

About NNIN: Overview

The National Nanotechnology Infrastructure Network (NNIN) is an integrated partnership of fourteen user facilities, supported by NSF, providing unparalleled opportunities for nanoscience and nanotechnology research. The network provides extensive support in nanoscale fabrication, synthesis, characterization, modeling, design, computation and hands-on training. in an open, hands-on environment, available to all qualified users.

The members of NNIN include the following major nanotechnology user facilities:

The CORNELL NANOSCALE FACILITY at Cornell University
The STANFORD NANOFABRICATION FACILITY at Stanford University
The LURIE NANOFABRICATION FACILITY at the University of Michigan
The NANOTECHNOLOGY RESEARCH CENTER at the Georgia Institute of Technology
The CENTER FOR NANOTECHNOLOGY at the University of Washington
The PENN STATE NANOFABRICATION Facility at the Pennsylvania State University
NANOTECH at the University of California at Santa Barbara
The NANOFABRICATION CENTER at the University of Minnesota
The MICROELECTRONICS RESEARCH CENTER at University of Texas at Austin
The CENTER FOR NANOSCALE SYSTEMS at Harvard University
The HOWARD NANOSCALE SCIENCE AND ENGINEERING FACILITY at Howard University
The NANO RESEARCH FACILITY at Washington University at St. Louis
NANOFAB at Arizona State University
The COLORADO NANOFABRICATION LABORATORY at the University of Colorado at Boulder

CNS Mission and Goals

To provide world-class, centralized facilities and technical support for Harvard faculty research groups as well as the larger community of external users from academia and industry.

To foster leading-edge, multi-disciplinary research and education in the area of imaging and nanoscale systems, bridging the disciplines of chemistry, physics, engineering, materials science, geology, biology, and medicine.

To create an environment for collaborative research by providing shared research facilities and meeting places conducive to productive scientific interactions.

Acknowledgement

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Harvard University
Center for
Nanoscale
Systems



Bio-Inspired Engineering International Symposium 2012

PROGRAM

SPONSORED BY:
National Science Foundation
National Nanotechnology Infrastructure Network (NNIN)
Harvard Center for Nanoscale Systems

PROGRAM CHAIR
Joanna Aizenberg, Harvard University

BREAKFAST RECEPTION

7:15 Physics Library, Jefferson 4th floor

OPENING REMARKS

8:00 Joanna Aizenberg, HARVARD UNIVERSITY Jefferson 250

PRESENTATIONS

8:30 Stefan Zauscher, DUKE UNIVERSITY Jefferson 250
 Design and Use of Surface-Tethered (Bio)Macromolecular Nanostructures for Nanomechanical Sensing and Novel Detection and Amplification Platforms

9:15 Nico Sommerdijk, EINDHOVEN UNIVERSITY Jefferson 250
 The early stages of biomimetic calcium phosphate formation, amorphous phases and prenucleation *complexes*

10:00 Kenneth Sandhage, GEORGIA TECH Jefferson 250
 Can rigid, nanostructured, inorganic and organic bio-derived templates with intricate 3-D morphologies and hierarchical pore structures be chemically tailored for man-made applications in catalysis, optics, and energy harvesting?

10:45 **BREAK** Physics Library, Jefferson 4th floor

11:00 Chris Ober, CORNELL UNIVERSITY Jefferson 250
 Polymer brushes: Patternable structures as interfaces with the biological environment

11:45 Fiona Meldrum, UNIVERSITY OF LEEDS Jefferson 250
 Bio-Inspired Approaches to Crystals with Composite Structures

12:30 **LUNCH** Physics Library and Jefferson 425

13:15 Gijs Krijnen, UNIVERSITY OF TWENTE Jefferson 250
 “Seeing by flow”: Courtesy of crickets and MEMS

14:00 Fumiya Iida, ETH ZÜRICH Jefferson 250
 Soft robotics approach to morpho-functional machines

14:45 David Kaplan, TUFTS UNIVERSITY Jefferson 250
 Fibrous Proteins for Biomaterials and Tissue Systems

15:30 **BREAK** Physics Library, Jefferson 4th floor

15:45 Stanislav Gorb, UNIVERSITY OF KIEL, GERMANY Jefferson 250
 Biologically-inspired attachment devices: what can we learn from evolution

16:30 Reza Ghodssi, UNIVERSITY OF MARYLAND Jefferson 250
 Biofabrication Using the Tobacco Mosaic Virus for Next-generation Micro/Nano Devices and Systems

17:15 Eduard Arzt, SAARLAND UNIVERSITY Jefferson 250
 Bioinspired mesotextured surfaces—a strategy for tunable adhesion

POSTER EXHIBITION AND RECEPTION

18:00 Poster Exhibition LISE Ground Floor

About the venue: “The Jefferson Physical Laboratory, one of the nation’s first structures solely designed for research and teaching in the field, opened in the fall of 1884, its very design and “plainest possible” furnishings—down to the unpainted inside brick walls—were statements opposing the ornate European style of laboratory construction. All facilities for teaching undergraduates were kept to the east wing, to minimize vibrations in the west wing owing to “disturbances incidental to the movement of large numbers of persons.” The principal donor was T. Jefferson Coolidge, Class of 1850, a descendant of Thomas Jefferson. The name of the building honors Coolidge’s ancestor, the President who was both a supporter of and occasional contributor to science in America.”