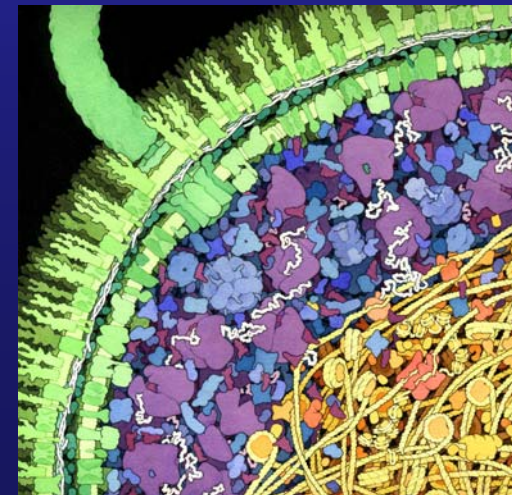




# NANOMEDICINE ROADMAP INITIATIVE

## Project Launch Meeting

NIH, Masur Auditorium, Bldg 10, Bethesda, MD  
Tuesday, May 4, 2004



# Nanomedicine Initiative

(not simply nanotechnology)

*Ultimate Goal:*

Biologically motivated discovery and development that will incorporate nanotechnology tools, devices and processes to provide fundamental insights into cellular function and dysfunction, and leading to therapeutic interventions for disease.

# Nanomedicine Roadmap Implementation Working Group

Co-chairs: Jeffery Schloss, PhD; NHGRI  
Paul Sieving, MD, PhD; NEI

John Bowers, PhD; CSR

Dennis Buxton, PhD; NHLBI

Richard Fisher, PhD; NEI

Daniel Gallahan, PhD; NCI

William Heetderks, MD; NIBIB

Eleni Kousvelari, DDS, DSc; NIDCR

Catherine Lewis, PhD; NIGMS

King Li, MD; CC

Joseph Pancrazio, PhD; NINDS

Karen Peterson, PhD; NIAAA

William Suk, PhD; NIEHS

Kuan Wang, PhD; NIAMS

**Administrative Institute: National Eye Institute**

**Clinical  
Enterprise**

**Re-engineering the  
Clinical Research  
Enterprise**

**Molecular  
Libraries  
and Imaging**

**Building Blocks,  
Biological Pathways  
and Networks**

**Roadmap  
Implementation  
Groups**

**Public-Private  
Partnerships**

**Structural  
Biology**

**High-risk  
Research**

**Bioinformatics and  
Computational Biology**

**Interdisciplinary  
Research**

**Nanomedicine**

**Research Teams**

**New Pathways  
to Discovery**



# NIH Roadmap Goal

- Accelerate basic research discoveries and speed translation of those discoveries into clinical practice
- Explicitly address roadblocks that slow the pace of medical research in improving the health of the American people

# NANOMEDICINE INITIATIVE

\$6 million for 3-4 Nanomedicine Development Centers  
(September 2005)

Flexible Research Authority (FRA):

- process will appear somewhat unfamiliar coming from NIH
- interactive process to develop the concepts of Nanomedicine

Interactive development process will formulate the concepts and content of Nanomedicine.

Roadmap: Nanomedicine is one of 9 initiatives

- Trans-NIH initiatives
- NEI will serve as the administrative lead for Nanomedicine

Today's speakers at the Project Launch Meeting

# Nanomedicine Development Centers

## The NIH Vision for Nanomedicine Development Centers:

- Characterize quantitatively the physical and chemical properties of molecules and nanomachinery in living cells
- Gain an understanding of the engineering principles used in living cells to "build" molecules, molecular complexes, organelles, cells, and tissues
- Use this knowledge of properties and design principles to develop new technologies, and engineer devices and hybrid structures, for repairing tissues as well as preventing and curing disease