

Additional Research Opportunities

2024 SMRF Program

Below is a listing of additional research opportunities that are available for Rowan-Virtua SOM Medical Students who have an interest in submitting applications for approval to participate in the 2024 Summer Medical Research Fellowship Program.

Contact Name/Department	Contact Information	Project Title/Information
Dr. Mohammad Abedin Biomedical Engineering JHSC Camden, Room 330 B	Email: abedin@rowan.edu	We are developing a surgical robotic and navigation system for orthopedic trauma applications. Clinical workflow analysis, literature review, pre-clinical testing, IRB preparation.
Dr. Nimish Acharya NJISA Stratford, Science Center, A101	Email: acharynk@rowan.edu	Impaired blood-brain barrier (BBB) is widely implicated in initiating and perpetuating neurodegenerative changes in aging, Alzheimer's disease, and traumatic brain injury (TBI). Using rodent model with TBI and BBB breakdown, we will investigate potential role of extravasated vascular components in mediating neurodegenerative changes.
Dr. Michael Anikin Cell Biology and Neuroscience Stratford, Science Center, B230	Email: anikinmi@rowan.edu	We focus on biogenesis of the mitochondrial oxidative phosphorylation system. The goal is to understand the regulatory system that coordinates the expression of required genes in both the nucleus and mitochondria. We use yeast as the model organism.
Dr. Vince Beachley Biomedical Engineering Engineering Hall 232	Email: beachley@rowan.edu	Our group engineers aligned polymer nanofibers, nanofilament yarns, nanofilament textiles, and nanofiber hydrogel composites. We have interests in applying these materials to biomedical applications in orthopedics and aligned soft tissue regeneration, such as peripheral nerve.
Dr. Sergei Borukhov Cell Biology and Neuroscience Stratford, Science Center B108	Email: borukhse@rowan.edu	In project 1, we investigate the molecular mechanisms of initiation and discontinuous RNA synthesis by the coronavirus SARS-CoV-2 RNA-dependent RNA polymerase (RdRp) and establish determinants that regulate these processes. We use reconstituted in vitro SARS-CoV2 transcription system and the recombinant components of its machinery. In project 2, we investigate the biological role of the bacterial transcription factors GreA and GreB in suppression of transcriptional pausing in vitro and in vivo. For this project we are developing a high-resolution chromosomal DNA mapping and footprinting in vivo techniques.
Dr. Erik Brewer Biomedical Engineering Glassboro, Engineering Hall 210; Rm 103	Email: brewere@rowan.edu	Our lab specializes in translating medical devices at the academic stage to commercialization. We specialize in developing tests for evaluating benchtop performance (efficacy), addressing safety concerns of medical devices, (safety), and better understanding manufacturing scale-up and packaging of medical devices for start-ups. Our lab offers unique opportunities to interface with entrepreneurs, clinical advisory boards, investors, and regulatory bodies.

Dr. Daniel Chandler Cell Biology and Neuroscience Stratford Science Center 215	Email: chandlerd@rowan.edu	We are principally interested in how the noradrenergic system responds to stress. We look at this using a number of behavioral, electrophysiological, molecular and optical approaches. Although we are a basic science lab we are attempting to understand how stress might promote biological change that leads to aberrant behavior similar to what occurs in mood and substance use disorders as well as neurodegenerative disease.
Dr. Ying Chen Biomedical Engineering Camden JSHC	Email: chenyin@rowan.edu	Biomaterials, cardiovascular/musculoskeletal tissue engineering, regenerative medicine. Animal work, cell culture, data analysis, literature review.
Dr. Renee M. Demarest Cell Biology and Neuroscience Stratford, Science Center 314	Email: demarest@rowan.edu	Project 1: process patient blood samples, Next Gen Sequencing, flow cytometry (Luminex), data analysis Project 2. data analysis, analysis of electron microscopy images (SEM), animal work (surgery, monitoring, dissection), bench work (bacteria cultures/prep, in vitro assays.)
Dr. David Devilbiss Cell Biology and Neuroscience Stratford, Science Center, 220	Email: devilbiss@rowan.edu	The lab is focused on identifying biomarkers of mild traumatic brain injury and effective treatments for the cognitive impairments and neuroinflammation associated with injury. We focus on the catecholamine transmitter pathways and the HGF/cMet signaling system.
Dr. Amanda Fakira Biomedical Sciences CMSRU 5th floor	Email: fakira@rowan.edu	The laboratory is interested in examining targets to prevent or alleviate the side effects of opioids such as dependence and addiction. In addition we are interested in how stress during adolescence affects later substance abuse.
Dr. Andrea Iannuzzelli RISN Center Sewell-Rowan Medicine Bldg C-100	Email: iannuzzelli@rowan.edu	RISN Center is looking to investigate how healthy food choices may influence clinical outcomes as they relate to obesity, sleep, behaviors, constipation, allergies, focus/concentration, anxiety, and depression.
Dr. Richard Jermyn Dean	Email: jermynrt@rowan.edu	Assessment of loneliness in patients with opiate disorders. Medical Information Equity Project to study equitable access to health information via the internet. NJ collaborative to improve access to overdose treatment. Minority AIDS initiative for high-risk men of NJ. First Responders- comprehensive addiction and recovery. Substance use rural engagement and treatment. Mobile Telemedicine hotspot to engage homeless individuals without internet access in telemedicine services. Substance use rural engagement and treatment. Rowan House Calls COVID-19 Vaccination Pilot Program and vital conversation.

Dr. Anne Jones Family Medicine Sewell C206/Stratford UEC 2134	Email: jonesan@rowan.edu	Mental health access is limited within many communities in the U.S. Primary care offices have become the de-factor mental health safety net for many patients. Integrated behavioral health models have been studied and demonstrated to be a systematic solution to addressing the mental health access issues for many patients, providing a point of care resource within the primary care setting. Through grant funding from the NJHF, we are studying the utility of introducing an app for patients with known or suspected PTSD in the primary care setting. We are training medical and clinical psychology students to work interprofessionally to be available as point-of-care resources for mental health for patients at Rowan Family Medicine at Sewell. Students will have the opportunity to work in the clinic and join the research team to report on findings and dissemination to the peer-reviewed literature.
Dr. Gunes Kutlu Cell Biology and Neuroscience Science Center A210	Email: kutlu@rowan.edu	Kutlu Lab aims to understand how our brains make connections between external stimuli and events in our environments and how these associations become "maladaptive" in disease states. We combine systems neuroscience, computational neuroscience, and behavioral approaches to examine how multidimensional behavioral patterns are represented in neural circuits.
Dr. Jessica Loweth Cell Biology and Neuroscience Stratford, Science Center 240	Email: loweth@rowan.edu	Investigating the effects of sex and estrous cycle fluctuations on oxycodone craving and cocaine seeking behavior and relapse vulnerability. the cellular and molecular mechanisms mediating these behavioral effects.
Dr. Daniel Manvich Cell Biology and Neuroscience Stratford, Science Center, Room A202	Email: manvich@rowan.edu	Research in the lab may include: Behavioral testing in rodents Immunohistochemistry (benchtop work) Microscopy and stereology Data analysis (e.g., scoring videos of recorded behavioral tests, using MATLAB or other programming platforms to analyze complex data sets, etc.)
Dr. Dmitriy Markov Cell Biology and Neuroscience Stratford, Science Center, B230	Email: markovdm@rowan.edu	Biochemical, molecular and cell biology bench work/protocols, literature review. Regulation of mitochondrial RNA maturation in yeast.
Dr. James Martin Molecular Biology WEBEX/online	Email: martinij@rowan.edu	Cancer metabolism, Chemotherapy, or Antibiotic Development. Also happy to mentor if you pick your own topic.
Dr. Diana Martinez Biomedical Sciences Camden, CMSRU	Email: martinezd@rowan.edu	My lab is interested in understanding the central mechanisms (brain) in the development of hypertension in sleep disorders.
Dr. Rachel Navarra Cell Biology and Neuroscience Stratford, Science Center 227	Email: navarra@rowan.edu	Traumatic brain injury, psychostimulant actions, executive functions - cognitive flexibility and decision making, prefrontal cortex, catecholamines.

Dr. Benjamin Rood Cell Biology and Neuroscience Stratford, Science Center, 207A	Email: rood@rowan.edu	Our lab studies the biological basis of social behavior. We identify the properties of unexplored neuron populations in social behavior circuits using a variety of molecular, neuroanatomical, and electrophysiological methods. We also use modern molecular genetic techniques to manipulate neuron function in order to explore the impact that neurons play during social interactions.
Dr. Andrea Vernengo Chemical/Biomedical Engineering Glassboro, Engineering Hall 221	Email: vernengo@rowan.edu	We evaluate cellular interactions in bioprinted hydrogels. - Bench work, microscopy, 3D printing.
Dr. Kingsley Yin Cell Biology and Neuroscience Stratford, Science Center, Room 220B	Email: yinki@rowan.edu	The Lab's focus is on the effects of Specialized Pro-resolving Mediators (SPMs) on the activity of immune cells such as monocytes and macrophages. Specifically we are examining the actions and mechanisms of action of SPMs on immunosuppression during sepsis.

If you have an interest in any of the above projects please reach out right away to the contact person for that department.

NOTE: The **deadline for application submissions** is **(Monday) February 19, 2024.**

The **2024 SMRF Program Instructions/Guidelines and the Application Cover Page** are available at <http://som.rowan.edu/oursom/pipeline/research/smrf.html> . Use your Rowan credentials when logging in to access this information.

If you have any questions, or difficulty accessing the hyperlink above, please contact the Rowan-Virtua SOM Research Office at somresearch@rowan.edu.