

2011 Young Investigator Research Awards

1. **Dr. Hal Alper**, The University of Texas at Austin
Proposal Title: Establishing a Fungal Platform for Alkane Biosynthesis
2. **Dr. Nader Behdad**, University of Wisconsin, Madison
Proposal Title: Closely Coupled Multi-mode Radiators: A New Concept for Improving the Performance of Electrically Small Antenna
3. **Dr. B. Andrei Bernevig**, Princeton University
Proposal Title: New Topological Insulators with Point-group Symmetry
4. **Dr. David M. Blei**, Princeton University
Proposal Title: Scalable Topic Modeling: Online Learning, Diagnostics and Recommendation
5. **Dr. William R. Boos**, Yale University
Proposal Title: Understanding the Global Distribution of Monsoon Depressions
6. **Dr. Alejandro Briseno**, University of Massachusetts, Amherst
Proposal Title: Low-dimensional Semiconductor Nanostructures for Organic Photovoltaics
7. **Dr. Joelle Frechette**, Johns Hopkins University
Proposal Title: Understanding the Role of Hydrodynamic Forces on Wet Adhesion
8. **Dr. Mohammad Taghi Hajiaghayi**, University of Maryland, College Park
Proposal Title: Efficient Algorithms for Strategic Problems in Network Design
9. **Dr. Steven Jachec**, Florida Institute of Technology
Proposal Title: Acoustic Properties in the Presence of Shoaling and Breaking Internal Waves over Complex Topography, a Numerical Modeling Study
10. **Dr. Tonghun Lee**, Michigan State University
Proposal Title: Ignition and Oxidation of Bio-derived Future Navy Fuels
11. **Dr. Xiuling Li**, University of Illinois, Urbana-Champaign
Proposal Title: Massively Parallel Planar III-V Nanowires and Rolled-up Tubes: Novel Platforms for High Linearity Electronics and Integrated Photonic Circuits
12. **Dr. Sang-Hyun Oh**, University of Minnesota, Twin Cities
Proposal Title: Metamaterials on Flexible Substrates
13. **Dr. Jennifer L. Miksis-Olds**, The Pennsylvania State University, Applied Research Laboratory
Proposal Title: Ocean Basin Impact of Ambient Noise on Marine Mammal Detectability, Distribution, and Acoustic Communication
14. **Dr. Rajesh Rao Nadakuditi**, University of Michigan
Proposal Title: Fundamental Limits and Algorithms for Quiet Signal Detection, Estimation and Classification

15. **Dr. Cindy Regal**, University of Colorado, Boulder
Proposal Title: Cavity Optomechanics for Wavelength Conversion of Optical Quantum States
16. **Dr. Chengying Xu**, University of Central Florida
Proposal Title: Multifunctional Ceramic Nanocomposites Reinforced with a High Volume Fraction of Well-dispersed and Well-aligned Carbon Nanotubes
17. **Dr. Xiaorui Wang**, University of Tennessee, Knoxville
Proposal Title: End-to-End Delay Guarantees in Mission-critical Wireless Sensor Networks
18. **Dr. David Wetz**, University of Texas at Arlington
Proposal Title: Investigation of Aging Phenomena in Electrochemical Storage Devices when Cycled at Elevated Rates
19. **Dr. Peng Yin**, Harvard University
Proposal Title: Self-assembly of Large-scale Shape-controlled DNA Nano-structures
20. **Dr. Donghyun You**, Carnegie Mellon University
Proposal Title: Biologically-inspired Design of Novel Fluid-dynamic Kinematics for Ocean Propulsion
21. **Dr. Mingjun Zhang**, The University of Tennessee, Knoxville
Proposal Title: Energy Efficient Swimming Mechanism: an Inspiration from Micro-scale Biological Systems