14th Annual

Faculty Research SYNERGY Event

Tuesday, November 14th, 2023 6:00—9:00 PM Audubon Tea Room



During tonight's 14th Annual Faculty Research Synergy event, you are encouraged to engage and discover shared or synergistic research interests and concepts. Throughout the evening, you are strongly encouraged to network and engage in discussion.

This "faculty research resource book" is a compilation of faculty research interests and expertise. Please feel free to use it for notes, contact information, and for your future reference.

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AGING



Jorge Castorena-Gonzalez, PhD

Assistant Professor, Pharmacology, SOM castorenagonzalez@tulane.edu

My research focuses on understanding mechanisms leading to dysfunction of the lymphatic system and assess how a dysfunctional lymphatic system contributes to the onset and development of cardiovascular diseases. Current research interests include the study of

the connection between obesity, diabetes, aging, and lymphatic dysfunction. My lab also seeks to develop novel techniques in physiology and software tools for the automated processing and analysis of data/images. Other Research Interests Include: Imaging, Lymphatic System and Cardiovascular Diseases

Malwina Czarny-Ratajczak, PhD

Assistant Professor, Center for Biomedical Informatics & Genomics mczarnyr@tulane.edu

I currently focus on identification of novel genetic and epigenetic factors contributing to development of primary osteoarthritis (OA). I employ a next-generation sequencing approach to study exome, transcriptome and exosomal miRNAs of patients with osteoarthritis. Current projects: contribution of dysfunctional telomeres and components of exosomal cargo (proteins and miRNAs) to primary

osteoarthritis. Other Research Interests include: Molecular Genetics, Skeletal Disorders



S. Michal Jazwinski, PhD

Professor, Dept. of Medicine, Center for Aging - 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 <u>pkatakam@tulane.edu</u>

My research investigates the role of cellular energetics and mitochondria in the regulation of cerebral microvasculature. We study the role of microvascular mitochondrial dysfunction in the

context of aging, stroke, diabetes, and Alzheimer's disease. In addition, we study sexdependent differences in cerebral microvascular bioenergetics. Other Research Interests include: Aging, Cardiology, Neurosciences, Women's Health

AGING



Hong Liu, PhD

Assistant Professor, Biochemistry and Molecular Biology - SOM <u>hliu22@tulane.edu</u>

My research seeks 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: Cancer/ Hematology



Ibolya Rutkai, PhD

Assistant Professor, Pharmacology - SOM irutkai@tulane.edu

My laboratory investigates the role of mitochondria and mitochondriarelated mechanisms in the brain vasculature in health and disease that might contribute to aging-related pathologies such as Alzheimer's disease.



Sergiy Sukhanov, PhD

Associate Professor, Medicine, Cardiology – SOM ssukhano@tulane.edu

My research focuses on studying mechanisms of atherosclerosis. I am interesting in role of DNA damage in disease progression. Supported by NIH R01 funds, I study anti-atherosclerotic effects of glyceraldehyde-3-phosphate dehydrogenase, and classical glycolytic enzyme with

multiple novel glycolysis-unrelated functions, including involvement in maintenance of DNA integrity under oxidative stress. Other Research Interests include: Peptides Chemistry, Oxidative stress, apoptosis, protein-protein interactions



Qinyan Yin, PhD

Assistant Professor, Medicine – Pulmonary Diseases - SOM <u>ayin@tulane.edu</u>

I study 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 <u>cnbaker@tulane.edu</u>

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

Professor, Veterinary Medicine – TNPRC <u>kbaker1@tulane.edu</u>

I research behavioral biology of nonhuman primates, with my areas of concentration including 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



Angela Breckenridge, PhD

Assistant Professor, Social, Behavioral, and Population Science <u>abrecken@tulane.edu</u>

I serve as the Director of Curriculum, Program Assessment, and Strategic Planning in the School of Public Health and Tropical Medicine.



Patrick Bordnick, PhD

Dean, School of Social Work - SW bordnick@tulane.edu

I have over twenty years of experience in clinical and laboratory research on cocaine, marijuana, alcohol, amphetamine, heroin, and nicotine addiction. My 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



Lorelei Dickey Cropley, Dr.PH

Associate Professor, Social, Behavioral, and Population Sciences – SPHTM

lcropley@bltulane.edu

I study the efficacy of Short Term Brigades, and Iron deficiency anemia behavioral interventions using iron cookware, as well as Chagas

Disease KAP studies. Other Research Interests include: Medical Education, Best Practices for Short Term Brigades



Regardt Ferreira, PhD

Associate Professor, Social Work – SSW <u>rferrei@tulane.edu</u> My main research interest is at the intersection of disaster, climate change, resilience and behavioral health; with work conducted in Europe, Africa, North America, the Caribbean and South Asia.

Jeanette Gustat, PhD, MPH

Associate Professor, Epidemiology – SPHTM gustat@tulane.edu My interacts include secial and environmental

My interests include social and environmental determinants of health including aspects of our surrounding built and natural environments that contribute to inactivity and obesity. Interests include physical activity, obesity, blight, psychosocial factors and cognitive function and

how these factors play a role in cancer and cardiovascular disease outcomes. Other Research Interests include: Environmental determinants of physical activity and health.



Tonya Hansel, PhD

Associate Professor, Social Work – SSW tcross1@tulane.edu

My research efforts center on evaluation of general trauma services, disaster response work in the aftermath of Hurricane Katrina, and towards a better understanding of technological disaster following the Deepwater Horizon Gulf Oil Spill. I focus on measuring traumatic

experiences and implementing systematic recovery initiatives that are effective at reducing negative symptoms, but also at emphasizing the importance of individual and community strengths that contribute to recovery.



A. Kenison Roy, III, MD

Associate Professor, Psychiatry <u>Aroy6@tulane.edu</u>

I currently study the neurobiology of Alcohol Use Disorder by measuring the connectivity of the Default Mode Network before and after a psilocybin session and the impact of the psilocybin session of the success of attempts to achieve abstinence and recovery.



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

I study 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

Tho Dea Prof

Thomas LaVeist, PhD

Dean, School of Public Health and Tropical Medicine Professor - SPHTM tal@tulane.edu My 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? My work includes both qualitative and quantitative analysis. I seek 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

Associate Professor, Psychology, Psychiatry, Oncology - SSE <u>mhoerger@tulane.edu</u>

I conduct research in psycho-oncology. Using a translational perspective, I draw 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

Associate 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. I also investigate 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 Isaltzman@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

My research interests include: 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



Chelsea Singleton, PhD

Assistant Professor – Social, Behavioral and Population Sciences – $\ensuremath{\mathsf{SPHTM}}$

Csingle1@tulane.edu

My research examines structural barriers to healthy eating in lowincome communities and communities of color. I use epidemiological, geo-spatial, and community-based participatory research methods to study social and environmental factors that influence healthy food access, purchasing, and consumption.



Susan Davies, PhD Associate Dean for Research, Professor – SSW sdavies2@tulane.edu

My research focuses on reducing HIV/STI's and unintended pregnancy among adolescents, and promoting maternal mental health, particularly among those living in poverty.



George Singletary, MD, MPH

Assistant Professor, Psychiatry - SOM gsinglet@tulane.edu

I am currently working with Department of Global Health on applications for funding for relapse prevention studies utilizing smart phone technology. I am interested in speaking with other faculty that might want to collaborate

on research in the field of Addiction.



Jeni Stolow, PhD, MPH

Assistant Professor, Social, Behavioral, & Population Sciences - SPHTM jstolow@tulane.edu

I am a social and behavioral scientist who works at the intersection of medical anthropology, public health, and infectious disease outbreak response. My recent work includes a deployment to Central/Eastern

Europe responding to the Ukraine Emergency as a World Health Organization (WHO) Risk Communication and Community Engagement (RCCE) officer, as well as infectious disease and post-disaster work in Brazil and Sierra Leone.



Kiana Andrew Tregre, MD, MPH

Assistant Professor, Psychiatry – SOM <u>kandrew@tulane.edu</u> My research Interests include: Women's Health, Juvenile and Forensics



Charles H. Zeanah, MD

Professor, Psychiatry and Pediatrics - 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.



David Crosslin, PhD

Associate Professor, Biomedical Informatics and Genomics crosslin@tulane.edu

My research interests include applied bioinformatics, applied statistics, clinical decision support, etiology of complex diseases, human genetics and genomics, informatics, large scale statistical

genetic analyses, systems integration, and implementation science.



Hong-Wen Deng, PhD

Professor, Medicine – 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



Emily Farrer, PhD

Assistant Professor, Ecology and Evolutionary Biology – SSE <u>efarrer@tulane.edu</u>

I am a community ecologist whose research examines the interactions that structure plant and microbial communities in space and time, and how climate change and invasive species alter these interactions with consequences for biodiversity and ecosystem function. I use field surveys, experiments, and a combination of

statistical modeling, population modeling, genomics, and GIS techniques. I work in wetlands, grasslands, and alpine ecosystems.



Loren Gragert, PhD

Assistant Professor, Pathology and Laboratory Medicine - SOM <u>lgragert@tulane.edu</u>

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 <u>hhe2@tulane.edu</u>

My research involves using statistical methodology, and particularly longitudinal data analysis, latent class analysis, causal inference, ROC analysis, etc., to facilitate impactful health research.

David M. Hinkle, MD

Professor and Chair, Ophthalmology – SOM <u>dhinkle@tulane.edu</u>

My research interests include understanding the mechanisms of drug and vaccine induced ocular inflammatory disease and big data analytics in ophthalmology. I received NIH funding for development of machine learning algorithms to assist in histopathologic

identification of giant cell arteritis. Other Research Interests include: Imaging, Immunology/Allergy/Skin, Infectious Diseases.



Michelle Lacey, PhD

Associate Professor, Mathematics – SSE

mlacey1@tulane.edu

My primary research interest is in the modeling and analysis of methylation profiles, and I also have extensive experience in bioinformatics and genomics. Other Research Interests include:

Genetics, Epigenetics



Xiaowen "Kevin" Liu, PhD

Associate Professor, Medicine – Bioinformatics and Genomics – SOM <u>xwliu@tulane.edu</u>

My research focuses on computational proteomics, especially mass spectrometry-based top-down proteomics, which can identify various proteoforms with alterations in biological samples. Our lab has

designed innovative algorithms and developed an open-source software suite for topdown MS-based proteoform identification, characterization, & quantification, which has been used by hundreds of universities and research institutes.

Other Research Interests included Proteomics



Ramgopal Mettu, PhD

Associate Professor, Computer Science – SSE <u>rmettu@tulane.edu</u> 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



Kuan-Jui "Ray" Su, PhD

Instructor, Biomedical Informatics and Genomics Ksu2@tulane.edu

My research centers on advanced statistical and AI/ML techniques for large-scale high-dimensional data analysis, encompassing genomics, transcriptomics, metabolomics, etc. It seeks to identify biomarkers

associated with conditions such as osteoporosis, sarcopenia, and aging-related diseases, while also focusing on improving the utility of multi-omics data and advancing innovative analytical methods.



Brian Summa, PhD

Assistant Professor, Computer Science – SSE <u>bsumma@tulane.edu</u>

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

My work utilizes biostatistics and quantitative bioinformatics to analyze biological and public health data. I assist other investigators with various data-related needs, including troubleshooting design issues (including sample and power analysis) and performing statistical

analysis for their projects. Other Research Interests include: Genetics



Charles Stoecker, PhD

Associate Professor, Health Policy and Management <u>cfstoecker@tulane.edu</u> As a researcher, I am interested in designing and analyzing policies

that affect early life events. My work explores the impacts of vaccination policy efficiency, air pollution regulation, and health insurance coverage

on children's health. My current research focuses on the economics of infectious disease including the impact of the Super Bowl on disease transmission and the links between scope of practice laws and health inequality.



Eman Toraih, MD, MSc, PhD, DBio

Assistant Professor etoraih@tulane.edu

My current research is focused on the discovery of biomarkers for clones driving thyroid cancer metastasis through spatial transcriptomics and single-cell multi-omics. Identifying trajectory time needed for nodal metastasis and development of prognostic nomogram will provide valuable information to help clinicians choose between surveillance and

surgical intervention.



Brigham Walker, MsC, PhD

Assistant Professor, Health Policy and Management - SPHTM bwalker6@tulane.edu

My 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: Cancer/Hematology.



Yu-Ping Wang, PhD

Professor, Biomedical Engineering – SSE wyp@tulane.edu

My research involves integration of multiscale and multimodal imaging and genomic data, as well as biomedical image processing, statistical and computational modeling, and analysis of biomedical data. Other

Research Interests include: Genetics, Neurosciences, Behavioral Health

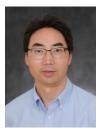


Carola Wenk, PhD

Professor, Computer Science – SSE <u>cwenk@tulane.edu</u>

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



Xiaojiang Xu, PhD

Associate Professor, Pathology and Laboratory Medicine Xxu17@tulane.edu

My research focuses on developing new bioinformatics algorithms and pipelines, and using the algorithms and pipelines to analyze biology multi-omics data to study genetic and epigenetic regulation on diseases.

BIOPHARMA MANUFACTURING



Vijay T. John, PhD Professor, Chemical and Biomolecular Engineering – SSE

<u>vj@tulane.edu</u> 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 Center for Clinical Research - SOM

rmcduffi@tulane.edu

I am the Director of the Tulane Center for Clinical Research. My research interests include: Cardiology, Endocrine/Bone



Nicholas Sandoval, PhD

Assistant Professor, Chemical and Biomolecular Engineering - SSE <u>nsandova@tulane.edu</u>

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, 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

My recent work on estrogen receptor alpha (ER α) phosphorylation has used CRISPR/Cas9 to create breast cancer cell lines with mutations in ER α phosphorylation sites to study its impact on

endocrine therapy. My current research is focused on determining the possible role of ERα signaling in sex differences in pulmonary fibrosis.



Diane Blake, PhD

Professor, Biochemistry and Molecular Biology – SOM Do-Director, Graduate Program in Biomedical Sciences - SOM <u>blake@tulane.edu</u>

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, MD, PhD

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 jqbrown@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).



Matthew E. Burow, PhD

Associate Professor, Medicine – Hematology/Medical Oncology - SOM mburow@tulane.edu

My research focuses on the 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.



Bridgette Collins-Burow, MD, PhD

Associate Professor, Medicine – Hematology/ Oncology - SOM <u>bcollin1@tulane.edu</u>

The long-term objectives of my research include 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 triplenegative or basal phenotype breast cancer.



Wu-Min Deng, PhD

Professor, Biochemistry and Molecular Biology - SOM wdeng7@tulane.edu

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



Chancellor Donald, MD

Assistant Professor, Medicine – Hematology and Medical Oncology -SOM

cdonald@tulane.edu



Yan Dong, PhD

Professor, Structural & Cellular Biology - SOM vdong@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.

Youssef Errami, PhD

Assistant Professor, Surgery – SOM <u>verrami@tulane.edu</u>

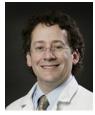
I explore cancer resistance to therapies and the metastatic process using gene-editing technologies including CRISPR. Other Research Interests include: Genetics, Immunology/Allergy/Skin



Mark J. Fink, PhD Professor, Chemistry – SSE fink@tulane.edu

I study the 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 pfriedla@tulane.edu

I study racial disparities in healthcare, as well as 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



Jeff Han, MD, PhD

Associate Professor, Biochemistry and Molecular Biology - SOM jhan5@tulane.edu

My research studies the role of germ line L1s in fertility, including the loss of transposon control pathways by mutation which is associated with massive L1 expression, germ cell death, and sterility.

We have identified genetic pathways important for the activity of L1 and 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



Charles Hemenway, MD

Professor of Clinical Pediatrics – LSU <u>chemen@lsuhsc.edu</u>

I will be serving as a liaison to clinical research at Children's Hospital. I most recently served as Director of the combined MD/PhD program at the Stritch School of Medicine at Loyola University Chicago, and have worked in the field of pediatric hematology/oncology—including

research, clinical care, and teaching-for over 35 years.



Reza Izadpanah, DVM, PhD Assistant Professor, Medicine-Cardiology - SOM rizadpan@tulane.edu

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, Genetics, Regenerative Medicine/Tissue Engineering,

Stem Cell Research



James Jackson, PhD

Assistant Professor, Biochemistry and Molecular Biology - SOM jjacks8@tulane.edu

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, orthotopic transplantation in syngeneic mice, and tissue culture model systems. Other Research Interests include: Aging, Mouse Models



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 selfassembly 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 Director, CTC Core Laboratory japashan@tulane.edu My research focuses on coenzyme-O

My research focuses on coenzyme-Q10 as an adjunct to standard therapies in elderly patients with chronic heart failure and type 2 Research Interests include: Cardiology Infectious Diseases

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 <u>damir@tulane.edu</u>

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

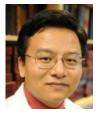


Sean B. Lee, PhD

Associate Professor, Pathology and Laboratory Medicine - SOM <u>slee30@tulane.edu</u>

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

Associate Professor, Pathology - SOM <u>zlin@tulane.edu</u>

My research mainly focuses on non-coding RNA during host-pathogen interaction. His lab utilizes genome-wide molecular, biochemical, and bioinformatics-based approaches to identify and characterize factors and cell signaling pathways that are regulated by viral and cellular

RNAs during the course of human herpesvirus and papillomavirus infection and associated pathogenesis. Other Research Interests include: Bioinformatics/Statistics, Genetics, Infectious Diseases, Lung



Hua Lu, MB, PhD

Professor and Chair, Biochemistry and Molecular Biology - SOM <u>hlu2@tulane.edu</u>

I research 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 <u>hmachado@tulane.edu</u>

My laboratory focuses on understanding how infiltrating macrophages promote breast cancer initiation and progression. Other Research Interests include: Stem Cell Research, Women's Health



Charles A. 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 Emeritus, Urology - SOM kmopart@tulane.edu

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 zpursell@tulane.edu

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.



Joe W. Ramos

Director and CEO – Louisiana Cancer Research Center jwramos@lacancerresearch.org

My research interests are in cancer invasion and metastasis. My lab's mission is to determine the underlying mechanisms that control cancer cell survival and invasion and to exploit this knowledge in drug development. Currently we are examining the dysregulation of cell

signaling in glioblastoma, skin cancer, and kidney cancer and developing drugs to block growth and invasion of these tumors.



Nakhle Saba, MD

Associate Professor, Medicine – Hematology/Oncology - SOM nsaba@tulane.edu

I conduct translational research in chronic lymphocytic leukemia and mantle cell lymphoma, focusing on disease biology and novel therapies.



Aiguo Tian, PhD

Assistant Professor, Biochemistry and Molecular Biology - SOM atian@tulane.edu

Our research uses the Drosophila model to understand how intestinal dysplasia is regulated in response to tissue injury or aging and how tumor growth patterns are regulated in follicular epithelial cells. Other

research interests include: Developmental biology and Cell Biology, Stem Cell Research



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



Shelya Zeng, MD

Professor, Biochemistry and Molecular Biology - SOM <u>szeng@tulane.edu</u> I study molecular dissection and conduct translational research of the p73 and c myc networks in controlling cell growth senescence death

p73 and c-myc networks in controlling cell growth, senescence, death, differentiation, and tumorigenesis. Other Research Interests include: Cancer Biology and Drug Discover



Qiuyang "Lisa" Zhang, PhD

Assistant Professor, Structural & Cellular Biology - SOM <u>gzhang3@tulane.edu</u>

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

CARDIOVASCULAR



Patrice Delafontaine, MD

Professor, Medicine, Pharmacology and Physiology and Executive Dean – SOM

pdelafon@tulane.edu

Our research program focuses on the field of Insulin-Like Growth Factor (IGF-1) biology, atherosclerosis, and skeletal muscle wasting. Recent

work demonstrates that monocyte-macrophage IGF-1 signaling is anti-inflammatory and promotes 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 determining the effects of IGF-1 on cellular senescence and studying endothelial cell, macrophage and smooth muscle specific effects of IGF-1. Other Research Interests include: Aging, Kidney/Hypertension, Neurosciences, Regenerative Medicine/Tissue Engineering



Jiang He, MD, PhD

Professor and Chair, Epidemiology – SPHTM jhe@tulane.edu My work combines comics, clinical, and epic

My work combines -omics, clinical, and epidemiological research in cardiometabolic diseases. Other Research Interests include: Genetics, Kidney / Hypertension



Frederick Helmcke, MD

Associate Professor, Medicine <u>Fhelmcke@tulane.edu</u> I am a cardiologist specializing in cardiovascular disease and internal medicine.



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

CARDIOVASCULAR



Yusuke Higashi, PhD

Associate Professor, Medicine – Cardiology – SOM <u>yhigashi@tulane.edu</u>

My research focuses on hormonal/growth factors' regulation of vascular cells and inflammatory cells that are involved in atherosclerosis, with an emphasis on translation of findings on a bench to a bedside. Other Research Interests include: Aging, Endocrine/Bone, Imaging, Lung



Colleen Johnson, MD

Associate Professor, Medicine – Cardiology – SOM cjohnson@tulane.edu

My research is currently investigating clinical approach to cardiac devices such as cardiac resynchronization therapy, conduction system pacing and left atrial appendage closure devices. Inherited cardiomyopathies as well as infiltrative cardiomyopathies such as ARVC

and sarcoid are an area of active research as well. Other Research Interests include: Imaging, Medical Devices, Women's Health



Stryder Meadows, PhD

Associate Professor, Cell and Molecular Biology - SSE <u>smeadows@tulane.edu</u>

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

Amitabh Pandey, MD

Assistant Professor, Medicine – Cardiology – SOM apandev@tulane.edu

We aim to evaluate the role of genomics in the pathogenesis of atherosclerosis and the larger context of cardiovascular diseases. Using single cell techniques, understanding the molecular mechanisms that predispose individuals to atherosclerosis will allow for better understanding and therapeutics for cardiovascular disease states.

CARDIOVASCULAR



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



Juan Terré, MD

Associate Professor, Medicine – Cardiology – SOM jterre2@tulane.edu

My areas of focus include complex coronary interventions (3 V CAD, Low ejection fraction and LV support devices), Transcatheter minimally invasive interventions for acquired

structural heart disease (TAVR, TMVR, TTVR, PVL Closure), congenital heart disease (TTVR, TPVR, ASD Closure, VSD Closure) and stroke prevention interventions (PFO/LAAO).



Thomas Cooper Woods, PhD

Associate Professor, Physiology twoods3@tulane.edu

I study vascular biology, intimal thickening, atherosclerosis, and the cardiovascular complications of diabetes.

ENDOCRINE / BONE



Charles Billings, MD Assistant Professor, Orthopaedics - SOM <u>cbillin1@tulane.edu</u> I research 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

My work focuses upon the prevention and treatment of diabetic complications and risk factor reduction in cardiovascular disease. I serve as the site PI for the NIH-funded All of Us and RECOVER studies, and as the Director of the LA CaTS Clinical Research

Resources Core. I also conduct clinical trials in diabetic nephropathy and evaluating biosimilar insulins. Other Research Interests include: Cardiovascular Risk



Sylvia Ley, PhD

Assistant Professor – Epidemiology – TPHTM <u>sley@tulane.edu</u>

My research focuses on developing strategies to prevent and manage chronic diseases and investigating earlier life risk factors for diabetes and cardiovascular disease over the life-course. I currently lead NIH and NSF funded research projects on life-course and omics

approaches to cardiometabolic disease prevention and on COVID-19 and maternal and infant health. Other Research Interests include: Aging, Cardiology, Women's Health



Lizheng Shi, PhD

Professor and Chair, Health Policy and Management - SPHTM <u>Ishi1@tulane.edu</u>

My areas of interest include: pharmaceutical and health care economics; pharmacoepidemiology; health care quality, access, and evaluation. Other Research Interests include: Aging, Bioinformatics/Statistics, Cardiology, Kidney/ Hypertension.

ENDOCRINE / BONE



Franck Mauvais-Jarvis, MD, PhD

Professor, Medicine - Endocrinology and Metabolism - SOM <u>fmauvais@tulane.edu</u>

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 novels ways to modulate estrogen and androgen actions in a tissue-

and sex-specific manner to prevent/improve diabetes and metabolic dysfunction.



Brian G. Rowan, PhD

Associate Professor and Chair, Structural & Cellular Biology - SOM browan@tulane.edu

My research centers on the following areas: 1. Estrogen receptor phosphorylation: understanding the role of estrogen receptor alpha (ERa) 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, Women's Health



Fernando L. Sanchez, MD

Associate Professor, Orthopaedics - SOM <u>fsanchez@tulane.edu</u>

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

My research interests include hospital treatment of diabetes mellitus, transitioning in-patients with diabetes to outpatient care, and the treatment of diabetic peripheral neuropathy.

ENDOCRINE / BONE



Felix Savoie, MD

Professor and Chair, Orthopaedics - SOM <u>fsavoie@tulane.edu</u>

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, PhD

Assistant Professor, Radiology - SOM <u>mserou2@tulane.edu</u>

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



Yilin Yoshida, PhD

Assistant Professor, Medicine Yyoshida1@tulane.edu

My research interest is in sex-based cardiometabolic epidemiology. My current research seeks to understand biobehavioral mechanisms underlying women's excessive cardiovascular risk in diabetes.



Zongbing You, MD, PhD

Professor, Structural & Cellular Biology - SOM zyou@tulane.edu or you.zongbing@gmail.com

I primarily study inflammation/immune responses in prostate cancer and lung cancer, focusing on interleukin-17. Secondarily, I study tissue engineering of articular cartilage using adipose tissue-derived stem cells transfected with doublecortin gene (DCX). Other Interests

include: Cancer / Hematology, Immunology / Allergy / Skin, Regenerative Medicine / Tissue Engineering, Stem Cell Research

ENDOCRINE / BONE



Hongju Wu, PhD

Associate Professor, Medicine - Endocrinology & Metabolism - SOM <u>hwu3@tulane.edu</u>

My research is focused on diabetes, aiming to develop novel therapeutic strategies and delineate the underlying mechanisms. In particular, we are interested in developing Pax4-based gene and cell

therapy strategies to protect insulin-producing β cells and induce β cell regeneration in pancreatic islets, thus improving glucose control in diabetes patients. In addition, my lab is interested in how GLP-1 regulates islet hormones, especially glucagon.

GASTROENTEROLOGY / LIVER



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



Wenke Feng, PhD Professor, Structural & Cellular Biology wfeng@tulane.edu

My laboratory has a longstanding interest in studying the mechanisms of microbiome homeostasis, the gut-liver axis, and the application of probiotics in entero-hepatic diseases. My areas of focus include

alcohol-associated liver disease (ALD), nonalcoholic fatty liver disease (NAFLD), cholestatic liver disease, inflammatory bowel disease, and colon cancer.



Chiung-Kuei Huang, PhD

Professor, Medicine – Gastroenterology – SOM <u>chuang17@tulane.edu</u>

My research primarily focuses on clarifying the underlying mechanisms by which methylcytosine dioxygenases modulate progression of Alcoholic Liver Disease, and to evaluate TET1 as a potential therapeutic target. I also research the role of aspartate betahydroxylase (ASPH) and investigate the therapeutic potential of targeting ASPH in cholangiocarcinoma.



Hoonbae Jeon, MD

Professor and Chief, Abdominal Transplant - Surgery - SOM <u>hjeon@tulane.edu</u>

I study hepatobiliary malignancy and liver transplant outcomes. Other Research Interests include: Kidney/Hypertension, Medical Education

GASTROENTEROLOGY / LIVER



Bilon Khambu, MsC, PhD

Assistant Professor, Pathology and Laboratory Medicine – SOM <u>bkhambu@tulane.edu</u>

My research areas of focus include clinical Liver disease models related to Non-alcoholic fatty liver disease (NAFLD), (Alcoholic liver disease (ALD), proteinopathy, autophagy - acute and chronic liver injury, inflammation, repair, Liver fibrosis, cirrhosis, hepatocellular

carcinoma(HCC), and cancer stem cell. Using transgenic mouse models, isolated primary hepatic cells or cell lines, we try to tease out how liver injury and associated hepatic inflammation, fibrosis, ductular reaction, and tumor development occurs. We are also interested in understanding the mechanism of liver regeneration in the context of injury. Particularly we are interested to identify various hepatic factors(e.g., HMGB1, DEK, Hepatokines, DAMPS, etc.) responsible for executing these pathological events.

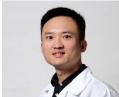


Anil Paramesh, MD

Professor, Surgery – Kidney and Pancreas Transplant – SOM <u>aparamesh@tulane.edu</u> Other Research Interests include: Immunology/Allergy/Skin



Suzana Savkovic, PhD Associate Professor, Pathology – SOM ssavkovi@tulane.edu Research Interests include: Immunology, Metabolic Remodeling



Shengmin Yan, PhD Instructor, Pathology – SOM syan2@tulane.edu

My current research interests include 1) cholestasis and ALD; 2) the role of autophagy in liver pathophysiology; 3) the formation and physiological functions of protein condensates in liver

diseases; and 4) the impact of immunometabolism on the progression of NAFLD/NASH.

GASTROENTEROLOGY / LIVER



Cancer/Hematology.

Xiao-Ming Yin, MD, PhD

Professor and Chair, Pathology and Laboratory Medicine <u>xmyin@tulane.edu</u>

Our interests of research are liver biology and liver diseases. We are particularly interested in the study of alcohol and non-alcohol induced fatty liver diseases. More recently we have been studying the role of autophagy in normal hepatic physiology and structure, the impact on liver pathophysiology and the implication in human liver diseases. Other Research Interests include:



Hans C. Andersson, MD

Professor and Director, Hayward Genetics Center – SOM <u>handers@tulane.edu</u>

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 <u>ychen@tulane.edu</u>

My research focuses on genetic regulation of organ formation and pathogenesis, particularly in craniofacial and cardiac development using transgenic/knockout mouse models. Other Research Interests include: Cardiology, Endocrinology/Bone



Victoria Perepelitsa, PhD

Associate Professor, Structural and Cellular Biology – SOM <u>vperepe@tulane.edu</u>

My longstanding interest has been in understanding molecular mechanisms of transposable elements interaction with their host and the impact these transposons have on human health through their contribution to genomic instability. My multidisciplinary research has

over the years involved studies of DNA, RNA and protein biogenesis, cell signaling, DNA damage response, genomic instability, epigenetics, senescence, circadian disruption, and age-associated diseases such as cancer and Alzheimer's Disease. Other Research Interests include: Aging; Neurodegeneration



Prescott Deininger, PhD

Professor, Associate Director for Basic Science, Tulane Cancer Center & Louisiana Cancer Research Center - SOM <u>pdeinin@tulane.edu</u> 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



Samir S. El-Dahr, MD

Professor and Chair, Pediatrics - SOM <u>seldahr@tulane.edu</u> My research focus is on genetic and

My research focus is on genetic and epigenetic control of renal development. Other Research Interests include Stem Cell Research



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



Kathleen Ferris, PhD

Assistant Professor, Ecology & Evolutionary Biology - SSE <u>kferris@tulane.edu</u>

I am an Assistant Professor in the Department of Ecology & Evolutionary Biology at Tulane University. I study the genetic and phenotypic basis of adaptation and speciation. I use 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



Fenglei He, PhD

Assistant Professor, Cell and Molecular Biology – SSE <u>fhe@tulane.edu</u> Neural crest cells comprise a transient, highly migratory and multi-

potent 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: Developmental Biology, Craniofacial Biology, Kidney/Hypertension, Regenerative Medicine/Tissue Engineering



Jun-yuan Ji, PhD

Professor, Biochemistry and Molecular Biology – SOM ji@tulane.edu

My research focuses on transcriptional regulation of lipid metabolism in Drosophila and cultured mammalian cells. Other Research Interests include: Cancer/Hematology, Endocrinology/ Bone, Infectious

Diseases, Men's Health; Stem Cell Research



Xiang Ji, PhD

Professor, Mathematics Xii4@tulane.edu

My research focuses on every component of statistical phylogenetics, from model development, advanced inference technique to under-thehood parallel computation libraries with one central goal: solving biological questions. Two major application areas of my research are

viral evolution and multi-gene family evolution.



Changwei Li, MD, PhD

Assistant Professor, Epidemiology - SPHTM cli8@tulane.edu

I am an epidemiologist with expertise in medicine, multi-omics, GXE interactions, cardiovascular disease and chronic kidney disease. My 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, I was a tenure track Assistant Professor of Epidemiology at the University of Georgia at Athens. I received my PhD in Genetic Epidemiology from Tulane University, MPH in Global Health from Emory University, and medical degree in Preventive Medicine from Peking University.



Arthur J. Lustig, PhD

Professor, Biochemistry and Molecular Biology – SOM <u>alustig@tulane.edu</u>

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



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



Hui Shen, PhD

Professor, Biomedical Informatics and Genomics <u>Hshen3@tulane.edu</u>

My research interests focus mainly on identifying and characterizing genetic and epigenetic variation that affects susceptibility to complex human disorders, such as osteoporosis and sarcopenia.



Shusheng Wang, PhD, MBA

Professor, Cell and Molecular Biology – SSE swang1@tulane.edu

Noncoding RNAs in vascular development and diseases. Vascular abnormalities underlie the pathogenesis of many ocular diseases. Our research focus in the lab is to understand the role of

noncoding RNAs, including microRNAs and long non-coding RNAs, in vascular biology and vascular retinopathies. We also 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

IMAGING



Carolyn Bayer, PhD

Assistant Professor, Biomedical Engineering – SSE <u>carolynb@tulane.edu</u>

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

Professor, Radiology - SOM inguye2@tulane.edu

My research interests and areas of expertise include advanced MR imaging, imaging informatics, machine learning, and artificial intelligence.

IMMUNOLOGY / ALLERGY / SKIN



John Carlson, MD, PhD Associate Professor, Pediatrics – Allergy/Immunology - SOM <u>icarlso@tulane.edu</u> Environmental exposures and asthma



Lucy C. Freytag, PhD

Associate Professor, Microbiology and Immunology - SOM Irreyta@tulane.edu

I study 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 my research is to investigate mechanisms of mucosal host defenses in the lung in normal and immunocompromised using genetic models. Presently, my 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, I research host susceptibility to opportunistic infection such as Pneumocystis and is developing novel therapies against this pathogen. Other Research Interests include: Infectious Diseases, Lung; Single cell RNA sequencing



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

IMMUNOLOGY / ALLERGY / SKIN



Andrea Murina, MD

Associate Professor, Dermatology - SOM amurina@tulane.edu My current education-based research proj

My 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 seeks to understand drivers of diversity in immune responses and design of novel therapeutics, including mucosal vaccine adjuvants and delivery systems.



Connie Porretta, BS, I, SCYM (ASCP),

Instructor and Director, Flow Cytometry and Cell Sorting (FCCS), Microbiology and Immunology - SOM <u>cporretta@tulane.edu</u>

My role is to provide state-of-the-art flow cytometry education, training and service to researchers within the Tulane community. Applications

include immune profiling, sorting of immune subsets and fluorescent reporter expressing cells, DNA content/cell cycle analysis, multi-plex bead assays and functional assays.



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: Asthma, Behavioral Health, Metals exposure, Pesticide

IMMUNOLOGY / ALLERGY / SKIN



Chad Steele, PhD

Professor and Chair, Microbiology and Immunology - SOM <u>csteele4@tulane.edu</u>

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. 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 chitinase-like proteins. Other Research Interests include: Infectious Disease, Lung



Rie Yotsu, MD, PhD

Associate Professor, Tropical Medicine <u>ryotsu@tulane.edu</u>

My research focus has been on the epidemiology, surveillance, and management of skin-related neglected tropical diseases (Skin NTDs; leprosy, Buruli ulcer, scabies, yaws, etc.), especially recently, through the use of digital health tools. I, together with my team, have

developed an innovative digital health tool, the 'eSkinHealth' app, to bring healthcare closer to where people affected by skin NTDs live in low- and middle-income countries.



Pyone Pyone Aye, PhD, BVS

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:

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, Prevention of Tropical Medicine – SPHTM <u>rblanton1@tulane.edu</u>

My 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



Nell Bond, PhD

Assistant Professor, Medicine – Infectious Diseases nbond@tulane.edu

I am interested in understanding of mechanisms underlying longterm sequelae in people affected by a severe acute viral illness in childhood. I am particularly interested in the role of cellular immunity and accelerated aging in these syndromes. I plan to look at this in

the context of Post-Ebola Syndrome (PES) in pediatric patients.



Nathalie Busschaert, PhD

Assistant Professor, Chemistry – SSE <u>nbusschaert@tulane.edu</u>

My research focuses on small molecules that can either transport anion across biological membranes, or bind to the headgroups of lipids in the membrane. These molecules can find applications as antibiotics and as therapeutics for other diseases.



Partha Chandra, PhD

Assistant Professor, Pharmacology - SOM <u>Pchandr1@tulane.edu</u> I am investigating the role of exosomes released by HIV-1 infected cells in the development of neurops

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: Aging, Neurosciences, Stem Cell Research



Srikanta Dash, PhD

Professor, Pathology and Laboratory Medicine - SOM <u>sdash@tulane.edu</u>

I study the role that endoplasmic reticulum (ER-stress)/ unfolded protein response plays 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



Prasun K. Datta, PhD

Associate Professor, Comparative Pathology and Microbiology & Immunology – TNPRC pdatta@tulane.edu

Our research interest is in elucidating the role of metabolism in HIV-1 biogenesis and survival in latent CNS reservoirs such as

macrophage and microglia, and the effects of HIV-1 induced neuroinflammatory cytokines and small extracellular vesicles released from HIV-1 infected macrophage and microglia on the regulation of astrocyte glutamate transporter, EAAT2, and neurodegeneration. We are also interested in assessing the impact of substances of abuse such as opiate and cocaine on the cross-talk between cellular metabolism and epigenetics in HIV-1 biogenesis in macrophage and microglia, and astrocyte EAAT2 and non-coding RNA regulation. With the emergence of SARS-CoV-2, we are interested in assessing the longterm effects of SARS-COV-2 in lung and kidney injury in mice and non-human primates. Other Research Interests include: Kidney/Hypertension, Lung, Neurosciences



Arnaud Drouin, MD

Assistant Professor, Medicine – Gastroenterology - SOM adrouin@tulane.edu

I study the 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, Cardiology, Immunology/Allergy/Skin



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 <u>hkfrank@tulane.edu</u>

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 <u>dfusco@tulane.edu</u>

My 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: Innate Immunity; Bone Development



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

I have 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. I have also served in the Peace Corps, where she worked to improve disease

diagnosis methods and blood transfusion safety in Thailand.



Tony Hu, PhD

Professor, Biochemistry and Molecular Biology - SOM <u>yhu16@tulane.edu</u>

My research focuses on the development of nanomaterial platforms and proteomic approaches that are designed to enrich biomarker capture from microbial pathogens, or enhance biomarker signal, to

improve the detection sensitivity, specificity, or quantitation of pathogen-derived soluble or extracellular vesicle (EV)-associated factors in complex biological samples. My research differs from conventional biomarker discovery and detection research for clinical microbiology in that it employs the special properties of nanomaterials to improve assay performance and reproducibility. I have made significant contributions to microbial diagnostics for critical global health initiatives, including a serum/plasma assay for all forms of tuberculosis and a mass spectrometry-based approach to differentiate closely related mycobacterium and Ebolavirus species. Other Research Interests include: Cancer/Hematology, Medical Devices, Peptides Chemistry



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 "Miti" Kaur, MD

Professor, Microbiology and Immunology – TNPRC <u>akaur@tulane.edu</u>

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, BSN, MPH, PhD

Professor, Epidemiology; Associate Dean for Faculty Affairs - SPHTM kissing@tulane.edu

I have worked in HIV and other sexually transmitted infections for over 30 years. My work has been in Chlamydia trachomatis and Trichomonas vaginalis control. I also serve as Associate Editor of the journal Sex Transm Dis and was a member of the NASEM committee

to examine why STIs are increasing in the US. I currently focus on COVID-19 research and have been the PI/co-PI of 4 grants in COVID. Other Research Interests include: Behavioral Health, Men's Health, Women's Health, Substance Use, STIs

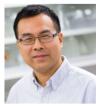


Louise Lawson, PhD

Assistant Professor, Microbiology and Immunology Ibraud@tulane.edu

With a focus on infectious disease, I study novel formulations for delivery of vaccines and antimicrobials, as well as bacterial pathogenesis. I have developed a particular interest in determining sex differences in severity of bacterial infections of the intestinal tract. A

better understanding of sex differences in disease sensitivity will allow for design of more informed and personalized treatment and preventive options for patients suffering with diarrheal disease and other toxin-mediated conditions caused by bacterial pathogens.



Shitao Li, PhD

Associate Professor, Microbiology and Immunology - SOM sli38@tulane.edu

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/and cGAS signaling pathways. We adopt various omics, molecular approaches, and genetics to investigate their roles in nucleic acidmediated 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.



Alfred Luk, MD

Assistant Professor, Medicine – Infectious Diseases – SOM <u>aluk@tulane.edu</u>

My focus is in Transplant Infectious Diseases & Immunocompromised Hosts. I have interests in clinical trials and advanced clinical diagnostics such as the use of a commercial next-generation

sequencing assay in the diagnosis of pneumonia in immunocompromised hosts and other biomarker research in HIV positive-to-positive kidney transplantation.



Jennifer Manuzak, PhD

Assistant Professor, Microbiology and Immunology – TNPRC jmanuzak@tulane.edu

My main research focus is on using the nonhuman primate model to determine the role of innate immune cells in mucosal dysfunction during SIV/malaria co-infection and to characterize the

immunopathogenesis of malaria in pregnancy (MIP), in the presence and absence of SIV co-infection. Additionally, my lab works to examine the impact of substance use, particularly cannabis, on immunity and biobehavioral factors leading to increased HIV transmission risk in disproportionately burdened populations and pathogenesis in people with HIV. Ultimately, these efforts will contribute to advances in HIV prevention efforts, reveal novel therapeutic targets for improving clinical outcomes in people with HIV, and mitigate the risk of MIP-associated morbidity and mortality in pregnant women with HIV. Other Research Interests include: Gastroenterology, Immunology/Allergy/Skin, Infectious Diseases, Women's Health



Nicholas Maness, PhD

Associate Professor, Microbiology – TNPRC <u>nmaness@tulane.edu</u>

We study the immunology and Virology of HIV/SIV and emerging viruses, including SARS-CoV-2, Zika and others. We work with both BSL-2 and - 3 viruses and develop in vitro neutralization and other assays and use next gen viral sequencing to study viral evolution.



Sarah Michaels, PhD

Assistant Professor, Tropical Medicine & Infectious Disease smichael@tulane.edu

I am a medical entomologist with a focus in vector-borne disease. My background is in arbovirus surveillance, vector control, operational research and community outreach. I am particularly interested in

assessing arboviral disease transmission potential and the impact of climate change and social vulnerability.



Lisa A. Morici, PhD

Associate Professor, Microbiology and Immunology Imorici@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: Lung

Lina Moses, PhD, MSPH

Associate Professor, Global Community Health and Behavioral Sciences - SPHTM

Imoses2@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



JC Mudd, PhD

Assistant Professor, Microbiology and Immunology – TNPRC jmudd1@tulane.edu

Although antiretroviral therapy (ART) is highly effective at limiting the extent of HIV-1 infection, the virus can hide out in 'latent' form in the genome of CD4 T cells, undergoing little or no transcription and thus remaining undetected by the immune system. Our lab explores

approaches to eradicate the HIV reservoir, and seeks to understand why currentlyimplemented HIV cure approaches face efficacy hurdles.

Other Research Interests include: Bioinformatics/Statistics

Immunology/Allergy/Skin



David A. Mullin

Associate Professor, Cell and Molecular Biology – SSE <u>damullin@tulane.edu</u>

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

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 <u>bning1@tulane.edu</u>



Mairi Noverr, PhD

Professor, Microbiology and Immunology – SOM <u>mnoverr@tulane.edu</u>

My lab research activities focus on investigating mechanisms of immunomodulation and sepsis caused by C. albicans and non-albicans Candida species (NAC) during invasive infection. We have developed a

polymicrobial intra-abdominal infection (IAI) model with C. albicans and S. aureus, two pathogens that inhabit the same niches in the host, and that cause synergistic effects on mortality and promote sepsis. We have also discovered that low virulence NAC species induce protective immunity against highly lethal polymicrobial IAI. Rather than adaptive immunity, this protection is dependent on long-lived Gr-1+ leukocytes, suggestive of a novel form of trained innate immunity mediated by myeloid-derived suppressor cells (MDSCs). Current projects in the lab are focused on investigating both mechanisms of infectious synergy between C. albicans and S. aureus, and mechanisms of trained innate immunity against sepsis. Other Research Interests include: Sepsis, Vaccinology, Trained Innate Immunology.



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



Kislay Parvatiyar, PhD

Assistant Professor, Microbiology and Immunology, SOM kparvatiyar@tulane.edu

We are interested in how nucleic acid sensing pattern recognition receptors contribute to antiviral host defense and how their dysregulation plays a role in instigating autoinflammatory diseases as

well as antitumor responses. Other Research Interests include: Aging, Cancer/Hematology, Immunology/Allergy Skin



Jay Rappaport, PhD

Professor, Microbiology and Immunology

Director and Chief Academic Officer, Tulane National Primate Research Center - TNPRC

jrappaport@tulane.edu

My current research focuses on HIV and SARS-CoV-2 with focus on infection, comorbid conditions, pathogenesis, vaccines, and

novel therapeutics. Other Research Interests include: Aging, Behavioral Health, Cardiology, Gastroenterology, Genetics, Imaging, Immunology/Allergy/Skin, Kidney/Hypertension, Lung, Medical Devices, Medical Education, Men's Health, Neurosciences, Regenerative Medicine/Tissue Engineering, Stem Cell Research, and Women's Health.



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.



Namita Rout, PhD

Assistant Professor, Immunology – TNPRC <u>nrout@tulane.edu</u>

I lead nonhuman primate studies focused on HIV pathogenesis and cure strategies, pathogenesis of HIV/TB coinfection, mucosal immunity and inflammation of aging, and innate T cell biology. I also explore cellular immunology with a particular focus on unconventional T cells that recognize non-peptide antigens such as

lipids and small metabolites.



Chad Roy, MSPH, PhD

Professor, Associate Dean for Research – SOM <u>croy@tulane.edu</u>

I am 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 my efforts are directed in the use of the nonhuman primate for this purpose. My 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. My 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. I am also involved in investigation of the immunogenicity and protective efficacy of virally-vectored vaccines against aerosol-initiated alphaviral disease. There are also significant efforts ongoing in my laboratory to develop disease models for biothreat agents such as *Burkholderia pseudomallei* in the nonhuman primate. Other Research Interests include: Lung



Patricia Y. Scaraffia, PhD

Assistant Professor, Tropical Medicine - SPHTM <u>pscaraff@tulane.edu</u> <u>My expertise is in incest metabolism</u> especifies

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 mosquitocontrol strategies. Other Research Interests include: Medical Entomology



John S. Schieffelin, MD, MSPH

Associate Professor, Pediatrics and Medicine - 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, Virology



Margarita Silio, MD, MPH

Associate Professor, Pediatrics – Infectious Diseases – SOM msilio@tulane.edu

I am PI of the Pediatric HIV/AIDS Cohort Study and co-investigator in the HIV vaccine trial HVTN-706. Other Research Interests include: Women's Health, Pediatrics



Kristefer Stojanovski, PhD

Research Assistant Professor, Social, Behavioral, and Population Sciences – SPHTM <u>kstojanovski@tulane.edu</u> My research expertise spans monitoring and evaluation, policy

analysis, and community-rooted research. I develop, implement, and manage large-scale global studies, particularly in Southeastern Europe and Africa related to the health of LGBTQ+ communities. In addition, I use evidence synthesis methods to develop evidence maps and conceptual models of systems of interaction that create health inequities. My research is rooted in systems science, aiming to understand and intervene in the myriad of relationships and interactions stemming from oppression and marginalization that shape health inequity.

Vicki Traina-Dorge, PhD

Associate Professor, Microbiology and Immunology - TNPRC <u>vtraina@tulane.edu</u>

My research interests focus on nonhuman primate (NHP) models of pathogenic virus infections, including SVV, SIV, RSV, and SARS CoV-2, as well as, testing of vaccines and therapeutics to combat those

infections. Our shingles program focuses on SVV pathogenesis in the NHP characterize subclinical reactivation and multi-organ inflammation causing not only shingles, but stroke, arteritis, ocular infections, and potentially, Alzheimer's disease. We are testing RSV infection and RSV and SARS Co-V2 coinfections in the mouse and in vitro organoid models. We recently completed preclinical trials testing prophylactic vaccine efficacies with a SVV vectored SIV vaccine to identify immune correlates of protection and ultimately, to develop a vaccine against HIV. Other Research Interests include: Aging, Immunology/Allergy/Skin, Neurosciences



Monica Vaccari, PhD

Associate Professor, Microbiology and Immunology – TNPRC monicavaccari@hotmail.com; mvaccar@tulane.edu

The focus of my lab is to understand the roles, relationships, and actions of pro-inflammatory and anti-inflammatory immune responses that lead to favorable or unfavorable disease and vaccine outcomes. We are particularly interested in studying how to harness

innate and adaptive immune responses to increase the efficacy of current prophylactic HIV vaccines, and understanding the contribution of dysfunctional immune responses and immunoregulatory processes to disease progression in SARS-CoV-2, HIV and HIV related comorbidities. Other Research Interests include: Behavioral Health and Immunology/Allergy/Skin.



Ronald S. Veazey, DVM, PhD

Professor, Pathology - TNPRC rveazey@tulane.edu

I research 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: Gastroenterology, Immunology/Allergy/Skin, Infectious Diseases, Neurosciences.



Xiaolei Wang, PhD

Associate 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



Huanbin Xu, PhD

Assistant Professor, 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.



Crystal Zheng, MD

Assistant Professor, Infectious Diseases - SOM czheng5@tulane.edu

I study the 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.



Wenshu Zheng, PhD

Assistant Professor, Biochemistry and Molecular Biology <u>Wzheng5@tulane.edu</u>

My research focuses on the development of nanosensors for detecting and quantifying tuberculosis-associated biomarkers including antigens and extracellular vesicles, with the goal of developing a validated test for tuberculosis diagnosis with high accuracy and reproducibility.



Amanda Anderson, PhD, MPH

Associate Professor, Epidemiology - SPHTM <u>aanderson5@tulane.edu</u> My major research interests address the epide

My 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). I focus particularly 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 co-morbidities and outcomes associated with CKD. Other Research Interests include: Bioinformatics/Statistics, Gut Microbiome, Biomarkers

Vecihi Batuman, MD



Professor, Medicine - Nephrology and Hypertension - SOM vbatuma@tulane.edu

I study 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, and environmental kidney disease. I lead

research efforts in nephropathy and hypertension.



Rhea Bhargava, MD

Assistant Professor, Medicine – Nephrology & Hypertension – SOM Rbhargava@tulane.edu

My research focus is to evaluate the interaction of the immune system with the kidney in autoimmune disorders like SLE. Currently I am evaluating the pathogenic events prior to the development of nephritis in those with SLE. These include the glycosylation pattern on IgG that characterizes SLE patients with lupus nephritis, cell

signaling induced by these IgG in kidney resident cells and utilizing these findings to develop noninvasive bioassays for lupus nephritis. I hope to comprehensively characterize the events prior to and in early lupus nephritis, determine their prognostic and predictive value, and identify opportunities for new therapies. Other Research Interests include: Immunology/Allergy /Skin



Heddwen Brooks, PhD

Professor and Chair – Physiology – SOM <u>hlbrooks@tulane.edu</u>

We examine how sex differences impact physiology and pathophysiology, specifically how postmenopausal accelerated aging impacts chronic inflammatory diseases such as hypertension and diabetes. We study how estrogen loss impacts T cell and macrophage signaling to induce end organ damage and have used our preclinical menopause model to study the onset of postmenopausal asthma,

vascular cognitive dementia, Alzheimer's, kidney, and CV disease.



Jing Chen, MD

Professor, Medicine – Nephrology and Hypertension - SOM jchen@tulane.edu

My research interests are the etiology, prevention, and treatment of chronic kidney disease and hypertension, cardiovascular disease in chronic kidney disease metabolic syndrome, and obesity related kidney

disease. I also study vascular calcification in chronic kidney disease, diabetic nephropathy, and gene-environment interaction in chronic kidney disease and hypertension.



L. Lee Hamm, MD

Dean, School of Medicine - SOM <u>Ihamm@tulane.edu</u>

I have previously studied acid-base homeostasis including 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, and genetic mechanisms of kidney disease and hypertension.



Robert S. Hoover, MD

Associate Professor, Medicine, Chief of Nephrology – SOM Rhoover3@tulane.edu

I study the impact of kidney distal tubular sodium on hypertension. We use in vivo assessments in transgenic animals as well as in vitro cell culture based techniques to address these questions.



Kathleen S. Hering-Smith, PhD

Associate Professor, Medicine – Nephrology - SOM <u>khering@tulane.edu</u>

My research interests involve kidney epithelial transport mechanisms, their regulation and acid-base homeostasis. I am currently focused on understanding the physiological and molecular mechanisms that regulate calcium nephrolithiasis in males and females under both

physiological and pathophysiological conditions. We have the only animal model of NaDC1 knockout. Urinary citrate is the most important inhibitor of kidney stones and is controlled by the transport protein NaDC1; in the kidney NaDC1 is located only in the apical membrane of the proximal tubule. This process is intimately intertwined also with acid-base homeostasis, calcium metabolism, chronic kidney disease, and bone health.



Suttira Intapad, PhD

Assistant Professor, Pharmacology - SOM <u>sintapad@tulane.edu</u>

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



Jia Zhuo, MD, PhD

Professor, Physiology – SOM

Director, Tulane Hypertension and Renal Center of Excellence jzhuo@tulane.edu

My laboratory is interested in studying the roles of endocrine (tissueto-tissue), paracrine (cell-to-cell), and intracrine (endosomal, mitochondrial and nuclear) angiotensin II (ANG II) and its G proteincoupled receptor (GPCR) signal mechanisms in the proximal tubules

of the kidney and blood pressure control. Supported by three R01 grants from the NIDDK, the laboratory currently investigates: 1) the molecular and signaling mechanisms by which circulating and paracrine ANG II is taken up by the proximal tubule of the kidney to act as an intracellular peptide; 2) high resolution confocal and electron microscopic autoradiographic localization of the internalized ANG II and its receptors in intracellular organelles including endosomes, mitochondria and nucleus; 3) the effects and signaling mechanisms by which intracellular ANG II induces long-term genomic or transcriptional effects; 4) the role of the sodium and hydrogen exchanger 3 (NHE3) in the proximal tubule of the kidney on pressure natriuresis and blood pressure responses to paracrine and intracellular ANG II; and 5) the role and signaling mechanisms of proximal tubule ANG II and AT1a receptors in the pathogenesis of renal ischemia and reperfusion injury and kidney diseases. Other Research Interests include: Aging,



patients.

Myra A. Kleinpeter, MD, MPH

Associate Professor, Medicine – Nephrology - SOM <u>mkleinp@tulane.edu</u>

I provide chronic kidney disease education and interventions to improve outcomes in patients with low health literacy and/or from underserved populations. I also study disaster outcomes in ESRD



Prerna Kumar, PhD Assistant Professor, Physiology <u>pkumar@tulane.edu</u> My research is focused on sex-dependent molecular mechanisms and epigenetic regulation involved in renal injury.



Xiao Li, MD, MsC Assistant Professor, Physiology – SOM Xli68@tulane.edu

I research physiological omics, G protein-coupled receptors, renal physiology, kidney tubular transport, experimental hypertension, kidney injury, and utilize transgenic mouse models.



Hongbing Liu, PhD

Assistant Professor, Pediatrics – Nephrology - SOM <u>hliu8@tulane.edu</u>

I study the nephric lineage-specific functions of class I histone deacetylases (HDACs) in kidney development. Other Research Interests include: Cancer/Hematology, Genetics.



Dewan Syed Abdul Majid, MBBS, PhD

Professor, Physiology - SOM maiid@tulane.edu

My research focus is the 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 acidbase 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, Imaging



L. Gabriel Navar, PhD

Professor, Physiology - SOM navar@tulane.edu

My recent studies have significantly advanced our knowledge of how intrarenal angiotensinogen and consequent angiotensin-mediated alterations in kidney function contribute to hypertension and diabetes mellitus. Ongoing studies have focused on the differences in renal

injury between female and male rats made hypertensive by unilateral renal arterial constriction.



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 agedependent 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



Minolfa C. Prieto, MD, PhD

Associate Professor, Physiology - SOM <u>mprieto@tulane.edu</u> My research program includes basic and translational sciences, investigating the mechanisms regulating the intrarenal reninangiotensin system during cardiovascular diseases, including hypertension, salt-sensitive hypertension, diabetes, chronic kidney

disease, and obesity. I have pioneered the studies demonstrating the impact of the interaction of prorenin and the prorenin receptor in the development of hypertension and chronic kidney diseases.



Ryosuke Sato, PhD

Assistant Professor, Physiology - SOM <u>rsato@tulane.edu</u> We investigate molecular mechanisms underlying regulation of intrarenal renin-angiotensin system.



Eric Simon, MD

Professor, Medicine - Nephrology and Hypertension - SOM esimon@tulane.edu

I study diuretics in hypertension, aging and kidney function, acute kidney injury, and hemodialysis volume assessment.



Federico Teran, MD

Assistant Professor, Medicine - Nephrology and Hypertension - SOM <u>fteran@tulane.edu</u>

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

I research kidney development, and particularly the renin-angiotensin system in ureteric bud branching morphogenesis. Other Research Interests include: renin-angiotensin system in kidney development

LUNG



Christine Bojanowski, MD

Assistant Professor, Medicine – Pulmonary and Critical Care - SOM <u>cbojanowski@tulane.edu</u>

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



Joshua Denson, MD, MS

Assistant Professor, Medicine – Pulmonary and Critical Care – SOM jdenson@tulane.edu

My research surrounds the study of critically ill adults in the hospital by investigating novel approaches to identify and improve outcomes for this patient population. In this area, I have ongoing projects studying patient and provider outcomes surrounding ICU clinician transitions of care.

More recently, I have explored the relationship of metabolic syndrome as a unique phenotype for patients with Acute Respiratory Distress Syndrome (ARDS) related to COVID-19, and I continue to investigate the relationship between metabolic inflammation and acute lung injury in patients with critical illness unrelated to COVID-19. Other Research Interests include: Endocrine/Bone, Medical Education



Brian Deskin, PhD

Assistant Professor, Medicine <u>bdeskin@tulane.edu</u>

My research interests include aging, regenerative medicine, tissue engineering, and stem cell research.



Donald Gaver, PhD

Professor and Chair, Biomedical Engineering – SSE <u>dpg@tulane.edu</u>

My laboratory aims to develop an understanding of the interrelationships between the mechanical and physicochemical behavior of biological systems. The main thrust of this research involves investigations of the pulmonary system. My research focuses

on utilizing knowledge of physicochemical hydrodynamics to develop ventilation methods that can reduce the severity of ventilator-induced lung injury (VILI), a major cause of mortality in ARDS.

LUNG



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 <u>rklingsb@tulane.edu</u>

My research focuses on corrector/potentiator medications for patients with CFTR mutations and cystic fibrosis. I also study bronchiectasis and mycobacterial diseases including tuberculosis and non-tuberculous mycobacteria. Additionally, I investigate anxiety and depression in

patients with chronic diseases, medical education, pulmonary rehabilitation, 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 <u>ilasky@tulane.edu</u>

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. Other Research Interests include: Again, Bioinformatics/Statistics

LUNG



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

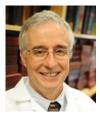


Janet McCombs, PhD

Assistant Professor, Medicine - SOM imccombs@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

My research interests include modeling lung tumorigenesis in mice, lung tumor promotion by IL-17, and lung disease related to inflammasome repression by cigarette smoke. Other areas of interest include: Aging, Cancer/Hematology, Genetics, and Biology of gamma

herpesviruses.

LUNG



Giovanni Piedimonte, MD

Vice President for Research; Professor - Pediatrics - SOM gpiedimonte@tulane.edu

A major theme of my research deals with mechanisms, therapy, and prevention of viral respiratory infections. This line of work has resulted in several significant scientific contributions, including the

finding that neurotrophins regulate respiratory syncytial virus (RSV)-induced airway hyperreactivity and the replication efficiency of common respiratory viruses like RSV and the human rhinovirus. I have identified and reviewed useful biomarkers for RSV infection to predict the clinical course of the disease as well as to monitor the efficacy of new therapeutic strategies. I have also contributed to a growing body of research suggesting that RSV crosses the uterine-placental interface in humans and infects the fetal lungs by vertical transmission.



Derek Pociask, PhD

Assistant Professor, Medicine – Pulmonary Diseases - SOM <u>dpociask@tulane.edu</u>

I am interested in immune responses in the lung; specifically, 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: Immunology/Allergy/Skin, Infectious Diseases



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

LUNG



Adrienne Savant, MD

Professor, Pediatrics – Pulmonary – SOM <u>asavant1@tulane.edu</u> I am the Service Line Chief for Pediatric Pulmonology at Children's

Hospital of New Orleans, Chief of Pediatric Pulmonology at Tulane University, the Tulane University Cystic Fibrosis Center Director, and the Pediatric Program Director for the Cystic Fibrosis Foundation

Therapeutic Development Network. I have served as a primary investigator in multi-center clinical trials related to cystic fibrosis, asthma, and neuromuscular diseases.

Victor Thannickal, MD



Professor and Chair, Department of Medicine vthannickal@tulane.edu My research is focused on cellular and molecular mechanisms of lung repair and regeneration. My lab studies mechanisms of cellular senescence, oxidative stress, and aging in the context of chronic lung

diseases, while also developing therapeutics and biomarkers for complex lung diseases.

MEDICAL DEVICES



James Bennett, MD

Professor – Neurosurgery and Orthopedics – SOM <u>Jbennet1@tulane.edu</u>

I use advanced imaging utilizing computer-assisted navigation for the placement of pedicle screws. I also perform analysis of spinal implants used in deformity correction. Other Research Interests include: Imaging



Ryan Gelfand, PhD

Professor of Practice, Physics and Engineering – SSE Rgelfand1@tulane.edu

I am interested in developing optical methods for studying single protein biophysics. I use my studies in nanophotonics and nanofabrication to demonstrate novel medical devices and proof of

concept studies towards quantifying protein structure and behavior at the single molecule level. Other Research Interests include Imaging and Development of optical biophysics methods and single protein studies.



Peter Kastl, MD, PhD

Professor, Ophthalmology - SOM <u>pkastl@tulane.edu</u>

I have mainly researched contact lenses and their ocular effects. I have also performed tear analysis. Other Research Interests include: Bioinformatics/Statistics



Noshir Pesika, PhD

Associate Professor, Chemical and Biomolecular Engineering - SSE <u>npesika@tulane.edu</u>

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

MEDICAL DEVICES



Cedric Walker, PhD

Professor Emeritus, Biomedical Engineering – SSE <u>cfw@tulane.edu</u>

My work involves 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

MEDICAL EDUCATION



Norah Alghamdi, PhD

Assistant Professor, Pathology nalghamdi@tulane.edu My research has compared five HPLC/MS-MS NDS cases of paired umbilical cord and meconium specimens in neonate drug screening. The data indicated that meconium provides higher sensitivity, which can help clinicians, laboratorians, and epidemiologists to select the

most appropriate test and interpret discordant results.



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 expanding the

department of surgery collaboration with basic science. Other Research Interests include: Medical Devices, Stem Cell Research, Resuscitation



Kerstin Höner zu Bentrup, PhD

Assistant Professor, Microbiology and Immunology - SOM <u>khonerzu@tulane.edu</u>

My main research focus centers around methods of active learning in graduate medical education (MD, Ph.D., MS curricula). As a member of the Department of Microbiology/Immunology, I am furthermore

collaborating with colleagues by advising them on Imaging techniques (Fluorescent / Light Microscopy) as well as Three-dimensional Cell-culture Systems. My background is in Infectious Diseases, specifically Bacteriology. Other Research Interests include: Imaging, Infectious Diseases



Geraldine E. Ménard MD

Associate Professor, Medicine – General Internal Medicine - SOM gmenard@tulane.edu

I conduct 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: Palliative, Hospital Medicine and Geriatrics

MEDICAL EDUCATION



Randolph Roig, MD

Chief of Staff, U.S. Department of Veterans Affairs Veterans Affairs Clinical Associate Professor, Medicine & Neurology <u>rroig@tulane.edu</u> I serve as Chief of the Pain Medicine section, and as Program Director for the Pain Medicine Fellowship at LSU.



Manesh Kumar Panner Selvam, PhD

Instructor, Urology – SOM mpannerselvam@tulane.edu

My research focus includes Reproductive Biology (Andrology) and molecular science with expertise in sperm and seminal plasma proteomics. Other Research Interests include: Aging, Andrology, Bioinformatics/Statistics, Proteomics

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

Research Interests include: Aging, Bioinformatics



Raju Thomas, MD

Professor and Chair, Urology - SOM rthomas@tulane.edu



Mariana Acquarone, PhD

Instructor, Neurology macquarone@tulane.edu

My lab aims to prevent and reduce the burden of age-related cognitive decline and dementia with a focus on diet, nutrition, and the gut

microbiome. We are studying the beneficial effects of the Mediterranean diet (MeDi) as compared to the Western diet (WD) on cognitive performance over the lifespan, and the feasibility of transplanting the gut microbiome from MeDi adhering hosts to WD adhering (MeDi non-adhering) recipients as a method of improving cognitive performance. Other research interests include Aging, Genetics, Regenerative Medicine/Tissue Engineering, and Stem Cell Research.



Gregory Bix, MD, PhD

Professor and Director, Center for Clinical Neurosciences - SOM <u>gbix@tulane.edu</u>

I am a Professor of Neurosurgery and Neurology at Tulane University, and 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. My research focus is the role and therapeutic potential of the extracellular matrix and its receptors in stroke and vascular dementia. Other Research Interests include: Aging, Infectious Diseases, Stroke, Vascular Dementia, COVID-19 and long COVID.



David Busija, PhD

Professor and Chair, Pharmacology - SOM <u>dbusija@tulane.edu</u>

My research focuses on the regulation of the brain circulation, including arteries and microvessels (end arterioles, capillaries, and venules), during health, diseases such as insulin resistance, diabetes, and strokes, and during aging. Utilizing proteomic and RNAseg methods as

well as more traditional approaches, my laboratory has focused on mitochondrial mechanisms promoting normal functioning of the brain blood vessels and how mitochondrial dysfunction affects the cerebral circulation including the blood-brain barrier and basement membrane during aging and age-related diseases. An important component of our studies is the examination of sex differences on the mitochondrial dynamics in brain blood vessels. Other Research Interests include: Mitochondria, cardiovascular, sex differences



Paul Colombo, PhD

Associate Professor, Psychology - SSE pcolomb@tulane.edu

My research includes: Experience-dependent neural plasticity; nonpharmacological interventions to facilitate executive function and memory across the lifespan; neural oscillations and cognition. Other

Research Interests include: Aging, Behavioral Health



Jill M. Daniel, PhD Professor and Director, Brain Institute, Psychology - 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



Benjamin Deen, PhD

Assistant Professor, Psychology – SSE bdeen@tulane.edu

I am a cognitive neuroscientist interested in social cognition - i.e., how we understand other people and their behavior. To study social cognition, my work measures human behavior as well as brain activity, using neuroimaging methods such as fMRI.



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

My primary research interests are neuroimmunology and psychosocial stress. 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, 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, Microbiology and Immunology - TNPRC tfischer1@tulane.edu

My 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

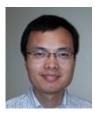


Maria Galazo, PhD

Assistant Professor, Cell and Molecular Biology – SSE mgalazo@tulane.edu

My research interests focus on understanding the molecular mechanisms controlling the development and function of brain circuits underlying higher cognitive skills, and how disruptions in these

mechanisms underlie abnormal brain functions.



Hai Huang, PhD

Associate Professor, Cell and Molecular Biology - SSE <u>hhuang5@tulane.edu</u>

We aim to understand the synaptic mechanisms that support reliable and precise auditory information processing and how hearing loss and neurological disorders (fragile X syndrome, Alzheimer's Disease, etc.) affect these functions, using a combination of techniques including

electrophysiology, two-photon imaging, computational modeling, and molecular biology.



Saifudeen Ismael, PhD Instructor, Clinical Neurosciences – SOM sismael@tulane.edu Research interest: Neurosciences



Joe Iwanaga, DDS, PhD Associate Professor, Neurosurgery - SOM jiwanaga@tulane.edu

I am an oral and maxillofacial surgeon, dentist, and anatomist. My research and surgical focus is on anatomical variations and microsurgical anatomy. My 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.



Ning Liu, PhD

Assistant Professor, Center for Clinical Neurosciences - SOM <u>nliu3@tulane.edu</u>

My research focuses on the investigation of molecular pathological mechanisms of acute brain injuries such as cerebral ischemia and traumatic brain injury, as well as therapeutic strategy development. I have expertise in molecular neuroscience, mitochondrial metabolic

mechanisms, in vivo brain injury animal models, and outcome assessments.



Michele Longo, MD

Assistant Professor, Neurology <u>Mlongo1@tulane.edu</u>

My research interests include Long COVID, nutritional neurology, and migraines. I am also dedicated to incorporating and improving telehealth in my clinical practice and research.



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, Immunology/Allergy/Skin, Infectious Diseases, Kidney/Hypertension, Lung, Vascular Biology.



Demetrius Maraganore, MD

Associate Professor and Chair, Neurology – SOM <u>dmaraganore@tulane.edu</u> Other Research Interests include: Aging



Julie Markant, PhD

Assistant Professor, Psychology – SSE jmarkant@tulane.edu

The Learning & Brain Development Lab investigates the cognitive and neural mechanisms that support efficient learning during infants' and children's exploration of the visual world. Current work in the lab

uses behavioral testing, eye tracking, and fNIRS to examine bidirectional interactions between selective attention and learning/memory systems beginning in early development and into adulthood.



Ricardo Mostany, PhD

Associate Professor, Pharmacology - SOM mostany@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. Our lab also studies the molecular mechanisms involved in the dysfunction of neurovascular coupling in Alzheimer's disease and diabetes. 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



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 electrophysiology in brain slices, behavioral paradigms, molecular biology and



biochemistry.

Gregory W. Stewart, MD

Associate Professor, Orthopaedics, Sports Medicine - SOM astewart@tulane.edu

I study concussion, CTE, brain changes, and 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

My research interests are centered around what my lab has termed "reverse translational anatomy research" where clinical/surgical problems are identified and addressed with anatomical studies. I 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

I am a Professor of Neurosurgery and Neurology, and Program Director of Brain Injury Research at the Clinical Neuroscience Research Center (CNRC) within the Tulane University School of

Medicine. My research focuses on experimental investigation of molecular pathophysiology following cerebrovascular diseases and traumatic brain injury (TBI), and translational therapeutic strategy development.



James Zadina, PhD

Professor, Medicine, Pharmacology and Neuroscience - SOM jzadina@tulane.edu

Our laboratory studies the neurobiology of opioids and their receptors, acute and chronic pain, neuroinflammation, and the development of novel analgesics with reduced adverse side effects, including abuse liability.



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: Aging, Endocrine/Bone

REGENERATIVE MEDICINE / TISSUE ENGINEERING



Stephen Braun, PhD

Assistant Professor, Regenerative Medicine – TNPRC sbraun@tulane.edu

My work lies at 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 <u>dchrisey@tulane.edu</u>

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



Michael J. Moore, PhD

Professor, Biomedical Engineering – SSE mooremj@tulane.edu

The focus of our laboratory's research is to develop physiologicallyrelevant 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



Eckhard Alt, MD, PhD

Professor, Medicine - Cardiology – SOM ealt@tulane.edu

My research interest is to bring translational research from bench to bedside in cooperation with experts providing complementary knowledge, as evidenced by 24,000 citations of our respective publications, an H factor of 84 and over 700 worldwide patterns.

Other Research Interests include: Cancer/Hematology, Cardiology, Regenerative Medicine/Tissue Engineering



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.



Anastasia Gage, PhD

Professor, Global Community Health & Behavioral Medicine – SPHTM agage@tulane.edu

My current research focuses on adolescent health, gender-based violence, and maternal and reproductive health in sub-Saharan Africa and Haiti. I teach 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. I have extensive experience with the evaluation of population and health programs in the 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

Interim Chair, Radiology - SOM <u>chaneman@tulane.edu</u> My research interests are in breast cancer imaging.



Emily Harville, PhD, MSPH

Associate Professor, Epidemiology - SPHTM <u>eharville@tulane.edu</u> My research interests include maternal health, health equity, effects of disaster on pregnancy, preconception health, and pregnancy in the life course.



Julie Hernandez, PhD

Associate Professor, Global Health Policy and Management - SPHTM <u>hernan7@tulane.edu</u>

I am a geographer with technical expertise on geographic information systems, digital data collection, and use of ICT to support public health programs and research. My 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. Other Research Interests include: Infectious Diseases, Disease surveillance/ GIS



Irang Kim, PhD

Assistant Professor, Social Work – SSW ikim@tulane.edu

My research is focused on two areas: 1) examination of disparities in underserved communities of children with autism and other DDs; and 2) development of empirically based, culturally relevant interventions

for parents of young children with autism.



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

I have worked with Indigenous tribes cross-nationally for over 10 years and work 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. My work has been published in over 60 peerreviewed 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



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 project 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 bnastasi@tulane.edu

My main research focus is 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. I am also interested in participatory mixed methods research approaches.



Katherine Raymond, PhD

Professor of Practice, Biomedical Engineering – SSE <u>kraymon1@tulane.edu</u>

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.



Dovile Vilda, PhD

Assistant Professor, Behavioral and Population Sciences <u>Dvilda@tulane.edu</u>

I am an interdisciplinary social scientist and public health researcher with advanced training and experience in mixed methods and policy research. My current work investigates the impact of infertility

treatment on cardiovascular complications during pregnancy, childbirth, and postpartum. I am also interested in sexual orientation-related disparities in perinatal and cardiovascular health.



Paula D. Zeanah, PhD

Professor, Psychiatry and Behavioral Sciences and Pediatrics - SOM <u>pzeanah@tulane.edu</u>

I study perinatal, infant, child and pediatric mental health. My current research focuses on the relationship between nutritional risk and depression in first time, low income pregnant women.



Assaf Abdelghani, PhD

Professor, Environmental Health Sciences <u>assafa@tulane.edu</u> My current teaching, research, and field work focus on global environmental health issues with interest in developing countries. These issues include water quality and quantity, sanitation and food

safety with an emphasis on the impact on agricultural chemicals on human health and the environment.



Julie Albert, PhD

Associate Professor, Chemical and Biomolecular Engineering – SSE jalbert6@tulane.edu

I am interested in the relationships between molecular chemistry, material processing, and physical properties. Her group primarily works with polymers, a class of material that is ubiquitous in our lives in the

form of plastic bottles, rubber tires, non-stick and adhesive coatings, and other consumer products as well as at the forefront of advanced materials technologies including targeted drug delivery, nanolithography, organic electronics, and battery design.



Tiong Gim Aw, PhD

Assistant Professor, Environmental Health Sciences – SPHTM taw@tulane.edu

My primary research areas are coastal water quality and the interactions among disease-causing microorganisms (pathogens) and their environment. The research on coastal water quality addresses the

sources and persistence of microorganisms which contribute to pollution in coastal environments. My research on pathogens is concerned with how environmental factors and climate change affect the prevalence and distribution of pathogenic bacteria and viruses in coastal environments and engineered water systems.



Henry Bart, Jr., PhD

Professor, Ecology and Evolutionary Biology – SSE hbartir@tulane.edu

I study ecology, molecular genetics and systematics (taxonomy, phylogenetic relationships) of fishes. I am the Director of the Tulane University Biodiversity Research Institute and Curator of the Royal D.

Suttkus Fish Collection (Hebert Research Center in Belle Chasse)



Daniel Bernstein, PhD

Assistant Professor, Mathematics <u>Dbernstein1@tulane.edu</u> My research focuses on geometric, algebraic, and combinatorial structures that arise in statistics, data science, bioinformatics, and structural rigidity.



David Chae, ScD

Associate Professor, Social, Behavioral and Population Sciences - SPHTM

dchae@tulane.edu

I conduct research on the social determinants of health inequities and the embodiment of racism. As part of this work, I study the interplay between social context, developmental period, behavior, and biology,

and links to disease susceptibility and progression. Other Research Interests include: Health Equity



Ricardo Cortez, PhD

Professor, Mathematics – SSE rcortez@tulane.edu

I perform mathematical and computational modeling of biological fluid dynamics.



Georgina Dobek, DVM

Assistant Professor, Director, Department of Comparative Medicine – SOM

gdobek@tulane.edu

My interest is in animal models of human disease utilized in a variety of research programs. As the Director of the Department of Comparative Medicine, I provide oversight for the care of the research animals

housed on the downtown and uptown campuses and support for research programs utilizing animal models. I also co-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, and includes a research project component.

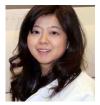


Matthew Escarra, PhD

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 spectrometrybased strategies for marker discovery and development of noninvasive 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



Lisa Fauci, PhD

Professor, Mathematics – SSE fauci@tulane.edu

I am an applied mathematician and computational scientist who works on modeling biological processes. In particular, my work focuses on the biophysics and fluid dynamics of motile microorganisms. I also have worked in the biofluid dynamics of reproduction.



Robin Forman, PhD

Provost and Senior Vice President for Academic Affairs rforman@tulane.edu

My 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



Kimberly Foster, PhD

Professor and Dean, School of Science and Engineering - SSE <u>klfoster@tulane.edu</u>

My expertise is on the development of micro mechanical tools for biotechnology. Other Research Interests include: Medical Devices, Biomedical Microdevices, Biotechnology



Joseph Fuselier, MBA

Assistant Professor, Medicine - Peptide Research - SOM fuselier@tulane.edu

I am 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



Bruce C. Gibb, PhD

Professor, Chemistry – SSE bgibb@tulane.edu My research interests include aqueous solutions, the hydrophobic effect, and the Hofmeister effect



Chrissy Guidry, DO

Assistant Professor, Surgery - SOM cguidry@tulane.edu

I study trauma resuscitation and endotheliopathy, and my other research interests include trauma, acute care surgery, and critical care.



Alex Gunderson, PhD

Assistant Professor, Ecology and Evolutionary Biology – SSE argunderson@tulane.edu

My lab addresses two broad and interrelated questions: 1) How do organisms evolve in response to climatic variation? 2) What makes species and populations vulnerable to anthropogenic global change?

We investigate these questions across a range of spatial and temporal scales while applying a variety of approaches, including organismal and molecular physiology, behavior, field ecology, and experimental biology.



M. Matias Iberico, MD, MPH

Assistant Professor, Medicine – General Internal Medicine - SOM <u>miberico@tulane.edu</u> My research interests include: Health Systems Design, Health Delivery, CHW centered health systems design



Colin Jackson, PhD

Assistant Professor, Earth and Environmental, SSE colinrmjackson@gmail.com

I research the chemical reactions that occur within planets. To do this we subject materials to high pressure and temperature in the laboratory environment and then analyze the chemistry of the reacted phases. Other Research Interests include: Planet Formation and Evolution



Neal Jackson, MD

Assistant Professor, Otolaryngology/Neurotology - SOM njackson1@tulane.edu

My primary interest is in human hearing including surgical treatment of hearing loss and chronic ear infections. My other research interests include any ear surgery, cochlear implants, and skull base tumors. I also study vestibular disorders of the inner ear. Other Research Interestes

include: Aging, Imaging, Medical Devices, Medical Education, Neurosciences, Hearing, Cochlear Implants, Temporal Bone



Olan Jackson-Weaver, PhD

Assistant Professor, Surgery - SOM ojacksonweaver@tulane.edu

Our 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



Jordan Karubian, PhD

Professor, Ecology and Evolutional Biology - SSE <u>jk@tulane.edu</u> My research interests include feedbacks between human and natural

systems, including health. Other Research Interests include:

Environment



Mary Killackey, MD

Professor and Chair, Surgery - SOM mkillack@tulane.edu

We have multiple areas of research going on in the department of surgery including but not limited to transplant, trauma, tissue regeneration, melanoma, thyroid cancer, and resident education.



Alyssa Lederer, PhD, MPH

Assistant Professor, Social, Behavioral, and Population Sciences -SPHTM

alederer@tulane.edu

I am a behavioral scientist and health promotion specialist. My research focuses on the design and evaluation of public health programs,

especially in the areas of adolescent sexual health, obesity prevention, and workforce development. I am 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

I am 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



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

I study production, characterization and applications of functionalized silicon nanoparticles. Other research Interest include: Nanostructured Materials



Matthew Montemore, PhD

Assistant Professor, Chemical and Biomolecular Engineering - SSE <u>mmontemore@tulane.edu</u>

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



Manuel Ocasio, PhD

Assistant Professor, Pediatrics

mocasio@tulane.edu

The major focus of my research to date has been on HIV-related health inequities with a particular emphasis on sexual and gender minority youth (SGMY) in the South, particularly those who identify as Black and Latinx. Meaningful community engagement is central to my research. I partner with community organizations on research studies

and garner feedback from youth throughout the research process, from recruitment to dissemination. In addition to community engaged research, I am particularly interested in social media approaches to study recruitment and HIV prevention engagement.



Antonio "Nito" Panganiban, PhD

Professor, Microbiology and Immunology - TNPRC apangani@tulane.edu

We are 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.



Igor Rubtsov, PhD

Professor and Chair, Department of Chemistry – SSE irubtsov@tulane.edu

I develop novel spectroscopic approaches for measuring 3D structures and structural dynamics of molecules in condensed phase, targeting energy sustainability, heat transport, catalysis, lipid bilaver

dynamics, and electrochemistry.



Jennifer Whitten, PhD

Assistant Professor, Earth and Environmental Sciences – SSE Jwhitten1@tulane.edu

My research program spans the inner solar system terrestrial bodies and focuses on processes that generate and modify planetary crusts. Towards this end, my research incorporates a wide variety of space- and

ground-based data types (Arecibo and Green Bank radio telescopes, ground penetrating radar), including visible-near infrared spectral data, visible imagery, topography, and radar image and sounder data. Other Research Interests include: Geology of Other Planets



Mark Wilson, PhD, MSPH

Assistant Professor, Global Environmental Health Sciences – SPHTM <u>mwilson9@tulane.edu</u>

I am 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



Zizhan Zheng, PhD

Assistant Professor, Computer Science – SSE <u>zzheng3@tulane.edu</u>

My research is in reinforcement learning, trustworthy AI, security, and networks. I am interested in both the theoretical foundations of these areas and their applications in robotics, healthcare, climate change, and

social sciences.

Muhammad Abdul Awoal, MSC Medical Research Specialist Conter

Medical Research Specialist – Center for Aging - SOM <u>mawoal@tulane.edu</u>

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Lou Franchina Executive Director, Corporate and Foundation Relations <u>lfranch1@tulane.edu</u>

Holly Gulden, MBA Office of Advancement - Executive Director of Development - SOM hgulden@tulane.edu 102

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Laura Wright, MLIS, MPH

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NOTES

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