

Session #	Paper #	Area	Presenter	Company	Title	Duration	Start	Finish
All Times are in US Central Daylight Time Zone (Austin, TX, USA). Netherlands / Germany are + 7 Hours and Korea / Japan are + 14 Hours ahead.								
Version: June 5, 2022. For questions or comments please contact info@euvlitho.com								
Short Course								
5:30 PM, Saturday, June 4, 2022, Austin, TX, USA (7:30 AM, Sunday, June 5, Korea and Japan)								
Short Course: Advanced Photon Sources and Applications in Nanoscale Imaging								
Instructor: David Attwood, University of California, Berkeley								
<i>EUVL Short Courses and EUVL Workshop require separate registrations. Please visit www.euvlitho.com for information.</i>								
AV Test and Speaker Check-in						0:30	5:30 PM	6:00 PM
			David Attwood	UC Berkeley	Lecture	1:30	6:00 PM	7:30 PM
					Break	0:20	7:30 PM	7:50 PM
			David Attwood	UC Berkeley	Lecture	1:30	7:50 PM	9:20 PM
					Break	0:20	9:20 PM	9:40 PM
			David Attwood	UC Berkeley	Lecture	1:30	9:40 PM	11:10 PM
Short Course Adjourned								

Session #	Paper #	Area	Presenter	Company	Title	Duration	Start	Finish
Short Course								
5:30 PM, Sunday, June 5, 2022, Austin, TX, USA (7:30 AM, Monday, June 6, Korea and Japan)								
Short Course: EUV Lithography								
Instructors: Vivek Bakshi (EUV Litho, Inc.), Patrick Naulleau (CXRO), Jinho Ahn (Hanyang University), and Jan van Shoot (ASML)								
<i>EUVL Short Courses and EUVL Workshop require separate registrations. Please visit www.euvlitho.com for information.</i>								
AV Test and Speaker Check-in						0:30	5:30 PM	6:00 PM
			Vivek Bakshi	EUV Litho Inc.	Lecture	1:30	6:00 PM	7:30 PM
Break						0:15	7:30 PM	7:45 PM
			Patrick Naulleau	CXRO	Lecture	1:30	7:45 PM	9:15 PM
Break						0:15	9:15 PM	9:30 PM
			Jinho Ahn	Hanyang University	Lecture	1:30	9:30 PM	11:00 PM
			Jan van Schoot	ASML	Lecture	1:00	11:00 PM	12:00 AM
Short Course Adjourned								

Session #	Paper #	Area	Presenter	Company	Title	Duration	Start	Finish
2022 EUVL Workshop								
<i>Please see Abstract Book on website for abstracts and co-author(s) information by paper #.</i>								
6:00 PM, Monday, June 6, 2022, Austin, TX, USA (8:00 AM, Tuesday, June 7, Korea and Japan)								
Session 1: CXRO Program Showcase								
<i>Session 1: CXRO Program Showcase; Session Chair: Patrick Naulleau (CXRO)</i>								
AV Test and Speaker Check-in						0:30	6:00 PM	6:30 PM
1		Introduction	Vivek Bakshi	EUV Litho, Inc.	Welcome and Announcements	0:10	6:30 PM	6:40 PM
1	P13	Showcase (CXRO)	Ramesh Ramamoorthy	LBNL	Codesign of Ultra-Low-Voltage, Beyond CMOS Microelectronics	0:15	6:40 PM	6:55 PM
1	P17	Showcase (CXRO)	Sinéad Griffin	LBNL	Accelerate Materials Discovery with Theory and Computation: A Case Study in Microelectronics	0:15	6:55 PM	7:10 PM
1	P18	Showcase (CXRO)	Archana Raja	LBNL	Patterning Potential Landscapes on an Atomically Thin Canvas	0:15	7:10 PM	7:25 PM
1	P16	Showcase (CXRO)	Mi-Young Im	LBNL	Spin Textures, Skyrmions for Novel and Energy-efficient Microelectronics	0:15	7:25 PM	7:40 PM
Break						0:20	7:40 PM	8:00 PM
1	P12	Showcase (CXRO)	Ricardo Ruiz	LBNL	Nanopatterning with Hierarchical Materials	0:15	8:00 PM	8:15 PM
1	P11	Showcase (CXRO)	Sam Blau	LBNL	Predictive Stochastic Analysis of Massive Filter-based Electrochemical Reaction Networks	0:15	8:15 PM	8:30 PM
1	P15	Showcase (CXRO)	Greg Su	LBNL	Uncovering Local Interactions and Morphology in Soft Materials with Chemically Sensitive X-rays	0:15	8:30 PM	8:45 PM
1	P14	Showcase (CXRO)	Cheng Wang	LBNL	Probing Morphology and Chemistry in Complex Soft Materials with <i>in situ</i> Resonant Soft X-ray Scattering	0:15	8:45 PM	9:00 PM
Workshop Adjourned for the Day								

Session #	Paper #	Area	Presenter	Company	Title	Duration	Start	Finish
8:30 AM, Tuesday, June 7, 2022, Austin, TX, USA (3:30 PM, Tuesday, June 7, Netherlands)								
Session 2: Keynote Presentations - 1; Session 3: EUV Mask -1								
<i>Session 2: Keynote - 1; Session Chair: Patrick Naulleau (CXRO)</i>								
AV Test and Speaker Check-in						0:30	8:30 AM	9:00 AM
2		Introduction	Vivek Bakshi	EUV Litho, Inc.	Welcome and Announcements	0:10	9:00 AM	9:10 AM
2			Harry Levinson		Journal of Micro/Nanopatterning, Materials, and Metrology (JM3)	0:05	9:10 AM	9:15 AM
2					Ecosystem Readiness Towards High NA in IMEC (Keynote)	0:30	9:15 AM	9:45 AM
2	P2	Keynote - 1	Kurt Ronse	IMEC	High-NA EUV: Getting Closer to Industry Introduction (Keynote)	0:30	9:45 AM	10:15 AM
2	P3	Keynote - 1	Jan van Schoot	ASML				
Break						0:20	10:15 AM	10:35 AM
<i>Session 3: Mask - 1; Session Co-Chairs: Iacopo Mochi (PSI) and Katrina Rook (Veeco)</i>								
3	P35	Mask - 1	Claire van Lare	ASML	Progressing Insights on Low-n Masks for EUV Lithography (Invited)	0:15	10:35 AM	10:50 AM

Session #	Paper #	Area	Presenter	Company	Title	Duration	Start	Finish
3					EUV Lensless Imaging with Synthetic Pupil Illumination (Invited)	0:15	10:50 AM	11:05 AM
	P32	Mask - 1	Iacopo Mochi	PSI				
3					Novel Diamond-Like-Carbon Capping Layer for EUV Masks (Invited)	0:15	11:05 AM	11:20 AM
	P31	Mask - 1	Antonio Checco	Veeco				
AM Session Adjourned								
6:00 PM, Tuesday, June 7, 2022, Austin, TX, USA (8:00 AM, Wednesday, June 8, Korea and Japan)								
Session 4: Keynote - 2; Session 5: EUV Mask & Modeling - 2								
Session 4 Keynote - 2; Session Chair: Vivek Bakshi (EUV Litho, Inc.)								
<i>AV Test and Speaker Check-in</i>						0:30	6:00 PM	6:30 PM
4		Introduction	Vivek Bakshi	EUV Litho, Inc.	Welcome and Announcements	0:10	6:30 PM	6:40 PM
4					An Introduction to Quantum Computing and Leading Technologies (Keynote)	0:30	6:40 PM	7:10 PM
	P1	Keynote - 2	Paul Welander	SLAC				
4					Extending EUV Lithography with High-NA (Keynote)	0:30	7:10 PM	7:40 PM
	P4	Keynote - 2	Steven Carson	Intel				
Break						0:20	7:40 PM	8:00 PM
Session 5: EUV Mask & Modeling - 2; Session Co-Chair: Meng Lee (Veeco)								
5					Optimization of the Diffraction Phase Effect for EUV Phase Shift Mask (Invited)	0:15	8:00 PM	8:15 PM
	P34	Mask & Modeling - 2	Jinho Ahn/Dongmin Jeong	Hanyang University				
5					Understanding Line-Edge Roughness in Extreme Ultraviolet Lithography and Fin-Field-Effect-Transistor: Computational Study	0:15	8:15 PM	8:30 PM
	P36	Mask & Modeling - 2	Sang-Kon Kim	Hongik University				
5					An Actinic Review System Consisting Only of Diffractive Optical Elements (Invited)	0:15	8:30 PM	8:45 PM
	P33	Mask & Modeling - 2	Dong Gun Lee	E-Sol				
Workshop Adjourned for the Day								

Session #	Paper #	Area	Presenter	Company	Title	Duration	Start	Finish
2022 EUVL Supplier Showcase								
<i>Please see Abstract Book on website for abstracts and co-author(s) information by paper #.</i>								
8:30 AM, Wednesday, June 8, 2022, Austin, TX, USA (3:30 PM, Wednesday, June 8, Belgium / Netherlands)								
Session 1: US and Europe - Keynote - 1, Non - Profits, Supplier Showcase - 1								
<i>Session 1A; Session Co-Chairs: Torsten Fiegal (optiXfab) and Vivek Bakshi (EUV Litho, Inc.)</i>								
<i>AV Test and Speaker Check-in</i>						0:30	8:30 AM	9:00 AM
1		Introduction	Vivek Bakshi	EUV Litho, Inc.	Welcome and Announcements	0:10	9:00 AM	9:10 AM
1				EMD Electronics, Merck		0:15	9:10 AM	9:25 AM
1	SS1	Keynote - 1	Ralph Dammel	Merck	Confessions of an EUV Skeptic (Keynote)	0:15	9:25 AM	9:40 AM
1	SS6	Non - Profit	Richard Ciesielski	PTB	Synchrotron-radiation Based EUV Metrology at PTB (Invited)	0:15	9:40 AM	9:55 AM
1	SS7	Non - Profit	Herman Bekman	TNO	TNO EUV Materials Research for EUV Infrastructure (Invited)	0:15	9:55 AM	10:10 AM
1	SS8	Non - Profit	Jochen Vieker	Fraunhofer	Systems for Development and Accelerated Testing of EUVL Components (Invited)	0:15	9:55 AM	10:10 AM
Break						0:20	10:10 AM	10:30 AM
<i>Session 1B; Session Co-Chairs: Torsten Fiegal (optiXfab) and Vivek Bakshi (EUV Litho, Inc.)</i>								
1	SS14	Supplier Showcase - 1	Torsten Fiegal	optiXfab	25 years of EUV Multilayer Optics @ Fraunhofer IOF and OXF	0:15	10:30 AM	10:45 AM
1						0:15	10:45 AM	11:00 AM
1	SS11	Supplier Showcase - 1	Matthias Nestler	Scia Systems	Vacuum Processing Equipment for EUVL – From Small Substrates to Huge Optics (Invited)	0:15	11:00 AM	11:15 AM
1	SS15	Supplier Showcase - 1	Peter Oberta	Rigaku	Rigaku EUV optics and Detector Technology (Invited)	0:15	11:00 AM	11:15 AM
AM Session Adjourned								

Session #	Paper #	Area	Presenter	Company	Title	Duration	Start	Finish
2022 EUVL Supplier Showcase								
6:00 PM, Wednesday, June 8, 2022, Austin, TX, USA (8:00 AM, Thursday, June 9, Korea and Japan)								
Session 2: US and Asia - Keynote - 2, Non - Profits Supplier Showcase - 2								
<i>Session 2A; Session Chair: Meng Lee (Veeco)</i>								
<i>AV Test and Speaker Check-in</i>						0:30	6:00 PM	6:30 PM
2		Introduction	Vivek Bakshi	EUV Litho, Inc.	Welcome and Announcements	0:10	6:30 PM	6:40 PM
2	SS2	Keynote - 2	Mike Lercel	ASML	EUV Manufacturing for The Next Decade (Keynote)	0:30	6:40 PM	7:10 PM
2	SS3	Non - Profit	Dong Gi Lee	EUV-IUCC	Generation of Wrinkles and its Effect on the Performance of EUV Pellicles	0:15	7:10 PM	7:25 PM
2	SS4	Non - Profit	Manvendra Chauhan	IIT Mandi	Ultra-Sensitive Indium based EUV resist for High-NA Extreme-Ultraviolet Lithography Applications (Invited)	0:15	7:25 PM	7:40 PM
2	SS5	Non - Profit	Ryan Miyakawa	CXRO	Preparing For The Next Generation of EUV Lithography at the Center for X-ray Optics (Invited)	0:15	7:40 PM	7:55 PM
Break						0:20	7:55 PM	8:15 PM
<i>Session 2B; Session Chair: Vivek Bakshi (EUV Litho, Inc.)</i>								
2	SS12	Supplier Showcase - 2	Meng Lee	Veeco	Veeco Ion Beam Deposition Technology for EUV Photomask (Invited)	0:15	8:15 PM	8:30 PM
2	SS13	Supplier Showcase - 2	Bill Solari	Energetiq	From EUV to SXR: Next-Gen Metrology and Inspection Sources (Invited)	0:15	8:30 PM	8:45 PM
2	SS10	Supplier Showcase - 2	Sung Park	Molecular Vista	Chemical identification of sub-20nm Defects and Monolayer Residues with Nano IR PiFM (Invited)	0:15	8:45 PM	9:00 PM
2022 EUVL Supplier Showcase Adjourned								

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2022 EUVL Workshop								
<i>Please see Abstract Book on website for abstracts and co-author(s) information by paper #.</i>								
8:30 AM, Thursday, June 9, 2022, Austin, TX, USA (3:30 PM, Thursday, June 9, Netherlands)								
Session 6: EUV Sources - 1 and Session 7: Resist and Patterning - 1								
<i>Session 6: Source - 1; Session Co-Chairs: Oscar Versolato (ARCNL) and Vivek Bakshi (EUV Litho)</i>								
<i>AV Test and Speaker Check-in</i>						0:30	8:30 AM	9:00 AM
6		Introduction	Vivek Bakshi	EUV Litho, Inc.	Welcome and Announcements	0:10	9:00 AM	9:10 AM
6					Characterization of 1- and 2-um Solid-state-Laser-driven Plasma Sources of EUV Light (Invited)	0:15	9:10 AM	9:25 AM
6	P45	Source - 1	Oscar Versolato	ARCNL		0:15	9:25 AM	9:40 AM
6	P46	Source - 1	Sven Breitkopf	Active Fiber Systems GmbH	Ultra-high Photon Flux High-Harmonic Generation	0:15	9:40 AM	9:55 AM
6	P43	Source - 1	David Reisman	Energetiq	Modeling the EQ-10 Discharge Produced Plasma (DPP) EUV Source (Invited)	0:15	9:40 AM	9:55 AM
Break						0:20	9:55 AM	10:15 AM
<i>Session 7: Resist and Patterning - 1; Session Co-Chairs: Alex Robinson (IM) and Greg Denbeaux (Univ of Albany)</i>								
7	P53	Resist and Patterning - 1	Simon Bihl	Carl Zeiss	ZEISS EUV Optics – Past, Present and Future (Invited)	0:15	10:15 AM	10:30 AM
7	P55	Resist and Patterning - 1	Joost van Bree	ASML	Photoresist Roughness Understanding & LWR Floor	0:15	10:30 AM	10:45 AM
7	P56	Resist and Patterning - 1	Alex Robinson	IM	Performance Advances of Multi-Trigger Resist for EUV Lithography (Invited)	0:15	10:45 AM	11:00 AM
7	P62	Resist and Patterning - 1	Bernhard Lüttgenau	RWTH / Jara	Industrial Photoresist Qualification with a Compact EUV Exposure Tool	0:15	11:00 AM	11:15 AM
7	P61	Resist and Patterning - 1	Chang-Yong Nam	Brookhaven National Lab	Atomic Layer Deposition Derived Organic-Inorganic Hybrid EUV Resists (Invited)	0:15	11:15 AM	11:30 AM

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7					EUV Resist Challenges and Chemical Stochastics	0:15	11:30 AM	11:45 AM
	P59	Resist and Patterning - 1	Greg Denbeaux	Univ of Albany				
7					Latent image characterization in photoresists by EUV spectrometry	0:15	11:45 AM	12:00 PM
	P66	Resist and Patterning - 2	Sophia Schröder	RWTH				
<i>AM Session Adjourned</i>								

Session #	Paper #	Area	Presenter	Company	Title	Duration	Start	Finish
6:00 PM, Thursday, June 9, 2021, Austin, TX, USA (8:00 AM, Friday, June 10, Korea and Japan)								
Session 8: Source - 2; 9: Speed Presentations; 10: Resist and Patterning - 2								
<i>Session 8: Source - 2; Session Chair: Vivek Bakshi (EUV Litho, Inc.)</i>								
<i>AV Test and Speaker Check-in</i>						0:30	6:00 PM	6:30 PM
8		Introduction	Vivek Bakshi	EUV Litho, Inc.	Welcome and Announcements	0:10	6:30 PM	6:40 PM
8					High Power LPP-EUV Source for Semiconductor HVM; Lithography and Other Applications (Invited)	0:15	6:40 PM	6:55 PM
8	P42	Source - 2	Hakaru Mizoguchi	Gigaphoton	Update of Tsinghua SSMB EUV Light Source Development	0:15	6:55 PM	7:10 PM
8	P47	Source - 2	Xiujie Deng	Tsinghua University	Modeling of EUV Spectrum of Unresolved Transition Arrays of High-Z ions Using Theoretical and Data Driven Approach	0:15	7:10 PM	7:25 PM
8	P48	Source - 2	Akira Sasaki	QST				
<i>Session 9: Speed Presentations; Session Chair: Vivek Bakshi (EUV Litho, Inc.)</i>								
9				Brookhaven National Laboratory	Vapor-phase Infiltration for High-sensitivity Hybrid Nanolithography Resists Synthesis	0:05	7:25 PM	7:30 PM
9	P64	Speed Presentations	Nikhil Tiwale		Low-Energy Electron Exposure and Dry Etching Characteristics of Hybrid Thin Films Prepared by Molecular Atomic Layer Deposition for EUV Lithography	0:05	7:30 PM	7:35 PM
9	P63	Speed Presentations	Won-Il Lee	Stony Brook University	Effect of Wrinkles on Pellicle Reflectivity and Local Critical Dimension	0:05	7:35 PM	7:40 PM
9	P37	Speed Presentations	Seung Chan Moon	Hanyang University	Enhanced EUV Lighting with Optimized C-beam Irradiation	0:05	7:40 PM	7:45 PM
9	P49	Speed Presentations	Sung Tae Yoo	Kyung Hee University				
Break						0:20	7:45 PM	8:05 PM

Session #	Paper #	Area	Presenter	Company	Title	Duration	Start	Finish
Session 10: Resist and Patterning - 2; Session Co-Chairs: Takeo Watanabe (University of Hyogo) and Seiji Nagahara (TEL)								
10					Research Activities Including the Hydrogen Brittle Evaluation in EUVL at NewSUBARU (Invited)	0:15	8:05 PM	8:20 PM
	P58	Resist and Patterning - 2	Takeo Watanabe	University of Hyogo				
10					Advanced EUV Resist Patterning with Metal Oxide Resist (MOR) (Invited)	0:15	8:20 PM	8:35 PM
	P60	Resist and Patterning - 2	Seiji Nagahara	TEL				
10					Improvement of Patterning Performance in EUV Lithography (Invited)	0:15	8:35 PM	8:50 PM
	P51	Resist and Patterning - 2	Jung Sik Kim	Hynix				
10					Multitrigger (MTR): Making a "Negative" Positive (Invited)	0:15	8:50 PM	9:05 PM
	SS9	Resist and Patterning - 2	Warren Montgomery	IM				
10					Berkeley MET5 Enters Mature Phase of Research (Invited)	0:15	9:05 PM	9:20 PM
	P52	Resist and Patterning - 2	Chris Anderson	CXRO				
10					AFM of EUV Photoresist for Material Limit Characterization (Invited)	0:15	9:20 PM	9:35 PM
	P54	Resist and Patterning - 2	Luke Long	CXRO				
10					Experimental Characterization of EUV Resist Materials: Photoelectron Spectroscopy (Invited)	0:15	9:35 PM	9:50 PM
	P57	Resist and Patterning - 2	Oleg Kostko Vivek Bakshi	CXRO EUV Litho, Inc.	Announcements	0:10	9:50 PM	10:00 PM
Workshop Adjourned								