CALL FOR PAPERS | CISA 2027

IEEE Conference on Computational Imaging Using Synthetic Apertures

Advances in Theory, Engineering Practice, and Standardization

1–3 JUNE 2027 University of Maryland | College Park, Maryland, USA

ABOUT THE CONFERENCE

The 4th IEEE CISA conference brings together researchers and engineers advancing physics-based sensing, computational imaging, and synthetic-aperture systems. The conference explores how physical forward models, innovative sensor designs, and computational reconstruction can overcome limitations in resolution, coverage, and measurement quality. We welcome contributions spanning theory, algorithms, instrumentation, validation, and applications across radar, sonar, optics, and other imaging modalities.

IMPORTANT DATES

Dec 1, 2026 Special session and tutorial proposals
Jan 29, 2027 Initial 4+1-page papers; climate/natural-environment submissions
Feb 19, 2027 Acceptance notification
Mar 5, 2027 Advance registration | **May 7, 2027** Camera-ready paper

TOPICS OF INTEREST

Contributions are invited in, but are not limited to, the following areas:

Radar and SAR Automotive, mmWave and THz SAR; polarimetry, interferometry, tomography, ISAR, 3D imaging; phased-array and weather radar; novel sensor front ends.

Sonar and acoustics Synthetic-aperture sonar, micro-navigation, bathymetry, and wideband sensing.

Optical imaging Fourier ptychography, synthetic-aperture microscopy and holography, coded diffraction and apertures, single-photon imaging, LED/VCSEL arrays.

Scientific and medical imaging Computed tomography, MRI, ultrasound, seismology, wave migration, and physically grounded inverse problems.

Remote sensing Synthetic-aperture radiometry, GNSS reflectometry, Earth and planetary observation, climate and environmental monitoring.

Reconstruction and inverse problems Forward and k-space modeling, reconstruction under noise or irregular sampling, compressive sensing, sparsity, and super-resolution.

Learning-enabled imaging Model-based deep reconstruction, plug-and-play priors, diffusion models, physics-informed neural networks, and Doppler radiance fields.

Emerging modalities Time-of-flight and multi-camera synthetic apertures, SA LiDAR, 4D mmWave imaging, and magnetic-field cameras.

Astronomy and geophysics Radio astronomy, black-hole imaging, seismic localization, and related wavefield reconstruction.

Practice and standardization Measurement methods, system characterization, calibration, benchmarking, and reproducible evaluation.

SUBMISSION & PUBLICATION

Submit through cisa-conference.org/submissions/templates/. Initial papers are 4 pages plus 1 page for references. Accepted papers must be presented in person by an author (oral or poster); no-shows are not published in IEEE Xplore.

Questions: info@cisa-conference.org
Conference website: cisa-conference.org

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