

3rd and Final Immersion Workshop

**27th January 2004
Hyatt Regency at Macy's Plaza
Los Angeles, California USA**

Closing Remarks

Walt Trybula, ISMT



Immersion Litho Top Ten Critical Issues – July 2003

1. Defect formation, control, and characterization – e.g., droplet in wrong place, topography, or entrainment from jets – new defect types
2. Hyper NA complexity and reticle polarization constraints including impact on: field size (lens complexity), reduction ratio, RET, and simulation tools.
3. Robust CaF₂ protective layer for bottom element, including laser durability, contamination/erosion susceptibility
4. Specification and preparation of water, including: absorption control, surface tension & wettability, and ESD
5. Influence of fluid on resist, resulting in altered process properties (e.g., swelling).
6. Timing versus infrastructure versus competing technologies, extensibility
7. Chemical contamination of fluid by resist which impacts imaging through altered fluid optical properties on time scale of exposure
8. Edge Die Exposure
9. Thermal management of fluid
10. Experimental data (early tool access)

Acknowledgements

- Mordy Rothschild (MIT/LL), Andrew Grenville (ISMT/Intel), Will Conley (ISMT/Motorola)
- Support Staff
 - Judy Behr (Presentation & Posters organization and CD creation)
 - Beth Kells (Registration)
 - Connie Reed (Registration)
 - Darlyne Harlan (Meeting Planning/Logistics)
 - Mario Gonzalez (A/V)
- All the researchers who have worked on the critical issues and are identified in the presentations.

Coming Events



2004 EIPBN SAN DIEGO JUNE 1-4



The 48th International Conference on Electron, Ion, and Photon Beam Technology and Nanofabrication

San Diego Marriott Hotel
June 1-4, 2004

You are strongly encouraged to register on line by using our website:

www.eipbn.org

Early registration and special student rates are available.

More Invited Speakers to be Announced

M. Rothschild <i>MIT Lincoln Laboratory</i>	Optical Immersion Lithography (plenary)
K. Cummings <i>ASML</i>	Optical Maskless Lithography (plenary)
E. L. Hu <i>CNSI, UC-Santa Barbara</i>	The 'New Nanotechnology': New Approaches and Critical Challenges (plenary)
A. Belcher <i>MIT</i>	Using Nature Tools to Grow Nanostructural Materials (plenary)
H.I. Smith & R.F.W. Pease <i>MIT & Stanford</i>	EIPBN 48 Years On and Still Beaming (plenary)
R. French <i>DuPont Central Research</i>	Fluids for 157nm Immersion Lithography
K. Kemp <i>International SEMATECH</i>	Overview and Status on EUV Lithography
H. P. Kuo <i>Hewlett-Packard</i>	Ultra-High Density Electron Beam Addressed Memory
J. A. Liddle <i>LBNL</i>	Lithographically-Directed Self Assembly of Nanostructures
H. Loeschner <i>IMS Nanofabrication</i>	Charged-Particle Optics for E-Beam Maskless Nanolithography and Ion-Beam Nanofabrication
S. V. Sreenivasan <i>Univ. of Texas - Austin</i>	Step-and-Flash Imprint Lithography

157nm & Immersion Symposium

- August 2nd – 5th 2004
- Vancouver, British Columbia, Canada
- In cooperation with Selete and IMEC
- General Chair – Andrew Grenville
- Program Chair – Walt Trybula
 - Abstracts due May 15th, 2004
 - Notification of acceptance June 30th 2004
 - Presentations due July 30th 2004

157nm & Immersion Symposium

Presentations are being solicited on the following topic areas:

- Tools (both design and theory),
- Resist,
- Masks,
- Hyper-NA effects,
- Lasers,
- Bubbles,
- Material,
- Modeling,
- Metrology, and
- Other Related Topics.

Litho Forum Information



Forum Information – January 27th

- **Registration**
 - Outside the meeting room until 6PM
 - 26th Floor from 6:30PM
- **Registration Packet**
 - Includes Thursday dinner ticket, which is required for admission to the dinner
- **Surveys**
 - Will be available starting Wednesday morning
 - Seven copies of Technology Survey – one for each oral
 - Ten copies of Emerging Technologies Survey
 - One copy of Plans Survey
- **Reception 6:30PM until 8:30PM 26th Floor**
- **Posters**
 - Setup in Manhattan Room from 6PM
 - Pick up location map from Registration Desk