



NIST



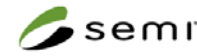
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SEMATECH
Accelerating the next technology revolution.



SRC



IEEE



ELECTRON
DEVICES
SOCIETY



APS
physics



AVS



Future Fab
INTERNATIONAL

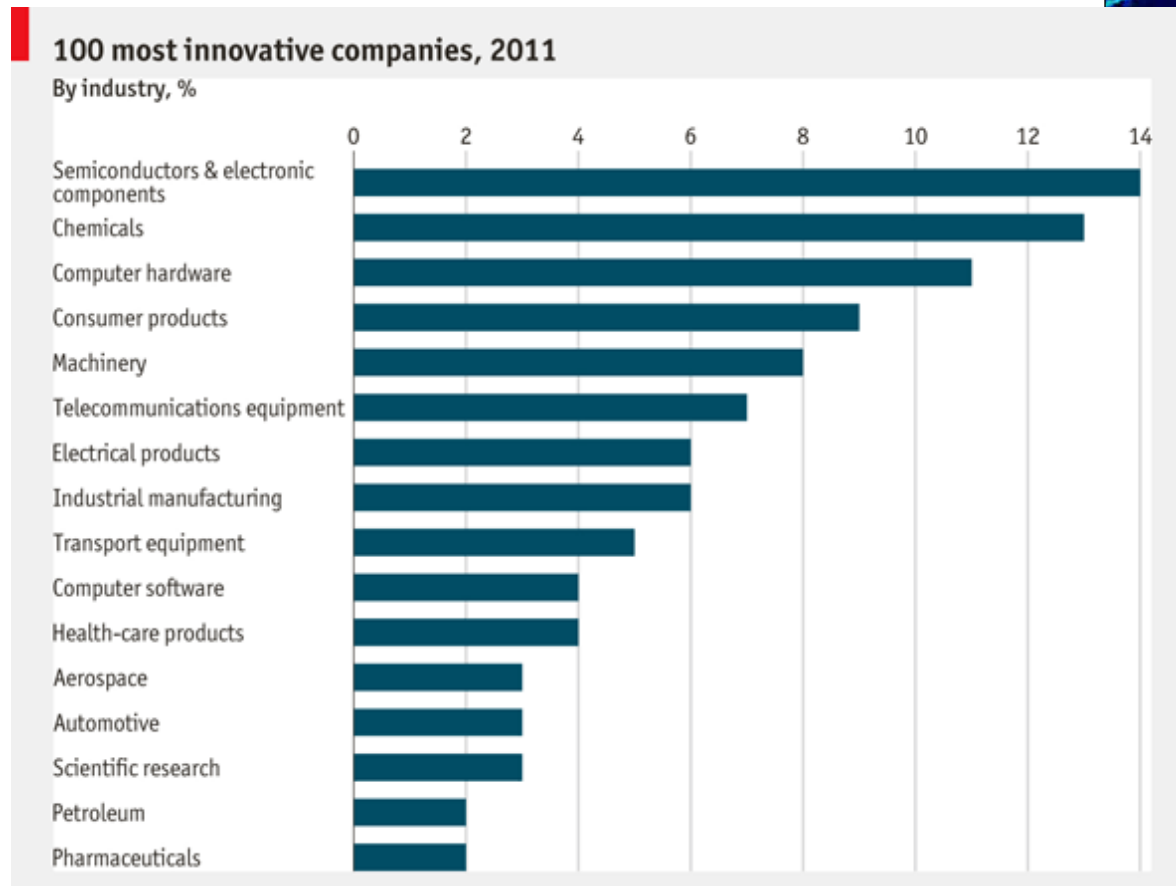
2013 Frontiers of Characterization and Metrology for Nanoelectronics

David G. Seiler, NIST

On Behalf of the Conference
Organizing Committee

Where Innovation Lies*

- “COMPANIES that make semiconductors and other electronic components are the most innovative, according to an analysis of patents carried out by Thomson Reuters, an information-services provider.”
- Its “Top 100 Global Innovators” report rates companies by the proportion of their patent applications that are granted; the number of “quadrilateral” patents (those granted in China, Europe, Japan and America); how often patents are cited by other companies; and whether patents relate to new techniques or inventions or are refinements of existing ones.



*from “Where Innovation Lies,” The Economist Online, Nov. 16, 2011

German Hightech-Strategy 2020

Innovation Topics for the „Research

Union“ Climate/ Energy



- Sustainable Cities
- Smart Energy

Health/ Nutrition



- Personalized Medicine
- Self-determined Seniority
- Prevention of Widespread Diseases

Mobility



- Electro Mobility
- Affordable, CO₂-optimized Mobility
- Smart Mobility by Flexible Linked Traffic Carriers

Security



- Secure Cloud made in Germany
- Secure Identities
- Embedded Security in Embedded Systems

Communi- cation



- Future Internet, Green IT and IT for Green
- Transformation into a Digital Knowledge Society

Source: BMBF 2010 und Arbeiten der Forschungsunion Wirtschaft-
Wissenschaft

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www.mikroelektronik.fraunhofer.de

Slide courtesy of Hubert Lakner, Fraunhofer-Gesellschaft, Microelectronics Group



When addressing the global societal challenges
most solutions will require
Nanoelectronics and Smart Systems.

which have become one of the most important
Key Enabling Technologies
and
Innovation Drivers

Special Thanks to Our Gold and Silver Sponsors!



Special Thanks to our Bronze Sponsors and Exhibitor

- **Bronze Sponsors**

- Lake Shore Cryotronics, Inc.
- Metrologia

- **Exhibitor**

- Angstrom Scientific, Inc.

NOTE: Archived Papers and Talks Free On-line

- Proceedings papers from 1995-2009 and presentation slides from 2000-2011 are now available on-line free of charge: www.nist.gov/pml/div683/conference/archives.cfm

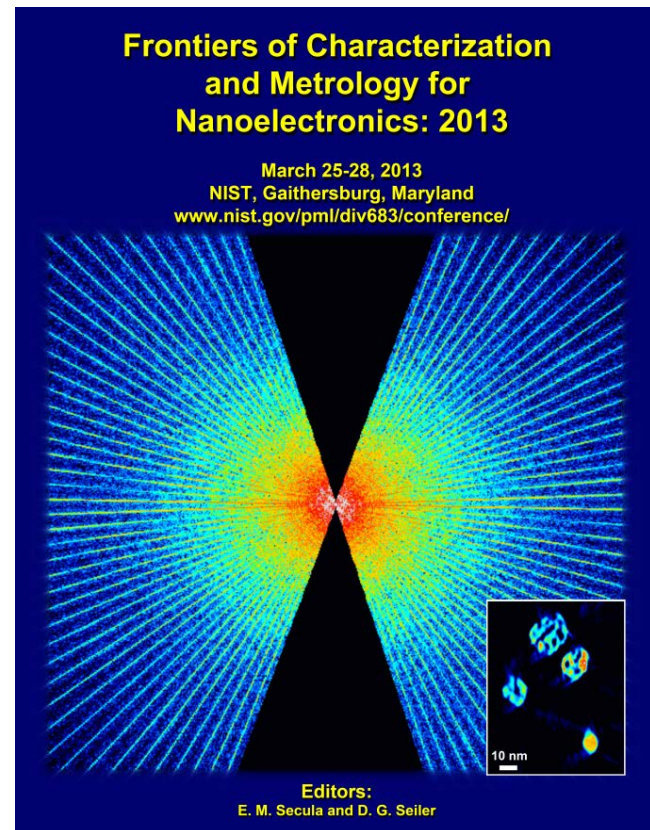


FCMN Conference Web Traffic

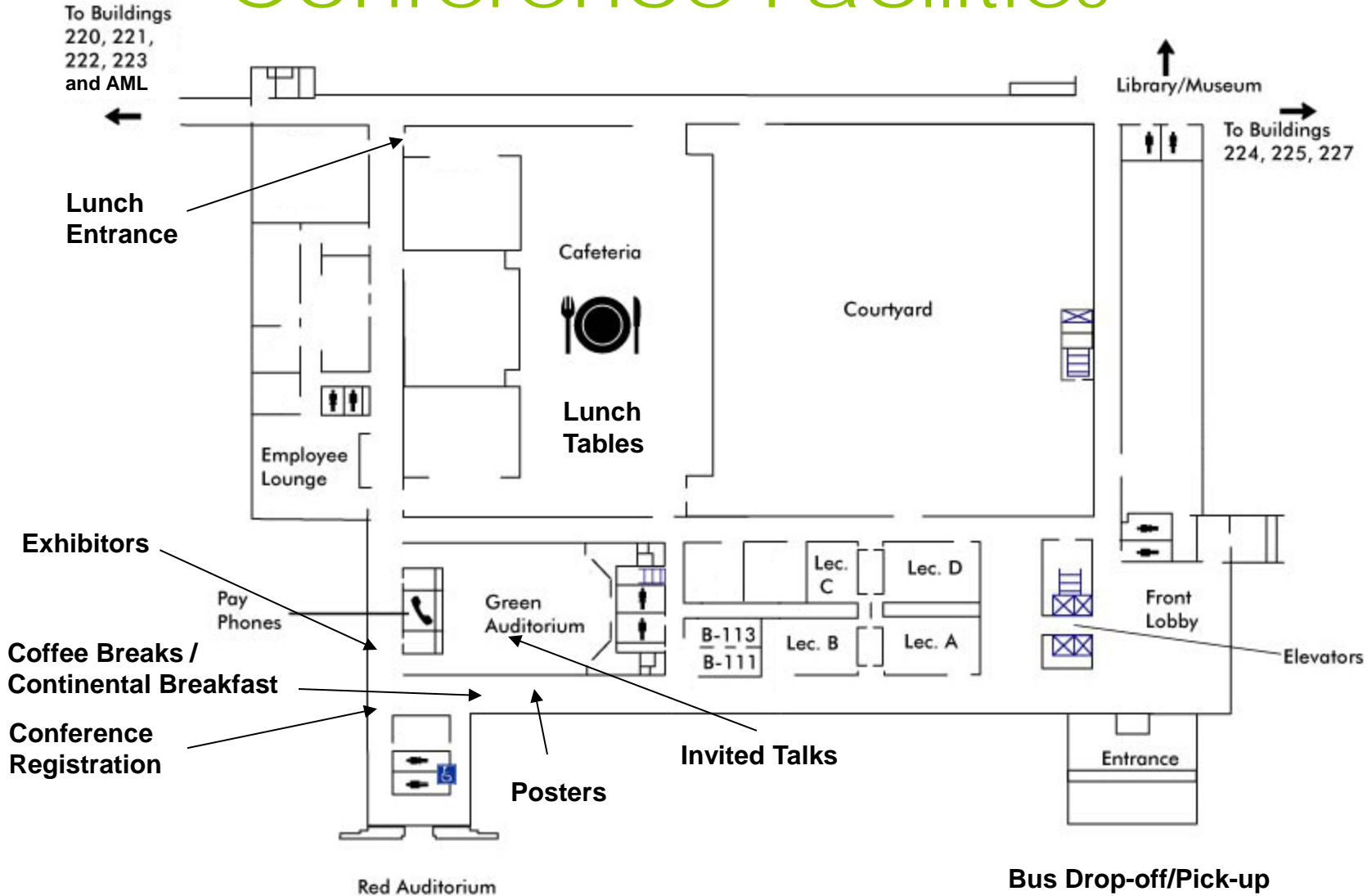
- Total page views since \approx July 2000 through March 11, 2013 = 3,687,759
- Average page views per year = \approx 269,968
- FY 2013 page views so far = 268,533
- The majority of these page views are for the slides from our invited speakers.

Proceedings Change: a Shift to On-line Tech Transfer

- **Previously**
 - Mailed full, hard-bound proceedings containing 5-10 page papers 4 months after the event.
 - Books were available to purchase through AIP for non attendees.
- **Now**
 - Extended abstract books containing 3 page abstracts distributed at the event.
 - Abstract books are available to everyone on-line free-of-charge.
- **Feedback Wanted**
 - Please state your opinion on this to a committee member or when we send out the conference survey after the event.



Conference Facilities



Bus Schedule

- **Tuesday**

- 7:00 AM, 7:30 AM, & 8:00 AM: Crowne Plaza to NIST
- 6:00 PM & 6:30 PM: NIST to Crowne Plaza

- **Wednesday**

- 7:30 AM & 8:00 AM: Crowne Plaza to NIST
- 6:00 PM: NIST to Smokey Glen Farms
- 8:45 PM: Smokey Glen Farms to Crown Plaza

- **Thursday**

- 7:30 AM & 8:00 AM: Crowne Plaza to NIST
- 5:45 PM & 6:15 PM: NIST to Crowne Plaza

Special Notes

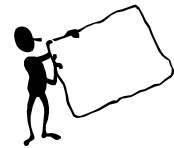
- **Talks on-line**

- We will ask each speaker for permission after the event.



- **Posters**

- Numbers are posted above each poster. Authors are responsible for displaying and removing (at the end of the day) their posters.



- **Lunch/Banquet/Barbecue Tickets**

- If there are any lunch/event tickets you will not use, please leave them at the registration table.



- **Silence Phones**



- **Emergency Exits**



- **Conference Survey**

- A survey will be sent out after the event. Your feedback is appreciated!

Summary

Discovery begins with measurement

- Measure and Know
- Measurement touches virtually every aspect of our daily lives: the quality of our air, water and food; the performance of our smartphones; and the effectiveness of our pharmaceuticals.
- Few people think about the precise measurements needed to make our world a better place to live. But scientists and engineers do. And they use a vast array of instruments to achieve this high level of precision, down to nanometers, picoseconds and parts per trillion.

From

http://www.agilent.com/about/companyinfo/agilent_corporate_brochure_2010.pdf