Society for Imaging Science and Technology

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- SYMPOSIUM PROGRAM
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Computational Imaging XXIII, 2025

	Monday 03 February		
09:30			
	Reconstructions of integrated circuit interconnect using a hybrid electron/X-ray microscope *(Zachary Levine, NIST)*	COIMG-118	Regency B
09:50			
	Projected multi-agent consensus equilibrium (PMACE) framework for practical ptychographic reconstruction *(Qiuchen Zhai, Purdue University)*	COIMG-119	Regency B
10:10			
	High-resolution X-ray nanoimaging of integrated circuits *(Tomas Aidukas, Paul Scherrer Institut)*	COIMG-120	Regency B
15:30			
	Deep learning-enabled X-ray imaging for rapid assessment of thermal fatigue in SAC solder interconnects *(Eshan Ganju, Purdue University)*	COIMG-121	Regency B
15:50			
	Invited: Transient thermal characterization of nanoscale devices and 3D heterogeneous integrated circuits *(Ali Shakouri, Purdue University)*	COIMG-122	Regency B

IMPORTANT DATES

	2024
Registration Opens	Nov.
Demonstration Applications Due	21 Dec
	2025
Early Registration Ends	7 Jan
FastTrack Proceedings Manuscripts Due	8 Jan
Hotel Reservation Deadline	24 Jan
Symposium Begins	2 Feb
Non-FastTrack Proceedings Manuscripts Due	21 Feb

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Time	Title	ID	Room
16:10			
	Magnetic nanoscale x-ray metrology of unconventional topological spin textures *(Peter Fischer, Lawrence Berkeley National Laboratory)*	COIMG-123	Regency B
16:30			
	High-altitude earth observation with diffusion models for satellite LiDAR reconstruction *(Andres Ramirez-Jaime, University of Delaware)*	COIMG-346	Regency B
Tuesday 04 February			
09:10			
	Nonlocal attention operator: Materializing hidden knowledge towards interpretable physics discovery *(Yue Yu, Lehigh University)*	COIMG-134	Regency B
09:30			
	Asymptotically efficient simulation and modeling of rare binary images *(Jiaxuan Xu, Purdue University)*	COIMG-135	Regency B
09:40			
	Leveraging multimodal diffusion models to accelerate imaging with side information *(Timofey Efimov, Carnegie Mellon University)*	COIMG-136	Regency B
10:10			
	Dissipative lagrangian neural networks for diffusion problems *(Veera Sundararaghavan, University of Michigan)*	COIMG-137	Regency B
10:30			
	Single image manifold navigation *(Stephen Niezgoda, Ohio State University)*	COIMG-138	Regency B
11:10			
	Applications of microstructure manifold learning in materials science *(Simon Mason, Ohio State University)*	COIMG-139	Regency B
11:30			
	Fast hyperspectral reconstruction for neutron computed tomography *(Mohammad Samin Nur Chowdhury, Purdue University)*	COIMG-140	Regency B
11:50			
	Differential geometric view of information flow in neural nets *(Suhas Sreehari, Oak Ridge National Laboratory)*	COIMG-141	Regency B
12:20			
15:30			
	Machine learning approaches for high-resolution transmission electron microscopy data interpretation *(Mary Scott, University of California, Berkeley)*	COIMG-142	Regency B
15:50			
	Coarsening materials microstructures: Evolving information complexity and a role for machine learning *(Jeffrey Rickman, Lehigh University)*	COIMG-143	Regency B
16:10			
	Precision dynamical mapping (PDM) for capturing transitions in brain activity using noninvasive neuroimaging data *(Manish Saggar, Stanford University)*	COIMG-144	Regency B

Time	Session	Code	Room
16:30			
	Space-time methods for computational microscopy *(Laura Waller, University of California, Berkeley)*	COIMG-145	Regency B
16:50			
Wednesday 05 February			
08:50			
09:10			
	Vectorized coordinate descent for CT reconstruction *(Greg Buzzard, Purdue University)*	COIMG-146	Regency B
09:30			
	Make hardware processing great again *(Sergio Goma, Qualcomm)*	COIMG-147	Regency B
10:10			
	Adaptive gaze estimation with context-aware feature reweighting *(Nishant Puri, NVIDIA)*	COIMG-148	Regency B
11:00			
	Pushing the limits of high-zoom imaging *(Abhiram Gnanasambandam, Samsung Research)*	COIMG-149	Regency B
11:20			
	Super-resolution with latent domain generative models *(Hossein Talebi, Google Research)*	COIMG-150	Regency B
11:40			
	ResSR: A residual approach to super-resolving multispectral images *(Haley Duba-Sullivan, Oak Ridge National Laboratory)*	COIMG-151	Regency B
12:00			
	Can adversarial modifications undermine super-resolution algorithms? *(Suhas Sreehari, Oak Ridge National Laboratory)*	COIMG-152	Regency B
14:00			
	Recent advances in spatial generative AI *(Gordon Wetzstein, Stanford University)*	COIMG-156	Regency B
	A NeRF for all seasons *(Michael Gableman, U.S. Air Force)*	COIMG-154	Regency B
	Sparse view synthesis *(Ravi Ramamoorthi, University of California, San Diego)*	COIMG-155	Regency B
16:30			
	Physics-based appearance models for view synthesis and inverse rendering *(Dor Verbin, Google DeepMind)*	COIMG-157	Regency B
18:00			
	PANEL: Computational Imaging at the Edge of Chaos *(Katie Bouman, Caltech)*	COIMG-353	Regency B
Thursday 06 February			
09:10			
	What shape is this? Pupil support estimation in phase retrieval using neural representations *(Stanley Chan, Purdue University)*	COIMG-124	Regency B
09:30			
	Towards robust and generalizable lensless imaging with modular learned reconstruction *(Eric Bezzam, EPFL)*	COIMG-125	Regency B
09:50			

	Wide-baseline multi-camera automatic calibration using recovered human body mesh *(Chih-Hsien Chou, Futurewei Technologies)*	COIMG-126	Regency B
10:10			
	Phaseless multistatic synthetic aperture radar imaging *(Nazia Choudhury, Rensselaer Polytechnic Institute)*	COIMG-127	Regency B
11:00			
	Noise2Image: Noise-enabled static scene recovery for event cameras *(Dekel Galor, University of California, Berkeley)*	COIMG-128	Regency B
11:20			
	Multiplexed pixels: Light field camera with overlapping images for 3D reconstruction from few views *(Vi Tran, University of California, Berkeley)*	COIMG-129	Regency B
11:40			
12:00			
	Synthetic wavefront generation for aero-induced turbulence using boundary layer data *(Jeffrey Utley, Purdue University)*	COIMG-131	Regency B
14:00			
	MetaHDR: single shot high-dynamic range imaging and sensing using a multifunctional metasurface *(Qi Guo, Purdue University)*	COIMG-350	Regency B
14:20			
	Fluorescent diffraction tomography using neural fields *(Renzhi He, University of California, Davis)*	COIMG-133	Regency B
14:40			
	Principled probabilistic imaging using diffusion models as plug-and-play priors *(Zihui Wu, Caltech)*	COIMG-130	Regency B

The EI Conference Technical Sessions run February 2-6, 2025.