National Science and Technology Council
Committee on Technology
Interagency Working Group on Nanoscience, Engineering and Technology (IWGN)

Nanotechnology Research Directions: IWGN Workshop Report

Vision for Nanotechnology R&D in the Next Decade

SEPTEMBER 1999

About the National Science and Technology Council

President Clinton established the National Science and Technology Council (NSTC) by Executive Order on November 23, 1993. This cabinet-level council is the principal means for the President to coordinate science, space and technology policies across the Federal Government. NSTC acts as a "virtual" agency for science and technology (S&T) to coordinate the diverse parts of the Federal research and development (R&D) enterprise. The NSTC is chaired by the President. Membership consists of the Vice President, Assistant to the President for Science and Technology, Cabinet secretaries and agency heads with significant S&T responsibilities, and other White House officials.

An important objective of the NSTC is the establishment of clear national goals for Federal S&T investments in areas ranging from information technologies and health research, to improving transportation systems and strengthening fundamental research. The Council prepares R&D strategies that are coordinated across Federal agencies to form an investment package that is aimed at accomplishing multiple national goals.

To obtain additional information regarding the NSTC, contact 202-456-6100 or see the NSTC Web site at
http://www.whitehouse.gov/WH/EOP/OSTP/NSTC/html/NSTC_Home.html.

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THE WHITE HOUSE

WASHINGTON

September 27, 1999

Dear Colleague:

In August 1999, the National Science and Technology Council's (NSTC) Interagency Working Group on Nanoscience, Engineering, and Technology (IWGN) released its first report, entitled *Nanostructure Science and Technology*. That document provided a basis for the Federal government to assess how to make strategic research and development (R&D) investments in this emerging field of nanotechnology through the formulation of national R&D priorities and a strategy for state, local, and Federal government support.

This IWGN Workshop Report, *Nanotechnology Research Directions,* builds upon the foundation provided in the first report and incorporates a vision for how the nanotechnology community -- Federal agencies, industries, universities, and professional societies -- can more effectively coordinate efforts to develop a wide range of revolutionary commercial applications. It incorporates perspectives developed at a January 1999 IWGN-sponsored workshop by experts from universities, industry, and the Federal government. This report identifies challenges and opportunities in the nanotechnology field and outlines the necessary steps on how advances made in nano-science, engineering, and technology can help to boost our nation's economy, ensure better healthcare, and enhance national security in the coming decade.

Preparing for the challenges of the new millennium requires strategic investments. *Nanotechnology Research Directions* will help our nation develop a balanced R&D nanotechnology infrastructure, advance critical research areas, and nurture the scientific and technical workforce of the next century.

Sincerely,

Neal Lane

Neal Lane
Assistant to the President
for Science and Technology

National Science and Technology Council (NSTC)
Committee on Technology (CT)
Interagency Working Group on Nanoscience, Engineering and Technology (IWGN)

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On behalf of NSTC/CT/IWGN
Edited by M.C. Roco (IWGN Chair),
R.S. Williams (private sector), and P. Alivisatos (academe)

September 1999

This report was prepared under the guidance of NSTC/CT. Any opinions, conclusions or recommendations expressed in this material are those of the Interagency Working Group on Nanoscience, Engineering and Technology, and do not necessarily reflect the views of the Administration or individual funding agencies.

International Technology Research Institute, World Technology (WTEC) Division

This document is available on the Internet at
http://itri.loyola.edu/nano/IWGN.Research.Directions/