

SIAM ALA18 At-a-Glance

Friday May 4

8:00 AM - 11:30 AM

1:30 PM - 3:30 PM

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, Università 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

MS01 Advances in High-Performance Sparse Matrix Computation

WLB204

MS05 Coupled Matrix and Tensor Decompositions: Theory and Methods

WLB205

MS10 Part I Generalized Inverses and the Linear Least Squares

WLB104

MS15 Part I Low-Rank and Toeplitz-Related Structures in Applications and Algorithms

WLB109

MS19 Part I Nonlinear Eigenvalue Problems and Applications

WLB103

MS41 Part I The Spectrum of Hypergraphs via Tensors

WLB210

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

WLB205

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 II The Spectrum of Hypergraphs via Tensors

WLB210

CS04 Contributed Session 04

WLB211

CS05 Contributed Session 05

WLB206

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

1:30 PM - 3:30 PM

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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12:45 PM - 1:45 PM
Lunch Break

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1:45 PM - 3:45 PM
Concurrent Sessions

MS07 Part II Domain Decomposition Methods for Heterogeneous and Large-Scale Problems
WLB103

MS12 Part II Large-Scale Eigenvalue Problems and Applications
WLB104

MS18 Part II Matrix Optimization and Applications
WLB109

MS22 Part II Numerical Methods for Ground and Excited State Electronic Structure Calculations
WLB204

MS27 Part I Preconditioners for Ill-Conditioned Linear Systems in Large Scale Scientific Computing
WLB201

MS33 Part I Recent Advances in Tensor Based Data Processing
WLB207

MS35 Part II Some Recent Applications of Krylov Subspace Methods
WLB205

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3:45 PM - 4:15 PM
Coffee Break

Lobby of Lam Woo International Conference Centre

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4:15 PM - 6:15 PM
Concurrent Sessions

MS12 Part III Large-Scale Eigenvalue Problems and Applications
WLB104

MS18 Part III Matrix Optimization and Applications
WLB109

MS20 Nonlinear Perron-Frobenius Theory and Applications
WLB103

MS26 Preconditioners for Fractional Partial Differential Equations and Applications
WLB204

MS27 Part II Preconditioners for Ill-Conditioned Linear Systems in Large Scale Scientific Computing
WLB201

MS33 Part II Recent Advances in Tensor Based Data Processing
WLB207

MS35 Part III Some Recent Applications of Krylov Subspace Methods
WLB205

Sunday
May 6

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9:30 AM - 11:30 AM
1:30 PM - 3:30 PM

Registration

Tsang Chan Sik Yue Auditorium Lobby, 2/F Academic and Administration Building

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8:45 AM - 9:30 AM

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

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9:30 AM - 10:15 AM

IP7 Nonlinear Eigenvalue Problems: Interpolatory Algorithms and Transient Dynamics

Mark Embree, Virginia Tech

Tsang Chan Sik Yue Auditorium, 2/F Academic and Administration Building

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10:15 AM - 10:45 AM

Coffee Break

3/F Podium, Academic and Administration Building

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10:45 AM - 12:45 PM

Concurrent Sessions

Mini-Tutorial Tensor Eigenvectors and Stochastic Processes

A. Benson, Cornell University and D. Gleich, Purdue University
AAB201

MS16 Machine Learning: Theory and Practice
WLB204

MS24 Parallel Sparse Triangular Solve on Emerging Platforms
WLB205

MS28 Preconditioning for PDE Constrained Optimization
WLB211

MS32 Part I Recent Advances in Linear Algebra for Uncertainty Quantification
WLB210

MS36 Part I Tensor Analysis, Computation, and Applications I
WLB103

MS40 Part I The Perturbation Theory and Structure-Preserving Algorithms
WLB104

CS07 Contributed Session 07
WLB109

CS08 Contributed Session 08
WLB206

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12:45 PM - 1:45 PM
Lunch Break

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1:45 PM - 3:45 PM
Concurrent Sessions

MS06 Part II Discovery from Data
AAB201

MS17 Part I Matrix Functions and Their Applications
WLB210

MS30 Part I Rank Structured Methods for Challenging Numerical Computations
WLB204

MS31 Part I Rational Krylov Methods and Applications
WLB205

MS34 Part I Recent Applications of Rank Structures in Matrix Analysis
WLB109

MS36 Part II Tensor Analysis, Computation, and Applications I
WLB103

MS40 Part II The Perturbation Theory and Structure-Preserving Algorithms
WLB104

CS09 Contributed Session 09
WLB211

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3:45 PM - 4:15 PM

Coffee Break

Lobby of Lam Woo International Conference Centre

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4:15 PM - 6:15 PM

Concurrent Sessions

MS17 Part II Matrix Functions and Their Applications
WLB210

MS29 Randomized Algorithms for Factorizing Matrices
WLB211

MS30 Part II Rank Structured Methods for Challenging Numerical Computations
WLB204

MS31 Part II Rational Krylov Methods and Applications
WLB205

MS34 Part II Recent Applications of Rank Structures in Matrix Analysis
WLB109

MS38 Tensor-Based Modelling
WLB103

MS40 Part III The Perturbation Theory and Structure-Preserving Algorithms
WLB104

CS10 Contributed Session 10
WLB206

Monday
May 7

9:30 AM - 11:30 AM
 1:30 PM - 3:30 PM

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

1:35 PM - 3:00 PM

Poster Sessions

Tsang Chan Sik Yue Auditorium Lobby, 2/F Academic and Administration Building

3:00 PM - 3:30 PM

Coffee Break

3/F Podium, Academic and Administration Building

3:30 PM - 5:30 PM

Concurrent Sessions

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

MS14 Part II Low Rank Matrix Approximations with HPC Applications
WLB109

MS23 Part II Optimization Methods on Matrix and Tensor Manifolds
WLB204

MS25 Part II Polynomial and Rational Matrices
WLB205

MS32 Part II Recent Advances in Linear Algebra for Uncertainty Quantification
WLB210

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

CS13 Contributed Session 13
WLB103

6:30 PM - 9:00 PM

Conference Banquet

Palace Wedding Banquet Specialist, L13, The ONE, 100 Nathan Road, Tsim Sha Tsui

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

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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

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2:30 PM - 3:00 PM

Coffee Break
3/F Podium, Academic and Administration Building

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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