Ivy Biomedical Innovation Fund Funded Projects

2019-2020

**Development of Visual fields Rapid Assessment Device (VRAD)**
Nina Solenski, MD, Department of Neurology
Karen Rheuban, MD, Center for Telehealth
Arjun Dirghangi, MD, Department of Ophthalmology
Jeffrey Ashe Allende, Project Manager, Telehealth Operations

**Renewal: Targeting AVIL in Glioblastoma**
Hui Li, PhD, Department of Pathology
Michael Hilenski, PhD, Department of Chemistry
BJ Purow, MD, Department of Neurology

**Development of Positive SpeC7:C13rm Test Kit For Clinicians**
Jeffrey Lysiak, PhD, Department of Urology
Kodi Ravichandran, PhD, Department of Microbiology, Immunology and Cancer Biology
Ryan Smith, MD, Department of Medicine – Urology
Scott Purcell, PhD, Lab Director: Reproductive Medicine and Surgery Center of Virginia
George Prpich, PhD, Department of Chemical Engineering

**Renewal: Preclinical Testing of Nav1.6 selective Sodium Channel Antagonists for Prevention of Death in Epilepsy (SUDEP)**
Manoj Patel, PhD, Department of Anesthesiology
Howard Goodkin, MD, PhD, Department of Neurology

**Renewal: Beyond topical Systemic administration of a lead optimized chemokine-derived peptide to combat infections caused by multidrug-resistant bacterial infections**
Molly Hughes, MD PhD, Department of Medicine – Infectious Disease
Matthew Crawford PhD, Department of Medicine – Infectious Disease
Lawrence G. Lum, MD, DSc, Department of Medicine – Hematology and Oncology
Rachel Letteri, PhD, Department of Chemical Engineering

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
RENIEWS: Targeting AVIL in Glioblastoma
Hui Li, PhD, Pathology
Michael Hilinski, PhD, Chemistry
Benjamin Purow, MD, Neurology

RENŒWA: 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

RENÆWAL: 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 CBFB-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 CBFβ-RUNX for the treatment of basel-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
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

2015-2016
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 64Cu-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 CBFB/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 CBFB-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 Universita degli Studi di Parma

RENEWAL: Targeting the hemoglobin a/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