

The PS-OCs are not “another exercise in asking physicists to give oncologists another beam weapon,” says Davies. “Physics has been used in cancer treatment—x rays, proton bombardment. What [NCI is] after here are insights from physicists to be brought to bear on cancer.”

Says Princeton University physicist Robert Austin, “I am not convinced cancer is a disease. It’s an inevitable part of evolution. We will never get rid of it. We need to learn to live with it. That is a different approach.” Researchers have a “miserable track record of looking at cancer the wrong way,” he adds. The collaborations he is involved with through the PS-OC he heads are a “shotgun marriage,” he says. “It’s stressful, but it’s time to make the leap. Maybe we can make an impact on cancer fundamentals. To do that, I will have to dance with these other people.”

The PS-OCs are special, Liphardt says, “because of how rare it is to have funding to do something really new, and just try things.” The locations, principal investigators, and other information relating to the 12 centers can be found online at <http://physics.cancer.gov>.

Toni Feder

PCAST urges more coordination of nanotech R&D

The federal government should sharpen the focus of its nanotechnology environmental, health, and safety R&D program to address the specific questions that industry and regulatory agencies have as nanotechnologies are commercialized. That opinion is from a report released on 25 March from the President’s Council of Advisors on Science and Technology. PCAST also recommends strengthening the inter-agency coordinating mechanism for the National Nanotechnology Initiative (NNI) by recruiting two new individuals, one to coordinate the EHS R&D efforts that are dispersed throughout the government and the other to oversee the development of standards, which are critical for many aspects of EHS and also for commercialization and testing of products.

The report finds that the 10-year-old NNI “has had a catalytic and substantial impact on the field of nanotechnology,” said Maxine Savitz, cochair of the PCAST working group that performed the assessment. The US, she told reporters, continues to lead the world in nanotechnology by various metrics, in-

cluding numbers of publications, citations, and patents, and the variety of products commercialized. But competition from other nations has risen “dramatically,” she said, with the nanotechnology R&D programs in Europe and Asia growing much faster than those in the US. And in the past few years, China has overtaken the US in the number of nanotechnology-related patent filings, Savitz added. Already in 2005 PCAST had warned that the US was in danger of losing its lead in nanotechnology R&D (see PHYSICS TODAY, August 2005, page 28). For fiscal year 2010, 11 federal agencies have been allocated \$1.8 billion for nanotechnology R&D, in addition to the \$494 million in stimulus money from the American Recovery and Reinvestment Act.

President Obama has requested \$1.8 billion for the NNI in his FY 2011 budget proposal, which for the first time proposes new line-item funding for the Food and Drug Administration and the Consumer Product Safety Commission to assess the health and safety of products that incorporate nanotechnology. The PCAST report also recommends that the manufacturing R&D component of the NNI be doubled to 6% of the total effort over five years, while stressing that those new resources not be taken from the NNI’s basic research program.

The NNI EHS budget has grown from \$35 million in 2005 to the \$117 million proposed by Obama for FY 2011. Clayton Teague, director of the inter-agency National Nanotechnology Coordination Office, said the \$250 million that the US has devoted to nanotech EHS R&D from 2005 through 2009 probably exceeds that of the rest of the world during that period.

But the PCAST working group said that the EHS research activities could be better linked to identify the plausible risks associated with the products of nanotechnology and to address the knowledge gaps and decision-making needs within government and industry. Ed Penhoet, the group’s other cochair, said that further increasing funding for EHS R&D without improving that linkage “is not necessarily a wise thing to do.” Penhoet said EHS R&D needs to be structured “in such a way that it answers the questions that are necessary for decision making by government and by industry.” Teague said that an individual will be named soon to assume the EHS coordinating job.

The PCAST report also recommends an unspecified increase in federal support for “signature initiatives” that would apply nanotechnology to specific grand challenges, such as novel materials that can capture solar energy more efficiently.

David Kramer ■

web watch

To suggest topics or sites for Web Watch, please visit <http://www.physicstoday.org/suggestwebwatch.html>. Compiled and edited by Charles Day

<http://www.youtube.com/thenobelprize>

The Nobel Foundation has recently launched a YouTube channel called **Ask a Nobel Laureate**. Viewers can upload videos of themselves posing a question to a Nobel laureate. After a few weeks, the laureate—currently Albert Fert, who shared the 2007 physics prize—can be viewed answering the questions.

Ask a Nobel Laureate



<http://www.langorigami.com/science/4osme/abstracts/077%20You2.pdf>

Expandable Tubes with Negative Poisson’s Ratio and Their Application in Medicine

is a short description of a novel idea: folding a flat piece of material into a tube in such a way that the tube will fatten when stretched. Zhong You and Kaori Kuribayashi’s summary not only explains how such tubes could be used as medical stents, it also shows how to make the tubes out of a sheet of paper.



<http://anianet.com>



Named after a fabled northern passage between the Atlantic and Pacific oceans, **Anianet** aims to promote contacts between Chinese and Western scholars. The online resource center alerts its Chinese membership about research opportunities in the West and provides a forum for exchanging advice. Currently, membership is restricted to Chinese researchers, both in China and abroad, but anyone can search and browse the profiles.