

## School of Medicine

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

- “Peripheral Biomarkers Associated with Long-Term Morbidity and Mortality in Sepsis”

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”

Damron, Heath, PhD, Department of Microbiology, Immunology and Cell Biology

- “Development and evaluation of vaccines to protect against whooping cough”

Dietz, Matthew J., MD, Department of Orthopedics

- “The Cumulative Impact of Topical Application of Antimicrobials on Implant Associated Biofilms”
- “The Elution of Antibiotics from 3D printed Materials”
- “Total Joint Registry: Big Data in Action”
- “Electrolysis as an adjunct treatment in the removal of biofilm from a total knee prosthesis”

Hillgartner, Brad, PhD, Department of Biochemistry

- “Characterization of the Mechanisms Controlling the Expression of Fibroblast Growth Factor 21, a Novel Hepatic Hormone That Reverses Metabolic Syndrome”

Ivanov, Alexey, PhD, Department of Biochemistry

- “Breast cancer cell dissemination, dormancy and reactivation at the metastatic sites in mouse xenograft model”
- “Negative control of EMT by epithelial-specific transcription factors”
- “Role of the TGF-beta pathway in partial EMT and drug resistance of triple-negative breast cancer”
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Kandzari, Stanley, MD, Department of Surgery

- “The Relationship between Fitness/Activity Levels and Common Urological Complaints: A WVU Clinical Experience”

Leonardi, Roberta, PhD, Department of Biochemistry

- One primary goal of our lab is the generation of a mouse model of a rare pediatric neurological disease (Pantothenate Kinase-Associated Neurodegeneration) or PKAN, caused by mutations in one of the genes required to synthesize CoA.
- A second area of focus is the use of biochemical, genetic and metabolomics approaches to characterize the role of the CoA-degrading enzymes in the dynamic regulation of CoA levels in organs, like the liver and kidneys, which play an important role in the maintenance of glucose homeostasis.

Lewis, James, PhD, Department of Neurobiology and Anatomy

- “Study of CNS and physiological effects of transcutaneous electrical neural stimulation (TENS) as a treatment therapy/therapies”
- “fMRI study identifying auditory and multisensory cortical processing networks in neurotypical and autistic populations”
- “fMRI meta-analysis of audio-visual interaction sites in the human brain, with relation to clinical assessments for autism diagnoses”
- “fMRI study of brain regions associated with sound mimicry”
- “fMRI study of neuroplasticity associated with use of prosthetic hands”

Li, Bingyun, PhD, Department of Orthopaedics

- “Antimicrobial and toxicity properties of nanosilver”
- “Examining small colony variants under various clinical conditions”

Mattes, Malcolm, MD, Radiation Oncology Department

- “Help design a prospective clinical trial comparing Stereotactic Body Radiation Therapy to Radiofrequency Ablation or Radioembolization in the Management of Unresectable Hepatocellular Carcinoma”
- “Help develop an R25 grant geared towards creating a comprehensive program for improving multidisciplinary oncology education”
- “Use the radiotherapy treatment planning system to assess how lipiodol deposition from prior TACE correlates with areas involved by tumor on CT or MRI. The goal of this study is to determine if lipiodol can serve as an accurate surrogate for tumor in SBRT treatment planning”

Naz, Rajesh, PhD, Department of Obstetrics and Gynecology

- “Curcumin as an anti-inflammatory, anti-infectious, and anti-biofilm agent in vaginal infections including bacterial vaginosis”

Olfert, Mark, PhD, Division of Exercise Physiology

- “Effects of nicotine and e-cigarettes cardiovascular and respiratory structure and function”

Patra, Kamakshya P., MD, Department of Pediatrics

- “Better Outcomes of Children through Safer Transitions”
- “Reducing Excessive Variation in Infant Sepsis Evaluations”

Pugacheva, Elena, PhD, Department of Biochemistry, WVU Cancer Institute

- “The development of novel patient-derived models to test efficacy of targeted therapy in metastases of breast cancer”
- “The development of new NEDD9-based therapeutics to treat HER2-positive breast cancers”
- “Discovery of primary cilium disassembly complex: the driving force of de-ciliation in glioblastoma”

Robart, Aaron, PhD, Department of Biochemistry

- **Structural Studies of Flavivirus RNA Replication**  
Mosquito-borne flaviviruses represent important human pathogens such as dengue fever, yellow fever, West Nile, and Zika virus. These positive single strand RNA viruses encode a single large open reading frame flanked by 5' and 3' untranslated regions (UTRs). Flavivirus UTRs are conserved, and fold into highly ordered RNA structures important for viral genome replication and packaging. The goal of this project is to obtain an atomic resolution structure of the Zika virus UTRs, and to biochemically probe the structure to understand how RNA interactions promotes viral life cycle progression.

Salm, Adrienne, PhD, Department of Neurobiology and Anatomy

- “Examining the brains of exposed animals to nanoparticulate with a combination of fluorescence immunocytochemistry and dark-field microscopy in an effort to document the colocalization of brain inflammation and nanoparticles”
- “Nanoparticulate matter found in polluted air as a source of chronic brain inflammation leading to Alzheimer’s disease and other dementias; adding strong 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”

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”

Steadman, Brent, MD, PhD, Vascular and Interventional Radiology

- "Retrospective case series review of high energy microwave ablation of osteoid osteoma at WVU. Development of a standardized protocol for successful osteoid osteoma treatment with microwave ablation."
- "Partition Dosimetry Estimation for Y-90 Dose with SPECT/CT Tc MAA Compared to Actual Y-90 Dose Administration by PET/CT. Retrospective analysis of dosimetry methodology, actual dose administration, and imaging results for efficacy."

Szoka, Nova, MD, Department of Surgery

- “Retrospective Chart Review of Appalachian Bariatric Patients' Lifestyle Behaviors and Clinical Outcomes”
- “Short Term Postoperative Outcomes in a Rural Bariatric Surgery Population”

Vona-Davis, Linda, PhD, Department of Surgery

- “Tumor-associated adipocytes support breast cancer in obesity”

### School of Pharmacy

Geldenhuys, Werner, PhD, Department of Basic Pharmaceutical Sciences

- “Identification of mitochondrial mitoNEET ligands for use in the treatment of Parkinson’s disease”

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”

Kan, Hong, PhD, CDC/NIOSH and also WVU Department of Pharmaceutical Sciences

- “Are nanoparticles a risk factor for adverse cardiovascular outcomes”

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”

Nayeem, Mohammed A., PhD, Department of Pharmaceutical Sciences

- “Genetic polymorphism in humans which may cause hypertension/salt sensitive hypertension, and blunted coronary hyperemic response lead to myocardial infarction and cardiac death”
- “The identification of polymorphic genes, their related oxylipin profiles in blood samples of both patients and mice involve translational aspects”
- “Advanced pharmacology and gene manipulated technology in mouse models ( $A_{2A}$  AR<sup>-/-</sup>, CYP2J5<sup>-/-</sup>, Tie2-CYP2J2 Tr, sEH<sup>-/-</sup>, Tie2-sEH Tr & WT) may help in solving the above mentioned cardiovascular diseases in near future”

Winstanley, Erin, PhD, School of Pharmacy

- “Opioid overdose prevention, secondary analysis of prescription drug monitoring program data, and opioid safety education for high-risk patients”

CDC/NIOSH/HELD

Qian, Yong, PhD,

- “Toxicological Assessment of the Airborne Contaminants released from Solid-surface Composite (ACSC)”