Basic Research and Innovation Collaboration Center
4075 Wilson Boulevard, Suite 350
Arlington, VA 22203

Day 1 - Monday, 11 May 2015

Time	Topic	Speaker
0800-0830	Registration	
0830-0845	Welcome and Introduction	**Dr. Sofi Bin-Salamon** International Program Manager Air Force Office of Scientific Research
0845-0855	Introduction	**Mrs. Rosie Hicks** Chief Executive Officer Australian National Fabrication Facility
0855-0910	Opening Remarks	**The Honorable Kim Beazley, AC** Ambassador of Australia to the United States
0910-0930	Air Force Office of Scientific Research	**Dr. Thomas Christian** Director Air Force Office of Scientific Research
0930-0950	NASA's Glenn Research Center: Dreaming Big	**Dr. John Sankovic** Director, Office of Technology Incubation and Innovation NASA Glenn Research Center
0950-1010	NCI's Physical Sciences-Oncology Initiative	**Dr. Larry Nagahara** Associate Director National Cancer Institute
1010-1030	Army Research Laboratory Overview	**Dr. Philip Perconti** Director, Sensors and Electron Devices Army Research Laboratory
1030-1100	**BREAK**	
1100-1120	The Division of Materials Research and Opportunities for International Collaboration	**Dr. Mary Galvin-Donoghue** Director, Division of Materials Research National Science Foundation
1120-1140	Advancing Convergence and Innovation in Cancer Research: National Cancer Institute Center for Strategic Scientific Initiatives (CSSI)	**Dr. Jerry Lee** Director, Health Sciences National Cancer Institute
1140-1200	Enterprise for Multi-scale Research of Materials	**Mrs. Cynthia Bedell** Associate Director Army Research Laboratory
1200-1330	**LUNCH**	
1330-1350	Australian Research Infrastructure	**Mrs. Rosie Hicks** Chief Executive Officer Australian National Fabrication Facility

1350-1410	The Commonwealth Scientific and Industrial Research Organization	**Dr. Cathy Foley** Chief, Division of Materials Science and Engineering Commonwealth Scientific and Industrial Research Organisation
1410-1430	Supporting Structures for Australian Discovery Research	**Dr. Jim Piper** Director, ARC Centre of Excellence for Nanoscale BioPhotonics Macquarie University
1430-1450	International Research Collaboration: An Australian Perspective	**Dr. Warwick Dawson** Director, Research Partnerships University of New South Wales
1450-1510	The Role of the Australian Academies in Australia's Science Landscape	**Dr. Chennupati Jagadish** Vice-President and Secretary Physical Sciences, Australian Academy of Science Australian National University
1510-1530	**BREAK**	
1530-1550	AFOSR Physical and Biological Sciences	**Dr. Patrick Roach** Chief, Physical and Biological Sciences Air Force Office of Scientific Research
1550-1610	Nanotechnology Standards for Regulatory Science	**Dr. Anil Patri** Director, Nanotechnology Core Facility National Center for Toxicological Research Food and Drug Administration
1610-1630	Recent Efforts in Communications Research and Technology Development at the Glenn Research Center in Support of NASA's Mission	**Dr. Felix Miranda** Chief, Advanced High Frequency Branch NASA Glenn Research Center
1630-1650	Army Research Laboratory Enterprise International Activities	**Mr. Hobbie Negaran** International Program Manager Army Research Laboratory
1650-1710	NSF-AFOSR Program in 2-Dimensional Materials and Devices	**Dr. Kenneth Goretta** Program Manager Air Force Office of Scientific Research
1710-1730	AFOSR International Initiatives	**Dr. Sofi Bin-Salamon** International Program Manager Air Force Office of Scientific Research
1710	**ADJOURN**	
1830 -	**EMBASSY OF AUSTRALIA** 1601 Massachusetts Ave, NW Washington, DC 20036	

Basic Research and Innovation Collaboration Center
4075 Wilson Boulevard, Suite 350
Arlington, VA 22203

Day 2 - Tuesday, 12 May 2015
Session 1: Materials Science

Time	Topic	Speaker
0800-0900	Registration	
0830-0900	Army Research Office Materials Science Division	**Dr. Chakrapani Varanasi** Program Manager Army Research Office
0900-0930	Progress in Extruded Fluoroindate Glass Fibers for Mid-IR Applications	**Dr. Heike Ebendorff-Heidepriem** Deputy Director, Institute for Advanced Photonics and Sensing University of Adelaide
0930-1000	Directions and Challenges of the Multi-Scale Structural Mechanics and Prognosis Program at AFOSR	**Dr. David Stargel** Program Manager Air Force Office of Scientific Research
1000-1030	**BREAK**	
1030-1100	Monitoring Mechanical and Degradative Stress Using PFN Additives to Determine Application Lifetime	**Dr. Steven Bottle** Professor Queensland University of Technology
1100-1130	Organic Materials Chemistry	**Dr. Charles Lee** Program Manager Air Force Office of Scientific Research
1130-1200	Organic Electronics: Sensors and Devices	**Dr. Paul Dastoor** Director, Centre for Organic Electronics University of New Castle
1200-1300	**LUNCH**	
1300-1330	Can We Impact the Environmental Diversity and Structural Complexity on Nanoparticle Photocatalysts?	**Dr. Amanda Barnard** OCE Science Leader Commonwealth Scientific and Industrial Research Organisation
1330-1400	Enabling Safe Utilization of Lithium Batteries through Basic Materials Science	**Dr. Corey Love** Research Engineer Naval Research Laboratory
1400-1430	Nanostructured TiO_2 functionalized Polymeric Membranes: Biocatalytic Membrane Systems for Degradation of Recalcitrant Organic Compounds and CO_2 Capture	**Dr. Vicki Chen** Professor University of New South Wales
1430-1500	Greener Space Exploration Facilitated by Novel Materials Processing and Solar Energy Conversion Technologies	**Dr. Sheila Bailey** Research Scientist NASA Glenn Research Center
1500-1530	**BREAK**	

1530-1600	Application of Polymers in Carbon Nanotube Silicon Heterojunction Solar Cells	**Dr. Joe Shapter** Professor Flinders University
1600-1630	High Power Density Energy Harvesting Materials and Systems	**Dr. Shashank Priya** Professor Virginia Tech University
1630-1700	GaSb alternative Substrates for MBE Growth of the Next Generation HgCdTe Infrared Materials	**Dr. Wen Lei** Professor University of Western Australia
1700	**ADJOURN**	

Basic Research and Innovation Collaboration Center
4075 Wilson Boulevard, Suite 350
Arlington, VA 22203

Day 2 - Tuesday, 12 May 2015
Session 2: Physics

Time	Topic	Speaker
0800-0830	Registration	
0830-0900	Dynamics in Single Nanowire Heterostructures: Prospectives for Infrared Nanostructures for Spintronics and Optical Imaging	**Dr. Leigh Smith** Professor University of Cincinnati
0900-0930	Semiconductor Nanowires for Optoelectronics and Energy Applications	**Dr. Chennupati Jagadish** Vice-President and Secretary Physical Sciences, Australian Academy of Science Australian National University
0930-1000	Toward Engineered Nanocrystals with Stable Fluorescence Emitters	**Dr. Philip Hemmer** Professor Texas A&M University
1000-1030	**BREAK**	
1030-1100	Metal-Insulator-Metal (MIM) Waveguide Active Plasmonic Integrated Devices	**Dr. Martin Hill** Professor University of Western Australia
1100-1130	Electromagnetics	**Dr. Arje Nachman** Program Manager Air Force Office of Scientific Research
1130-1200	Nonlinear Integrated Microwave Photonics	**Dr. Benjamin Eggleton** Director, ARC Centre for Ultrahigh-Bandwidth Devices for Optical Systems University of Sydney
1200-1300	**LUNCH**	
1300-1330	Unified Platform for Electromagnetic Wave Manipulation and Spectroscopic Imaging from Ultraviolet, through Visible and Infrared, to Terahertz	**Dr. Mariusz Martyniuk** Professor University of Western Australia
1330-1400	Integrated Workflow for Digital Material Analysis	**Dr. Tim Senden** Professor Australian National University
1400-1430	Investigation of the Impact of Fiber Bragg Grating Bandwidth on the Efficiency of a Raman Resonator	**Dr. Leanne Henry** Research Scientist Air Force Research Laboratory
1430-1500	Ultrafast Laser Written 3D Integrated Photonics: The Quest for a Killer Ap!	**Dr. Michael Withford** Professor University of Macquarie
1500-1530	**BREAK**	

1530-1600	Improving Microscopy and Optical Trapping using Quantum Mechanics	**Dr. Warwick Bowen** Professor University of Queensland
1600-1630	Diamond and Carbon-based Bionics	**Dr. Steven Prawer** Professor University of Melbourne
1630-1700	Time-Coded Luminescent Nanoparticles for High Contrast Detection of Specific (sub)Cellular Targets	**Dr. Jim Piper** Director, ARC Centre of Excellence for Nanoscale BioPhotonics Macquarie University
1700	**ADJOURN**	

Basic Research and Innovation Collaboration Center
4075 Wilson Boulevard, Suite 350
Arlington, VA 22203

Day 2 - Tuesday, 12 May 2015
Session 3: Biomedical Sciences and Human Performance

Time	Topic	Speaker
0800-0900	Registration	
0830-0900	Transient Modulation of Gene Expression using Functionalized CAS9 Proteins	**Dr. Daniel Hesselson** Research Scientist Garvan Institute of Medical Research
0900-0930	AFOSR Human Performance and Biosystems	**Dr. Patrick Bradshaw** Program Manager Air Force Office of Scientific Research
0930-1000	Nanoparticle-Enhanced Infrared Neural Stimulation	**Dr. Sally McArthur** Professor Swinburne University of Technology
1000-1030	**BREAK**	
1030-1100	Advanced Materials in Biological, Environmental and Energy Sectors via Plasma Surface Modification	**Dr. Ellen Fisher** Professor Colorado State University
1100-1130	Interdisciplinary Research and Education in Biotechnology at Rensselaer	**Dr. Deepak Vashishth** Director, Center for Biotechnology and Interdisciplinary Studies Rensselaer Polytechnic Institute
1130-1200	ARL - SEDD Biotechnology Branch	**Dr. James Sumner** Chief, SEDD Biotechnology Branch Army Research Laboratory
1200-1300	**LUNCH**	
1300-1330	Measurement Science at the Nanoscale - From SI-Traceable Length Measurements to Characterization of Nanomaterials in Complex Matrices	**Dr. Jan Herrmann** Head, Nanometrology Section National Measurements Institute
1330-1400	In Vitro Indoor Experimental Design and Preliminary Study of Primary Explosive Blast Impacts on Neurons	**Dr. Thuvan Piehler** Research Scientist Army Research Laboratory
1400-1430	Microfluids for Manufacturing Affordable and Scalable Cell-Derived Gene Therapies	**Mr. Ryan Pawell** Researcher University of New South Wales
1430-1500	In Vitro Studies of Primary Explosive Blast Loading on Neurons	**Dr. Nicole Zander** Research Scientist Army Research Laboratory
1500	**ADJOURN**	

Basic Research and Innovation Collaboration Center
4075 Wilson Boulevard, Suite 350
Arlington, VA 22203

Day 3 - Wednesday, 13 May 2015
Session 1: Materials Science

Time	Topic	Speaker
0800-0830	Registration	
0830-0900	Measuring and Understanding the Mechanical Properties of Nanostructures	**Dr. Han Huang** Professor University of Queensland
0900-0930	Recent Developments in the Fabrication of High Temperature Superconducting Step Edge Junctions for SQUIDs, SQIFs and other Detectors	**Dr. Cathy Foley** Chief, Division of Materials Science and Engineering Commonwealth Scientific and Industrial Research Organisation
0930-1000	Van der Waals Epitaxy of Layered Chalcogenide Films by Metalorganic Chemical Vapor Deposition	**Dr. Joan Redwing** Professor Penn State University
1000-1030	**BREAK**	
1030-1100	Unprecedented Conduction in Bilayer Graphene	**Dr. Francesca Iacopi** Professor Griffith University
1100-1130	Growth and Characterization of Low-Dimensional Carbon Nanostructures	**Dr. John Boeckl** Research Scientist Air Force Research Laboratory
1130-1200	Advanced Transparent Multifunctional Oxides for Electronic and Optical Devices	**Dr. Sean Li** Professor University of New South Wales
1200-1300	**LUNCH**	
1300-1330	High Temperature Multifunctional Hybrid Composites Interfacial Insights	**Dr. Ozden Ochoa** TEES Professor Texas A&M University
1330-1400	Development of Novel High-Performance Ceramic Reinforced Composites	**Dr. Charles Sorrell** Professor University of New South Wales
1400-1430	Glenn Research Center's Space and Ground-Based Research in Combustion, and Spacecraft Fire Safety	**Dr. David Urban** Chief, Combustion Physics and Reacting Processes Branch NASA Glenn Research Center
1430-1500	Energy Conversion and Combustion Sciences	**Dr. Chiping Li** Program Manager Air Force Office of Scientific Research

1500-1530	**BREAK**	
1530-1600	Plasma-Based Methods for High-Speed Ignition and Combustion	**Dr. Sean O'Byrne** Professor University of New South Wales, Canberra
1600-1630	Application of Moderate or Intense Low Oxygen Dilution (MILD) Combustion to Practical Devices	**Dr. Paul Medwell** Professor University of Adelaide
1630-1700	Materials for Selective Elemental Separations	**Dr. Jessica Veliscek-Carolan** Research Scientist Australian Nuclear Science and Technology Organisation
1700	**ADJOURN**	

Basic Research and Innovation Collaboration Center
4075 Wilson Boulevard, Suite 350
Arlington, VA 22203

Day 3 - Wednesday, 13 May 2015
Session 2: Physics

Time	Topic	Speaker
0800-0830	Registration	
0830-0900	Texas A&M Engineering International Collaborations	**Dr. Narasimha Reddy** TEES Assistant Director for National and Global Initiatives Texas A&M University
0900-0930	In Operando Optical Studies of Solid Oxide Fuel Cells	**Dr. Jeffrey Owrutsky** Chief, Molecular Dynamics Section Naval Research Laboratory
0930-1000	RF-Photonic Devices	**Dr. Weimin Zhou** Research Scientist Army Research Laboratory
1000-1030	**BREAK**	
1030-1100	Nanocharacterisation of Surfaces, Interfaces, Multilayers and Devices	**Dr. Paul Pigram** Professor LaTrobe University
1100-1130	Laser Processing of Materials for Medical Devices	**Dr. Roger Narayan** Professor North Carolina State University
1130-1200	New Waveguide and Fibre Lasers for Short to Mid-Infrared Application	**Dr. David Lancaster** Professor University of South Australia
1200-1300	**LUNCH**	
1300-1330	Hybrid Plasmonic-Organic Nonlinear Nano-Photonic Devices	**Dr. Alan Wang** Professor Oregon State University
1330-1400	Practical Metamaterials	**Dr. Simon Fleming** Professor University of Sydney
1400-1430	Understanding Nanoscience from Atomic Scale	**Dr. Masa Ishigami** Professor University of Central Florida
1430-1500	Controlling the Surface of Atomically Thin Materials to Create New Electronic Phases	**Dr. Michael Fuhrer** Professor Monash University
1500-1530	**BREAK**	

1530-1600	Spin-Based Quantum Computing in Silicon	**Dr. Andrew Dzurak** Director ANFF-NSW University of New South Wales
1600-1630	Atomic and Molecular Physics	**Dr. Tatjana Curcic** Program Manager Air Force Office of Scientific Research
1630-1700	Optical MEMS for Multi-Spectral Chem/Bio Sensing and Imaging: From NIR to LWIR	**Dr. Lorenzo Faraone** Professor University of Western Australia
1700	**ADJOURN**	

Basic Research and Innovation Collaboration Center
4075 Wilson Boulevard, Suite 350
Arlington, VA 22203

Day 3 - Wednesday, 13 May 2015
Session 3: Biomedical Sciences and Human Performance

Time	Topic	Speaker
0800-0830	Registration	
0830-0900	Towards Embeddable Conformal Optical Electode for Brain-Machine Interfaces	**Dr. Francois Ladouceur** Professor University of New South Wales
0900-0930	Optical Approaches for Investigation of the Biological Response to Electromagnetic Exposure	**Dr. Hope Beier** Research Scientist Air Force Research Laboratory
0930-1000	Development of Whole Cell Microbial Biosensors: A Synthetic Biology Approach	**Dr. Gulay Mann** Research Scientist Defence Science & Technology Organisation
1000-1030	**BREAK**	
1030-1100	Biological Sensor Construction and Design using Synthetic Biology	**Dr. Ashley Franks** Professor LaTrobe University
1100-1130	Programmable Light-Activated Transcription Effectors (PLATEs): Engineering the Black Box of Behavior Control: A Synthetic Biology Approach	**Mr. Yagiz Alp Aksoy** Researcher Macquarie University
1130-1200	Engineered Nano and Nano-Bio Hybrid Materials	**Dr. Mark Griep** Research Scientist Army Research Laboratory
1200-1300	**LUNCH**	
1300-1330	Imaging Mass Spectrometry of Tissues and Cells: 2D and 3D	**Dr. Lara Gamble** Professor University of Washington
1330-1400	Determination of Blast Induced Pressure Wave Impact on Dissociated Neuron Cells	**Dr. Rohan Banton** Research Engineer Army Research Laboratory
1400-1430	Manipulating the Interface between Biomolecules and Nanomaterials: Challenges and Advances for Bridging Theory and Experiment	**Dr. Tiffany Walsh** Professor Deakin University
1430-1500	Predictive Materials Properties through the Establishment of Bio-Inspired Rational Design Rules	**Dr. Nicholas Bedford** Researcher National Institute of Standards & Technology
1500	**ADJOURN**	

Basic Research and Innovation Collaboration Center
4075 Wilson Boulevard, Suite 350
Arlington, VA 22203

Day 4 - Thursday, 14 May 2015

Time	Topic	Speaker
0830-0900	Registration	
0900-0930	AFOSR Materials For Extreme Environments	**Dr. Ali Sayir** Program Manager Air Force Office of Scientific Research
0930-1130	Working Group Follow-Up Discussion	
1130-1200	**BREAK**	
1200-1230	Closing Remarks	**Dr. Sofi Bin-Salamon** Air Force Office of Scientific Research **Mrs. Rosie Hicks** Australian National Fabrication Facility **Ms. Laura Rahn** Embassy of Australia
1230	**CONCLUSION**	