SPIE. PHOTOMASK TECHNOLOGY + EUV LITHOGRAPHY

29 September–3 October 2024Monterey, California, United States

Submit abstracts by **15 May 2024**

Photomask Technology 2024 (PM01)

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Photomask Technology, formerly known as BACUS, stands as a distinguished forum where professionals and academics from the semiconductor industry and related organizations come together to present and discuss the latest advancements in photomask technology. The event covers a wide range of topics, including materials, design, fabrication, quality control, and wafer imaging characterization in EUV, DUV, and other related technology areas. The event is also situated alongside the EUV Lithography Symposium, and this co-location provides participants with a comprehensive scope and an opportunity to engage in productive discussions, exchange insights, and address challenges related to photomask and its crucial role in lithography.

With EUV lithography integrated into several generations of semiconductor products, the necessity for multiple patterning across more layers becomes inevitable. Given the significant costs associated with patterning, there is an imperative need for innovation in materials for EUV masks and pellicles, MDP (OPC, MPC, fracture) methods, writing techniques, metrology, and inspection capabilities to enhance resolution, yield, and productivity. Furthermore, the introduction of high-NA EUV scanners to the field necessitates the immediate securing of the entire infrastructure and refining of mask-making processes. Legacy technologies also require improvement to support existing applications and explore new opportunities in areas such as 5G, silicon photonics, IoT, MEMS, automotive, AR/VR, and others.

We extend a warm invitation to technologists, researchers, and students in the photomask and related fields to actively participate in our conference. This event serves as an excellent platform to exchange knowledge, insights, and ideas crucial for advancing the semiconductor industry. We encourage submissions covering a wide range of topics related to photomask research, development, manufacturing, and application. While we have a particular interest in the areas highlighted below, we welcome submissions from all related fields leveraging photomask technology. So, submit your abstract today and join us in shaping the future of our industry.

- Design and verification, data prep and automation (DFM, OPC, SMO, DTCO, MRC, LRC, Fracture)
- Curvilinear masks and inverse lithography technology
- DUV mask blanks (substrates, binary and phase shifting
- EUV mask blanks (substrate, multilayers, capping layer and various absorbers)
- E-beam and optical resist (CAR, non-CAR)
- Mask writing technologies (MBMW, laser writers, corrections, process compensation)
- Mask processes (resist, resist process, etch, cleaning)
- Mask metrology (CD, registration, defects, AIMS, AFM, SEM)
- Mask inspection, repair, defect mitigation
- Use of deep learning and machine learning, GPU or other hardware and software accelerations for mask computations
- Pellicles and contamination control (DUV and EUV)
- Mask infrastructure for high-NA EUVL
- Simulation and imaging of mask transfer to wafer (MEEF, LER, PW, stochastics)
- Novel and maskless technologies (imprints, direct write, Talbot)
- Mature mask technologies for new markets (packaging, photonics, sensors, biosciences, MEMS, displays)
- Emerging device technology (AR/VR, quantum) requiring unique mask and patterning
- Strategy and challenges in cost, cycle time, sustainability and legacy equipment use

Whether you are working on leading-edge technologies or enhancing legacy ones, this is your chance to showcase your work, gain new knowledge, and network with colleagues and collaborators. We encourage you to participate by submitting your abstract(s) and motivating your colleagues to do the same. We express our gratitude for the technical contributions and support from participating companies that make this symposium possible.

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Present your research at SPIE Photomask Technology + EUV Lithography

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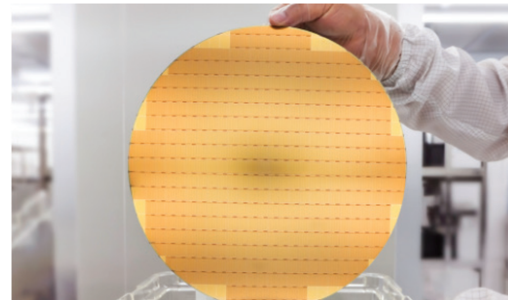
ABSTRACT SUBMISSION GUIDELINES

Below are abstract submission instructions, the accompanying submission agreement, conference presentation guidelines, and guidelines for publishing in the Proceedings of SPIE on the SPIE Digital Library. Submissions subject to chair approval.

Important dates

Abstracts due	15 May 2024
Registration opens	July 2024
Authors notified and program posts online	8 July 2024
Submission system opens for manuscripts and poster PDFs*	29 July 2024
Poster PDFs due for spie.org preview and publication	4 September 2024
Manuscripts due	11 September 2024

**Contact author or speaker must register prior to uploading*



What you will need to submit

- Presentation title
- Author(s) information
- Speaker biography (1000-character max including spaces)
- Abstract for technical review (200-300 words; text only)
- Summary of abstract for display in the program (50-150 words; text only)
- Keywords used in search for your paper (optional)
- Check the individual conference call for papers for additional requirements (i.e., special abstract requirements or instructions for award competitions)

Note: Only original material should be submitted. Commercial papers, papers with no new research/development content, and papers with proprietary restrictions will not be accepted for presentation.

Contact information

For questions about your presentation, submitting an abstract post-deadline, or the meeting, contact your Conference Program Coordinator.

How to submit your abstract

- Visit the conference page: **www.spie.org/puv**
- You may submit more than one abstract but submit each abstract only once
- Click the "Submit An Abstract" button on the conference page
- Sign in to your SPIE account or create an account if you do not already have one
- Follow the steps in the submission wizard until the submission process is completed

Submission agreement

All presenting authors, including keynote, invited, oral, and poster presenters, agree to the following conditions by submitting an abstract:

- Register and pay the author registration fee
- Oral presenters: recording and publication of your onsite presentation (slides synched with voice) for publication in the Proceedings of SPIE in the SPIE Digital Library
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- Email messaging for the conference series
- Submit a manuscript by the advertised due date for publication in the Proceedings of SPIE in the SPIE Digital Library
- Obtain funding for registration fees, travel, and accommodations
- Attend the meeting
- Present at the scheduled time

Review and program placement

- To ensure a high-quality conference, all submissions will be assessed by the conference chair/editor for technical merit and suitability of content
- Conference chairs/editors reserve the right to reject for presentation any paper that does not meet content or presentation expectations
- Final placement in an oral or poster session is subject to chair discretion

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