SIAM ALA18 At-a-Glance

Friday
May 4

8:00 AM - 11:30 AM
Registration
Tsang Chan Sik Yue Auditorium Lobby, 2/F Academic and Administration Building

8:40 AM - 8:45 AM
Welcoming Remarks
Tsang Chan Sik Yue Auditorium, 2/F Academic and Administration Building

8:45 AM - 9:30 AM
IP1 Convergence Stories of Algebraic Iterative Reconstruction
Per Christian Hansen, Technical University of Denmark
Tsang Chan Sik Yue Auditorium, 2/F Academic and Administration Building

9:30 AM - 10:15 AM
IP2 Matrix Equation Techniques for a Class of PDE Problems with Data Uncertainty
Valeria Simoncini, Universita di Bologna
Tsang Chan Sik Yue Auditorium, 2/F Academic and Administration Building

10:15 AM - 10:45 AM
Coffee Break
3/F Podium, Academic and Administration Building

10:45 AM - 12:45 PM
Concurrent Sessions

CS01 Contributed Session 01
WLB206
CS02 Contributed Session 02
WLB208
CS03 Contributed Session 03
WLB211

12:45 PM - 1:45 PM
Lunch Break

1:45 PM - 2:30 PM
IP3 Interpolative Decomposition and Its Applications
Lexing Ying, Stanford University
Tsang Chan Sik Yue Auditorium, 2/F Academic and Administration Building

2:30 PM - 3:00 PM
Coffee Break
3/F Podium, Academic and Administration Building

3:00 PM - 5:00 PM
Concurrent Sessions

MS02 Advances in Preconditioning and Iterative Methods
WLB204
MS10 Part II Generalized Inverses and the Linear Least Squares
WLB104
MS13 Large-Scale Matrix and Tensor Optimization
WLB109
MS15 Part II Low-Rank and Toeplitz-Related Structures in Applications and Algorithms
WLB109
MS19 Part II Nonlinear Eigenvalue Problems and Applications
WLB103
MS41 Part I The Spectrum of Hypergraphs via Tensors
WLB210

5:15 PM - 6:00 PM
SIAG/LA Business Meeting
WLB103

6:00 PM - 8:00 PM
Welcoming Reception
Renfrew Restaurant, 2/F, David C Lam Building

Saturday
May 5

8:30 AM - 11:30 AM
Registration
Tsang Chan Sik Yue Auditorium Lobby, 2/F Academic and Administration Building

8:45 AM - 9:30 AM
IP4 Comparative Spectral Decompositions for Personalized Cancer Diagnostics and Prognostics
Orly Alter, University of Utah
Tsang Chan Sik Yue Auditorium, 2/F Academic and Administration Building

9:30 AM - 10:15 AM
IP5 Theory and Computation of 2D Eigenvalue Problems
Yangfeng Su, Fudan University
Tsang Chan Sik Yue Auditorium, 2/F Academic and Administration Building

10:15 AM - 10:45 AM
Coffee Break
3/F Podium, Academic and Administration Building

10:45 AM - 12:45 PM
Concurrent Sessions

MS03 Asynchronous Iterative Methods in Numerical Linear Algebra and Optimization
WLB210
MS06 Part I Discovery from Data
AAB201
MS07 Part I Domain Decomposition Methods for Heterogeneous and Large-Scale Problems
WLB103
MS12 Part I Large-Scale Eigenvalue Problems and Applications
WLB104
MS18 Part I Matrix Optimization and Applications
WLB109
MS22 Part I Numerical Methods for Ground and Excited State Electronic Structure Calculations
WLB204
MS35 Part I Some Recent Applications of Krylov Subspace Methods
WLB205
CS06 Contributed Session 06
WLB208
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<th>Session</th>
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<tr>
<td>12:45 PM - 1:45 PM</td>
<td>Lunch Break</td>
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<td>1:45 PM - 3:45 PM</td>
<td>Concurrent Sessions</td>
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<tr>
<td>MS07 Part II</td>
<td>Domain Decomposition Methods for Heterogeneous and Large-Scale Problems WLB103</td>
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<td>MS12 Part II</td>
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<td>MS18 Part II</td>
<td>Matrix Optimization and Applications WLB109</td>
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<tr>
<td>MS22 Part II</td>
<td>Numerical Methods for Ground and Excited State Electronic Structure Calculations WLB204</td>
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<tr>
<td>MS27 Part I</td>
<td>Preconditioners for Ill-Conditioned Linear Systems in Large Scale Scientific Computing WLB201</td>
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<td>MS33 Part I</td>
<td>Recent Advances in Tensor Based Data Processing WLB207</td>
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<tr>
<td>MS35 Part II</td>
<td>Some Recent Applications of Krylov Subspace Methods WLB205</td>
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<td>3:45 PM - 4:15 PM</td>
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<td>Lobby of Lam Woo International Conference Centre</td>
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<td>4:15 PM - 6:15 PM</td>
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<tr>
<td>MS12 Part III</td>
<td>Large-Scale Eigenvalue Problems and Applications WLB104</td>
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<td>MS18 Part III</td>
<td>Matrix Optimization and Applications WLB109</td>
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<tr>
<td>MS20</td>
<td>Nonlinear Perron-Frobenius Theory and Applications WLB103</td>
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<td>MS26</td>
<td>Preconditioners for Fractional Partial Differential Equations and Applications WLB204</td>
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<td>MS27 Part II</td>
<td>Preconditioners for Ill-Conditioned Linear Systems in Large Scale Scientific Computing WLB201</td>
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<td>Recent Advances in Tensor Based Data Processing WLB207</td>
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<td>MS35 Part III</td>
<td>Some Recent Applications of Krylov Subspace Methods WLB205</td>
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<td>Sunday, May 6</td>
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<td>9:30 AM - 11:30 AM</td>
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<td>Tsang Chan Sik Yue Auditorium Lobby, 2/F Academic and Administration Building</td>
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<td>8:45 AM - 9:30 AM</td>
<td>IP6 On the Design of Algebraic Multigrid for High Performance Computers Ulrike Meier Yang, Lawrence Livermore National Laboratory Tsang Chan Sik Yue Auditorium, 2/F Academic and Administration Building</td>
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<tr>
<td>9:30 AM - 10:15 AM</td>
<td>IP7 Nonlinear Eigenvalue Problems: Interpolatory Algorithms and Transient Dynamics Mark Embree, Virginia Tech Tsang Chan Sik Yue Auditorium, 2/F Academic and Administration Building</td>
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<td>10:15 AM - 10:45 AM</td>
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<td>10:45 AM - 12:45 PM</td>
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<td>Mini-Tutorial Tensor Eigenvectors and Stochastic Processes A. Benson, Cornell University and D. Gleich, Purdue University AAB201</td>
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<td>MS16 Machine Learning: Theory and Practice WLB204</td>
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<td>MS24 Parallel Sparse Triangular Solve on Emerging Platforms WLB205</td>
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<td>MS28 Preconditioning for PDE Constrained Optimization WLB211</td>
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<td>MS32 Part I Recent Advances in Linear Algebra for Uncertainty Quantification WLB210</td>
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<td>MS36 Part I Tensor Analysis, Computation, and Applications I WLB103</td>
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<td>MS40 Part I The Perturbation Theory and Structure-Preserving Algorithms WLB104</td>
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<td>CS07 Contributed Session 07 WLB109</td>
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<td>CS08 Contributed Session 08 WLB206</td>
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<td>MS06 Part II</td>
<td>Discovery from Data AAB201</td>
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<td>MS17 Part I</td>
<td>Matrix Functions and Their Applications WLB210</td>
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<td>MS30 Part I</td>
<td>Rank Structured Methods for Challenging Numerical Computations WLB204</td>
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<td>Rational Krylov Methods and Applications WLB205</td>
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<td>MS34 Part I</td>
<td>Recent Applications of Rank Structures in Matrix Analysis WLB109</td>
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<td>CS09 Contributed Session 09 WLB211</td>
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<td>MS17 Part II</td>
<td>Matrix Functions and Their Applications WLB210</td>
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<td>MS29</td>
<td>Randomized Algorithms for Factorizing Matrices WLB211</td>
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<td>Rank Structured Methods for Challenging Numerical Computations WLB204</td>
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<td>MS38</td>
<td>Tensor-Based Modelling WLB103</td>
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<td>MS40 Part III</td>
<td>The Perturbation Theory and Structure-Preserving Algorithms WLB104</td>
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Monday
May 7

9:30 AM - 11:30 AM
Registration
Tsang Chan Sik Yue Auditorium Lobby, 2/F Academic and Administration Building

8:45 AM - 9:30 AM
SIAG/Linear Algebra Best Paper Prize Lecture Generating Polynomials and Symmetric Tensor Decompositions
Jiawang Nie, University of California, San Diego
Tsang Chan Sik Yue Auditorium, 2/F Academic and Administration Building

9:30 AM - 10:05 AM
SIAG/Linear Algebra Early Career Prize Lecture The Ultraspherical Spectral Method
Alex Townsend, Cornell University
Tsang Chan Sik Yue Auditorium, 2/F Academic and Administration Building

10:05 AM - 10:35 AM
Coffee Break
3/F Podium, Academic and Administration Building

10:35 AM - 12:35 PM
Concurrent Sessions

MS06 Part III Discovery from Data
AAB201

MS09 Part I Exploiting Low-Complexity Structures in Data Analysis: Theory and Algorithms
WLB104

MS14 Part I Low Rank Matrix Approximations with HPC Applications
WLB109

MS23 Part I Optimization Methods on Matrix and Tensor Manifolds
WLB204

MS25 Part I Polynomial and Rational Matrices
WLB205

MS37 Part I Tensor Analysis, Computation, and Applications II
WLB211

CS11 Contributed Session 11
WLB103

CS12 Contributed Session 12
WLB210

12:35 PM - 1:35 PM
Lunch Break

Tuesday
May 8

9:30 AM - 11:30 AM
Registration
Tsang Chan Sik Yue Auditorium Lobby, 2/F Academic and Administration Building

8:45 AM - 9:30 AM
IP8 Enlarged Krylov Subspace Methods and Robust Preconditioners
Laura Grigori, INRIA Paris
Tsang Chan Sik Yue Auditorium, 2/F Academic and Administration Building

9:30 AM - 10:15 AM
IP9 Null-space Based Block Preconditioners for Saddle-Point Systems
Chen Greif, The University of British Columbia
Tsang Chan Sik Yue Auditorium, 2/F Academic and Administration Building

10:15 AM - 10:45 AM
Coffee Break
3/F Podium, Academic and Administration Building

10:45 AM - 12:45 PM
Concurrent Sessions

MS04 Part I Constrained Low-Rank Matrix and Tensor Approximations
WLB103

MS08 Part I Efficient Kernel Methods and Numerical Linear Algebra
WLB104

MS11 Iterative Solvers for Parallel-in-Time Integration
WLB109

MS21 Part I Numerical Linear Algebra Algorithms and Applications in Data Science
WLB204

MS39 Part I Tensors and Multilinear Algebra
WLB205

MS42 Part I Tridiagonal Matrices and Their Applications in Physics and Mathematics
WLB210

CS14 Contributed Session 14
WLB211

12:45 PM - 1:45 PM
Lunch Break
1:45 PM - 2:30 PM
**IP10** Fast Algorithms from Low-Rank Updates
Daniel Kressner, École Polytechnique Fédérale de Lausanne
*Tsang Chan Sik Yue Auditorium, 2/F Academic and Administration Building*

2:30 PM - 3:00 PM
**Coffee Break**
3/F Podium, Academic and Administration Building

3:00 PM - 5:00 PM
**Concurrent Sessions**

**MS04 Part II** Constrained Low-Rank Matrix and Tensor Approximations
*WLB103*

**MS08 Part II** Efficient Kernel Methods and Numerical Linear Algebra
*WLB104*

**MS21 Part II** Numerical Linear Algebra Algorithms and Applications in Data Science
*WLB204*

**MS39 Part II** Tensors and Multilinear Algebra
*WLB205*

**MS42 Part II** Tridiagonal Matrices and Their Applications in Physics and Mathematics
*WLB210*

**CS15** Contributed Session 15
*WLB211*

**CS16** Contributed Session 16
*WLB109*