



# Young Investigators Research Program (YIP) 2015

Ms. Ellen Montgomery | June 15-18, 2015 | Arlington, VA

Basic Research Innovation and Collaboration Center (BRICC)  
4075 Wilson Blvd., Suite 350 | Liberty Room  
Arlington, VA 22203

## Agenda Day 1 – June 15, 2015

Time	Topic	Speaker
7:45	Registration	
8:15	Welcome	<b>Ellen D. Montgomery</b> , YIP Program Coordinator
8:20	Welcome	<b>Thomas F. Christian, Jr.</b> AFOSR Director
8:30	Building Careers with AFOSR Support	<b>Col Andrew G. Szmerkovsky</b> , AFOSR Deputy Director
8:45	AFOSR Business Operations	<b>Col Robert J. Kraus</b> , AFOSR Chief, Basic Research Division
<b>PHYSICAL SCIENCES</b>		
9:15	Parity-Time Symmetry in Organic Thin Films and Waveguides	<b>Chris Giebink</b> , Pennsylvania State University
9:45	Table-Top Measurement of Local Magnetization Dynamics Using Picosecond Thermal Gradients: Toward Nanoscale Magnetic Imaging	<b>Greg Fuchs</b> , Cornell University
10:15	<b>BREAK</b>	
10:45	Satellites as Space Environment Sensors	<b>Kerri Cahoy</b> , MIT
11:15	Geometric Integrators for Advanced Plasma Physics Algorithms	<b>Stephen Webb</b> , RadiaSoft, LLC
11:45	Spatial Processing of Emerging Electronic Threats using Photonics	<b>Chris Schuetz</b> , University of Delaware
12:15	<b>LUNCH</b>	
1:30	Fabricating Multi-Functional Protein Biomaterials	<b>Jin Montclare</b> , NYU Polytechnic
2:00	From Simulations to Proofs of Networked Cyberphysical Systems	<b>Sayan Mitra</b> , University of Illinois at Urbana Champaign
2:30	Poster Session I - Physical Sciences Chemistry & Biological Sciences	<b>Can Bayram</b> , UIUC <b>Alper Bozkurt</b> , NCSU <b>Kenneth Graham</b> , University of Kentucky <b>Boubacar Kante</b> , USC San Diego <b>Stephanie Lee</b> , Stevens Institute of Technology <b>SungWoo Nam</b> , UIUC <b>Andre Schleife</b> , UIUC <b>Jie Yao</b> , UC Berkeley <b>Fuzhong Zhang</b> , Washington University
4:00	<b>MEETING ADJOURNED FOR THE DAY</b>	



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## Agenda Day 2 – June 16, 2015

Time	Topic	Speaker
8:00	Registration	
<b>PHYSICAL SCIENCES</b>		
8:30	Radiative Decay Engineering using Plasmonic Nanostructures	<b>Maiken Mikkelsen</b> , Duke University
<b>CHEMISTRY &amp; BIOLOGICAL SCIENCES</b>		
9:00	Organic Electrodes for Structural Energy and Power	<b>Jodie Lutkenhaus</b> , Texas A&M University
9:30	Designing Silicon Nanostructures for Interfacing with Biological Components	<b>Bozhi Tian</b> , University of Chicago
10:00	<b>BREAK</b>	
10:30		
<b>INFORMATION AND NETWORK SYSTEMS</b>		
11:00	Systems-Theoretic Analysis and Optimization of Biophysical Neuronal Networks	<b>ShiNung Ching</b> , Washington University in St. Louis
11:30	<b>LUNCH</b>	
12:45	DURIP Overview	<b>Katie Wisecarver</b> , Air Force Office of Scientific Research
1:00	Panel Discussion <ul style="list-style-type: none"><li>• Successful YIP experiences</li><li>• Other AFOSR Funding Opportunities</li><li>• Cultivating Long Term Relationships with AFOSR</li><li>• Other AFOSR Funding Opportunities</li><li>• YIP Application Process</li></ul>	YIP Community Members AFOSR Program Officers:  Jason Marshall Riq Parra Doug Smith Tatjana Curcic Mike Berman Pat Bradshaw  (a few others TBD)
4:00	<b>MEETING ADJOURNED FOR THE DAY</b>	



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## Agenda Day 3 – June 17, 2015

Time	Topic	Speaker
7:45	Registration	
<b>INFORMATION AND NETWORK SYSTEMS</b>		
8:30	Algebraic Techniques for Optimization and Control of Complex Dynamical Systems	<b>Amir Ali Ahmadi</b> , Princeton University
<b>ENGINEERING &amp; COMPLEX SYSTEMS</b>		
9:00	Gortler Detuned Mack-modes on a Hypersonic Flared Cone	<b>Joseph Kuehl</b> , Baylor University
9:30	Probing the Graphene Bridge	<b>Xu Du</b> , Stony Brook University
10:00	III-Nitrides Transistors Enabling High Frequency, High Power and High Efficiency Electronics	<b>Srabanti Chowdhury</b> , Arizona State University
10:30	Reliable Multi Agent Control	<b>Alex Olshevsky</b> , University of Illinois at Urbana Champaign
<b>CHEMISTRY &amp; BIOLOGICAL SCIENCES</b>		
11:00	Temporal Pattern Recognition using Spike Timing-Dependent Learning Circuits	<b>Kurtis Cantley</b> , Boise State University
11:30	<b>LUNCH</b>	
1:00	<b>Poster Session II –</b> Chemistry & Biological Sciences Engineering & Complex Systems Information & Networking Systems Physical Sciences	<b>Anima Anandkumar</b> , UC Irvine <b>Stephen Anton</b> , Tennessee Tech University <b>Yongcan Cao</b> , UT San Antonio <b>Debashis Chanda</b> , University of Central Florida <b>Raghvendra Cowlagi</b> , Worcester Polytechnic Institute <b>Pinshane Huang</b> , University of Illinois at Urbana Champaign <b>Sumit Jha</b> , University of Central Florida <b>Landon Grace</b> , University of Miami <b>Li Na</b> , Harvard University <b>Sophie Wang</b> , Clemson University <b>Xiaoja Wang</b> , University of Minnesota
3:00	Day Three Wrap Up	

**3:00**

**MEETING ADJOURNED FOR THE DAY**



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## Agenda Day 4 – June 18, 2015

Time	Topic	Speaker
7:45	Registration	
8:15	Planning, Programming, Budgeting and Execution (PPBE) Discussion	<b>John Luginsland</b> , Air Force Office of Scientific Research
9:15	Frontiers of Engineering Symposium Overview	<b>Janet Hunziker</b> , National Academy of Engineering
<b>PHYSICAL SCIENCES</b>		
9:30	Light-Matter-Interaction for Advanced Opto-Electronic Devices: Graphene and ITO-Based Electro-Optic Modulation and Switching	<b>Volker Sorger</b> , George Washington University
10:00	Laser-Refrigeration of Hydrothermal Nanocrystals in Physiological Media	<b>Peter Pauzauskie</b> , University of Washington
10:30	<b>BREAK</b>	
<b>ENGINEERING &amp; COMPLEX SYSTEMS</b>		
10:45	Lift Production on Models of Flapping Wings	<b>Anya Jones</b> , University of Maryland
11:15	Active Flow Control of Separated Flow: From Traditional to Network-Based Analyses	<b>Sam Taira</b> , Florida State University
11:45	Closing Remarks	
12:00	<b>MEETING ADJOURNED</b>	

**SAVE THE DATE:**  
**2016 Young Investigators Research Program Review**  
**June 20-23, 2016**  
**Arlington, VA**

Title presentations and abstracts will be due by April 29, 2016.