



2018 Annual Review of EM Contractors

Dr. Arje Nachman | January 9-11, 2018 | Arlington, VA

Basic Research Innovation Collaboration Center (BRICC)
900 Glebe Road, 2nd floor | Ballston Room
Arlington, VA 22203

Agenda Day 1 Tuesday, January 9, 2018

Time	Title	Speaker
0730-0755	Registration	
0755-0800	Welcome, etc	Arje Nachman AFOSR/RTB
0800-0830	Imaging with Enhanced Early-time Diffusion Signal	Elizabeth Bleszynski Monopole Research
0830-0900	Eigenvalue Problems in Inverse Scattering Theory	David Colton University of Delaware
0900-0930	Signal Fragmentation for Low Frequency Radio Transmission	Russel Caflisch NYU
0930-1000	Long Range EM Propagation through Inhomogeneous Turbulence and Efficient FDTD Schemes for Maxwell PDEs: Mirages, Lensing, Stochastic Effects, and Data Assimilation for EM Fields and Electron Layers in the Ionosphere	Alex Mahalov Arizona State University
1000-1030	BREAK	
1030-1100	Power Flow, Energy Density, and Group/Energy-Transport Velocities in Spatially Dispersive Media	Arthur Yaghjian S4, Inc
1100-1130	Parametric Resonances in Time-varying Media	Alessandro Salandrino University of Kansas
1130-1300	LUNCH	
1300-1330	Inverse Source Problem for Determining a Surface Impedance: Generating the Field of a Complex Point Source	Thorkild Hansen S4, Inc
1330-1400	Analysis of Metasurface Absorption Efficiency for Photon Detection	Bae-Ian Wu AFRL/RV
1400-1430	BREAK	
1430-1500	Light Propagation in Photonic Structures with Phase-changing Components	Ilya Vitebskiy AFRL/RV
1500-1530	New Group Invariant Solutions of Maxwell's Equations for Radar and Photonics	Richard James University of Minnesota
1530	ADJOURN FOR THE DAY	

Agenda Day 2
Wednesday, January 10, 2018

Time	Title	Speaker
0730-0755	Registration	
0755-0800	Welcome, etc	Arje Nachman AFOSR/RTB
0800-0830	Fundamental Limits to Light--matter Interactions	Owen Miller Yale University
0830-0900	Line Waves and Nonreciprocal Modes	Daniel Sievenpiper UCSD
0900-0930	Pulse Propagation in Waveguides with Turning Points and Application to Imaging	Liliana Borcea University of Michigan
0930-1000	Interferometric Radar for Space Surveillance	George Papanicolaou Stanford University
1000-1030	BREAK	
1030-1100	Differential Faraday Rotation and Polarimetric SAR	Semyon Tsynkov NCSU
1100-1130	Doppler-SAR Interferometry	Birsen Yazici RPI
1130-1300	LUNCH	
1300-1330	Improving Robustness, Efficiency, and Accuracy of SAR Imaging Techniques using Multi-measurement Vectors	Anne Gelb Dartmouth College
1330-1400	Speckle Memory Effect and Imaging	Knut Solna UC/Irvine
1400-1430	BREAK	
1430-1500	Packings in Projective Spaces	Dustin Mixon Ohio State University
1500-1530	Generating X Waves at Microwave Frequencies	Anthony Grbic University of Michigan
1530	ADJOURN FOR THE DAY	

Agenda Day 3
Thursday, January 11, 2018

Time	Title	Speaker
0730-0755	Registration	
0755-0800	Welcome, etc	Arje Nachman AFOSR/RTB
0800-0830	Data-Driven Sparse Optimal Sensor Placement	Nathan Kutz University of Washington
0830-0900	Extrapolation Via Sparsity	Laurent Demanet MIT
0900-0930	Analysis of Signals Spanned by Exponentials Concentrated in Regions in the Complex Plane	Vladimir Rokhlin Yale
0930-1000	Optimization Based Approaches for Transmit Adaptive Radar	Vishal Monga Penn State University
1000-1030	BREAK	
1030-1100	Polarization & Coherence Effects in the Hanbury Brown-Twiss Effect	Taco Visser University of Rochester
1100-1130	Atmospheric Fried Deconvolution	Jerome Gilles San Diego State University
1130-1300	LUNCH	
1300-1330	Target Scattering Characteristics Considerations in Coherent MIMO Detection	Ram Raghavan AFRL/RV
1330-1400	Passive Radar Detection-From Theory to Controlled Laboratory Experiments	Sandeep Gogineni Wright State University
1400-1430	BREAK	
1430-1500	Transport Techniques for Vector-Valued Distributions in Signal Analysis and Image Processing	Allen Tannenbaum SUNY/Stony Brook
1500-1530	Imaging Extended Scatterers in Terminating Waveguides	Chrysoula Tsogka UCal/Merced
1530	MEETING ADJOURNED	