

PharmTox Fights COVID-19

Week of October 12-16, 2020

Brittney Garner Sets Graduation Date and has Accepted Publication

Graduate student Brittney Garner's first author paper was accepted for publication by Journal of Pharmacology and Experimental Therapeutics. The article entitled "K_{ATP} channel openers inhibit lymphatic contractions and lymph flow as a possible mechanism of peripheral edema" includes the following co-authors, professor and chair Nancy Rusch, professor Philip Palade, assistant professors Shengyu Mu and Amanda Stolarz, and postdoctoral fellow Yunmeng Liu.

Brittney has also set Friday, November 13 @ 2:00 p.m. as her dissertation defense. Please mark your calendars and plan to attend this virtual event. Good luck Brittney!



R21 Submissions: Dr. Michael Berquist and Dr. Eric Peterson



Assistant professor Michael Berquist is submitting two R21 proposals to NIH this week. The first application, "Adolescent alcohol use following prenatal opioid exposure and early life stress" includes assistant professors Lisa Brents and Shengyu Mu as co-investigators. This proposal determines the impact of prenatal opioid exposure and early life stress exposure on ethanol abuse susceptibility in adolescent rats and determines if the outcome can be modified by manipulation of alpha-adrenoceptor signaling. It will also determine the effects of prenatal morphine exposure and early life stress on alpha-adrenoceptor density, functional efficacy, and expression.



The second application "Anti-methamphetamine gene therapy and ibudilast on reinforcement and inflammation" includes associate professor Eric Peterson as Co-PI. In this application, they will determine the effects of their anti-methamphetamine gene therapy (AAV-7F9-Fc) alone or in combination with ibudilast against methamphetamine-primed reinstatement and reinforcement. They will also determine the protective effects of AAV-7F9-Fc therapy alone or in combination with ibudilast against methamphetamine-induced neuro- and systemic inflammation from methamphetamine self-administration, and define the effects of methamphetamine self-administration on 7F9-Fc transgene biodistribution and whether ibudilast can mitigate these effects.

R21 Submission: Dr. Nirmala Parajuli

Assistant professor Nirmala Parajuli is also submitting an R21 proposal, "Mechanisms of cold storage-mediated complement activation in renal transplants". Dr. Michael Berquist is also co-investigator on this proposal. The application seeks to explore the cold storage-related immuno-pathological mechanisms of kidney injury after transplantation. Dr. Parajuli proposes that the cold storage-mediated induction of heat shock protein 72 activates the complement system leading to renal damage after transplantation.



R21 Submission: Dr. Mahmoud Kiaei



Associate professor Mahmoud Kiaei submitted "Transcriptome and biomarker discovery for ALS". Amyotrophic lateral sclerosis (ALS) is a complex disorder for which the mechanism is not fully understood, and the disease management is poor due to a lack of biomarkers and effective therapy. This R21 proposal is based on the recent study on the transcriptome changes that identified biomarkers using RNASeq analysis of the spinal cord tissues of a mouse model of ALS that distinguish symptomatic mice from control (Barham et al., 2018). This proposal aims to investigate these promising biomarker candidates in two mouse models of ALS and validate them in human ALS CSF and serum samples to assist for diagnosis, prognosis, inform clinical trials, and as a measure of disease progression.