12th Annual Faculty Research Synergy Event

Tuesday, December 7, 2021
6:00—9:00 PM
During tonight’s 12th Annual Faculty Research Synergy event, you are encouraged to engage and discover shared or synergistic research interests and explore 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,
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Alphabetical List of Faculty in Attendance

Solange Abdulnour-Nakhoul
Eckard Alt
Tiong Gim Aw
Pyone Pyone Aye
Kate Baker
Vecihi Batuman
Victoria Belancio
James Bennett
Rhea Bhargava
Gregory Bix
Joseph Bull
David Busija
Jorge Castorena
David Chae
Partha Chandra
YiPing Chen
Paul Colombo
Lorelei Cropley
Malwina Czarny-Ratajczak
Jill Daniel
Prasun Datta
Prescott Deininger
Patrick Delafontaine
Wu-Min Deng
Joshua Denson
Andrei Derbenev
Arnaud Drouin
Samir El-Dahr
Elizabeth Engler-Chiurazzi
Youssef Errami
Paul Fidel
Vivian Fonseca
Dahlene Fusco
Donald Graver
Loren Gragert
Jeanette Gustat
Lee Hamm
Emily Harville
Frenglei He
Katie Hering-Smith
Yusuke Higashi
David Hinkle
Clarissa Hoff
Kerstin Honer zu Bentrup
Robert Hoover
Tony Hu
Hai Huang
Reza Izadpanah
Colin Jackson
James Jackson
Jun-Yuan Ji
Colleen Johnson
Prasad Katakam
Amitinder Kaur
Bilon Khambu
Patty Kissinger
Jay Kolls
“Tonette” Krousel-Wood
Michelle Lacey
Joseph Laskey
Thomas LaVeist
Sylvia Ley
Chenzhong Li
Xiao Li
Zhen Lin
Sarah Lindsey
Alphabetical List of Faculty in Attendance

Hong Liu  
Hongbing Liu  
Xiaowen (Kevin) Liu  
Hua Lu  
Alfred Luk  
Heather Machado  
Andrew MacLean  
Nicholas Maness  
Jennifer Manuzak  
Demetrius Maraganore  
Stryder Meadows  
Geraldine Menard  
Matthew Montemore  
Michael Moore  
Lisa Morici  
Gil Morris  
Ricardo Mostany  
JC Mudd  
Nazih Nakhoul  
Luis Gabriel Navar  
Tianhua Niu  
Mairi Noverr  
Kislay Parvatiyar  
Noshir Pesika  
Giovanni Piedimonte  
Derek Pociask  
Minolfa Prieto  
Felicia Rabito  
Jay Rappaport  
James Rappaport  
James Robinson  
Randolph Roig  
Brian Rowan  
Ibolya Rutkai  
Mimi Sammarco  
Oliver Sartor  
Suzana Savkovic  
Patricia Scaraffia  
John Schieffelin  
Natalya Semiletova  
Lizheng Shi  
Suresh Sikka  
Chelsea Singleton  
Chad Steele  
Sergiy Sukhanov  
Aiguo Tian  
Vicki Traina-Dorge  
Kiana Andrew Tregre  
Monica Vaccari  
Ronald Veazey  
Brigham Walker  
Xiaolei Wang  
Jennifer Whitten  
Tong Wu  
Xiao-Ming Yin  
Ihor Yosypiv  
Zongbing You  
James Zadina  
Shelya Zeng  
Qiuyang (Lisa) Zhang  
Jia Zhuo  
Andrea Zsombok
Jorge Castorena, PhD
Assistant Professor, Pharmacology, SOM
castorenagonzalez@tulane.edu
Dr. Castorena's 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. The Castorena 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, Dept. of Medicine, Center for Aging - SOM
mczarnyr@tulane.edu
Identification of novel genetic and epigenetic factors contributing to development of primary osteoarthritis (OA). Next-generation sequencing approach to study exome, transcriptome and exosomal miRNAs of patients with osteoarthritis. 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
pkatakam@tulane.edu
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 sex-dependent differences in cerebral microvascular bioenergetics. Other Research Interests include: Aging, Cardiology, Neurosciences, Women's Health
Hong Liu, PhD  
Assistant Professor, Biochemistry and Molecular Biology - SOM  
hliu22@tulane.edu  
To understand how genetic information is properly transmitted through generations and also apply the knowledge to understand the causes of human diseases, such as cancer. Other Research Interests include: Cancer/ Hematology

Ibolya Rutkai, PhD  
Assistant Professor, Pharmacology - SOM  
irutkai@tulane.edu  
My research interest includes the role of mitochondria in the cerebral circulation. I am particularly interested in the mitochondrial mechanisms of vascular aging.

Sergiy Sukhanov, PhD  
Associate Professor, Medicine, Cardiology – SOM  
ssukhano@tulane.edu  
Dr. Sukhanov’s research focuses on studying mechanisms of atherosclerosis. Dr. Sukhanov is interesting in role of DNA damage in disease progression. His research supported by NIH R01 funds to study anti-atherosclerotic effects of glyceraldehyde-3-phosphate dehydrogenase, 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  
qyin@tulane.edu  
The function of RNA splicing and virus in lung biology, aging and tumorigenesis. Other Research Interests include: Cancer/Hematology, Lung
Courtney Baker, PhD
Associate Professor, Psychology - SSE
cnbaker@tulane.edu
My primary research interests include dissemination and implementation research, prevention and early intervention, mental health, violence prevention, early childhood, underserved populations, and community-based participatory research.

Kate Baker, PhD
Professor, Veterinary Medicine – TNPRC
kbaker1@tulane.edu
Behavioral biology of nonhuman primates: areas of concentration include social behavior, infant development, and behavioral pathology, as well as the application of behavioral observation and testing in support of various disease models such as HIV, Zika virus, globoid cell leukodystrophy and amyotrophic lateral sclerosis. Other Research Interests include: Behavioral Biology

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

Lorelei Dickey Cropley, Dr.PH
Associate Professor, Social, Behavioral, and Population Sciences – SPHTM
lcropley@tulane.edu
Efficacy of Short Term Brigades, Iron deficiency anemia behavioral interventions using iron cookware, Chagas Disease KAP studies. Other Research Interests include: Medical Education, Best Practices for Short Term Brigades
Behavorial Health

Jeanette Gustat, PhD, MPH
Associate Professor, Epidemiology - SPHTM
gustat@tulane.edu
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.

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

Thomas LaVeist, PhD
Dean, School of Public Health and Tropical Medicine Professor - SPHTM
tal@tulane.edu
Dr. LaVeist's research and writing has focused on three broad thematic research questions: 1) What are the social and behavioral factors that predict the timing of various related health outcomes (e.g., access and utilization of health services, mortality, entrance into nursing home? 2) What are the social and behavioral factors that explain race differences in health outcomes?; and 3) What has been the impact of social policy on the health and quality of life of African Americans? His work includes both qualitative and quantitative analysis. LaVeist seeks to develop an orienting framework in the development of policy and interventions to address race disparities in health-related outcomes. Specific areas of expertise include: U.S. health and social policy, the role of race in health research, social factors contributing to mortality, longevity and life expectancy, quantitative and demographic analysis and access, and utilization of health services.
**BEHAVIORAL HEALTH**

**Michael Hoerger, PhD**  
Associate Professor, Psychology, Psychiatry, Oncology - SSE  
mhoerger@tulane.edu  
I conduct research in psycho-oncology. Using a translational perspective, he draws upon fundamental behavioral science to anticipate, prevent, and alleviate the stress of cancer. Other Research Interests include: Aging, Bioinformatics/Statistics, Cancer/Hematology, Lung, Medical Education, Men’s Health, Women’s Health

**Damian R. Murray, PhD**  
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. He also investigates the relationships between genetic markers of vulnerability to disease and disease-avoidant behavior. Other Research Interests include: Genetics, Infectious Diseases

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

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

**Chelsea Singleton, PhD**  
Assistant Professor – Social, Behavioral and Population Sciences – SPHTM  
Csingle1@tulane.edu  
My research examines structural barriers to healthy eating in low-income 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.
George Singletary, MD, MPH  
Assistant Professor, Psychiatry - SOM  
gsinglet@tulane.edu  
I am new faculty in Addiction Medicine housed in the Department of Psychiatry. I am interested in speaking with other faculty that might want to collaborate on research in the field of Addiction. I am currently working with Department of Global Health on applications for funding for relapse prevention studies utilizing smart phone technology. Other Research Interests include: Addiction

Kiana Andrew Tregre, MD, MPH  
Assistant Professor, Psychiatry – SOM  
kandrew@tulane.edu  
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.
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

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

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

David M. Hinkle, MD  
Professor and Chair, Ophthalmology – SOM  
dhinkle@tulane.edu  
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
xwliu@tulane.edu
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 top-down MS-based proteoform identification, characterization, & quantification, which has been used by hundreds of universities and research institutes. Other Research Interests included Proteomics

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

Ramgopal Mettu, PhD
Associate Professor, Computer Science – SSE
rmettu@tulane.edu
My work is at the intersection of algorithms, machine learning and computational biology. Applications of my work include protein structure prediction and determination, protein-protein interactions, compound screening, as well as problems in high-throughput sequencing and proteomics. Other Research Interests include: Genetics, Immunology/Allergy/Skin
My research focuses on the design of scalable algorithms for the interactive exploration, visualization, segmentation, and analysis of large data. Recent medical applications of my work include: the visualization and registration of large 2-photon, electron, and confocal microscopy scans; automatic and semi-automatic neural pathway tracing; understanding and quantifying the uncertainty in medical image segmentation; and visualization and analysis of large digital pathology slides. Other Research Interests include: Cancer/Hematology, Neurosciences

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

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
Integration of multiscale and multimodal imaging and genomic data. Biomedical image processing, statistical and computational modeling, and analysis of biomedical data. Other Research Interests include: Genetics, Neurosciences, Behavioral Health
Carola Wenk, PhD
Professor, Computer Science – SSE
cwenk@tulane.edu

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

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

Roberta McDuffie, CNS, BC, CDE, BSBA
Instructor, Medicine – Endocrinology; Director, Tulane Clinical Translational Unit - SOM
rmcduffi@tulane.edu
Roberta McDuffie is Director of the Tulane Clinical Translational Unit. Other Research Interests include: Cardiology, Endocrine/Bone

Nicholas Sandoval, PhD
Assistant Professor, Chemical and Biomolecular Engineering - SSE
nsandova@tulane.edu
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
Breast Cancer Research, Circadian disruption by artificial light at night, and Bone Metastasis. Other Research Interests include: Endocrine/Bone, Women's Health

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

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

David E. Blask, 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
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
bcollin1@tulane.edu
Breast Cancer long-term objectives of 1- identifying molecular mechanisms of breast cancer resistance and metastasis 2- implementing novel therapeutic strategies that can target and overcome altered gene networks involved in controlling breast cancer progression and 3- driving the translation of the laboratory science to the clinical patient setting. More recently we have focused on the role of novel experimental agents and epigenetic therapy in the regulation of microRNA expression in breast cancer with specific interest in triple-negative or basal phenotype breast cancer.
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
ydong@tulane.edu
Our research is focused on prostate cancer, particularly in altered androgen receptor signaling in castration-resistant prostate cancer and mechanisms and efficacies of candidate prostate cancer interventions, hormone therapy, and increased chemotherapeutic efficacy for triple-negative breast cancer. I am also interested in studying the mechanism of resistance of prostate cancer to hormone therapy as well as the mechanism of prostate cancer progression induced by circadian disruption.

Youssef Errami, PhD
Assistant Professor, Surgery – SOM
yerrami@tulane.edu
I explore cancer resistance to therapies and the metastic 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
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
Racial disparity in healthcare; Tumor growth and wound healing as well as outcome analysis for at risk populations for head and neck cancer.

Scott Grayson, PhD
Professor, Chemistry – SSE
sgrayson@tulane.edu
We investigate the role of polymer carrier architecture in optimizing physical (and hence pharmacokinetic) properties. We have projects which target aqueous soluble, bloodborne carriers, transdermal carriers, and gene transfection carriers. Other Research Interests include: Immunology/Allergy/Skin

Jeff Han, MD, PhD
Associate Professor, Biochemistry and Molecular Biology - SOM
jhan5@tulane.edu
Retrotransposition in the germ line L1s are transposons that are expressed in the germ line of mammals. These mobile genetic elements replicate by transcribing their RNA, and then reverse transcribing this RNA into new DNA at a different chromosomal site. Since L1 replication involves chromosome breakage, we expect that excessive L1 activity can be disastrous to host genome integrity. Indeed, loss of transposon control pathways by mutation is associated with massive L1 expression, germ cell death, and sterility. This has obvious significance for fertility research. We have identified genetic pathways important for the activity of L1. We are also screening small drug-like compounds for inhibitory activity against L1. We hope to use these finding to assess the effects of blocking L1 activity genetically or with drugs on infertile mouse models that over express L1. We also would like to examine whether elevated L1 expression is overrepresented in human patients with infertility of unknown etiology. Other Research Interests include: Aging, Genetics, Men’s Health, Women’s Health
CANCER / HEMATOLOGY

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, orthoptopic 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 self-assembly and molecular recognition events. In particular, we are using these systems to generate protein inhibitors that are activated by endogenous biomarkers (including over-expressed microRNAs and enzymes).

Shanker Japa, PhD
Associate Professor, Medicine – SOM
Director, CTC Core Laboratory
japashan@tulane.edu
Coenzyme-Q10 as an Adjunct to Standard Therapies in Elderly Patients with Chronic Heart Failure and Type 2 Diabetes. Other Research Interests include: Cardiology, Infectious Diseases
Emad Kandil, MD  
Professor, Surgery - SOM  
ekandil@tulane.edu  
Therapeutic Targeting of the MAP Kinase and PI3K Pathways in Thyroid Cancer. Other Research Interests include: Endocrine/Bone

Damir Khismatullin, PhD  
Associate Professor, Biomedical Engineering – SSE  
damir@tulane.edu  
My laboratory focuses on understanding the mechanical and transport properties of biological systems at cellular and tissue levels. Using experimental and theoretical approaches, we study the interactions of blood cells (leukocytes, platelets, red blood cells), tissue resident cells (macrophages, mast cells), and circulating tumor cells with vascular and lymphatic endothelium under pathophysiological conditions such as inflammation, atherosclerosis, thrombosis, sickle cell disease, and cancer metastasis. Another aspect of our research is the development of medical ultrasound technologies for cancer treatment, blood coagulation monitoring, and nerve regeneration. We also develop novel methods for rheological characterization of living cells and tissues and use our state-of-the-art computational fluid dynamics models to predict blood flow in vessels with complex geometry. Other Research Interests include: Immunology/Allergy/Skin, Neurosciences

L. Spencer Krane, MD  
Assistant Professor, Urology - SOM  
lkrane1@tulane.edu  
I currently am focused on biomarker development, particularly in Kidney cancer. We're also interested in prostate cancer treatment and outcomes and other urologic malignancies. Other Research Interests include: Genetics, Kidney/Hypertension, Medical Education, Men's Health

Sean B. Lee, PhD  
Associate Professor, Pathology and Laboratory Medicine - SOM  
slee30@tulane.edu  
My research interests are in cancer and development. Specifically, we study cancers that involve EWS (Ewing sarcoma) gene as an oncogenic translocation gene product using knock-in mice. We are also interested in studying the functions of EWS in development. We have recently uncovered a novel role for EWS in determining brown fat lineage during development. We are planning to further study the role of EWS in metabolism (e.g., diabetes and obesity). Other Research Interests include: Endocrine/Bone, Metabolism
Zhen Lin, MD, PhD  
Associate Professor, Pathology - SOM  
zlin@tulane.edu  
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  
hlu2@tulane.edu  
Molecular dissection and translational research of the p53 and c-myc networks in controlling cell growth, senescence, death, differentiation, and tumorigenesis as well as anti-cancer drug discovery.

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

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.

Nakhle Saba, MD
Associate Professor, Medicine – Hematology/Oncology - SOM
nsaba@tulane.edu
Translational research in Chronic Lymphocytic Leukemia and Mantle Cell Lymphoma: disease biology and novel therapies.

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

Natalya Semiletova, PhD
Assistant Professor, Medicine – Hematology & Medical Oncology – SOM
nsemiletova@tulane.edu
Research interests in the field of medical oncology and translational research to move knowledge about mechanisms of solid and hematological cancer therapy and prevention to real medical practice. Responsible for the growth and quality of the clinical trials program at Tulane Cancer Center. In addition, responsible for all aspects of clinical trials conduct and management under umbrella of Tulane Cancer Center. Other Research Interests include: Genetics, Lung, Men’s and Women’s Health
CANCER / HEMATOLOGY

Aigo 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
szeng@tulane.edu
Molecular dissection and translational research of the 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
gzhang3@tulane.edu
I am interested in inflammaging (both aging and inflammation) and cancer, with a focus on Th17 cytokines and prostate cancer in the aging process. I am using genetically engineered mouse models to address the role of Th17 cytokines in the aging process. Also of interest is the role that Th17 cytokines play in the development of prostate cancer. Other Research Interests include: Aging, Immunology/Allergy/Skin
CARDIOVASCULAR

Antoine Chaanine, MD
Assistant Professor, Medicine – Cardiology - SOM
achaanine@tulane.edu
My research has been focused on studying endoplasmic reticulum - mitochondrial calcium homeostasis and mitophagy in cardiac stress. Specifically, I am interested in a molecule called BNIP3 that is upregulated in patients with systolic heart failure and contributes to myocardial remodeling by promoting mitochondrial Calcium overload and mitochondrial dysfunction in heart failure. Other Research Interests include: Gene therapy, heart failure, myocardial remodeling

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
Omics, clinical, and epidemiological research in cardiometabolic diseases. Other Research Interests include: Genetics, Kidney / Hypertension

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

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

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

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

Sylvia Ley, PhD  
Assistant Professor – Epidemiology – TPHTM  
sley@tulane.edu  
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  
lshi1@tulane.edu  
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
fmauvais@tulane.edu
We are interested in novel mechanisms and/or therapeutic perspectives for diabetes and obesity especially as it relates to the role of estrogen and androgen in metabolic diseases. We seek to find novel ways to modulate estrogen and androgen actions in a tissue- and sex-specific manner to prevent/improve diabetes and metabolic dysfunction.

Brian G. Rowan, PhD
Associate Professor and Chair, Structural & Cellular Biology - SOM
browan@tulane.edu
1. Estrogen receptor phosphorylation: understanding the role of estrogen receptor alpha (ERα) phosphorylation in regulating receptor function in normal and cancer tissue. 2. Experimental therapeutics for breast cancer: using peptidomimetic Src inhibitor in combination with endocrine and chemotherapy for breast cancer; novel bone targeted parathyroid hormone antagonists for bone metastatic breast cancer. 3. Circadian regulation of estrogen receptor function: understanding the reciprocal regulation of the circadian rhythm and estrogen receptor in physiologic processes. 4. Adipocyte tissue-derived stromal/stem in reconstructive surgery and soft tissue repair: understanding the mechanisms by which ASCs promote head/neck cancer metastasis; the impact of ASCs in a low oxygen environment on fibrosis and immunomodulation. Other Research Interests include: Cancer/Hematology, Women’s Health

Fernando L. Sanchez, MD
Associate Professor, Orthopaedics - SOM
fsanchez@tulane.edu
My area of research interest includes orthopaedic clinical outcomes especially total joint and adult reconstruction. I am currently interested in doing further research in wear debris associated with bone loss and osteoarthritis.

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

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

Michael Serou, MD, PhD
Assistant Professor, Radiology - SOM
mserou2@tulane.edu
I have a general interest in applying advanced imaging to medical research. Current projects include quantitative CT assessment of bone mineral density in an evaluation of epigenomic contributions to male osteoporosis. Other Research Interests include: Endocrine/Bone

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

Hongju Wu, PhD
Associate Professor, Medicine - Endocrinology & Metabolism - SOM
hwu3@tulane.edu
My research has been focused on exploring novel strategies for diabetes treatment and investigating the underlying mechanisms. We have two major projects: 1) To explore novel strategies to protect and to regenerate the insulin-producing β-cells; and 2) To investigate the role of GLP-1/GLP-1 receptor in regulating glucagon secretion. Other Research Interests include: Imaging, Kidney/Hypertension, Regenerative Medicine/Tissue Engineering
GASTROENTEROLOGY / LIVER

Solanke Abdulnour-Nakhoul, PhD
Associate Professor, Medicine – Gastroenterology - SOM
solange@tulane.edu
My research is in physiology and biology of the esophagus (stratified squamous epithelium and glands), Reflux disease, and Eosinophilic Esophagitis. Other Research Interests include: Kidney/Hypertension

Hoonbae Jeon, MD
Professor and Chief, Abdominal Transplant - Surgery - SOM
hjeon@tulane.edu
Hepatobiliary malignancy and liver transplant outcome. Other Research Interests include: Kidney/Hypertension, Medical Education

Bilon Khambu, MsC, PhD
Assistant Professor, Pathology and Laboratory Medicine – SOM
bkhambu@tulane.edu
Pre-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 mice model, isolated primary hepatic cells or cell line, we try to tease out how liver injury and associated hepatic inflammation, fibrosis, ductular reaction, and tumor development occurs. We are also interested to understand in 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. Other Research Interests: Liver Diseases

Jordan Karlitz, MD
Associate Professor, Medicine – Gastroenterology - SOM
jkarlitz@tulane.edu
I am interested in Lynch syndrome screening practices by tumor analysis for microsatellite instability (MSI) and immunohistochemistry (IHC) testing in young colorectal cancer patients. I am also interested in surgical practices in young colorectal cancer patients (extent of colonic resection). Finally, I am interested in colorectal cancer risk in the Cajun population. We recently demonstrated that the Acadian parishes of Louisiana have one of the highest rates of colorectal cancer in the U.S. I am currently the PI on a LA CaTS pilot grant that focuses on performing MSI and IHC testing on banked tumor specimens in Cajun patients to look for evidence of Lynch syndrome (founder effect in Cajun population). Other Research Interests include: Colorectal Cancer, Genetics
Martin Moehlen, MD, MPH
Assistant Professor, Medicine - Gastroenterology & Hepatology
mmoehle@tulane.edu
I am specifically interested in using the VA database to answer clinically relevant questions within hepatology: descriptive analysis of viral hepatitis (treatment of monoinfected hepatitis C and hepatitis C-HIV coinfection in VA versus "real world"); hepatocellular carcinoma - treatment practices and access to care. The inter-relationship between treatment of hepatitis C with newly available direct antiviral agents and effect on diabetes related outcomes.

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

Mansour Parsi, MD, MPH
Professor and Section Chief, Medicine – Gastroenterology – SOM
mparsi@tulane.edu
Dr. Parsi’s areas of research interest include both benign and malignant pancreatic diseases, cholangiocarcinoma, biliary strictures, and primary sclerosing cholangitis. Dr. Parsi has pioneered and developed several advanced endoscopic techniques for pancreatobiliary disease which has earned him several Innovator Awards in addition to extramural funding from the National Institutes of Health, the American College of Gastroenterology, and the American Society of Gastrointestinal Endoscopy.

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

Xiao-Ming Yin, MD, PhD
Professor and Chair, Pathology and Laboratory Medicine
xmyin@tulane.edu
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: Cancer/Hematology
Hans C. Andersson, MD  
Professor and Director, Hayward Genetics Center – SOM  
handers@tulane.edu  
The Hayward Genetics Center follows the majority of inherited metabolic patients in the Gulf South Region (>200pts) which diseases are rare and have a poor evidence base. Our efforts have been to characterize the natural history and responses to therapy for these metabolic disorders. We have described the first long-term treatment outcomes for cobalamin C disease and pediatric Gaucher Disease. We are currently trying to understand the neurologic basis for changes in behavior and executive function in phenylketonuria patients treated with tetrahydrobiopterin. Through a regional genetics collaborative, we are developing a strategic plan for emergency preparedness as a model for genetics centers and genetic laboratories to follow.

Victoria Belancio, PhD  
Associate Professor, Structural and Cellular Biology – SOM  
vperpe@tulane.edu  
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

YiPing Chen, PhD  
Professor and Chair, Cell and Molecular Biology - SSE  
ycen@tulane.edu  
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
Prescott Deininger, PhD
Professor, Director, Tulane Cancer Center - SOM
pdeinin@tulane.edu
I am interested in the role that mobile elements play in mutagenesis within the human genome. This involves studies of their mutational capabilities, toxicity and the cellular response to their expression. Many studies involve DNA repair pathways, including nucleotide excision repair, mismatch repair and recombination. My laboratory specializes in high throughput molecular genetics techniques and applications. Other research interests include: Cancer/Hematology

Stacy Drury, MD, PHD
Associate Professor, Psychiatry and Behavioral Sciences - SOM
sdrury@tulane.edu
I am interested in the interaction of genetic and epigenetic factors with early experience and how this interaction shapes neurodevelopment and long term outcomes in children. My research focuses on improving outcomes in medically ill children through providing a greater understanding of the impact of psychological distress, neurocognitive development and family functioning in these children. Other Research Interests include: Aging, Behavioral Health, Neurosciences, Telemore Biology

Samir S. El-Dahr, MD
Professor and Chair, Pediatrics - SOM
seldahr@tulane.edu
Genetic and epigenetic control of renal development. Other Research Interests include Stem Cell Research

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

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
kferris@tulane.edu
Dr. Kathleen Ferris is an Assistant Professor in the Department of Ecology & Evolutionary Biology at Tulane University. Dr. Ferris got her PhD in Biology at Duke University and did her post-doctoral work in population and quantitative genetics at UC Berkeley and UC Davis. She studies the genetic and phenotypic basis of adaptation and speciation. Dr. Ferris uses quantitative and population genetics, genomics, and ecological field studies to examine these questions in the Mimulus guttatus species complex. Other Research Interests include: Evolutionary Biology

Fenglei He, PhD
Assistant Professor, Cell and Molecular Biology – SSE
fhe@tulane.edu
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
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
Tanika Kelly, MPH, PhD  
Professor, Epidemiology – SPHTM  
tkelly@tulane.edu  
My research focuses on identifying multi-omics mechanisms underlying cardiometabolic diseases. Furthermore, my work aims to integrate multi-omics information using systems biology approaches to better elucidate biological pathways underlying these conditions. Other Research Interests include: Bioinformatics/Statistics, Kidney/Hypertension

Changwei Li, MD, PhD  
Assistant Professor, Epidemiology - SPHTM  
cli8@tulane.edu  
Changwei Li is an epidemiologist with expertise in medicine, multi-omics, GXE interactions, cardiovascular disease and chronic kidney disease. His current research programs focus on assessing risk alleles for monogenic non-insulin dependent diabetes mellitus disorders in the general population, and delineating mechanisms underlying progression of chronic kidney disease. Prior to joining the faculty at Tulane, he was a tenure track Assistant Professor of Epidemiology at the University of Georgia at Athens. He received his PhD in Genetic Epidemiology from Tulane University, MPH in Global Health from Emory University, and medical degree in Preventive Medicine from Peking University.

Arthur J. Lustig, PhD  
Professor, Biochemistry and Molecular Biology – SOM  
alustig@tulane.edu  
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

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 focuses in the lab is to understand the role of noncoding RNAs, including microRNAs and long non-coding RNAs, in vascular biology and vascular retinopathies. (2) Cell death mechanism in degenerative retinal diseases. We study cell death mechanism with hope to develop new therapeutic solutions for Age-related Macular Degeneration, a leading blinding disease in the elderly. Other Research Interests include: Aging

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

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

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

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

Jay Kolls, MD
Professor, Medicine - SOM
jkolls1@tulane.edu
The major goal of Dr. Kolls' research is to investigate mechanisms of mucosal host defenses in the lung in normal and immunocompromised hosts using genetic models. Presently, his lab is investigating how IL-23 and IL-17 and IL-22 regulate host defense against extracellular pathogens and epigenetic regulation of macrophage function. Additionally, he researches host susceptibility to opportunistic infection such as Pneumocystis and is developing novel therapies against this pathogen. Other Research Interests include: Infectious Diseases, Lung; 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
Current education-based research projects include online adaptive learning modules for performance improvement, physical examination using virtual reality. In dermatology, I have interests in melanoma, vulvar diseases, hidradenitis suppurativa, and other chronic inflammatory diseases of the skin. Other Research Interests include: Medical Education

Elizabeth B. Norton, MPH, PhD
Assistant Professor, Microbiology and Immunology - SOM
enorton@tulane.edu
My research focuses on promoting a healthy immune system through animal model and primary human cell analyses. Ongoing areas of research include (1) how inflammation alters age-related immunity and vaccine efficacy, (2) how to best protect mucosal surfaces from respiratory infections (flu, TB) and bacterial diarrheal diseases (ETEC), (3) how derivatives from a unique bacterial toxin can act as vaccine adjuvants or anti-inflammatory therapies for gastrointestinal disease. Other Research Interests include: Aging, Gastroenterology, Infectious Diseases

Connie Porretta, BS, I, SCYM (ASCP),
Instructor and Director, Flow Cytometry and Cell Sorting (FCCS), Microbiology and Immunology - SOM
cporretta@tulane.edu
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
csteele4@tulane.edu

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

Sathisha Upparahalli Venkateshaiah, PhD
Assistant Professor, Medicine – Pulmonary - SOM
supparah@tulane.edu

My scientific objective includes studying the critical role in recruitment of inflammatory immune cells and their function in the cancer biology and allergic diseases including asthma. I am interested in studying the inflammatory responses on the allergic diseases such as asthma; eosinophilic esophagitis (EOE) and cancer biology. My overall goal is to combine advanced experimental and translational approaches to study the protective role of IL-15 in chronic asthma and IL-18 responsive eosinophils subsets and mast cells in asthma pathogenesis. Other Research Interests include: Aging, Cancer/Hematology, Gastroenterology, Infectious Diseases, Lung
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
rblanton1@tulane.edu
The lab has 2 main lines of investigation, the application of population genetics of schistosomes for public health and the role of sanitation in persistence and distribution of antimicrobial resistance in enteric bacteria. We employ microbial source tracking, microsatellite genotyping and whole genome sequencing (proposed). Other Research Interests include: Parasites, antimicrobial resistance, sanitation

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

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

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 long-term 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  
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

Paul Fidel, PhD  
Associate Professor, Microbiology and Immunology – LSU  
pfidel@lsuhsc.edu  
We are studying the role of trained innate immunity against sepsis. Specifically, we use live attenuated fungal isolates as a vaccine that induces myeloid-derived suppressor cells as a form of trained innate immunity, and protects against a lethal fungal/bacterial challenge. The studies are currently being conducted in a mouse model with the aim of uncovering the mechanisms of the trained innate response in the bone marrow.

Hannah Frank  
Assistant Professor, Ecology and Evolutionary Biology - SSE  
hkfrank@tulane.edu  
I study disease ecology and host-pathogen coevolution in bats using a mix of field work, molecular infection screening, host genomics and statistical modeling. I also research the genomic basis of adaptive immunity in bats and other non-model organisms as well as the adaptive immune response to rabies infection in bats. Other Research Interests include: Genetics, Immunology/Allergy/Skin
Dahlene Fusco, MD, PhD
Assistant Professor, Medicine – Infectious Diseases - SOM
dfusco@tulane.edu
The Fusco laboratory is focused on the mechanism through which type I interferon suppresses RNA viruses, including dengue and Zika virus. We have used functional genetics to identify 56 genes required for IFN-mediated suppression of dengue. We are now evaluating the multi-viral impact and mechanism of action of a subset of these genes, aiming to apply this data toward identification of biomarkers/leads for antiviral development. Other Research Interests include: 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
Dr. Susan E. Hassig has been a faculty member of the Epidemiology Department since 1996, after more than a decade of work in HIV research, surveillance, and intervention programs in the U.S. and around the globe. She has also served in the Peace Corps, where she worked to improve disease diagnosis methods and blood transfusion safety in Thailand.

Tony Hu, PhD
Professor, Biochemistry and Molecular Biology - SOM
yhu16@tulane.edu
Dr. Hu’s 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. His 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. Dr. Hu has 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
akaur@tulane.edu
My laboratory is currently pursuing projects on mechanisms of protection against AIDS in natural hosts of SIV infection, natural killer T cells as adjuvants and modulators of immune activation, immune protection against congenital CMV in rhesus macaques, and the early host response to vaccines and SIV infection in nonhuman primate models of AIDS. Other Research Interests include: Immunology/Allergy/Skin, Women’s Health

Patty Kissinger, BSN, MPH, PhD
Professor, Epidemiology; Associate Dean for Faculty Affairs - SPHTM
kissing@tulane.edu
Dr. Kissinger’s has worked in HIV and other sexually transmitted infections for over 30 years. Her work has been in Chlamydia trachomatis and Trichomonas vaginalis control. She is 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. Recently she is working in COVID-19 research and has 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
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 acid-mediated innate immunity. We also extend these studies to elucidate the role of innate immunity in autoimmune diseases and cancers using several mouse models established in the laboratory. Another interest in our laboratory is to study the interactions between influenza A virus and host, and how these interactions modulate host defense and viral infection. We have established comparative influenza-host protein interaction networks. From the pilot screening of a small pool of our network, we found several novel anti-flu host factors. We will continue the screening and investigate the role of new host factors in influenza pathogenesis.

My 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.

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
nmaness@tulane.edu
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.

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

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

Lina Moses, PhD, MSPH
Associate Professor, Global Community Health and Behavioral Sciences - SPHTM
lmoses2@tulane.edu
My research focuses on applied public health research, with particular emphasis on implementation of evidence-based interventions for vector-borne and zoonotic diseases at the community level. I'm also interested in human and animal surveillance for zoonotic and emerging diseases, both from traditional indicator-based and community-event based approaches. Other Research Interests include: Behavioral Health
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 currently-implemented 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
damullin@tulane.edu
My research interests are in the production of advanced liquid biofuels that can be used in place of gasoline and the development of a new class of antibacterial compounds that I discovered.

David Mushatt, MD, MPH
Professor, Medicine – Infectious Diseases - SOM
dmushatt@tulane.edu
My focus is in HIV therapeutics, serving as the local PI for the Tulane site of the International Network for Strategic Initiatives in Global HIV Trials (INSIGHT). In addition, I am working with Deepak Kaushal, PhD at the Tulane Primate Center to develop a non-human primate model of pulmonary M. avium complex infection.

Bo Ning, PhD
Assistant Professor, Biochemistry and Molecular Biology - SOM
bning1@tulane.edu
Mairi Noverr, PhD
Associate Professor – Microbiology and Immunology – SOM
mnoverr@tulane.edu

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

Bapi Pahar, DVM, PhD, MBA
Associate Professor, Pathology – TNPRC
bpahar@tulane.edu

Broad background in cellular and humoral immunology, virology and work experience for over 15 years in macaque model. Research involves determining antigen-specific T and B cell responses in infant and adult macaques in relation to vaccine and infection; understanding the role of intestinal stem cells in regulating intestinal epithelial cell proliferation; mucosal innate immune responses; 3-D primary cell culture; Role of immunoregulatory cytokines in regulating intestinal homeostasis and HIV pathogenesis. Other Research Interests include: Gastroenterology, Immunology/Allergy/Skin, Infectious Diseases
INFECTIOUS DISEASES

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
Current research focuses on SARS-CoV-2 with focus on 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, 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.

Lori Rowe, PhD
Assistant Director, Virology and Sequencing Core, Microbiology – TNPRC
Lrowe1@tulane.edu
I have 15 years of experience with a variety of deep sequencing technologies previously at the CDC and now at Tulane. In the core we focus on pathogen sequencing using either Illumina or nanopore technologies and can consult and aid in studies with other technologies. We currently use our technologies to perform viral sequencing for SARS-CoV-2 (both human and experimentally infected animal models) and HIV/SIV, as well as 16s sequencing for microbiome studies, and sequence based genotyping and are expanding into many other pathogens. Other Research Interests include: Genetics
Dr. Roy is a career aerobiologist focused on respiratory health and the aerobiology of airborne infectious diseases; specifically, on gaining a better understanding of aerosol infection in the context of the development and application of preclinical disease models; the majority of efforts are directed in the use of the nonhuman primate for this purpose. His laboratory works with a diverse array of infectious and highly toxic agents considered biological threat agents rather than a singular focus on a particular class or agent. His current research portfolio includes evaluation studies of antivirals in aerosol-induced poxviral infections, and evaluation of optimized monoclonal antibodies as therapeutic agents for toxin (SEB and ricin) exposure. He is also involved in investigation of the immunogenicity and protective efficacy of virally-vectored vaccines against aerosol-initiated alphaviral disease. There are also significant efforts ongoing in his laboratory to develop disease models for biothreat agents such as *Burkholderia pseudomallei* in the nonhuman primate. Other Research Interests include: Lung

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

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

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

Vicki Traina-Dorge, PhD
Associate Professor, Microbiology and Immunology - TNPRC
vtraina@tulane.edu
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 the 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
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
Prevalence and pathophysiology of amenorrhea and other reproductive health outcomes among women Ebola survivors in Sierra Leone. Other Research Interests include: Women’s Health, COVID
Amanda Anderson, PhD, MPH
Associate Professor, Epidemiology - SPHTM
aanderson5@tulane.edu
Dr. Anderson's major research interests address the epidemiology of kidney diseases, with an emphasis on the causes and consequences of the excessive morbidity and mortality experienced by patients with chronic kidney disease (CKD). She has a particular focus on factors associated with CKD progression including fibrosis measures and the gut microbiome, prediction of kidney function decline over time, and the insufficiently characterized burden of 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
Renal metabolism and toxicity of myeloma light chains; biomarkers of tubular injury; acute kidney injury--mechanisms, therapeutic strategies; radio-contrast-induced kidney injury; Balkan endemic nephropathy; environmental kidney disease-- lead nephropathy and hypertension.

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

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

**L. Lee Hamm, MD**  
Dean, School of Medicine - SOM  
[lahamm@tulane.edu](mailto:lahamm@tulane.edu)  
Acid-base homeostasis – basic mechanisms and clinical disorders; Citrate transport in the kidney related to stones; Sodium transport in the kidney related to hypertension; Cardiovascular disease in Chronic kidney disease; Genetic mechanisms of kidney disease and hypertension.

**Robert S. Hoover, MD**  
Associate Professor, Medicine, Chief of Nephrology – SOM  
[Rhoover3@tulane.edu](mailto: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  
[khering@tulane.edu](mailto:khering@tulane.edu)  
We have significant experience and expertise in epithelial transport biology and cell and molecular techniques using a wide variety of kidney tubule cell lines. Most of these studies have addressed sodium, acid-base, and citrate transport, the latter an important inhibitor of kidney stones. Recently these studies have led to related issues involving diabetes and intermediate cell metabolism. Current techniques involve CRISPER knock-out studies and RNA-Seq. Other Research Interests include: Kidney Transport Physiology

**Suttira Intapad, PhD**  
Assistant Professor, Pharmacology - SOM  
[sintapad@tulane.edu](mailto:sintapad@tulane.edu)  
I am interested in research related to the developmental programming of chronic diseases, especially cardiovascular disease, and how an improper environment during fetal development such as preeclampsia can result in long-lasting effects on an individual’s health. Other Research Interests include: Neurosciences, Women’s Health
Jia Zhuo, MD, PhD
Professor, Pharmacology – SOM
Director, Tulane Hypertension and Renal Center of Excellence
jzhuo@tulane.edu
My laboratory is interested in studying the roles of endocrine (tissue-to-tissue), paracrine (cell-to-cell), and intracrine (endosomal, mitochondrial and nuclear) angiotensin II (ANG II) and its G protein-coupled 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,

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

Xiao Li, MD, MsC
Assistant Professor, Pharmacology – SOM
xli68@tulane.edu
Research Description: Physiological omics, G protein-coupled receptors, renal physiology, kidney tubular transport, experimental hypertension, kidney injury, transgenic mouse models.

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

Dewan Syed Abdul Majid, MBBS, PhD
Professor, Physiology - SOM
majid@tulane.edu
Elucidation of the intra-renal mechanisms regulating renal hemodynamics and excretory function by endothelial/vasoactive factors. Elucidation of the mechanistic link between Oxidative stress, inflammation and salt-sensitive hypertension. Other Research Interests include: Nitric Oxide, Oxidative Stress, Inflammatory molecules, etc.

Kenneth D. Mitchell, PhD
Professor, Physiology - SOM
kdmitch@tulane.edu
My research interests are oriented toward evaluation of the mechanisms underlying the renal functional derangements that contribute to the pathogenesis of angiotensin II-dependent hypertension.

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

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

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

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

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

Eric Simon, MD
Professor, Medicine - Nephrology and Hypertension - SOM
esimon@tulane.edu
Diuretics in hypertension, aging and kidney function, acute kidney injury, hemodialysis volume assessment.
**Federico Teran, MD**  
Assistant Professor, Medicine - Nephrology and Hypertension - SOM  
fteran@tulane.edu  
I am currently working on a developing a mouse model for kidney stone development and how certain electrolyte/compound transport in the kidneys affect the development of kidney stones.

**Ihor V. Yosypiv, MD**  
Associate Professor, Pediatrics –Nephrology - SOM  
iiosipi@tulane.edu  
Kidney development: Renin-angiotensin system in ureteric bud branching morphogenesis. Other Research Interests include: renin-angiotensin system in kidney development

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

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

Professor and Chair, Biomedical Engineering – SSE
dpg@tulane.edu
My primary research interest is pulmonary mechanics associated with ventilator-induced lung injury. Other Research Interests include: Medical Devices, Innovation and Entrepreneurship

Gary Haynes, MD, PhD
Professor and Chair, Anesthesiology - SOM
ghaynes@tulane.edu
I am interested in point of care testing for assessment of hemostasis and coagulation as well as the use of non-invasive technology to assess hemodynamic function. Other Research Interests include: Aging, Cardiovascular, Endocrine/Bone, Immunology/Allergy/Skin, Kidney/Hypertension Neurosciences
Ross Klingsberg, MD  
Associate Professor, Medicine - Pulmonary Diseases - SOM  
rklingsb@tulane.edu  
Corrector/potentiator medications for patients with CFTR mutations and cystic fibrosis. Bronchiectasis and mycobacterial diseases including tuberculosis and non-tuberculous mycobacteria. Anxiety and depression in patients with chronic diseases. Medical education. Pulmonary rehabilitation and exercise therapy. Other Research Interests include: Behavioral Health, Endocrine/Bone, Genetics, Immunology/Allergy/Skin, Infectious Diseases, Medical Education

Joseph A. Lasky, MD  
Professor and Section Chief, Medicine – Pulmonary Diseases - SOM  
jlasky@tulane.edu  
My primary research interest involves basic and clinical aspects of pulmonary fibrosis. A significant component of the basic research program is focused on the role of class II HDACs in fibrogenesis, with an emphasis on the non-epigenetic functions of HDACs. The primary thrust of this work now entails understanding which key fibrogenic signaling events are regulated by lysine acetylation. I also have an interest in the aging lung and so my laboratory is investigating the role of PML bodies in pulmonary fibrosis. Other Research Interests include: Again, Bioinformatics/Statistics

Anil Mishra, PhD  
Professor of Medicine - Pulmonary Diseases & Critical Care - SOM  
amishra@tulane.edu  
My research is aimed at deciphering mechanisms of inflammation, primarily based on discoveries concerning innate immunity. In particular, gene-environment interactions in the elicitation of inflammatory states in the respiratory and gastrointestinal tracts are under investigation. Environmental triggers (such as aeroallergens and food allergens) are studied in the context of specific genetic variants (e.g., IL-15 and IL-18 signaling) using population studies (cross sectional and longitudinal prospective cohorts) and mechanism-driven studies. The biological properties of innate inflammatory cells (eosinophils, mast cells, iNKT cells, epithelial cells) and the cytokines (especially chemokines and cell surface receptors) that mediate their function are under investigation. Other Research Interests include: Gastroenterology
Janet McCombs, PhD
Assistant Professor, Medicine - SOM
jmccombs@tulane.edu
Working within the Center for Translational Research in Infection and Inflammation, I am interested in lung immunology and host responses to infections. Currently, I am investigating immune subversion mechanisms utilized by hypervirulent Klebsiella pneumoniae as a way to identify potential immunotherapeutic strategies. In addition, I am interested in developing novel vaccines to lung pathogens. Other Research Interests include: Immunology/Allergy/Skin, Infectious Diseases

Gilbert Morris, PhD
Associate Professor, Department of Pathology - SOM
gmorris2@tulane.edu
Modeling lung tumorigenesis in mice; Lung tumor promotion by IL-17; Lung disease related to inflammasome repression by cigarette smoke. Other Research Interest include: Aging, Cancer/Hematology, Genetics, and Biology of gamma herpesviruses.

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

Derek Pociask, PhD
Assistant Professor, Medicine – Pulmonary Diseases - SOM
dpociask@tulane.edu
I am interested in the immune responses in the lung; specifically, 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
James Bennett, MD  
Professor – Neurosurgery and Orthopedics – SOM  
Jbennet1@tulane.edu  
Advanced imaging utilizing computer-assisted navigation for the placement of pedicle screws; 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  
pkastl@tulane.edu  
I have mainly researched on contact lenses and their ocular effects. I have also done tear analysis. Other Research Interests include: Bioinformatics/Statistics  

Chenzhong, Li, PhD  
Professor, Biochemistry and Molecular Biology  
Cli28@tulane.edu  
My research focuses on biosensors, biomedical devices, biomarker detection, diagnosis and treatment. Other Research Interests include: Aging, Cancer/ Hematology, Cardiology, Infectious Diseases, Kidney/Hypertension, Medical Education, Neurosciences, Peptides Chemistry, Diagnosis and Drug Screening  

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

Cedric Walker, PhD
Professor Emeritus, Biomedical Engineering – SSE
cfw@tulane.edu
Prototyping of new devices for medical research. The Tulane MakerSpace offers digital tools (3d printers, laser cutters, CNC mill and lathe) and training in their use to students, staff and faculty. Most projects are "DIY" but there is a mechanism to hire our student workers for specific projects beyond the scope of the researcher requesting them. Other Research Interests include: 3D printing, prototyping, device design and fabrication
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

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

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

I have investigated the effects of interdisciplinary care for patients on high morphine equivalent daily doses and concomitant benzodiazepine usage. Other Research Interests include: Pain Medicine
MEDICAL EDUCATION

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

Isis Smith, MD
Assistant Professor, Medicine – General Internal Medicine - SOM
ismith3@tulane.edu
I'm interested in studying medical student's interested in learning more about underserved populations as part of their curriculum as well as what outcomes and how we can effectively teach them about these topics.
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
Dr. Gregory Bix, MD, PhD, FAHA, is a Professor of Neurosurgery and Neurology at Tulane University, is also currently the Director of the Clinical Neuroscience Research Center, Vice-Chair of Clinical & Translational Research, Department of Neurosurgery, and the Vada Odom Reynolds Chair in Stroke Research at Tulane University. Dr. Bix’s research focus is in the role and therapeutic potential of the extracellular matrix and its receptors in stroke and vascular dementia. Other Research Interests include: Aging, Infectious Diseases, Stroke, Vascular Dementia, COVID-19 and long covid.

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. Specifically, my laboratory, utilizing proteomic and RNAseq methods as well as more traditional approaches, 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.

My research includes: Experience-dependent neural plasticity. Non-pharmacological interventions to facilitate executive function and memory across the lifespan. Neural oscillations and cognition. Other Research Interests include: Aging, Behavioral Health.

I study the impact of estrogens and androgens on the brain and cognition across the lifespan using rodent models. Other Research Interests include: Aging, Women’s Health.
Andrei Derbenev, PhD
Associate Professor, Physiology - SOM
aderben@tulane.edu
My laboratory investigates the involvement of the brain in the regulation of blood pressure. We focus on synaptic plasticity in the brainstem during hypertension.

Elizabeth Engler-Chiurazzi, PhD
Assistant Professor, Neurosurgery - SOM
eenglerchiurazzi@tulane.edu
Primary Research Interests: 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
Dr. Fischer's research is focused on advancing our current understanding of the role of chronic, low level neuroinflammation in the development and advancement of neurodegenerative diseases, such as Alzheimer's Dementia and HIV-associated neurocognitive dysfunction. Using advanced methods of cell isolation and transcriptomic profiling, we are identifying unique mechanisms of neuronal cell injury and death that may be targeted for future therapeutic intervention. Other Research Interests include: Aging, Bioinformatics/Statistics, Genetics, Immunology/Allergy/Skin, Infectious Diseases, Medical Devices, Neurosciences, Traumatic Brain Injury
Hai Huang, PhD  
Associate Professor, Cell and Molecular Biology - SSE  
hhuang5@tulane.edu  
We aim to understand the synaptic mechanisms that support reliable and precise auditory information processing and how 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.

Joe Iwanaga, DDS, PhD  
Associate Professor, Neurosurgery - SOM  
jiwanaga@tulane.edu  
Dr. Joe Iwanaga, DDS, PhD is an oral and maxillofacial surgeon, dentist and anatomist. His research and surgical focus is on anatomical variations and microsurgical anatomy. His expertise in oral and maxillofacial surgery and clinical anatomy will be used in establishing surgical training courses for medical students, residents of neurosurgery, OMFS, and other healthcare providers.

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

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

Demetrius Maraganore, MD
Associate Professor and Chair, Neurology – SOM
Other Research Interests include: Aging

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

Ricardo Mostany, PhD
Associate Professor, Pharmacology - SOM
rmostany@tulane.edu
Our laboratory studies synaptic plasticity of cortical neurons with emphasis on the effects of aging on the ability to establish and maintain synaptic contacts between neurons. We are applying our results from the aged brain to the study of Alzheimer’s disease using animal models of the disease. 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 in brain slices, behavioral paradigms, molecular biology and electrophysiology biochemistry.

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

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

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

Our laboratory studies the neurobiology of opioids and their receptors, acute and chronic pain, neuroinflammation, and development of novel analgesics with reduced adverse side effects. Other Research Interests include: Aging, Peptides Chemistry, Medications Development

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

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

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

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

Eckhard Alt, MD, PhD
Professor, Medicine - Cardiology – SOM
ealt@tulane.edu
My research interest is to affect translational research from bench to bedside in cooperation with experts providing complementary knowledge, as evidenced by 24,000 citations of our respective publications, and 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.

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

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

Cynthia Hanemann, MD
Professor and Vice Chairman, Radiology - SOM
chaneman@tulane.edu
My research interests are in breast cancer imaging.

Emily Harville, PhD, MSPH
Associate Professor, Epidemiology - SPHTM
eharville@tulane.edu
My research interests include effects of disaster on pregnancy, multigenerational health, preconception health, pregnancy complications and later-life health.
WOMEN’S HEALTH

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

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

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

Mary Mulcahey, MD
Associate Professor, Orthopaedics, Sport Medicine - SOM
mmulcahey@tulane.edu
I am interested in women’s musculoskeletal health, understanding the MSK injuries/conditions that women are more prone to and why, and identifying opportunities for injury prevention. I am involved in numerous orthopaedic clinical projects related to shoulder and knee injuries. Other Research Interests include: Medical Education and have numerous ongoing projects.

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 biomarkers 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
The development of culturally constructed psychological theory/conceptual models, interventions, and assessment measures related to psychological well-being (i.e., children’s mental health, youth and adult sexual health) in local and global contexts. Also, in participatory mixed methods research approaches.

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

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

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

Tiong Gim Aw, PhD
Assistant Professor, Environmental Health Sciences – SPHTM
taw@tulane.edu
My research focuses on water quality, waterborne diseases, and microbial ecology of pathogens. We study the relationships between environment, microorganisms and hosts to better understand the distribution, persistence and transmission of pathogens and infectious diseases. We are interested in data-driven discovery and the integration of biological big data towards the study of microbial communities in natural and engineered water systems and their impacts on our environment and health. Other Research Interests include: Environmental Health Microbiology, Water Quality

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

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
cortez@tulane.edu
Mathematical and Computational Modeling of Biological Fluid dynamics
OTHER RESEARCH AREAS

Georgina Dobek, DVM
Assistant Professor, Director, Department of Comparative Medicine – SOM
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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
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I do research on new photonic materials and optoelectronic devices. This includes metasurfaces that can manipulate light by design and optical devices from 2D materials. These photonic structures are ultra-small and may be used in highly-sensitive sensors, light detectors, light emitters, flat/microscale optics, and more.

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

Lisa Fauci, PhD
Professor, Mathematics – SSE
fauci@tulane.edu
My research is in biological fluid dynamics. Projects include sperm motility in the reproductive tract and the neuromechanics of locomotion in simple vertebrates.
Robin Forman, PhD  
Provost and Senior Vice President for Academic Affairs  
rforman@tulane.edu  
Dr. Forman’s research, which has been funded by the National Science Foundation, the National Security Agency and the Defense Advanced Research Projects Agency, focuses on combinatorial methods in topology and geometry. Other Research Interests include: Mathematics

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

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

Chrissy Guidry, DO  
Assistant Professor, Surgery - SOM  
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Trauma Resuscitation, Endotheliopathy. Other Research Interests include: Trauma, Acute Care Surgery, Critical Care

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

Clarissa Hoff, MD, MPH  
Associate Professor, Family and Community Medicine – SOM  
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Dr. Hoff is director of the Southern Area Patient Oriented Research Network a Practice Based Research Organization that focuses on primary care implementation research and quality improvement. We work with primary care clinics across the state of Louisiana to improve primary care outcomes with a focus on screening interventions. Other Research Interests include: Practice Based Research Networks, Preventive Care Implementation, Healthcare Disparities, Quality Improvement

M. Matias Iberico, MD, MPH  
Assistant Professor, Medicine – General Internal Medicine - SOM  
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Other 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  
Primary interest in human hearing including surgical treatment of hearing loss and chronic ear infections. Interests include any ear surgery, cochlear implants, and skull base tumors. Also interest in vestibular disorders of the inner ear. Other Research 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  
The lab has two projects, both related to endothelial cell biology. The first is endothelial cell damage during trauma, in particular damage to the endothelial glycocalyx. The second is the role of protein arginine methylation in angiogenesis. Other Research Interests include: Endothelial cell biology, trauma, calcium signaling, angiogenesis, protein methylation
Carolyn C. Johnson, PhD
Professor, Global Community Health and Behavioral Sciences - SPHTM
cjohnso5@tulane.edu
Public Health, Health Promotion, Obesity Physical Activity Diet

Jordan Karubian, PhD
Professor, Ecology and Evolutional Biology - SSE
jk@tulane.edu
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. Transplant, Trauma, Tissue Regeneration, Melanoma, Thyroid Cancer, Resident Education, to name a few.

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

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

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

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

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

Antonio (Nito) Panganiban, PhD
Professor, Microbiology and Immunology - TNPRC
apangani@tulane.edu
We’re working on virus replication, the host response to virus infection, and anti-viral strategies. Our primary focus is on emerging, zoonotic, minus strand RNA viruses that cause hemorrhagic fever and related pathogenesis. Pathogenesis typically involves infection of vessel endothelial cells and either systemic or localized hemorrhagic fever. The approaches we use include molecular virology, genomics, and transcriptomics.
OTHER RESEARCH AREAS

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
mwilson9@tulane.edu
I'm interested in how obesity impacts chemical metabolism. My primary interest lies in determining if obesity is associated with increased sensitivity to chemicals that are metabolized via the CYP2E1 enzyme pathway. Other Research Interests include: Genetic Toxicology
OTHER ATTENDEES

Muhammad Abdul Awoal, MSC
Medical Research Specialist – Center for Aging - SOM
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Emily Callegari, BSN
Clinical Translational Research Unit (CTU) - SOM
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John Christie, MBA
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