EMLC 2025 PROGRAM

40th European Mask and Lithography Conference

Monday, June 16th – Wednesday, June 18th, 2025

Hilton Hotel, Dresden (Germany)

Monday, June 16th, 2025

14:00 – 14:10 **Welcome to EMLC 2025 / Logistics**
Ronald Schnabel / Exec. Dir. VDE/VDI-GMM (Germany)

14:10 – 14:50

Session-1: BACUS 2024 & PMJ 2025 Best Papers

Chair: Ines Stolberg / Vistec Electron Beam (Germany)

BACUS 2024 Best (alternate) Paper
14:10 – 14:30 **Predictive printability assessment of EUV mask defects**
Presenter: Jirka Schatz / Synopsys (Germany)

PMJ 2025 Best Poster
14:30 – 14:50 **Mask performance by PLDC with n-CAR**
Presenter: Mayuko Matsumoto / Tekscend Photomask, Saitama (Japan)

14:50 – 15:20 Coffee Break

15:20 – 16:20

Session-2: TUTORIAL

Introduction of the Tutorial Speaker by EMLC 2025 Program Chair
Hans Loeschner / IMS Nanofabrication (Austria)

15:25 – 16:20 **Challenges & Requirements of Bonding Process Industrialisation for 3D Technology**
Bertrand Le-Gratiet / STMicroelectronics (France)

16:20 – 17:40

Session-3: Student Presentations

Chair: Andreas Erdmann / Fraunhofer IISB (Germany)
Co-Chair: Jo Finders / ASML (Netherlands)
Co-Chair: Laurent Pain / CEA-Leti (France)
Co-Chair: Kurt Ronse / imec (Belgium)
Co-Chair: Ines Stolberg / Vistec Electron Beam (Germany)

16:20 – 16:40 **Hybrid deep learning and physics-based framework for grayscale photolithography mask generation**
Merlin Moreau, Jean-Baptiste Henry, Stéphane Bonnet / Univ. Grenoble Alpes, CEA-Leti, Grenoble (France)

16:40 – 17:00 **Physics-based deep learning network for direct laser writing two-photon polymerization lithography**
Valeriia Sedova, Yuan Yu, Andreas Erdmann / Fraunhofer Institute for Integrated Systems and Device Technology (IISB), Erlangen (Germany)
Thomas Le Deun, Joël Rovera, Kevin Heggarty / IMT Atlantique (IMTA), Brest (France)
Jonas Wiedenmann / Heidelberg Instruments Mikrotechnik GmbH, Würzburg (Germany)

Student Poster Speed Talks

17:00 – 17:10 **Large-scale curvilinear photonic patterns metrology: exploring a new method based on CD-SEM images contour stitching**
Radelet Camille / STMicroelectronics, Crolles Cedex (France) and Univ. Grenoble Alpes, CEA-Leti, Grenoble (France)
Berard-Bergery Sebastien, Sungauer Elodie / STMicroelectronics, Crolles Cedex (France)
Pradelles Jonathan, Guyez Estelle, Martinez Christophe, Gros d'Aillon Eric / Univ. Grenoble Alpes, CEA-Leti (France)

17:10 – 17:20 **Modeling and simulaton of mechanical effects in two-photon lithography**
Alap Mundayoor, Andreas Erdmann, Valeriia Sedova / Fraunhofer Institute for Integrated Systems and Device Technology, Erlangen (Germany)

17:20 – 17:30 **Analytical waveguide mode for EUV masks insights and comparison with RCWA**
Varun Jadhav, Andreas Erdmann / Fraunhofer Institute for Integrated Systems and Device Technology, Erlangen (Germany)

17:30 – 17:40 **Modeling of two-photon lithography including oxygen diffusion using a generalized compact model**
Yuan Yua, Valeriia Sedova, Christian Schwemmer, Andreas Erdmann / Fraunhofer Institute for Integrated Systems and Device Technology, Erlangen (Germany)

17:40 – 19:00

Session-4: Poster and Student Poster Presentations - 1

Contents see Sessions 9 and 10

19:00 – 21:00 EMLC 2025 Get Together

Location: Hilton Piano Bar

Tuesday, June 17th, 2025

08:30 – 09:00 **Welcome**
EMLC 2025 Conference Chairs
Ines Stolberg / Vistec Electron Beam (Germany) and
Jo Finders / ASML (Netherlands)

"Tribute to Dr. Uwe Behringer and his – over 40 years – extraordinary contributions to the success of the EMLC"

09:00 - 10:00

Session 5: 1st Plenary

Chair: Ines Stolberg / Vistec Electron Beam (Germany)
Co-Chair: Stefan Wurm / ATICE LLC (USA)

KEYNOTE-1
09:00 – 09:30 **ESMC – a light house project of the European chips act in Silicon Saxony**
Christian Koitzsch / European Semiconductor Manufacturing Company – ESMC Joint Venture of TSMC, Bosch, Infineon and NXP (Germany)

KEYNOTE-2
09:30 – 10:00 **Get the data on the wafer, fast!**
Heiko Feldmann / Carl Zeiss SMT, Oberkochen (Germany)

10:00 – 10:30 Coffee Break

10:30 – 12:10

Session 6: Electron and Optical Multi-Beam Mask Writing and Processing

Chair: Frank E. Abboud / INTEL – Intel Mask Operations (USA)
Co-Chair: Martin Tschinkl / Tekscend Photomask (Germany)

10:30 – 10:50 **Investigation of MURA Performance of the Multi-Beam Mask Writer 100 Flex**
Michael Finken, Johannes Söllner, André Eilert, Nico Noack / Advanced Mask Technology Center GmbH & Co. KG, Dresden (Germany)
Laurent Alexandre, Ralf Ploss / Tekscend Photomask Germany GmbH, Dresden (Germany)

10:50 – 11:10 **Next generation reticle substrates for EUV lithography**
Michael Campion, Carlos Duran, Jeroen Jonkers, Roni Levi, John Maxon, Ali Mohammadkhah / Corning Incorporated, Corning, NY (USA)

11:10 – 11:30 **More nodes to be covered by multi-beam mask writers: MBM-4000 for high-NA EUV and MBM-2000C for mature nodes**
Hiroshi Matsumoto, Jumpei Yasuda, Kenichi Yasui, Haruyuki Nomura, Shingo Mori, Yuji Fujiwara, Yoshinori Kojima / NuFlare Technology, Inc., Yokohama (Japan)

11:30 – 11:50 **MBMW-401 for sub-2nm EUV Masks**
Johannes Leitner, Christoph Spengler, Peter Hudek, Hans Loeschner, Elmar Platzgummer / IMS Nanofabrication GmbH, Brunn am Gebirge (Austria)

11:50 – 12:10 **Integrating the LinearityPro in SLX Laser Writers: Enhancing Performance for Mature Semiconductor Nodes**
Robert Eklund, Martin Glimtoft, Fredric Ihrén, Hans Kunkell, Omer Malik, Mikael Wahlsten, Mats Rosling, Anders Svensson / Mycronic AB (Sweden)
Youngjin Park / Mycronic Co., Ltd. (South Korea)

12:10 – 13:40 ***Lunch Break***

13:40 – 16:10

Session 7: EUV Lithography

Chair: Jo Finders / ASML (The Netherlands)
Co-Chair: Albrecht Ehrmann / Carl Zeiss SMT (Germany)

13:40 – 14:00 **New insight into EUV mask modeling based on EUV reflectance**
A.J.R. van den Boogaard, F. Timmermans, C. van Lare, A. Galiullin, S. Beekmans / ASML Netherlands B.V., Veldhoven (Netherlands)

14:00 – 14:20 **Comparing bright field imaging performance at 0.33 NA of a novel low-reflectivity low-n and a standard Ta-based EUV mask**
Lieve Van Look, Guillaume Libeert, Nick Pellens, Vicky Philipsen / imec, Leuven (Belgium)
Hiroshi Hanekawa, Taiga Fudetani / AGC, Technology department, Blanks division, Tokyo (Japan)
Itaru Yoshida, Ryo Koyano, Kenjiro Ichikawa, Hitoki Tanaka / Tekscend Photomask Corp., (Japan)

14:20 – 14:40 **Long-Lifetime Beryllium-based EUV Pellicle Membrane**
Takashi Tanimura, Toshikatsu Kashiwaya, Shoji Tange, Yasuaki Tanaka, Hiroki Iida, Tokio Kanbe, Koichi Masuda, Takashi Ryu / NGK Insulators, Ltd., Nagoya (Japan)

14:40 – 15:00 **Methodology of stitching evaluation at NA 0.33 to enable hig-NA assessment**
Ataklti Weldeslassie, Airat Galiullin, Nick Pellens, Tatiana Kovalevich, Vincent Wiaux, / imec, Leuven (Belgium)
Jyun-Ming Chenb, Natalia Davydova / ASML Netherlands B.V., DR Veldhoven (Netherlands)

15:00 – 15:30 ***Coffee Break***

15:30 – 15:50 **High-NA EUV Mask CD-SEM Metrology Matching, and Contour-based Comparison of Simulation Result and Wafer Print**
Joost Bekaert, Syamashree Roy, Guillaume Libeert, Lieve Van Look, Balakumar Baskaran, Vicky Philipsen, Eric Hendrickx / imec vzw, Leuven (Belgium)
Ulrich Welling, Jirka Schatz / Synopsys GMBH, Aschheim/Dornach (Germany),
Shosuke Tomizuka, Masataka Yamaji, Tatsuya Tomita, Nobuaki Fujii, Shingo Yoshikawa, Sotaro Hosoya / Dai Nippon Printing Co., Ltd., Saitama (Japan)
Hideki Nakaya, Toshimichi Iwai, Hideaki Komami / Advantest Corp., Saitama R&D Center, Saitama (Japan)

15:50 – 16:10 **Advancing Semiconductor Manufacturing with EUV Hyper NA: Opportunities and Challenges**
Gerardo Bottiglieri, Pieter Woltgens, Bram Slachter, John McNamara,
Mark van de Kerkhof, Jan van Schoot / ASML Netherlands B.V., DR Veldhoven (Netherlands)
Michael Patra, Jens Timo Neumann, Heiko Feldmann / Carl Zeiss SMT GmbH, Oberkochen (Germany)

16:10 – 17:30

Session 8: Novel Resist Technology and Modeling

Chair: Andreas Erdmann / Fraunhofer IISB (Germany)
Co-Chair: Nassima Zeggaoui / Siemens Digital Industries (France)

16:10 – 16:30 **A novel energy saving process for ArF immersion lithography**
Veerle Van Driessche, Douglas J. Guerrero / Brewer Science, Inc., Rolla (USA)

16:30 – 16:50 **Dry Resist Patterning Readiness Towards High-NA EUV Lithography**
Anuja De Silva / Lam Research Belgium BV, Leuven (Belgium)

16:50 – 17:10 **Progress wih Multi-Trigger Resist for EUV**
C. Popescu, G. O'Callaghan, A. McClelland, C. Storey, A.P.G. Robinson / Irresistible Materials, Birmingham (UK)

17:10 – 17:30 **Highly parallelized RCWA with optimized eigenvalue problem for efficient simulation of curvilinear mask structures**
Peter Evanschitzky, Thao Van Nguyen, Christian Schwemmer, Andreas Erdmann / Fraunhofer Institute for Integrated Systems and Device Technology IISB, Erlangen (Germany)

17:30 – 19:00

Session 9: Poster Presentations - 2

Chair: Gerardo Bottiglieri / ASML (Netherlands)
Co-Chair: Bríd Connolly / Tekscend Photomask (Germany)
Co-Chair: Albrecht Ehrmann / Carl Zeiss SMT (Germany)
Co-Chair: Reinhard Galler / EQUIcon (Germany)
Co-Chair: Nayoa Hayashi / DNP (Japan)
Co-Chair: Hans Loeschner / IMS Nanofabrication (Austria)
Co-Chair: Nico Noack / AMTC (Germany)
Co-Chair: Jan Hendrik Peters / bmbg consult (Germany)
Co-Chair: Thomas Franz Karl Scheruebl / Carl Zeiss SMT (Germany)
Co-Chair: Jens Schneider / Infineon Technologies Dresden (Germany)
Co-Chair: Nivea Schuch / Applied Materials (France)
Co-Chair: Ines Stolberg / Vistec Electron Beam (Germany)
Co-Chair: Ksenija Varga / EV Group (Austria)
Co-Chair: Nassima Zeggaoui / Siemens Digital Industries (France)

P-1 **Validation of sub wavelength holographic lithography in a semiconductor related approach within the EU funded Project HoliSTEP**
C. Helke, Danny Reuter / Fraunhofer Institute for Electronic Nanosystems ENAS, Chemnitz (Germany) and Chemnitz University of Technology, Center for Microtechnologies, Chemnitz (Germany)
S. Schermera / Fraunhofer Institute for Electronic Nanosystems ENAS, Chemnitz (Germany)
M. Borisov, D. Chelubeev, V. Chernik V. Rakhovskiy, A. Shamaev / SWHL, Dübendorf (Switzerland)
C. Spoerl / idonus, Hauterive (Switzerland)
G. Konstantinou / Mimotec, Sion (Switzerland)
H. Meerf / Capgemini, Hamburg (Germany)

P-2 **Challenging the boundaries of maskless Laser Beam Lithography for ultra-deep epoxy-based structures: a systematic study**
Adriana Umbria, Anna Casimiro, Sander Schellingerhout, Kahraman Keskinbora / Raith Laser Systems, Eindhoven (Netherlands)

P-3 **Evaluating the readiness of Bi-directional metal designs in high-NA EUV lithography masks**
Balakumar Baskaran, Joost Bekaert, Syamashree Roy, Vicky Philipsen, Bojja Aditya Reddy, Christophe Beral, Anne-Laure Charley, Sandip Halder, Victor M. Blanco / imec vzw, Leuven (Belgium)
Jirka Schatz / Synopsys GMBH, Aschheim/Dornach (Germany)

P-4 **High-resolution master fabrication for tool-based manufacturing using two- photon lithography**
Manuel Luitz, Markus Lunzer / UpNano GmbH, Vienna (Austria)
Sebastian Kluck / Laboratory of Process Technology, Department of Microsystems Engineering (IMTEK), University of Freiburg (Germany)
Frederik Kotz-Helmer / Laboratory of Process Technology, Department of Microsystems Engineering (IMTEK), University of Freiburg and Glassomer GmbH, Freiburg and Freiburg Materials Research Center (FMF), University of Freiburg (Germany)

P-5 **High throughput i-line grayscale exposure for 3D optical components and MEMS applications**
Sebastian Schermer / Fraunhofer Institute for Electronic Nanosystems ENAS, Chemnitz (Germany)
Christian Helke, Danny Reuter / Fraunhofer Institute for Electronic Nanosystems ENAS, Chemnitz (Germany) and Chemnitz University of Technology, Center for Microtechnologies, Chemnitz (Germany)
Stephen DeMoor, Andrew Zanzal, Patrick Reynolds / Benchmark Technologies, MA (USA)
Anja Voigt / Micro Resist Technology (MRT) GmbH, Berlin (Germany)

P-6 **The Performance Evaluation of At-Resolution Stitching**
Airat Galiullin, Natalia Davydova, Jeremy Chen / ASML, Veldhoven (Netherlands)
Nick Pellens, Tatiana Kovalevich, Ataklti Weldeslassie, Vincent Wiaux / IMEC (Netherlands)

P-7 **More nodes to be covered by multi-beam mask writers: MBM-2000C for mature nodes**
Issei Aibara, Masashi Uchiya, Shunji Isaji, Jumpei Yasuda, Hiroshi Matsumoto, Yoshinori Kojima, Masato Saito / NuFlare Technology, Yokohama (Japan)

P-8 **Latest developments on EUV reticle and pellicle compatibility testing at the Netherlands Organisation for Applied Scientific Research (TNO)**
Shriparna Mukherjee, Jetske Stortelder, Véronique de Rooij-Lohmann / Semicon Equipment Lifetime, TNO, Den Haag (Netherlands)
Herman Bekman / Semicon Equipment and Metrology, TNO, Den Haag (Netherlands)

P-9 **Modelling electric field assisted post exposure bake: the role of acid dissociation and dielectro-phoresis**
Jan Groenewold / Utrecht University - Physical and Colloid Chemistry, Utrecht (Netherlands) and Napkin B.V., Castricum (Netherlands)

P-10 **Formation of dissolution resistant top layer in EUV-CAR resist and possible impact on line edge roughness**
Jan Groenewold / Utrecht University - Physical and Colloid Chemistry, Utrecht (Netherlands) and Napkin B.V., Castricum (Netherlands)

P-11 **A step and repeat and roll-to-plate nanoimprint process for the fabrication of nanostructured substrates**
Sonja Kopp, Viktorija Jonaityte, Michael J. Haslinger, Michael M. Muehlberger / PROFACTOR GmbH, Steyr-Gleink (Austria)

P-12 **Factors influencing VSB E-Beam lithography exposure time Systematic study on 300 mm Wafer in CMOS clean room**
Amir Abbas Zolfaghari, Arne Demmler, Michael Friedrich, Varvara Brackmann / Fraunhofer IPMS CNT (Germany)

P-13 **Transparent and Flexible Conductive Films: Manufacturing and Applications in Smart Windows**
Michael J. Haslinger, Jonaityte Viktorija, Michael Mühlberger/ PROFACTOR GmbH, Steyr-Gleink (Austria)
Dorly Holzer-Harringer, Marcus Harringer / Almendo Technologies GmbH, Großgmain (Austria)
Florian Frischmann / Bartenbach GmbH, Aldrans (Austria)
Martina Harnisch, Andreas Zimmermann / Sunplugged GmbH, Wildermieming (Austria)
R.Guo , W.Huo, X. Huang / Department of Biomedical Engineering, Tianjin University,Tianjin (China)
X. Junyu / GreenTown Technology Industry Group, Hangzhou City (China)

P-14 **Laser Direct Imaging (LDI) – Evaluating the potential of a panel tool platform with Large Scan Optics (LSO™) for semiconductor manufacturing**
Joerg Ortner, Michael Sternad, Phillip Horn, Peter Santner, Sigrid Wabnig, Andreas Behrendt / Infineon Technologies Austria AG, Villach (Austria)
Jonas Burghoff / KLA Corporation, Jena (Germany)
Walter Weber / TU Wien, Institute of Solid State Electronics, Wien (Austria)

P-15 **Evaluation of HSQ Resist Medusa 84 SiH regarding suitability for various process windows**
P. Kohlschreiber, M. Gottwald, D. Kathiriya, L.Böhm / Fraunhofer Institute for Electronic Nano Systems (ENAS), Chemnitz (Germany)
C. Helke, D. Reuter / Fraunhofer Institute for Electronic Nano Systems (ENAS), Chemnitz (Germany) and Technische Universität Chemnitz, Center for Micro- and Nanotechnologies (ZfM) Chemnitz (Germany)
H. Biller, M. Sendel / Allresist GmbH, Strausberg (Germany)

P-16 **Enhancing SEM Image Quality Using Analytical Methods to Reduce Noise to Enhance Contour Extraction Quality**
XiaoChun Yang, Hawren Fang, Chris Clifford / Siemens EDA, Fremont (USA)
Mohamed Abaidi / Siemens EDA, Montbonnot Saint Martin, (France)

P-17 **Using Machine Vision for Fault Detection of Dry Resist Top Film Peeling**
Cameron Wian / GlobalFoundries/ WPI
Richard Good, Tobias Kraeusslein, Joerg Paufler , Richard Maxwell / GlobalFoundries, Dresden (Germany)

P-18 **Development of an Intra-Level Mix-and-Match lithography process using negative-tone photoresist AR-N 4400-10 S4 to combine i-line stepper and electron beam exposure**
M. Gottwald, P. Kohlschreiber, S. Schermer / Fraunhofer Institute for Electronic Nano Systems (ENAS), Chemnitz (Germany)
D. Kathiriya / Technische Universität Chemnitz, Center for Micro- and Nano Technologies (ZfM), Chemnitz (Germany)
C. Helke, D. Reuter / Fraunhofer Institute for Electronic Nano Systems (ENAS), Chemnitz (Germany) and Technische Universität Chemnitz, Center for Micro- and Nano Technologies (ZfM), Chemnitz (Germany)
M. Sendel, H. Billerc / Allresist GmbH, Strausberg (Germany)

P-19 **Reticle-like sensors for enhance semiconductor manufacturing**
Vidya Vijay / Cyber Optics, Janina Freyboth / HTT High Tech Trade (Germany)

P-20 **Experimental approach for Laser Direct Writing of negative tone Polyimide resists in semiconductor industry**
Sternad Michael, Horn Philipp, Ortner Joerga, Behrendt Andreas, Santner Peter, Wabnig Sigrid / Infineon Technologies Austria AG, Villach, (Austria)
Weber Walter / TU Wien, Institute of Solid State Electronics, Wien (Austria)
Burghoff Jonas / KLA Corporation / Laser Imaging Systems GmbH, Jena (Germany)

P-21 **R2R-controlled spin speed to achieve the target layer thickness for photoresist- and ARC-materials**
Marcel Matthes, Matthias Voigt, André Horn, Lars Albinus / Infineon Technologies Dresden (Germany)

P-22 **Overlay Analysis calculator for SPC applications**
Jochen Kinauer / camLine GmbH, Peterhausen (Germany)

17:30 – 19:00

Session 10: Student Poster Presentations

Chair: Andreas Erdmann / Fraunhofer IISB (Germany)
Co-Chair: Jo Finders / ASML (Netherlands)
Co-Chair: Laurent Pain / CEA-Leti (France)
Co-Chair: Kurt Ronse / imec (Belgium)
Co-Chair: Ines Stolberg / Vistec Electron Beam (Germany)

StP-1 **Large-scale curvilinear photonic patterns metrology: exploring a new method based on CD-SEM images contour stitching**
Berard-Bergery Sebastien, Sungauer Elodie / STMicroelectronics, Crolles Cedex (France)
Pradelles Jonathan, Guyez Estelle, Martinez Christophe, Gros d'Aillon Eric / Univ. Grenoble Alpes, Grenoble (France)
Radelet Camille / STMicroelectronics, Crolles Cedex and Univ. Grenoble Alpes, Grenoble (France)

StP-2 **Modeling and simulaton of mechanical effects in two-photon lithography**
Alap Mundayoora, Andreas Erdmann, Valeriia Sedova / Fraunhofer Institute for Integrated Systems and Device Technology, Erlangen (Germany)

StP-3 **Analytical waveguide mode for EUV masks insights and comparison with RCWA**
Varun Jadhav, Andreas Erdmann / Fraunhofer Institute for Integrated Systems and Device Technology, Erlangen (Germany)

StP-4 **Modeling of two-photon lithography including oxygen diffusion using a generalized compact model**
Yuan Yu, Valeriia Sedova, Christian Schwemmer, Andreas Erdmann / Fraunhofer Institute for Integrated Systems and Device Technology, Erlangen (Germany)

19:00 – 22:00 EMLC 2025 Conference Dinner

River Elbe Boat Tour – dinner on the boat

Wednesday, June 18th, 2025

08:30 – 09:00 **ZEISS Award & Announcements of BACUS 2025 & PMJ 2026**

ZEISS Award for Talents in Photomask Industry – on the occasion of the 40th European Mask and Lithography Conference 2025 in Dresden / Germany
by Thomas Franz Karl Scheruebl / Carl Zeiss Semiconductor Mask Solutions (SMS)

Announcement of the SPIE Photomask Technology ('BACUS') & EUV Lithography 2025 Conference in Monterey, CA, USA
by Ines Stolberg / Vistec Electron Beam - BACUS Program Committee

Announcement of the Photomask Japan 2026 Conference in Yokohama / Japan
by Yosuke Kojima-san / Tekscend Photomask (Japan)

09:00 - 10:00

Session 11: 2nd Plenary

Chair: Bríd Connolly / Tekscend Photomask (Germany)
Co-Chair: Naoya Hayashi / DNP (Japan)

KEYNOTE-3
09:00 – 09:30 **Feature-rich Essential Chips at the Edge**
Juergen Daleiden / GLOBALFOUNDRIES, Dresden (Germany)

KEYNOTE-4
09:30 – 10:00 **Infineon's Smart Power Fab and its capabilities**
Falko Hoehnsdorf / Infineon Technologies Dresden (Germany)

10:00 – 10:30 Coffee Break

10:30 - 11:30

Session 12: Electron and Optical Direct Write

Chair: Ines Stolberg / Vistec Electron Beam (Germany)
Co-Chair: Nico Noack / AMTC (Germany)

10:30 – 10:50 **Variable shaped beam lithography and cell projection for optical metamaterials**
Meik Panitz, Clemens Schindler, Martin Tilke, Michael Thomschke, Stefan Koch / J JENOPTIK Optical Systems GmbH (Germany)
S. Fasold, U. Weidenmueller, I. Stolberg / Vistec Electron Beam GmbH (Germany)

10:50 – 11:10 **Fabrication of single-electron shuttling channels in a silicon CMOS fab using high-throughput electron beam lithography**
Wolfram Langheinrich, Pascal Muster, Sebastian Pregl / Infineon Technologies Dresden GmbH & Co. KG (Germany)
Varvara Brackmann, Michael Friedrich, Marcus Wislicenus / Fraunhofer IPMS, Dresden (Germany)
Felix Reichmann / IHP Leibniz-Institut für innovative Mikroelektronik, Frankfurt/Oder (Germany)
Nikola D. Komerički / Fraunhofer IAF, Freiburg (Germany)
Dominique Bougeard / Institut für Experimentelle und Angewandte Physik, Universität Regensburg (Germany)

Till Huckemann / JARA-FIT Institute for Quantum Information, Forschungszentrum Jülich GmbH and RWTH Aachen University (Germany)
Lars R. Schreiber, Hendrik Bluhm / JARA-FIT Institute for Quantum Information, Forschungszentrum Jülich GmbH and RWTH Aachen University and ARQUE Systems GmbH (Germany)

11:10 – 11:30 **Digital Lithography**
Chi-Ming Tsai, Tom Laidig, Jang Fung Chen / Applied Materials, Santa Clara (USA)

11:30 - 12:30

Session 13: Mask and Wafer Process Control

Chair: Thomas Franz Karl Scheruebl / Carl Zeiss SMT (Germany)
Co-Chair: Jan Hendrik Peters / bmbg consult (Germany)

11:30 – 11:50 **A metrospection use case: enabling CNN ADC on CDSEM images for robust R&D developments and improved manufacturing quality control**
Florent Dettoni, Bertrand Le-Gratiet, Delphine Le Cunff, Nicolas Kubler, Thomas Alcaire, Ewen Mailly / STMicroelectronics, Crolles Cedex (France)

11:50 – 12:10 **Challenges and experience of mask inspection round robin**
Jan Heumann, Timo Wandel, Falk Lange 7 Advanced Mask Technology Center, Dresden, (Germany)
Carina Tan, Sia Kim Tan, Anthony Zhou / GlobalFoundries (Singapore)

12:10 – 12:30 **Mask-t-Mask registration from PROVE® as an enabler for computational overlay**
Steffen Steinert, Dirk Beyer / Carl Zeiss SMT GmbH, Jena (Germany)
Richard van Haren, Christian Roelofs, Orion Mouraille, Koen D'havé, Leon van Dijk, Ewa Kasperkiewicz / ASML, Eindhoven (Netherlands)
Koen D'havé, Jan Hermans, Mahmudul Hasan / IMEC, Leuven (Belgium)

12:30 – 14:00 ***Lunch Break***

14:00 – 15:00

Session 14: NanoImprint Lithography (NIL) and Two-Photon Lithography

Chair: Nico Noack / AMTC (Germany)
Co-Chair: Michael Mühlberger / PROFACTOR (Austria)

14:00 – 14:20 **NIL Masters with continuous Through-Grating Profile Variations for Waveguide Optimization**
Martin Sczyrba, Haiko Rolff, Marcel Kristlib / Advanced Mask Technology Center Dresden GmbH & Co.KG (Germany)
Brid Connolly / Tekscend Photomask Germany GmbH, Dresden (Germany)

14:20 – 14:40 **Precision pattern transfer for next generation NIL-based optics**
Matthew C. Traub, Eleonora Storace, Myriam Willegems, Florian Maudet, Mahyar Mazloumi, Vladimir Pejovic, Bruno Figeys / imec, Leuven (Belgium)

14:40 – 15:00 **Two-photon polymerization lithography as a mastering tool for nanoimprint lithography**
Stjepan Perak, Markus Lunzer / UpNano GmbH, Vienna (Austria)
Sonja Kopp, Viktorija Jonaityte, Michael M. Muehlberger / PROFACTOR GmbH, Steyr-Gleink (Austria)
Marta Bonora / Center for Medical Physics and Biomedical Engineering, Medical

University of Vienna, Ludwig Boltzmann Institute for Cardiovascular Research, Vienna, Austrian Cluster for Tissue Regeneration, Vienna (Austria)
Francesco Moscato / Center for Medical Physics and Biomedical Engineering, Medical University of Vienna, Ludwig Boltzmann Institute for Cardiovascular Research, Vienna, Austrian Cluster for Tissue Regeneration, Vienna (Austria)

15:00 – 15:30 Coffee Break

15:30 – 16:50

Session 15: Advancements in New Application Fields

Chair: Ksenija Varga / EV Group (Austria)
Co-Chair: Nivea Schuch / Applied Materials (France)

15:30 – 15:50 **Utilizing inkjet coating with nanoimprinting to create complex 3D patterns with nonlinear heights and a thin residual layer**
Thomas Achleitner, Johanna Rimböck, Lisa Vsetecka, Patrick Schuster / EV Group, St. Florian am Inn (Austria)
Brid Connolly, Andreas Frangen / Toppan Photomask Germany, Dresden (Germany)
Martin Sczyrba / Advanced Mask Technology Center, Dresden (Germany)

15:50 – 16:10 **Precise optical characterization of SiFe thin films for next generation transistor metrology**
Samira Naghdi, Richard Ciesielski, Victor Soltwisch / Physikalisch-Technische Bundesanstalt (PTB), Berlin, Germany
Janusz Bogdanowicz / Imec, Leuven (Belgium)
Roger Loo / Imec, Leuven (Belgium) and Ghent University, Department of Solid-State Sciences, Ghent (Belgium)

16:10 – 16:30 **Improving uptime of clustered lithography tools by smart maintenance**
Yvonne Bergmann, Hürsen Deniz, Hansotto Kelp, Bernd Hammann, Carolin Bier, Ralf Augke / Robert Bosch GmbH, Reutlingen (Germany)

16:30 – 16:50 **Investigation of influence of structure geometry on resist coverage for spray coating**
Johanna Rimböck, Thomas Engelsberger, Ciler Özen, Matthias Brunnbauer / EV Group, St. Florian am Inn (Austria)
Maik Gerngroß, Harry Biller / Allresist GmbH, Strausberg, (Germany)

16:50 – 17:00 **Thanks to all EMLC 2025 Presenters & Participants**

Announcement of *EMLC 2026 / Jena, Germany, June 22-24, 2026*
by EMLC Conference Chairs Ines Stolberg / Vistec Electron Beam (Germany) and Jo Finders / ASML (Netherlands)

End of EMLC 2025 Conference