



Basic Research Innovation Collaboration Center (BRICC)
 900 North Glebe Road | Arlington VA 22203
 East/West Falls Church Room – 2nd Floor

Day 1- September 30, 2013

Time	Topic	Speaker
8:00-8:30	Introduction to the Program	Dr. Frederica Darema, AFOSR

Materials Modeling

8:30-10:30	Development of a Stochastic Dynamic Data-Driven System for Prediction of Materials Damage	PI: Tinsley Oden (UT Austin) and Team
	Developing Data-Driven Protocols to study Complex Systems: The case of Engineered Granular Crystals (EGC)	PI: Yannis Kevrekidis (Princeton Univ) and Team
	Dynamic Data-Driven Modeling of Uncertainties and 3D Effects of Porous Shape Memory Alloys	PI: Craig Douglas (U of Wyoming) and Team
	Dynamic, Data-Driven Modeling of Nanoparticle Self Assembly Processes	Y. Ding (TAMU) and Team

10:30-10:45 **BREAK**

AirVehicle Structural HealthMonitoring – Environment Cognizant

10:45-12:15	Advanced Simulation, Optimization, and Health Monitoring of Large Scale Structural Systems	PI: Yuri Bazilevs (UCSD) and Team
	Dynamic Data-Driven Methods for Self-Aware Aerospace Vehicles	PI: Karen Willcox (MIT) and Team
	Bayesian Computational Sensor Networks for Aircraft Structural Health Monitoring	PI: Thomas Henderson (U. of Utah)

12:15-1:00 **LUNCH**

Energy Efficiencies

1:00-2:00	Energy-Aware Aerial Systems for Persistent Sampling and Surveillance	PI: Erik Frew (U of Colorado-Boulder) and Team
	DDDAMS-based Real-time Assessment and Control of Electric-Microgrids	PI: Nurcin Celik (University of Miami)

UAV Swarms + Ground Systems Coordination

2:00-3:00	Application of DDDAS Principles to Command, Control and Mission Planning for UAV Swarms	PI: Greg Madey (U. Of Notre Dame) and Team and UGVs
	DDDAMS-based Urban Surveillance and Crowd Control via UAVs and UGVs	PI: Young-Jun Son (University of Arizona) and Team

3:00-3:15 **BREAK**

UAV Swarms + Ground Systems Coordination (cont'd)

3:15-4:45	Dynamic Systems for Individual Tracking via Heterogeneous Information Integration and Crowd Source Distributed Simulation	PI: Richard Fujimoto (Georgia Tech) and Team
	An Integrated approach to the Space Situational Awareness Problem	PI: Suman Chakravorty (TAMU) and Team
	A Dynamic Data Driven Cognitive Control Architecture for Exploration	PI: Jose Principe (U. of Florida) and Team
4:45-5:30	Discussion of all projects presented in Day 1	
5:30	MEETING AJOURNED FOR THE DAY	

Day 2- October 1, 2013		
Time	Topic	Speaker
8:00-8:15	Introduction to the Program	Dr. Frederica Darema, AFOSR
Situational Awareness (Co-operative Sensing UAV-Ground-Space)		
8:15-10:00	DDDAS for Object Tracking in Complex and Dynamic Environments (DOTCODE)	PI: Anthony Vodacek (RIT) and Team
	Multiscale Analysis of Multimodal Imagery for Cooperative Sensing	PIs: Erik Blasch, Guna Seetharaman RI Directorate, AFRL
	New Globally Convex Models for Vision Problems using Variational Methods (LRIR)	PI: Guna Sheetharanam, AFRL-RI
10:00-10:15	BREAK	
Situational Awareness (Co-operative Sensing UAV-Ground-Space) – cont’d		
10:15-11:45	Hybird Systems Modeling and Middleware-enabled DDDAS for Next-generation US Air Force Systems	PI: Aniruddha Gokhale (Vanderbilt U.) and Team
	Adaptive Stream Mining: A Novel Dynamic Computing Paradigm for Knowledge Extraction	PI: Shuvra Bhattacharyya (U. Of Maryland) and Team
	Stochastic Logical Reasoning for Autonomous Mission Planning	PI: Carlos A. Varela (RPI)
11:45-1:00	LUNCH	
Space Weather and Atmospheric Events – Modeling/Observations		
1:00-3:00	Transformative Advances in DDDAS with Application to Space Weather Modeling	PI: Dennis Bernstein (U. of Michigan) and Team
	DDDAS Approach To Volcanic Ash Transport & Dispersal Forecast	PI: Abani Patra (Univ at Buffalo) and Team
	Fluid SLAM and the Robotic Reconstruction of Localized Atmospheric Phenomena	PI: Sai Ravela (MIT)
	A Framework for Quantifying and Reducing Uncertainty in InfoSymbiotic Systems Arising in Atmospheric Environments	PI: Adrian Sandu (Virginia Tech)

3:00-3:15	BREAK	
Space Weather and Atmospheric Events – Modeling/Observations (cont'd)		
3:15-4:15	Dynamic Data-Driven UAV Network for Plume Characterization	PI: Kamran Mohseni (U. of Florida)
	Optimized Routing of Intelligent, Mobile Sensors for Dynamic, Data-Driven Sampling	PI: Derek Paley (UMD)
4:15-5:30	Discussion of all projects presented in Day 2	
5:30	MEETING AJOURNED FOR THE DAY	

Day 3- October 2, 2013		
Time	Topic	Speaker
7:30-8:00	Introduction to the Program	Dr. Frederica Darema, AFOSR
Systems Software		
8:00-10:00	An Adaptive Property-Aware HW/SW Framework for DDDAS	PI: Philip Jones (Iowa State U.) and Team
	Amorphous Polyhedral Model for Stochastic Control of Autonomous UAVs	PI: Sanjay Rajopadhye (Colorado State)
	PREDICT: Privacy and Security Enhancing Dynamic Information Collection and Monitoring	PI: Vaidy Sunderam (Emory U.) and Team
	DDDAS-based Resilient Cyberspace (DRCS)	PI: Salim Hariri (University of Arizona. Tucson) and Team
10:00-10:15	BREAK	
Systems Software (cont'd)		
10:15-10:45	Architecture and Programming Models for High Performance Interactive Computation	PI: Xiaoming Li (U of Delaware) and Team
10:45-12:00	Discussion of all projects presented in Morning of Day 3, and Days 1&2	
12:00-1:00	LUNCH (Working Lunch) Discussion of all projects	
1:00-2:30	Discussion of all projects – Collaborations, Program Directions	
2:30	MEETING AJOURN	