



# SCTR PILOT PROGRAM

# GRANT AWARDEES

The SCTR pilot grants program supports innovative research spanning the translational spectrum — from basic science to population health — including patient-centered and community-engaged research.

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# Discovery Pilot Awards

*2017-2018* **Targeting gut microbiota to treat sepsis**

Hongkuan Fan, PhD  
Department of Pathology & Laboratory Medicine  
College of Medicine  
Medical University of South Carolina

**Development of monoclonal antibodies to inhibit Neuropilin-2b-dependent metastasis**

Robert Gemmill, PhD  
Department of Medicine  
College of Medicine  
Medical University of South Carolina

**Developing brain stimulation as a treatment for pain in opiate dependent individuals**

Colleen Hanlon, PhD  
Department of Psychiatry & Behavioral Sciences  
College of Medicine  
Medical University of South Carolina

**The mechanism of decreased inflammatory responsiveness on monocytes in HIV-infected long-term non-progressors (LTNPs)**

Wei Jiang, MD  
Department of Microbiology & Immunology  
College of Medicine  
Medical University of South Carolina

**Diabetes, modified lipoproteins, and preeclampsia**

Timothy Lyons, MD  
Department of Medicine  
College of Medicine  
Medical University of South Carolina

**Understanding Thiol Based Protein Modifications to Engineer Robust Anti-Tumor T cells**

Shikhar Mehrotra, PhD  
Department of Surgery  
College of Medicine  
Medical University of South Carolina

**Vascular specific Akt3 is neuroprotective**

Robin Muise-Helmericks, PhD  
Department of Regenerative Medicine and Cell Biology  
College of Medicine  
Medical University of South Carolina

**The Impact of PD-1 inhibition of T cell Memory Phenotype in Patients with Oral Cancer**

David Neskey, MD, MSCR  
Department of Otolaryngology  
College of Medicine  
Medical University of South Carolina

**The role of CAL-101 on the microbiome and cancer immunotherapy**

Chrystal Paulos, PhD  
Department of Microbiology & Immunology  
College of Medicine  
Medical University of South Carolina

**Inverse correlation between mitochondrial health and retinal degenerative disease**

Baerbel Rohrer, PhD  
Department of Ophthalmology  
College of Medicine  
Medical University of South Carolina

**Correlating 4D flow MRI-derived shear stress to fenestration number in a tissue model of type B aortic dissection may predict false lumen thrombosis**

Jean Marie Ruddy, MD  
Department of Surgery  
College of Medicine  
Medical University of South Carolina

**Senescence and olfactory dysfunction in aging**

Rodney Schlosser, MD  
Department of Otolaryngology  
College of Medicine  
Medical University of South Carolina

**Care-coordination Approach to Learning Lupus Self-Management (CALLS)**

Edith Williams, PhD  
Department of Public Health Sciences  
College of Medicine  
Medical University of South Carolina

**Design and testing of novel HUNK inhibitors**

Elizabeth Yeh, PhD  
Department of Pharmacology  
College of Medicine  
Medical University of South Carolina

**Preeclampsia in minority pregnant women with Type 2 diabetes**

Jeremy Yu, MD, PhD  
Department of Medicine  
College of Medicine  
Medical University of South Carolina

*2018-2019* **Copy-number analysis of understudied black women ovarian cancers**

Joseph Delaney, PhD  
Department of Biochemistry & Molecular Biology  
College of Medicine  
Medical University of South Carolina

*2019-2020* **Parcellating Cortical Functional Networks in Preclinical Alzheimer's Disease**

Andreana Benitez, PhD  
Department of Neurology  
College of Medicine  
Medical University of South Carolina

**Invention of biodegradable antibiotic eluting device for prevention of surgical site infection in total joint replacement**

Josef Eichinger, MD  
Department of Orthopaedics & Rehabilitation  
College of Medicine  
Medical University of South Carolina

**Using functional genomics and computational biology to reverse engineer human breast cancer cells**

Steve Ethier, PhD  
Department of Pathology & Laboratory Medicine  
College of Medicine  
Medical University of South Carolina

**Development and pilot implementation of a novel mobile health app for post-operative wound triage**

Heather Evans, MD  
Department of Surgery  
College of Medicine  
Medical University of South Carolina

**Classifying groups of HIV-infected individuals at-risk for falling out of care to identify tailored, feasible, and effective interventions to promote retention**

Virginia Fonner, PhD, MPH  
Department of Psychiatry and Behavioral Medicine  
College of Medicine  
Medical University of South Carolina

**Initial Development and Pilot Testing of the Use of Automatic Clinical Summaries in Pediatric Primary Care to Identify Risk and/or Exposure to Child Abuse and Neglect**

Rochelle Hanson, PhD  
Department of Psychiatry & Behavioral Sciences  
College of Medicine  
Medical University of South Carolina

**Maternal, infant, and early childhood outcomes of mothers with OUD: Comparing outcomes of mothers engaged and non-engaged in medication assisted treatment utilizing Medicaid data**

Angela Moreland, PhD  
Department of Psychiatry & Behavioral Sciences  
College of Medicine  
Medical University of South Carolina

**Circuit dissection of brain-stimulation-induced plasticity in stroke recovery**

Takashi Sato, PhD  
Department of Neurosciences  
College of Medicine  
Medical University of South Carolina

**Molecular and neuronal circuit mechanisms underlying stress-induced mood dysfunction**

Makoto Taniguchi, PhD  
Department of Neurosciences  
College of Medicine  
Medical University of South Carolina

*2020-2021* **miRNAs as early biomarkers of aggressive variant prostate cancer**

Victoria Findlay, PhD  
Department of Pathology and Laboratory Medicine  
College of Medicine  
Medical University of South Carolina

**Racial/ethnic disparities in systemic lupus erythematosus (SLE) among women: examination of genetics and clinical factors**

Mara Lennard Richard, PhD  
Department of Medicine  
College of Medicine  
Medical University of South Carolina  
Angela Malek, PhD  
Department of Public Health Services  
College of Medicine  
Medical University of South Carolina

**Anti-Warburg Small Molecules Regulating VDAC in Cancer**

Eduardo Maldonado, DVM, PhD  
College of Pharmacy  
Medical University of South Carolina

**Combinatorial non-neuronal cell therapies for the treatment of pain and subsequent opiate addiction**

Mike Scofield, PhD  
Department of Anesthesia and Perioperative Medicine  
College of Medicine  
Medical University of South Carolina

**Effect of Maternal Vitamin D Status during Lactation on Milk and Infant Microbiome and Immune Status**

Carol Wagner, MD  
Department of Pediatrics  
College of Medicine  
Medical University of South Carolina

*2021-2022*

**Novel Targets for Vascular Cognitive Impairment and Dementia (VCID): Linking Endothelin A (ETA) Receptors and Endothelial Tau Pathology**

Yasir Abdul, PhD  
Department of Pathology & Laboratory Medicine  
College of Medicine  
Medical University of South Carolina

**High-Fat Diet and Endothelial Tau Hyperphosphorylation: A Plausible Link Between Vascular Contributions and Dementia**

Onder Albayram, Ph.D.  
Department of Microbiology and Immunology  
College of Medicine  
Medical University of South Carolina

**Novel epigenetic pharmacotherapies for AUD and SUD**

Ethan Anderson, Ph.D.  
Department of Neurosciences  
College of Medicine  
Medical University of South Carolina

**Increasing return-to-home for hospitalized older adults experiencing delirium through enhanced caregiver support**

Jennifer Dulin, MD, MPH

Department of Medicine  
College of Medicine  
Medical University of South Carolina

**Targeting the ATAD2 oncogene in ovarian cancer  
(confidential project as per the PI)**

Scott Eblen, PhD

Department of Cell & Molecular Pharmacology &  
Experimental Therapeutics  
College of Medicine  
Medical University of South Carolina

**Co-engineering stem cell-derived beta cells and  
regulatory T cells for type 1 diabetes**

Leonardo Ferreira, Ph.D.

Department of Microbiology and Immunology;  
Regenerative Medicine & Cell Biology  
College of Medicine  
Medical University of South Carolina

**Prospective cognition in temporal lobe epilepsy**

Ezequiel Gleichgerrcht, MD, PhD

Department of Neurology  
College of Medicine  
Medical University of South Carolina

**Single cell profiling of resident brain cells in a mouse  
model of oral microbial dysbiosis and amyloid response**

Wei Jiang, MD, MS

Department of Microbiology & Immunology  
College of Medicine  
Medical University of South Carolina

Eric Daniel Hamlett, PhD

Department of Pathology and Laboratory Medicine  
College of Medicine  
Medical University of South Carolina

**Effect of Lambda Interferon Receptor (IFNLR1)  
Modulation on Myeloid Cells and HIV**

Eric Meissner, M.D., Ph.D.

Department of Microbiology and Immunology  
College of Graduate Studies  
Medical University of South Carolina

**The role of SUPT6H in DNA damage and oral  
tumorigenesis**

Viswanathan Palanisamy, PhD

Department of Biochemistry & Molecular Biology  
College of Medicine  
Medical University of South Carolina

**Metabolic effects of Lysine in salt sensitive hypertension**

Oleg Palygin, PhD

Department of Medicine

College of Medicine

Medical University of South Carolina

**Development of an EHR-based intervention to facilitate risk-stratified breast cancer screening**

Sarah Price, MD, PhD

Department of Family Medicine

College of Medicine

Medical University of South Carolina

Caitlin Allen, PhD, MPH

Department of Public Health Sciences

College of Medicine

Medical University of South Carolina

**Altered Iron Sulfur Cluster Trafficking as a Novel Driver of NAFLD**

Don Rockey, MD, PhD

Department of GI & Hepatology

College of Medicine

Medical University of South Carolina

**Preventing Cancer Relapse in Brain Tumor Patients**

Jezabel Rodriguez Blanco, PhD

Department of Pediatrics

College of Medicine

Medical University of South Carolina

**Costs Associated with Acute Kidney Injury in the Neonatal Intensive Care Unit: Analysis of Data from the Pediatric Health Information Systems Database**

Heidi Steflik, MD, MSCR

Department of Pediatrics

College of Medicine

Medical University of South Carolina

Brinton Daniel, PhD

Department of Healthcare Leadership and Management

College of Health Professions

Medical University of South Carolina



**Rib Fixation in Adult Deformity Corrective Surgery as Preventative Measure for Proximal Junctional Kyphosis/Failure**

Hai Yao, PhD

Department of Neurosurgery  
College of Medicine  
Medical University of South Carolina

Stephen Kalhorn, MD

Department of Neurosurgery  
College of Medicine  
Medical University of South Carolina

2022-2023

**Noninvasive Jugular Venous Pressure Assessment Using Non-contact Optical Sensing Cameras for the Management of Chronic Heart Failure**

Michelle Esposito, MD

Department of Medicine  
College of Medicine  
Medical University of South Carolina

**Determining the Kinematics of Ambulation and Locomotion in Charcot Feet with Midfoot Collapse**

Christopher Gross, MD

Department of Orthopaedics and Physical Medicine  
College of Medicine  
Medical University of South Carolina

**Probing mechanisms of procedural memory transformation with cross-frequency transcranial alternating current stimulation (cf-tACS) as an avenue to sculpt sensorimotor behavior**

Kirsten-Friederike Heise, PhD, MS

Department of Health Sciences & Research  
College of Health Professions  
Medical University of South Carolina

**An adherens junction associated RNAi machinery as a guardian of oral epithelial homeostasis**

Antonis Kourtidis, PhD

Department of Regenerative Medicine and Cell Biology  
College of Medicine  
Medical University of South Carolina

**Intracoronary delivery of nanowired human cardiac organoids to treat acute myocardial ischemia/reperfusion injuries**

Ying Mei, PhD

Department of Regenerative Medicine and Cell Biology  
College of Medicine  
Medical University of South Carolina

**Precision rEsearCh pArticipation (PECAN) study**

Paula Ramos, PhD  
Department of Medicine  
College of Medicine  
Medical University of South Carolina

**Identification of Computable Phenotypes of Ventilator-Dependent Respiratory Failure**

Charles Terry, MD  
Department of Medicine  
College of Medicine  
Medical University of South Carolina

**Impact of Systemic Tetracyclines in Adolescence on Metabolism, Adiposity, and Skeletal Maturation**

Lara Wine Lee, MD, PhD  
Department of Dermatology and Dermatologic Surgery  
College of Medicine  
Medical University of South Carolina

**Targeting the transcription factor FLI-1 to treat neuropsychiatric lupus**

Xian Zhang, PhD  
Department of Medicine  
College of Medicine  
Medical University of South Carolina

2023-2024 **Integrating Wearable Technology into a Clinical Trial for Mild Cognitive Impairment**

Stephanie Aghamoosa, PhD  
College of Health Professions  
Medical University of South Carolina

**Effect of ventilation on 10-degree Celsius static storage of lungs**

Barry Gibney, DO  
Department of Surgery  
College of Medicine  
Medical University of South Carolina

**Regulation of IL-10 and SLAMF5 in different genetic contexts in Multiple Sclerosis**

Andrew Keegan, MD, MS  
Department of Neurology  
College of Medicine  
Medical University of South Carolina

**Do Certified Therapy Dogs Improve Behavior and Reduce Anxiety in Children Who Receive Administration of a Local Anesthetic for Dental Procedures? A Randomized Controlled Trial**

Julie Marshall, PhD  
College of Dentistry  
Medical University of South Carolina

**Role of BMP Signaling in Reduced Treg Numbers in Osteogenesis Imperfecta**

Meenal Mehrotra, PhD  
Department of Surgery  
College of Medicine  
Medical University of South Carolina

**Using Next Generation Sequencing Technology and Machine Learning to Map the Microbiome of the Burn Wound**

Deepak Ozhathil, MD  
Department of Surgery  
College of Medicine  
Medical University of South Carolina

# Team Science Pilot Awards

*2018-2019* **Establishing reliability of a novel quantification model for classifying narrative observations of teamwork behaviors in healthcare clinical units**

Dusty Annan, EdD  
Medical University of South Carolina

**The Relationship between Clinical Service Delivery Models and Provider Perceptions of Teamwork**

Stacey Maurer, PhD  
Department of Psychiatry & Behavioral Sciences  
College of Medicine  
Medical University of South Carolina

*2019-2020* **Evaluation of individual and team-composition predictors of teamwork performance using a standardized teamwork challenge**

Kimberly Kascak, MS  
Academic Affairs  
Medical University of South Carolina

*2020-2021* **Team REACH: Building a Transdisciplinary Collaboration for Integrated HIV/PTSD Care to Address Mental Health and Risk Reduction**

Nada Goodrum, PhD  
Department of Psychiatry & Behavioral Sciences  
College of Medicine  
Medical University of South Carolina

*2022-2023* **Stepped Care Model of Psychological Care for Aphasia**

Deena Schwen Blackett, PhD, MA, CCC-SLP  
College of Health Professions  
Medical University of South Carolina

# Telehealth Pilot Awards

*2019-2020* **Iterative intervention development and feasibility testing of a smoking cessation e-visit for individuals experiencing homelessness**

Cristin Adams, DO  
Department of Family & Preventive Medicine  
College of Medicine  
Medical University of South Carolina

**Improving Pediatric ADHD Management with Virtual Check-ins: A Study of Utilization and Acceptability**

Claire Macgeorge, MD, MSCR  
Department of Pediatrics  
College of Medicine  
Medical University of South Carolina

**Stressors of Inter-ICR Transfer: Family Centered Care through Telehealth**

Nandita Nadig, MD  
Department of Medicine  
College of Medicine  
Medical University of South Carolina

**A comparison of standard office based postpartum BP monitoring to a text based remote self BP monitoring program in the management of maternity patients with a hypertensive disorder of pregnancy**

Renata Sawyer, MD  
University of South Carolina

*2020-2021* **Telehealth Management of Complex ADHD**

Silvia Pereira-Smith, MD  
Department of Pediatrics  
College of Medicine  
Medical University of South Carolina

**Health Chat: Connecting with Underserved Adolescents to Monitor Healthy Lifestyle Goals via Mobile Health**

Christine San Giovanni, MD, MSCR  
Department of Pediatrics  
College of Medicine  
Medical University of South Carolina

2021-2022 **BioWare to Enhance Treatment for Alcohol Use Disorder and Posttraumatic Stress Disorder**

Amber Jarnecke, PhD

Department of Psychiatry & Behavioral Sciences  
College of Medicine  
Medical University of South Carolina

**Adapting A Program of SUPPORT for telehealth delivery in Advanced Lung Disease**

Kathleen Lindell, PhD, RN

College of Nursing  
Medical University of South Carolina

2022-2023 **Novel Application of Skills for Psychological Recovery Following Sexual Assault**

Alyssa Rheingold, PhD

Department of Psychiatry and Behavioral Sciences  
College of Medicine  
Medical University of South Carolina

# Collaborative K/T Pilot Awards

2021-2022 **PTSD induced alterations of cardiac homeostasis**

Kristine DeLeon-Pennell, PhD

Department of Pathology and Laboratory Medicine  
College of Medicine

Alexa Corker

Doctoral Student  
College of Graduate Studies  
Medical University of South Carolina

**Examining the Neural Processes Underlying Social Reward for Individuals with PTSD and Trauma-resilient Individuals**

Amber Jarnecke, PhD

Department of Department of Neuroscience  
College of Medicine  
Medical University of South Carolina

Kyle Blidy, MS

Doctoral Student  
College of Graduate Studies  
Medical University of South Carolina

**Antisense Oligonucleotides against Npas4 long non-coding enhancer RNA as a novel therapeutic for Substance Use Disorder**

Constanza Keller, BS-PhD

Department of Neurosciences and Psychiatry  
College of Medicine  
Medical University of South Carolina

Rose Marie Akiki

Doctoral Student  
College of Graduate Studies  
Medical University of South Carolina

**The role of calretinin in the vmPFC in stress-related anxiety**

Jennifer Rinker, PhD

Department of Neuroscience  
College of Medicine  
Medical University of South Carolina

Krysten O'Hara, MS

Doctoral Student  
College of Graduate Studies  
Medical University of South Carolina

# High-Innovation High-Reward Pilot Awards

*2018-2019* **Optimizing Zeriscope for PTSD Clinical Studies**

Robert Adams, MD  
Department of Neurology  
College of Medicine  
Medical University of South Carolina

**Characterization of race specific primary prostate cancer cell lines for commercialization**

David Turner, PhD  
Department of Pathology & Laboratory Medicine  
College of Medicine  
Medical University of South Carolina

*2020-2021* **Investigation into the impact of variable temperature and flow rates during pulsatile perfusion on the aortic endothelium**

Satish Nadig, MD, PhD  
Department of Surgery  
College of Medicine  
Medical University of South Carolina

**The Safety Adjunct for Vascular Extremity occlusion during Resuscitation**

T. Konrad Rajab, MBBC  
Department of Surgery  
College of Medicine  
Medical University of South Carolina

**Improving the Diagnosis of Non-alcoholic Fatty Liver Disease in Primary Care Patients with Abnormal Liver Function Tests Through Predictive Modeling**

Andrew Schreiner, MD, MSCR  
Department of Medicine  
College of Medicine  
Medical University of South Carolina

*2022-2023* **VDAC Regulation by Small Molecules to Arrest Hepatocarcinoma Cell Proliferation**

Eduardo Maldonado, PhD, DVM  
College of Pharmacy  
Medical University of South Carolina



2023-2024 **Self-Service Tool for Automated and Integrated  
Diagnostics at Point-of-Care (SS-AIDPOC)**

Joseph Scalea, MD

Department of Surgery

College of Pharmacy

Medical University of South Carolina

# COVID-19 Pilot Awards

*2019-2020* **COVID-19 Biorepository Start-up**

Patrick Flume, MD  
Department of Medicine  
College of Medicine  
Medical University of South Carolina

*2020-2021* **Diagnostic predictive potential of microbiota in COVID-19**

Alexander Aleksenyenko, PhD  
Department of Public Health Sciences  
College of Medicine  
Medical University of South Carolina  
Stephane Meystre

**Colonizing microbiome as a determinant of COVID-19 outcome: A Pilot Study**

Alexander Alekseyenko, PhD  
Department of Public Health Sciences  
College of Medicine  
Medical University of South Carolina  
Stephane Meystre, PhD, MD, MS  
OnePlanet Research Center

**Drug discovery against SARS-CoV-2 PLPro**

Christopher Davies, PhD  
Department of Biochemistry & Molecular Biology  
College of Medicine  
Medical University of South Carolina

**Regulation of SARS-CoV-2 replication by hnRNP E1**

Philip Howe, PhD  
Department of Biochemistry & Molecular Biology  
College of Medicine  
Medical University of South Carolina

**Expanding SARS-COV2 Epitope Reactive T cells for Immunotherapy**

Shikhar Mehrotra, PhD  
Department of Surgery  
College of Medicine  
Medical University of South Carolina

**Immunogenetics of COVID-19**

Janardan Pandey, PhD  
Department of Microbiology and Immunology  
College of Medicine  
Medical University of South Carolina

**Evaluation of splatter and Aerosols during dental procedures Using a Novel Aerosol containment device and standard devices**

Walter Renne, PhD  
College of Dentistry  
Medical University of South Carolina

**The impact of pre-existing T cell and antibody responses against common human coronaviruses on SARS-CoV2 infection in humans**

Mark Rubinstein, PhD  
Department of Surgery  
College of Medicine  
Medical University of South Carolina  
John Wrangle, MD  
Department of Medicine  
College of Medicine  
Medical University of South Carolina

# Translational Science Challenge

2022-2023 **Current Barriers in the Identification and Diagnosis of Patients with Hereditary Colon Cancer**

Colleen Donahue, MD

Department of Surgery

College of Medicine

Medical University of South Carolina

**CGX Technology for Advanced Precision Medicine Tissue Biobanking**

Demetri Spyropoulos, PhD

Department of Pathology and Laboratory Medicine

College of Medicine

Medical University of South Carolina