

2009-2023 John S. Dunn Collaborative Research Award Program Recipients

2023

Mapping the bHLH-EMT transcription factor phosphoproteome to identify kinase targets in glioblastoma stem cells

Robert Rostomily, Houston Methodist Research Institute

Bing Zhang, Baylor College of Medicine

Quantification and Distribution of a Novel Nanoparticle Designed to Target the Cardiac Conduction System

Carly Filgueira, Houston Methodist Research Institute

Richard Bouchard, MD Anderson

Systematic identification of enhancer RNAs as biomarkers and therapeutic targets for breast cancer treatment

Han Xu, MD Anderson

Wenbo Li, UT Health Science Center at Houston

2022

Targeted delivery of microbiome-modulating metabolites to the lower intestine to reduce systemic toxicities of cancer therapy.

Robert Jenq, MD Anderson

Kevin McHugh, Rice University

Maternal high-fat diet-induced epigenetic reprogramming of offspring brain and behavior

Shelley Buffington, University of Texas Medical Branch

Cheryl Walker, Baylor College of Medicine

Developing New Genetically Tractable Chassis for Pancreatic Bacterial Tumor Therapies

George Lu, Rice University

Florencia McAllister, MD Anderson

2021

Targeting Dysbiosis and Intestinal Barrier Dysfunction in Malnutrition

Peter Melby, University of Texas Medical Branch

Robert Britton, Baylor College of Medicine

Decipher Electrophysiological and Transcriptomic Signatures of the Sinoatrial Node in Response to Aging

Jun Wang, UT Health Science Center at Houston

Xiaolong Jiang, Baylor College of Medicine

Engineering Microenvironments to Enhance Direct Cardiac Reprogramming Efficiency

Renita Horton, University of Houston

Todd Rosengart, Baylor College of Medicine

2020

An AI-Assisted Smart Wound Dressing for Expedited and Personalized Wound Healing

Taiyun Chi, Rice University

Swathi Balaji, Baylor College of Medicine

CRISPR/Cas9-based epigenome editing to dissect the mechanistic causality between DNA methylation and immune phenotype

Isaac Hilton, Rice University

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Andrew Dinardo, Baylor College of Medicine

Region-specific and Brain-wide Gene Therapy for Neurodevelopmental Disorders

MingShan Xue, Baylor College of Medicine

Jerzy Szablowski, Rice University

2019

Visualizing Cell and Molecular Transitions that Contribute to Abnormal Craniofacial Development

George Eisenhoffer, MD Anderson

Jacqueline Hecht, UT Health Science Center at Houston

DNA Hydroxymethylation Signatures in Neonatal Opioid Addiction

Jonathan Davies, Baylor College of Medicine

Deqiang Sun, Institute of Biosciences and Technology

Hormone Memory: Epigenomic Impacts of Estrogen Exposure on Later Life Metabolism

Wenbo Li, UT Health Science Center at Houston

Zheng Sun, Baylor College of Medicine

2018

Understanding Pathogenic Determinants in Enterococcus faecium

Natasha Kirienko, Rice University

Barbara Murray, UT Health Science Center at Houston

Unraveling How Gut Microbiota Influence Form and Function in the Developing Enteric Nervous System

Rosa Uribe, Rice University

Anne Marie Krachler, UT Health Science Center at Houston

Photo-induced Epigenetic Remodeling in Mammalian Cells

Yubin Zhou, Institute of Biosciences and Technology

Han Xiao, Rice University

An Auditory Virtual Reality to Illuminate Learning and Memory

Caleb Kemere, Rice University

Matthew McGinley, Baylor College of Medicine

2017

Development of High-Throughput Genetic Strategies to Dissect Microbiome Impact on Host Physiology

Buck Samuel, Baylor College of Medicine

Joff Silberg, Rice University

Grant Hughes, University of Texas Medical Branch

Developing and Deploying Genetically Encoded Indicators for Imaging Voltage Dynamics in the Mammalian Auditory System

Robert Raphael, Rice University

Francois St-Pierre, Baylor College of Medicine

Host Targeted Therapeutics to Combat Drug-Resistant Pathogens

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Ashok Chopra, University of Texas Medical Branch
Tor Savidge, Baylor College of Medicine/Texas Children's Hospital

Event

Texas Medical Center Hematopoiesis and Inflammation Symposium

Emily Mace, Baylor College of Medicine
Stephanie Watowich, MD Anderson
Pamela Wenzel, University of Texas Health Science Center, Houston

2016

Quantitative Assessment of Liver-Directed In Vivo Genome Editing with CRISPR/Cas9

Gang Bao, Rice University
William Lagor, Baylor College of Medicine

Monitoring Intracellular Temperature in Cancer Cells Using Metal Complexes

Angel A. Marti-Arbona, Rice University
Steven Curley, Baylor College of Medicine

Decoding the Gene Regulatory Mechanism Underlying Fate Determination of Hematopoietic Stem Progenitor Cells

José Onuchic, Rice University
Yun (Nancy) Huang, Institute for Biosciences and Technology, Texas A&M-HSC

Cellular Level, Functional Brain Imaging Using Multi-probe, Snapshot Image Spectroscopy

Tomasz Tkaczyk, Rice University
Kimberley Tolias, Baylor College of Medicine

Event

TMC-GCC Collaborative Symposium: Metabolism in Cancer

Pratip Bhattacharya, MD Anderson
Dan Carson, Rice University
Arun Sreekumar, Baylor College of Medicine
Daniel Frigo, University of Houston

2015

Engineering E. coli for Temperature Independent and Light-activated Secretion of Colanic Acid to Enable Fundamental and Translational Studies of a Novel Gut Microbiota-mediated Longevity Pathway

Jeffrey Tabor, Rice University
Meng Wang, Baylor College of Medicine

Mini Mechanobiology: Mechanical Testing and Organ Culture of Rodent Heart Valves

Jane Grande-Allen, Rice University
Dianna Milewicz, University of Texas Health Science Center Houston

Linking Transcriptional Regulation of Signaling Pathway Components to Embryonic Patterning

Aryeh Warmflash, Rice University
Ido Golding, Baylor College of Medicine

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Genes in Context: Using Genome Editing to Reveal how Molecular, Neural, and Social Factors Orchestrate Variation in *Drosophila* Aggressive Behavior

Julia Saltz, Rice University

Herman Dierick, Baylor College of Medicine

Event

Symposium on Membrane Biophysics

Michael Zhu, University of Texas Health Science Center Houston

James McNew, Rice University

Ted Wensel, Baylor College of Medicine

Jim Briggs, University of Houston

2014

Local Dual Delivery of Antifungals and Growth Factors for Treatment of Necrotizing Invasive Mold Infections

Antonios Mikos, Rice University

Dimitrios Kontoyiannis, University of Texas MD Anderson Cancer Center

Nanoparticle Prophylaxis Protection from Chemotherapy Ototoxicity and Hearing Loss

Fred Pereira, Baylor College of Medicine

James Tour, Rice University

Identifying the Molecular Basis of CO₂chemosensitivity Via Microfluidic Characterization and Cell Sorting

Jacob Robinson, Rice University

Russell Ray, Baylor College of Medicine

Maximizing Therapeutic Gain from Metallic Nanoparticle-radiation Interaction Via Rational Design

Eugene Zubarev, Rice University

Sunil Krishnan, University of Texas MD Anderson Cancer Center

Event

TMC-GCC Collaborative Workshop: Regenerative Medicine in Neuroscience and Neuroengineering

Charles S. Cox, Jr., University of Texas Health Science Center at Houston

Jane Grande-Allen, Rice University

Behnaam Aazhang, Rice University

Benjamin Deneen, Baylor College of Medicine

2013

Enhanced Cancer Detection through Development of Novel Immunoprobes

Kathleen Beckingham, Rice University

Robert Bast, University of Texas MD Anderson Cancer Center

Non-invasive MR Colonoscopy and Early Detection of Colon Cancer by Targeted Hyperpolarized Silicon Nanoparticles

Pratip Bhattacharya, University of Texas MD Anderson Cancer Center

Daniel Carson, Rice University

High-content Quantitative Imaging and Flow-based Remodeling of in vitro Vascularized Engineered Tissues

Jordan Miller, Rice University

Mary Dickinson, Baylor College of Medicine

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Imaging the Delivery and Therapeutic Response of Protease-activated Virus Nanotherapeutics

Junghae Suh, Rice University

Eva Sevick, University of Texas Health Science Center-Houston

Rapid Fungemia and Bacteremia Screening Via Ultraspecific Detection of Nucleic Acid Biomarkers

David Zhang, Rice University

John Holcomb, University of Texas Health Science Center at Houston

Event

Plasmon-hybrid Superstructures for Functionally Biomimetic Light-Driven Processes

Christy Landes, Rice University

Stephan Link, Rice University

Neal Waxham, University of Texas Medical School-Houston

Richard Willson, University of Houston

2012

New Antimicrobials Through MEP Pathway Inhibition

Janet Braam, Rice University

Heidi Kaplan, University of Texas Medical School

Multi-layered Cardiac Patches from Dynamic Surfaces

Jeffrey Jacot, Rice University

Rafael Verduzco, Rice University

Iki Adachi, Baylor College of Medicine/Texas Children's Hospital

Metabolic Signatures of Cancer Stem Cells

Ching Lau, Baylor College of Medicine

Ka-Yiu San, Rice University

Event

Telehealth Research Institute: Mission, Strategy, and Structure

Robert Satcher, University of Texas MD Anderson Cancer Center

Jan Odegard, Rice University

Michael Twa, University of Houston

Cindy Farach-Carson, Rice University

2011

Developing Split Protein Biocatalysts and Reporters for Translational Systems and Synthetic Biology

Jonathan Silberg, Rice University

Lynn Zechiedrich, Baylor College of Medicine

Anthony Maresso, Baylor College of Medicine

A Bio-Nano-Chip for Salivary Anticonvulsant Drug Assay in Epilepsy Patients

Giridhar Kalamangalam, UT Health Science Center at Houston

John McDevitt, Rice University

Engineered, Affordable Glycans as New Antimicrobials

George Bennett, Rice University

Mary Estes, Baylor College of Medicine

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Event

Multicellular Self-Organization Meeting

Amina Qutub, Rice University

Oleg Igoshin, Rice University

Gábor Balazsi, MD Anderson Cancer Center

Waleed Gaber, Texas Children's Hospital

2010

Single Cell Dynamics of The White/Opaque Epigenetic Switch in Candida albicans

Matthew Bennett, Rice University

Kresimir Josic, University of Houston

Michael Gustin, Rice University

Molecular Activated Stealth Chemotherapy (MASC) Nanoparticles for Cancer Treatment

Rebekah Drezek, Rice University

Liz Bikram, University of Houston

Structure Determination of Novel Targets Identified from a Multi-drug Resistant Pathogen

Yousif Shamoo, Rice University

Cesar Arias, University of Texas Health Science Center at Houston

Event

Planning a Center for NeuroEngineering

Peter Saggau, Baylor College of Medicine

Steven Cox, Rice University

Richard Baraniuk, Rice University

Nitin Tandon, University of Texas Health Science Center at Houston

Robert Raphael, Rice University

2009

T-cell Mediated Delivery of Gold Nanoparticles for Externally Triggered Photothermal Cancer Therapy

Rebekah Drezek, Rice University

Aaron Foster, Baylor College of Medicine

Synthetic Tuning of a Breast Cancer-controlling Network

Oleg Igoshin, Rice University

Michael Mancini, Baylor College of Medicine

Gabor Balazsi, UT M. D. Anderson Cancer Center

Development of High Resolution Endoscopes for In Vivo Imaging of the Inner Ear

Tomasz Tkaczyk, Rice University

John Oghalai, Baylor College of Medicine

Event

Early Disease Detection: Biomarker Discovery to Clinical Application

John McDevitt, Rice University

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Christie Ballantyne, Baylor College of Medicine
David Gorenstein, UT Health Science Center at Houston