

## Translational Pain Research

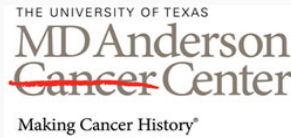


The mission of the Gulf Coast Consortium for Translational Pain Research (GCC TPR) is to alleviate pain and suffering through innovative research that fosters the translation of basic discoveries about pain mechanisms into therapeutic advances, achieved by promoting scholarly interactions and research collaborations among scientists and clinicians within the Gulf Coast region.

## Research Services

- Shared Equipment
- Grant Proposal Development
- Junior Faculty Network
- Conferences and workshops
- Research Mentor Training
- Rigor and Reproducibility in Research - *1<sup>st</sup> Place Winner of the 2017 AAMC Innovations in Research and Research Education Award*

## Member Institutions



## Affiliate Institutions



## Research Consortia & Programs

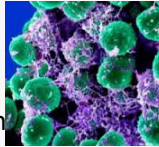


***Fostering interinstitutional collaborative research programs that require expertise beyond that available in any one institution...***

[gulfcoastconsortia.org](http://gulfcoastconsortia.org)

## Antimicrobial Resistance

A collaboration of leaders in antimicrobial resistance (AMR) research from all GCC institutions have partnered with TMC institutions and the Houston Department of Health to solve this important global problem. Funded by the Mike Hogg Foundation, the GCC AMR hosts a monthly seminar series and quarterly epidemiology and stewardship updates with the TMC healthcare systems, an annual conference in January.



## Cellular and Molecular Biophysics

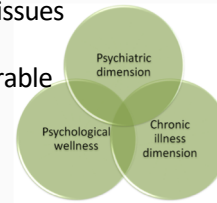
Molecular biophysics includes studies on macromolecular structure. Cell biophysics focuses on the physical principles underlying cell function. The goal of this community is to foster collaborations around content and technology including multiple structure- and non-structure-based approaches to study , conformational dynamics, protein folding, protein-protein and protein-ligand interactions, kinetics, signaling cascades, membrane biophysics, intracellular single molecule imaging, intracellular protein folding, transport, and dynamic conformational changes.

## Innovative Drug Discovery and Development

Formerly the John S. Dunn Gulf Coast Consortium for Chemical Genomics (GCC CG) which was formed in 2003, the Consortium for Innovative Drug Discovery and Development (GCC IDDD) is a research consortium focused on providing support for Houston/Galveston scientists in advancing their therapeutics discoveries through development to the clinic. IDDD support includes collaborative networking and joint funding opportunities, shared core resources, and educational programs.

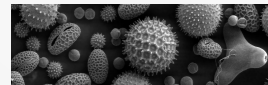
## Mental Health Research

The term “mental health” encompasses the classic psychiatric dimension, psychological wellness, and mental health issues secondary to other chronic Condition, and with considerable overlap. The goal of this group is to harness the joint expertise that exists across the GCC as research synergy.



## NanoX

“Nano” encompasses a large array of research topics initially spearheaded by the National Nanotechnology Initiative. Significantly, many of continuously emerging applications of nanoscience and engineering have direct applications in medicine including but not limited nanosensors for molecular diagnostics, drug-loaded nanoparticles to fight drug resistant bacteria and cancer, targeted drug delivery, hyperthermia treatment, and many other biological and clinical applications.



## Regenerative Medicine

With a keen eye toward non-embryonic stem cells and their abilities to restore the body, regenerative medicine applies tissue engineering strategies — together with other biological, engineering, and computational techniques — towards the replacement or repair of biological tissues. Researchers and physicians throughout the Houston/Galveston area have joined efforts to lead the nation in discovery and treatment in regenerative medicine.

## Single Cell Omics

Single-cell omics is a rapidly growing new field that provides many advantages over traditional ‘bulk’ tissue profiling methods, such as the ability to resolve intratissue heterogeneity in cell types, profile the disease microenvironments, and study rare subpopulations. The GCC single cell omics cluster aims at leveraging the expertise at different institutions and maximize the interdisciplinary synergy of the group.

## Theoretical & Computational Neuroscience

The goal of this consortium is to leverage computational power to better understand the mind, to develop a collaborative expert community within this field, and to provide a mechanism by which researchers are empowered to share ideas, information and technology around this topic.

## Translational Imaging

The goal is to expand the scope beyond MRI to include other in vivo imaging modalities including but not limited to PET, CT, optical imaging and ultrasound, and to comprehensively address imaging science as a holistic discipline. TI expands the scope to include chemists and nanotechnologists who synthesize imaging agents, researchers with expertise in image processing and representation and feedback from clinicians.

