## School of Medicine

**Brefczynski-Lewis, Julie,** PhD, Department of Physiology and Pharmacology, Behavioral Medicine and Psychiatry

- "Testing before and after and brief stress intervention in heart failure patients vs. age-matched controls, and assistance with data collection via a novel imaging technology, a wearable PET scanner, in patients with severe depression"

**Brown, Candice M,** PhD, Department of Neurobiology and Anatomy

- "Peripheral Biomarkers of Delirium and Cognitive Impairment in Sepsis"

**Con, Jorge** MD, Department of Surgery

- "Forced Vital Capacity (FVC) can predict hospital disposition in patients with isolated rib fractures"
- "The use of Technology to decrease costs and increase efficiency in Trauma Patients Transferred to a Level 1 Trauma Center"
- "Comfort level of Rural Practitioners at Level 3 and Level 4 Trauma centers in managing mild brain, spine, and hand injuries"

**Dietz, Matthew J.,** MD, Department of Orthopedics

- "Electrolysis as an adjunct treatment in the removal of biofilm from a total knee prosthesis"

**Frisbee, Jefferson C.,** PhD, Department of Physiology and Pharmacology

- "Research into Factors Affecting the Cardiovascular Health of Populations"

**Ghorayeb, Ghassan,** MD, Department of Ophthalmology

- "Diabetic Telemed Study: researching the possibility of the use of retinal cameras in a primary care setting using retinal photography, patient chart review, data collection and statistical analysis"

**Ivanov, Alexey,** PhD, Department of Biochemistry

- "Characterize key transcription factors involved in suppression of epithelial-to-mesenchymal transition (EMT) in breast cancer"
- "Elucidating the role of KAP1 in resistance of breast cancer cells to cancer therapy"

**Li, Bingyun,** PhD, Department of Orthopaedics

- "Examine the antimicrobial and toxicity properties of a new antimicrobial peptide"
- "Examining small colony variants under various possible clinical conditions"

**Olfert, Mark,** PhD, Division of Exercise Physiology

- "Long-term effects of e-cigarette exposure on cardiac and respiratory structure and function"

**Realini, Anthony,** MD, WVU Eye Institute, Department of Ophthalmology

- "Collecting photographs from patients with diabetes and/or glaucoma, with the goal of developing automated detection software to aid in the screening for these diseases"

**Salm, Adrienne,** PhD, Department of Neurobiology and Anatomy

- Increasing evidence implicates nanoparticulate matter found in polluted air as a source of chronic brain inflammation leading to Alzheimer's disease and other dementias. Published data indicate that nanoparticles are taken up into the brain through the olfactory system post-inhalation. In collaboration with Dr. Hulsey, Chair of WVU Epidemiology, we have now gained strong preliminary data indicating that deaths per 100,000 from Alzheimer's and other dementias are strikingly higher in counties where mountaintop removal mining- a source of air pollution- is ongoing vs. in those West Virginia counties where it is not. Project 1 will follow-up on these findings and will entail learning fundamental epidemiological approaches to data collection from a variety of computerized health records databases.
- Drs. Tim Nurkiewicz (Physiology) and Travis Knuckles (Depts. Physiology and Public Health, respectively) have an established rat model of nanoparticulate exposure where they have documented nanoparticle-induced damage to the cardiovascular system. In collaboration with these investigators, we are examining the brains of exposed animals with a combination of fluorescence immunocytochemistry and dark-field microscopy in an effort to document the colocalization of brain inflammation and nanoparticles. We will be examining the the rat olfactory mucosa, bulbs and cortices of rats that were exposed to nanoparticles. This project will entail learning basic histological approaches to staining and examining brain tissues for various markers. There is a strong possibility that we will also have human specimens to work with.

**Simpkins, James,** PhD, Department of Physiology and Pharmacology

- "Assay and analysis of microRNAs in blood samples from human subjects who sustained traumatic brain injury while learning the process of RT-PCR of a panel of microRNAs, their statistical analysis and their correlation with clinical outcomes in the subjects"

**Vargovich, Alison M.,** PhD & **Kimberly Foley**, PhD, Department of Family Medicine

- "Evaluating Patient Response to High Dose Chronic Opioid Therapy"

## School Of Pharmacy

**Karshenas, Allie,** PhD, WVU Clinical & Pharmacological Research Center

- "WVU Clinical & Pharmacologic Research Center (CPRC) is a Contract Research Organization with a dual mission approach to pharma-initiated clinical trials while active in

delivering targeting training and experimental rotations through didactic and hands on engagements”

**Lockman, Paul,** PhD, Department of Basic Pharmaceutical Sciences

- “The novel imaging techniques to simultaneously measure drug uptake tumor permeability in brain metastases of breast cancer”
- “The development of new formulations and or drug delivery strategies to increase chemotherapeutic concentrations in brain metastases”
- “Developing strategies to inhibit cancer cells from entering into brain tissue”

## School of Dentistry

**Wiener, R. Constance,** DMD, PhD, Department of Dental Practice and Rural Health, Department of Epidemiology

- “Dental Epidemiology: Secondary Database Research in Dental-Public Health project using SAS or SPSS”