Faculty Research Synergy Event

Tuesday, December 1, 2020
5:00—6:00 PM
This “faculty research resource book” is a compilation of faculty research interests and expertise. Please feel free to use it for notes, contact information, etc.
AGING

Malwina Czarny-Ratajczak, PhD
Assistant Professor, Dept. of Medicine, Center for Aging - SOM
mczarnyr@tulane.edu
Identification of novel genetic and epigenetic factors contributing to development of primary osteoarthritis (OA). Next-generation sequencing approach to study exome, transcriptome and exosomal miRNAs of patients with osteoarthritis. Other Research Interests include: Genetics, Skeletal Disorders

S. Michal Jazwinski, PhD
Professor, Medicine – General Internal - SOM
sjazwins@tulane.edu
My research includes measures and determinants of biological age and healthy aging. I am particularly interested in individual phenotypic variability of lifespan and health span. I focus on mitochondrial mechanisms of aging and compensatory processes for age-related mitochondrial dysfunction. Other Research Interests include: Genetics

Prasad Katakam, MD, PhD
Associate Professor, Pharmacology - SOM
pkatakam@tulane.edu
Regulation of cerebral microvasculature in health and conditions of stroke, diabetes, aging, and Alzheimer's disease. Other Research Interests include: Cardiology, Endocrine/Bone, Neurosciences, Vascular Biology

Geraldine E. Ménard MD
Associate Professor, Medicine – General Internal Medicine - SOM
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Research to expand and train primary care workforce to care for the aging population. As there are a limited number of geriatrics specialists, training others in primary care in key management and prevention strategies for geriatrics patients will expand medical care to this vulnerable population. Partnering with UC-Irvine on this research which also includes mentorship for reestablishing the Geriatrics fellowship training program which ceased after hurricane Katrina. Other Research Interests include: Expansion of Geriatrics Workforce and Training Primary Care MDs on Geriatrics Management
In response to the CoVID-19 emergency, Dr. Rappaport has provided leadership to initiate studies to develop non-human primate models for CoVID-19 infection in rhesus macaques and African Green Monkeys using multiple routes of infection, including aerosol inoculation. In order to support therapeutic studies, we are designing animal studies to better recapitulate the severity of disease exhibited in CoVID-19 infected persons with predisposing comorbid conditions, as well as in vitro studies of viral infection using primary and transformed cell lines expressing ACE-2. Dr. Rappaport also serves a member of the Accelerating CoVID-19 Therapeutic Interventions and Vaccines (ACTIV) pre-clinical committee, since its inception in April, 2020. Other Research Interests include: Infectious Diseases

Mimi Sammarco, PhD
Assistant Professor, Surgery – Clinical Research - SOM
msammarc@tulane.edu
I investigate mechanisms promoting soft tissue and bone regeneration in the context of aging. I use the mouse digit regeneration model to gain a more thorough understanding of how the role of oxygen and cellular metabolism affect regeneration in an aged model in order to delineate between regeneration-competent and incompetent tissue environments. Using aging as a model to better understand regeneration will enable us to shed light on the regenerative process and to develop ways to address fracture healing and poor wound closure in the aged population. Other Research Interests include: Aging, Endocrine/Bone, Imaging, Regenerative Medicine/Tissue Engineering

Lizheng Shi, PhD
Professor and Chair, Global Health Management and Policy - SPHTM
lshi1@tulane.edu
Pharmaceutical and health care economics; pharmacoepidemiology; health care quality, access, and evaluation.

Qinyan Yin, DVM, PhD
Assistant Professor, Medicine – Pulmonary Diseases - SOM
qyin@tulane.edu
The function of RNA splicing and virus in lung biology, aging and tumorigenesis. Other Research Interests include: Cancer/Hematology, Lung
Courtney Baker, PhD
Associate Professor, Psychology - SSE
cnbaker@tulane.edu
My primary research interests include dissemination and implementation research, prevention and early intervention, mental health, violence prevention, early childhood, underserved populations, and community-based participatory research.

Kate Baker, PhD
Research Professor, Veterinary Medicine – TNPRC
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Behavioral biology of nonhuman primates: areas of concentration include social behavior, infant development, and behavioral pathology, as well as the application of behavioral observation and testing in support of various disease models such as HIV, Zika virus, globoid cell leukodystrophy and amyotrophic lateral sclerosis. Other Research Interests include: Behavioral Biology

Patrick Bordnick, PhD
Dean, School of Social Work - SW
bordnick@tulane.edu
Dr. Bordnick has over twenty years of experience in clinical and laboratory research on cocaine, marijuana, alcohol, amphetamine, heroin, and nicotine addiction. Research interest areas include clinical medication trials, treatment development, human laboratory studies, behavioral disorders, health/behavioral health, virtual reality, and mobile data collection. Other Research Interests include: Virtual Reality Treatment of Addiction

Paul Colombo, PhD
Associate Professor, Psychology - SSE
pcolomb@tulane.edu
My research includes: To elucidate the neuronal mechanisms of memory formation with emphasis on the roles of signaling proteins, including kinases, phosphatases, and transcription factors. The second aim is test hypotheses regarding independence or interactions among multiple memory systems. The third aim is to apply results of studies of the neuronal mechanisms of memory formation to studies of age-related memory impairment under normal (e.g. non-pathological) aging conditions. Other Research Interests include: Aging, Neurosciences
BEHAVIORAL HEALTH

Lorelei Cropley, Dr.PH
Associate Professor, Global Community Health and Behavioral Sciences – SPHTM
lcropley@tulane.edu
Efficacy of Short Term Brigades, Iron deficiency anemia behavioral interventions using iron cookware, Chagas Disease KAP studies.
Other Research Interests include: Infectious Diseases

M.A. "Tonette" Krousel-Wood, MD, MSPH
Professor of Medicine and Epidemiology, Associate Provost for the Health Sciences; Senior Associate Dean for Faculty Affairs-SOM; Associate Dean for Public Health & Medical Education-SPHTM and SOM
mawood@tulane.edu
Aging and Cardiovascular Disease with a special emphasis on adherence. Other Research Interests include: Aging, Women's Health, medication adherence, hypertension, cardiovascular disease, older adults, implementation research

Thomas LaVeist, PhD
Dean, School of Public Health and Tropical Medicine - SPHTM
tal@tulane.edu
Dr. LaVeist's research and writing has focused on three broad thematic research questions: 1) What are the social and behavioral factors that predict the timing of various related health outcomes (e.g. access and utilization of health services, mortality, entrance into nursing home? 2) What are the social and behavioral factors that explain race differences in health outcomes?; and 3) What has been the impact of social policy on the health and quality of life of African Americans? His work includes both qualitative and quantitative analysis. LaVeist seeks to develop an orienting framework in the development of policy and interventions to address race disparities in health-related outcomes. Specific areas of expertise include: U.S. health and social policy, the role of race in health research, social factors contributing to mortality, longevity and life expectancy, quantitative and demographic analysis and access, and utilization of health services.
Michael Hoerger, PhD  
Assistant Professor, Psychology - SSE  
mhoerger@tulane.edu  
I conduct research in psycho-oncology. Using a translational perspective, he draws upon fundamental behavioral science to anticipate, prevent, and alleviate the stress of cancer. Other Research Interests include: Aging, Bioinformatics/Statistics, Cancer/Hematology, Lung, Medical Education, Men’s Health, Women’s Health

Damian R. Murray, PhD  
Assistant Professor, Psychology – SSE  
dmurray4@tulane.edu  
My research investigates the implications of real and perceived disease threat for social behavior, personality, and cross-cultural differences. He also investigates the relationships between genetic markers of vulnerability to disease and disease-avoidant behavior. Other Research Interests include: Genetics, Infectious Diseases

Leia Saltzman, PhD  
Assistant Professor, School of Social Work - SSW  
lsaltzman@tulane.edu  
My research explores the impact of psychological trauma on mental and physical health outcomes. I am particularly interested in sex differences over time. Other Research Interests include: Women’s Health, Psychological Trauma and Traumatic Grief

Michael S. Scheeringa, MD, MPH  
Professor, Psychiatry - SOM  
mscheer@tulane.edu  
Psychopathology in infant and preschool children; autonomic heart period control; electroencephalography; cortisol regulation; parent-child relationship quality; treatment for young children. Other Research Interests include: Neurosciences

George Singletary, MD, MPH  
Assistant Professor, Psychiatry - SOM  
gsinglet@tulane.edu  
I am new faculty in Addiction Medicine housed in the Department of Psychiatry. I am interested in speaking with other faculty that might want to collaborate on research in the field of Addiction. I am currently working with Department of Global Health on applications for funding for relapse prevention studies utilizing smart phone technology. Other Research Interests include: Addiction
Charley Zeanah, MD
Professor, Psychiatry and Behavioral Sciences - SOM
czeanah@tulane.edu
My research has focused on children coping with extremes of caregiving adversity and their outcomes across a range of behavioral, brain and cognitive outcomes. In particular, I have focused on the effects of excessive unwanted input (i.e., trauma) and the effects of inadequate expected input (i.e., deprivation and neglect). I have studied early childhood disorders, especially posttraumatic stress and attachment disorders in children who have been maltreated or raised in conditions of deprivation.
Hong Wen Deng, PhD
Professor, Medicine - Center For Biomedical Informatics And Genomics - SOM
hdeng2@tulane.edu
Research interests include: omics studies, aging, osteoporosis, sarcopenia, obesity, and other complex disorders. Other Research Interests Include: Aging, Endocrine/Bone, Genetics, Imaging, Men’s Health, Women’s Health

Loren Gragert, PhD
Assistant Professor, Pathology and Laboratory Medicine - SOM
lgragert@tulane.edu
My lab focuses on population genetics and informatics in transplantation. Our main project involves translating datasets and tools originally developed for bone marrow transplant matching into the field of solid organ transplantation. We also develop statistical genetics methodologies for disease association and evolutionary biology studies, focusing on the highly polymorphic HLA and KIR immune gene systems. Other Research Interests include: Cancer/Hematology, Genetics, Immunology/Allergy/Skin, Kidney-Hypertension, Stem Cell Research

Hua He, PhD
Associate Professor, Epidemiology – SPHTM
hhe2@tulane.edu
Statistical methodology, particular longitudinal data analysis, latent class analysis, causal inference, ROC analysis etc., and its applications in health research.

Michelle Lacey, PhD
Associate Professor, Mathematics – SSE
mlacey1@tulane.edu
My primary research interests are in epigenetic modeling and analysis and in phylogenetics, and I also have extensive experience in the analysis of data generated by high throughput experiments. Other Research Interests include: Genetics
BIOINFORMATICS AND STATISTICS

Yao-Zhong Liu, PhD
Associate Professor, Biostatistics and Data Science – SPHTM
yliu8@tulane.edu
My research is focused on RNA-seq and other genomics data analysis. My recent research involves RNA-seq analysis of lung epithelial cells for toxicological effects of oil spill products. I'm now extending this research to mouse models. I'm also collaborating with other investigators in RNA-seq based research, such as virus interactome with humans, transcriptomic analysis of Trypanosoma cruzi (the parasite causing Chagas disease) and RNA-seq of stem cells for their survival outcome. Other Research Interests include: Endocrine/Bone, Genetics, Lung

Ramgopal Mettu, PhD
Associate Professor, Computer Science – SSE
rmettu@tulane.edu
My work is at the intersection of algorithms, machine learning and computational biology. Applications of my work include protein structure prediction and determination, protein-protein interactions, compound screening, as well as problems in high-throughput sequencing and proteomics. Other Research Interests include: Genetics, Immunology/Allergy/Skin

Brian Summa, PhD
Assistant Professor, Computer Science – SSE
bsumma@tulane.edu
My research focuses on the design of scalable algorithms for the interactive exploration, visualization, segmentation, and analysis of large data. Recent medical applications of my work include: the visualization and registration of large 2-photon, electron, and confocal microscopy scans; automatic and semi-automatic neural pathway tracing; understanding and quantifying the uncertainty in medical image segmentation; and visualization and analysis of large digital pathology slides. Other Research Interests include: Cancer/Hematology, Neurosciences

Sudesh K. Srivastav, PhD
Professor, Biostatistics and Data Science – SPHTM
ssrivas@tulane.edu
Any biostatistics and quantitative bioinformatics applications in biological and public health data – range from design issues (including sample and power analysis) to statistical analysis of the study. Other Research Interests include: Genetics
Bioinformatics and Statistics

Brigham Walker, MsC, PhD
Assistant Professor, Health Policy and Management - SPHTM
bwalker6@tulane.edu
Brigham Walker is a Research Assistant Professor in the Department of Health Policy and Management at the Tulane School of Public Health and Tropical Medicine. His research generally focuses on how providers, payers, and patients behave in response to new information or incentives. He is also interested in discrimination and equity topics generally. Other Research Interests include: Equity, Incentives, Information

Yu-Ping Wang, PhD
Professor, Biomedical Engineering – SSE
wyp@tulane.edu
Integration of multiscale and multimodal imaging and genomic data. Biomedical image processing, statistical and computational modeling, and analysis of biomedical data. Other Research Interests include: Genetics, Neurosciences, Behavioral Health

Carola Wenk, PhD
Professor, Computer Science – SSE
cwenk@tulane.edu
My research area is in computational geometry, with a focus on analyzing discrete geometric shapes. I have strong interests in interdisciplinary applications including biology and medicine. I am interested in learning about the potential to collaborate on geometric data analysis problems for biomedical data, including medical imaging data. One of my current projects involves developing topological descriptors that capture architectural features of prostate glands in pathology images. Other Research Interests include: Imaging, Algorithms
BIOPHARMA MANUFACTURING

Vijay John, PhD
Professor, Chemical and Biomolecular Engineering – SSE
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A major project that I am now working on is in the exploitation of lipid self-assembly to induce transcutaneous vaccine delivery. Biological lipids and synthetic surfactants) is essential in technologies as mundane as consumer detergent products, and technologies of the future as in the development of structured, responsive nanomaterials. Biological membranes are ubiquitous examples of lipid-self assembly that impacts the entire function of a cell. Other Research Interests include: Cancer/Hematology, Infectious Diseases, Medical Devices

Roberta McDuffie, CNS, BC, CDE, BSBA
Instructor, Medicine – Endocrinology; Director, Tulane Clinical Translational Unit - SOM
rmcduffi@tulane.edu

Roberta McDuffie is Director of the Tulane Clinical Translational Unit. Other Research Interests include: Cardiology, Endocrine/Bone

Nicholas Sandoval, PhD
Assistant Professor, Chemical and Biomolecular Engineering - SSE
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My lab works on the development and application of advanced synthetic biology tools for model and non-model microbes for the purpose of sustainable fuel and chemical production. This includes the efficient use of directed evolution to engineer such microbes from the gene to genome level as well as high throughput tools for analysis and engineering such as DNA synthesis, next generation sequencing, and cell sorting.
Asim Abdel-Mageed, DVM, MsC, PhD
Professor, Urology - SOM
amageed@tulane.edu
My research interest focuses on identifying molecular determinants of prostate cancer progression, with special emphasis on health disparity. One approach involves genetic engineering and selective delivery of stem cells to target “intracrine” production of androgens at metastatic sites. Other Research Interests include: Stem Cell Research, Exosomes and Therapy, Molecular Determinants, Biomarkers and Therapeutic Targeting of Prostate Cancer

Muralidharan Anbalagan, PhD
Assistant Professor, Structural and Cellular Biology - SOM
manbalag@tulane.edu
Breast Cancer Research, Circadian disruption by artificial light at night, and Bone Metastasis. Other Research Interests include: Endocrine/Bone, Women’s Health

Pedro Barata, MD
Assistant Professor, Medicine – Hematology/Medical Oncology - SOM
pbarata@tulane.edu
I am a medical oncologist and physician researcher in with a special interest in genitourinary tumors (prostate, kidney and bladder cancers) and clinical trials

Diane Blake, PhD
Professor, Biochemistry and Molecular Biology - SOM
blake@tulane.edu
My laboratory has expertise in antibody engineering and the development of new antibodies with novel binding activities for use as diagnostics and therapeutics. We also work with an interdisciplinary team to develop biodegradable drug delivery devices for treatment of glioblastoma and for control of fibrosis during the wound healing process.

David E. Blask, PhD, MD
Professor, Structural and Cellular Biology - SOM
dblask@tulane.edu
My research interest is in the circadian/melatonin regulation and circadian disruption by light at night of cancer growth and metabolism.
J. Quincy Brown, PhD  
Associate Professor, Biomedical Engineering - SSE  
jgbrown@tulane.edu  
My research focuses on the application and clinical translation of quantitative optical spectroscopy and imaging tools for the improvement of cancer management. We develop translatable optical methods to directly address gaps in clinical care, and carry those through to clinical validation in humans alongside our interdisciplinary collaborators. A major theme in this work is the use of novel imaging devices (and computational analysis tools) to improve patient outcomes in surgical tumor removal in organs such as the breast, prostate, & kidney. We also develop tools & strategies using optics to answer interesting biological questions in cell and animal models. To achieve these goals, we leverage new & existing photonic technologies across multiple spatial scales such as quantitative diffuse reflectance spectroscopy and imaging (DRS, DRI), fluorescence lifetime imaging, structured-illumination microscopy (SIM), and light sheet microscopy (LSM).

Joseph Bull, PhD  
Professor and Associate Dean, Biomedical Engineering - SSE  
jbull@tulane.edu  
My research program is focused on ultrasound and biofluid mechanics, with an interest in fundamental understanding that enables new clinical therapies or diagnostics. An example is our novel therapeutic approach, termed gas embolotherapy that involves injecting encapsulated perflurocarbon liquid droplets into the bloodstream and then selectively vaporizing them with focused ultrasound to form gas bubbles for occlusion of blood flow to tumors and/or localized drug delivery. Other Research Interests include: Imaging, Lung, Medical Devices, Neurosciences

Matthew E. Burow, PhD  
Associate Professor, Medicine – Hematology/Medical Oncology - SOM  
mburow@tulane.edu  
Estrogen receptor, cell signaling and cancer systems. One of our goals is to elucidate the altered activation of signaling cascades which target estrogen receptor mediating gene expression which ultimately leads to a hormone independent and endurance therapy resistant phenotype. We are collaborating with other laboratories to study natural and artificial phytochemicals as novel anti-estrogenic and anti-resistance agents through coordinate targeting of ER-activity, cell signaling and coactivator function. We have begun to study the role played by microRNAs (miRNA) in estrogen receptor biology and the specific regulation of gene expression by steroid hormone receptors.
Breast Cancer long-term objectives of 1- identifying molecular mechanisms of breast cancer resistance and metastasis 2-implementing novel therapeutic strategies that can target and overcome altered gene networks involved in controlling breast cancer progression and 3- driving the translation of the laboratory science to the clinical patient setting. More recently we have focused on the role of novel experimental agents and epigenetic therapy in the regulation of microRNA expression in breast cancer with specific interest in triple-negative or basal phenotype breast cancer.

The research in my laboratory bridges genetics, cancer biology and developmental biology. Using the genetically tractable Drosophila model, we seek to understand how cell growth, proliferation and polarity are regulated during development, and how their deregulation may result in uncontrolled growth, loss of tissue integrity, and neoplastic tumor transformation. Currently, we focus on the following research projects: I. Characterization of “tumor hotspots”, the tissue microenvironment for tumorigenesis. II. A transition zone model for oncogenic Notch induced neoplastic-tumorigenesis. III. Drosophila model for pediatric malignant rhabdoid tumors. IV. Tissue homeostasis through cell competition and compensatory cellular hypertrophy. Other Research Interests include: Genetics, Imaging, Developmental Biology, Cell Biology

Assistant Professor, Medicine – Hematology and Medical Oncology - SOM
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Yan Dong, PhD
Professor, Structural & Cellular Biology - SOM
ydong@tulane.edu
Our research is focused on prostate cancer, particularly in altered androgen receptor signaling in castration-resistant prostate cancer and mechanisms and efficacies of candidate prostate cancer interventions, hormone therapy, and increased chemotherapeutic efficacy for triple-negative breast cancer. I am also interested in studying the mechanism of resistance of prostate cancer to hormone therapy as well as the mechanism of prostate cancer progression induced by circadian disruption.

Mark J. Fink, PhD
Professor, Chemistry – SSE
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Synthesis and Properties of Semiconductor Nanoparticles. Our group, in collaboration with Brian Mitchell (Chemical Engineering), is active in the synthesis of silicon nanoparticles and quantum dots. Silicon nanoparticles have great potential as non-toxic luminescent biomarkers and multimodal drug delivery agents. Other Research Interests include: Immunology/Allergy/Skin

Paul Friedlander, MD
Professor and Chair, Otolaryngology - SOM
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Racial disparity in healthcare; Tumor growth and wound healing as well as outcome analysis for at risk populations for head and neck cancer.

Scott Grayson, PhD
Professor, Chemistry – SSE
sgrayson@tulane.edu
We investigate the role of polymer carrier architecture in optimizing physical (and hence pharmacokinetic) properties. We have projects which target aqueous soluble, bloodborne carriers, transdermal carriers, and gene transfection carriers. Other Research Interests include: Immunology/Allergy/Skin
Retrotransposition in the germ line L1s are transposons that are expressed in the germ line of mammals. These mobile genetic elements replicate by transcribing their RNA, and then reverse transcribing this RNA into new DNA at a different chromosomal site. Since L1 replication involves chromosome breakage, we expect that excessive L1 activity can be disastrous to host genome integrity. Indeed, loss of transposon control pathways by mutation is associated with massive L1 expression, germ cell death, and sterility. This has obvious significance for fertility research. We have identified genetic pathways important for the activity of L1. We are also screening small drug-like compounds for inhibitory activity against L1. We hope to use these finding to assess the effects of blocking L1 activity genetically or with drugs on infertile mouse models that over express L1. We also would like to examine whether elevated L1 expression is overrepresented in human patients with infertility of unknown etiology. Other Research Interests include: Aging, Genetics, Men’s Health, Women’s Health

My work focuses on unraveling the molecular mechanisms involved in the pathobiology of cancer. My goal is to identify novel therapeutic targets in cancer. My investigations involve both cancer and stem cell biology and utilize in vitro and in vivo studies. Other Research Interests include: Aging, Cardiology, Regenerative Medicine/Tissue Engineering, Stem Cell Research

My lab is interested in the therapeutic response of breast cancers. Specifically, we aim to determine why some tumors relapse more quickly than others and also what cells in a heterogeneous tumor eventually proliferate to cause the relapse. We are investigating the role of p53 mediated cellular senescence in driving relapse. We use transgenic mouse models, ex vivo lentiviral infection, orthoptopic transplantation in syngeneic mice, and tissue culture model systems. Other Research Interests include: Aging, Genetics
Janarthanan Jayawickramarajah, PhD  
Professor, Chemistry – SSE  
jananj@tulane.edu  
My research focuses on the synthesis of designer molecules and nanoparticles that have the unique ability to undergo specific self-assembly and molecular recognition events. In particular, we are using these systems to generate protein inhibitors that are activated by endogenous biomarkers (including over-expressed microRNAs and enzymes).

Shanker Japa, PhD  
Associate Professor, Medicine - SOM  
japashan@tulane.edu  
Coenzyme-Q10 as an Adjunct to Standard Therapies in Elderly Patients with Chronic Heart Failure and Type 2 Diabetes. Other Research Interests include: Cardiology, Infectious Diseases

Emad Kandil, MD  
Professor, Surgery - SOM  
ekandil@tulane.edu  
Therapeutic Targeting of the MAP Kinase and PI3K Pathways in Thyroid Cancer. Other Research Interests include: Endocrine/Bone

Damir Khismatullin, PhD  
Associate Professor, Biomedical Engineering – SSE  
damir@tulane.edu  
My laboratory focuses on understanding the mechanical and transport properties of biological systems at cellular and tissue levels. Using experimental and theoretical approaches, we study the interactions of blood cells (leukocytes, platelets, red blood cells), tissue resident cells (macrophages, mast cells), and circulating tumor cells with vascular and lymphatic endothelium under pathophysiological conditions such as inflammation, atherosclerosis, thrombosis, sickle cell disease, and cancer metastasis. Another aspect of our research is the development of medical ultrasound technologies for cancer treatment, blood coagulation monitoring, and nerve regeneration. We also develop novel methods for rheological characterization of living cells and tissues and use our state-of-the-art computational fluid dynamics models to predict blood flow in vessels with complex geometry. Other Research Interests include: Immunology/Allergy/Skin, Neurosciences
L. Spencer Krane, MD  
Assistant Professor, Urology - SOM  
lkrane1@tulane.edu  
I currently am focused on biomarker development, particularly in Kidney cancer. We're also interested in prostate cancer treatment and outcomes and other urologic malignancies. Other Research Interests include: Genetics, Kidney/Hypertension, Medical Education, Men’s Health

Sean B. Lee, PhD  
Associate Professor, Pathology and Laboratory Medicine - SOM  
slee30@tulane.edu  
My research interests are in cancer and development. Specifically, we study cancers that involve EWS (Ewing sarcoma) gene as an oncogenic translocation gene product using knock-in mice. We are also interested in studying the functions of EWS in development. We have recently uncovered a novel role for EWS in determining brown fat lineage during development. We are planning to further study the role of EWS in metabolism (e.g. diabetes and obesity). Other Research Interests include: Endocrine/Bone, Metabolism

Zhen Lin, MD, PhD  
Assistant Professor, Pathology - SOM  
zlin@tulane.edu  
I am particularly interested in two DNA tumor viruses: Human papillomavirus (HPV) and the Epstein-Barr virus (EBV). In our research we try to utilize both sequencing based informatics approaches and traditional wet-lab methods to investigate the pathological role of these viruses in cancer development (e.g. lung cancer, nasopharyngeal carcinoma, etc.). Meanwhile, I am also interested in clinical translational research and try to develop new therapeutic approaches to treat virus-associated cancers. Other Research Interests include: Bioinformatics/Statistics, Genetics, Infectious Diseases, Lung

Hong Liu, PhD  
Assistant Professor, Biochemistry and Molecular Biology - SOM  
hliu22@tulane.edu  
To understand how genetic information is properly transmitted through generations and also apply the knowledge to understand the causes of human diseases, such as cancer. Other Research Interests include: Aging
Hua Lu, MB, PhD
Professor and Chair, Biochemistry and Molecular Biology - SOM
hlu2@tulane.edu
Molecular dissection and translational research of the p53 and c-myc networks in controlling cell growth, senescence, death, differentiation, and tumorigenesis as well as anti-cancer drug discovery.

Heather Machado, PhD
Associate Professor, Biochemistry and Molecular Biology - SOM
hmachado@tulane.edu
My laboratory focuses on understanding how infiltrating macrophages promote breast cancer initiation and progression. Other Research Interests include: Women’s Health

Charles Miller, PhD
Professor and Chair, Environmental Health Sciences - SPHTM
rellim@tulane.edu
I study adverse effects of chemicals in molecular, cellular, and animal model systems. I am particularly interested in chemicals that interact with the aryl hydrocarbon receptor signaling pathway.

Krishnarao Moparty, MD
Professor, Urology - SOM
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My research has been in the field of prostate cancer, especially molecular biology and active surveillance. Other Research Interests include: Men’s Health

Zachary Pursell, PhD
Associate Professor, Biochemistry and Molecular Biology - SOM
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My research focuses on the regulation of DNA replication and how it relates to genome instability and human diseases, in particular the development of cancer.
Nakhle Saba, MD
Associate Professor, Medicine – Hematology/Oncology - SOM
nsaba@tulane.edu
Translational research in Chronic Lymphocytic Leukemia and Mantle Cell Lymphoma: disease biology and novel therapies.

Oliver Sartor, MD
Professor, Medicine - Hematology & Medical Oncology - SOM
osartor@tulane.edu
My current research interests include clinical trials in advanced prostate cancer with novel agents and novel combinations of agents. My collaborative projects include novel concepts in prostate stem cells and germ line assessment of prostate cancer risk. Other Research Interests include: Men’s Health

Tong Wu, MD, PhD
Professor, Pathology and Laboratory Medicine - SOM
twu@tulane.edu
My research centers on the molecular mechanisms of inflammation and carcinogenesis, with a special emphasis on the pathogenesis of liver cancer and inflammatory liver diseases. My additional research interests include mechanisms of liver injuries, regulation of hepatobiliary epithelial cell growth and clinical/translational research on human liver cancer and liver diseases. Other Research Interests include: Gastroenterology

Zongbing You, MD, PhD
Professor, Structural & Cellular Biology - SOM
zyou@tulane.edu
Primarily study inflammation/immune responses in prostate cancer and lung cancer, focusing on interleukin-17. Secondarily study tissue engineering of articular cartilage using adipose tissue-derived stem cells transfected with doublecortin gene (DCX). Other Research Interests include: Aging, Immunology/Allergy/Skin, Lung, Regenerative Medicine/Tissue Engineering, Stem Cell Research

Shelya Zeng, MD
Research Professor, Biochemistry and Molecular Biology - SOM
szeng@tulane.edu
Molecular dissection and translational research of the p73 and c-myc networks in controlling cell growth, senescence, death, differentiation, and tumorigenesis.
Qiuyang (Lisa) Zhang, PhD
Assistant Professor, Structural & Cellular Biology - SOM
gzhang3@tulane.edu
I am interested in inflammaging (both aging and inflammation) and cancer, with a focus on Th17 cytokines and prostate cancer in the aging process. I am using genetically engineered mouse models to address the role of Th17 cytokines in the aging process. Also of interest is the role that Th17 cytokines play in the development of prostate cancer. Other Research Interests include: Aging, Immunology/Allergy/Skin
Antoine Chaanine, MD
Assistant Professor, Medicine – Cardiology - SOM
achaanine@tulane.edu
My research has been focused on studying endoplasmic reticulum - mitochondrial calcium homeostasis and mitophagy in cardiac stress. Specifically, I am interested in a molecule called BNIP3 that is upregulated in patients with systolic heart failure and contributes to myocardial remodeling by promoting mitochondrial Calcium overload and mitochondrial dysfunction in heart failure. Other Research Interests include: Myocardial Remodeling, Myocardial Energetics, Mitophagy, Apoptosis

Patrice Delafontaine, MD
Executive Dean and Professor, School of Medicine - SOM
pdelafon@tulane.edu
Dr. Delafontaine has a long record of productive research in the field of Insulin-Like Growth Factor (IGF-1) biology, atherosclerosis, and skeletal muscle wasting. Recent work demonstrates that monocyte-macrophage IGF-1 receptor deletion skews macrophages to a pro-inflammatory M1-type polarity and smooth muscle effects of IGF-1 promote plaque stability. Current projects include testing IGF-1 as an anti-atherosclerotic therapy in a large animal model to understand mechanisms underlying plaque-stabilizing effects of IGF-1, and studying the role of a multi-functional enzyme glyceraldehyde 3-phosphate dehydrogenase in SMC DNA repair, apoptosis and atherosclerosis and to test in vivo efficiency of the novel “anti-DNA damage” drug. Other Research Interests include: Aging, Kidney/Hypertension, Regenerative Medicine/Tissue Engineering

Jiang He, MD, PhD
Professor and Chair, Epidemiology – SPHTM
jhe@tulane.edu
Omic, clinical, and epidemiological research in cardiometabolic diseases. Other Research Interests include: Genetics, Kidney/Hypertension

Robert Hendel, MD
Professor, Medicine – Cardiology - SOM
rhendel@tulane.edu
My personal research has been in cardiac imaging (nuclear cardiology and cardiac CT), as well as the appropriate use of cardiovascular technology. Our section has interest in population health, obesity, and medical devices. Other Research Interests include: Imaging, Medical Education
Stryder Meadows, PhD
Associate Professor, Cell and Molecular Biology - SSE
smeadows@tulane.edu
My lab is focused on understanding the genetic pathways involved in regulating embryonic and retinal blood vessel development. In particular, we are interested in blood vessel fusion and artery-vein identity. Other Research Interests include: Genetics

Xuebin Qin, MD, PhD
Professor, Immunology - TNPRC
xqin2@tulane.edu
My research focuses on defining the role of innate immunity including complement system and monocyte activation in the pathogenesis of human diseases, such as HIV infection, HIV-associated cardiovascular diseases, and on developing a novel cell ablation research tool for broad scientific applications. I have extensive expertise in immunology, monocyte & macrophage biology, complement, HIV-1 therapy, atherosclerosis, and cancer biology. Other Research Interests include: Aging, Immunology/Allergy/Skin, Infectious Diseases, Regenerative Medicine/Tissue Engineering, Complement and T Cell biology

Thomas Cooper Woods, PhD
Associate Professor, Physiology
twoods3@tulane.edu
Charles Billings, MD
Assistant Professor, Orthopaedics - SOM
cbillin1@tulane.edu
Topical use of tranexamic acid to reduce blood loss in total joint replacements

Vivian Fonseca, MD
Professor, Medicine - Endocrinology and Metabolism- SOM
vfonseca@tulane.edu
The prevention and treatment of diabetic complications and risk factor reduction in cardiovascular disease. I am currently evaluating inflammation as risk factors for heart disease in diabetes. I am an investigator in the NIH-funded (ACCORD) study and its follow up ACCORDION) and Action to Control Cardiovascular Risk in Diabetes serve on the Glycemic control and ancillary studies committees. I am conducting clinical trials in diabetic nephropathy and evaluating biosimilar insulins. Other Research Interests include: Cardiovascular Risk

Fenglei He, PhD
Assistant Professor, Cell and Molecular Biology – SSE
fhe@tulane.edu
Neural crest cells comprise a transient, highly migratory and multipotent population. Arising at early stage of embryo development, they play essential roles in organ morphogenesis and homeostasis. My research interest lies in understanding fundamental mechanisms of neural crest cell development and related diseases using mouse models. Our current projects focus on dissecting the role of growth factor signaling and downstream pathways in development of cranial neural crest cells and their skeletal derivatives. Other Research Interests include: Genetics, Regenerative Medicine/Tissue Engineering, Stem Cell Research

Franck Mauvais-Jarvis, MD, PhD
Professor, Medicine - Endocrinology and Metabolism - SOM
fmauvais@tulane.edu
We are interested in novel mechanisms and/or therapeutic perspectives for diabetes and of obesity especially as it relates to the role of estrogen and androgen in metabolic diseases. We seek to find novel ways to modulate estrogen and androgen actions in a tissue- and sex-specific manner to prevent/improve diabetes and metabolic dysfunction.
Fernando L. Sanchez, MD
Associate Professor, Orthopaedics - SOM
fsanchez@tulane.edu
My area of research interest includes orthopaedic clinical outcomes especially total joint and adult reconstruction. I am currently interested in doing further research in wear debris associated with bone loss and osteoarthritis.

Robert Galagan, MD
Assistant Professor – Medicine – Endocrine and Metabolism - SOM
rgalagan@tulane.edu
Dr. Galagan’s research interests include hospital treatment of diabetes mellitus, transitioning in-patients with diabetes to outpatient care and the treatment of diabetic peripheral neuropathy.

Felix Savoie, MD
Professor and Chair, Orthopaedics - SOM
fsavoie@tulane.edu
My research interests include chondrolysis in articular cartilage, advances in arthroscopy of the upper extremity, improvements in arthroscopic and open repair techniques of the upper extremity, and sports medicine. I have been co-PI on a series of studies investigating the interrelationship of time, temperature and intra-articular anesthetic injections in chondrolysis. Other Research Interests include: Aging

Michael Serou, MD
Assistant Professor, Radiology - SOM
mserou2@tulane.edu
I have a general interest in applying advanced imaging to medical research. Current projects include quantitative CT assessment of bone mineral density in an evaluation of epigenomic contributions to male osteoporosis. Other Research Interests include: Endocrine/Bone
Hongju Wu, PhD
Associate Professor, Medicine - Endocrinology and Metabolism - SOM
hwu3@tulane.edu
My research has been focused on exploring novel strategies for diabetes treatment and investigating the underlying mechanisms. We have two major projects: 1) To explore novel strategies to protect and to regenerate the insulin-producing β-cells; and 2) To investigate the role of GLP-1/GLP-1 receptor in regulating glucagon secretion. Other Research Interests include: Imaging, Kidney/Hypertension, Regenerative Medicine/Tissue Engineering
SOLANGE ABDULNOUR-NAKHOUL, PhD
Associate Professor, Medicine – Gastroenterology - SOM
solange@tulane.edu
My research is in physiology and biology of the esophagus (stratified squamous epithelium and glands), Reflux disease, and Eosinophilic Esophagitis. Other Research Interests include: Kidney/Hypertension

HOONBAE JEON, MD
Professor and Chief, Division of Transplantation Surgery - SOM
hjeon@tulane.edu
Hepatobiliary malignancy and liver transplant outcome. Other Research Interests include: Kidney/Hypertension, Medical Education

JORDAN KARLITZ, MD
Associate Professor, Medicine – Gastroenterology - SOM
jkarlitz@tulane.edu
I am interested in Lynch syndrome screening practices by tumor analysis for microsatellite instability (MSI) and immunohistochemistry (IHC) testing in young colorectal cancer patients. I am also interested in surgical practices in young colorectal cancer patients (extent of colonic resection). Finally, I am interested in colorectal cancer risk in the Cajun population. We recently demonstrated that the Acadian parishes of Louisiana have one of the highest rates of colorectal cancer in the U.S. I am currently the PI on a LA CaTS pilot grant that focuses on performing MSI and IHC testing on banked tumor specimens in Cajun patients to look for evidence of Lynch syndrome (founder effect in Cajun population). Other Research Interests include: Colorectal Cancer, Genetics

MARTIN MOEHLN, MD, MPH
Assistant Professor, Medicine - Gastroenterology & Hepatology
mmoehle@tulane.edu
I am specifically interested in using the VA database to answer clinically relevant questions within hepatology: descriptive analysis of viral hepatitis (treatment of monoinfected hepatitis C and hepatitis C-HIV coinfection in VA versus "real world"); hepatocellular carcinoma - treatment practices and access to care. The inter-relationship between treatment of hepatitis C with newly available direct antiviral agents and effect on diabetes related outcomes.
GASTROENTEROLOGY / LIVER

Anil Paramesh, MD
Professor, Surgery – Abdominal Transplant – SOM
aparamesh@tulane.edu
Other Research Interests include: Immunology/Allergy/Skin

Mansour Parsi, MD, MPH
Professor and Section Chief, Medicine – Gastroenterology – SOM
mparsi@tulane.edu
Dr. Parsi’s areas of research interest include both benign and malignant pancreatic diseases, cholangiocarcinoma, biliary strictures, and primary sclerosing cholangitis. Dr. Parsi is an international leader and has pioneered and developed several advanced endoscopic techniques for pancreatobiliary disease which has earned him several Innovator Awards in addition to extramural funding from the National Institutes of Health, the American College of Gastroenterology, and the American Society of Gastrointestinal Endoscopy.
Hans C. Andersson, MD
Professor and Director, Hayward Genetics Center – SOM
handers@tulane.edu
The Hayward Genetics Center follows the majority of inherited metabolic patients in the Gulf South Region (>200pts) which diseases are rare and have a poor evidence base. Our efforts have been to characterize the natural history and responses to therapy for these metabolic disorders. We have described the first long-term treatment outcomes for cobalamin C disease and pediatric Gaucher Disease. We are currently trying to understand the neurologic basis for changes in behavior and executive function in phenylketonuria patients treated with tetrahydrobiopterin. Through a regional genetics collaborative, we are developing a strategic plan for emergency preparedness as a model for genetics centers and genetic laboratories to follow.

YiPing Chen, PhD
Professor and Chair, Cell and Molecular Biology - SSE
ychen@tulane.edu
My research focuses on genetic regulation of organ formation and pathogenesis, particularly in craniofacial and cardiac development using transgenic/knockout mouse models.

Prescott Deininger, PhD
Professor, Cancer Center – SOM
pdeinin@tulane.edu
I am interested in the role that mobile elements play in mutagenesis within the human genome. This involves studies of their mutational capabilities, toxicity and the cellular response to their expression. Many studies involve DNA repair pathways, including nucleotide excision repair, mismatch repair and recombination. My laboratory specializes in high throughput molecular genetics techniques and applications. Other research interests include: Cancer/Hematology
Stacy Drury, MD, PHD  
Associate Professor, Psychiatry and Behavioral Sciences - SOM  
sdrury@tulane.edu  
I am interested in the interaction of genetic and epigenetic factors with early experience and how this interaction shapes neurodevelopment and long term outcomes in children. My research focuses on improving outcomes in medically ill children through providing a greater understanding of the impact of psychological distress, neurocognitive development and family functioning in these children. Other Research Interests include: Aging, Behavioral Health, Neurosciences, Telemore Biology

Laurie R. Earls, PhD  
Assistant Professor, Cell and Molecular Biology - SSE  
learls@tulane.edu  
I am interested in how the molecular pathways that modulate synaptic plasticity change with age, and how this confers selective vulnerability to disease onset. For example, we have previously shown that microRNAs that do not target calcium stores early in development are critical for modulation of the SERCA calcium pump in early adulthood. This results in age-dependent alterations in synaptic plasticity in models of the 22q11 Deletion Syndrome, the major genetic risk factor for schizophrenia. Additionally, we have discovered a novel peptide encoded in the 22q11DS disease-critical region that affects synaptic plasticity in an age-dependent manner. We use genetics, molecular biology, and electrophysiology to study the effects of these pathways on neural function with age. Other Research Interests include: Aging, Neurosciences

Melanie Ehrlich, PhD  
Professor, Human Genetics Program – SOM  
ehrlich@tulane.edu  
My lab is using epigenomics and epigenetics to elucidate differentiation of the skeletal muscle, bone, and cardiovascular lineages and abnormal changes in epigenetics associated with disease, especially cancer, muscle disease, osteoporosis, and heart disease studies of normal tissue, we are particularly interested in how the skeletal muscle-specific and brain-specific epigenetics fine tunes transcription. Other Research Interests include: Bioinformatics/Statistics, Cancer
Dr. Kathleen Ferris is an Assistant Professor in the Department of Ecology & Evolutionary Biology at Tulane University. Dr. Ferris got her PhD in Biology at Duke University and did her post-doctoral work in population and quantitative genetics at UC Berkeley and UC Davis. She studies the genetic and phenotypic basis of adaptation and speciation. Dr. Ferris uses quantitative and population genetics, genomics, and ecological field studies to examine these questions in the Mimulus guttatus species complex. Other Research Interests include: Evolutionary Biology

My research focuses on identifying multi-omics mechanisms underlying cardiometabolic diseases. Furthermore, my work aims to integrate multi-omics information using systems biology approaches to better elucidate biological pathways underlying these conditions. Other Research Interests include: Bioinformatics/Statistics, Kidney/Hypertension

Changwei Li is an epidemiologist with expertise in medicine, multi-omics, GXE interactions, cardiovascular disease and chronic kidney disease. His current research programs focus on assessing risk alleles for monogenic non-insulin dependent diabetes mellitus disorders in the general population, and delineating mechanisms underlying progression of chronic kidney disease. Prior to joining the faculty at Tulane, he was a tenure track Assistant Professor of Epidemiology at the University of Georgia at Athens. He received his PhD in Genetic Epidemiology from Tulane University, MPH in Global Health from Emory University, and medical degree in Preventive Medicine from Peking University.

We are studying the multiple chromatin structures that lead to heritable telomere states. We are also interested in applying our new insights into telomere chromatin to rapidly diagnose telomere diseases. Other Research Interests include: Aging, Cancer/Hematology
**GENETICS**

**Tianhua (Tim) Niu, PhD**  
Assistant Professor, Biochemistry and Molecular Biology – SOM  
tniu@tulane.edu  
My long-term research interests mainly consist of four areas: (1) biostatistical methodology (e.g., Bayesian statistics and machine learning), (2) statistical genetics (e.g., Bayesian haplotype inference and computational molecular evolution), (3) transcriptome analysis (e.g., differential expressions of mRNAs and non-coding RNAs) and bioinformatics (e.g., software design, development, and application for integrative analysis of genomics, transcriptomics and proteomics data using a variety of pathway and network software tools, e.g., R & Bioconductor packages), and (4) clinical trials (clinical trial design, development of clinical trial protocol, conduct, data management, and data analysis). Other Research Interests include: Bioinformatics/Statistics

**Aiguo Tian, PhD**  
Assistant Professor, Biochemistry and Molecular Biology  
atian@tulane.edu  
I am using the Drosophila model to study how stem cell self-renewal and proliferation is regulated in responsive to the environmental factors and aging in intestine. Additional Research Interests include: Cancer/Hematology, Stem Cell Research

**Shusheng Wang, PhD, MBA**  
Associate Professor, Cell and Molecular Biology – SSE  
swang1@tulane.edu  
1. Noncoding RNAs in vascular development and diseases  
Vascular abnormalities underlie the pathogenesis of many ocular diseases. Our research focuses in the lab is to understand the role of noncoding RNAs, including microRNAs and long non-coding RNAs, in vascular biology and vascular retinopathies.  
2. Cell death mechanism in degenerative retinal diseases  
We study cell death mechanism with hope to develop new therapeutic solutions for Age-related Macular Degeneration, a leading blinding disease in the elderly. Other Research Interests include: Aging

**Jeffrey K. Wickliffe, PhD**  
Associate Professor, Global Environmental Health Sciences – SPHTM  
jwicklif@tulane.edu  
Human cell culture models for genetox, mutagenesis, biotransformation, neurotox, senescence/cellular aging; mouse model for obesity, chemical sensitivity, and increased genetox + cancer risk; signal transduction using complex mixtures in vitro; human population research assessing complex exposures to environmental chemicals and cumulative risks. Other Research Interests include: Cancer/Hematology, Neurosciences, Women’s Health
Carolyn Bayer, PhD  
Assistant Professor, Biomedical Engineering – SSE  
carolynb@tulane.edu  
The research in our laboratory develops novel medical imaging methods to study the dynamics of molecular expression and physiological function by integrating ultrasound and contrast-enhanced photoacoustic imaging systems. A key focus of our imaging technology is the functional and molecular environment during compromised pregnancies which lead to the development of birth defects. Other Research Interests include: Cardiology, Kidney/Hypertension, Women’s Health

Jeremy Nguyen, MD  
Associate Professor, Radiology - SOM  
jnguye2@tulane.edu  
Diagnostic radiology with a focus in gastrointestinal tract, cardiopulmonary and neuroimaging. I am particularly interested in all aspects of liver imaging, and pancreatic-biliary disease. Neuroimaging includes functional magnetic resonance (MR) including spectroscopy and diffusion tensor imaging. I am also interested in mathematical aspects of medical image processing. Other Research Interests include: Bioinformatics/Statistics, Cancer/Hematology, Lung, Medical Education, Men’s Health, Advanced MR Imaging, Artificial Intelligence
Environmental exposures and asthma

Lucy C. Freytag, PhD
Associate Professor, Microbiology and Immunology - SOM
lfreyta@tulane.edu
Understanding the immune responses that occur in animals/humans as a result of infection or vaccination. We are interested in developing needle-free vaccines delivered in the right formulation (i.e. with adjuvants and/or nanocarriers) to induce immunity. We have worked on potential vaccines against fungal (i.e. Candida, Cryptococcus), bacterial (i.e. B. anthracis, Salmonella) and viral (i.e. influenza) infections. Other Research Interests include: Infectious Diseases

Jay Kolls, MD
Professor, Medicine - SOM
jkolls1@tulane.edu
The major goal of Dr. Kolls’ research is to investigate mechanisms of mucosal host defenses in the lung in normal and immunocompromised hosts using genetic models. Presently, his lab is investigating how IL-23 and IL-17 and IL-22 regulate host defense against extracellular pathogens and epigenetic regulation of macrophage function. Additionally, he researches host susceptibility to opportunistic infection such as Pneumocystis and is developing novel therapies against this pathogen. Other Research Interests include: Infectious Diseases, Lung

Marcelo Kuroda, MD, PhD
Professor, Immunology – TNPRC
mkuroda@tulane.edu
My interests are in AIDS pathogenesis (nonhuman primate model); Innate Immunity (macrophages); Adaptive Immunity (CTL); Pediatric AIDS; TB/SIV model; Aging (Immunology); Innate immune responses (macrophages); Lung Immunology. Other Research Interests include: Aging, Infectious Diseases
Samuel J. Landry, PhD
Professor, Biochemistry - SOM
landry@tulane.edu
We combine biophysical and immunological approaches in vaccine design, with particular emphasis on the relationship of CD4+ T-cell epitope dominance to antigen structure, especially for HIV/AIDS. Other Research Interests include: Cancer/Hematology

James B. McLachlan, PhD
Associate Professor, Microbiology and Immunology - SOM
jmclachl@tulane.edu
I am currently studying the role of the adaptive immune response to persistent bacterial pathogens in order to design better vaccines. Other Research Interests include: Infectious Diseases

Andrea Murina, MD
Associate Professor, Dermatology - SOM
amurina@tulane.edu
Current education-based research projects include online adaptive learning modules for performance improvement, physical examination using virtual reality. In dermatology, I have interests in melanoma, vulvar diseases, hidradenitis suppurativa, and other chronic inflammatory diseases of the skin. Other Research Interests include: Medical Education

Elizabeth B. Norton, MPH, PhD
Assistant Professor, Microbiology and Immunology - SOM
enorton@tulane.edu
My research focuses on promoting a healthy immune system through animal model and primary human cell analyses. Ongoing areas of research include (1) how inflammation alters age-related immunity and vaccine efficacy, (2) how to best protect mucosal surfaces from respiratory infections (flu, TB) and bacterial diarrheal diseases (ETEC), (3) how derivatives from a unique bacterial toxin can act as vaccine adjuvants or anti-inflammatory therapies for gastrointestinal disease. Other Research Interests include: Aging, Gastroenterology, Infectious Diseases
Felicia Rabito, PhD  
Associate Professor, Epidemiology – SPHTM  
rabito@tulane.edu  
My research interests are in asthma epidemiology, specifically the indoor environment. I am currently investigating factors associated with asthma outcome disparities and the influence of environmental (biologic and non-biologic) and social factors. I am interested in new methods of exposure assessment in particular monitoring techniques to measure indoor air pollution and respiratory and cardiovascular health, and novel methods to measure medication adherence in populations with chronic diseases. Other Research Interests include: Behavioral Health

Chad Steele, PhD  
Professor and Chair, Microbiology and Immunology - SOM  
csteele4@tulane.edu  
The current goals of my research are to better understand lung immune responses during acute vs. chronic exposure to the opportunistic fungal pathogen Aspergillus fumigatus. During acute exposure, which is an infection model mimicking invasive pulmonary aspergillosis, our major focus is on IL-22. Specifically, we investigate pathways that positively and negatively regulate IL-22 production as well as the antifungal immune pathways induced by IL-22. Themes include common γ-chain cytokines, innate lymphocytes and eicosanoid biology. An important shift in my lab over the last several years has been focused on the identification of inflammatory biomarkers, immune cells and pathways in human diseases that correlate with lung function decline, and bringing these observations back to experimental animal models to provide mechanistic insight. During chronic exposure, which is a model of severe asthma with fungal sensitization as well as chronic fungal exposure during diseases such as cystic fibrosis, our major focus is on various inflammatory mediators we have identified in human subjects. Themes include various IL-1 family members, unique chemokines and chitinases/chitinase-like proteins. Other Research Interests include: Infectious Disease, Lung, Asthma
Sathisha Upparahalli Venkateshaiah, PhD
Assistant Professor, Medicine – Pulmonary - SOM
supparah@tulane.edu

My scientific objective includes studying the critical role in recruitment of inflammatory immune cells and their function in the cancer biology and allergic diseases including asthma. I am interested in studying the inflammatory responses on the allergic diseases such as asthma; eosinophilic esophagitis (EOE) and cancer biology. My overall goal is to combine advanced experimental and translational approaches to study the protective role of IL-15 in chronic asthma and IL-18 responsive eosinophils subsets and mast cells in asthma pathogenesis. Other Research Interests include: Aging, Cancer/Hematology, Gastroenterology, Infectious Diseases, Lung
INFECTIOUS DISEASES

Pyone Pyone Aye, DVM, MS, PhD
Associate Professor, Comparative Pathology – TNPRC
paye@tulane.edu
My research interest is in cellular immune responses, pathogenesis of infectious diseases and substances, drugs, and vaccine effects on HIV/SIV pathogenesis and immunity. Other Research Interests include: Immunology/Allergy/Skin, Infectious Diseases

Jacob Bitoun, PhD
Assistant Professor, Microbiology and Immunology - SOM
jbitoun@tulane.edu
The long-term goal of my laboratory is aimed at developing a safe and effective ST-toxoid vaccine candidate. Since ST is small, it is not immunogenic. We are pursuing conjugation chemistry and other delivery systems to make ST and ST-toxoids immunogenic for inclusion into current pipeline ETEC vaccines.

Ron Blanton, MD, MsC
Professor and Chair, Tropical Medicine – SPHTM
rblanton1@tulane.edu
The lab has 2 main lines of investigation, the application of population genetics of schistosomes for public health and the role of sanitation in persistence and distribution of antimicrobial resistance in enteric bacteria. We employ microbial source tracking, microsatellite genotyping and whole genome sequencing (proposed). Other Research Interests include: Parasites, antimicrobial resistance, sanitation

Rudolf (Skip) Bohm, DVM
Professor and Associate Director of Veterinary Resources, Veterinary Medicine – TNPRC
bohm@tulane.edu
My overall interest is in the development of nonhuman primate models to support a variety of research programs with emphasis on infectious disease studies. As the Chair of the Division of Veterinary Medicine, I provide oversight for the provision of veterinary medical care for the nonhuman primate breeding colonies and support for research programs utilizing nonhuman primates. We use the rhesus monkey breeding colony for population studies in infectious disease, behavior, and genetics. I direct the Tulane University Laboratory Animal Medicine Training Program which is an American College of Laboratory Animal Medicine recognized residency program. The program prepares veterinarians for board certification in the specialty of laboratory animal medicine.
Partha Chandra, PhD  
Instructor, Pharmacology - SOM  
Pchandr1@tulane.edu  
I am investigating the role of exosomes released by HIV-1 infected cells in the development of neuropathogenesis in brain microvasculature. I am exploring the sex-dependent differential expression of mitochondria and its related genes and proteins in cerebral microvessels using both RNA-Seq and LC-MS/MS-based proteomic approaches. I am also engaged to study the mesenchymal stem-cell based gene therapy for latent HIV-1 eradication by “shock and kill” approach. Other Research Interests include: Neurosciences, Stem Cell Research

Srikanta Dash, PhD  
Professor, Pathology and Laboratory Medicine - SOM  
sdash@tulane.edu  
Endoplasmic reticulum (ER-stress)/ unfolded protein response plays an important role in various forms of liver diseases related to viral and non-viral etiologies. My laboratory investigates basic mechanism how ER-stress/UPR stress response in the liver improves cell survival pathway by inhibiting cellular apoptosis and cellular autophagy that leads to development of hepatocellular carcinoma and exosome release. We are using this exosome based platform to measure stress exosomes as a serum biomarker for early prediction of liver cancer (hepatocellular carcinomas) among patients with liver cirrhosis. Other Research Interests include: Cancer, Cardiology

Arnaud Drouin, MD  
Assistant Professor, Medicine – Gastroenterology - SOM  
adrouin@tulane.edu  
Expression of mu opiate receptor and microRNA in various models of irritable bowel disease in rat/mouse by dual immunohistochemistry and in situ hybridization on frozen sections in colon/spinal cord. A serum-based platelet activation assay to evaluate risk of severe secondary dengue infection. Other Research Interests include: Cancer/Hematology, Imaging, Neurosciences

Eric Dumonteil, PhD  
Associate Professor, Tropical Medicine – SPHTM  
edumonte@tulane.edu  
I am carrying out multidisciplinary studies for the development of new control tools for neglected tropical diseases, ranging from diagnostics, drugs and vaccines, to community based vector control interventions. Other Research Interests include: Bioinformatics/Statistics, Immunology/Allergy/Skin
Hannah Frank  
Assistant Professor, Ecology and Evolutionary Biology - SSE  
hkfrank@tulane.edu  
I study disease ecology and host-pathogen coevolution in bats using a mix of field work, molecular infection screening, host genomics and statistical modeling. I also research the genomic basis of adaptive immunity in bats and other non-model organisms as well as the adaptive immune response to rabies infection in bats. Other Research Interests include: Genetics, Immunology/Allergy/Skin

Dahlene Fusco, MD, PhD  
Assistant Professor, Medicine – Infectious Diseases - SOM  
dfusco@tulane.edu  
The Fusco laboratory is focused on the mechanism through which type I interferon suppresses RNA viruses, including dengue and Zika virus. We have used functional genetics to identify 56 genes required for IFN-mediated suppression of dengue. We are now evaluating the multi-viral impact and mechanism of action of a subset of these genes, aiming to apply this data toward identification of biomarkers/leads for antiviral development. Other Research Interests include: Genetics, Immunology/Allergy/Skin, Virology

Robert Garry, PhD  
Professor, Microbiology and Immunology - SOM  
rfgarry@tulane.edu  
My research involves development of modern immunoassays for Lassa fever and diseases caused by other highly pathogenic viruses. We are also developing entry inhibitors for various enveloped viruses, including influenza virus.

Susan Hassig, DrPH, MPH  
Associate Professor, Epidemiology – SPHTM  
shassig@tulane.edu  
Dr. Susan E. Hassig has been a faculty member of the Epidemiology Department since 1996, after more than a decade of work in HIV research, surveillance, and intervention programs in the U.S. and around the globe. She has also served in the Peace Corps, where she worked to improve disease diagnosis methods and blood transfusion safety in Thailand.
Mac Hyman, PhD
Professor, Mathematics – SSE
mhyman@tulane.edu
My research is the development and application of mathematical models based on the underlying disease transmission mechanisms to help the medical/scientific community understand and anticipate the spread of an epidemic and evaluate the potential effectiveness of different approaches for bringing the epidemic under control. My current research is focused on vector-borne diseases, such as dengue fever, malaria, chikungunya, and West Nile Virus. Other Research Interests include: Bioinformatics/Statistics

Amitinder Kaur, MD, MBBS
Professor, Microbiology and Immunology – TNPRC
akaur@tulane.edu
My laboratory is currently pursuing projects on mechanisms of protection against AIDS in natural hosts of SIV infection, natural killer T cells as adjuvants and modulators of immune activation, immune protection against congenital CMV in rhesus macaques, and the early host response to vaccines and SIV infection in nonhuman primate models of AIDS. Other Research Interests include: Immunology/Allergy/Skin, Women’s Health

Patty Kissinger, PhD, BSN, MPH
Professor, Epidemiology; Associate Dean for Faculty Affairs - SPHTM
kissing@tulane.edu
Presently I have two R01 awards. In the first, we are working on exploring the origins of repeat infections with Trichomonas vaginalis via an RCT as well as genotyping and conducting susceptibility testing and in the second we are examining the utility and cost effectiveness of screening men for Chlamydia trachomatis on the rates among women as well as mathematically modeling the percentage of men needed to screen to impact women's rates. Other Research Interests include: Behavioral Health, Infectious Diseases, Women’s Health, HIV/STI/Reproductive Health
Using a proteomics approach, our laboratory mapped the protein interaction networks of RIG-I and cGAS, which consist of many novel binding factors. The current research goal of our team is to elucidate how these factors regulate RIG-I or/cGAS signaling pathways. We adopt various omics, molecular approaches, and genetics to investigate their roles in nucleic acid-mediated innate immunity. We also extend these studies to elucidate the role of innate immunity in autoimmune diseases and cancers using several mouse models established in the laboratory. Another interest in our laboratory is to study the interactions between influenza A virus and host, and how these interactions modulate host defense and viral infection. We have established comparative influenza-host protein interaction networks. From the pilot screening of a small pool of our network, we found several novel anti-flu host factors. We will continue the screening and investigate the role of new host factors in influenza pathogenesis.

My research integrates environmental health, health disparities, disasters, community-based participatory research, women’s health, and environmental policy. I am an endowed chair in environmental policy and Associate Director, Population Sciences, Louisiana Cancer Research Consortium. As Director of the Center for Gulf Coast Environmental Health Research, Leadership, and Strategic Initiatives, my research portfolio encompasses national and global environmental health projects. Other Research Interests include: Women’s Health

My research interests are focused on immunology of viral infection, particularly HIV/SIV and Zika virus infection of nonhuman primates. Other Research Interests include: Genetics, Immunology/Allergy/Skin
**INFECTIOUS DISEASES**

**Preston A. Marx, PhD**  
Professor, Tropical Medicine - SPHTM  
pmarx@tulane.edu  
My research interest are the evolution and emergence of epidemic strains of HIV-2 in West Africa. I also conduct research on anti-viral vaccines, currently HIV and Dengue virus vaccines. I am interested in prevention of STDs to women through the development of anti-viral vaginal microbicides. He primarily uses non-human primate models in his research. Other Research Interests include: Women’s Health

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**Lisa A. Morici, PhD**  
Associate Professor, Microbiology and Immunology  
lmorici@tulane.edu  
The majority of infectious diseases for which we lack an effective vaccine will require rational vaccine design and new approaches for eliciting protective immune responses. In order to achieve the best immunological response, a vaccine must induce antibody and T cell memory responses within the tissues most vulnerable to infection. My laboratory is addressing this challenge by examining the impact of adjuvant, route, and location of immunization on vaccine efficacy against difficult infections, such as those caused by SARS CoV-2, Bordetella pertussis, and Pseudomonas aeruginosa. Other Research Interests include: Immunology/Allergy/Skin, Lung

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**Lina Moses, PhD, MSPH**  
Assistant Professor, Global Community Health and Behavioral Sciences - SPHTM  
lmoses2@tulane.edu  
My research focuses on applied public health research, with particular emphasis on implementation of evidence-based interventions for vector-borne and zoonotic diseases at the community level. I'm also interested in human and animal surveillance for zoonotic and emerging diseases, both from traditional indicator-based and community-event based approaches. Other Research Interests include: Behavioral Health

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**David A. Mullin**  
Associate Professor, Cell and Molecular Biology – SSE  
damullin@tulane.edu  
My research interests are in the production of advanced liquid biofuels that can be used in place of gasoline and the development of a new class of antibacterial compounds that I discovered.
David Mushatt, MD, MPH
Associate Professor, Medicine – Infectious Diseases - SOM
dmushatt@tulane.edu
My focus is in HIV therapeutics, serving as the local PI for the Tulane site of the International Network for Strategic Initiatives in Global HIV Trials (INSIGHT). In addition, I am working with Deepak Kaushal, PhD at the Tulane Primate Center to develop a non-human primate model of pulmonary M. avium complex infection.

Bo Ning, PhD
Assistant Professor, Biochemistry and Molecular Biology - SOM
bning1@tulane.edu

Richard Oberhelman, MD
Professor and Associate Dean for Global Health, Tropical Medicine – SPHTM
oberhel@tulane.edu
I am a pediatric infectious diseases and tropical medicine specialist with more than thirty years’ experience in designing and conducting international infectious diseases clinical research projects and diagnostic investigations. My primary research interests are the prevention and control of enteric infections and associated malnutrition in children from resource-poor environments, and novel diagnostic approaches for tuberculosis in children. I am actively involved in interdisciplinary international research training and capacity building through several NIH training grants where I serve as PI or as a consortium site director. Other Research Interests include: Medical Education, Public Health, Tropical Medicine

Bapi Pahar, DVM, PhD, MBA
Associate Professor, Pathology – TNPRC
bpahar@tulane.edu
Broad background in cellular and humoral immunology, virology and work experience for over 15 years in macaque model. Research involves determining antigen-specific T and B cell responses in infant and adult macaques in relation to vaccine and infection; understanding the role of intestinal stem cells in regulating intestinal epithelial cell proliferation; mucosal innate immune responses; 3-D primary cell culture; Role of immunoregulatory cytokines in regulating intestinal homeostasis and HIV pathogenesis. Other Research Interests include: Gastroenterology, Immunology/Allergy/Skin, Infectious Diseases
James E. Robinson, MD  
Professor, Pediatrics – Infectious Diseases - SOM  
jrobinso@tulane.edu  
My research is focused on dissecting B cell responses to human and primate retroviruses, dengue virus, and lassa fever virus in naturally infected hosts. We produce human and monkey monoclonal antibodies that define which antibodies mediate activities that might protect against infection. The antibodies define structures that are capable of eliciting protective immune responses. In theory monoclonal antibodies should aid in vaccine design.

Chad Roy, MSPH, PhD  
Professor, Microbiology – TNPRC  
croy@tulane.edu  
Dr. Roy is a career aerobiologist focused on respiratory health and the aerobiology of airborne infectious diseases; specifically, on gaining a better understanding of aerosol infection in the context of the development and application of preclinical disease models; the majority of efforts are directed in the use of the nonhuman primate for this purpose. His laboratory works with a diverse array of infectious and highly toxic agents considered biological threat agents rather than a singular focus on a particular class or agent. His current research portfolio includes evaluation studies of antivirals in aerosol-induced poxviral infections, and evaluation of optimized monoclonal antibodies as therapeutic agents for toxin (SEB and ricin) exposure. He is also involved in investigation of the immunogenicity and protective efficacy of virally-vectorized vaccines against aerosol-initiated alphaviral disease. There are also significant efforts ongoing in his laboratory to develop disease models for biothreat agents such as Burkholderia pseudomallei in the nonhuman primate. Other Research Interests include: Lung

Patricia Scaraffia, PhD  
Assistant Professor, Tropical Medicine - SPHTM  
pscaraff@tulane.edu  
My expertise is in insect metabolism, specifically in Aedes aegypti mosquitoes, vectors of dengue, yellow fever, chikungunya and Zika viruses. My research interests include medical entomology, vector control, parasitology, and development, optimization and application of mass spectrometry techniques. My laboratory uses traditional and cutting-edge approaches, including RNA interference, isotopically-labeled compounds and mass spectrometry. We are particularly interested in unraveling the physiological, biochemical and molecular bases underlying the regulation of nitrogen and carbon metabolism in mosquitoes, as well as in discovering new metabolic targets that can be used for the design of better mosquito-control strategies. Other Research Interests include: Medical Entomology
INFECTIONOUS DISEASES

John S. Schieffelin, MD, MSPH
Associate Professor, Pediatrics - Infectious Disease - SOM
jschieff@tulane.edu
My two main areas of research are 1. Antibody response to viral hemorrhagic fever infections and 2. Natural history, diagnosis and treatment of Lassa fever and Ebola virus disease. Both of these areas of interest involve the development of novel diagnostic platforms and treatment and prevention strategies. Other Research Interests include: Immunology/Allergy/Skin

Margarita Silio, MD, MPH
Associate Professor, Pediatrics – Infectious Disease – SOM
msilio@tulane.edu
PI of the Pediatric HIV/AIDS Cohort Study and co-investigator in the in the HIV vaccine trial HVTN-706. Other Research Interests include: Women's Health, Pediatrics

Deborah E. Sullivan, PhD
Associate Professor, Microbiology and Immunology - SOM
dsullivan@tulane.edu
A major research focus of my laboratory is on the pathobiology of human herpesviruses with special emphasis on cytomegalovirus infection of mesenchymal stem cells and placental progenitor cells. We are also studying in the role of stem cells in lung repair and tumorigenesis. Other Research Interests include: Lung, Stem Cell Research

Vicki Traina-Dorge, PhD
Research Associate Professor, Microbiology and Immunology
vtraina@tulane.edu
My research interests focus on nonhuman primate (NHP) models of pathogenic virus infections, as well as, the development of vaccines and therapeutics to combat those infections. We have a long-standing shingles program studying varicella pathogenesis in the NHP using the varicella zoster virus (VZV) simian counterpart virus, simian varicella virus (SVV). Our current studies aim to identify cell types and cell signaling molecules for onset of shingles, as well as, viral subclinical reactivation multiorgan involvement as a cause of stroke, arteritis, ocular infections, and potentially, Alzheimer's disease. We also have an AIDS vaccine program and are currently conducting preclinical vaccine trials in the NHP with our novel live attenuated rSVV-vectored SIV vaccine. We are testing prophylactic and therapeutic vaccine efficacies to identify immune correlates of protection and ultimately, for development of a vaccine against HIV. Other Research Interests include: Aging, Immunology/Allergy/Skin, Neurosciences
INFECTIOUS DISEASES

Ronald S. Veazey, DVM, PhD
Professor, Pathology - TNPRC
rveazey@tulane.edu
The immunology, prevention, and treatment of HIV infection and AIDS. Current projects involve determining correlates of protective immune responses, testing new HIV therapies and preventatives (microbicides), and examining the immune response to HIV infection in mucosal tissues, including the intestinal and reproductive tracts. I am also examining the pathogenesis of SIV infection in pediatric hosts, and the effects of alcohol use as a cofactor in the susceptibility and progression to AIDS. Other Research Interests include: Aging, Gastroenterology, Immunology/Allergy/Skin, Women’s Health

Huanbin Xu, PhD
Assistant Professor, Comparative Pathology – TNPRC
hxu@tulane.edu
My research focuses on correlates of immunity to HIV infection, the immunology and pathogenesis of AIDS, and testing new and novel therapeutic strategies to eliminate viral reservoirs and “cure” pathogenic infection in the highly relevant SIV/SHIV macaque models of HIV infection. His current work is to optimize universal delivery systems for vaccines and drugs, designed to eradicate viral reservoirs by combining new and novel approaches with innovative molecular biology techniques in nonhuman primate models.

Xiaolei Wang, PhD
Assistant Professor, Comparative Pathology – TNPRC
xwang@tulane.edu
My research interests are the immune system of infants, with a particular focus on mucosal immunology. We currently work on tracking & comparing the development of the systemic & mucosal immune systems in the neonates, & study the immune responses to the vaccines & pathogens in infant nonhuman primates. We also seek to understand immune control of virus & eradication of reservoirs to achieve a functional cure in pediatric AIDS patients. Other Research Interests include: Infectious Diseases

Crystal Zheng, MD
Assistant Professor, Infectious Diseases - SOM
czheng5@tulane.edu
Prevalence and pathophysiology of amenorrhea and other reproductive health outcomes among women Ebola survivors in Sierra Leone. Other Research Interests include: Women’s Health, COVID
Amanda Anderson, PhD, MPH  
Associate Professor, Epidemiology - SPHTM  
aanderson5@tulane.edu  
Dr. Anderson’s major research interests address the epidemiology of kidney diseases, with an emphasis on the causes and consequences of the excessive morbidity and mortality experienced by patients with chronic kidney disease (CKD). She has a particular focus on factors associated with CKD progression including fibrosis measures and the gut microbiome, prediction of kidney function decline over time, and the insufficiently characterized burden of comorbidities and outcomes associated with CKD. Other Research Interests include: Bioinformatics/Statistics, Gut Microbiome, Biomarkers.

Vecihi Batuman, MD  
Professor and Chair, Medicine - Nephrology and Hypertension - SOM  
vbatuma@tulane.edu  
Renal metabolism and toxicity of myeloma light chains; biomarkers of tubular injury; acute kidney injury—mechanisms, therapeutic strategies; radio-contrast-induced kidney injury; Balkan endemic nephropathy; environmental kidney disease—lead nephropathy and hypertension.

Jing Chen, MD  
Professor, Medicine – Nephrology and Hypertension - SOM  
jchen@tulane.edu  
Etiology, Prevention and Treatment of Chronic Kidney Disease and Hypertension, Cardiovascular Disease in Chronic Kidney Disease, Metabolic Syndrome and Obesity Related Kidney Disease, Vascular Calcification in Chronic Kidney Disease, Diabetic Nephropathy, Gene-Environment Interaction in Chronic Kidney Disease and Hypertension.

L. Lee Hamm, MD  
Dean, School of Medicine - SOM  
lhamm@tulane.edu  
Acid-base homeostasis – basic mechanisms and clinical disorders; Citrate transport in the kidney related to stones; Sodium transport in the kidney related to hypertension; Cardiovascular disease in Chronic kidney disease; Genetic mechanisms of kidney disease and hypertension.
KIDNEY / HYPERTENSION

Kathleen S. Hering-Smith, PhD
Associate Professor, Medicine – Nephrology - SOM
khering@tulane.edu
We have significant experience and expertise in epithelial transport biology and cell and molecular techniques using a wide variety of kidney tubule cell lines. Most of these studies have addressed sodium, acid-base, and citrate transport, the latter an important inhibitor of kidney stones. Recently these studies have led to related issues involving diabetes and intermediate cell metabolism. Current techniques involve CRISPER knock-out studies and RNA-Seq. Other Research Interests include: Kidney Transport Physiology

Suttira Intapad, PhD
Assistant Professor, Pharmacology - SOM
sintapad@tulane.edu
I am interested in research related to the developmental programming of chronic diseases, especially cardiovascular disease, and how an improper environment during fetal development such as preeclampsia can result in long-lasting effects on an individual’s health. Other Research Interests include: Neurosciences, Women’s Health

Myra A. Kleinpeter, MD, MPH
Associate Professor, Medicine – Nephrology - SOM
mkleinp@tulane.edu
Chronic kidney disease education and interventions to improve outcomes in patients with low health literacy and/or from underserved populations. Disaster outcomes in ESRD patients.

Hongbing Liu, PhD
Assistant Professor, Pediatrics – Nephrology - SOM
hliu8@tulane.edu
The nephric lineage-specific functions of class I histone deacetylases (HDACs) in kidney development. Other Research Interests include: Aging, Genetics.

Dewan Syed Abdul Majid, MBBS, PhD
Professor, Physiology - SOM
majid@tulane.edu
Elucidation of the intra-renal mechanisms regulating renal hemodynamics and excretory function by endothelial/vasoactive factors. Elucidation of the mechanistic link between Oxidative stress, inflammation and salt-sensitive hypertension. Other Research Interests include: Nitric Oxide, Oxidative Stress, Inflammatory molecules, etc.
Kenneth D. Mitchell, PhD  
Professor, Physiology - SOM  
kdmitch@tulane.edu  
My research interests are oriented toward evaluation of the mechanisms underlying the renal functional derangements that contribute to the pathogenesis of angiotensin II-dependent hypertension.

Nazih Nakhoul, PhD  
Associate Professor, Medicine - Nephrology and Hypertension - SOM  
nakhoul@tulane.edu  
I study cellular and molecular mechanisms of renal regulation of acid-base balance and pH regulation. We have identified new mechanisms of ammonia transport in the kidney that contribute to acid excretion by the kidney and we are investigating the role of acidosis as an epigenetic factor. Other Research Interests include: Gastroenterology, Medical Education, Cellular Transport, Physiology

L. Gabriel Navar, PhD  
Professor and Chair, Physiology - SOM  
navar@tulane.edu  
Research in my lab consist of studies on experimental hypertension and the regulation of the intrarenal renin-angiotensin system.

Kailash N. Pandey, PhD  
Professor, Physiology - SOM  
kpandey@tulane.edu  
Our research is focused on the genetic and molecular basis of hypertension and cardiovascular disorders in a sex-and age-dependent manner. Our long-term objectives are to determine the function of atrial and brain natriuretic peptides (ANP, BNP) that interact with guanylyl cycles/natriuretic peptide receptor-A (GC-A/NPRA) which plays a central role in pathophysiology of hypertension and cardiovascular disorders. We hope to learn the transcriptional regulatory elements and the impact of Npr1 gene dosage globally and in the cell-specific manner in vivo in regulating the blood pressure and cardiovascular disorders. Other Research Interests include: Aging, Genetics, Cardiovascular
KIDNEY / HYPERTENSION

Minolfa C. Prieto, MD, PhD
Associate Professor, Physiology - SOM
mprieto@tulane.edu

Ryosuke Sato, PhD
Assistant Professor, Physiology - SOM
rsato@tulane.edu
We investigate molecular mechanisms underlying regulation of intrarenal renin-angiotensin system.

Eric Simon, MD
Professor, Medicine - Nephrology and Hypertension - SOM
esimon@tulane.edu
Diuretics in hypertension, aging and kidney function, acute kidney injury, hemodialysis volume assessment.

Federico Teran, MD
Assistant Professor, Medicine - Nephrology and Hypertension - SOM
fteran@tulane.edu
I am currently working on a developing a mouse model for kidney stone development and how certain electrolyte/compound transport in the kidneys affect the development of kidney stones.

Ihor V. Yosypiv, MD
Associate Professor, Pediatrics –Nephrology - SOM
iiosipi@tulane.edu
Kidney development: Renin-angiotensin system in ureteric bud branching morphogenesis. Other Research Interests include: renin-angiotensin system in kidney development
Rubin Zhang, MD
Professor, Medicine – Nephrology - SOM
rzhang@tulane.edu
I am interested in identify new biomarkers of acute kidney injury after kidney transplant. I am studying a group of biomarkers in urine to determine which one is more sensitive and specific for predicting ischemia reperfusion injury, delayed graft dysfunction, graft function recovery and long-term graft survival.
Christine Bojanowski, MD  
Assistant Professor, Medicine – Pulmonary - SOM  
cbojanowski@tulane.edu  
My primary research interests are in lung immunology and host response to chronic infection. I am specifically interested in elucidating the role of IL-22 binding protein in host upper airway and lung defense and the factors that contribute to chronic sinopulmonary infection. Other Research Interests include: Immunology/Allergy/Skin, Infectious Diseases

Donald P. Gaver, PhD  
Professor and Chair, Biomedical Engineering – SSE  
dpg@tulane.edu  
My research involves the investigation of biofluid mechanics and biotransport phenomena with a specific interest in interfacial flows and surfactant transport related to the lung. Our research focuses on the microfluidic interactions that may contribute to ventilator-induced lung injury. From this we are developing computational models to elucidate organ-level behavior under pathophysiological conditions. I also am the Director of the Interdisciplinary PhD Program in Bioinnovation, which is intended to bring researchers together from the SSE, SoM and SPHTM to work on translational projects. Other Research Interests include: Medical Devices, Physiological Modeling

Gary Haynes, MD, PhD  
Professor and Chair, Anesthesiology - SOM  
ghaynes@tulane.edu  
I am interested in point of care testing for assessment of hemostasis and coagulation as well as the use of non-invasive technology to assess hemodynamic function. Other Research Interests include: Aging, Cardiovascular, Endocrine/Bone, Immunology/Allergy/Skin, Kidney/Hypertension Neurosciences

Ross Klingsberg, MD  
Associate Professor, Medicine - Pulmonary Diseases - SOM  
rklingsb@tulane.edu  
Corrector/potentiator medications for patients with CFTR mutations and cystic fibrosis. Bronchiectasis and mycobacterial diseases including tuberculosis and non-tuberculous mycobacteria. Anxiety and depression in patients with chronic diseases. Medical education. Pulmonary rehabilitation and exercise therapy. Other Research Interests include: Behavioral Health, Endocrine/Bone, Genetics, Immunology/Allergy/Skin, Infectious Diseases, Medical Education
Joseph A. Lasky, MD
Professor and Section Chief, Medicine – Pulmonary Diseases - SOM
jlasky@tulane.edu
My primary research interest involves basic and clinical aspects of pulmonary fibrosis. A significant component of the basic research program is focused on the role of class II HDACs in fibrogenesis, with an emphasis on the non-epigenetic functions of HDACs. The primary thrust of this work now entails understanding which key fibrogenic signaling events are regulated by lysine acetylation. I also have an interest in the aging lung and so my laboratory is investigating the role of PML bodies in pulmonary fibrosis.

Anil Mishra, PhD
Professor of Medicine - Pulmonary Diseases & Critical Care - SOM
amishra@tulane.edu
My research is aimed at deciphering mechanisms of inflammation, primarily based on discoveries concerning innate immunity. In particular, gene-environment interactions in the elicitation of inflammatory states in the respiratory and gastrointestinal tracts are under investigation. Environmental triggers (such as aeroallergens and food allergens) are studied in the context of specific genetic variants (e.g. IL-15 and IL-18 signaling) using population studies (cross sectional and longitudinal prospective cohorts) and mechanism-driven studies. The biological properties of innate inflammatory cells (eosinophils, mast cells, iNKT cells, epithelial cells) and the cytokines (especially chemokines and cell surface receptors) that mediate their function are under investigation. Other Research Interests include: Gastroenterology

Janet McCombs, PhD
Assistant Professor, Medicine - SOM
jmccombs@tulane.edu
Working within the Center for Translational Research in Infection and Inflammation, I am interested in lung immunology and host responses to infections. Currently, I am investigating immune subversion mechanisms utilized by hypervirulent Klebsiella pneumoniae as a way to identify potential immunotherapeutic strategies. In addition, I am interested in developing novel vaccines to lung pathogens. Other Research Interests include: Immunology/Allergy/Skin, Infectious Diseases
Gilbert Morris, PhD  
Associate Professor, Department of Pathology - SOM  
gmorris2@tulane.edu  
Modeling lung tumorigenesis in mice; Lung tumor promotion by IL-17; Lung disease related to inflammasome repression by cigarette smoke.  
Other Research Interest include: Bioinformatics/Statistics, Cancer/Hematology, Genetics

Giovanni Piedimonte, MD  
Vice President for Research - SOM  
gpiedimonte@tulane.edu  
Dr. Piedimonte is currently leading several funded projects involving basic cellular and molecular biology, animal models, translational and clinical trials. Dr. Piedimonte has authored or co-authored more than 400 peer-reviewed journal articles, book chapters, monographs, editorials, and abstracts, with the primary focus on airway inflammation; the neurobiology of the developing respiratory tract; pediatric respiratory diseases; the role of early viral respiratory infections and environmental pollution in the pathogenesis of asthma; the link between obesity, diabetes and asthma; and mother-to-fetus transmission of infections predisposing to chronic respiratory conditions.

Derek Pociask, PhD  
Assistant Professor, Medicine – Pulmonary Diseases - SOM  
dpociask@tulane.edu  
I am interested in the immune responses in the lung. Specifically I am interested in how aspects of the immune system can be exploited to reduce injury or promote repair during infection or injury. My lab uses models of chemical or particle injury (acid aspiration, bleomycin, asbestos) and infectious injury (influenza, bacterial). While I am focused on the lung, my studies have branched to the liver, gut and thymus. The current major focus in my laboratory is the IL-22/IL-22BP axis and how this balance effects the immune response throughout the body. Other Research Interests include: Aging, Imaging, Immunology/Allergy/Skin, Infectious Diseases, Stem Cell Research

Shigeki Saito, MD, MsC  
Assistant Professor, Medicine - Pulmonary & Critical Care Medicine - SOM  
ssaito@tulane.edu  
My research interests include pulmonary fibrosis, acute lung injury, and pulmonary hypertension. My current research projects: epigenetics (e.g. HDACs, miRNAs) of pulmonary fibrosis and pulmonary hypertension. Other Research Interests include: Aging, Cardiology, Genetics
Tony Hu, PhD
Professor, Biochemistry and Molecular Biology - SOM
yhu16@tulane.edu
Dr. Hu’s research aims to fill current unmet clinical needs for early disease detection, better predictors of disease progression and real-time monitoring of therapy response to improve patient outcomes. Dr. Hu has assembled a diverse research team with backgrounds in biochemistry, immunology, mass spectrometry, epigenetics, nanofabrication and biomedical engineering to address challenges of biomarker discovery. His research group has established and refined a biomarker detection platform to quantitate the peptidome of circulating mycobacterial antigen and validate its capacity to diagnose the species of mycobacterial infections and its response to therapeutic intervention. Other Research Interests include: Cancer/Hematology, Infectious Diseases, Medical Devices, Peptides Chemistry

Peter Kastl, MD, PhD
Professor, Ophthalmology - SOM
pkastl@tulane.edu
I have mainly researched on contact lenses and their ocular effects. I have also done tear analysis. Other Research Interests include: Bioinformatics/Statistics

Noshir Pesika, PhD
Associate Professor, Chemical and Biomolecular Engineering - SSE
npesika@tulane.edu
My research interest lies in developing cartilage mimicking surfaces that can be used in joint replacement devices. We have already demonstrated that we can fabricate polymer surface with a high degree of lubricity by through surface texturing. We would like to partner with a medical doctor so as to move the project to the next step which would involve testing the biocompatibility and durability of the material. Other Research Interests include: Endocrine/Bone, Infectious Disease

Cedric Walker, PhD
Adjunct Professor, Biomedical Engineering – SSE
cfw@tulane.edu
Prototyping of new devices for medical research. The Tulane MakerSpace offers digital tools (3d printers, laser cutters, CNC mill and lathe) and training in their use to students, staff and faculty. Most projects are "DIY" but there is a mechanism to hire our student workers for specific projects beyond the scope of the researcher requesting them. Other Research Interests include: 3D printing, prototyping, device design and fabrication
Juan Duchesne, MD  
Professor, Surgery – Trauma Division - SOM  
jduchesn@tulane.edu  
We are looking to partner with basic scientists in order to further study the endotheliopathy of trauma resuscitation in patients with severe hemorrhagic shock. We are looking forward to expand the department of surgery collaboration with basic science. Other Research Interests include: Medical Devices, Stem Cell Research, Resuscitation

Kerstin Honer zu Bentrup, PhD  
Assistant Professor, Microbiology and Immunology - SOM  
khonerzu@tulane.edu  
Methods of active learning (Med. Ed.); Fluorescent/Light Microscopy, Bacterial Pathogenesis, Three-dimensional Cell-culture Systems (ID)  
Other Research Interests include: Imaging, Infectious Diseases

Rebecca Schroll, MD  
Associate Professor, Surgery - SOM  
rschroll@tulane.edu  
I am interested in clinical research evaluating outcomes of care in trauma and critically ill patients. My research has primarily focused on pre-hospital treatment as well as operative and perioperative management of trauma patients. Other Research Interests include: Trauma, Critical Care, General Surgery

Isis Smith, MD  
Instructor, Medicine – General Internal Medicine - SOM  
lsmith3@tulane.edu  
I'm interested in studying medical student's interested in learning more about underserved populations as part of their curriculum as well as what outcomes and how we can effectively teach them about these topics.
Omar Raheem, MD
Assistant Professor, Urology - SOM
oraheem@tulane.edu
Interested in Men’s Health focused research including reproductive, sexual and erectile function and reconstructive surgery. Also interested in medical devise and pharmaceutical applications in male related infertility and andrology. Other Research Interests include: Medical Devices

Suresh C. Sikka, PhD
Professor & Research Director, Urology - SOM
ssikka@tulane.edu
My research and clinic focus is on Aging male related to male infertility, Sexual health, Environmental reproductive toxicology; Forensic applications; Role of Oxidative Stress/Redox Changes and Antioxidants; Sperm safety multicenter studies; Endocrine Disruptors, Prostatic inflammation; and Andropause. Other – Aging, Male Infertility and Sexual Dysfunction

Raju Thomas, MD
Professor and Chair, Urology - SOM
rthomas@tulane.edu
Gregory Bix, MD, PhD
Professor and Director, Center for Clinical Neurosciences - SOM
gbix@tulane.edu
Dr. Gregory Bix, MD, PhD, FAHA, is a Professor of Neurosurgery and Neurology at Tulane University, is also currently the Director of the Clinical Neuroscience Research Center, Vice-Chair of Clinical & Translational Research, Department of Neurosurgery, and the Vada Odom Reynolds Chair in Stroke Research at Tulane University. Dr. Bix’s research focus is in the role and therapeutic potential of the extracellular matrix and its receptors in stroke and vascular dementia.

David Busija, PhD
Professor and Chair, Pharmacology - SOM
dbusija@tulane.edu
I have a well-established, diverse research program that focuses on: 1) The mechanisms involved in the regulation of the cerebral circulation in health and disease; 2) The mechanisms of damage to the brain following injury; 3) Therapeutic strategies to restore normal cerebral vascular responses during disease processes such as insulin resistance and ischemia/reperfusion; and 4) Development of methods to protect cells of the neurovascular unit (endothelium, smooth muscle, perivascular nerves, astroglia, neurons, etc.) against potentially lethal stimuli.

Jill M. Daniel, PhD
Professor, Psychology and Neuroscience - SSE
jmdaniel@tulane.edu
I study the impact of estrogens and androgens on the brain and cognition across the lifespan using rodent models. Other Research Interests include: Aging, Women’s Health

Andrei Derbenev, PhD
Associate Professor, Physiology - SOM
aderben@tulane.edu
My laboratory investigates the involvement of the brain in the regulation of blood pressure. We focus on synaptic plasticity in the in the brainstem during hypertension.
Elizabeth Engler-Chiurazzi, PhD  
Assistant Professor, Neurosurgery - SOM  
eenglerchiurazzi@tulane.edu  
I am interested in how the brain and immune system, especially the B lymphocyte, converge to impact mental health, brain aging, and neurological disease. I also have a project exploring the role that a single microRNA plays in driving the trajectory of cognitive aging. Finally, I have expertise in the evaluation of a wide range of rodent functional endpoints and behavioral outcomes.  
Other Research Interests include: Aging, Behavioral Health, Immunology/Allergy/Skin, Women’s Health

Jonathan Fadok, PhD  
Assistant Professor, Psychology – SSE  
jfadok@tulane.edu  
My research is focused on understanding how the brain controls the formation and expression of emotional memory at the level of defined neuronal circuits. Methods in my laboratory include large-scale in vivo recordings of neuronal activity, targeted manipulations of function in behaving animals, as well as cell-type specific neuroanatomical tracing techniques.

Tracy Fischer, PhD  
Associate Professor, Pathology - TNPRC  
tfischer1@tulane.edu  
Dr. Fischer’s research is focused on advancing our current understanding of the role of chronic, low level neuroinflammation in the development and advancement of neurodegenerative diseases, such as Alzheimer’s Dementia and HIV-associated neurocognitive dysfunction. Using advanced methods of cell isolation and transcriptomic profiling, we are identifying unique mechanisms of neuronal cell injury and death that may be targeted for future therapeutic intervention. Other Research Interests include: Aging, Bioinformatics/Statistics, Genetics, Immunology/Allergy/Skin, Infectious Diseases, Medical Devices, Neurosciences, Traumatic Brain Injury

Hai Huang, PhD  
Assistant Professor, Cell and Molecular Biology - SSE  
hhuang5@tulane.edu  
We aim to understand the synaptic mechanisms that support reliable and precise auditory information processing and how noise exposure and hearing loss affect these function, using a combination of techniques including electrophysiology, two-photon imaging, computational modeling, and molecular biology.
Joe Iwanaga, PhD  
Associate Professor, Neurosurgery - SOM  
jiwanaga@tulane.edu  
Dr. Joe Iwanaga, DDS, PhD is an oral and maxillofacial surgeon, dentist and anatomist. His research and surgical focus is on anatomical variations and microsurgical anatomy. His expertise in oral and maxillofacial surgery and clinical anatomy will be used in establishing surgical training courses for medical students, residents of neurosurgery, OMFS, and other healthcare providers.

Jenifer Juengling, PhD  
Instructor, Orthopaedics - SOM  
jjuengli@tulane.edu  
Development of rehabilitation outcome measures and functional behavioral interventions in the areas of cognition, communication, and dysphagia to utilize in the clinical setting with athletic and non-athletic population who have acquired brain injuries, stroke, and/or neurodegenerative disorders to improve patient daily function and quality of life.

Jean-Pyo Lee, PhD  
Assistant Professor, Physiology - SOM  
jeanpyol@tulane.edu

Ning Liu, PhD  
Assistant Professor, Center for Clinical Neurosciences - SOM  
nliu3@tulane.edu  
Dr. Ning Liu’s research interest focuses on the investigation of molecular pathological mechanism and therapeutic strategy development of acute brain injuries such as cerebral ischemia and traumatic brain injury. Dr. Liu has expertise in molecular neuroscience, mitochondrial metabolic mechanisms, in vivo brain injury animal models, and outcome assessments.
Andrew G. MacLean, PhD  
Associate Professor, Microbiology & Immunology – TNPRC  
amaclean@tulane.edu  
My lab looks at activation and disruption of the blood-brain barrier in health and disease, specifically HIV infection. We specialize in cell biological techniques, including cell adhesion, imaging and activation of signal transduction pathways. These models are being adapted to examine the cell biology of lung inflammation. We are also examining activation of glia in behavioral abnormalities in nonhuman primates and the impact of opioid inhibitors. Ongoing projects include aging, depression and autism spectrum disorders. Other Research Interests include: Aging, Behavioral Health, Infectious Diseases, Lung.

Julie Markant, PhD  
Assistant Professor, Psychology – SSE  
jmarkant@tulane.edu  
My research focuses on interactions between attention and memory systems and the development of neural systems supporting these interactions. I am particularly interested in examining the role of increasing control over selective attention in promoting more effective learning during infancy. I use a convergent methods approach, including behavioral, eye tracking, genetics, and functional MRI methods.

Ricardo Mostany, PhD  
Associate Professor, Pharmacology - SOM  
rmostany@tulane.edu  
Our laboratory studies synaptic plasticity of cortical neurons with emphasis on the effects of aging on the ability to establish and maintain synaptic contacts between neurons. We are applying our results from the aged brain to the study of Alzheimer’s disease using animal models of the disease. We currently have research collaborative efforts with cancer-oriented laboratories studying potential glioblastoma multiforme therapies and the role of tumor suppressors in neuronal function. Other Research Interests include: Aging.

Jeffrey Rouse, MD  
Assistant Professor, Psychiatry and Behavioral Sciences - SOM  
jrouse@tulane.edu  
As a forensic psychiatrist, my academic interests include neuroimaging of brain regions and networks involved in emotion regulation, the neural mechanisms of meditation and real-time neurofeedback, and the application of biomarkers to forensic risk assessment. Other Research Interests include: Behavioral Health.
Ibolya Rutkai, PhD
Assistant Professor, Pharmacology - SOM
irutkai@tulane.edu
My research interest includes the role of mitochondria in the cerebral circulation. I am particularly interested in the mitochondrial mechanisms of vascular aging. Other Research Interests include: Aging

Laura Schrader, PhD
Associate Professor, Cell and Molecular Biology – SSE
schrader@tulane.edu
The main research interest in my lab involves investigation of regulation of neuronal excitability by ion channels. This research is relevant to normal plasticity processes, such as learning and memory processes such as epilepsy. Techniques include: patch clamp in brain slices, behavioral paradigms, molecular biology and electrophysiology biochemistry.

Gregory W. Stewart, MD
Associate Professor, Orthopaedics - SOM
gstewart@tulane.edu
Concussion, CTE and brain changes, long-term cardiovascular implications in former professional athletes. Other Research Interests include: Cardiovascular

Jeffrey Tasker, PhD
Professor, Cell and Molecular Biology – SSE
tasker@tulane.edu
I am researching the physiological and biochemical properties of brain cells that control pituitary hormone release. Other Research Interests include: Endocrine/Bone, Kidney/Hypertension, Neurophysiology, Neuroendocrinology

R. Shane Tubbs, PhD
Professor, Neurosurgery - SOM
rtubbs@tulane.edu
Dr. R. Shane Tubbs is a clinical anatomist. Dr. Tubbs’ research interests are centered around what his lab has termed “reverse translational anatomy research” where clinical/surgical problems are identified and addressed with anatomical studies. He will collaborate with Tulane surgeons and physicians to address patient complications and devise new approaches using anatomical studies. Other Research Interests include: Medical Education, Translational Research in Anatomy, Clinical Anatomy
Xiaoying Wang, MD, PhD
Professor, Center for Clinical Neurosciences - SOM
xwang51@tulane.edu
Dr. Xiaoying Wang is a Professor of Neurosurgery and Neurology, Program Director of Brain Injury Research at the Clinical Neuroscience Research Center (CNRC) of Tulane University School of Medicine. Dr. Wang’s research focuses on experimental investigation of molecular pathophysiology following cerebrovascular diseases and traumatic brain injury (TBI), and translational therapeutic strategy development.

James Zadina, PhD
Adjunct Professor, Pharmacology and Neuroscience - SOM
jzadina@tulane.edu
Our laboratory studies the neurobiology of opioids and their receptors, acute and chronic pain, and development of novel analgesics with reduced adverse side effects. Other Research Interests include: Aging, Peptides Chemistry

Andrea Zsombok, PhD
Associate Professor, Physiology - SOM
azsombo@tulane.edu
My laboratory examines the fundamental relationship between the central nervous system and glucose homeostasis. We identify circuits regulating visceral organs (e.g., brain-liver axis) and focus on neuronal alterations in the hypothalamus and brainstem during diabetic and obese conditions. Other Research Interests include: Endocrine/Bone
Interested in creating novel therapeutic agents to help patients with diseases where there is little to no innovation or therapeutic benefit with current treatment modalities. My focus is to create intellectual property around these ideas and commercialize them to benefit humankind. My area of expertise revolves around modifying exquisitely potent drugs, conjugating them to peptides and proteins in a way so they are stable in circulation, are targeted to a specific tissue, and then release the biological warhead to the tissue of interest. Synthetic organic chemistry, peptide / protein chemistry, pharmacology, entrepreneurship, and business are all areas of interest. Other Research Interests include: Aging, Cancer/Hematology, Immunology/Allergy/Skin, Infectious Diseases, Lung, Neurosciences, Drug Targeting
REGENERATIVE MEDICINE / TISSUE ENGINEERING

Stephen Braun, PhD
Assistant Professor, Regenerative Medicine – TNPRC
sbraun@tulane.edu
The intersection of gene therapy and hematopoietic stem cells. Using the rhesus model, we are developing lentiviral vaccine vectors for AIDS and new inhibitors of HIV/SIV viral replication. We are studying transduction of rhesus (mouse and human) CD34+ hematopoietic stem cells prior to expansion and differentiation into dendritic cells. These transduced DCs will be used to vaccinate animals. Other Research Interests include: Immunology/Allergy/Skin, Infectious Diseases, Stem Cell Research

Doug Chrisey, PhD
Professor, Physics and Engineering Physics – SSE
dchrisey@tulane.edu
My research is focused on fabricating engineered tissue constructs by the CAD/CAM direct writing of cells, scaffold, and biomolecules for fundamental and applied research. Past work has included studying disparate cells and environments such as stem cell differentiation, angiogenesis, and neural growth. Other Research Interests include: Bioprinting for Tissue Engineering

Kristin S. Miller, PhD
Associate Professor, Biomedical Engineering - SSE
kmille11@tulane.edu
The Biomechanics of Growth & Remodeling Laboratory uses a combined experimental and computational approach to better understand, describe, and predict soft tissue remodeling in response to various chemo-mechanical stimuli including normal processes (e.g., aging and pregnancy), disease, and injury. To this end, our research utilizes model systems with varying restraints on regenerative capability (postnatal development, pregnancy, and postpartum) to define local microstructure and mechanical properties of evolving collagenous tissues to identify potential treatments and the appropriate time course for clinical interventions to prevent maladaptive remodeling, improve adult response to injury, and advance tissue engineering strategies. Our primary areas of research include orthopaedics (tendon and ligament) and women’s reproductive health. Other Research Interests include: Aging, Cancer/Hematology, Endocrine/Bone, Women’s Health
Michael Moore, PhD  
Professor, Biomedical Engineering – SSE  
mooremj@tulane.edu  
The focus of our laboratory’s research is to develop physiologically-relevant tissue culture models of the nervous system. We seek to engineer the 3D microenvironment of these neural microphysiological systems to create models with that better represent tissue homeostasis and neurodegenerative disease states. We use primary rodent cells as well as human induced pluripotent stem cell-derived neurons and glia along with synthetic and natural hydrogels photopatterned in anatomically-relevant architectures. Other Research Interests include: Neurosciences, Stem Cell Research
STEM CELL RESEARCH

Samir S. El-Dahr, MD  
Professor and Chair, Pediatrics - SOM  
seldahr@tulane.edu  
Genetic and epigenetic control of renal development.

Sharven Taghavi, MD  
Assistant Professor, Surgery - SOM  
staghavi@tulane.edu  
I am interested in the use of stem cell therapies to mitigate the inflammatory response. In addition, I am interested in the use of large databases to conduct clinical outcomes research. Other Research Interests include: Regenerative Medicine/Tissue Engineering,

Bioinformatics/Statistics
Ron Clisham, MD
Professor, Obstetrics and Gynecology - SOM
rclisham@tulane.edu
My research interest is examining the impact of DNA fragmentation on fertilization. Using the comet assay, determine whether the DNA fragmentation index of sperm can serve as a predictor for fertilization failure.

Anasthasia Gage, PhD
Professor, Global Community Health & Behavioral Medicine – SPHTM
agage@tulane.edu
Anasthasia Gage’s current research focuses on adolescent health, gender-based violence, and maternal and reproductive health in sub-Saharan Africa and Haiti. She teaches Monitoring and Evaluation of HIV/AIDS Programs, Monitoring and Evaluation of Maternal and Child Health Programs in Developing Countries, and Adolescent Health Policies and Programs. Dr. Gage has extensive experience with the evaluation of population and health programs in Democratic Republic of Congo, Ghana, Ethiopia, Haiti, Jamaica, Niger, Sierra Leone, Uganda, and Zambia. Other Research Interests include: Gender Inequality, Adolescent Health

Cecilia Gambala, MD, MPH
Assistant Professor, Obstetrics and Gynecology - SOM
cgambal@tulane.edu
My interests reside in Women's Health, particularly during pregnancy. Topics of interest include diabetes, hypertension and obesity in pregnancy. Other Research Interests include: Kidney/Hypertension

Cynthia Hanemann, MD
Associate Professor, Radiology - SOM
chaneman@tulane.edu
My research interests are in breast cancer imaging.
Emily Harville, PhD, MSPH
Associate Professor, Epidemiology - SPHTM
eharville@tulane.edu
My research interests focus on social and biological causes of adverse pregnancy outcomes, particularly effects of stress on pregnant and postpartum women and preconception health. I am PI on studies of metabolomic predictors of preterm birth, preconception cardiovascular health, and transgenerational effects on birth outcomes, and am involved with efforts to harmonize data across multiple research cohorts. Other Research Interests include: Bioinformatics/Statistics

Julie Hernandez, PhD
Assistant Professor, Global Health Policy and Management - SPHTM
hernan7@tulane.edu
Julie Hernandez is a geographer with technical expertise on geographic information systems, digital data collection, and use of ICT to support public health programs and research. Her current work focuses on access to sexual and reproductive health services in the Democratic Republic of Congo, with specific emphasis on community-based provision of family planning services, barriers to service delivery, contraceptive logistics and health information systems strengthening. Hernandez previously worked on evaluating vulnerable populations’ exposure to HIV/AIDS and strategies to increase program coverage in DRC and Côte d'Ivoire, as well as early warning systems for epidemic outbreaks. Her work in the U.S. included community-based development of user-friendly mapping tools to monitor post-Katrina recovery in New Orleans, and she is currently engaged in researching spatial patterns and strengthen access to naloxone (Narcan) using first responders data, in order to decrease mortality linked to opioid overdoses. Other Research Interests include: Infectious Diseases, Disease surveillance/ GIS

Sarah Lindsey, PhD
Associate Professor, Department of Pharmacology - SOM
lindsey@tulane.edu
My current research investigates how estrogens are beneficial in vascular health. I am particularly interested in membrane-initiated estrogenic signaling events which influence vascular tone and remodeling. Other Research Interests include: Aging, Cardiology, Endocrine/Bone, Kidney/Hypertension, Neurosciences
WOMEN’S HEALTH

Catherine McKinley, PhD
Associate Professor, Social Work - SW
catmckinley@tulane.edu
Dr. McKinley has worked with Indigenous tribes cross-nationally for over 10 years and works on federally-funded research to develop and test culturally grounded interventions to promote family resilience and transcendence while addressing violence, substance abuse, and associated health disparities, including diabetes and health. Her work may be found in over 60 peer-reviewed publications and in collaboration with tribes led to the development of the Indigenous-based and ecological “Framework of Historical Oppression, Resilience, and Transcendence (FHORT)”, which identifies, and culturally relevant risk and protective factors related to wellness across community, family, and individual levels from a relational perspective. Other Research Interests include: Behavioral Health, Cancer/Hematology, Cardiology, Kidney/Hypertension, Women’s Health

Mary Mulcahey, MD
Associate Professor, Orthopaedic Surgery - SOM
mmulcahey@tulane.edu
I am interested in undergraduate and graduate medical education and I have numerous ongoing projects in these areas (e.g. factors that motivate/deter female medical students from pursuing a career in orthopaedics; Trends in the Sports Medicine Fellowship Match). I am also very interested in women's musculoskeletal health, understanding the MSK injuries/conditions that women are more prone to and why, and identifying opportunities for injury prevention. I am also involved in numerous orthopaedic clinical projects related to shoulder and knee injuries. Other Research Interests include: Medical Education

Amber Naresh, MD, MPH
Assistant Professor, Obstetrics & Gynecology - SOM
anaresh@tulane.edu
I am interested HPV-related pre-malignant lesions of the cervix in women. One current projects focuses on improving HPV vaccination rates locally, and another seeks to delineate lifestyle factors associated with HPV persistence in women with low grade dysplasia, with a focus on nutritional factors. This project also seeks to identify novel molecular bio-markets which could help predict behavior of HPV in the genital tract. Other Research Interests include: Infectious Diseases
Bonnie K. Nastasi, PhD  
Professor, Psychology – SSE  
b nastasi@tulane.edu  
The development of culturally constructed psychological theory/conceptual models, interventions, and assessment measures related to psychological well-being (i.e., children’s mental health, youth and adult sexual health) in local and global contexts. Also interested in participatory mixed methods research approaches.

Katherine Raymond, PhD  
Professor of Practice, Biomedical Engineering – SSE  
kraymon1@tulane.edu  
Through collaboration within the Tulane community and with international partners, I am working with other BME faculty to engage students in a biomedical global health initiative.

Paula D. Zeanah, PhD  
Professor, Psychiatry and Behavioral Sciences - SOM  
pzeanah@tulane.edu  
Perinatal, infant, child and pediatric mental health. Current research has focused on relationship of nutritional risk and depression in first time, low income pregnant women.
OTHER RESEARCH AREAS

Henry Bart, Jr., PhD
Professor, Ecology and Evolutionary Biology – SSE
hbartjr@tulane.edu
Ecology, molecular genetics and systematics (taxonomy, phylogenetic relationships) of fishes. Director of the Tulane University Biodiversity Research Institute and Curator of the Royal D. Suttkus Fish Collection (Hebert Research Center in Belle Chasse)

Angela Breckenridge, PhD
Assistant Professor, Global Community Health
abrecken@tulane.edu
Substantive review of literature in course and teaching evaluation, specifically the effects of using student feedback for promotion and tenure. Other Research Interests include: Behavioral Health, Evaluating Teaching

Ricardo Cortez, PhD
Professor, Mathematics – SSE
rcortez@tulane.edu
Mathematical and Computational Modeling of Biological Fluid dynamics

Matthew Escarra, PhD
Associate Professor, Physics and Engineering Physics – SSE
escarra@tulane.edu
I do research on new photonic materials and optoelectronic devices. This includes metasurfaces that can manipulate light by design and optical devices from 2D materials. These photonic structures are ultra-small and may be used in highly-sensitive sensors, light detectors, light emitters, flat/microscale optics, and more.

Jia Fan, PhD
Assistant Professor, Biochemistry and Molecular Biology - SOM
jfan5@tulane.edu
My research focuses on developing and validating mass spectrometry-based strategies for marker discovery and development of non-invasive clinical diagnostics approaches that use blood or urine samples. My goal is to provide translatable solutions for personalized medicine in early disease diagnosis to improve patient outcomes. Other Research Interests include: Cancer/Hematology, Infectious Diseases, Peptides Chemistry
OTHER RESEARCH AREAS

Lisa Fauci, PhD
Professor, Math – SSE
fauci@tulane.edu
My research is in biological fluid dynamics. Projects include sperm motility in the reproductive tract and the neuromechanics of locomotion in simple vertebrates.

Robin Forman, PhD
Provost and Senior Vice President for Academic Affairs
rforman@tulane.edu
Dr. Forman’s research, which has been funded by the National Science Foundation, the National Security Agency and the Defense Advanced Research Projects Agency, focuses on combinatorial methods in topology and geometry. Other Research Interests include: Mathematics

Jordan Karubian, PhD
Associate Professor, Ecology and Evolutitional Biology - SSE
jk@tulane.edu
Research interest include feedbacks between human and natural systems, including health. Other Research Interests include: Environment

Kimberly Foster, PhD
Professor and Dean, School of Science and Engineering - SSE
klfoster@tulane.edu
My expertise is on the development of micro mechanical tools for biotechnology. Other Research Interests include: Medical Devices, Biomedical Microdevices, Biotechnology

Bruce C. Gibb, PhD
Professor, Chemistry – SSE
bgibb@tulane.edu
Aqueous solutions, the Hydrophobic Effect, the Hofmeister Effect

Chrissy Guidry, DO
Assistant Professor, Surgery - SOM
cguidry@tulane.edu
Trauma Resuscitation, Endotheliopathy. Other Research Interests include: Trauma, Acute Care Surgery, Critical Care
**OTHER RESEARCH AREAS**

**Alex Gunderson, PhD**  
Assistant Professor, Ecology and Evolutionary Biology – SSE  
argunderson@tulane.edu  
How organisms adapt to climatic variation. Other Research Interests Include: Physiological ecology

**M. Matias Iberico, MD, MPH**  
Instructor, Deming Department of Medicine – General Internal Medicine - SOM  
miberico@tulane.edu  
Other Research Interests include: Health Systems Design, Health Delivery, CHW centered health systems design

**Neal Jackson, MD**  
Assistant Professor, Otolaryngology/Neurotology - SOM  
njackson1@tulane.edu  
Primary interest in human hearing including surgical treatment of hearing loss and chronic ear infections. Interests include any ear surgery, cochlear implants, and skull base tumors. Also interest in vestibular disorders of the inner ear. Other Research Interests include: Aging, Imaging, Medical Devices, Medical Education, Neurosciences, Hearing, Cochlear Implants, Temporal Bone

**Olan Jackson-Weaver, PhD**  
Assistant Professor, Surgery - SOM  
ojacksonweaver@tulane.edu  
The lab has two projects, both related to endothelial cell biology. The first is endothelial cell damage during trauma, in particular damage to the endothelial glycocalyx. The second is the role of protein arginine methylation in angiogenesis. Other Research Interests include: Endothelial cell biology, trauma, calcium signaling, angiogenesis, protein methylation

**Carolyn C. Johnson, PhD**  
Professor, Global Community Health and Behavioral Sciences - SPHTM  
cjohnso5@tulane.edu  
Public Health, Health Promotion, Obesity Physical Activity Diet
OTHER RESEARCH AREAS

Mary Killackey, MD
Professor and Chair, Surgery - SOM
mkillack@tulane.edu
We have multiple areas of research going on in the department of surgery. Transplant, Trauma, Tissue Regeneration, Melanoma, Thyroid Cancer, Resident Education, to name a few.

Parisa Kordjamshidi, PhD
Assistant Professor, Computer Science – SSE
pkordjam@tulane.edu
My main research interests are artificial intelligence, machine learning, natural language processing, information extraction and declarative learning based programming.

Alyssa Lederer, PhD, MPH
Assistant Professor, Global Community Health and Behavioral Sciences - SPHTM
alederer@tulane.edu
Alyssa Lederer is a behavioral scientist and health promotion specialist. Her research focuses on the design and evaluation of public health programs, especially in the areas of adolescent sexual health, obesity prevention, and workforce development. She is particularly interested in the intersection between health education and behavior change. Other Research Interests include: Infectious Diseases, Women’s Health, Intervention Design, Evaluation, Sexual Health, Public Health Workforce Development

Patrick McGrew, MD
Assistant Professor, Surgery - SOM
pmcgrew@tulane.edu
Currently researching mass casualty incidents. Interested in ICU delirium, effects of circadian rhythms on ICU drug metabolism. Interested in victim blaming in trauma patients. Other Research Interests include: Trauma, Emergency Surgery, Critical Care
OTHER RESEARCH AREAS

Howard Mielke, PhD
Professor, Pharmacology - SOM
hmielke@tulane.edu
The environmental signal we measure is metals in accumulated dusts of communities of New Orleans. We then obtain children’s exposure data from the city and state. The combined environmental signal and exposure data is stratified by community and evaluated for patterns and trends. Other Research Interests include: Urban Environment and Health

Brian Mitchell, PhD
Professor Chemical and Biomolecular Engineering – SSE
brian@tulane.edu
Production, characterization and applications of functionalized silicon nanoparticles. Other research Interest include: Nanostructured Materials

Matthew Montemore, PhD
Assistant Professor, Chemical and Biomolecular Engineering - SSE
mmontemore@tulane.edu
We are open to collaborations that will use our expertise in machine learning, data science, materials science, or quantum chemical calculations. Our primary focus is development of new materials for energy applications, such as catalysts, solar cells, and batteries. However, we have collaborated on projects studying biological activity of nanomaterials and the activity of bacteria with different DNA sequences. Other Research Interests include: Computational materials science, machine learning, catalysis

Antonio (Nito) Panganiban, PhD
Professor, Microbiology - TNPRC
apangani@tulane.edu
We’re working on virus replication, the host response to virus infection, and anti-viral strategies. Our primary focus is on emerging, zoonotic, minus strand RNA viruses that cause hemorrhagic fever and related pathogenesis. Pathogenesis typically involves infection of vessel endothelial cells and either systemic or localized hemorrhagic fever. The approaches we use include molecular virology, genomics, and transcriptomics.
1. Estrogen receptor phosphorylation: understanding the role of estrogen receptor alpha (ERα) phosphorylation in regulating receptor function in normal and cancer tissue. 2. Experimental therapeutics for breast cancer: using peptidomimetic Src inhibitor in combination with endocrine and chemotherapy for breast cancer; novel bone targeted parathyroid hormone antagonists for bone metastatic breast cancer. 3. Circadian regulation of estrogen receptor function: understanding the reciprocal regulation of the circadian rhythm and estrogen receptor in physiologic processes. 4. Adipocyte tissue-derived stromal/stem in reconstructive surgery and soft tissue repair: understanding the mechanisms by which ASCs promote head/neck cancer metastasis; the impact of ASCs in a low oxygen environment on fibrosis and immunomodulation. Other Research Interests include: Cancer/Hematology

Mark Wilson, PhD, MSPH
Assistant Professor, Global Environmental Health Sciences – SPHTM mwilson9@tulane.edu
I'm interested in how obesity impacts chemical metabolism. My primary interest lies in determining if obesity is associated with increased sensitivity to chemicals that are metabolized via the CYP2E1 enzyme pathway. Other Research Interests include: Genetic Toxicology