



**EXTREME ULTRAVIOLET LITHOGRAPHY**

**Second International Symposium**

**Antwerp, 30 September-2 October 2003**

**Closing**

**Robert A. Hartman**

# Agenda

- **Poster Prize**
- **EUV issues**
- **Second EUVL Symposium**
- **Third EUVL Symposium**

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- 120 Microstepper for EUV Lithography**  
**Philipp H. Grünewald et al (Exitech Ltd)**
- 90 Simulation of Discharge Produced Plasma Hydrodynamics and Radiation Transport in EUV Lithography Devices**  
**A. Hassanein et al (Argonne National Laboratory) B. Rice (Intel Corporation)**



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9 **Effect of EUV Light Scattering from the Rough Absorber and Buffer Side**

Yeong-Keum Kwon et al (Hanyang University)

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# EUV Lithography: Critical Issues (10/17/2002)

1. Source output (2)
2. Defect-free multilayer coated mask blank mfg, including inspection (1)
3. Source & condenser optics reliability (5)
4. CoO of EUV lithography (3)
5. Defect-free patterned mask manufacturing/commercial availability (4)
6. Reticle defect protection (from inspection through exposure) (6)
7. Effective contamination control of optical path (lifetime) (7)
8. High NA optics manufacturing (9)
9. Thermal management of reticle & projection optics at high throughput (8)
10. Resist – high sensitivity at low power with low LER (new)

# Draft Issue list

## NOT PRIORITIZED

- Source lifetime including condenser optics
- Resist sensitivity / LER
- Source output power
- Optics quality for the 32 nm node
- Projection optics lifetime/contamination
- Commercial available masks (defect free and flat)
- Reticle protection during storage handling and use

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# Second EUVL Symposium

- **Poster have to be removed directly after lunch**
- **Please return Symposium evaluation form**
- **a hotel rented modem was left in Committee room second floor: potential 500 euro charge, please pick up**

# Second EUVL Symposium

- 354 participants: largest yet
- We just could fit in the hotel !
- Symposium staff:
  - Darlyne Harlan
  - Judy / Wolfgang Behr
  - Ariane Distelmans
  - Maria Koens

They did an excellent job

# Second EUVL Symposium

- **Program Chair:**  
**Hans Meiling**
- **Regional Chair:**  
**Luc van den Hove**
- **Regional Chair:**  
**Kevin Kemp**
- **Regional Chair:**  
**Shinji Okazaki**

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# 3<sup>rd</sup> International EUVL Symposium

Date : **November 1 - 4, 2004**

Venue : **Sheraton Grande Ocean Resort  
Miyazaki, JAPAN**

Committee : Conference chairperson : Prof. Y. Horiike

Program committee chairperson : Dr. S. Okazaki

First Call for Paper will be delivered in December, 2003.

Deadline of abstract submission : July 1<sup>st</sup>, 2004

URL : [www.euva.or.jp](http://www.euva.or.jp)

e-mail : [info@euva.or.jp](mailto:info@euva.or.jp)



1.5 hour flight from Tokyo





EXTREME ULTRAVIOLET LITHOGRAPHY

Have a  
safe trip  
home !!