Fall 2021 Grant Awards  [1]

Fall 2021 AB Nexus Grant Awards

New Collaboration (Up to $50,000)

[2] *Cell-type, Pathway, and Neurotransmitter-Specific Regulation of Feeding Circuitry.*
Christopher Ford (Pharmacology), CU Anschutz
David Root (Psychology and Neuroscience), CU Boulder

Eating-related disorders have high mortality rates and limited treatment options. In an effort to identify new neuronal targets against eating-related disorders, we will identify how stress and feeding neuronal circuits interact as well as identify if modifying these circuits reduces stress-induced anorectic behavior in mice.

Uday Kompella (Pharmaceutical Sciences), PhD, CU Anschutz
Loren Hough, PhD, (Physics), CU Boulder
Since noninvasive mucosal delivery of macromolecules is a major challenge, this project will advance engineered nanophages to overcome the mucosal epithelial barriers. The proof-of-concept will be established using eye drop based ocular delivery of a macromolecule.

[4] **Evaluation of the Composition and Health Risks of Environmental Micro- and Nanoplastics.**
Suzhao Li (Medicine, Infectious Disease) CU Anschutz
Wei Zhang (Chemistry), CU Boulder

This project will help identify the chemical compositions of micro and nanoplastic particles (MNPLs) in water sources and their impacts on human health. The knowledge gained from this study will facilitate our assessment of potential environmental risks caused by MNPLs and provide guidelines on the plastic waste management, water treatment and environment protection system.

[5] **Universal Autism Screening Program in Audiology Clinics.**
Deborah Mood (Pediatrics), CU Anschutz
Angela Bonino (Speech, Language, and Hearing Sciences), CU Boulder

This project brings together interdisciplinary experts from audiology, developmental psychology, and statistics to reduce the delay in the diagnosis of autism spectrum disorder through the development of a screening program in audiology clinics.
Combining Innovative Engineered In Vitro and In Vivo Models to Determine the Role of Myeloid Derived Suppressor Cells in Sepsis.
Richard Tobin (Medicine, Surgical Oncology), CU Anschutz
Laurel Hind (Chemical and Biological Engineering), CU Boulder

This overarching goal of this project is to understand how myeloid derived suppressor cells, a rare immunosuppressive cell population, function during infection to determine if they are a viable target for treating sepsis. Findings from this study could create new therapeutic avenues for the treatment of sepsis and other hard-to-treat infections.

Existing Collaboration (Up to $125,000)

Understanding AKT1 Function Regulating Interneuronal Activity Involved in E/I balance.
Molly Huntsman (Pharmaceutical Sciences), CU Anschutz
Charles Hoeffer (Integrative Physiology), CU Boulder

Our work will provide information about how one kind of cell in the brain, the interneuron, functions in the context of AKT1 mutation, a gene linked to neurological disorders. These studies will facilitate potential therapeutic avenues by determining if approved drugs for other diseases can be used for psychiatric treatment.
The objective of this proposal is to test the hypothesis that osteocytes, the principal mechanosensory cells in bone, control whether physical forces on the skeleton result in a bone-strengthening/tumor suppressive remodeling program or a wound-healing/tumor promoting remodeling program.

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