

Editorial

MONA - Workshop on Building a Nanophotonics Roadmap

Fairmont Hotel, San Jose, California
Thursday 25 January, 2007



On January 25, 2007 the MONA workshop on Building a Nanophotonics Roadmap took place in San Jose, California, during Photonics West.

Although the MONA Workshop on “**Building a Nanophotonics Roadmap**” developed some themes of the MONA Symposium which had been held on November 29, 2006 in Grenoble, France the Roadmapping Workshop in San Jose specifically aimed for international input and coordination concerning: Photonic-Electronic convergence, manufacturing on a commercial scale, market development and international cooperation. During the workshop the attendees were invited to contribute by joining a work group to develop a response to one of these issues. The results were presented in the concluding part of the workshop.

A large and international audience attended the program including following presentations:

- Welcome and Introductions
- “The OITDA Roadmap for Nanophotonics”
Yasuhiko Arakawa, University of Tokyo (Japan)
- “Nanophotonics in the MIT Photonics Roadmap Project”
Lionel Kimerling, Massachusetts Institute of Technology (USA)
- “Planning for Nanophotonics Development in Taiwan”
Wei-Xin Ni, National Nano Device Laboratory (Taiwan)
- “Nanophotonics Program Development in Korea”
Jung-Il Lee, Korea Institute of Science and Technology –KIST (South Korea)
- “MONA, the Nanophotonics Roadmap Project in Europe”
Thomas P. Pearsall, European Photonics Industry Consortium (France)
- Breakout Sessions
- Reports from Breakout Sessions

Breakout Session Topics

1. Electronic-photonic convergence
Group leaders: Lionel (Kim) Kimerling, MIT, USA, Wei-Xin Ni, NDL, Taiwan
2. Upscaling from lab demo to high volume production
Group leaders: Laurent Fulbert, CEA, France, Randolph Kirchain, MIT, USA
3. Development of a nanophotonics market
Group leaders: Tom Pearsall, EPIC, France, Michael Heuken, Aixtron, Germany
4. Organizing international cooperation
Group leaders: Yasuhiko Arakawa, Japan, Jung-il Lee, KIST, Korea

A CD-Rom including all presentations and breakout sessions results has been produced and mailed to the participants. It is also posted on the MONA website: <http://www.ist-mona.org>

Contents of this newsletter:

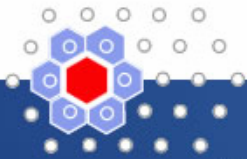
- Editorial:
MONA workshop on Building a Nanophotonics Roadmap in San Jose
- Article on the MONA Roadmap Workshop in optics.org



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Nanophotonics Focus at Photonics West 2007

On January 31, 2007, a review of the Photonics West Conference was published by optics.org. Photonics West 2007 widely surpassed expectations for participation and commercial activity. Regarding the MONA Nanophotonics Roadmapping Workshop, Matthew Peach of optics.org wrote:

"In its review of this year's convention, Photonics West organiser SPIE drew attention to an associated event on nanophotonics. On the closing day, the workshop entitled **Building a Nanophotonics Roadmap** was held. This brought together interested parties from three continents to identify and discuss issues in planning the future of nanophotonics.

Breakout sessions took place on electronic-photonics convergence, international cooperation, market issues, and scaling up production, moderated by Thomas Pearsall, of the European Photonics Industry Consortium, based in France.

The convergence group identified silicon as the medium best fulfilling the requirements of integration density, volume, and performance over cost, in such pervasive applications as fiber to the home and server.

The group discussing international cooperation agreed on the need for standardization in related technology areas, as well as the need for a worldwide body to discuss and promote nanophotonics.

The market issues group spent a lot of time discussing the question *what is nanophotonics?* and determining whether certain contemporary technologies are, in fact, nanophotonics already in production. Charts were displayed showing market projections for the next decade, with the areas of lighting, displays, and optical interconnects offering the most near-term development.

The key barrier to high volume production in nanophotonics is cost, the fourth group reported. Realizing a common process platform is a critical element in growing the market, they said. Research institutions can play a key role in developing a comprehensive picture of processing options and requirements. The group recommended that precompetitive activities be undertaken to develop standards, including the identification of *de facto* standards, and focusing on areas where standardization is most likely."

You can read the entire article on the optics.org website under following link:
<http://optics.org/cws/Articles/ViewArticle.do?channel=technology&articleId=26954>



A part of the large audience attending the MONA Roadmapping workshop on January 25 in San Jose