Tuesday 3/24

07:30-08:30 **Breakfast [Copper Conference Center]**

08:00-10:05 Session 8A: Preconditioning.

Bighorn B

08:00	An implicit approach to phase field modeling of solidification for metals and alloys	**Christopher Newman** Marianne Francois, Supriyo Ghosh
08:25	Recurrent use of AL preconditioner for fluid equations on manifolds.	**Maxim Olshanskiy** Alexander Zhiliakov
08:50	Enhanced Relaxed Physical Factorization Preconditioner for Three-Field Poroelasticity	**Matteo Frigo** Nicola Castelletto, Massimiliano Ferronato
09:15	Spectral-based fast solvers for finite volume discretizations of a conservative fractional diffusion problem	**Ken Trotti** Mariarosa Mazza, Marco Donatelli, Rolf Krause
09:40	—	

08:00-10:05 Session 8B: Quantum Linear Algebra Algorithms I.

Bighorn C/1

08:00	Quantum Computing From a Linear Algebra Perspective	**Chao Yang**
08:25	Variational quantum algorithms running on quantum supreme chips	**Jarrod McClean**
08:50	Low-depth gradient measurements can improve convergence in variational hybrid quantum-classical algorithms	**Aram Harrow** John Napp
09:15	Quantum linear system solver based on time-optimal adiabatic quantum computing and quantum approximate optimization algorithm	**Dong An** Lin Lin
09:40	—	

08:00-10:05 Session 8C: Transport and Nuclear Applications.

Bighorn C/2

08:00	Domain Decomposed Monte Carlo Transport on GPUs in Shift	**Steven Hamilton** Thomas Evans
08:25	Scalable multilevel domain decomposition methods with SG coarse spaces for the multigroup neutron transport equations	**Fande Kong**
08:50	Multimaterial, three temperature radiation-hydrodynamics solver for ICF applications	**Hyeongkae Park** Marc Charest
09:15	Iterative Methods for Thermal Radiation Transport with Multiple Preconditioners	**Andrew Till** Jim Warsa
09:40	Data motion analysis for Implicit Monte Carlo on CPUs and GPUs	**Alex Long**

10:05-10:25 **Coffee \& Tea Service**

10:25-12:30 **Session 9A: Eigenvalue and SVD Computations.**
Bighorn B

10:25 Hybrid Iterative Refined Methods for Symmetric Eigenvalue Problems
Jennifer Picucci James Baglama

10:50 Low-Rank Stopping Criteria for Block Parallel SVD
Steven Goldenberg Andreas Stathopoulos

11:15 HiSVD: A Hybrid Incremental SVD Method for Streaming Large, Sparse Matrices
Jeremy Myers Andreas Stathopoulos

11:40 Computing Generalized Matrix Functions with Singular Value Estimation
Ru Huang Yuanzhe Xi, Michele Benzi

12:05 Domain decomposition Rayleigh-Ritz approaches for symmetric generalized eigenvalue problems
Vasileios Kalantzis

10:25-12:30 **Session 9B: Quantum Linear Algebra Algorithms II.**
Bighorn C/1

10:25 Quantum primitives and quantum linear algebra
Lin Lin

10:50 Eigenstate filtering with application to quantum linear systems
Lin Lin Yu Tong

11:15 Quantum state verification in linear algebra problems
Rolando Somma Yigit Subasi

11:40 Quantum algorithm for linear systems and applications to plasma dynamics
Hari Krovi

12:05 —

10:25-12:30 **Session 9C: Preconditioning.**
Bighorn C/2

10:25 Matrix-free preconditioning for high-order finite elements
Andrew Barker

10:50 Preconditioning for a Stabilized Mixed-Hybrid Formulation of Biot's Poroelasticity Equations
Nicola Castelletto Massimiliano Ferronato, Matteo Frigo, Joshua White

11:15 Peclet-robust preconditioners for singularly perturbed convection-diffusion equations
Scott MacLachlan Niall Madden, Thai Nhan

11:40 Nonsymmetric block preconditioners and heterogeneous DSA, compatible with voids
Ben Southworth

12:05 Multiscale preconditioning for coupled porous media flow and geomechanics on unstructured grids
Sergey Klevtsov Nicola Castelletto, Hamdi Tchelepi

16:30-18:35	Session 10A: Algebraic Preconditioners. Bighorn B	16:30-18:35	Session 10B: Quantum Linear Algebra Algorithms III. Bighorn C/1	16:30-18:35	Session 10C: UQ and Montecarlo methods. Bighorn C/2
16:30	Preconditioners based on enhanced structured incomplete factorization (eSIF) for general SPD matrices **Jianlin Xia**	16:30	Unitary Matrix Decompositions for Quantum Circuit Synthesis **Roel Van Beeumen**	16:30	An efficient solver for nonlinear Bayesian inverse problems **Akwum Onwunta** Howard Elman
16:55	Leveraging One-Sided Communication for Sparse Triangular Solvers **Sherry Li** Nan Ding, Samuel Williams, Yang Liu	16:55	Quantum algorithm for simulating the wave equation **Stephen Jordan** Pedro Costa, Aaron Ostrander	16:55	Multilevel Monte Carlo with improved correlation for kinetic equations in the diffusive scaling **Emil Loevbak** Giovanni Samaey, Stefan Vandewalle
17:20	Multicolor Block Gauss-Seidel using Kokkos **Brian Kelley** Siva Rajamanickam	17:20	High-precision quantum algorithms for partial differential equations **Andrew Childs** Jin-Peng Liu, Aaron Ostrander	17:20	A Discrete-time Cancer Immunotherapy Model under the Kolmogorov Equation View and the Reaction-Diffusion Model **Ye Li**
17:45	SSAI: A symmetric sparse approximate inverse preconditioner for the conjugate gradient methods PCG and PCGLS **Shaked Regev** Michael Saunders	17:45	—	17:45	Exploiting Sparsity in the Estimation of Gaussian Mixture Models **Shahaf Finder** Eran Treister, Oren Freifeld
18:10	—	18:10	—	18:10	Deflation and preconditioning strategies for sequences of sampled stochastic elliptic equations **Nicolas Venkovic** Paul Mycek, Luc Giraud, Olivier Le Maître