

# Mentors Available for MEDI 8127 & MEDI 9331 Research Experiences

---



## **Dr. Gladys Maestre ([Gladys.Maestre@utrgv.edu](mailto:Gladys.Maestre@utrgv.edu))**

Topics: Neurology, Neuroscience, Neuroethics

My research is related to age-related disorders mostly Alzheimer's disease and related dementias, but I am particularly interested in blood pressure dysregulation and microcirculation damage, including hemodynamic changes in the eye. I am also very interested in dissemination of science as a field of study and other neuroethics matters, such as humanitarian contexts for research. The research opportunities for students are broad and could be entirely online, and with great flexibility to tailor them to the interests and abilities of students. I value understanding how to use individual strengths and interests to design creative studies with high potential for innovation. I have access to multiple databases, ongoing studies and a distributed network of collaborators across the globe to provide support to the research experiences that I lead.

---



## **Dr. Subhash Chauhan ([Subhash.chauhan@utrgv.edu](mailto:Subhash.chauhan@utrgv.edu))**

Topics: Cancer biology, Imaging, Nanomedicine

Our research group is involved in multiple aspects of cancer research. We are actively involved in cancer biomarker, cancer imaging, cancer progression metastasis, cancer immunotherapies and cancer nanomedicine related research.

---



## **Dr. Dae Joon Kim ([dae.kim@utrgv.edu](mailto:dae.kim@utrgv.edu))**

Topics: Skin Carcinogenesis, Cancer Biology, Cancer Treatment

Our research group has two major research thrusts. First, we seek to identify the roles of protein tyrosine phosphatases (PTPs) in the molecular and cellular mechanisms of environmentally-induced skin carcinogenesis. By doing this, our studies will identify novel therapeutic targets for the prevention and treatment of skin cancers and for other tumor types. Second, we have recently discovered that glycosylphosphatidylinositol-linked GDNF (glial cell derived neurotrophic factor) receptor alpha (GFRA1/GFRa1) expression is induced in osteosarcoma (OS) cells following treatment with cisplatin, one major drug that is commonly used against OS. The focus of this research is to investigate the specific function of GFRA1 in the cellular mechanisms involved in OS chemoresistance, which in turn will help create new anticancer therapeutic strategies that inhibit these mechanisms to prevent chemoresistance.

---



## **Dr. Satish Kumar ([satish.kumar@utrgv.edu](mailto:satish.kumar@utrgv.edu))**

Topics: Stem cells, Genetics, Cell Biology

The Department of Human Genetics (DHG) Stem Cell Biology laboratory located in the UTRGV Biomedical Research Building in McAllen develops in-vitro cell-models of human inherited disorders to understand (i) the cellular and molecular mechanisms involved in disease risk and (ii) the underlying genetic components influencing disease phenotypes. The lab uses state of the art induced pluripotent stem cell (iPSC) technology to generate disease specific target cells for which tissues can be difficult to obtain without invasive surgery or which only become available post-mortem.

---



## **Dr. Murali Yallapu ([murali.yallapu@utrgv.edu](mailto:murali.yallapu@utrgv.edu))**

Topics: Biomaterials, Nanotechnology, Cancer Biology

My research goal is primarily to study the fate of THERAPEUTIC nanoformulations that leads to novel insights of various biological factors and properties responsible for effective and targeted delivery. At the translational front, my work focuses on identification of novel therapeutic treatment strategies including development of targeted delivery systems for therapeutic macromolecules; designing of anti-tumor drug formulations for improving target-ability and efficiency; developing novel multi-functional self-assembling polymer materials; and novel applications of these materials for photodynamic, hyperthermia and imaging in cancer therapeutics. The overall goal of my research is to use these studied materials to devise advanced delivery systems that can be tailored to meet the needs of individual cancer.

# Mentors Available for MEDI 8127 & MEDI 9331 Research Experiences

---



## **Dr. Andrew Tsin ([andrew.tsin@utrgv.edu](mailto:andrew.tsin@utrgv.edu))**

Topics: Biochemistry, Diabetes, Macular Degeneration

My research focuses on Biochemistry of the Visual Cycle Proteins; Molecular Pathways on the development of Diabetic Retinopathy and Age-Related Macular Degeneration. I have mentored over 100 research trainees, with most obtaining a first-author publication from research projects in the laboratory.

---

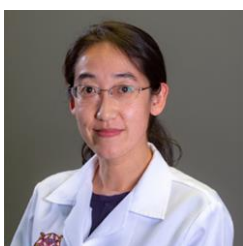


## **Dr. Michael Escamilla ([michael.escamilla@utrgv.edu](mailto:michael.escamilla@utrgv.edu))**

Topics: Psychiatric epidemiology, Mood and bipolar disorder, Schizophrenia, Genetics

Students with at least 4 to 6 weeks of dedicated time can reach out to conduct clinical research in the field of psychiatry.

---



## **Dr. Xiaoqian Fang ([xiaoqian.fang@utrgv.edu](mailto:xiaoqian.fang@utrgv.edu))**

Topics: Synaptic Neuroscience, Cell Biology

My research lab is located in the new biomedical science building. I have been mentoring medical students for the past few years in the course MEDI 8127. My current research interest is to study the role of PSD-95 on NMDAR activation..

---



## **Dr. Ihsan Salloum ([ihsan.salloum@utrgv.edu](mailto:ihsan.salloum@utrgv.edu))**

Topics: Neuroscience, Depression, Addiction

Students participating in research will be directly exposed to clinical research. This will include getting exposure and familiarity with clinical trials procedures for patients with alcohol use disorder and comorbid major depression or bipolar disorder. Gaining experience with writing data-driven and review articles.

---



## **Dr. Tony Ogburn ([tony.ogburn@utrgv.edu](mailto:tony.ogburn@utrgv.edu))**

Topics: Family Planning, Preventative Medicine, Obstetrics

The Department of Ob/Gyn has a number of ongoing projects that are appropriate for student involvement with a focus on preventive care, general obstetrics and family planning. For the motivated student, our faculty members are available to assist with development of a project in an area of interest to the student.

---



## **Dr. Juan Lopez Alvarenga ([juan.lopezalvarenga@utrgv.edu](mailto:juan.lopezalvarenga@utrgv.edu))**

Topics: Statistical Modeling, Methods Design for Clinical Fields

Translational medicine requires knowledge on methodological design and statistics for multivariate analysis in clinical fields. The students will learn how to build a database for statistical analysis, the practical use of statistical software and will have interaction with faculty members working in mathematical modeling.

# Mentors Available for MEDI 8127 & MEDI 9331 Research Experiences

---

## **Dr. Manish Tripathi (manish.tripathi@utrgv.edu)**

Topics: Cancer Biology, Cell Biology, Cancer Metastasis

My lab has a long-term goal to identify new early diagnosis/prognosis biomarkers and understand the regulation of genes responsible for cancer progression and metastasis. My lab is utilizing the state of the art cutting edge technologies including CRISPR/Cas9 mediated knockdown/out of the genes, Lentiviral base overexpression and knockdown of genes in cell lines, Inducible (Tet-ON) expression, Stable cell lines for expression/knockdown of protein of interest, iRAP (in vivo RNA Antisense Purification/Proteomics) methods to identify the proteins and RNAs (coding and noncoding) associated with different regulatory pathways, 3D culture, expression and purification of commercial enzymes for research purposes..

---



## **Dr. Rector Arya (rector.arya@utrgv.edu)**

Topics: Genetics, Epidemiology, Public Health

I am a biological anthropologist and genetic epidemiologist with more than 20 years of experience and expertise in conducting biomedical research in human populations spanning population genetics, epidemiology, and public health. My research focuses on the study of the genetic basis of complex diseases including obesity, type 2 diabetes, and other co-morbid conditions in human populations, specifically Mexican Americans with an emphasis on genetic and environmental (physical activity and dietary intake) determinants of health and disease.

---



## **Dr. Shizue Mito (shizue.mito@utrgv.edu)**

Topics: Pharmacology, Medicinal Chemistry

My research lab focuses on medicinal chemistry to find new drugs, in particular, anti-cancer and anti-diabetes. The area is interdisciplinary between Chemistry and Biology. Students can work on drug synthesis, drug delivery systems, and bioassay for our synthesized compounds in collaboration with the Department of Biology/Biomedical Sciences/School of Medicine.

---



## **Dr. Ying Jia (ying.jia@utrgv.edu)**

Topics: Genetics, Molecular Biology and Animal Venom

I have around 20 years of research experience in genetics and molecular biology including nearly 15 years in animal venoms. My research focuses on animal venoms for biopharmaceutical applications. Currently I have two undergraduate students working on snake venoms.

---



## **Dr. Chun Xu (chun.xu@utrgv.edu)**

Topics: Genetics, Molecular Biology

My research projects are focus on identifying biomarker (e.g., genetics markers) and environmental factors (e.g., lifestyles) for several human complex traits (e.g., neuropsychiatric disorders, dementia, health aging, neurodevelopmental disorders). The findings have been presented and published in more than 60 publications in the peer reviewed journals.

---



## **Dr. Sue Anne Chew (sueanne.chew@utrgv.edu)**

Topics: Biomedical Engineering, Cancer, Tissue Engineering

Our laboratory focuses on developing biomaterial-based strategies using cells and bioactive factors for tissue engineering and the treatment of cancer. We are currently investigating:

- Local delivery of mesenchymal stem cells expressing osteogenesis- and angiogenesis-inducing microRNAs for bone tissue engineering
- Local delivery of a chemotherapy and an anti-angiogenic agent for treatment of glioblastoma
- The utilization of iron oxide nanoparticles to control drug release rates from a biodegradable scaffold for the treatment of glioblastoma
- Delivery of Y15 and Metformin for the treatment of platinum resistant ovarian cancer





# Mentors Available for MEDI 8127 & MEDI 9331 Research Experiences

---



**Dr. Pierre Lu ([mingtsan.lu@utrgv.edu](mailto:mingtsan.lu@utrgv.edu))**

Topics: Public Health, Educational Sciences

Experienced with mentoring over 50 doctoral and master's students, Dr. Lu will provide advisement and guidance in conducting research projects related to public health, educational positive psychology, personal care and professional development, HSI educational research, and student learning success, in addition to training in human subject research experience. Mentees can expect to learn research methods and processes in educational sciences.

---



**Dr. Kelsey Baker ([kelsey.baker@utrgv.edu](mailto:kelsey.baker@utrgv.edu))**

Topics: Clinical Neurodegeneration, Neuroimaging and Neuromodulation

Overall, research in my laboratory seeks to improve clinical rehabilitative practices delivered to individuals with neurodegenerative diseases. We focus on using non-invasive neuromodulation to improve motor and sensory function. In tandem, we have an interest in understanding molecular pathways that are altered in neurodegenerative disease states. To understand molecular pathways, we employ neuroimaging (using magnetic resonance imaging) and transcranial magnetic stimulation. To date, my work has revolved around populations of Spinal Cord Injury and Stroke.

---



**Dr. Ryan Russell ([ryan.russell@utrgv.edu](mailto:ryan.russell@utrgv.edu))**

Topics: Cardiometabolics, Human Performance and Exercise

My research lab (CMX-Lab) conducts specific testing used to identify early pathophysiological signs of cardiometabolic disease, including central blood pressure and vascular stiffness; macro-vascular flow/reactivity/and function; resting metabolic rate; metabolic flexibility; microvascular blood flow recruitment in response to meal/stress/exercise within muscle, liver, and adipose. We are also collecting blood samples for specific analysis such as insulin, LSP, VCAM, Zonulin, lipid-omics (in collaboration with Deakin University – pending funding), and exome-wide association studies. Medical students can learn IV-placement, and how to conduct the various cardiometabolic testing. They can take part in data analysis, and subsequent abstract/manuscript preparation, and potentially in grant-prep.

---



**Dr. Mario Gil ([mario.gil@utrgv.edu](mailto:mario.gil@utrgv.edu))**

Topics: Neuroscience, Neuroendocrinology, Behavioral Neuroscience

The guiding hypothesis of my research program is that the interaction between central arginine-vasopressin/oxytocin (hypothalamic) and dopamine (mesocorticolimbic) systems underlies the neural regulation of social behavior, learning, and reward. We're also interested in developing animals models of dopamine-dependent disorders and conditions (i.e., Schizophrenia, Parkinson's Disease).

---



**Dr. Upal Roy ([upal.roy@utrgv.edu](mailto:upal.roy@utrgv.edu))**

Topics: Microbiology, HIV infection and Therapeutics

Our laboratory is focused on HIV-1 infection, HIV associated neurological disorders (HAND) and novel therapeutics for HIV. Our research interest is to address the following questions, 1) What is the basic mechanism of HIV-1 drug resistance? 2) What are the molecular factors that affect the central nervous system during HIV infection? 3) What are new therapeutic strategies to detect and improve treatment options for complete elimination of HIV-1 from its reservoir organs (the brain, lymphoid tissues)?

---



**Dr. Lori Berry ([lori.berry@utrgv.edu](mailto:lori.berry@utrgv.edu))**

Topics: Pediatrics, Clinical Trials

We are currently seeking to understand the consequences of dog aggression and bites on children in the Rio Grande Valley. Students interested in pediatric research should reach out to be involved in our project.