

Group	Poster Board #	Blitzer	Project PI	Institution	Project Blitz Title
A	01	Banks, Jeffrey	Banks, Jeffrey	RPI	A stable mass-added partitioned scheme for elastic solids and incompressible flows
A	03	Bell, John	Bell, John	LBNL	A low Mach number strategy for reactive flows subject to electric fields
A	05	Bochev, Pavel	Bochev, Pavel	SNL	Optimization-based property-preserving methods
A	07	Chow, Edmond	Chow, Edmond	GA Tech	Asynchronous iterative solvers for extreme-scale computing
A	09	Constantinescu, Emil	Constantinescu, Emil	ANL	Solving inverse problems with statistical metrics
A	11	Curtis, Frank	Curtis, Frank	Lehigh Univ	New Quasi-Newton methods for non-convex optimization
A	13	Cyr, Eric	Cyr, Eric	SNL	Exploiting parallelism in optimization with evolutionary system constraints
A	15	Elman, Howard	Elman, Howard	Univ Maryland	Low-rank multigrid methods for stochastic PDEs
A	17	Ghattas, Omar	Ghattas, Omar	UT Austin	AEOLUS - Advances in Experimental Design, Optimal Control, and Learning for Uncertain Complex Systems
A	19	Hauck, Cory	Hauck, Cory	ORNL	Hybrid methods for complex particle systems
A	21	Johansen, Hans	Colella, Phil	LBNL	High-resolution and adaptive numerical algorithms for PDEs
A	23	Tartakovsky, Alexandre	Karniadakis, George	PNNL	PhILMs - Collaboratory on Mathematics and Physics-Informed Learning Machines for Multiscale and Multiphysics problems
A	25	Leyffer, Sven	Leyffer, Sven	ANL	What have Romulan warbirds and invisibility cloaks in common?
A	27	Minion, Michael	Minion, Michael	LBNL	Efficient parallel-in-time methods for PDE constrained optimal control problems
A	29	Mitchell, Scott	Mitchell, Scott	SNL	Primal-dual mesh optimization with mathematical foundations
A	31	Peherstorfer, Benjamin	Peherstorfer, Benjamin	New York Univ	Operator inference on manifolds for learning physically consistent models from data
A	33	Pothen, Alex	Pothen, Alex	Purdue	Parallel graph algorithms through approximation
A	35	Saye, Robert	Sethian, James	LBNL	Frontiers in Computation: New methods for fluids, structures and interfaces, advanced materials, and stochastics
A	37	Scovazzi, Guglielmo	Scovazzi, Guglielmo	Duke	Numerical simulations in complex geometry: From imaging to computing <u>without</u> CAD
A	39	Shadid, John	Shadid, John	SNL	Enabling multiphysics plasma simulations by the development of stable, accurate, and scalable computational formulations and solution methods
A	41	Tuminaro, Ray	Tuminaro, Ray	SNL	Non-invasive semi-structured multigrid on advanced architectures
A	43	Xu, Jinchao	Xu, Jinchao	Penn State	Magnetohydrodynamics, multigrid, and deep neural networks
A	45	Schwalbe, Michelle	Schwalbe, Michelle	BMSA	Board on Mathematical Sciences and Analytics
A	47	Kolda, Tamara	Kolda, Tamara	SNL	Tensor decompositions for data-driven applications

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B	02	Anitescu, Mihai	Anitescu, Mihai	ANL	MACSER - Multifaceted Mathematics for Rare, High-Impact Events in Complex Energy and Environment systems
B	04	Dorr, Milo	Dorr, Milo	LLNL	Progress in high-resolution methods for continuum kinetics models
B	06	Falgout, Robert	Falgout, Robert	LLNL	Parallel multigrid-in-time methods for highly concurrent architectures
B	08	Fischer, Paul	Fischer, Paul	ANL	High-order methods for high-performance multiphysics simulations
B	10	Hovland, Paul	Hovland, Paul	ANL	Derivatives 'R US: Automatic differentiation for heterogeneous applications and architectures
B	12	Kim, Kibaek	Zavala, Victor	Univ Wisconsin	Next-generation optimization under uncertainty
B	14	Laiu, Paul	Hauck, Cory	ORNL	Sparse recovery of scientific data
B	16	McInnes, Lois	McInnes, Lois	ANL	Extending PETSC's composable hierarchical nested solvers
B	18	Nonaka, Andy	Bell, John	LBNL	Stochastic models and algorithms for mesoscale flows
B	20	Ostrowski, James	Ostrowski, James	UTenn Knoxville	Exploiting symmetry in linear programming
B	22	Perdikaris, Paris	Perdikaris, Paris	Univ Penn	Probabilistic data fusion and physics-informed learning
B	24	San, Omer	San, Omer	Oklahoma State	Data-driven subgrid scale modeling of turbulence
B	26	Scovazzi, Guglielmo	Fidkowski, Krzysztof	Univ Michigan	Goal-oriented predictions through adaptive model reduction
B	28	Sethian, James	Sethian, James	LBNL	CAMERA: Center for Advanced Mathematics for Energy Research Applications
B	30	Shen, Siqian	Shen, Siqian	Univ Michigan	Extreme-scale stochastic optimization and simulation via learning-enhanced decomposition and parallelization
B	32	Smith, Barry	Smith, Barry	ANL	Multirate time integration methods and error estimation and propagation in complex ODE/DAE/PDE simulations
B	34	Tartakovsky, Alexandre	Tartakovsky, Alexandre	PNNL	New dimension reduction methods and scalable algorithms for nonlinear phenomena: Non-local surface tension model for multiphase flows
B	36	Tipireddy, Ramakrishnan	Tartakovsky, Alexandre	PNNL	Uncertainty quantification in complex systems described by stochastic PDEs
B	38	Tomov, Vladimir	Kolev, Tzanio	LLNL	ETHOS: High-order mesh optimization
B	40	Vassilevski, Panayot	Vassilevski, Panayot	LLNL	Multilevel methods, numerical upscaling and space-time AMR
B	42	Weare, Jonathan	Weare, Jonathan	New York Univ	Fast randomized iterative methods for quantum chemistry
B	44	Webster, Clayton	Webster, Clayton	ORNL	Mathematical methods for optimal polynomial recovery of high-dimensional systems from noisy data
B	46	Wildey, Tim	Wildey, Tim	SNL	Enabling beyond forward simulation for predictive multiscale modeling
B	48	Buluc, Aydin	Buluc, Aydin	LBNL	Parallel primitives for randomized algorithms on sparse data