

# Ivy Biomedical Innovation Fund Funded Projects

## 2018-2019

### **Development of an inhibitor of myeloperoxidase (MPO) for the treatment of delayed cerebral injury after aneurysmal subarachnoid hemorrhage**

Jose Javier Provencio, MD, Neurology  
Danny Theodore, PhD, Neurology  
Aminata Coulibaly, PhD, Neurology

### **RENEWAL: Targeting AVIL in Glioblastoma**

Hui Li, PhD, Pathology  
Michael Hilinski, PhD, Chemistry  
Benjamin Purow, MD, Neurology

### **RENEWAL: Cady Ventilator Vest**

Tricia Cady, RN, Neonatal Intensive Care Unit  
Jonathan Swanson, MD, Pediatrics, Medical Director-Neonatal Intensive Care Unit  
Rachael Nauman, RN, Neonatal Intensive Care Unit  
Timothy Hicks, RRT, Neonatal Intensive Care Unit

### **Improving End Stage Renal Disease outcomes through a predictive calcimimetic dosing algorithm**

Brendan Bowman, MD, Medicine-Nephrology  
Donald Brown, PhD, Systems & Information Engineering  
Benjamin Lobo, PhD, Systems & Information Engineering

### **RENEWAL: Combating Multidrug Resistant Bacteria Using Chemokine-Derived Antimicrobial Peptide**

Molly Hughes, MD, Medicine-Infectious Disease & International Health  
Lawrence Lum, MD Medicine- Hematology and Oncology  
Rachel Letteri, PhD, Chemical Engineering

### **Therapeutic Ultrasound for the Treatment of Degenerative Mitral Stenosis**

Austin Robinson MD, Cardiovascular Medicine  
John Hossack PhD, Biomedical Engineering  
Christopher Kramer MD, Radiology and Cardiovascular Medicine

## 2017-2018

### **Combating Multidrug Resistant Bacteria Using Chemokine-Derived Antimicrobial Peptide**

Molly Hughes, MD, Medicine-Infectious Disease & International Health  
Borna Mehrad, PhD, University of Florida School of Medicine

### **VADStent**

J Hunter Mehaffey, MD, Department of Surgery  
Mark Roeser, MD, Surgery  
Gorav Ailawadi, MD, Surgery  
Irving L Kron, MD, Surgery  
David Chen, MS, Biomedical Engineering  
Jeffery Holmes, MD/PhD, Biomedical Engineering  
John A Kern, MD, Surgery

**CADY Ventilator Vest**

Tricia Cady, RN, Neonatal Intensive Care Unit  
Jonathan Swanson, MD, Pediatrics, Medical Director-Neonatal Intensive Care Unit  
Rachael Nauman, Neonatal Intensive Care Unit  
Timothy Hicks, RRT, Neonatal Intensive Care Unit

**RENEWAL: Preclinical Testing of Nav1.6 Selective Sodium (Na) Channel Antagonists for the Suppression of Epileptic Seizures and the Prevention of SUDEP**

Manoj Patel, PhD, Anesthesiology  
Mirko Rivara PhD, Pharmacology Universita degli Studi di Parma

**A Radiation Therapy Decision Support System**

Tyler Watkins, PhD, Radiological Physics  
Timothy Showalter, MD, Radiation Oncology  
Jeffrey Siebers, PhD, Radiological Physics

**Targeting AVIL in Glioblastoma**

Hui Li, PhD, Pathology  
Michael Hilinski, PhD, Chemistry  
Benjamin Purow, MD, Neurology

**2016-2017****RENEWAL: Small molecule inhibitors of CBF $\beta$ -SMMHC for the treatment of inv(16) leukemia**

John Bushweller, PhD, Molecular Phys. and Biological Physics  
Lucio Castilla, PhD, UMass Medical School

**Suppressing the Coupling Water Bath for Improved Guidance in Focused Ultrasound Surgery**

Craig Meyer, PhD, Biomedical Engineering  
Steven Allen, PhD, Biomedical Engineering  
Jeff Elias, MD, Neurosurgery

**RENEWAL: Preclinical testing of Nav1.6 selective Sodium Channel Antagonists for the Suppression of Epileptic Seizures and the Epileptic Seizures Prevention of SUDEP**

Manoj Patel, PhD, Anesthesiology  
Mirko Rivara PhD, Pharmacology Universita degli Studi di Parma

**RENEWAL: Small molecule inhibitors of CBF $\beta$ /RUNX for the treatment of basal-like (triple negative) breast cancer**

John Bushweller, PhD, Molecular Phys. and Biological Physics  
Lucio Castilla, PhD, UMass Medical School

**RENEWAL: Development of a small molecule PTP4A3 inhibitor for the treatment for ovarian cancer**

John Lazo, PhD, Pharmacology & Chemistry  
Chip Landen, MD, Obstetrics and Gynecology

**Preclinical validation and clinical planning studies for self-expanding hydrogel for pelvic brachytherapy: a novel method for vaginal packing and customized radiation therapy**

Tim Showalter, MD, MPH Radiation Oncologist  
Bruce Libby, PhD, Medical Physicist, Radiation Oncology

2015-16

**Development of a small molecule PTP4A3 inhibitor for the treatment for ovarian cancer**

John Lazo, PhD, Pharmacology & Chemistry  
Chip Landen, MD, Obstetrics and Gynecology

**Exploring the utility of <sup>64</sup>Cu-mannose coated liposomes as a positron emission tomography (PET) diagnostic imaging agent for traumatic brain injury**

James Stone, MD, Radiology and Medical Imaging  
Stuart Berr, PhD, Radiology and Medical Imaging  
Jiang He, PhD, Radiology and Medical Imaging

**Small molecule inhibitors of CFBF/RUNX for the treatment of basal-like (triple negative) breast cancer**

John Bushweller, PhD, Molecular Physiology and Biological Physics  
Kevin Janes, PhD, Biomedical Engineering

**RENEWAL: Small molecule inhibitors of CBF $\beta$ -SMMHC for the treatment of inv (16) leukemia**

John Bushweller, PhD, Molecular Physiology and Biological Physics  
Lucio Castilla, PhD, UMass Medical School

**Recombinant Bacterial HIV Membrane-Proximal External Region Vaccine**

Steven Zeichner, MD, PhD, Pediatrics and Microbiology, Immunology, and Cancer Biology  
Wen Yuan, PhD, Infectious Diseases and International Health

**Preclinical testing of Nav1.6 selective Sodium Channel Antagonists for the Suppression of Epileptic Seizures and the Prevention of SUDEP**

Manoj Patel, PhD, Anesthesiology  
Mirko Rivara, PhD, Pharmacology Università degli Studi di Parma

**RENEWAL: Targeting the hemoglobin  $\alpha$ /eNOS complex for novel anti-hypertensive**

Brant Isakson, PhD, Molecular Physiology and Biological Physics  
Linda Columbus, PhD Chemistry  
Alex Kadl, MD, Pulmonary and Critical Care Medicine