14th Annual

Faculty Research SYNERGY Event

Tuesday, November 14th, 2023
6:00—9:00 PM
Audubon Tea Room
During tonight’s 14th Annual Faculty Research Synergy event, you are encouraged to engage and discover shared or synergistic research interests and concepts. Throughout the evening, you are strongly encouraged to network and engage in discussion.

This “faculty research resource book” is a compilation of faculty research interests and expertise. Please feel free to use it for notes, contact information, and for your future reference.
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Alphabetical List of Faculty in Attendance

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Robert Hoover 66 Patty Kissinger 55
Tony Hu 54 Myra A. Kleinpeter 68
Chiung-Kuei Huang 39 Ross Klingsberg 72
Hai Huang 83 Jay Kolls 47
Mac Hyman 54 “Tonette” Krousel-Wood 14
M. Matias Iberico 98 Manesh Kumar Panner Selvam 80
Suttira Intapad 67 Prerna Kumar 68
Saifudeen Ismael 84 Michelle Lacey 18
Joe Iwanaga 84 Samuel J. Landry 47
Reza Izadpanah 27 Joseph Lasky 72
Colin Jackson 98 Thomas LaVeist 14
James Jackson 27 Louise Lawson 55
Neal Jackson 98 Alyssa Lederer 99
Olan Jackson-Weaver 98 Sean B. Lee 28
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Jayawickramarajah 10 Shitao Li 55
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Vijay T. John 33 Hongbing Liu 68
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Prasad Katakanam 54 Alfred Luk 56
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Bilon Khambu 28 Heather Machado 29
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<td>R. Shane Tubbs</td>
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<td>Cedric Walker</td>
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<td>Hui Shen</td>
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<td>Lizheng Shi</td>
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<td>Xiaolei Wang</td>
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<td>Suresh Sikka</td>
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<td>Yu-Ping Wang</td>
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<td>Margarita Silio</td>
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<td>Carola Wenk</td>
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<td>Eric Simon</td>
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<td>Jennifer Whitten</td>
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<td>George Singletonary</td>
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<td>Mark Wilson</td>
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## Alphabetical List of Faculty in Attendance

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<thead>
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<td>Hongju Wu</td>
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<td>Tong Wu</td>
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<td>Huanbin Xu</td>
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<td>Xiaojiang Xu</td>
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<td>Yilin Yoshida</td>
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<td>Ihor V. Yosypiv</td>
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<tr>
<td>Rie Yotsu</td>
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<tr>
<td>Charles Zeanah</td>
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<tr>
<td>Qiuyang &quot;Lisa&quot; Zhang</td>
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<td>Crystal Zheng</td>
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<td>Wenshu Zheng</td>
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<td>Zizhan Zheng</td>
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<tr>
<td>Jia Zhuo</td>
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<tr>
<td>Andrea Zsombok</td>
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</table>
Jorge Castorena-Gonzalez, PhD
Assistant Professor, Pharmacology, SOM
castorenagonzalez@tulane.edu
My research focuses on understanding mechanisms leading to dysfunction of the lymphatic system and assess how a dysfunctional lymphatic system contributes to the onset and development of cardiovascular diseases. Current research interests include the study of the connection between obesity, diabetes, aging, and lymphatic dysfunction. My lab also seeks to develop novel techniques in physiology and software tools for the automated processing and analysis of data/images. Other Research Interests Include: Imaging, Lymphatic System and Cardiovascular Diseases.

Malwina Czarny-Ratajczak, PhD
Assistant Professor, Center for Biomedical Informatics & Genomics
mczarnyr@tulane.edu
I currently focus on identification of novel genetic and epigenetic factors contributing to development of primary osteoarthritis (OA). I employ a next-generation sequencing approach to study exome, transcriptome and exosomal miRNAs of patients with osteoarthritis. Current projects: contribution of dysfunctional telomeres and components of exosomal cargo (proteins and miRNAs) to primary osteoarthritis. Other Research Interests include: Molecular Genetics, Skeletal Disorders.

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

Prasad Katakam, MD, PhD
Associate Professor, Pharmacology - SOM
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  
My research seeks to understand how genetic information is properly transmitted through generations and also apply the knowledge to understand the causes of human diseases, such as cancer. Other Research Interests include: Cancer/Hematology

**Ibolya Rutkai, PhD**  
Assistant Professor, Pharmacology - SOM  
irutkai@tulane.edu  
My laboratory investigates the role of mitochondria and mitochondria-related mechanisms in the brain vasculature in health and disease that might contribute to aging-related pathologies such as Alzheimer's disease.

**Sergiy Sukhanov, PhD**  
Associate Professor, Medicine, Cardiology – SOM  
ssukhano@tulane.edu  
My research focuses on studying mechanisms of atherosclerosis. I am interesting in role of DNA damage in disease progression. Supported by NIH R01 funds, I study anti-atherosclerotic effects of glyceraldehyde-3-phosphate dehydrogenase, and classical glycolytic enzyme with multiple novel glycolysis-unrelated functions, including involvement in maintenance of DNA integrity under oxidative stress. Other Research Interests include: Peptides Chemistry, Oxidative stress, apoptosis, protein-protein interactions

**Qinyan Yin, PhD**  
Assistant Professor, Medicine – Pulmonary Diseases - SOM  
qyin@tulane.edu  
I study the function of RNA splicing and virus in lung biology, aging and tumorigenesis. Other Research Interests include: Cancer/Hematology, Lung
Courtney Baker, PhD  
Associate Professor, Psychology - SSE  
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  
I research behavioral biology of nonhuman primates, with my areas of concentration including social behavior, infant development, and behavioral pathology, as well as the application of behavioral observation and testing in support of various disease models such as HIV, Zika virus, globoid cell leukodystrophy and amyotrophic lateral sclerosis. Other Research Interests include: Behavioral Biology

Angela Breckenridge, PhD  
Assistant Professor, Social, Behavioral, and Population Science  
abrecken@tulane.edu  
I serve as the Director of Curriculum, Program Assessment, and Strategic Planning in the School of Public Health and Tropical Medicine.

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

Lorelei Dickey Cropley, Dr.PH  
Associate Professor, Social, Behavioral, and Population Sciences – SPHTM  
lcropley@bltulane.edu  
I study the efficacy of Short Term Brigades, and Iron deficiency anemia behavioral interventions using iron cookware, as well as Chagas Disease KAP studies. Other Research Interests include: Medical Education, Best Practices for Short Term Brigades
BEHAVIORAL HEALTH

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

Jeanette Gustat, PhD, MPH
Associate Professor, Epidemiology – SPHTM
gustat@tulane.edu
My interests include social and environmental determinants of health including aspects of our surrounding built and natural environments that contribute to inactivity and obesity. Interests include physical activity, obesity, blight, psychosocial factors and cognitive function and how these factors play a role in cancer and cardiovascular disease outcomes. Other Research Interests include: Environmental determinants of physical activity and health.

Tonya Hansel, PhD
Associate Professor, Social Work – SSW
tcross1@tulane.edu
My research efforts center on evaluation of general trauma services, disaster response work in the aftermath of Hurricane Katrina, and towards a better understanding of technological disaster following the Deepwater Horizon Gulf Oil Spill. I focus on measuring traumatic experiences and implementing systematic recovery initiatives that are effective at reducing negative symptoms, but also at emphasizing the importance of individual and community strengths that contribute to recovery.

A. Kenison Roy, III, MD
Associate Professor, Psychiatry
Aroy6@tulane.edu
I currently study the neurobiology of Alcohol Use Disorder by measuring the connectivity of the Default Mode Network before and after a psilocybin session and the impact of the psilocybin session of the success of attempts to achieve abstinence and recovery.
BEHAVIORAL 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
I study aging and Cardiovascular Disease with a special emphasis on adherence. Other Research Interests include: Aging, Women’s Health, medication adherence, hypertension, cardiovascular disease, older adults, implementation research.

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

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

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

Leia Saltzman, PhD
Assistant Professor, School of Social Work - SSW
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
My research interests include: psychopathology in infant and preschool children; autonomic heart period control; electroencephalography; cortisol regulation; parent-child relationship quality; treatment for young children. Other Research Interests include: Neurosciences

Chelsea Singleton, PhD
Assistant Professor – Social, Behavioral and Population Sciences – 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.

Susan Davies, PhD
Associate Dean for Research, Professor – SSW
sdavies2@tulane.edu
My research focuses on reducing HIV/STI’s and unintended pregnancy among adolescents, and promoting maternal mental health, particularly among those living in poverty.
George Singletary, MD, MPH  
Assistant Professor, Psychiatry - SOM  
gsinglet@tulane.edu  
I am currently working with Department of Global Health on applications for funding for relapse prevention studies utilizing smart phone technology. I am interested in speaking with other faculty that might want to collaborate on research in the field of Addiction.

Jeni Stolow, PhD, MPH  
Assistant Professor, Social, Behavioral, & Population Sciences - SPHTM  
jstolow@tulane.edu  
I am a social and behavioral scientist who works at the intersection of medical anthropology, public health, and infectious disease outbreak response. My recent work includes a deployment to Central/Eastern Europe responding to the Ukraine Emergency as a World Health Organization (WHO) Risk Communication and Community Engagement (RCCE) officer, as well as infectious disease and post-disaster work in Brazil and Sierra Leone.

Kiana Andrew Tregre, MD, MPH  
Assistant Professor, Psychiatry – SOM  
kandrew@tulane.edu  
My research Interests include: Women’s Health, Juvenile and Forensics

Charles H. Zeanah, MD  
Professor, Psychiatry and Pediatrics - SOM  
czeanah@tulane.edu  
My research has focused on children coping with extremes of caregiving adversity and their outcomes across a range of behavioral, brain and cognitive outcomes. In particular, I have focused on the effects of excessive unwanted input (i.e., trauma) and the effects of inadequate expected input (i.e., deprivation and neglect). I have studied early childhood disorders, especially posttraumatic stress and attachment disorders in children who have been maltreated or raised in conditions of deprivation.
David Crosslin, PhD
Associate Professor, Biomedical Informatics and Genomics
crosslin@tulane.edu
My research interests include applied bioinformatics, applied
statistics, clinical decision support, etiology of complex diseases,
human genetics and genomics, informatics, large scale statistical
genetic analyses, systems integration, and implementation science.

Hong-Wen Deng, PhD
Professor, Medicine – Medicine, Center For Biomedical Informatics
And Genomics - SOM
hdeng2@tulane.edu
Research interests include: omics studies, aging, osteoporosis,
sarcopenia, obesity, and other complex disorders. Other Research Interests Include: Aging, Endocrine/Bone, Genetics, Imaging, Men's Health, Women's Health

Emily Farrer, PhD
Assistant Professor, Ecology and Evolutionary Biology – SSE
efarrer@tulane.edu
I am a community ecologist whose research examines the interactions that structure plant and microbial communities in space and time, and how climate change and invasive species alter these interactions with consequences for biodiversity and ecosystem function. I use field surveys, experiments, and a combination of statistical modeling, population modeling, genomics, and GIS techniques. I work in wetlands, grasslands, and alpine ecosystems.

Loren Gragert, PhD
Assistant Professor, Pathology and Laboratory Medicine - SOM
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
BIOINFORMATICS AND STATISTICS

Hua He, PhD
Associate Professor, Epidemiology – SPHTM
hhe2@tulane.edu
My research involves using statistical methodology, and particularly longitudinal data analysis, latent class analysis, causal inference, ROC analysis, etc., to facilitate impactful health research.

David M. Hinkle, MD
Professor and Chair, Ophthalmology – SOM
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
BIOINFORMATICS AND STATISTICS

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

Kuan-Jui “Ray” Su, PhD
Instructor, Biomedical Informatics and Genomics
Ksu2@tulane.edu
My research centers on advanced statistical and AI/ML techniques for large-scale high-dimensional data analysis, encompassing genomics, transcriptomics, metabolomics, etc. It seeks to identify biomarkers associated with conditions such as osteoporosis, sarcopenia, and aging-related diseases, while also focusing on improving the utility of multi-omics data and advancing innovative analytical methods.

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

Sudesh K. Srivastav, PhD
Professor, Biostatistics and Data Science – SPHTM
ssrivas@tulane.edu
My work utilizes biostatistics and quantitative bioinformatics to analyze biological and public health data. I assist other investigators with various data-related needs, including troubleshooting design issues (including sample and power analysis) and performing statistical analysis for their projects. Other Research Interests include: Genetics
Charles Stoecker, PhD
Associate Professor, Health Policy and Management
cfstoecker@tulane.edu
As a researcher, I am interested in designing and analyzing policies that affect early life events. My work explores the impacts of vaccination policy efficiency, air pollution regulation, and health insurance coverage on children’s health. My current research focuses on the economics of infectious disease including the impact of the Super Bowl on disease transmission and the links between scope of practice laws and health inequality.

Eman Toraih, MD, MSc, PhD, DBio
Assistant Professor
etoraih@tulane.edu
My current research is focused on the discovery of biomarkers for clones driving thyroid cancer metastasis through spatial transcriptomics and single-cell multi-omics. Identifying trajectory time needed for nodal metastasis and development of prognostic nomogram will provide valuable information to help clinicians choose between surveillance and surgical intervention.

Brigham Walker, MsC, PhD
Assistant Professor, Health Policy and Management - SPHTM
bwalker6@tulane.edu
My research generally focuses on how providers, payers, and patients behave in response to new information or incentives. He is also interested in discrimination and equity topics generally. Other Research Interests include: Cancer/Hematology.

Yu-Ping Wang, PhD
Professor, Biomedical Engineering – SSE
wyp@tulane.edu
My research involves integration of multiscale and multimodal imaging and genomic data, as well as biomedical image processing, statistical and computational modeling, and analysis of biomedical data. Other Research Interests include: Genetics, Neurosciences, Behavioral Health
Carola Wenk, PhD  
Professor, Computer Science – SSE  
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

Xiaojiang Xu, PhD  
Associate Professor, Pathology and Laboratory Medicine  
Xxu17@tulane.edu  
My research focuses on developing new bioinformatics algorithms and pipelines, and using the algorithms and pipelines to analyze biology multi-omics data to study genetic and epigenetic regulation on diseases.
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 are 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.
Asim Abdel-Mageed, DVM, PhD
Professor, Urology - SOM
amageed@tulane.edu
My research interest focuses on identifying molecular determinants of prostate cancer progression, with special emphasis on health disparity. One approach involves genetic engineering and selective delivery of stem cells to target “intracrine” production of androgens at metastatic sites. Other Research Interests include: Stem Cell Research, Exosomes and Therapy, Molecular Determinants, Biomarkers and Therapeutic Targeting of Prostate Cancer.

Muralidharan Anbalagan, PhD
Assistant Professor, Structural and Cellular Biology - SOM
manbalag@tulane.edu
My recent work on estrogen receptor alpha (ERα) phosphorylation has used CRISPR/Cas9 to create breast cancer cell lines with mutations in ERα phosphorylation sites to study its impact on endocrine therapy. My current research is focused on determining the possible role of ERα signaling in sex differences in pulmonary fibrosis.

Diane Blake, PhD
Professor, Biochemistry and Molecular Biology – SOM
Do-Director, Graduate Program in Biomedical Sciences - SOM
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
My research focuses on the estrogen receptor, cell signaling and cancer systems. One of our goals is to elucidate the altered activation of signaling cascades which target estrogen receptor mediating gene expression which ultimately leads to a hormone independent and endurance therapy resistant phenotype. We are collaborating with other laboratories to study natural and artificial phytochemicals as novel anti-estrogenic and anti-resistance agents through coordinate targeting of ER-activity, cell signaling and coactivator function. We have begun to study the role played by microRNAs (miRNA) in estrogen receptor biology and the specific regulation of gene expression by steroid hormone receptors.

Bridgette Collins-Burow, MD, PhD
Associate Professor, Medicine – Hematology/ Oncology - SOM
bcollin1@tulane.edu
The long-term objectives of my research include 1) identifying molecular mechanisms of breast cancer resistance and metastasis, 2) implementing novel therapeutic strategies that can target and overcome altered gene networks involved in controlling breast cancer progression; and 3) driving the translation of the laboratory science to the clinical patient setting. More recently we have focused on the role of novel experimental agents and epigenetic therapy in the regulation of microRNA expression in breast cancer with specific interest in triple-negative or basal phenotype breast cancer.
The research in my laboratory bridges genetics, cancer biology and developmental biology. Using the genetically tractable Drosophila model, we seek to understand how cell growth, proliferation and polarity are regulated during development, and how their deregulation may result in uncontrolled growth, loss of tissue integrity, and neoplastic tumor transformation. Currently, we focus on the following research projects: I. Characterization of “tumor hotspots”, the tissue microenvironment for tumorigenesis. II. A transition zone model for oncogenic Notch induced neoplastic-tumorigenesis. III. Drosophila model for pediatric malignant rhabdoid tumors. IV. Tissue homeostasis through cell competition and compensatory cellular hypertrophy. Other Research Interests include: Genetics

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 metastatic process using gene-editing technologies including CRISPR. Other Research Interests include: Genetics, Immunology/Allergy/Skin
Mark J. Fink, PhD
Professor, Chemistry – SSE
fink@tulane.edu
I study the synthesis and properties of semiconductor nanoparticles. Our group, in collaboration with Brian Mitchell (Chemical Engineering), is active in the synthesis of silicon nanoparticles and quantum dots. Silicon nanoparticles have great potential as non-toxic luminescent biomarkers and multimodal drug delivery agents. Other Research Interests include: Immunology/Allergy/Skin

Paul Friedlander, MD
Professor and Chair, Otolaryngology - SOM
pfriedla@tulane.edu
I study racial disparities in healthcare, as well as tumor growth and wound healing as well as outcome analysis for at risk populations for head and neck cancer.

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

Jeff Han, MD, PhD
Associate Professor, Biochemistry and Molecular Biology - SOM
jhan5@tulane.edu
My research studies the role of germ line L1s in fertility, including the loss of transposon control pathways by mutation which is associated with massive L1 expression, germ cell death, and sterility. We have identified genetic pathways important for the activity of L1 and are also screening small drug-like compounds for inhibitory activity against L1. We hope to use these finding to assess the effects of blocking L1 activity genetically or with drugs on infertile mouse models that over express L1. We also would like to examine whether elevated L1 expression is overrepresented in human patients with infertility of unknown etiology. Other Research Interests include: Aging, Genetics, Men’s Health, Women’s Health
Charles Hemenway, MD
Professor of Clinical Pediatrics – LSU
chemen@lsuhsc.edu
I will be serving as a liaison to clinical research at Children's Hospital. I most recently served as Director of the combined MD/PhD program at the Stritch School of Medicine at Loyola University Chicago, and have worked in the field of pediatric hematology/oncology—including research, clinical care, and teaching—for over 35 years.

Reza Izadpanah, DVM, PhD
Assistant Professor, Medicine-Cardiology - SOM
rizadpan@tulane.edu
My work focuses on unraveling the molecular mechanisms involved in the pathobiology of cancer. My goal is to identify novel therapeutic targets in cancer. My investigations involve both cancer and stem cell biology and utilize in vitro and in vivo studies. Other Research Interests include: Aging, Cardiology, Genetics, Regenerative Medicine/Tissue Engineering, Stem Cell Research

James Jackson, PhD
Assistant Professor, Biochemistry and Molecular Biology - SOM
jjacks8@tulane.edu
My lab is interested in the therapeutic response of breast cancers. Specifically, we aim to determine why some tumors relapse more quickly than others and also what cells in a heterogeneous tumor eventually proliferate to cause the relapse. We are investigating the role of p53 mediated cellular senescence in driving relapse. We use transgenic mouse models, ex vivo lentiviral infection, orthotopic transplantation in syngeneic mice, and tissue culture model systems. Other Research Interests include: Aging, Mouse Models

Janarthanan Jayawickramarajah, PhD
Professor, Chemistry – SSE
jananj@tulane.edu
My research focuses on the synthesis of designer molecules and nanoparticles that have the unique ability to undergo specific 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).
CANCER / HEMATOLOGY

Shanker Japa, PhD  
Associate Professor, Medicine – SOM  
Director, CTC Core Laboratory  
japashan@tulane.edu  
My research focuses on 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

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
I research molecular dissection and translational research of the p53 and c-myc networks in controlling cell growth, senescence, death, differentiation, and tumorigenesis as well as anti-cancer drug discovery.

Heather Machado, PhD
Associate Professor, Biochemistry and Molecular Biology - SOM
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
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My research has been in the field of prostate cancer, especially molecular biology and active surveillance. Other Research Interests include: Men’s Health
Zachary Pursell, PhD  
Associate Professor, Biochemistry and Molecular Biology - SOM  
zpursell@tulane.edu  
My research focuses on the regulation of DNA replication and how it relates to genome instability and human diseases, in particular the development of cancer.

Joe W. Ramos  
Director and CEO – Louisiana Cancer Research Center  
jwramos@lacancerresearch.org  
My research interests are in cancer invasion and metastasis. My lab’s mission is to determine the underlying mechanisms that control cancer cell survival and invasion and to exploit this knowledge in drug development. Currently we are examining the dysregulation of cell signaling in glioblastoma, skin cancer, and kidney cancer and developing drugs to block growth and invasion of these tumors.

Nakhle Saba, MD  
Associate Professor, Medicine – Hematology/Oncology - SOM  
nsaba@tulane.edu  
I conduct translational research in chronic lymphocytic leukemia and mantle cell lymphoma, focusing on disease biology and novel therapies.

Aiguo Tian, PhD  
Assistant Professor, Biochemistry and Molecular Biology - SOM  
atian@tulane.edu  
Our research uses the Drosophila model to understand how intestinal dysplasia is regulated in response to tissue injury or aging and how tumor growth patterns are regulated in follicular epithelial cells. Other research interests include: Developmental biology and Cell Biology, Stem Cell Research

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

Shelya Zeng, MD
Professor, Biochemistry and Molecular Biology - SOM
szeng@tulane.edu
I study molecular dissection and conduct 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
qzhang3@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
Patrice Delafontaine, MD  
Professor, Medicine, Pharmacology and Physiology and Executive Dean – SOM  
pdelafon@tulane.edu  
Our research program focuses on the field of Insulin-Like Growth Factor (IGF-1) biology, atherosclerosis, and skeletal muscle wasting. Recent work demonstrates that monocyte-macrophage IGF-1 signaling is anti-inflammatory and promotes plaque stability. Current projects include testing IGF-1 as an anti-atherosclerotic therapy in a large animal model to understand mechanisms underlying plaque-stabilizing effects of IGF-1, and determining the effects of IGF-1 on cellular senescence and studying endothelial cell, macrophage and smooth muscle specific effects of IGF-1. Other Research Interests include: Aging, Kidney/Hypertension, Neurosciences, Regenerative Medicine/Tissue Engineering

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

Frederick Helmcke, MD  
Associate Professor, Medicine  
Fhelmcke@tulane.edu  
I am a cardiologist specializing in cardiovascular disease and internal medicine.

Robert Hendel, MD  
Professor, Medicine – Cardiology - SOM  
rhendel@tulane.edu  
My personal research has been in cardiac imaging (nuclear cardiology and cardiac CT), as well as the appropriate use of cardiovascular technology. Our section has interest in population health, obesity, and medical devices. Other Research Interests include: Imaging, Medical
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

Amitabh Pandey, MD
Assistant Professor, Medicine – Cardiology – SOM
apandey@tulane.edu
We aim to evaluate the role of genomics in the pathogenesis of atherosclerosis and the larger context of cardiovascular diseases. Using single cell techniques, understanding the molecular mechanisms that predispose individuals to atherosclerosis will allow for better understanding and therapeutics for cardiovascular disease states.
Xuebin Qin, MD, PhD
Professor, Immunology - TNPRC
xqin2@tulane.edu
My research focuses on defining the role of innate immunity including complement system and monocyte activation in the pathogenesis of human diseases, such as HIV infection, HIV-associated cardiovascular diseases, and on developing a novel cell ablation research tool for broad scientific applications. I have extensive expertise in immunology, monocyte & macrophage biology, complement, HIV-1 therapy, atherosclerosis, and cancer biology. Other Research Interests include: Aging, Immunology/Allergy/Skin, Infectious Diseases, Regenerative Medicine/Tissue Engineering, Complement and T Cell biology.

Juan Terré, MD
Associate Professor, Medicine – Cardiology – SOM
jterre2@tulane.edu
My areas of focus include complex coronary interventions (3 V CAD, Low ejection fraction and LV support devices), Transcatheter minimally invasive interventions for acquired structural heart disease (TAVR, TMVR, TTVR, PVL Closure), congenital heart disease (TTVR, TPVR, ASD Closure, VSD Closure) and stroke prevention interventions (PFO/LAAO).

Thomas Cooper Woods, PhD
Associate Professor, Physiology
twoods3@tulane.edu
I study vascular biology, intimal thickening, atherosclerosis, and the cardiovascular complications of diabetes.
Charles Billings, MD
Assistant Professor, Orthopaedics - SOM
cbillin1@tulane.edu
I research topical use of tranexamic acid to reduce blood loss in total joint replacements

Vivian Fonseca, MD
Professor, Medicine - Endocrinology and Metabolism- SOM
vfonseca@tulane.edu
My work focuses upon the prevention and treatment of diabetic complications and risk factor reduction in cardiovascular disease. I serve as the site PI for the NIH-funded All of Us and RECOVER studies, and as the Director of the LA CaTS Clinical Research Resources Core. I also conduct clinical trials in diabetic nephropathy and evaluating biosimilar insulins. Other Research Interests include: Cardiovascular Risk

Sylvia Ley, PhD
Assistant Professor – Epidemiology – TPHTM
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
My areas of interest include: pharmaceutical and health care economics; pharmacoepidemiology; health care quality, access, and evaluation. Other Research Interests include: Aging, Bioinformatics/Statistics, Cardiology, Kidney/ Hypertension.
Franck Mauvais-Jarvis, MD, PhD  
Professor, Medicine - Endocrinology and Metabolism - SOM  
fmauvais@tulane.edu

We are interested in novel mechanisms and/or therapeutic perspectives for diabetes and of obesity especially as it relates to the role of estrogen and androgen in metabolic diseases. We seek to find novels ways to modulate estrogen and androgen actions in a tissue- and sex-specific manner to prevent/improve diabetes and metabolic dysfunction.

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

My research centers on the following areas: 1. Estrogen receptor phosphorylation: understanding the role of estrogen receptor alpha (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

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

Michael Serou, MD, 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  

Yilin Yoshida, PhD  
Assistant Professor, Medicine  
Yyoshida1@tulane.edu  
My research interest is in sex-based cardiometabolic epidemiology. My current research seeks to understand biobehavioral mechanisms underlying women's excessive cardiovascular risk in diabetes.  

Zongbing You, MD, PhD  
Professor, Structural & Cellular Biology - SOM  
zyou@tulane.edu or you.zongbing@gmail.com  
I primarily study inflammation/immune responses in prostate cancer and lung cancer, focusing on interleukin-17. Secondarily, I study tissue engineering of articular cartilage using adipose tissue-derived stem cells transfected with doublecortin gene (DCX). Other Interests include: Cancer / Hematology, Immunology / Allergy / Skin, Regenerative Medicine / Tissue Engineering, Stem Cell Research
My research is focused on diabetes, aiming to develop novel therapeutic strategies and delineate the underlying mechanisms. In particular, we are interested in developing Pax4-based gene and cell therapy strategies to protect insulin-producing β cells and induce β cell regeneration in pancreatic islets, thus improving glucose control in diabetes patients. In addition, my lab is interested in how GLP-1 regulates islet hormones, especially glucagon.
Solange Abdulnour-Nakhoul, PhD
Associate Professor, Medicine – Gastroenterology - SOM
solange@tulane.edu
My research is in physiology and biology of the esophagus (stratified squamous epithelium and glands), Reflux disease, and Eosinophilic Esophagitis. Other Research Interests include: Kidney/Hypertension

Wenke Feng, PhD
Professor, Structural & Cellular Biology
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My laboratory has a longstanding interest in studying the mechanisms of microbiome homeostasis, the gut-liver axis, and the application of probiotics in entero-hepatic diseases. My areas of focus include alcohol-associated liver disease (ALD), nonalcoholic fatty liver disease (NAFLD), cholestatic liver disease, inflammatory bowel disease, and colon cancer.

Chiung-Kuei Huang, PhD
Professor, Medicine – Gastroenterology – SOM
chuang17@tulane.edu
My research primarily focuses on clarifying the underlying mechanisms by which methylcytosine dioxygenases modulate progression of Alcoholic Liver Disease, and to evaluate TET1 as a potential therapeutic target. I also research the role of aspartate beta-hydroxylase (ASPH) and investigate the therapeutic potential of targeting ASPH in cholangiocarcinoma.

Hoonbae Jeon, MD
Professor and Chief, Abdominal Transplant - Surgery - SOM
hjeon@tulane.edu
I study hepatobiliary malignancy and liver transplant outcomes. Other Research Interests include: Kidney/Hypertension, Medical Education
Bilon Khambu, MsC, PhD  
Assistant Professor, Pathology and Laboratory Medicine – SOM  
bkhambu@tulane.edu  
My research areas of focus include clinical Liver disease models related to Non-alcoholic fatty liver disease (NAFLD), (Alcoholic liver disease (ALD), proteinopathy, autophagy - acute and chronic liver injury, inflammation, repair, Liver fibrosis, cirrhosis, hepatocellular carcinoma (HCC), and cancer stem cell. Using transgenic mouse models, isolated primary hepatic cells or cell lines, we try to tease out how liver injury and associated hepatic inflammation, fibrosis, ductular reaction, and tumor development occurs. We are also interested in understanding the mechanism of liver regeneration in the context of injury. Particularly we are interested to identify various hepatic factors (e.g., HMGB1, DEK, Hepatokines, DAMPS, etc.) responsible for executing these pathological events.

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

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

Shengmin Yan, PhD  
Instructor, Pathology – SOM  
syan2@tulane.edu  
My current research interests include 1) cholestasis and ALD; 2) the role of autophagy in liver pathophysiology; 3) the formation and physiological functions of protein condensates in liver diseases; and 4) the impact of immunometabolism on the progression of NAFLD/NASH.
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.

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

Victoria Perepelitsa, 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
Prescott Deininger, PhD
Professor, Associate Director for Basic Science, Tulane Cancer Center & Louisiana Cancer Research 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

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

Melanie Ehrlich, PhD
Professor, Human Genetics Program – SOM
ehrlich@tulane.edu
My lab is using epigenomics and epigenetics to elucidate differentiation of the skeletal muscle, bone, and cardiovascular lineages and abnormal changes in epigenetics associated with disease, especially cancer, muscle disease, osteoporosis, and heart disease studies of normal tissue, we are particularly interested in how the skeletal muscle-specific and brain-specific epigenetics fine tunes transcription. Other Research Interests include: Bioinformatics / Statistics, Cancer

Kathleen Ferris, PhD
Assistant Professor, Ecology & Evolutionary Biology - SSE
kferris@tulane.edu
I am an Assistant Professor in the Department of Ecology & Evolutionary Biology at Tulane University. I study the genetic and phenotypic basis of adaptation and speciation. I use quantitative and population genetics, genomics, and ecological field studies to examine these questions in the Mimulus guttatus species complex. Other Research Interests include: Evolutionary Biology
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

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

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

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

**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

**Hui Shen, PhD**  
Professor, Biomedical Informatics and Genomics  
Hshen3@tulane.edu  
My research interests focus mainly on identifying and characterizing genetic and epigenetic variation that affects susceptibility to complex human disorders, such as osteoporosis and sarcopenia.

**Shusheng Wang, PhD, MBA**  
Professor, Cell and Molecular Biology – SSE  
swang1@tulane.edu  
Noncoding RNAs in vascular development and diseases. Vascular abnormalities underlie the pathogenesis of many ocular diseases. Our research focus in the lab is to understand the role of noncoding RNAs, including microRNAs and long non-coding RNAs, in vascular biology and vascular retinopathies. We also study cell death mechanism with hope to develop new therapeutic solutions for Age-related Macular Degeneration, a leading blinding disease in the elderly. Other Research Interests include: Aging
Carolyn Bayer, PhD  
Assistant Professor, Biomedical Engineering – SSE  
carolynb@tulane.edu  
The research in our laboratory develops novel medical imaging methods to study the dynamics of molecular expression and physiological function by integrating ultrasound and contrast-enhanced photoacoustic imaging systems. A key focus of our imaging technology is the functional and molecular environment during compromised pregnancies which lead to the development of birth defects. Other Research Interests include: Cardiology, Kidney/Hypertension, Women's Health

Jeremy Nguyen, MD  
Professor, Radiology - SOM  
jnguye2@tulane.edu  
My research interests and areas of expertise include advanced MR imaging, imaging informatics, machine learning, and artificial intelligence.
John Carlson, MD, PhD  
Associate Professor, Pediatrics – Allergy/Immunology - SOM  
jcarlso@tulane.edu  
Environmental exposures and asthma

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

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

Samuel J. Landry, PhD  
Professor, Biochemistry - SOM  
landry@tulane.edu  
We combine biophysical and immunological approaches in vaccine design, with particular emphasis on the relationship of CD4+ T-cell epitope dominance to antigen structure, especially for HIV/AIDS. Other Research Interests include: Cancer/Hematology

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

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

Elizabeth B. Norton, MPH, PhD
Assistant Professor, Microbiology and Immunology - SOM
enorton@tulane.edu
My research seeks to understand drivers of diversity in immune responses and design of novel therapeutics, including mucosal vaccine adjuvants and delivery systems.

Connie Porretta, BS, I, SCYM (ASCP),
Instructor and Director, Flow Cytometry and Cell Sorting (FCCS), Microbiology and Immunology - SOM
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
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

Rie Yotsu, MD, PhD  
Associate Professor, Tropical Medicine  
ryotsu@tulane.edu  
My research focus has been on the epidemiology, surveillance, and management of skin-related neglected tropical diseases (Skin NTDs; leprosy, Buruli ulcer, scabies, yaws, etc.), especially recently, through the use of digital health tools. I, together with my team, have developed an innovative digital health tool, the ‘eSkinHealth’ app, to bring healthcare closer to where people affected by skin NTDs live in low- and middle-income countries.
Pyone Pyone Aye, PhD, BVS  
Associate Professor, Comparative Pathology – TNPRC  
paye@tulane.edu  
My research interest is in cellular immune responses, pathogenesis of infectious diseases and substances, drugs, and vaccine effects on HIV/SIV pathogenesis and immunity. Other Research Interests include: Infectious Diseases

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

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

Nell Bond, PhD  
Assistant Professor, Medicine – Infectious Diseases  
nbond@tulane.edu  
I am interested in understanding of mechanisms underlying long-term sequelae in people affected by a severe acute viral illness in childhood. I am particularly interested in the role of cellular immunity and accelerated aging in these syndromes. I plan to look at this in the context of Post-Ebola Syndrome (PES) in pediatric patients.
INFECTIOUS DISEASES

Nathalie Busschaert, PhD
Assistant Professor, Chemistry – SSE
nbusschaert@tulane.edu
My research focuses on small molecules that can either transport anion across biological membranes, or bind to the headgroups of lipids in the membrane. These molecules can find applications as antibiotics and as therapeutics for other diseases.

Partha Chandra, PhD
Assistant Professor, Pharmacology - SOM
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
I study the role that endoplasmic reticulum (ER-stress)/ unfolded protein response plays in various forms of liver diseases related to viral and non-viral etiologies. My laboratory investigates basic mechanism how ER-stress/UPR stress response in the liver improves cell survival pathway by inhibiting cellular apoptosis and cellular autophagy that leads to development of hepatocellular carcinoma and exosome release. We are using this exosome-based platform to measure stress exosomes as a serum biomarker for early prediction of liver cancer (hepatocellular carcinomas) among patients with liver cirrhosis. Other Research Interests include: Cancer, Cardiology
Prasun K. Datta, PhD  
Associate Professor, Comparative Pathology and Microbiology & Immunology – TNPRC  
pdatta@tulane.edu 
Our research interest is in elucidating the role of metabolism in HIV-1 biogenesis and survival in latent CNS reservoirs such as macrophage and microglia, and the effects of HIV-1 induced neuroinflammatory cytokines and small extracellular vesicles released from HIV-1 infected macrophage and microglia on the regulation of astrocyte glutamate transporter, EAAT2, and neurodegeneration. We are also interested in assessing the impact of substances of abuse such as opiate and cocaine on the cross-talk between cellular metabolism and epigenetics in HIV-1 biogenesis in macrophage and microglia, and astrocyte EAAT2 and non-coding RNA regulation. With the emergence of SARS-CoV-2, we are interested in assessing the 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  
I study the expression of mu opiate receptor and microRNA in various models of irritable bowel disease in rat/mouse by dual immunohistochemistry and in situ hybridization on frozen sections in colon/spinal cord. A serum-based platelet activation assay to evaluate risk of severe secondary dengue infection. Other Research Interests include: Cancer/Hematology, Cardiology, Immunology/Allergy/Skin

Eric Dumonteil, PhD  
Associate Professor, Tropical Medicine – SPHTM  
edumonte@tulane.edu  
I am carrying out multidisciplinary studies for the development of new control tools for neglected tropical diseases, ranging from diagnostics, drugs and vaccines, to community based vector control interventions. Other Research Interests include: Bioinformatics / Statistics, Immunology / Allergy / Skin
Hannah Frank  
Assistant Professor, Ecology and Evolutionary Biology - SSE  
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  
My laboratory is focused on the mechanism through which type I interferon suppresses RNA viruses, including dengue and Zika virus. We have used functional genetics to identify 56 genes required for IFN-mediated suppression of dengue. We are now evaluating the multi-viral impact and mechanism of action of a subset of these genes, aiming to apply this data toward identification of biomarkers/leads for antiviral development. Other Research Interests include: Innate Immunity; Bone Development

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

Susan Hassig, DrPH, MPH  
Associate Professor, Epidemiology – SPHTM  
shassig@tulane.edu  
I have been a faculty member of the Epidemiology Department since 1996, after more than a decade of work in HIV research, surveillance, and intervention programs in the U.S. and around the globe. I have also served in the Peace Corps, where she worked to improve disease diagnosis methods and blood transfusion safety in Thailand.
Tony Hu, PhD  
Professor, Biochemistry and Molecular Biology - SOM  
yhu16@tulane.edu  
My research focuses on the development of nanomaterial platforms and proteomic approaches that are designed to enrich biomarker capture from microbial pathogens, or enhance biomarker signal, to improve the detection sensitivity, specificity, or quantitation of pathogen-derived soluble or extracellular vesicle (EV)-associated factors in complex biological samples. My research differs from conventional biomarker discovery and detection research for clinical microbiology in that it employs the special properties of nanomaterials to improve assay performance and reproducibility. I have made significant contributions to microbial diagnostics for critical global health initiatives, including a serum/plasma assay for all forms of tuberculosis and a mass spectrometry-based approach to differentiate closely related mycobacterium and Ebolavirus species. Other Research Interests include: Cancer/Hematology, Medical Devices, Peptides Chemistry

Mac Hyman, PhD  
Professor, Mathematics – SSE  
mhyman@tulane.edu  
My research is the development and application of mathematical models based on the underlying disease transmission mechanisms to help the medical/scientific community understand and anticipate the spread of an epidemic and evaluate the potential effectiveness of different approaches for bringing the epidemic under control. My current research is focused on vector-borne diseases, such as dengue fever, malaria, chikungunya, and West Nile Virus. Other Research Interests include: Bioinformatics/Statistics

Amitinder “Miti” Kaur, MD  
Professor, Microbiology and Immunology – TNPRC  
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
INFECTION DISEASES

Patty Kissinger, BSN, MPH, PhD
Professor, Epidemiology; Associate Dean for Faculty Affairs - SPHTM
kissing@tulane.edu
I have worked in HIV and other sexually transmitted infections for over 30 years. My work has been in Chlamydia trachomatis and Trichomonas vaginalis control. I also serve as Associate Editor of the journal Sex Transm Dis and was a member of the NASEM committee to examine why STIs are increasing in the US. I currently focus on COVID-19 research and have been the PI/co-PI of 4 grants in COVID. Other Research Interests include: Behavioral Health, Men’s Health, Women’s Health, Substance Use, STIs

Louise Lawson, PhD
Assistant Professor, Microbiology and Immunology
lbraud@tulane.edu
With a focus on infectious disease, I study novel formulations for delivery of vaccines and antimicrobials, as well as bacterial pathogenesis. I have developed a particular interest in determining sex differences in severity of bacterial infections of the intestinal tract. A better understanding of sex differences in disease sensitivity will allow for design of more informed and personalized treatment and preventive options for patients suffering with diarrheal disease and other toxin-mediated conditions caused by bacterial pathogens.

Shitao Li, PhD
Associate Professor, Microbiology and Immunology - SOM
sli38@tulane.edu
Using a proteomics approach, our laboratory mapped the protein interaction networks of RIG-I and cGAS, which consist of many novel binding factors. The current research goal of our team is to elucidate how these factors regulate RIG-I or/and cGAS signaling pathways. We adopt various omics, molecular approaches, and genetics to investigate their roles in nucleic 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.
Alfred Luk, MD
Assistant Professor, Medicine – Infectious Diseases – SOM
aluk@tulane.edu
My focus is in Transplant Infectious Diseases & Immunocompromised Hosts. I have interests in clinical trials and advanced clinical diagnostics such as the use of a commercial next-generation sequencing assay in the diagnosis of pneumonia in immunocompromised hosts and other biomarker research in HIV positive-to-positive kidney transplantation.

Jennifer Manuzak, PhD
Assistant Professor, Microbiology and Immunology – TNPRC
jmanuzak@tulane.edu
My main research focus is on using the nonhuman primate model to determine the role of innate immune cells in mucosal dysfunction during SIV/malaria co-infection and to characterize the immunopathogenesis of malaria in pregnancy (MIP), in the presence and absence of SIV co-infection. Additionally, my lab works to examine the impact of substance use, particularly cannabis, on immunity and biobehavioral factors leading to increased HIV transmission risk in disproportionately burdened populations and pathogenesis in people with HIV. Ultimately, these efforts will contribute to advances in HIV prevention efforts, reveal novel therapeutic targets for improving clinical outcomes in people with HIV, and mitigate the risk of MIP-associated morbidity and mortality in pregnant women with HIV. Other Research Interests include: Gastroenterology, Immunology/Allergy/Skin, Infectious Diseases, Women’s Health

Nicholas Maness, PhD
Associate Professor, Microbiology – TNPRC
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.

Sarah Michaels, PhD
Assistant Professor, Tropical Medicine & Infectious Disease
smichael@tulane.edu
I am a medical entomologist with a focus in vector-borne disease. My background is in arbovirus surveillance, vector control, operational research and community outreach. I am particularly interested in assessing arboviral disease transmission potential and the impact of climate change and social vulnerability.
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

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

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
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Mairi Noverr, PhD
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

Kislay Parvatiyar, PhD  
Assistant Professor, Microbiology and Immunology, SOM  
kparvatiyar@tulane.edu  
We are interested in how nucleic acid sensing pattern recognition receptors contribute to antiviral host defense and how their dysregulation plays a role in instigating autoinflammatory diseases as well as antitumor responses. Other Research Interests include: Aging, Cancer/Hematology, Immunology/Allergy Skin

Jay Rappaport, PhD  
Professor, Microbiology and Immunology  
Director and Chief Academic Officer, Tulane National Primate Research Center - TNPRC  
jrappaport@tulane.edu  
My current research focuses on HIV and SARS-CoV-2 with focus on infection, comorbid conditions, pathogenesis, vaccines, and novel therapeutics. Other Research Interests include: Aging, Behavioral Health, Cardiology, Gastroenterology, Genetics, Imaging, Immunology/Allergy/Skin, Kidney/Hypertension, Lung, Medical Devices, Medical Education, Men’s Health, Neurosciences, Regenerative Medicine/Tissue Engineering, Stem Cell Research, and Women’s Health.
James E. Robinson, MD  
Professor, Pediatrics – Infectious Diseases - SOM  
jrobinso@tulane.edu  
My research is focused on dissecting B cell responses to human and primate retroviruses, dengue virus, and Lassa fever virus in naturally infected hosts. We produce human and monkey monoclonal antibodies that define which antibodies mediate activities that might protect against infection. The antibodies define structures that are capable of eliciting protective immune responses. In theory monoclonal antibodies should aid in vaccine design.

Namita Rout, PhD  
Assistant Professor, Immunology – TNPRC  
nrout@tulane.edu  
I lead nonhuman primate studies focused on HIV pathogenesis and cure strategies, pathogenesis of HIV/TB coinfection, mucosal immunity and inflammation of aging, and innate T cell biology. I also explore cellular immunology with a particular focus on unconventional T cells that recognize non-peptide antigens such as lipids and small metabolites.

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

Patricia Y. Scaraffia, PhD  
Assistant Professor, Tropical Medicine - SPHTM  
pscaraff@tulane.edu

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

John S. Schieffelin, MD, MSPH  
Associate Professor, Pediatrics and Medicine - Infectious Disease - SOM  
jschieff@tulane.edu

My two main areas of research are 1. Antibody response to viral hemorrhagic fever infections and 2. Natural history, diagnosis and treatment of Lassa fever and Ebola virus disease. Both of these areas of interest involve the development of novel diagnostic platforms and treatment and prevention strategies. Other Research Interests include: Immunology/Allergy/Skin, Virology

Margarita Silio, MD, MPH  
Associate Professor, Pediatrics – Infectious Diseases – SOM  
msilio@tulane.edu

I am PI of the Pediatric HIV/AIDS Cohort Study and co-investigator in the HIV vaccine trial HVTN-706. Other Research Interests include: Women's Health, Pediatrics
My research expertise spans monitoring and evaluation, policy analysis, and community-rooted research. I develop, implement, and manage large-scale global studies, particularly in Southeastern Europe and Africa related to the health of LGBTQ+ communities. In addition, I use evidence synthesis methods to develop evidence maps and conceptual models of systems of interaction that create health inequities. My research is rooted in systems science, aiming to understand and intervene in the myriad of relationships and interactions stemming from oppression and marginalization that shape health inequity.

Vicki Traina-Dorge, PhD
Associate Professor, Microbiology and Immunology - TNPRC
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 my lab is to understand the roles, relationships, and actions of pro-inflammatory and anti-inflammatory immune responses that lead to favorable or unfavorable disease and vaccine outcomes. We are particularly interested in studying how to harness innate and adaptive immune responses to increase the efficacy of current prophylactic HIV vaccines, and understanding the contribution of dysfunctional immune responses and immunoregulatory processes to disease progression in SARS-CoV-2, HIV and HIV related comorbidities. Other Research Interests include: Behavioral Health and Immunology/Allergy/Skin.
Ronald S. Veazey, DVM, PhD  
Professor, Pathology - TNPRC  
rveazey@tulane.edu  
I research the immunology, prevention, and treatment of HIV infection and AIDS. Current projects involve determining correlates of protective immune responses, testing new HIV therapies and preventatives (microbicides), and examining the immune response to HIV infection in mucosal tissues, including the intestinal and reproductive tracts. I am also examining the pathogenesis of SIV infection in pediatric hosts, and the effects of alcohol use as a cofactor in the susceptibility and progression to AIDS. Other Research Interests include: Gastroenterology, Immunology/Allergy/Skin, Infectious Diseases, Neurosciences.

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

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

Crystal Zheng, MD  
Assistant Professor, Infectious Diseases - SOM  
czheng5@tulane.edu  
I study the prevalence and pathophysiology of amenorrhea and other reproductive health outcomes among women Ebola survivors in Sierra Leone. Other Research Interests include: Women’s Health, COVID.
Wenshu Zheng, PhD
Assistant Professor, Biochemistry and Molecular Biology
Wzheng5@tulane.edu
My research focuses on the development of nanosensors for detecting and quantifying tuberculosis-associated biomarkers including antigens and extracellular vesicles, with the goal of developing a validated test for tuberculosis diagnosis with high accuracy and reproducibility.
KIDNEY / HYPERTENSION

Amanda Anderson, PhD, MPH
Associate Professor, Epidemiology - SPHTM
aanderson5@tulane.edu
My major research interests address the epidemiology of kidney diseases, with an emphasis on the causes and consequences of the excessive morbidity and mortality experienced by patients with chronic kidney disease (CKD). I focus particularly on factors associated with CKD progression including fibrosis measures and the gut microbiome, prediction of kidney function decline over time, and the insufficiently characterized burden of co-morbidities and outcomes associated with CKD. Other Research Interests include: Bioinformatics/Statistics, Gut Microbiome, Biomarkers

Vecihi Batuman, MD
Professor, Medicine - Nephrology and Hypertension - SOM
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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
KIDNEY / HYPERTENSION

Heddwen Brooks, PhD
Professor and Chair – Physiology – SOM
hlbrooks@tulane.edu
We examine how sex differences impact physiology and pathophysiology, specifically how postmenopausal accelerated aging impacts chronic inflammatory diseases such as hypertension and diabetes. We study how estrogen loss impacts T cell and macrophage signaling to induce end organ damage and have used our preclinical menopause model to study the onset of postmenopausal asthma, vascular cognitive dementia, Alzheimer’s, kidney, and CV disease.

Jing Chen, MD
Professor, Medicine – Nephrology and Hypertension - SOM
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L. Lee Hamm, MD
Dean, School of Medicine - SOM
lhamm@tulane.edu
I have previously studied acid-base homeostasis including basic mechanisms and clinical disorders, citrate transport in the kidney related to stones, sodium transport in the kidney related to hypertension, cardiovascular disease in Chronic kidney disease, and genetic mechanisms of kidney disease and hypertension.

Robert S. Hoover, MD
Associate Professor, Medicine, Chief of Nephrology – SOM
Rhoover3@tulane.edu
I study the impact of kidney distal tubular sodium on hypertension. We use in vivo assessments in transgenic animals as well as in vitro cell culture based techniques to address these questions.
Kathleen S. Hering-Smith, PhD  
Associate Professor, Medicine – Nephrology - SOM  
khering@tulane.edu  
My research interests involve kidney epithelial transport mechanisms, their regulation and acid-base homeostasis. I am currently focused on understanding the physiological and molecular mechanisms that regulate calcium nephrolithiasis in males and females under both physiological and pathophysiological conditions. We have the only animal model of NaDC1 knockout. Urinary citrate is the most important inhibitor of kidney stones and is controlled by the transport protein NaDC1; in the kidney NaDC1 is located only in the apical membrane of the proximal tubule. This process is intimately intertwined also with acid-base homeostasis, calcium metabolism, chronic kidney disease, and bone health.

Suttira Intapad, PhD  
Assistant Professor, Pharmacology - SOM  
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, Physiology – 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
I provide chronic kidney disease education and interventions to improve outcomes in patients with low health literacy and/or from underserved populations. I also study disaster outcomes in ESRD patients.

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

Xiao Li, MD, MsC
Assistant Professor, Physiology – SOM
Xli68@tulane.edu
I research physiological omics, G protein-coupled receptors, renal physiology, kidney tubular transport, experimental hypertension, kidney injury, and utilize transgenic mouse models.

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

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

Nazih Nakhoul, PhD  
Associate Professor, Medicine - Nephrology and Hypertension - SOM  
nakhoul@tulane.edu  
I study cellular and molecular mechanisms of renal regulation of 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, Physiology - SOM  
navar@tulane.edu  
My recent studies have significantly advanced our knowledge of how intrarenal angiotensinogen and consequent angiotensin-mediated alterations in kidney function contribute to hypertension and diabetes mellitus. Ongoing studies have focused on the differences in renal injury between female and male rats made hypertensive by unilateral renal arterial constriction.

Kailash N. Pandey, PhD  
Professor, Physiology - SOM  
kpandey@tulane.edu  
Our research is focused on the genetic and molecular basis of hypertension and cardiovascular disorders in a sex-and 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
My research program includes basic and translational sciences, investigating the mechanisms regulating the intrarenal renin-angiotensin system during cardiovascular diseases, including hypertension, salt-sensitive hypertension, diabetes, chronic kidney disease, and obesity. I have pioneered the studies demonstrating the impact of the interaction of prorenin and the prorenin receptor in the development of hypertension and chronic kidney diseases.

Ryosuke Sato, PhD
Assistant Professor, Physiology - SOM
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
I study diuretics in hypertension, aging and kidney function, acute kidney injury, and hemodialysis volume assessment.

Federico Teran, MD
Assistant Professor, Medicine - Nephrology and Hypertension - SOM
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
I research kidney development, and particularly the renin-angiotensin system in ureteric bud branching morphogenesis. Other Research Interests include: renin-angiotensin system in kidney development
LUNG

Christine Bojanowski, MD
Assistant Professor, Medicine – Pulmonary and Critical Care - SOM
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

Brian Deskin, PhD
Assistant Professor, Medicine
bdeskin@tulane.edu
My research interests include aging, regenerative medicine, tissue engineering, and stem cell research.

Donald Gaver, PhD
Professor and Chair, Biomedical Engineering – SSE
dpg@tulane.edu
My laboratory aims to develop an understanding of the interrelationships between the mechanical and physicochemical behavior of biological systems. The main thrust of this research involves investigations of the pulmonary system. My research focuses on utilizing knowledge of physicochemical hydrodynamics to develop ventilation methods that can reduce the severity of ventilator-induced lung injury (VILI), a major cause of mortality in ARDS.
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
My research focuses on corrector/potentiator medications for patients with CFTR mutations and cystic fibrosis. I also study bronchiectasis and mycobacterial diseases including tuberculosis and non-tuberculous mycobacteria. Additionally, I investigate anxiety and depression in patients with chronic diseases, medical education, pulmonary rehabilitation, exercise therapy. Other Research Interests include: Behavioral Health, Endocrine/Bone, Genetics, Immunology/Allergy/Skin, Infectious Diseases, Medical Education

Joseph A. Lasky, MD
Professor and Section Chief, Medicine – Pulmonary Diseases - SOM
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  
My research interests include modeling lung tumorigenesis in mice, lung tumor promotion by IL-17, and lung disease related to inflammasome repression by cigarette smoke. Other areas of interest include: Aging, Cancer/Hematology, Genetics, and Biology of gamma herpesviruses.
A major theme of my research deals with mechanisms, therapy, and prevention of viral respiratory infections. This line of work has resulted in several significant scientific contributions, including the finding that neurotrophins regulate respiratory syncytial virus (RSV)-induced airway hyperreactivity and the replication efficiency of common respiratory viruses like RSV and the human rhinovirus. I have identified and reviewed useful biomarkers for RSV infection to predict the clinical course of the disease as well as to monitor the efficacy of new therapeutic strategies. I have also contributed to a growing body of research suggesting that RSV crosses the uterine-placental interface in humans and infects the fetal lungs by vertical transmission.

I am interested in immune responses in the lung; specifically, in how aspects of the immune system can be exploited to reduce injury or promote repair during infection or injury. My lab uses models of chemical or particle injury (acid aspiration, bleomycin, asbestos) and infectious injury (influenza, bacterial). While I am focused on the lung, my studies have branched to the liver, gut and thymus. The current major focus in my laboratory is the IL-22/IL-22BP axis and how this balance effects the immune response throughout the body. Other Research Interests include: Immunology/Allergy/Skin, Infectious Diseases

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
Adrienne Savant, MD
Professor, Pediatrics – Pulmonary – SOM
asavant1@tulane.edu
I am the Service Line Chief for Pediatric Pulmonology at Children's Hospital of New Orleans, Chief of Pediatric Pulmonology at Tulane University, the Tulane University Cystic Fibrosis Center Director, and the Pediatric Program Director for the Cystic Fibrosis Foundation Therapeutic Development Network. I have served as a primary investigator in multi-center clinical trials related to cystic fibrosis, asthma, and neuromuscular diseases.

Víctor Thannickal, MD
Professor and Chair, Department of Medicine
vthannickal@tulane.edu
My research is focused on cellular and molecular mechanisms of lung repair and regeneration. My lab studies mechanisms of cellular senescence, oxidative stress, and aging in the context of chronic lung diseases, while also developing therapeutics and biomarkers for complex lung diseases.
James Bennett, MD
Professor – Neurosurgery and Orthopedics – SOM
Jbennet1@tulane.edu
I use advanced imaging utilizing computer-assisted navigation for the placement of pedicle screws. I also perform analysis of spinal implants used in deformity correction. Other Research Interests include: Imaging

Ryan Gelfand, PhD
Professor of Practice, Physics and Engineering – SSE
Rgelfand1@tulane.edu
I am interested in developing optical methods for studying single protein biophysics. I use my studies in nanophotonics and nanofabrication to demonstrate novel medical devices and proof of concept studies towards quantifying protein structure and behavior at the single molecule level. Other Research Interests include Imaging and Development of optical biophysics methods and single protein studies.

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

Noshir Pesika, PhD
Associate Professor, Chemical and Biomolecular Engineering - SSE
npesika@tulane.edu
My research interest lies in developing cartilage mimicking surfaces that can be used in joint replacement devices. We have already demonstrated that we can fabricate polymer surface with a high degree of lubricity by through surface texturing. We would like to partner with a medical doctor so as to move the project to the next step which would involve testing the biocompatibility and durability of the material. Other Research Interests include: Endocrine/Bone, Infectious Disease
Cedric Walker, PhD
Professor Emeritus, Biomedical Engineering – SSE
cfw@tulane.edu
My work involves prototyping of new devices for medical research. The Tulane MakerSpace offers digital tools (3d printers, laser cutters, CNC mill and lathe) and training in their use to students, staff and faculty. Most projects are "DIY" but there is a mechanism to hire our student workers for specific projects beyond the scope of the researcher requesting them. Other Research Interests include: 3D printing, prototyping, device design and fabrication
Norah Alghamdi, PhD
Assistant Professor, Pathology
nalghamdi@tulane.edu
My research has compared five HPLC/MS-MS NDS cases of paired umbilical cord and meconium specimens in neonate drug screening. The data indicated that meconium provides higher sensitivity, which can help clinicians, laboratorians, and epidemiologists to select the most appropriate test and interpret discordant results.

Juan Duchesne, MD
Professor, Surgery – Trauma Division - SOM
jduchesn@tulane.edu
We are looking to partner with basic scientists in order to further study the endotheliopathy of trauma resuscitation in patients with severe hemorrhagic shock. We are looking forward to expanding the department of surgery collaboration with basic science. Other Research Interests include: Medical Devices, Stem Cell Research, Resuscitation

Kerstin Höner zu Bentrup, PhD
Assistant Professor, Microbiology and Immunology - SOM
khonerzu@tulane.edu
My main research focus centers around methods of active learning in graduate medical education (MD, Ph.D., MS curricula). As a member of the Department of Microbiology/Immunology, I am furthermore collaborating with colleagues by advising them on Imaging techniques (Fluorescent / Light Microscopy) as well as Three-dimensional Cell-culture Systems. My background is in Infectious Diseases, specifically Bacteriology. Other Research Interests include: Imaging, Infectious Diseases

Geraldine E. Ménard MD
Associate Professor, Medicine – General Internal Medicine - SOM
gmenard@tulane.edu
I conduct research to expand and train primary care workforce to care for the aging population. As there are a limited number of geriatrics specialists, training others in primary care in key management and prevention strategies for geriatrics patients will expand medical care to this vulnerable population. Partnering with UC-Irvine on this research which also includes mentorship for reestablishing the Geriatrics fellowship training program which ceased after hurricane Katrina. Other Research Interests include: Palliative, Hospital Medicine and Geriatrics
Randolph Roig, MD
Chief of Staff, U.S. Department of Veterans Affairs Veterans Affairs
Clinical Associate Professor, Medicine & Neurology
rroig@tulane.edu
I serve as Chief of the Pain Medicine section, and as Program Director for the Pain Medicine Fellowship at LSU.
MEN’S HEALTH

Manesh Kumar Panner Selvam, PhD
Instructor, Urology – SOM
mpannerselvam@tulane.edu
My research focus includes Reproductive Biology (Andrology) and molecular science with expertise in sperm and seminal plasma proteomics. Other Research Interests include: Aging, Andrology, Bioinformatics/Statistics, Proteomics

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

Raju Thomas, MD
Professor and Chair, Urology - SOM
rthomas@tulane.edu
Mariana Acquarone, PhD
Instructor, Neurology
macquarone@tulane.edu
My lab aims to prevent and reduce the burden of age-related cognitive decline and dementia with a focus on diet, nutrition, and the gut microbiome. We are studying the beneficial effects of the Mediterranean diet (MeDi) as compared to the Western diet (WD) on cognitive performance over the lifespan, and the feasibility of transplanting the gut microbiome from MeDi adhering hosts to WD adhering (MeDi non-adhering) recipients as a method of improving cognitive performance. Other research interests include Aging, Genetics, Regenerative Medicine/Tissue Engineering, and Stem Cell Research.

Gregory Bix, MD, PhD
Professor and Director, Center for Clinical Neurosciences - SOM
gbix@tulane.edu
I am a Professor of Neurosurgery and Neurology at Tulane University, and also currently the Director of the Clinical Neuroscience Research Center, Vice-Chair of Clinical & Translational Research, Department of Neurosurgery, and the Vada Odom Reynolds Chair in Stroke Research at Tulane University. My research focus is the role and therapeutic potential of the extracellular matrix and its receptors in stroke and vascular dementia. Other Research Interests include: Aging, Infectious Diseases, Stroke, Vascular Dementia, COVID-19 and long COVID.

David Busija, PhD
Professor and Chair, Pharmacology - SOM
dbusija@tulane.edu
My research focuses on the regulation of the brain circulation, including arteries and microvessels (end arterioles, capillaries, and venules), during health, diseases such as insulin resistance, diabetes, and strokes, and during aging. Utilizing proteomic and RNAseq methods as well as more traditional approaches, my laboratory has focused on mitochondrial mechanisms promoting normal functioning of the brain blood vessels and how mitochondrial dysfunction affects the cerebral circulation including the blood-brain barrier and basement membrane during aging and age-related diseases. An important component of our studies is the examination of sex differences on the mitochondrial dynamics in brain blood vessels. Other Research Interests include: Mitochondria, cardiovascular, sex differences
Paul Colombo, PhD  
Associate Professor, Psychology - SSE  
pcolomb@tulane.edu  
My research includes: Experience-dependent neural plasticity; non-pharmacological interventions to facilitate executive function and memory across the lifespan; neural oscillations and cognition. Other Research Interests include: Aging, Behavioral Health

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

Benjamin Deen, PhD  
Assistant Professor, Psychology – SSE  
bdeen@tulane.edu  
I am a cognitive neuroscientist interested in social cognition - i.e., how we understand other people and their behavior. To study social cognition, my work measures human behavior as well as brain activity, using neuroimaging methods such as fMRI.

Andrei Derbenev, PhD  
Associate Professor, Physiology - SOM  
aderben@tulane.edu  
My laboratory investigates the involvement of the brain in the regulation of blood pressure. We focus on synaptic plasticity in the brainstem during hypertension.

Elizabeth Engler-Chiurazzi, PhD  
Assistant Professor, Neurosurgery - SOM  
eenglerchiurazzi@tulane.edu  
My primary research interests are neuroimmunology and psychosocial stress. I am interested in how the brain and immune system, especially the B lymphocyte, converge to impact mental health, brain aging, and neurological disease. I also have a project exploring the role that a single microRNA plays in driving the trajectory of cognitive aging. Finally, I have expertise in the evaluation of a wide range of rodent functional endpoints and behavioral outcomes. Other Research Interests include: Aging, Immunology/Allergy/Skin, Women’s Health
Jonathan Fadok, PhD
Assistant Professor, Psychology – SSE
jfadok@tulane.edu
My research is focused on understanding how the brain controls the formation and expression of emotional memory at the level of defined neuronal circuits. Methods in my laboratory include large-scale in vivo recordings of neuronal activity, targeted manipulations of function in behaving animals, as well as cell-type specific neuroanatomical tracing techniques.

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

Maria Galazo, PhD
Assistant Professor, Cell and Molecular Biology – SSE
mgalazo@tulane.edu
My research interests focus on understanding the molecular mechanisms controlling the development and function of brain circuits underlying higher cognitive skills, and how disruptions in these mechanisms underlie abnormal brain functions.

Hai Huang, PhD
Associate Professor, Cell and Molecular Biology - SSE
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.
Saifudeen Ismael, PhD
Instructor, Clinical Neurosciences – SOM
sismael@tulane.edu
Research interest: Neurosciences

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

Ning Liu, PhD
Assistant Professor, Center for Clinical Neurosciences - SOM
nliu3@tulane.edu
My research focuses on the investigation of molecular pathological mechanisms of acute brain injuries such as cerebral ischemia and traumatic brain injury, as well as therapeutic strategy development. I have expertise in molecular neuroscience, mitochondrial metabolic mechanisms, in vivo brain injury animal models, and outcome assessments.

Michele Longo, MD
Assistant Professor, Neurology
Mlongo1@tulane.edu
My research interests include Long COVID, nutritional neurology, and migraines. I am also dedicated to incorporating and improving telehealth in my clinical practice and research.
Andrew G. MacLean, PhD  
Associate Professor, Microbiology & Immunology – TNPRC  
amaclean@tulane.edu  
My lab looks at activation and disruption of the blood-brain barrier in health and disease, specifically HIV infection. We specialize in cell biological techniques, including cell adhesion, imaging and activation of signal transduction pathways. These models are being adapted to examine the cell biology of lung inflammation. We are also examining activation of glia in behavioral abnormalities in nonhuman primates and the impact of opioid inhibitors. Ongoing projects include aging, depression and autism spectrum disorders. Other Research Interests include: Aging, Immunology/Allergy/Skin, Infectious Diseases, Kidney/Hypertension, Lung, Vascular Biology.

Demetrius Maraganore, MD  
Associate Professor and Chair, Neurology – SOM  
dmaraganore@tulane.edu  
Other Research Interests include: Aging

Julie Markant, PhD  
Assistant Professor, Psychology – SSE  
jmarkant@tulane.edu  
The Learning & Brain Development Lab investigates the cognitive and neural mechanisms that support efficient learning during infants' and children's exploration of the visual world. Current work in the lab uses behavioral testing, eye tracking, and fNIRS to examine bidirectional interactions between selective attention and learning/memory systems beginning in early development and into adulthood.

Ricardo Mostany, PhD  
Associate Professor, Pharmacology - SOM  
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.

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

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

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

James Zadina, PhD
Professor, Medicine, Pharmacology and Neuroscience - SOM
jzadina@tulane.edu
Our laboratory studies the neurobiology of opioids and their receptors, acute and chronic pain, neuroinflammation, and the development of novel analgesics with reduced adverse side effects, including abuse liability.

Andrea Zsombok, PhD
Associate Professor, Physiology - SOM
azsombo@tulane.edu
My laboratory examines the fundamental relationship between the central nervous system and glucose homeostasis. We identify circuits regulating visceral organs (e.g., brain-liver axis) and focus on neuronal alterations in the hypothalamus and brainstem during diabetic and obese conditions. Other Research Interests include: Aging, Endocrine/Bone
Stephen Braun, PhD
Assistant Professor, Regenerative Medicine – TNPRC
sbraun@tulane.edu
My work lies at the intersection of gene therapy and hematopoietic stem cells. Using the rhesus model, we are developing lentiviral vaccine vectors for AIDS and new inhibitors of HIV/SIV viral replication. We are studying transduction of rhesus (mouse and human) CD34+ hematopoietic stem cells prior to expansion and differentiation into dendritic cells. These transduced DCs will be used to vaccinate animals. Other Research Interests include: Immunology/Allergy/Skin, Infectious Diseases, Stem Cell Research

Doug Chrisey, PhD
Professor, Physics and Engineering Physics – SSE
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

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
STEM CELL RESEARCH

Eckhard Alt, MD, PhD
Professor, Medicine - Cardiology – SOM
ealt@tulane.edu
My research interest is to bring translational research from bench to bedside in cooperation with experts providing complementary knowledge, as evidenced by 24,000 citations of our respective publications, an H factor of 84 and over 700 worldwide patterns.
Other Research Interests include: Cancer/Hematology, Cardiology, Regenerative Medicine/Tissue Engineering

Sharven Taghavi, MD
Assistant Professor, Surgery - SOM
staghavi@tulane.edu
I am interested in the use of stem cell therapies to mitigate the inflammatory response. In addition, I am interested in the use of large databases to conduct clinical outcomes research. Other Research Interests include: Regenerative Medicine/Tissue Engineering, Bioinformatics/Statistics
Ron Clisham, MD  
Professor, Obstetrics and Gynecology - SOM  
rclisham@tulane.edu  
My research interest is examining the impact of DNA fragmentation on fertilization. Using the comet assay, determine whether the DNA fragmentation index of sperm can serve as a predictor for fertilization failure.

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

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

Cynthia Hanemann, MD  
Interim Chair, Radiology - SOM  
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 maternal health, health equity, effects of disaster on pregnancy, preconception health, and pregnancy in the life course.
WOMEN’S HEALTH

Julie Hernandez, PhD
Associate Professor, Global Health Policy and Management - SPHTM
hernan7@tulane.edu
I am a geographer with technical expertise on geographic information systems, digital data collection, and use of ICT to support public health programs and research. My current work focuses on access to sexual health services in the Democratic Republic of Congo, with specific emphasis on community-based provision of family planning services, barriers to service delivery, contraceptive logistics and health information systems strengthening. Other Research Interests include: Infectious Diseases, Disease surveillance/ GIS

Irang Kim, PhD
Assistant Professor, Social Work – SSW
ikim@tulane.edu
My research is focused on two areas: 1) examination of disparities in underserved communities of children with autism and other DDs; and 2) development of empirically based, culturally relevant interventions for parents of young children with autism.

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

Catherine McKinley, PhD
Associate Professor, Social Work - SW
catmckinley@tulane.edu
I have worked with Indigenous tribes cross-nationally for over 10 years and work on federally-funded research to develop and test culturally grounded interventions to promote family resilience and transcendence while addressing violence, substance abuse, and associated health disparities, including diabetes and health. My work has been published in over 60 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
Amber Naresh, MD, MPH
Assistant Professor, Obstetrics & Gynecology - SOM
anaresh@tulane.edu
I am interested HPV-related pre-malignant lesions of the cervix in women. One current project focuses on improving HPV vaccination rates locally, and another seeks to delineate lifestyle factors associated with HPV persistence in women with low grade dysplasia, with a focus on nutritional factors. This project also seeks to identify novel molecular bio-markers which could help predict behavior of HPV in the genital tract. Other Research Interests include: Infectious Diseases

Bonnie K. Nastasi, PhD
Professor, Psychology – SSE
bnastasi@tulane.edu
My main research focus is the development of culturally constructed psychological theory/conceptual models, interventions, and assessment measures related to psychological well-being (i.e., children’s mental health, youth and adult sexual health) in local and global contexts. I am also interested in participatory mixed methods research approaches.

Katherine Raymond, PhD
Professor of Practice, Biomedical Engineering – SSE
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.

Dovile Vilda, PhD
Assistant Professor, Behavioral and Population Sciences
Dvilda@tulane.edu
I am an interdisciplinary social scientist and public health researcher with advanced training and experience in mixed methods and policy research. My current work investigates the impact of infertility treatment on cardiovascular complications during pregnancy, childbirth, and postpartum. I am also interested in sexual orientation-related disparities in perinatal and cardiovascular health.
Paula D. Zeanah, PhD  
Professor, Psychiatry and Behavioral Sciences and Pediatrics - SOM  
pzeanah@tulane.edu  
I study perinatal, infant, child and pediatric mental health. My current research focuses on the relationship between nutritional risk and depression in first time, low income pregnant women.
Assaf Abdelghani, PhD
Professor, Environmental Health Sciences
assafa@tulane.edu
My current teaching, research, and field work focus on global environmental health issues with interest in developing countries. These issues include water quality and quantity, sanitation and food safety with an emphasis on the impact on agricultural chemicals on human health and the environment.

Julie Albert, PhD
Associate Professor, Chemical and Biomolecular Engineering – SSE
jalbert6@tulane.edu
I am interested in the relationships between molecular chemistry, material processing, and physical properties. Her group primarily works with polymers, a class of material that is ubiquitous in our lives in the form of plastic bottles, rubber tires, non-stick and adhesive coatings, and other consumer products as well as at the forefront of advanced materials technologies including targeted drug delivery, nanolithography, organic electronics, and battery design.

Tiong Gim Aw, PhD
Assistant Professor, Environmental Health Sciences – SPHTM
taw@tulane.edu
My primary research areas are coastal water quality and the interactions among disease-causing microorganisms (pathogens) and their environment. The research on coastal water quality addresses the sources and persistence of microorganisms which contribute to pollution in coastal environments. My research on pathogens is concerned with how environmental factors and climate change affect the prevalence and distribution of pathogenic bacteria and viruses in coastal environments and engineered water systems.

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

Daniel Bernstein, PhD
Assistant Professor, Mathematics
Dbernstein1@tulane.edu
My research focuses on geometric, algebraic, and combinatorial structures that arise in statistics, data science, bioinformatics, and structural rigidity.

David Chae, ScD
Associate Professor, Social, Behavioral and Population Sciences - SPHTM
dchae@tulane.edu
I conduct research on the social determinants of health inequities and the embodiment of racism. As part of this work, I study the interplay between social context, developmental period, behavior, and biology, and links to disease susceptibility and progression. Other Research Interests include: Health Equity

Ricardo Cortez, PhD
Professor, Mathematics – SSE
rcortez@tulane.edu
I perform mathematical and computational modeling of biological fluid dynamics.

Georgina Dobek, DVM
Assistant Professor, Director, Department of Comparative Medicine – SOM
gdobek@tulane.edu
My interest is in animal models of human disease utilized in a variety of research programs. As the Director of the Department of Comparative Medicine, I provide oversight for the care of the research animals housed on the downtown and uptown campuses and support for research programs utilizing animal models. I also co-direct the Tulane University Laboratory Animal Medicine Training Program, which is an American College of Laboratory Animal Medicine recognized residency program. The program prepares veterinarians for board certification in the specialty of laboratory animal medicine, and includes a research project component.
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.

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

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

My research, which has been funded by the National Science Foundation, the National Security Agency and the Defense Advanced Research Projects Agency, focuses on combinatorial methods in topology and geometry. Other Research Interests include: Mathematics

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

**Joseph Fuselier, MBA**  
Assistant Professor, Medicine - Peptide Research - SOM  
fuselier@tulane.edu  
I am interested in creating novel therapeutic agents to help patients with diseases where there is little to no innovation or therapeutic benefit with current treatment modalities. My focus is to create intellectual property around these ideas and commercialize them to benefit humankind. My area of expertise revolves around modifying exquisitely potent drugs, conjugating them to peptides and proteins in a way so they are stable in circulation, are targeted to a specific tissue, and then release the biological warhead to the tissue of interest. Synthetic organic chemistry, peptide / protein chemistry, pharmacology, entrepreneurship, and business are all areas of interest. Other Research Interests include: Aging, Cancer/Hematology, Immunology/Allergy/Skin, Infectious Diseases, Lung, Neurosciences, Drug Targeting

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

**Chrissy Guidry, DO**  
Assistant Professor, Surgery - SOM  
cguidry@tulane.edu  
I study trauma resuscitation and endotheliopathy, and my other research interests include trauma, acute care surgery, and critical care.

**Alex Gunderson, PhD**  
Assistant Professor, Ecology and Evolutionary Biology – SSE  
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My lab addresses two broad and interrelated questions: 1) How do organisms evolve in response to climatic variation? 2) What makes species and populations vulnerable to anthropogenic global change? We investigate these questions across a range of spatial and temporal scales while applying a variety of approaches, including organismal and molecular physiology, behavior, field ecology, and experimental biology.
OTHER RESEARCH AREAS

M. Matias Iberico, MD, MPH
Assistant Professor, Medicine – General Internal Medicine - SOM
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My research interests include: Health Systems Design, Health Delivery, CHW centered health systems design

Colin Jackson, PhD
Assistant Professor, Earth and Environmental, SSE
colinrmjackson@gmail.com
I research the chemical reactions that occur within planets. To do this we subject materials to high pressure and temperature in the laboratory environment and then analyze the chemistry of the reacted phases. Other Research Interests include: Planet Formation and Evolution

Neal Jackson, MD
Assistant Professor, Otolaryngology/Neurotology - SOM
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My primary interest is in human hearing including surgical treatment of hearing loss and chronic ear infections. My other research interests include any ear surgery, cochlear implants, and skull base tumors. I also study vestibular disorders of the inner ear. Other Research Interests include: Aging, Imaging, Medical Devices, Medical Education, Neurosciences, Hearing, Cochlear Implants, Temporal Bone

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

Jordan Karubian, PhD
Professor, Ecology and Evolutional Biology - SSE
jk@tulane.edu
My research interests include feedbacks between human and natural systems, including health. Other Research Interests include:
OTHER RESEARCH AREAS

Mary Killackey, MD  
Professor and Chair, Surgery - SOM  
mkillack@tulane.edu  
We have multiple areas of research going on in the department of surgery including but not limited to transplant, trauma, tissue regeneration, melanoma, thyroid cancer, and resident education.

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

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

Howard Mielke, PhD  
Professor, Pharmacology - SOM  
hmielke@tulane.edu  
The environmental signal we measure is metals in accumulated dusts of communities of New Orleans. We then obtain children's exposure data from the city and state. The combined environmental signal and exposure data is stratified by community and evaluated for patterns and trends. Other Research Interests include: Urban Environment and Health
**Brian Mitchell, PhD**  
Professor Chemical and Biomolecular Engineering – SSE  
brian@tulane.edu  
I study production, characterization and applications of functionalized silicon nanoparticles. Other research Interest include: Nanostructured Materials

**Matthew Montemore, PhD**  
Assistant Professor, Chemical and Biomolecular Engineering - SSE  
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

**Manuel Ocasio, PhD**  
Assistant Professor, Pediatrics  
mocasio@tulane.edu  
The major focus of my research to date has been on HIV-related health inequities with a particular emphasis on sexual and gender minority youth (SGMY) in the South, particularly those who identify as Black and Latinx. Meaningful community engagement is central to my research. I partner with community organizations on research studies and garner feedback from youth throughout the research process, from recruitment to dissemination. In addition to community engaged research, I am particularly interested in social media approaches to study recruitment and HIV prevention engagement.

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

Igor Rubtsov, PhD
Professor and Chair, Department of Chemistry – SSE
irubtsov@tulane.edu
I develop novel spectroscopic approaches for measuring 3D structures and structural dynamics of molecules in condensed phase, targeting energy sustainability, heat transport, catalysis, lipid bilayer dynamics, and electrochemistry.

Jennifer Whitten, PhD
Assistant Professor, Earth and Environmental Sciences – SSE
Jwhitten1@tulane.edu
My research program spans the inner solar system terrestrial bodies and focuses on processes that generate and modify planetary crusts. Towards this end, my research incorporates a wide variety of space- and ground-based data types (Arecibo and Green Bank radio telescopes, ground penetrating radar), including visible-near infrared spectral data, visible imagery, topography, and radar image and sounder data. Other Research Interests include: Geology of Other Planets

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

Zizhan Zheng, PhD
Assistant Professor, Computer Science – SSE
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My research is in reinforcement learning, trustworthy AI, security, and networks. I am interested in both the theoretical foundations of these areas and their applications in robotics, healthcare, climate change, and social sciences.
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