

Workshop on Computational Methods for Next-Generation X-ray and Electron Microscopy (CXEM)

13-17 September 2026, Tampere, Finland

<https://events.aimicroscopy.org/icip-2026/>

Computational microscopy is transforming the quantitative characterization of advanced materials and biological systems, shifting the primary bottleneck from hardware limitations to computational challenges. This workshop will highlight emerging computational methodologies for next-generation X-ray and electron microscopy, with a strong emphasis on scalable and robust algorithms that integrate seamlessly into scientific and industrial workflows. By identifying open challenges and incorporating industry perspectives, the workshop seeks to advance quantitative, high-dimensional imaging techniques that directly drive technological innovation and scientific discovery. The program will be featured with invited speakers from distinguished speakers from academia and industry.

Important Dates (Anywhere on Earth)

- Paper submission due** **May 13, 2026**
- Paper acceptance notification Jun 10, 2026
- Camera-ready due Jul 1, 2026
- Author registration due Jul 16, 2026

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Topics of Interest

We invite submissions on computational methods for X-ray and electron microscopy, including but not limited to:

Computational X-ray Microscopy

- X-ray tomography & phase contrast imaging
- Coherent diffraction imaging
- Dynamic in-situ and operando reconstruction

Computational Electron Microscopy

- Image processing for SEM/TEM/STEM/4D-STEM
- Cryo-EM/ET and ptychography reconstruction
- EELS/EDX spectroscopy & spectral imaging

Correlative & Signal Processing Foundations

- Correlative microscopy
- General signal processing for microscopy
- Uncertainty quantification

Applications & Domain Science

- Advanced materials characterization
- Biological imaging and analysis
- Open-source softwares

Paper Submissions

- Accepted papers will be published in IEEE Xplore as part of ICIP 2026 Workshops Proceedings.
- Submissions are handled through the main ICIP conference system.
- Page length: 5 pages maximum, plus references, following the IEEE ICIP 2026 paper template
- Authors will need to prepare two versions of the submission: an ANONYMISED version for reviewing, and a PUBLISH-READY version.

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Supporters



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