At-a-Glance Schedule

Conference on Imaging Science

May 28–31, 2024

The Westin Peachtree Plaza
Atlanta, Georgia, U.S.

Online Program and Mobile App

Attendees are encouraged to visit
https://www.siam.org/conferences/cm/program/program-and-abstracts/is24-program-abstracts
to view the Online Program Schedule.

The Mobile App and Online Program Schedule contain the most up-to-date information.
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Monday, May 27

4:00 p.m. – 6:00 p.m.
Registration
8th Floor Terrace

Tuesday, May 28

7:00 a.m. – 5:00 p.m.
Registration
8th Floor Terrace

8:00 a.m. – 8:15 a.m.
Welcome Remarks and Announcements
Peachtree CD - 8th Floor

8:15 a.m. – 9:00 a.m.
IP1 Exploiting Tensor Structure in Imaging Applications
Misha E. Kilmer, Tufts University, U.S.
Peachtree CD - 8th Floor

9:00 a.m. – 9:30 a.m.
Coffee Break
8th Floor Terrace

9:00 a.m. – 4:30 p.m.
Exhibitor Hours
8th Floor Terrace

9:30 a.m. – 11:30 a.m.
Concurrent Sessions
MT1 Computational Optimal Transport in Imaging Science
Peachtree CD - 8th Floor
MS1 Advances in Low-dimensional Representations in Data and Imaging Science - Part I of II
Peachtree 1 - 8th Floor
MS2 Model- and Data-Driven Approaches in Motion Analysis - Part I of II
Peachtree 2 - 8th Floor
MS3 Open Source Software Solutions for Imaging Inverse Problems - Part I of II
Augusta A - 7th Floor
MS4 SDE- and PDE-based Sampling Methods for Imaging Inverse Problems - Part I of II
Augusta B - 7th Floor
MS5 Topological and Geometric Methods in Machine Learning for Imaging Applications - Part I of II
Augusta C - 7th Floor
MS6 Inverse Problems and Imaging: A Graduate Student Session - Part I of II
Augusta D - 7th Floor
MS7 Imaging Problems in Industry: Recent Advances in Modeling and Numerical Methods - Part I of II
Augusta E - 7th Floor
MS8 Lifting Methods and Nonlinear Inverse Problems in Imaging: From Theory to Practice
Augusta F - 7th Floor

11:30 a.m. – 1:00 p.m.
Lunch Break

1:00 p.m. – 1:45 p.m.
IP2 Numerical Understanding of Neural Networks: From Representation to Learning Dynamics
Hongkai Zhao, Duke University, U.S.
Peachtree CD - 8th Floor

1:45 p.m. – 2:15 p.m.
Coffee Break
8th Floor Terrace

2:15 p.m. – 4:15 p.m.
Concurrent Sessions
MS9 Compression and Analysis for Large-scale Scientific Data
Peachtree 1 - 8th Floor
MS10 Model- and Data-Driven Approaches in Motion Analysis - Part II of II
Peachtree 2 - 8th Floor
MS11 Deep Unrolled Optimisation Methods for Inverse Imaging Problems - Part I of II
Augusta A - 7th Floor
MS12 Open Source Software Solutions for Imaging Inverse Problems - Part II of II
Augusta B - 7th Floor
MS13 SDE- and PDE-based Sampling Methods for Imaging Inverse Problems - Part II of II
Augusta C - 7th Floor
MS14 CANCELLED - Topological and Geometric Methods in Machine Learning for Imaging Applications - Part II of II
Augusta D - 7th Floor
MS15 Inverse Problems and Imaging: A Graduate Student Session - Part II of II
Augusta E - 7th Floor
MS16 Imaging Problems in Industry: Recent Advances in Modeling and Numerical Methods - Part II of II
Augusta F - 7th Floor
CP1 Topics in Imaging and Image Processing
Augusta G - 7th Floor

4:15 p.m. – 4:30 p.m.
Intermission

4:30 p.m. – 6:30 p.m.
PP1 Welcome Reception and Poster Session
Augusta 1-3 and Augusta Terrace - 7th Floor

Wednesday, May 29

7:45 a.m. – 5:00 p.m.
Registration
8th Floor Terrace

8:10 a.m. – 8:15 a.m.
Announcements
Peachtree CD - 8th Floor

8:15 a.m. – 9:00 a.m.
IP3 Signal Reconstruction from Phase-only Measurements, Dithered Quantization or Quantized Corrupted Sensing
Michael K. Ng, Hong Kong Baptist University, Hong Kong
Peachtree CD - 8th Floor

9:00 a.m. – 9:30 a.m.
Coffee Break
8th Floor Terrace

9:00 a.m. – 4:30 p.m.
Exhibitor Hours
8th Floor Terrace

9:30 a.m. – 11:30 a.m.
Concurrent Sessions
MT2 Deep Learning Techniques for Wave-Based Imaging
Peachtree CD - 8th Floor
MS17 Advances in Inverse Problems with Model-based and Data-driven Approaches - Part I of III
Peachtree 1 - 8th Floor
MS18 Advances in Low-dimensional Representations in Data and Imaging Science - Part II of II
Peachtree 2 - 8th Floor
MS19 Data-Driven Methods for Analysis and Understanding of Images - Part I of II
Augusta A - 7th Floor
MS20 Deep Unrolled Optimisation Methods for Inverse Imaging Problems - Part II of II
Augusta B - 7th Floor
MS21 Recent Development in Theory and Algorithm for Super-resolution in Wave-based Imaging - Part I of III
Augusta C- 7th Floor
MS22 Advances in Generative Models, Differential Equations, and Inverse Problems - Part I of II
Augusta D - 7th Floor
MS23 Advancements in Compton Camera Imaging: From Theory to Applications - Part I of II
Augusta E - 7th Floor
MS24 Deep Learning in Biomedical Image Analysis and Reconstruction
Augusta F - 7th Floor

11:30 a.m. – 1:00 p.m.
Lunch Break

Wednesday, May 29

1:00 p.m. – 1:45 p.m.
SP1 SIAG/Imaging Science Best Paper Prize Lecture - Implicit Regularization in Nonconvex Statistical Estimation: Gradient Descent Converges Linearly for Phase Retrieval, Matrix Completion and Blind Deconvolution
Cong Ma, University of Chicago, U.S.
Peachtree CD - 8th Floor

1:45 p.m. – 2:00 p.m.
Intermission

2:00 p.m. – 4:00 p.m.
Concurrent Sessions
MS25 Advances in Inverse Problems with Model-based and Data-driven Approaches - Part II of III
Peachtree 1 - 8th Floor
MS26 Mathematical Approaches Based on Sparse Data for Multidimensional Image Processing - Part I of II
Peachtree 2 - 8th Floor
MS27 Data-Driven Methods for Analysis and Understanding of Images - Part II of II
Augusta A - 7th Floor
MS28 Fast Methods for Forward and Inverse Problems
Augusta B - 7th Floor
MS29 Recent Development in Theory and Algorithm for Super-resolution in Wave-based Imaging - Part II of III
Augusta C - 7th Floor
MS30 New Methods in Nonlinear and Discrete Inverse Problems
Augusta D - 7th Floor
MS31 Implicit Neural Representations for Inverse Problems in Imaging
Augusta E - 7th Floor
MS32 Advances in Generative Models, Differential Equations, and Inverse Problems - Part II of II
Augusta F - 7th Floor
CP2 Learning Techniques in Imaging
Augusta G - 7th Floor

4:00 p.m. – 4:30 p.m.
Coffee Break
8th Floor Terrace

4:30 p.m. – 6:30 p.m.
Concurrent Sessions
MS33 Advances in Inverse Problems with Model-based and Data-driven Approaches - Part III of III
Peachtree 1 - 8th Floor
MS34 Mathematical Approaches Based on Sparse Data for Multidimensional Image Processing - Part II of II
Peachtree 2 - 8th Floor
MS35 Goal-Oriented Uncertainty Quantification in Imaging Sciences - Part I of II
Augusta A - 7th Floor

Wednesday, May 29

MS36 Structure-Informed Machine Learning for Imaging and Physical Science - Part I of III
Augusta B - 7th Floor
MS37 Recent Strides in Deep Inverse Problems: From PDEs/ODEs, Neural Implicit Representations, and Beyond - Part I of II
Augusta C - 7th Floor
MS38 Recent Development in Theory and Algorithm for Super-resolution in Wave-based Imaging - Part III of III
Augusta D - 7th Floor
MS39 Advancements in Compton Camera Imaging: From Theory to Applications - Part II of II
Augusta E - 7th Floor
MS40 Shapes, Manifolds and Geometry in Imaging - Part I of II
Augusta F - 7th Floor
CP3 New Computational Tools in Imaging
Augusta G - 7th Floor

6:30 p.m. – 6:45 p.m.
Intermission

6:45 p.m. – 7:30 p.m.
SIAG/IS Business Meeting
Complimentary beer and wine will be served
Peachtree CD - 8th Floor

Thursday, May 30

7:45 a.m. – 5:00 p.m.
Registration
8th Floor Terrace

8:10 a.m. – 8:15 a.m.
Announcements
Peachtree CD - 8th Floor

8:15 a.m. – 9:00 a.m.
IP4 Scale-invariant Regularizations for Sparse Signal and Low-rank Tensor Recovery
Yifei Lou, University of North Carolina at Chapel Hill, U.S.
Peachtree CD - 8th Floor

9:00 a.m. – 9:30 a.m.
Coffee Break
8th Floor Terrace

9:00 a.m. – 4:30 p.m.
Exhibitor Hours
8th Floor Terrace

Thursday, May 30

9:30 a.m. – 11:30 a.m.
Concurrent Sessions
MS41 Increasing Fairness in ML Through Improved Data Assessment and Standardization in Medical Imaging and Beyond - Part I of II
Peachtree 1 - 8th Floor
MS42 Goal-Oriented Uncertainty Quantification in Imaging Sciences - Part II of II
Peachtree 2 - 8th Floor
MS43 Structure-Informed Machine Learning for Imaging and Physical Science - Part II of III
Augusta A - 7th Floor
MS44 Synergy in Segmentation: Bridging Classical and Deep Learning Approaches - Part I of III
Augusta B - 7th Floor
MS45 Recent Strides in Deep Inverse Problems: From PDEs/ODEs, Neural Implicit Representations, and Beyond - Part II of II
Augusta C - 7th Floor
MS46 Frontiers in Deep Image Reconstruction, Restoration Across Diverse Modalities - Part I of II
Augusta D - 7th Floor
MS47 Bregman-based Optimisation Approaches for Imaging Inverse Problems
Augusta E - 7th Floor
MS48 Shapes, Manifolds and Geometry in Imaging - Part II of II
Augusta F - 7th Floor
CP4 Mathematical Methods in Imaging Sciences
Augusta G - 7th Floor

11:30 a.m. – 1:00 p.m.
Lunch Break

1:00 p.m. – 1:45 p.m.
IP5 Multimodal Self-Supervised Learning and Applications to Visual Data Understanding
Coloma Ballester, Universitat Pompeu Fabra, Spain
Peachtree CD - 8th Floor

1:45 p.m. – 2:00 p.m.
Intermission

2:00 p.m. – 4:00 p.m.
Concurrent Sessions
MS49 Increasing Fairness in ML Through Improved Data Assessment and Standardization in Medical Imaging and Beyond - Part II of II
Peachtree 1 - 8th Floor
MS50 Structure-Informed Machine Learning for Imaging and Physical Science - Part III of III
Peachtree 2 - 8th Floor
MS51 Advances in Electrical Impedance Tomography: From Theory to Clinical Application - Part I of II
Augusta A - 7th Floor
MS52 Synergy in Segmentation: Bridging Classical and Deep Learning Approaches - Part II of III
Augusta B - 7th Floor

Thursday, May 30

MS53 Model-Based and Data-Driven Hybrid Methods in Computational Imaging - Part I of II
Augusta C - 7th Floor
MS54 Frontiers in Deep Image Reconstruction, Restoration Across Diverse Modalities - Part II of II
Augusta D - 7th Floor
MS55 Recent Developments on Variational Models and Fast Algorithms for Image Restoration - Part I of II
Augusta E - 7th Floor
MS56 Shapes, Manifolds and Geometry in Imaging
Augusta F - 7th Floor
CP5 Sparsity and Tensor Techniques
Augusta G - 7th Floor

4:00 p.m. – 4:30 p.m.
Coffee Break
8th Floor Terrace

4:30 p.m. – 6:30 p.m.
Concurrent Sessions
MS57 Advances in Numerical Linear Algebra Techniques for Inverse Imaging Problems - Part I of II
Peachtree 1 - 8th Floor
MS58 Advances in Electrical Impedance Tomography: From Theory to Clinical Application - Part II of II
Peachtree 2 - 8th Floor
MS59 Synergy in Segmentation: Bridging Classical and Deep Learning Approaches - Part III of III
Augusta A - 7th Floor
MS60 Model-Based and Data-Driven Hybrid Methods in Computational Imaging - Part II of II
Augusta B - 7th Floor
MS61 Surface reconstruction: PDEs, Variational, and Deep Learning Methods - Part I of II
Augusta C - 7th Floor
MS62 Advanced Approaches in Inverse Problems and Applications - Part I of III
Augusta D - 7th Floor
MS63 Inverse Problems for Partial Differential Equations: Rising Stars - Part I of II
Augusta E - 7th Floor
MS64 Recent Developments on Variational Models and Fast Algorithms for Image Restoration - Part II of II
Augusta F - 7th Floor
CP6 Imaging in Applications
Augusta G - 7th Floor

Friday, May 31

7:45 a.m. – 2:30 p.m.
Registration
8th Floor Terrace

8:10 a.m. – 8:15 a.m.
Closing Remarks
Peachtree CD - 8th Floor

8:15 a.m. – 9:00 a.m.
IP6 Learned Forward and Inverse Problems for PDES in Imaging
Simon Arridge, University College London, United Kingdom
Peachtree CD - 8th Floor

9:00 a.m. – 9:30 a.m.
Coffee Break
8th Floor Terrace

9:00 a.m. – 1:00 p.m.
Exhibitor Hours
8th Floor Terrace

9:30 a.m. – 11:30 a.m.
Concurrent Sessions
MS65 Recent Challenges and Developments on Multi-way Data Analysis: Imaging and Tensors - Part I of II
Peachtree 1 - 8th Floor
MS66 Advances in Numerical Linear Algebra Techniques for Inverse Imaging Problems - Part II of II
Peachtree 2 - 8th Floor
MS67 Deep Learning for Imaging Science - Part I of II
Augusta A - 7th Floor
MS68 Computational Optimal Transport meets Imaging - Part I of II
Augusta B - 7th Floor
MS69 Surface reconstruction: PDEs, Variational, and Deep Learning Methods - Part II of II
Augusta C - 7th Floor
MS70 Numerical Linear Algebra Meets Inverse Problems in Imaging - Part I of II
Augusta D - 7th Floor
MS71 Advanced Approaches in Inverse Problems and Applications - Pat II of III
Augusta E - 7th Floor
MS72 Inverse Problems for Partial Differential Equations: Rising Stars - Part II of II
Augusta F - 7th Floor
CP7 Noise and Statistics in Imaging
Augusta G - 7th Floor

11:30 a.m. – 1:00 p.m.
Lunch Break

Friday, May 31

1:00 p.m. – 1:45 p.m.
IP7 Krylov Methods for Imaging: Classical and Novel Algorithmic Approaches
Silvia Gazzola, University of Bath, United Kingdom
Peachtree CD - 8th Floor

1:45 p.m. – 2:15 p.m.
Coffee Break
8th Floor Terrace

2:15 p.m. – 4:15 p.m.
Concurrent Sessions
MS73 Recent Challenges and Developments on Multi-way Data Analysis: Imaging and Tensors - Part II of II
Peachtree 1 - 8th Floor
MS74 Open Challenges in Inverse Problems for Biomedical Images
Peachtree 2 - 8th Floor
MS75 New Advances in Multi-frame Imaging
Augusta A - 7th Floor
MS76 Deep Learning for Imaging Science - Part II of II
Augusta B - 7th Floor
MS77 Computational Optimal Transport meets Imaging - Part II of II
Augusta C - 7th Floor
MS78 Numerical Linear Algebra Meets Inverse Problems in Imaging - Part II of II
Augusta D - 7th Floor
MS79 Advances in Multiscale and Multilayer Techniques for Image Restoration
Augusta E - 7th Floor
MS80 Advanced Approaches in Inverse Problems and Applications - Part III of III
Augusta F - 7th Floor

ABBREVIATION KEY
CP = Contributed Presentation Session
IP = Invited Plenary Speaker
MS = Minisymposium
MT = Minitutorial
PP = Poster Session
SP = Special Lecture

Thank you to our FUNDING AGENCY

SIAM and the Organizing Committee wish to extend their thanks and appreciation to the U.S. National Science Foundation for its support of this conference.

SIAM Activity Group on Imaging Science (SIAG/IS)

www.siam.org/Activity-Groups/IS

Society for Industrial and Applied Mathematics

A great way to get involved!

Collaborate and interact with engineers and scientists with an interest in the mathematical and computational aspects of imaging.

ACTIVITIES INCLUDE

- Biennial conference
- Special sessions at SIAM meetings

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— Jed Brown, SIAM Member, University of Colorado

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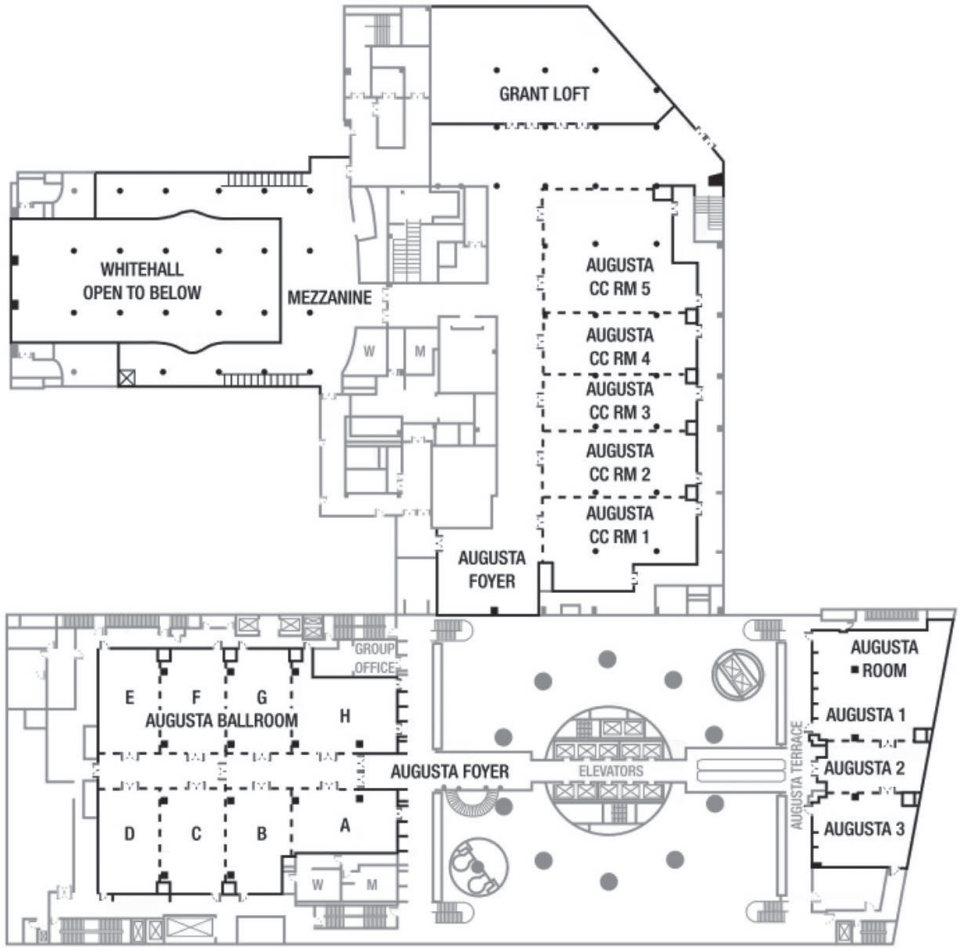
5/23

The Westin Peachtree Plaza Floor Plans

Augusta Level, Seventh Floor



Peachtree Level, Eighth Floor