

## Research Opportunities 2025 SMRF Program

Below is a listing of research opportunities that are available for Rowan-Virtua SOM Medical Students who have an interest in submitting applications for approval to participate in the 2025 Summer Medical Research Fellowship Program.

Contact Name/Department	Contact Information	Project Title/Information
<b>Dr. Nimish Acharya</b> NJISA Science Center, Room A101	Email: <a href="mailto:acharynk@rowan.edu">acharynk@rowan.edu</a>	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.
<b>Dr. Vincent Beachley</b> Translational Biomedical Engineering & Sciences 232 Engineering Hall, Glassboro	Email: <a href="mailto:beachley@rowan.edu">beachley@rowan.edu</a>	Polymer nanofiber engineering and their use in aligned tissue regeneration. The tissue engineering areas that we focus on are in orthopedic applications and peripheral nerve regeneration.
<b>Dr. Sergi Borukhov</b> Molecular Biology Science Center, Room B130	Email: <a href="mailto:borukhse@rowan.edu">borukhse@rowan.edu</a>	Molecular mechanisms of transcription and its regulation. Structure and function of bacterial transcription factors acting through the secondary channel of RNA polymerase. Mechanisms of SARS COV2 transcription and replication by RNA-dependent RNA polymerase and regulation of its activity by viral and host cell factors.
<b>Dr. Erik Brewer</b> Biomedical Engineering Glassboro, Engineering Hall, Room 226	Email: <a href="mailto:brewere@rowan.edu">brewere@rowan.edu</a>	My lab deals with the commercial development of a spinal prosthetic. Our engineering lab does benchtop work to justify the safety and efficacy of the device, as well as support our clinical arm by analyzing data from our clinical studies. Students can be expected to work with both of our engineering and clinical teams for a complex workload understanding how both can benefit each other in a regulatory and entrepreneurial context.
<b>Dr. Steve Garwood</b> Academic Affairs Suite 210, Room 219	Email: <a href="mailto:garwoods@rowan.edu">garwoods@rowan.edu</a>	We are currently studying various aspects of student use of lecture capture and transcripts. We are currently looking at best practices, process improvement, and approaches that students can utilize with lecture capture transcription.
<b>Dr. Michael Henry</b> Molecular Biology Science Center, Room 320	Email: <a href="mailto:henrymf@rowan.edu">henrymf@rowan.edu</a>	Our work has demonstrated that several yeast genes have human orthologues with conserved mitochondrial functions. Thus, a detailed study of these orthologues in the simpler yeast model will permit a better understanding of their underlying biological functions in human cells. A new interest is ascertaining whether specific mitochondrial proteins might serve as drug targets in fungal pathogens.

<p><b>Dr. Daniel Hurst</b> Family Medicine/Academic Affairs UEC 2135</p>	<p>Email: <a href="mailto:hurst@rowan.edu">hurst@rowan.edu</a></p>	<p>My main research interest for the past 7 years or so has been the ethics of xenotransplantation as the research community moves toward clinical trials.</p>
<p><b>Dr. Joanne Kaiser-Smith</b> Graduate Medical Education 113 E Laurel Rd. Stratford NJ</p>	<p>Email: <a href="mailto:kaiserjo@rowan.edu">kaiserjo@rowan.edu</a></p>	<p>Development of this program-a health care navigator for students- will help them take steps toward their own health responsibility and enable them to counsel their patients about their health journey. Students who engage in self-care report less stress and better quality of life.</p>
<p><b>Dr. Mitchel Kling</b> Geriatrics and Gerontology NJISA</p>	<p>Email: <a href="mailto:kling@rowan.edu">kling@rowan.edu</a></p>	<p>I am a geriatric psychiatrist and clinical translational researcher, and the Director of the Memory Assessment Program (MAP) at the New Jersey Institute for Successful Aging (NJISA). I am conducting research on the role of plasmalogens in Alzheimer's disease (AD) and other aging-related cognitive disorders. Circulating and brain plasmalogens are decreased in patients with Alzheimer's disease, which may contribute to the pathophysiology and/or symptoms of AD and related disorders. I am developing a clinical/translational trial of synthetic supplements to increase circulating plasmalogen levels by bypassing the initial peroxisome-dependent steps in their synthesis. We hypothesize that these supplements will have beneficial effects on brain structure and function as well as cognitive and general function in patients with AD and related disorders.</p> <p>Students working on this project will have the opportunity to participate in development of IRB protocols, writing of grant proposals to seek funding for these studies, literature reviews on specific topics related to plasmalogens and other nutritional factors relevant to brain health, and patient-related activities once IRB approval is obtained and patients begin to be recruited and enrolled.</p>
<p><b>Dr. Dmitriy Markov</b> Cell Biology and Neuroscience Stratford, Science Center, B230</p>	<p>Email: <a href="mailto:markovdm@rowan.edu">markovdm@rowan.edu</a></p>	<p>Post-transcriptional processing of mitochondrial RNA in budding yeast.</p>
<p><b>Dr. Rachel Navarra</b> Neuroscience Science Center, Room 221</p>	<p>Email: <a href="mailto:navarra@rowan.edu">navarra@rowan.edu</a></p>	<p>The effects of traumatic brain injury on behavior and catecholamine regulatory proteins.</p>
<p><b>Dr. Rachel Pruchno</b> NJISA Suite 2300 UDP</p>	<p>Email: <a href="mailto:pruchnra@rowan.edu">pruchnra@rowan.edu</a></p>	<p>I'm a psychologist interested in successful aging. Happy to work with students who want to collect survey information about physical and emotional well-being. I successfully mentored a student this year who did a study of caffeine intake and sleep.</p>
<p><b>Dr. Ashley Rowan</b> Internal Med Tanyard Rd. Medical School, Suite B1</p>	<p>Email: <a href="mailto:colemana@rowan.edu">colemana@rowan.edu</a></p>	<p>Multiple projects 1) Education of residents in behavioral health and patient outcomes 2) education and prevention of outreach STD prevention (possible pending grant) 3. QI-targeting high risk ascvd with aggressive lipid reduction.</p>

<b>Dr. Seenivasan</b>	Email: <a href="mailto:natarajaseenivasan@gmail.com">natarajaseenivasan@gmail.com</a>	The research conducted in our laboratory is centered on elucidating the molecular mechanisms that govern glial metabolism within the context of both drug abuse and HIV infection. Our recent studies have provided insight into the impact of cocaine abuse and HIV infection on mitochondrial Ca <sup>2+</sup> modulation, glial metabolism (Cell Death and Disease, 2018), and disruption of astrocytic cholesterol homeostasis.
<b>Dr. Santhanam Shanmughapriya</b> (Dr. Priya) Science Center	Email: <a href="mailto:priyaonco@gmail.com">priyaonco@gmail.com</a>	Join our team in exploring the link between 'ionic dysregulation' and 'mitochondrial dysfunction' hypotheses to develop potent therapeutic strategies to address heart failure. With over a decade of experience manipulating mitochondrial ion homeostasis signaling pathways, I aim to contribute to answering mechanistic and translational questions related to mitochondrial dysfunction in cardiac diseases. Our work is not just about understanding the problem but also about finding solutions that can bridge the gap between bench-side experiments and bedside cures.
<b>Dr. Brian Weiser</b> Molecular Biology Science Center 307A	Email: <a href="mailto:weiser@rowan.edu">weiser@rowan.edu</a>	The student would use different programs (Prism, SAS, and python) to model existing biochemical datasets with several non-linear functions. This work is sometimes assisted by an AI interface to facilitate coding and curve fitting.

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 (Wednesday) February 12, 2025.**  
The **2025 SMRF Program Instructions/Guidelines and the Application Cover Page are available at**  
<http://som.rowan.edu/oursom/pipeline/research/smrf.html>

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