### **Gordon Research Conferences**

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### **About Conferences**

GRC is organizing 177 Gordon Research Conferences and 111 Gordon Research Seminars in 2015. Meetings will be held in New England, California and Texas in the United States; and internationally in Italy, Spain and Hong Kong, China.

For over 75 years, GRC's high-quality, cost-effective meetings have been recognized as the world's premier scientific conferences, where leading investigators from around the globe discuss their latest work and future challenges in a uniquely informal, interactive format.

## **Bioinspired Materials**

June 22-27, 2014

Sunday River Resort

Newry, ME

### **Selected Presentations**

Zhibin Guan (UC-Irvine), "Biomimetic Design of Dynamic and Self-Healing Polymers"

Kazuhiko Ishihara (University of Tokyo), "Functionalization of Extremely Biocompatible Phospholipid Polymers"

Ali Miserez (Nanyang Technological University, Singapore), "Squid Sucker Ring Teeth (SRT): A Supra-Biomolecular Network Reinforced by Nano-Confined Beta-Sheets that Are Encoded by an Ancient Gene Family"

Aaron Esser-Kahn (University of California-Irvine), "Synthetic Immunomodulatory Materials - Probing a Code Without a Key"

Meital Reches (Hebrew University of Jerusalem), "Probing the Interactions of Individual Biomolecules with Inorganic Substrates"

Rajesh Naik (Air Force Materials Lab), "Evolution and Intelligent Design of Peptide Recognition Elements"

Haeshin Lee (KAIST), "Bio-Inspired Adhesive Polymers at Interfaces in Energy Storage Devices"

# **Drug Carriers in Medicine & Biology**

August 17-22, 2014

Waterville Valley Resort

Waterville Valley, NH

### **Selected Presentations**

Jim Baker (University of Michigan), "Why Nanoscale Drug Carriers Matter for Medicine"

Krystof Bankiewicz (University of California, San Francisco), "Delivering Viral Vectors and Nanoparticles Across the Blood-Brain-Barrier, Translational and Clinical Experience"

- Marino Zerial (Max Planck Institute of Molecular Cell Biology and Genetics), "Harnessing Endocytosis for siRNA Delivery"
- Kirsten Sandvig (Oslo University Hospital), "Endocytic Mechanisms and Intracellular Transport of Drug Carriers"
- Warren Chan (University of Toronto), "The Complexities of Nanoparticle Tumor Targeting"
- Dane Wittrup (Massachusetts Institute of Technology), "Tumor Targeting, Theory and Experiment"
- Kit Lam (University of California, Davis), "Multimodal Theranostic Nanoporphyrin for Chemo, Radio and Phototherapy"
- Jesus Gonzalez (Avelas Biosciences), "In Vivo Delivery of Molecular Cargo Using Protease-Activated Peptides: Cancer Applications"
- David Mooney (Harvard University), "Biomaterials as Therapeutic Cancer Vaccines"
- Jeff Hubbell (University of Chicago), "Molecular Engineering for Antigen Delivery in Induction of Tolerance and Immunity"
- Darrell Irvine (Massachusetts Institute of Technology), "Engineering Enhanced Vaccines and Immunotherapies with Hitchhiking Therapeutics"
- Steven Schwendeman (University of Michigan), "Aqueous Microencapsulation of Large Molecules in PLGA Delivery Systems"
- Karen Wooley (Texas A&M University), "Therapeutic Polymer Nanoparticles Designed for Treatment of Pulmonary and Urinary Tract Diseases"
- Molly Stevens (Imperial College London), "New Biomaterials Approaches for Biosensing"
- Frank Caruso (University of Melbourne), "Nanoscale Engineering of Polymer Carriers for Biological Interactions"
- Julie Champion (Georgia Institute of Technology), "Therapeutic Protein Nanoparticles that Subvert Intracellular Signaling for Immunomodulation as a Treatment for IBD"
- Ick Chan Kwon (Korea Institute of Science and Technology), "Role of Molecular Imaging in Designing Drug Carriers"
- Michelle Bradbury (Memorial Sloan-Kettering Cancer Center), "Multimodal Silica Nanoparticles as Targeted Drug Delivery Vehicles for Cancer Therapeutics"
- Muthiah Manoharan (Alnylam), "Advances in Systemic Delivery of RNAi Therapeutics"
- Andrew Geall (Novartis), "Reinventing the Gene Vaccine: Non-Viral Delivery of Self-Amplifying mRNA Vaccines"
- David Schaffer (University of California, Berkeley), "Molecular Engineering and Evolution of New Viruses for Therapeutic Gene Delivery"

## **Signal Transduction by Engineered Extracellular Matrices**

July 6-11, 2014

**Bentley University** 

Waltham, MA

### **Selected Presentations**

- Michael Sheetz (Columbia University), "Mechanosensing by Tropomyosin-Controlled Myosin Contractions"
- Kristi Anseth (University of Colorado), "Advances in Dynamically Tunable Hydrogels: Cell Biology in the 4th Dimension"
- Dave Odde (University of Minnesota), "Simulating Cell Adhesion and Migration Mechanics"
- Jeanne Schwarzbauer (Princeton University), "Control of Tissue Development by Spatial Alignment of ECM"
- Milan Mrksich (Northwestern University), "Patterned Substrates for Stem Cell Biology"
- Sanjay Kumar (University of California Berkeley), "How Cells Distribute Tensile Loads Against the Extracellular Matrix"
- Craig Simmons (University of Toronto), "Regulation of Mesenchymal Progenitor Cell Fate by Matrix Mechanics in Complex Environments"
- Gordana Vunjak-Novakovic (Columbia University), "Engineering Tissue Function: Stem Cells, Native Matrix and Physical Cues"
- Nicola Elvassore (University of Padova), "Shaping Topological, Mechanical, and Soluble Microenvironment for Stem Cell Fate Specification"
- Deok-Ho Kim (University of Washington), "Nano-Engineering of 3D Complex Tissues with Controllable Architecture and Function"
- Claudia Fischbach (Cornell University), "3D Culture Platforms for Studies of Tumor-Microenvironment Interactions"
- Dror Seliktar (Technion University), "Semi-Synthetic Hydrogels Designed to Guide Cell Fate and Tissue Repair"
- Kevin Healy (University of California-Berkeley), "Growth Factor Sequestering Hydrogels for Stem Cell Transplantation"
- Fan Yang (Stanford University), "Microribbon-Based Hydrogels as 3D Cell Niche: A Lego-Building Approach"
- Ken Yamada (NIH), "Cell Migration and Signaling in 3D Environments"
- Denis Wirtz (Johns Hopkins University), "Regulation of Cell Migration by Matrix

Dimension"

Bill Murphy (University of Wisconsin), "Biomaterials as the Accelerator, the Clutch, and the Brakes in Stem Cell Culture"

Jeffrey Hubbell (EPFL), "Protein Engineering Approaches to Controlling Growth Factor-ECM Interactions"

Marcy Zenobi-Wong (ETH Zurich), "Sulfated Hydrogels for Regulating the Proliferation/Differentiation Switch in Chondrocytes"

Adam Feinberg (Carnegie Mellon University), "Multi-Scale Bottom-Up Engineering of the Extracellular Matrix"

### **Future Meetings**

Biomaterials & Tissue Engineering

July 19-24, 2015

Melia Golf Vichy Catalan Business and Convention Center

Girona, Spain

Tissue Repair & Regeneration

June 7-12, 2015

Colby-Sawyer College

New London, NH