All Times are in US Central Time Zone (Austin, TX, USA). Please check your local time carefully!
Netherlands is ahead by 7 Hours and Korea and Japan are ahead by 14 Hours.
Version, October 21, 2021

7:00 AM, Saturday, October 23, 2021, Austin, TX, USA (2:00 PM, Netherlands / 9:00 PM Korea and Japan)

EUVL Short Course

Short Courses and Source Workshop require separate registrations. Please visit www.euvlitho.com for information.

Session #	Paper #	Area	First	Last	Company	Title	Duration	Start	Finish
						AV Test and Speaker Check-in	0:15	7:00 AM	7:15 AM
			Vivek	Bakshi	EUV Litho Inc.	Lecture	1:30	7:15 AM	8:45 AM
			Jinho	Ahn	Hanyang University	Lecture	1:30	8:45 AM	10:15 AM
						Break	0:15	10:15 AM	10:30 AM
			Sascha	Migura	Carl Zeiss	Lecture	1:30	10:30 AM	12:00 PM
						Break	0:15	12:00 PM	12:15 PM
			Patrick	Naulleau	CXRO	Lecture	1:30	12:15 PM	1:45 PM
			Vivek	Bakshi	EUV Litho Inc.	Lecture, Summary and Q & A	0:30	1:45 PM	2:15 PM

EUVL Short Course Adjourned

Session #	Paper #	Area	First	Last	Company	Title	Duration	Start	Finish
7:00 AM, Sunday,October 24, 2021, Austin, TX, USA (2:00 PM Netherlands / 8:00 PM Korea and Japan)									
EUV and Soft X-Ray Sources Short Course									
Short Courses and Source Workshop require separate registrations. Please visit www.euvlitho.com for information.									
						AV Test and Speaker Check-in	0:15	7:00 AM	7:15 AM
			Vivek	Bakshi	EUV Litho Inc.	Introductions	0:05	7:15 AM	7:20 AM
			Gerry	O'Sullivan	UCD	Lecture	1:30	7:20 AM	8:50 AM
						Break	0:15	8:50 AM	9:05 AM
			Gerry	O'Sullivan	UCD	Lecture	1:30	9:05 AM	10:35 AM
						Break	0:15	10:35 AM	10:50 AM
			David	Attwood	UC Berkeley	Lecture	1:30	10:50 AM	12:20 PM
						Break	0:15	12:20 PM	12:35 PM
			David	Attwood	UC Berkeley	Lecture	1:30	12:35 PM	2:05 PM
Source Short Course Adjourned									

Session #	Paper #	Area	First	Last	Company	Title	Duration	Start	Finish
6:30 AM, Monday, October 25, 2021, Austin, TX, USA (1:30 PM, Netherlands / 8:30 PM Korea and Japan)									
Session 1: ARCNL Program Showcase									
Please see Abstract Book on website for abstracts and co-author (s) information by paper #.									
						AV Test and Speaker Check-in	0:30	6:30 AM	7:00 AM
Session Co-Chairs: Joost Frenken (ARCNL) and Oscar Versolato (ARCNL)									
1		ARCNL Showcase	Vivek	Bakshi	EUV Litho	Introduction and Announcements	0:05	7:00 AM	7:05 AM
1	S81	ARCNL Showcase	Joost	Frenken	ARCNL	Introduction to ARCNL	0:15	7:05 AM	7:20 AM
1	S82	ARCNL Showcase	Roland	Bliem	ARCNL	Materials Research at ARCNL: The Many Interfaces of EUV Lithography	0:15	7:20 AM	7:35 AM
1	S83	ARCNL Showcase	Stefan	Witte	ARCNL	ARCNL's Metrology Department: An Overview	0:15	7:35 AM	7:50 AM
1	S84	ARCNL Showcase	Oscar	Versolato	ARCNL	Introduction to ARCNL's Source Department	0:15	7:50 AM	8:05 AM
						Break	0:20	8:05 AM	8:25 AM
1	S85	ARCNL Showcase	Diko	Hemminga	ARCNL	Laser-driven Tin Plasma Expansion with Relevance to Extreme Ultraviolet Nanolithography	0:15	8:25 AM	8:40 AM
1	S86	ARCNL Showcase	James	Byers	University of Twente	Fully-calibrated Sn LPP EUV Source Spectrum from 5.5 nm – 265 nm	0:15	8:40 AM	8:55 AM
1	S88	ARCNL Showcase	Yahia	Mostafa	ARCNL	Towards Energy Efficient Production of 13.5nm Light using 2µm Solid State Lasers	0:15	8:55 AM	9:10 AM
1	S87	ARCNL Showcase	Zeudi	Mazzotta	ARCNL	TI-REX: a 5->20ns Temporally Shapable and 1.4->4.4µm Wavelengthtunable Source for Nanolithography	0:15	9:10 AM	9:25 AM

Session #	Paper #	Area	First	Last	Company	Title	Duration	Start	Finish
1	S89	ARCNL Showcase	Randy	Meijer	ARCNL	Laser-vaporization of tin sheet targets	0:15	9:25 AM	9:40 AM
1	S90	ARCNL Showcase	Klaas	Bijlsma	ARCNL	Fundamental atomic-interaction measurements: single electron capture cross sections for Sn3+ on H2 in the energy range 9-51 keV	0:15	9:40 AM	9:55 AM
						Break	0:20	9:55 AM	10:15 AM
1	S91	ARCNL Showcase	Zhonghui	Nie	ARCNL	An Intense Soft X-ray Source driven by a Mid-IR OPCPA for Ultrafast Metrology in the Water-window	0:15	10:15 AM	10:30 AM
1	S92	ARCNL Showcase	Xiaomeng Kevin	Liu	ARCNL	Tailoring Spatial Entropy in Extreme Ultraviolet Focused Beams for Multispectral Ptychography	0:15	10:30 AM	10:45 AM
1	S93	ARCNL Showcase	Christos	Messinis	ARCNL	Lens Aberration Calibration and Correction in Digital Holographic Microscopy	0:15	10:45 AM	11:00 AM
1	S94	ARCNL Showcase	Victor	Vollema	ARCNL	Suppression of hydrogen blistering in Mo/Si layered structures	0:15	11:00 AM	11:15 AM

Session #	Paper #	Area	First	Last	Company	Title	Duration	Start	Finish
6:30 AM, Tuesday, October 26, 2021, Austin, TX, USA (1:30 PM, Netherlands / 8:30 PM Korea and Japan)									
Session 2: Code Comparison									
Please see Abstract Book on website for abstracts and co-author (s) information by paper #.									
						AV Test and Speaker Check-in	0:30	6:30 AM	7:00 AM
2			Vivek Bakshi		EUV Litho, Inc	Welcome and Announcements	0:05	7:00 AM	7:05 AM
Session Co-Chairs: John Sheil (ARCNL) and Howard Scott (LLNL)									
2	S11	Code Comparison	John / Howard	Sheil / Scott	ARCNL /LLNL	Code Comparison 2021 - Problem Description	0:20	7:05 AM	7:25 AM
2	S16	Code Comparison	Katsunobo	Nishihara	Osaka University	Code Comparison 2021 - Simulation Results	0:10	7:25 AM	7:35 AM
2	S18	Code Comparison	Akira	Sasaki	QST	Code Comparison 2021 - Simulation Results	0:10	7:35 AM	7:45 AM
2	S12	Code Comparison	Mikhail	Basko	KIAM	Code Comparison 2021 - Simulation Results	0:10	7:45 AM	7:55 AM
2	S13	Code Comparison	Ilya	Vichev	KIAM	Code Comparison 2021 - Simulation Results	0:10	7:55 AM	8:05 AM
2	S14	Code Comparison	Howard	Scott	LLNL	Code Comparison 2021 - Simulation Results	0:10	8:05 AM	8:15 AM
2	S15	Code Comparison	Hilik	Frank	LLNL	Code Comparison 2021 - Simulation Results	0:10	8:15 AM	8:25 AM
						Break	0:15	8:25 AM	8:40 AM
2	S17	Code Comparison	Igor	Golovkin	Prizm Computations	Code Comparison 2021 - Simulation Results	0:10	8:40 AM	8:50 AM
2	S19	Code Comparison	Vladimir	Ivanov	RnD-ISAN/EUV Labs	Code Comparison 2021 - Simulation Results	0:10	8:50 AM	9:00 AM
2	S21	Code Comparison	John	Sheil	ARCNL	Code Comparison 2021 - Simulation Results	0:10	9:00 AM	9:10 AM

Session #	Paper #	Area	First	Last	Company	Title	Duration	Start	Finish
2	S25	Code Comparison	Martin	O'Mullane	University of Strathclyde	Code Comparison 2021 - Simulation Results	0:10	9:10 AM	9:20 AM
2	S20	Code Comparison	Stephan	Fritzsche	Helmholtz Institut	A Community Platform for just Atomic Computations	0:05	9:20 AM	9:25 AM
						Break	0:15	9:25 AM	9:40 AM
2	S22	Code Comparison	John	Sheil	ARCNL	Summary 1	0:30	9:40 AM	10:10 AM
2	S23	Code Comparison	Howard	Scott	LLNL	Summary 2	0:30	10:10 AM	10:40 AM
				All		Discussions	0:45	10:40 AM	11:25 AM

Session #	Paper #	Area	First	Last	Company	Title	Duration	Start	Finish
6:30 AM, Wednesday, October 27, 2021, Austin, TX, USA (1:30 PM, Netherlands / 8:30 PM Korea and Japan)									
Sessions 3A-6 : Keynote, Speed Presentations, Metrology and HVM Sources									
Please see Abstract Book on website for abstracts and co-author (s) information by paper #.									
						AV Test and Speaker Check-in	0:30	6:30 AM	7:00 AM
			Vivek	Bakshi	EUV Litho, Inc.	Introduction and Announcements	0:05	7:00 AM	7:05 AM
Session Co-Chair: Oscar Versolato (ARCNL)									
3A	S2	Keynote	Hakaru	Mizoguchi	Gigaphoton	Update of >300W High Power LPP-EUV Source Challenge for Semiconductor HVM	0:30	7:05 AM	7:35 AM
3A	S3	Keynote	Takeo	Watanabe	University of Hyogo	Fundamental Studies of EUV Lithography Including Shorter Wavelength at NewSUBARU Synchrotron Light Facility	0:30	7:35 AM	8:05 AM
						Break	0:15	8:05 AM	8:20 AM
Session Co-Chair: Vivek Bakshi (EUV Litho)									
4	S48	Speed Presentations	Yuto	Nakayama	Utsunomiya University	Charge-separated Ion Spectra in Laser-produced Sn Plasma	0:05	8:20 AM	8:25 AM
4	S50	Speed Presentations	Yoshiyuki	Honda	Gigaphoton	Development Progress of the Key Component Technology for the High Power LPP-EUV Light Source	0:05	8:25 AM	8:30 AM
4	S75	Speed Presentations	Sung Tae	Yoo	Kyung Hee University	Fabrication of EUV Light Source with Cold-Cathode Electron Beam (C-beam)	0:05	8:30 AM	8:35 AM
4	S76	Speed Presentations	Javier	Hernandez-Rueda	ARCNL	Tailoring the Expansion-to-Propulsion Ratio of Laser-induced Tin Targets for Extreme-ultraviolet Nanolithography	0:05	8:35 AM	8:40 AM

Session #	Paper #	Area	First	Last	Company	Title	Duration	Start	Finish
4	S73	Speed Presentations	Yusuke	Teramoto	Ushio	Compact Rotating Sn Disc Target LPP Source	0:05	8:40 AM	8:45 AM
4	S49	Speed Presentations	Klaas	Bijlsma	ARCNL	Development of an Experimental Setup to Measure Energy Transfer from Sn ions to H2 Molecules at Collision Energies Below 10 keV	0:05	8:45 AM	8:50 AM
		Break				Break	0:10	8:50 AM	9:00 AM
Session Co-Chairs: Reza Abhari (ETHZ) and Yusuke Teramoto (Ushio)									
5	S63	Metrology Sources	Reza	Abhari	ETHZ	Update on LPP source development at ETH Zurich	0:15	9:00 AM	9:15 AM
5	S61	Metrology Sources	Slava	Medvedev	ISAN	High-brightness EUV LPP Source based on Fast-rotating Target	0:15	9:15 AM	9:30 AM
5	S64	Metrology Sources	Jochen	Vieker	Fraunhofer Institute for Laser Technology - ILT	Irradiation Systems for Accelerated Testing of EUVL Components	0:15	9:30 AM	9:45 AM
5	S65	Metrology Sources	Yusuke	Teramoto	Ushio	High-brightness LDP source: variation of EUV-emitting plasma	0:15	9:45 AM	10:00 AM
5	S62	Metrology Sources	David	Reisman	Energetiq	Modeling a Discharge Produced Plasma (DPP) EUV Source	0:15	10:00 AM	10:15 AM
5	S26	Metrology Sources	Valeryi	Sizyuk	Purdue	Numerical Model of Hybrid Laser-heated Discharge Plasma Devices for EUV Metrology	0:15	10:15 AM	10:30 AM
						Break	0:15	10:30 AM	10:45 AM
Session Co-Chairs: Farhat Beg (UC San Diego) and Ahmed Diallo (PPNL)									
6	S43	HVM EUV Sources	Ahmed	Diallo	Princeton - PPL	Characterization of the Laser-Tin Droplet Interactions: Progress and Plans	0:15	10:45 AM	11:00 AM

Session #	Paper #	Area	First	Last	Company	Title	Duration	Start	Finish
6	S41	HVM EUV Sources	Bo	Liu	ARCNL	Dynamics of Mass Distribution of Liquid Tin Target	0:15	11:00 AM	11:15 AM
6	S71	HVM EUV Sources	Ronnie	Hoekstra	ARCNL	Update from ARCNL's EUV Source Department on Spectroscopy, Generation of Energetic Tin ions and their Interactions with H2, and Generating Plasma with Laser Light of 2 µm Wavelength.	0:15	11:15 AM	11:30 AM
6	S72	HVM EUV Sources	James	Colgan	LANL	Non-LTE Modeling of Sn Plasmas	0:15	11:30 AM	11:45 AM
6	S42	HVM EUV Sources	Evan	Davis	ASML	EUV Sources for High-volume Manufacturing (HVM): Performance and Availability in the Field, and Innovation Towards the Future	0:15	11:45 AM	12:00 PM
6	S45	HVM EUV Sources	Farhat	Beg	UC San Diego	Effect of Laser Pulse Shapes on 13.5 nm Radiation Generation*	0:15	12:00 PM	12:15 PM

6:30 AM, Thursday, October 28, 2021, Austin, TX, USA (1:30 PM, Netherlands / 8:30 PM Korea and Japan)

Sessions 3B-9: Keynote, Blue-X, Lasers, Optics and Metrology

Please see Abstract Book on website for abstracts and co-author (s) information by paper #.

Session #	Paper #	Area	First	Last	Company	Title	Duration	Start	Finish
						AV Test and Speaker Check-in	0:30	6:30 AM	7:00 AM
			Vivek	Bakshi	EUV Litho, Inc.	Introduction and Announcements	0:05	7:00 AM	7:05 AM
Session Co-Chairs: Takeshi Higashiguchi (Utsunomia) and Fergal O'Reilly (UCD)									
3B	S1	Keynote	Marcelo	Ackermann	University of Twente	EUV Multilayers Mirrors – Wider, Thinner and Deeper	0:30	7:05 AM	7:35 AM
7	S31	Blue-X	Vivek	Bakshi	EUV Litho	Blue- X - Path for EUVL Extension (TBA)	0:15	7:35 AM	7:50 AM
7	S36	Blue-X	Takeshi	Higashiguchi	Utsunomiya University	Laser-produced Plasma EUV Sources for 13.5 nm and Beyond	0:15	7:50 AM	8:05 AM
7	S32	Blue-X	Norio	Nakamura	KEK	cERL IR-FEL as PoC of EUV and Blue-X FELs for Future Lithography	0:15	8:05 AM	8:20 AM
7	S34	Blue-X	Chuanxiang	Tang	Tsinghua University	Development of SSMB EUV Light Source at Tsinghua University	0:15	8:20 AM	8:35 AM
7	S37	Blue-X	Lixin	Yan	Tsinghua University	Laser Development for SSMB EUV Light Source at THU	0:15	8:35 AM	8:50 AM
						Break	0:15	8:50 AM	9:05 AM
7	S35	Blue-X	Fergal	O'Reilly	UCD	Laser Plasma Characterisation Techniques and Results from UCD	0:15	9:05 AM	9:20 AM
7	S33	Blue-X	Brendan	Reagan	LLNL	Solid State Tm:YLF Lasers for Driving EUV Sources	0:15	9:20 AM	9:35 AM

Session #	Paper #	Area	First	Last	Company	Title	Duration	Start	Finish
Session Co-Chairs: Peter Kraus (ARCNL) and Martin Smrz (HiLASE)									
3B	S4	Keynote	Margaret	Murnane	University of Colorado	Attosecond Quantum Technologies for Extracting the Structural, Mechanical, and Transport Properties of Nanostructured Materials	0:30	9:35 AM	10:05 AM
8	S51	Lasers, HHG and Applications	Peter	Kraus	ARCNL	New Approaches for Coherent Extreme-ultraviolet Generation and Manipulation from Solids	0:15	10:05 AM	10:20 AM
8	S52	Lasers, HHG and Applications	Sascha	Brose	RWTH-Aachen	Compact EUV Spectrometry Tool for Thin Film and Nanograting Characterization	0:15	10:20 AM	10:35 AM
8	S53	Lasers, HHG and Applications	Yanik	Pfaff	Trumpf	Herriott Cell Based Nonlinear Compression	0:15	10:35 AM	10:50 AM
8	S54	Lasers, HHG and Applications	Martin	Smrz	HiLASE	kW-class Picosecond Thin-disk Lasers with Diffraction-limited Beams at HiLASE Facility	0:15	10:50 AM	11:05 AM
						Break	0:15	11:05 AM	11:20 AM
Session Co-Chairs: Norbert Koster (TNO) and Muharrem Bayraktar (Univ. Twente)									
9	S66	Optics and Metrology	Muharrem	Bayraktar	University of Twente	Broadband metrology of EUV light sources	0:15	11:05 AM	11:20 AM
9	S67	Optics and Metrology	Qais	Saadeh	PTB	Hybrid Metrology Assisted Determination of Optical Constants in the EUV Spectral Range	0:15	11:20 AM	11:35 AM
9	S68	Optics and Metrology	Norbert	Koster	TNO	EBL2 Upgrades and Upcoming Extensions	0:15	11:35 AM	11:50 AM
9	S74	Optics and Metrology	Sooyeon	Park	LBL	Highly Efficient Ultra-low Blaze Angle Multilayer Grating as a Spectral Purity Filter for EUV Lithography	0:15	11:50 AM	12:05 PM

Session #	Paper #	Area	First	Last	Company	Title	Duration	Start	Finish
			Vivek	Bakshi	EUV Litho, Inc.	Announcements **Workshop Adjourned**	0:10	12:05 PM	12:15 PM