



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

### Agenda Day 1 | August 8, 2016

Time	Title of Project	Speaker
8:00-8:30	Registration	
8:30-8:45	<a href="#">Welcoming Remarks</a>	Jean-Luc Cambier AFOSR
8:45-9:15	<a href="#">A Deep-Learning Approach towards Auto-Tuning CFD Codes</a>	Wu Feng (Virginia Tech)
9:15-9:45	<a href="#">Time Domain Electromagnetic Particle-Particle Particle-Mesh Methods</a>	Andrew Christlieb (Michigan State)
9:45-10:00	BREAK	
10:00-10:30	<a href="#">A High Order Truly Multi-dimensional Semi-Lagrangian Approach for Vlasov Simulations</a>	Jingmei Qiu (U. Houston)
10:30-11:00	<a href="#">A Multiscale Particle Computational Method for Chemically Reacting Microplasmas</a>	Nikos Gatsonis (WPI)
11:00-11:30	<a href="#">Observable Euler/NS Equations for Simulation of Multiphase Flows with Shocks and Turbulence</a>	Kamran Mohseni (U Florida)
11:30-13:00	LUNCH	
13:00-13:30	<a href="#">Distributional Monte Carlo Methods for RGD</a>	Aihua Wood (AFIT)
13:30-14:00	<a href="#">Development and Analysis of Non-Classical Numerical Approximation Methods</a>	R. Platte, A. Gelb (ASU)
14:00-14:30	<a href="#">Optimal Sampling of Functions using the Spectral Measure</a>	Akil Narayan (U. Utah)
14:30-15:00	<a href="#">Strong Stability Preserving Implicit and IMEX Methods</a>	Sigal Gottlieb (U. Mass)
15:00-15:15	BREAK	
15:15-15:45	<a href="#">Compatible-Strain Mixed Finite Element Methods for 2D Compressible Nonlinear Elasticity</a>	Arash Yavari (Ga Tech)
15:45-16:15	<a href="#">A Unified Mathematical and Algorithmic Framework for Managing Multiple Information Sources of Multi-physics Systems (MURI)</a>	K. Willcox (MIT), P. Frazier (Cornell)
16:15-16:45	<a href="#">Mathematical Methods for Inverse Ill-posed Problems and Applications</a>	Ruben Spies (IMAL, Argentina)
MEETING ADJOURNED FOR THE DAY		

Agenda Day 2   August 9, 2016		
Time	Title of Project	Speaker
8:00-8:15	Registration	
8:15-8:45	<a href="#">Continuum Shape Sensitivity Analysis with Spatial Gradient Reconstruction for Fluid-Structure Interactions</a>	Robert Canfield (VT)
8:45-9:15	<a href="#">The Hybridized Discontinuous Galerkin Method for Implicit Large Eddy Simulations</a>	J. Peraire, N. C. Nguyen (MIT)
9:15-9:45	<a href="#">A New Fast, Accurate and Non-Oscillatory Numerical Approach for Wave Propagation Problems in Solids</a>	Alexander Idesman (Texas Tech U.)
9:45-10:00	BREAK	
10:00-10:30	<a href="#">Correcting Soft Errors in Function Approximation</a>	Dongbin Xiu (OSU)
10:30-11:00	<a href="#">Towards Extreme-Scale Computing with High-Order Discontinuous Methods</a>	Z. J. Wang (Kansas U)
11:00-11:30	<a href="#">Applied and Theoretical Issues on Inverse Problems</a>	Diana Rubio (U. San Martin, Argentina)
11:30-13:00	LUNCH	
13:00-13:30	<a href="#">Discontinuous Petrov Galerkin (DPG) Solvers for Maxwell Equations and Related Wave Propagation Problems</a>	L. Demkowicz (UT-Austin), J. Gopalakrishnan (Portland State U.)
13:30-14:00	<a href="#">High-Order Methods and High Fidelity Simulation of Unsteady Turbulent Fluid Flows</a>	Antony Jameson (Stanford)
14:00-14:30	<a href="#">Robust Approximation of Nonlinear Hyperbolic Systems</a>	J.-L. Guermond (Texas A&M U.)
14:30-14:45	BREAK	
14:45-15:15	<a href="#">Efficient and Robust High-Order Methods for Fluid and Solid Mechanics</a>	Per-Olof Persson (UC Berkeley)
15:15-15:45	<a href="#">An Open-Source Framework for Physics-based Validation and Verification of Higher Order Discretizations</a>	K. Beckwith (Tech-X)
15:45-16:45	Discussion	
MEETING ADJOURNED FOR THE DAY		

Agenda Day 3   August 10, 2016		
Time	Title of Project	Speaker
8:00-8:30	Registration	
8:30-9:00	<a href="#">Multi-Fidelity Methods for Computational Design</a>	Phil Beran (AFRL/RQVC)
9:00-9:30	<a href="#">Uncertainty Quantification for Materials State Awareness and Characterization</a>	Amanda Criner (AFRL/RXCA)
9:30-10:00	<a href="#">Quantifying and Improving Confidence in Model Predictions for Hypersonic Aircrafts</a>	Ben Smarslok (AFRL/RQHF)
10:00-10:15	BREAK	
10:15-10:45	<a href="#">Improved Plasma and High Power Electromagnetic Modeling</a>	Jason Hammond (AFRL/RDHE)
10:45-11:15	<a href="#">Extending Stochastic Numerical Methods For Beam Control</a>	Dan Cargill (AFRL/RDLEM)
11:15-12:45	LUNCH	
12:45-13:15	<a href="#">Complementing Dynamical Equations with Data in Adaptive Reduced-order Subspaces</a>	Themis Sapsis (MIT)
13:15-13:45	<a href="#">Model Inversion via Machine Learning: Algorithms and Applications to Fluids and Materials</a>	George Karniadakis (Brown)
13:45-14:15	<a href="#">Duality and Memory in the Mori-Zwanzig Formulation</a>	Daniele Venturi (UCSC)
14:15-14:45	<a href="#">From Computational Information Games to Universal Scalable Robust Solvers</a>	Houman Owhadi (Caltech)
14:45-15:00	BREAK	
15:00-15:30	<a href="#">Operational Dynamical Modelling: Towards Efficient Model-Building and Simulation of Complex Systems</a>	Denys Bondar (Princeton)
15:30-16:00	<a href="#">Stochastic Algorithms in Sparse Anti-Symmetrized Hilbert Spaces</a>	George Booth (King's College)
16:00-16:45	Discussion	
MEETING ADJOURNED FOR THE DAY		

Agenda Day 4   August 11, 2016		
Time	Title of Project	Speaker
8:00-8:30	Registration	
8:30-9:00	<a href="#">Using Multi-Secant Methods for Optimization Problems with Inaccurate Gradients</a>	Jason Hicken (RPI)
9:00-9:30	<a href="#">Dynamic-solver-consistent Minimum Action Method for Navier-Stokes Equations</a>	Xiaolang Wan (LSU)
9:30-10:00	<a href="#">Gradient based Optimization and Control of Chaotic Multidisciplinary Systems via Least Squares Shadowing Adjoint Method</a>	Qiqi Wang (MIT)
10:00-10:15	BREAK	
10:15-10:45	<a href="#">Efficient Spectral Methods for Fractional Differential Equations in Unbounded Domains</a>	Jie Shen (Purdue)
10:45-11:15	<a href="#">Advanced Numerical Methods for Computing Statistical Quantities of Interest</a>	Max Gunzburger (U Florida)
11:15-12:45	LUNCH	
12:45-13:15	<a href="#">Time Evolution of Super-Convergence Properties of DG and Exploitation via Line Filtering</a>	J. Ryan (U. East Anglia)
13:15-13:45	<a href="#">Simulation of Particle-laden Blast Waves</a>	G. Jacobs (SDSU), H. Udaykumar (U. Iowa)
13:45-14:15	<a href="#">Computational Challenges in Modeling Condensed Phase Energetic Materials Across a Wide Range of Scales</a>	D. Stewart (UIUC)
14:15-14:45	<a href="#">Explicit Solutions to Phase-change Problems and Applications</a>	Domingo Tarzia (U. Austral, Argentina)
14:45-15:00	BREAK	
15:00-15:30	<a href="#">Multi-Rate High Order Time-Integrators for Adaptive Local High-Order Discretization Methods</a>	Frank Giraldo (NPS)
15:30-16:00	<a href="#">Towards a Practical High Order FEM: Bernstein-Bezier Techniques</a>	Mark Ainsworth (Brown)
MEETING ADJOURNED		