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Ethical Evaluations of Nanotechnology

Reports says U.S. research offers chance to address social, ethics concerns

Washington, DC – Recent action in Congress to reauthorize the U.S. federal nanotechnology research program offers the chance to address the social and ethical issues concerning the emerging scientific field, experts say.

"It is crucial to address social and ethical issues now as we consider both the substantial potential risks of nanotechnology and its possible significant contributions to our well-being and environmental sustainability," says Ronald Sandler, Northeastern University philosophy professor and author of a new report funded by the Project on Emerging Nanotechnologies (PEN) and the National Science Foundation.

The report, *Nanotechnology: The Social and Ethical Issues*, emphasizes ways in which such topics intersect with governmental functions and responsibilities, including science and technology policy, as well as research funding, regulation and work on public engagement.

"Too often, discussions about the social and ethical issues surrounding new technologies are treated as afterthoughts, or worse still, as potential roadblocks to innovation. The ethical discussions are relegated to the end of scientific conferences, outsourced to social scientists, or generally marginalized in the policymaking process," says David Rejeski, the director of PEN.

The U.S. House of Representatives Committee on Science and Technology is considering legislation that will strengthen federal efforts to learn more about the potential environmental, health and safety risks posed by engineered nanomaterials, as well as the ethical and societal aspects of the technology. Nanotechnology is an emerging technology that promises to usher in the next Industrial Revolution and is the focus of an annual \$1.5 billion federal research investment. The new bill (H.R. 554) is almost identical to legislation that passed the House last year with overwhelming bi-partisan support by a vote of 407 to 6. The Senate was expected to mark up similar legislation, but lawmakers ran out of time during the session.

"Every emerging technology offers us a new opportunity to engage stakeholders in a social and ethical debate. The nanotech revolution is still beginning and we still have time for an open and public discussion of its consequences, both intended and unintended. Hopefully, this paper will provide a framework for thinking through some of those impacts, particularly as the legislative debate on reauthorizing the federal nanotech program moves forward," Rejeski says.

About Nanotechnology

Nanotechnology is the ability to measure, see, manipulate and manufacture things usually between 1 and 100 nanometers. A nanometer is one billionth of a meter; a human hair is roughly 100,000 nanometers wide. In 2007, the global market for goods incorporating nanotechnology totaled \$147 billion. Lux Research projects that figure will grow to \$3.1 trillion by 2015.

The **Project on Emerging Nanotechnologies** is an initiative launched by the Woodrow Wilson International Center for Scholars and The Pew Charitable Trusts in 2005. It is dedicated to helping business, government and the public anticipate and manage possible health and environmental implications of nanotechnology. For more information about the project, log on to <u>www.nanotechproject.org</u>.

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