

PHILIPS

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RESEARCH RESIDENT/FELLOW GRANT

Hamza Alizai, M.D.
Resident at The University of Texas Health Science Center at San Antonio
Research conducted at New York University School of Medicine
Identification of Novel Biomarkers of Bone Strength and Fracture Risk via High Resolution, High Field MRI

Jacob D. Brown, M.D., Ph.D.
University of California, San Francisco
A Novel Image-guided Pain Treatment: Selective Deletion of Nociceptors by Intraganglionic Injection of Resiniferatoxin

Joseph Robert Evans, M.D., Ph.D.
University of Michigan
Investigating the Role of SChLAP1, a Novel Long Noncoding RNA, in Prostate Cancer Radioresistance

Matthew G. Geeslin, M.D., M.S.
University of Virginia
Evaluation of Spiral-based 3D MR Thermometry for Brain Applications of MR-guided Focused Ultrasound in a Porcine Model

TOSHIBA
Leading Innovation >>>

Kate Hanneman, M.D.
Stanford University School of Medicine
Combined Positron Emission Tomography-Magnetic Resonance Imaging for the Diagnosis of Cardiac Sarcoidosis
Ralph Schlaeger Charitable Foundation Research Fellow Grant

Susie Yi Huang, M.D., Ph.D.
Massachusetts General Hospital, Harvard Medical School
Ultra-high Gradient Diffusion MRI for Characterizing Axonal Pathology in Multiple Sclerosis

PHILIPS

Jana Ivanidze, M.D., Ph.D.
Joan and Sanford I. Weill Medical College of Cornell University
Blood Brain Barrier Permeability and Molecular Markers of Inflammation: Interplay and Significance for the Development of Global Cerebral Edema in Patients with Aneurysmal Subarachnoid Hemorrhage

Jesse Jones, M.D.
University of California, Los Angeles
MRI Surveillance of Induced Pluripotent Stem Cells for Stroke Using Gadolinium Nanoparticles

Nima Kokabi, M.D.
Emory University School of Medicine
Disparities in Utilization of Contemporary Interventional Radiology-based Locoregional Therapies for Unresectable Hepatocellular Carcinoma and Impacts on Survival: a SEER-Medicare Population Study

BRACCO
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Kyungmouk Steve Lee, M.D.
Joan and Sanford I. Weill Medical College of Cornell University
Catheter-directed Intraportal Delivery of Cell Therapy for Liver Regeneration: a Feasibility Study in a Large Animal Model of Cirrhosis

Stephanie Markovina, M.D., Ph.D.
Washington University
Squamous Cell Carcinoma Antigen in Cervical Cancer Prognostication and Response to Therapy

Continued from previous page

Christopher Maroules, M.D.
The University of Texas Southwestern
Medical Center
*Quantification of Volumetric Pulmonary
Perfusion Using 3D Arterial Spin Labeled
Perfusion MRI: Feasibility and Evaluation in
Pulmonary Arterial Hypertension*

Prince Research Resident Grant

Nima Nabavizadeh, M.D.

Oregon Health & Science University
*Noninvasive, In Vivo Contrast-enhanced
Ultrasound and Molecular Imaging of Early
Microvascular Changes Following High-dose
Radiation Therapy*

Kazim Narsinh, M.D.
University of California, San Diego
*MRI Tracking of Cellular Immunotherapy using
Natural Killer Cells and Perfluorocarbon
Tracers*

Kristin Kelly Porter, M.D., Ph.D.
The Johns Hopkins University
*Application of 4D Phase Contrast MRI as a
Non-invasive Measure of Treatment Response
in Patients with Pulmonary Hypertension*

SIEMENS

Timothy John Robinson, M.D., Ph.D.
Duke University Medical Center
*Detection of Novel Alternative Splicing
Biomarkers of Hypoxia in Breast and
Lung Tumors*

James Spencer Clayton Ronald, M.D., Ph.D.
Duke University Medical Center
*Identification of Novel Angiogenesis
Biomarkers Correlating with Tumor Response
after Hepatic Arterial Embolization for
Hepatocellular Carcinoma*

COOK MEDICAL

James Eric Schmitt, M.D., Ph.D.
Hospital of the University of Pennsylvania
*Imaging Genomic Analysis of the 22q11
Deletion Syndrome*

Jennifer Elaine Soun, M.D.
Columbia University Medical Center
*Quantitative T1rho Mapping in Multiple
Sclerosis: Development of a Potential Novel
Biomarker for Disease Prognostication
and Management*

HITACHI
Inspire the Next

Peter Christian Thurlow, M.D.
Allegheny General Hospital and the University
of Wisconsin
*Evaluating the Effect of Foot Strike
Biomechanics on MR Imaging of the Knee using
a Novel Multi-component T2 Mapping Sequence*

Jordan Torok, M.D.
Duke University Medical Center
*Modulation of Endothelial Cell Radiation
Sensitivity and Lung Tumor Response to
Radiation Therapy*

VARIAN medical systems | A partner for **life**

Behroze Vachha, M.D., Ph.D.
Massachusetts General Hospital, Harvard
Medical School
*Task-free Presurgical Mapping of Eloquent
Cortex using fMRI at Ultrahigh Field Strength
(7T) MRI in Patients with Medically Refractory
Epilepsy*

Silver Anniversary Campaign Pacesetters
Research Fellow Grant

Michael C. Veronesi, M.D., Ph.D.
University of Chicago
*In Vivo Fate Mapping of Magnetic Nanoparticles
in the Brain Following Intranasal
Administration using MRI*

Alexander Michael Vezeridis, M.D., Ph.D.
University of California, San Diego
*In Vivo Ultrasound Imaging and Diagnosis of
Implanted Medical Device-related Infections
using Microbubbles Targeted to Biofilm*

RSNA Presidents Circle Research
Resident Grant

John-Paul J. Yu, M.D., Ph.D.
University of California, San Francisco
*Combined Biochemical, Genetic, and
Metabolomic Efforts Towards Neuroimaging
Schizophrenia and Psychiatric Disease*

Chi Zhang, M.D., Ph.D.
Columbia University Medical Center
*Studies on the Effects of Combined Treatment
with Metformin and a Dual mTOR1/2 Inhibitor,
AZD8055, in Tumor Control of Glioblastomas*

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RESEARCH MEDICAL STUDENT GRANT

Daniel Arteaga, B.A.
Vanderbilt University
*Characterizing Perfusion Territory Dynamics
and Vessel Wall Morphology in Patients at Risk
for Stroke*

Jamaal Benjamin, Ph.D.
The University of Texas Southwestern
Medical Center
*Enhancing Prognostic value of Computed
Tomography (CT) Enterography in IBD
Diagnosis*

Wilfred Dang, B.H.Sc.
University of Ottawa
*What is a Good Quality History and How Does
it Affect Accuracy of Interpretation of Acute
Abdominal CT?*

Samantha Delapena, B.S.
University of Southern California Keck
School of Medicine
*Contrast Enhanced Ultrasound for Evaluating
Antiangiogenic Treatment in Hepatocellular
Carcinoma*

Philips Healthcare/RSNA Research Medical
Student Grant

PHILIPS

Adnan Elhammali, B.S.
Washington University
*Metabolic Rewiring in PI3K Activated
Cervical Cancer*

Edward M. Lawrence, B.S.
Enrolled at Albert Einstein College of
Medicine
Research conducted at Memorial Sloan-
Kettering Cancer Center
*Establishing Tumor Heterogeneity in Patients
with Metastatic High-grade Serous Ovarian
Cancer (HGSOC): Correlating In Vivo Imaging
Phenotypes with Histopathology and
Immunohistochemistry*

Boshen Liu, B.S.
University of Mississippi Medical Center
*Rapid Bone Density Screening of Routine CT
Images using Color Enhanced Detection (CED)*

FUJIFILM

Tara Martinez, B.S., R.N.
University of Mississippi Medical Center
*Use of a Phantom to Develop Imaging Protocols
to Quantify Liver Surface Nodularity on CT
Images from Multiple Different CT Scanners*

Gwendolyn J. McGinnis, B.S.
Oregon Health & Science University
*Suppression of the T cell Response and
Enhancement of Detrimental Effects of
Radiation on the Brain*

Kelly Michaelsen, Ph.D.
Geisel School of Medicine at
Dartmouth College
*Comparing X-ray and Optical Imaging for
Breast Density Determination*

Leslie A. Modlin, B.A.
Stanford University School of Medicine
*Circulating Tumor DNA as a Novel Biomarker
for Metabolic Tumor Volume in Non-Small Cell
Lung Cancer*

Megha Nayyar, B.A.
University of Southern California Keck
School of Medicine
*Role of Imaging in Active Surveillance of Renal
Masses: A Systematic Review of the Literature*

Chulhyun Park, B.S.
University of California, San Diego
Medical Center
*Effects of Intravenous Gadoxetate Disodium
and Flip Angle on Hepatic Proton-Density Fat
Fraction Estimation with Multi-echo MR
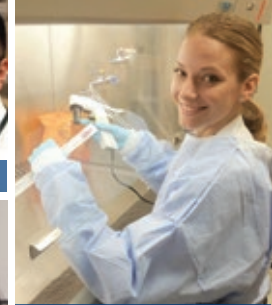Imaging at 3T*

Canon
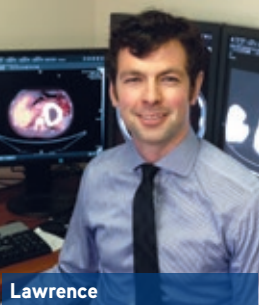
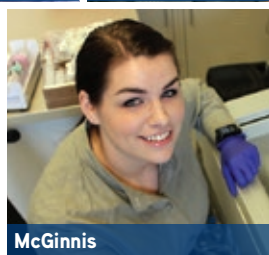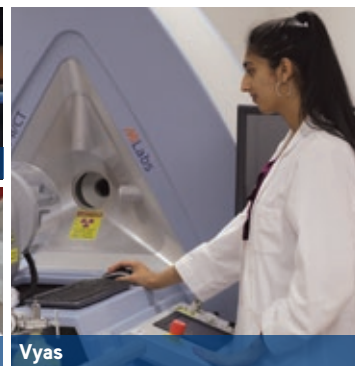Lawrence Ronald Vezeridis Pennick Zuo Talley Persson

Benjamin McGinnis Berman Arteaga Vyas Subramaniam Martinez

Thomas J. Quinn, B.S.
Albert Einstein College of Medicine
Combination Low-Energy High Intensity Focused Ultrasonography (LOFU) and Radiation Therapy (RT): Preclinical Evaluation of Autologous In Situ Vaccination in a Mouse Model of Spontaneously Metastatic Melanoma

Arif Rashid, B.S.
Enrolled at University of Pittsburgh School of Medicine; Research conducted at Johns Hopkins Hospital
Applying Diffusion Tensor MRI after Radiation Therapy of Pediatric Brain Tumors to Establish Dose Constraints and Predictive Image Biomarkers in the Hippocampus and Periventricular Regions

Julia Talley, B.S.
The University of Texas Health Science Center at Houston
Evaluation of Effects of Electroporation and Gemcitabine Nanoparticle Formulation on Tumoral Response in a Pancreatic Adenocarcinoma Nude Mouse Model

Dmitriy Timerman, B.S.
Massachusetts General Hospital, Harvard Medical School
Quantitative Multimodal Analysis of Brain Structure and Metabolism in the Region of Developmental Venous Anomalies

Justin R. Tse, B.S.
University of California, Los Angeles
Predicting Hepatocellular Adenoma Subtype with Quantitative and Qualitative MRI Features

Shri Vyas, B.A.
Duke University School of Medicine
Characterization of Early Anti-Angiogenesis Treatment Effects in Colorectal Carcinoma Using High-Resolution Dynamic Contrast-Enhanced Ultrasound and Magnetic Resonance Imaging

David Xu, B.A.
Columbia University College of Physicians & Surgeons
Novel T1rho Sequence for In-Vivo Detection of Lumbar Intervertebral Disc Changes with Axial Load

Canon

James Yoon, B.A.
University of Southern California Keck School of Medicine
Analysis of 18F NaF PET-CT Tumor Response Assessment of Skeletal Metastases from Prostate Cancer

Chung Yao Yu, B.A.
University of Southern California Keck School of Medicine
Performance of PET Radiotracers in Biochemical Recurrence of Prostate Cancer

Derek Zachman, B.A., M.S.
Oregon Health & Science University
Mechanisms of Endothelial-dependent Hematopoietic Stem Cell Repair Following Ionizing Radiation Injury

Marcus Zuo, B.S.
Medical College of Wisconsin
Cost-effectiveness of Endovascular vs. Open Surgical Repair for Popliteal Artery Aneurysms

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EDUCATION SCHOLAR GRANT

Abigail Tripp Berman, M.D.
University of Pennsylvania
Design and Analysis of Radiation Oncology Trials (DART): A National Clinical Trials Biostatistics and Epidemiology Curriculum with Online Self-Assessment Modules (SAM)

Maciej A. Mazurowski, Ph.D.
Duke University School of Medicine
Improved Education in Digital Breast Tomosynthesis using Machine Learning and Computer Vision Tools

PHILIPS

Jonathon A. Nye, Ph.D.
Emory University School of Medicine
Problem-based Educational Material for Medical Physics Residency Training

Dominique Penninck, D.V.M., Ph.D.
Cummings School of Veterinary Medicine at Tufts University
The Development of Video-based Clinical Ultrasound Teaching Tools and the Construction of a Web-based Educational Program

Anders Persson, M.D., Ph.D.
Linköping University, Sweden
RadSim: Simulation Based Training Program for CT Protocol, Iterative Reconstruction and Dual Energy Applications

Derek Harwood-Nash Education Scholar Grant

Sonia Marie-Aurore Pujol, Ph.D.
Brigham and Women's Hospital, Harvard Medical School
Interactive Tutorial for Teaching Radiologic Anatomy and its Variations

Sarah Carlson Shaves, M.D.
Eastern Virginia Medical School
Redefining the Radiology Curriculum in Medical School: Vertical Integration and Global Accessibility
GE Healthcare

GE

Rathan M. Subramaniam, M.D., Ph.D.
The Johns Hopkins University
Curriculum Development for Hybrid Molecular Imaging and Evidence Based Clinical Practice
GE Healthcare

GE

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RSNA/AUR/APDR/SCARD RADIOLOGY RESEARCH DEVELOPMENT GRANT

Andrea Schwarz Doria, M.D.
The Hospital for Sick Children, University of Toronto
Towards Building Capacity to the Research Training of Future Leaders in Radiology: A Pilot International Outreach Educational Program

George L. Shih, M.D., M.S.
Joan and Sanford I. Weill Medical College of Cornell University
Open Source Radiology Resident Educational Mobile Dashboard App To Measure Clinical Experience

Nikhil G. Thaker, M.D.
The University of Texas MD Anderson Cancer Center
Designing and Implementing an Innovative Prostate Brachytherapy Training Program Using an MRI Phantom-Based Simulator