TBIC

2023 Awardees

“PARP-1 Targeting with the Novel Radiotracer [18F]FTT in Pancreatic Neuroendocrine Tumors”

Jennifer Eads

“An Imaging Approach to Optimizing Treatment for Thoracic Insufficiency”

Kai Ruppert

“Molecular Imaging of the Mu-Opioid Brain-Gut Relationship”

Liz Li

“NIR-II Inhibitors of MIDH for Fluorescence-Guided Neurosurgery”

Anatoliy Popov

“Investigate the Effect of NAM on Metabolic States of CD8+T Cells in the TME During CAR-T Therapy”

He Xu

“Metabolic Modulation Towards Improved Outcome in Human Glioblastoma Model”

Kavindra Nath

“Center for Diagnostic Imaging in Child Maltreatment Pilot”

Maria Henry

“Multiparametric Quantitative 7T MRI Across the Spectrum of CNS White Matter Diseases”

Matthew Schindler

“Brain Network Dynamics in a Rodent Model of Electroconvulsive Therapy”

Zachary Rosenthal

“Near Infrared II Phthalocyanine Nanoparticles for Early Ovarian Cancer Detection by Co-Registered Photoacoustic Imaging and Ultrasound”

Karthik Sundaram

“Silver Sulfide Nanoparticles for Advanced in Vivo Imaging and Biodistribution Analysis of RNA Delivery Systems”

David Cormode

“Development of a Novel Genetically Encoded Hyperpolarized MRI Reporter for in Vivo Cell Tracking”

Molly Sheehan

“Tracking Universal Immune Receptor CAR T Cells in Vivo with PET Imaging”

Michael Farwell

2022 Awardees

“Choline-Mimetic Quino cyanine Dyes for Ovarian Cancer Fluorescent Imaging”

Anatoliy Popov

“Use of Imaging-Derived Body Composition Phenotypes to Describe Pre-Operative Nutritional Risk”

Victoria Gershuni

“AI-Based Quantification of Tumor-Infiltrating Lymphocytes in Glioblastoma, Towards Predicting Treatment Response”

Spyridon Bakas

“Tumor Micro-Environment Influence on Anti-PSMA CAR-T Therapy in Prostate Cancer”

Kavindra Nath

“Precision Cardiac Imaging of Lipomatous Metaplasia in Ventricular Tachycardia”

Walter Witschey

“Establishing Glutamatergic Changes as the Mechanism of Action in the Rapid Antidepressant Effects of Sleep Deprivation”

Jennifer Goldschmied

“Multimodal Medical AI for Trustworthy Clinical Diagnosis and Prognostication”

Hersh Sagreiya

“Developing a Scalable, Deep Learning Pipeline to Generate a Large, Hierarchical, Labeled, 2D Echocardiographic Dataset”

Emily Mackay

“Cellular and Molecular Correlates of Brain Diffusion MRI: a Multiscale Imaging Approach”

John Detre

“The Potential Utility of FAP-CART for Modulation of Fibrosis in Chronic Allograft Rejection”

Vijay Bhoj

“Phthalocyanine Nanoparticles as Dual Mode Imaging Contrast Agents for Image-Guided Surgery of Brain Tumor”

Ahmad Amirshaghaghi

2021 Awardees

“Postictal Perfusion Dynamics in Focal Epilepsy”

Joel Stein

“Development Of Prognostic Biomarkers for De-Escalation Therapy in Patients with HPV Positive Oropharyngeal Cancers”

Sanjeev Chawla

“Self-Steering Tomosynthesis Using Mastectomy Specimens”

Raymond Acciavatti

“Pilot Trial Of [18f]Fluor estradiol (FES) BPET/DBT For Assessment of Local Extent in Estrogen Receptor Positive Primary Breast Cancer”

Christine Edmonds

“Novel Parp-1 Imaging in Pheochromocytoma and Paraganglioma”

Heather Wachtel

“Interplay of Obesity and Volumetric Breast Density with Respect to Breast Cancer Risk”

Anne McCarthy

“In Vivo Imaging of NAD in Preclinical Models of Alzheimer’s Disease”

Lin Li

“I Can See Clearly Now: Fluorescence Guided Surgery in the Nir-II Window”

Edward Delikatny

“Multivariate Modeling of The Neurocognitive Effects of Extended-Release Naltrexone in the Treatment of Alcohol use Disorder”

Zhenhao Shi

“Photon Counting Computed Tomography for Vascular Imaging of the Neck”

Jae Song

“Cerium Oxide Nanoparticles as a Novel CT Contrast and Therapeutic Agent”

Park F. Cho-Park

“Computational Prognostic Stratification of Glioblastoma Patients Based on Morphologic Tissue Patterns”

Spyridon Bakas

“Decoding the Black Box of Surgical Risk”

John Fischer

“Imaging Autofluorescence from Postmortem Human Brain Tissue for Deep Pathological Characterization of Neurodegenerative Dementias”

David Irwin

“Enhancement of Radiation Therapy Response in Prostate Cancer by Metabolic Modulation”

Kavindra Nath

2020 Awardees

“Dual-Tracer Pet Imaging on the Penn-Pet Explorer”

Austin Pantel

“Imaging Immune - Brain Interactions to Understand Progressive MS”

Jorge Alvarez

“Integrated Precision-Diagnostics for Prognostication of Hospitalized Covid Patients”

Depina Kontos

“Relationship Between Brain and Heart Glucose Metabolism in Alcohol Use Disorder”

Corinde Wiers

“Nir-II Fluorescent Probes for Ovarian Cancer Image-Guided Surgery”

Anatoliy Popov

“Companion Diagnostic and Therapeutic Biomarker Imaging Tools for Understanding Car T Cell Efficacy”

Mark Sellmyer

“Improved Radiation Dose Utilization Through Scatter”

Nadav Shapira

“Investigating The Role of Energy Metabolism in Multiple Sclerosis”

Dushyant Kumar

“Dissecting The Peripheral, Metabolic Effects of Therapeutic Ketosis in Heart Failure with Preserved Ejection Fraction”

Senthil Selvaraj

“Noninvasive Quantification of Renal Oxygen Utilization in Early Kidney Disease”

Felix Wehrli

“Amino Acid-Targeted Fluorescent Dyes for Improved Image-Guided Glioma Resection”

Stefan Harmsen

“In-Vivo Imaging and Powering Nanorobots with X-Rays”

Peter Noel

“Preclinical Development of [18f]Exendin-4 Analog for Imaging of Insulin Producing Pancreatic Lesions”

Hsiaoju Lee

“Harnessing Neuromodulation to Target Peri-Ictal Dysfunction in Epilepsy”

Joanna Mattis

2019 Awardees

“Developing MRI-based Biomarkers of Cortical Remyelination”

Jennifer Orthmann-Murphy

“Characterization of Bicuspid Aortic Valve Competence with 4D CT Angiography”

Alison M. Pouch

“Enhancement of Therapeutic Response in Castration-Resistant Prostate Cancer by Metabolic Modulation”

Kavindra Nath

“Novel Ultrasound-integrated Diffuse Optical Spectroscopy System for Non-invasive Assessment of Placental Dysfunction in Fetal Growth Restriction”

Nadav Schwartz

“F18-NOS PET in Quantification of M1 Macrophage Density and Determining Tumor Progression in Glioblastoma”

Ali Nabavizadeh

“Matching of Perfusion to Skeletal Muscle Metabolic Activity in HFpEF”

Payman Zamani

“Neuroprotection with Xenon Microbubbles post Cardiac Arrest in Infants”

Misun Hwang

“Genetic Basis of Racial Differences in Breast Parenchymal Patterns”

Anne Marie McCarthy

“A Targeted, Superbright, Protein-Based Scaffold for Near Infrared Fluorescent Image-Guided Surgery”

Andrew Tsourkas

2018 Awardees

“MRI Quantification of Fetal Oxygen Delivery and Consumption Rate to Identify Constitutionally Small from True Fetal Growth Restriction”

Michael C. Langham

“Multimodal Neuroimaging of Cancer-related Fatigue”

David M. Raizen

“Brain Oxygen Metabolism Assessed During States of Reduced Consciousness by High-Speed OxFlow MRI with Simultaneous EEG Recording”

Felix W. Wehrli

“11-C Acetate PET Imaging of Small Animals”

Marie Angelique Guerraty

“A Pilot Radiogenomics Study Evaluating MRI Signatures of Therapeutically Targetable Gene Expression Alterations in Human Glioblastoma”

Stephen Bagley

“Measuring Brain Circuit Integrity and Disruption: A New Paradigm Using MEG and Simulated Driving”

Flaura K Winston

“Indocyanine Green (Icg)-Loaded Nanoparticles for Tumor Margin Assessment”

Zhiliang Cheng

“Imaging Nanoparticle Uptake by Inflammatory Lung Neutrophils to Develop Targeted Drug Delivery for Pneumonia”

Lubica Rauova

“Assessing Oxygen Metabolism in Patients with Steno-Occlusive Disease”

Hyunyeol Lee

“Cardiac MRI And PET of Myocardial Reperfusion Injury”

Walter R.T. Witschey

“Advanced Imaging Genome-Wide Association Studies of Hepatic Fat”

Walter R.T. Witschey

“4D Flow MRI Analysis of the Hemodynamic Predictors of Dialysis Arteriovenous Fistula Maturation”

Susanna M. Nazarian

“Molecular Imaging of the Underlying Mechanism of Cardiotoxicity in Patients with Light Chain Amyloidosis: Application to Therapy Response Monitoring”

Paco E. Bravo

“Development of a Deep-Learning-Based Automatic 4D MRI Construction and Segmentation System for Studying Thoracic Insufficiency Syndrome (TIS)”

Yubing Tong

2017 Awardees

“Measuring Pulmonary Oxidative Stress in E-cigarette Users and Smokers with PET”
Jacob Dubroff, MD, PhD, Assistant Professor of Radiology, Modality Chief, Nuclear Medicine Reagan Wetherill, PhD, LCP, Research Asst. Professor of Psychology in Psychiatry

“High Field (7T) MRI Imaging of Anatomically-Specific Biomarkers for FTLD Disorders”
Corey McMillan, PhD, Research Asst. Professor of Neurology
Matthew Tisdale, PhD, Research Asst. Professor of Radiology
David Irwin, MD, Attending Cognitive Neurologist at HUP & Asst. Professor of Neurology

“SPATIAL FREQUENCY DOMAIN (3D) TOMOGRAPHIC IMAGING OF NEAR INFRARED, INTRAOPERATIVE FLUORESCENT BRAIN TUMORS”
John Lee, MD, Assoc. Professor of Neurosurgery, Attending Neurosurgeon, HUP
Arjun Yodh, PhD, James M. Skinner Professor of Science and Director, LRSM Christos Davatzikos, PhD, Willace T. Miller, Sr. Professor

“Simultaneous measurement of 124-I MIBG and 18F-MISO to monitor treatment of neurobalstoma”
Scott Metzler, PhD, Research Assoc. Professor of Radiology Sean
Carlin, PhD, Research Assoc. Professor of Radiology

“Cardiac MR of hemorrhagic myocardial infarction”
Walter Witschey, PhD, Assistant Professor of Radiology
Harold Litt, MD, PhD, Assoc. Professor of Radiology, Chief, Cardiovascular Imaging section of Radiology
William Matthai, MD, Professor of Clinical Medicine
Haochang Shou, PhD, Assistant Professor of Biostatistics

“Non-invasive in vivo imaging for personalized tracking of tumor growth and remission”
Victoria Stepanova, PhD, MS, Research Assistant Professor of Pathology and Laboratory Medicine
Vera Krymskaya, PhD, MBA, Professor of Medicine
E. Jim Delikatny, PhD, Research Professor of Radiology

“Metabolic Imaging to Detect Kidney Transplant Rejection”
Erum Hartung, MD, MTR, Asst. Professor of Pediatrics
Terence Gade, MD, PhD, Assistant Professor of Radiology and Cancer Biology
Matthew Levine, MD, PhD, Asst. Professor of Surgery
Ulf Beier, MD, Asst. Professor and Pediatric Nephrologist, PSOM, CHOP

“Multi-Parametric Mapping of Cerebral Hemodynamics in Traumatic Brain Injury Using Gas-Inhalation BOLD fMRI”
Jeffrey Ware, MD, Neuroradiology Instructor
Danielle Sandsmark, MD, PhD, Asst. Professor of Neurology
Ramon Diaz-Arrastia, MD, PhD, Presidential Professor of Neurology; Director of TBI CRC **“Contrast-Enhanced Brain Ultrasound on Extreme Premature Fetal Lambs Maintained by the EXTrauterine Environment for Neonatal Support (EXTEND)”**
Ryne Didier, MD, Instructor, Radiology Alan
Flake, MD, Professor of Surgery

“Trimethoprim Radiotracers for Imaging Bacterial Infection”
Mark Sellmyer, MD, PhD, Fellow, Nuclear Radiology
Gwo-Chin Lee, MD, Assoc. Professor of Orthopedic Surgery
Denis Hadjiliadis, MD, Paul F. Harron, Jr. Assoc. Professor of Medicine

2016 Awardees

“Designing and Testing a multi-parametric MRI protocol for independently measuring hepatic inflammation in patients with non-alcoholic steatohepatitis”
Anil Chauhan, MD, Asst. Professor of Radiology
Vandana Khungar, MD, Asst. Professor of Medicine

“Advanced motion correction for structural MRI-based biomarkers in prodromal and early-stage Huntington’s disease”
Matthew Tisdall,
Ipek Oguz, PhD, Research Associate
Pedro Gonzalez-Alegre, MD, PhD, Associate Professor of Neurology

“Preeclampsia and Risk of Cardiac Dysfunction”
Lisa Levine, MD, MSCE, Asst. Professor of Obstetrics and Gynecology
Bonnie Ky, MD, MSCE, Asst. Professor of Medicine and Epidemiology

“Regional Placental T2 Mapping and Measurement of Oxygen Delivery Rate to the Fetus in Normal and Compromised Pregnancies”
Michael Langham, PhD, Research Asst. Professor
Nadav Schwartz, MD, Clinical Director, Maternal Fetal Medicine

“Vessel wall imaging and oxygen metabolism in patients with sickle cell anemia with and without infarction”
Seyed Nabavizadeh, MD, Asst. Professor of Radiology
Felix Wehrli, PhD, Professor of Radiologic Science, Biochemistry, and Biophysics
Ronald Wolf, MD, PhD, Assoc. Professor of Radiology
Robert Hurst, MD, Professor of Radiology and Director of Interventional Neuroradiology
Arastoo Vossough-Modarress, MD, PhD, Assoc. Professor of Radiology
Janet Kwiatkowski, MD, MSCE, Assoc. Professor of Pediatrics

“In vivo surrogate markers of clinically-relevant molecular characteristics of glioblastoma, based on multivariate machine learning and clinically-acquired MRI”
Christos Davatzikos, PhD, Professor of Radiology and Electrical and Systems Engineering
Constantinos Koumenis, PhD, Professor of Radiation Oncology

Donald O'Rourke, MD, Assoc. Professor of Neurosurgery and Pathology and Laboratory Medicine
"Magnetic Resonance Imaging Analysis and Neurocognitive Function in Adolescents with Graves' Disease"
Andrew Bauer, MD, Assoc. Professor of Pediatrics & Director, The Thyroid Center Jeffrey Berman, PhD, Research Asst. Professor of Radiology

"Smart Nearinfrared Fluorophores for Intraoperative Detection of Lung Tumor Margins" Edward Delikatny, PhD, Research Professor of Radiology
David Holt, BVSc, Professor of Surgery
Sunil Singhal, MD, Assoc. Professor of Surgery

2015 Awardees

"Predicting Adriamycin and Trastuzumab Induced Heart Failure by PET Probe of Oxidative Stress"
Rong Zhou, PhD, Associate Professor of Radiology
Bonnie Ky, MD, MSCE, Asst. Professor of Medicine and Epidemiology

"Assessing response to bone-directed alpha particle therapy in castrate resistant prostate cancer using C-11 acetate"
Daniel Pryma, MD, Associate Professor of Radiation Oncology
John Christodouleas, MD, MPH, Adjunct Asst. Professor of Radiation Oncology

"Calibrated BOLD MRI for the Study of Neurometabolism in Obstructive Sleep Apnea"
Felix Wehrli, PhD, Professor of Radiologic Science, Biochemistry, and Biophysics
John Detre, MD, Professor of Neurology
Richard Schwab, MD, Professor of Medicine

"Acoustic Radiation Forced Impulse Shear Wave Velocity for Clinical Hernia Risk Prediction"
John Fischer, MD, Assistant Professor of Surgery and Director of Clinical Research (Plastic Surgery)
James Gee, PhD, Assoc. Professor of Radiologic Science and Computer and Information Science Anil Chauhan, MD, Asst. Professor of Radiology

"AUTOMATED CHOROIDAL ASSESSMENT USING ENHANCED DEPTH IMAGING BASED OPTICAL COHERENCE TOMOGRAPHY (EDI-OCT)"
James Gee, PhD, Assoc. Professor of Radiologic Science and Computer and Information Science
Brian VanderBeek, MD, MPH, Asst. Professor of Opthamology

"Catalytic nanoparticles for the assessment of PD-1 tumor markers via optical imaging" David Cormode, DPhil, Asst. Professor of Radiology
E. John Wherry, PhD, Professor of Microbiology

"Acetate PET as a marker of amyloid-induced neuroinflammation"
Ilya Nasrallah, MD, PhD, Assistant Professor of Radiology

Yvette Sheline, MD, Professor of Psychiatry, Radiology, and Neurology

"Watching brain injury unfold in real time: in vivo 2-photon imaging of brain activity, inflammation, and neural circuit reorganization after acute brain insults"
Ramani Balu, MD, PhD, Instructor in Neurology
Ethan Goldberg, MD, PhD, Assistant Professor of Neurology

"QUANTITATIVE MUSCULOSKELETAL IMAGING GENETICS"
Ronnie Sebro, MD, PhD, Asst. Professor of Radiology
Sarah Tishkoff, PhD, David and Lyn Silfen University Professor Paul
Yushkevich, PhD, Assoc. Professor of Radiology

"Utilizing Novel 3-Dimensional GluCEST Method to Identify the Seizure Focus"
Kathryn Davis, MD, MTR, Asst. Professor of Neurology Joel
Stein, MD, PhD, Asst. Professor of Radiology
Sandhitsu Das, PhD, Research Asst. Professor of Neurology Ravinder
Reddy, PhD, Professor of Radiology

"Integrated regional 4D MRI cardiac hemodynamic imaging and phenotyping of left ventricular endocardium following mitral annuloplasty"
Peter Davies, PhD, Professor of Pathology and Laboratory Medicine and Bioengineering Joseph
Gorman, MD, Professor of Surgery
Robert Gorman, MD, Professor of Surgery
Walter Witschey, PhD, Asst. Professor of Radiology