WORKSHOP #8 - Thursday, April 23, 2026

Building a U.S. EUV Research Ecosystem: Community Drivers for a Dedicated NSLS-II EUV Beamline Capabilities

Organizers: Chang-Yong Nam (BNL)

Extreme ultraviolet (EUV) lithography, utilizing 13.5 nm or 92 eV photons, underpins the most advanced, Angstrom-era extreme scaling of semiconductor devices and manufacturing. As the technology evolves toward the next generation (e.g., high and hyper NA EUV), progress is increasingly constrained by gaps in understanding of the photo- and low-energy-electron chemistries of EUV lithography and advanced metrology. At the same time, the U.S. lacks broadly accessible, open EUV R&D infrastructure that can support pre-competitive research across industry and academia. Addressing this gap is critical for the U.S. national interest, both for sustaining technological leadership and for training the next generation of scientists and engineers.

This NSLS-II/CFN Users' Meeting workshop focuses on the potential development of dedicated EUV beamline capabilities at NSLS-II in support of EUV lithography. The primary goal is to explore and understand community interest, scientific and technological impact, and technical specifications. NSLS-II's strengths in advanced characterization science, and integration with CFN's materials synthesis and nanofabrication capabilities, combined with BNL's proximity to major semiconductor activity in the Northeast U.S. and the Albany NanoTech Complex, the only 300 mm R&D fab with industrial EUV lithography capability in the U.S., provides excellent opportunities for BNL to contribute to the establishment of the U.S. EUV R&D ecosystem.

The workshop will convene key internal and external stakeholders to discuss scientific drivers, technical requirements, and possible paths forward, including risks, partnerships, and development strategies. Using key examples drawn from lithography materials and component metrology, the discussion will aim to produce a community-informed assessment and roadmap for whether, why, and how NSLS-II should pursue dedicated EUV beamline capabilities.

Start Time (ET)	Title	Speaker (Affiliation)
9:00 AM	Welcoming remark and workshop overview	Chang-Yong Nam (CFN)
9:10 AM	CFN's current EUV research and development activities	Chang-Yong Nam (CFN)
9:30 AM	NSLS-II's current EUV research activities	Yuan Gao (NSLS-II)
9:50 AM	Federal government perspective on EUV	Isvar Cordova (NIST), Associate Director, CHIPS R&D
10:10 AM	EUV industry overview and perspective	Meng Lee (Veeco), Director of Product Marketing

10:40 AM	*Break*	
10:55 AM	EUV patterning; industry overview and perspective	Gopal Kenath (IBM), Research Lithography Engineer
11:25 AM	EUV metrology; overview and perspective	Patrick Naulleau (EUV Tech), CEO
11:55 AM	*Lunch Break*	
2:00 PM	*BNL-IBM collaboration on EUV and microelectronics*	Christian Lavoie (IBM), Research Staff Member
2:30 PM	Albany NanoTech EUV program overview and perspective	Erin Lavigne (NY CREATES), Senior Director of EUV Technology Strategy and Partnerships
3:00 PM	LBNL/ALS EUV capability overview and perspective	Bruno La Fontaine (LBNL), CXRO Director
3:30 PM	*Break*	
3:45 PM	Technical details of LBNL/ALS EUV beamline and end-station capabilities	Ryan Miyakawa (LBNL), CXRO Staff Scientist
4:15 PM	Academia research and development activities and perspective	Michael Tsapatsis (Johns Hopkins University), Professor
4:45 PM	Open discussion	All participants
5:15 PM	Closing remark	Chang-Yong Nam (CFN)
5:20 PM	Adjourn	