**2009-2017 John S. Dunn Collaborative Research Award Program Recipients**

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

**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

**2011**

**Developing Split Protein Biocatalysts and Reporters for Translational Systems and Synthetic Biology**
Jonathan Silberg, Rice University
Lynn Zechiedrich, Baylor College of Medicine
Anthony Maresco, 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

**Event**
**Engineered, Affordable Glycans as New Antimicrobials**
George Bennett, Rice University
Mary Estes, Baylor College of Medicine

**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

**Event**
**Metabolic Signatures of Cancer Stem Cells**
Ching Lau, Baylor College of Medicine
Ka-Yiu San, Rice University

**2013**

**Designing Selectable Nanobodies for Antibiotic Resistance of Enterococcus faecalis**
Matthew Bennett, Rice University
Kresimir Josic, University of Houston
Michael Gustin, Rice University

**A Bio-Nano-Chip for Salivary Anticonvulsant Drug Assay in Epilepsy Patients**
Giridhar Kalamangalam, UT Health Science Center at Houston
John McDevitt, Rice University

**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

**2014**

**Designing Selectable Nanobodies for Antibiotic Resistance of Enterococcus faecalis**
Matthew Bennett, Rice University
Kresimir Josic, University of Houston
Michael Gustin, Rice University

**Event**
**Multicellular Self-Organization Meeting**
Amina Qutub, Rice University
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Gábor Balazsi, MD Anderson Cancer Center
Waleed Gaber, Texas Children’s Hospital

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### 2013

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<thead>
<tr>
<th>Project</th>
<th>Institute/University</th>
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<tr>
<td><strong>Enhanced Cancer Detection through Development of Novel Immunoprobes</strong></td>
<td>Kathleen Beckingham, Rice University</td>
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<td>Robert Bast, University of Texas MD Anderson Cancer Center</td>
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<tr>
<td><strong>Non-invasive MR Colonoscopy and Early Detection of Colon Cancer by Targeted Hyperpolarized Silicon Nanoparticles</strong></td>
<td>Pratip Bhattacharya, University of Texas MD Anderson Cancer Center</td>
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<td>Daniel Carson, Rice University</td>
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<td><strong>High-content Quantitative Imaging and Flow-based Remodeling of in vitro Vascularized Engineered Tissues</strong></td>
<td>Jordan Miller, Rice University</td>
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<td>Mary Dickinson, Baylor College of Medicine</td>
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<td><strong>Imaging the delivery and therapeutic response of protease-activated virus nanotherapeutics</strong></td>
<td>Junghae Suh, Rice University</td>
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<td>Eva Sevick, University of Texas Health Science Center-Houston</td>
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<td><strong>Rapid fungemia and bacteremia screening via ultraspecific detection of nucleic acid biomarkers</strong></td>
<td>David Zhang, Rice University</td>
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<td>John Holcomb, University of Texas Health Science Center at Houston</td>
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<td><strong>Event</strong></td>
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<td><strong>Plasmon-hybrid Superstructures for Functionally Biomimetic Light-Driven Processes</strong></td>
<td>Christy Landes, Rice University</td>
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<td>Stephan Link, Rice University</td>
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<td>Neal Waxham, University of Texas Medical School-Houston</td>
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<td>Richard Willson, University of Houston</td>
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### 2014

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<tr>
<td><strong>Local Dual Delivery of Antifungals and Growth Factors for Treatment of Necrotizing Invasive Mold Infections</strong></td>
<td>Antonios Mikos, Rice University</td>
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<td>Dimitrios Kontoyiannis, University of Texas MD Anderson Cancer Center</td>
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<td><strong>Nanoparticle prophylaxis protection from chemotherapy ototoxicity and hearing loss</strong></td>
<td>Fred Pereira, Baylor College of Medicine</td>
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<td>James Tour, Rice University</td>
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<td><strong>Identifying the molecular basis of CO₂ chemosensitivity via microfluidic characterization and cell sorting</strong></td>
<td>Jacob Robinson, Rice University</td>
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<td>Russell Ray, Baylor College of Medicine</td>
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<td><strong>Maximizing therapeutic gain from metallic nanoparticle-radiation interaction via rational design</strong></td>
<td>Eugene Zubarev, Rice University</td>
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<td>Sunil Krishnan, University of Texas MD Anderson Cancer Center</td>
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<td><strong>Event</strong></td>
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<td><strong>TMC-GCC Collaborative Workshop: Regenerative Medicine in Neuroscience and Neuroengineering</strong></td>
<td>Charles S. Cox, Jr., University of Texas Health Science Center at Houston</td>
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<td>Jane Grande-Allen, Rice University</td>
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<td>Behnaam Aazhang, Rice University</td>
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<td>Benjamin Deneen, Baylor College of Medicine</td>
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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

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

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

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

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
2009-2017 John S. Dunn Collaborative Research Award Program Recipients

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
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