## **TBIC**

# 2018 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

# 2017 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

# 2016 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