

The COPUS Clarion

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The Coalition on the Public Understanding of Science (COPUS) is a grassroots effort linking universities, scientific societies, science centers and museums, advocacy groups, media, educators, government agencies, businesses, and industry in a peer network having as its goal a greater public understanding of the nature of science and its value to society.

THE NISE NET AND NANODAYS: TAKING NANOTECHNOLOGY PUBLIC

- Margaret Glass, Communications Manager, Association of Science-Technology Centers and NISE Network
- Vrylena Olney, Assistant Project Manager, NISE Net at the Museum of Science, Boston

If the word “nano” conjures up the image of an iPod in your mind but little else, you are not alone. Public awareness studies carried out across the US indicate that 7 out of 10 Americans have little or no understanding of what nanotechnology is.

Why is this important? For the past decade, nanotechnology (manipulation of matter and engineering new products at the nanoscale – 1 billionth of a meter) has been hyped as the latest technological revolution, capable of impacting almost every area of modern life. Nanoparticles can be engineered as bio-medical devices, able to target specific cells and deliver drugs directly to a tumor or infection. Nanotechnology can increase the efficiency of photovoltaic cells, making solar energy more economically feasible. Nanoelectronics can be printed on objects, allowing tracking and monitoring of sensitive materials. How is this great potential to be realized without the awareness of the general public?

Museums are an effective way to communicate science to the public. They are a trusted source of information, attract a broad range of visitors, serve as school field trip destinations, and are sites for teacher professional development. Since 2005, the National Science Foundation (NSF) has invested in the NISE Network, a network of museums and research centers dedicated to fostering public awareness, understanding, and engagement in nanotechnology. Led by the Museum of Science, with the Science Museum of Minnesota and San Francisco’s Exploratorium, the network is collaboratively developing and distributing innovative approaches to engaging Americans in nanoscale science, engineering, and technology.

The Network’s early years focused on exploring best approaches

to raising awareness and engaging public audiences in this extraordinarily complex area of research through the development of prototype exhibits, programs, media, forums, and professional development activities. Partnerships with researchers have emerged as a critical aspect of the network relationships. Rather than establishing contact in the final stages of a grant proposal, we in the NISE Net are forming relationships that crosscut our working lives, enabling museum professionals to keep up with nanotechnology and scientists to gain new outlets for communicating research.



Image credit: NISE Network

NANODAYS 2008

After two years of development, the NISE Net reached a point at which we were ready to share our resources through a series of celebrations for our public audiences.

NanoDays 2008 became the occasion for all the NISE Net partners and potential partners to test the waters of nano. It was a low-risk way to try presenting nano-related content and see how it fit with different audiences and institutions. The network’s goal was to get institutions to host some kind of community-based educational outreach event focused on nano during the nine-day period from March 29 to April 6. We provided a NanoDays kit of activities and resources, and our partners agreed to tell us what they did and how it went. The kit included materials and instructions for demonstrations, books for many age groups, and other “props”.

By early August, 2008, there were reports on the NISE Net’s website from 58 institutions in 32 U.S. states, Puerto Rico, and Washington, D.C., that had hosted NanoDays events. Those 58 institutions reached just under 50,000 people. As

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Image credit: NISE Network

reports rolled in, we heard more and more about the exciting events that had happened during NanoDays. Because each institution determined the level of involvement that was right for them based on their community, audiences, and capacity, the

form that NanoDays took varied. Many institutions augmented the kit with other activities, forums, presentations, movies, and exhibits. The Queens Library in New York held a lecture and created a book display with more than 30 titles on nano. The Museum of Science, Boston, used NanoDays as a chance to showcase multiple nano-related projects in one big kick-off day, and featured events such as the Amazing Nano Brothers Juggling Show and two talks from nano pioneer Don Eigler.

Partnerships with researchers emerged as a critical aspect of the network relationships. Research centers and museums often worked together to host NanoDays events. Of the participating museums, 70 percent reported having research center, university, or industry partners. For example, the Sciencenter in Ithaca, New York, used NanoDays as a chance to build its partnership with Cornell University's NanoScale Facility, which opened its doors to 1,200 visitors for lab tours and programs. The feedback we received on those collaborations was overwhelmingly positive. The DaVinci Science Center in Allentown, Pennsylvania, partnered with Lehigh University materials science students and said, "the biggest help...was the encouragement... to do combined events between museums and universities. This was truly the reason our event was so successful. [Having] college students teaching the public visitors was an incredible experience for everyone."

NanoDays 2009

The second annual NanoDays celebration is scheduled for March 28 through April 5, 2009, and fits in nicely with the Year of Science 2009. There is an updated NanoDays kit for new participants, which includes all the materials to do six short activities, as well as guidebooks, DVDs, picture books, paper buckyball models, brochures, and signs. We also have a host of new programs, including interpretative carts and stage demonstrations. Many new organizations will be joining in the celebrations, as well as returnees from last year. There are science centers and museums in all 50 states, and the NISE Network is in the midst of distributing 300 new kits. Join us at a NanoDays event in **your** area.

A list of NanoDays events can be found at www.nisenet.org. A list of science centers and museums is at www.astc.org.



Image credit: NISE Network



Exploring Physics and Technology: Imagine a day without physics or technology? No thank you! That would mean giving up the computer you are using, the electricity that warmed your coffee this morning, and the weather satellite that informed your clothing choice. And March is a great month to celebrate Physics because $3/14 = \text{Pi}$ day and Albert Einstein's birthday! Come celebrate with us by exploring the March's theme for the Year of Science 2009:

http://www.yearofscience2009.org/themes_physics_technology/celebrate/

Questions? Comments? Ideas? Contact Sheri Potter at spotter@copusproject.org.

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