

Second Molecular Foundry User Workshop
and Groundbreaking
Lawrence Berkeley National Laboratory
January 29-30, 2004

Agenda

Thursday, January 29

Building 66 auditorium

7:30 Registration, Continental Breakfast

8:00 LBNL Welcome, Charles V. Shank, Director

8:05 DOE Welcome, Richard Nolan, Program Director, DOE Berkeley Site Office

8:10 Update on the Molecular Foundry, A. Paul Alivisatos, Foundry Director

Nanoscience, Today and Tomorrow

8:30 "Modeling matter at the nanoscale: a challenge for first-principles simulations"
Roberto Car, Princeton University

9:10 "Nano-Eco: When Environmental Science Meets Nanoscience"
Vicki Colvin, Rice University

10:00 break

10:10 "Technical Challenges and Molecular Innovation"
Michael Garner, Materials Technology Operation, Intel

10:50 "Semiconductor Nanowires: Building Blocks for Nanoscience and Technology"
Peidong Yang, LBNL, U.C. Berkeley Chemistry

11:30 "Top-Down Meets Bottom-Up, **OR** There's Plenty of Room in the Middle"
Jeff Bokor, LBNL Molecular Foundry, U.C. Berkeley EECS

12:10 lunch

Molecular Foundry Facilities

1:00 Organic, Polymer/Biopolymer Synthesis Jean M.J. Fréchet

1:15 Theory of Nanostructured Materials Steven G. Louie

1:30 Nanofabrication Jeff Bokor

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| 1:45 | Biological Nanostructures | Carolyn R. Bertozzi |
| 2:00 | Imaging and Manipulation | Miquel B. Salmeron |
| 2:15 | Inorganic Nanostructures | A. Paul Alivisatos |
| 2:30 | break | |
| <u>LBNL National User Facilities</u> | | |
| 2:45 | NCEM | Uli Dahmen |
| 3:00 | ALS | Neville Smith |
| 3:15 | NERSC | Juan Meza |
| 3:30 | End of plenary session: attendees proceed to parallel Discussion Groups | |
| 3:45 | Discussion Groups I | |
| | Inorganic Nanostructures, Shaul Aloni | 50B-4205 |
| | Nanofabrication, Gerard Schmid | 50 Auditorium |
| | Organic Nanostructures, Jean M.J. Fréchet | 70-191 |
| | Biological Nanostructures, Carolyn R. Bertozzi | 70A-3377 |
| | Theory of Nanostructures, Steven G. Louie | 2-100B |
| | Imaging and Manipulation, Miquel B. Salmeron | 6-2202 |
| 4:45 | Attendees proceed to second round of Discussion Groups | |
| 4:55 | Discussion Groups II | |
| | Inorganic Nanostructures, A.P. Alivisatos; Peidong Yang | 50B-4205 |
| | Nanofabrication, Alexander Liddle | 50 Auditorium |
| | Organic Nanostructures, Jonathan Ellman | 70-191 |
| | Biological Nanostructures, Carolyn Larabell | 70A-3377 |
| | Theory of Nanostructures, Lin-Wang Wang | 2-100B |
| | Imaging and Manipulation, Michael Crommie | 6-2202 |
| 6:00 | Nanoscience poster session and reception | LBNL Cafeteria |
| 7:00 | Dinner | |

Friday, January 30

Building 66 auditorium

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| 7:30 | Continental Breakfast |
| 8:00 | "Toward LSI of Nanoscale Systems" |

Michael Roukes, California Institute of Technology

8:40 Foundry procedures and logistics

9:00 Discussion and Questions

10:15 Closing Comments, Department of Energy perspective

10:30 Closing Comments, A.P. Alivisatos

Molecular Foundry Groundbreaking

10:45 “Why Nano? Why Now?”
Larry Bock, Nanosys

Building 66 auditorium

11:20 Attendees proceed to ceremony site

11:30 Groundbreaking ceremony

Project site

Welcome

Charles V. Shank, Director, Lawrence Berkeley National Laboratory
Paul Alivisatos, Director, Molecular Foundry

Bay Area Perspectives/BASIC Report

Sean Randolph, Bay Area Economic Forum and BASIC

Department of Energy Perspectives

Pat Dehmer, Associate Director Basic Energy Sciences, Office of Science, US DOE

Federal Support of Nanoscience

Hon. Mike Honda, US Representative

12:00 Lunch

Building 66, room 316

Bay Area Science and Innovation Consortium (BASIC) Forum

1:00 Welcome and Overview of Objectives:

Sean Randolph, Bay Area Economic Forum and BASIC

1:03 Introduction of Panelists:

Moderator: Mike Kanellous, Senior Department Editor, CNET News.Com

1:05 Panel One - Physical and Intellectual Infrastructure:

The Architecture of Nanoscience: An Overview of Bay Area Synergies

Dr. Juri Matisoo, Vice President Technology, Semiconductor Industry Association

Education: Ensuring Multidisciplinary Intellectual Capital
Prof. Carolyn Bertozzi, Director of Biological Nanostructures, Molecular Foundry

Building the Research Infrastructure: The Need for National User Facilities
Prof. Paul Alivisatos, Director, Molecular Foundry

1:30 Panel Two - From the Lab to the Marketplace:

Nanotechnology in the Real World: Innovation to Application - Today and Tomorrow
Mr. Andy R. Watson, Vice President of Business Development, QuantumDot
Dr. Stan Williams, Senior Fellow and Director of Quantum Science Research, HP
Labs

Public/Private Collaboration: Key to Maintaining Bay Area Leadership
Dr. Hans Coufal, Director of Science and Technology, IBM Almaden Research

Center

1:55 Questions and Answers: Audience Participation

2:30 Closing