PACESETTER

News From the Office of Technology Policy ■ Spring 1998

OTP Leads Interagency Response to Technology Transfer Legislation

The Office of Technology Policy successfully led an interagency group to formulate the Administration's response to proposed technology transfer legislation and played a central role in communicating that response to Congress. OTP chairs the Interagency Committee on Technology Transfer and its staff level counterpart, the Interagency Working Group on Technology Transfer. These groups were created twelve years ago to lead executive branch efforts to implement federal technology transfer legislation.

In the fall of 1997, legislation was introduced proposing revisions of the procedures for agency licensing of intellectual property. At the request of several agencies, OTP called a meeting of the Interagency Working Group to determine whether it was possible to arrive at a common position concerning the legislation.

After several months of work, the group produced a single set of comments on the bill which it shared informally with the staffs of the House Science Committee. It then submitted the comments to the Office of Management and Budget (OMB) for clearance as the position of the Clinton Administration on the bill. The comments received OMB clearance and were forwarded to the Technology Subcommittee of the House Science Committee, where the legislation was being considered.

At a subsequent subcommittee hearing, the OTP-coordinated comments were presented in testimony by Raymond Kammer, Director of the National Institute of Standards and Technology. The principal industry witness called by proponents of the bill indicated his agreement with the majority of the recommendations developed by the Working Group and most of these changes were made to the bill at a markup session recently held by the Subcommittee.

OTP representatives will continue to meet with committee staff on technical changes to the bill as it is reported to the full committee. Proposed amendments to the bill calling for executive branch review and revision of the Cooperative Research and Development Agreements (CRADA) process to better address national security and broader economic concerns are also being reviewed by the Working Group.

The Committee and Working Group have traditionally served as mechanisms for sharing information, experiences and concerns among the managers of technology transfer programs within each of the major research agencies. It played an important role in initial implementation of the Federal Technology Transfer Act and its successors and also provided a means of communicating concerns of the R&D agencies on subsequent issues affecting the resulting programs, including the negotiation of the GATT Subsidies Code in the Uruguay Round.■

Women In Technology International Conference Held In Texas

Women in Technology International (WITI) held its annual "Business of Technology" Conference in Austin, Texas this year. Before the audience of 800 attendees, Deputy Assistant Secretary Kelly Carnes delivered a keynote address on the importance of and strategies for developing an information technology workforce. Carnes also held a closed-door roundtable discussion with 40 Texas academics, corporate Vice Presidents and other area leaders on issues relating to general business climate as well as training and high tech work force development.■

■ (Left to right) Marci Rossell from the Federal Reserve Bank of Dallas, Carol Thompson, President of The Thompson Group and DAS Kelly Carnes share a laugh during the conference.

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Two Important Gatherings Take Place On the West Coast

Conference Focuses on Developing the IT Workforce

In January, the Department of Commerce, in partnership with the Departments of Education and Labor, joined the Information Technology Association of America in hosting a two day conference in San Jose, CA, aimed at developing an information technology (IT) workforce. The conference served as a forum for the presentation of findings by task force groups which were formed after the September 1997, the Office of Technology Policy release of a report entitled *"America's New Deficit: The Shortage of Information Technology Workers."*

■ Secretary Daley, along with Chancellor Robert Berdahl, Education Secretary Richard Riley and Labor Deputy Secretary Katherine (Kitty) Higgins, speak to reporters during the IT press conference hosted by the University of California, Berkeley.

The task force groups were charged with looking into specific aspects of IT workforce development including:

■ Basic Math and Science competencies.

■ Image of the IT Professions.

■ Quality and Productivity Issues.

■ Recruiting Under-represented Groups.

■ Responsiveness of Industry and Higher Education to Each Other's Needs.

■ Skill Upgrading of the Current Workforce.

At the conference, task force chairs reported on their findings and innovative partnerships were featured in breakout sessions. According to the findings, there are things that can be done today in order to build a stronger IT workforce for the future, including:

■ Designing math and science programs to be more relevant and appealing to girls and minorities. The task force found that the pipeline for technical education and careers begins in the early years, and that if under-represented groups aren't successfully engaged in grades K-8, they are much less likely to pursue more advanced technical studies.

■ Working to improve technology's image among young people from "geeky" to "cool" by inviting IT professionals to schools, for example, for "high tech" demonstrations and presentations.

■ Working with the media to help portray technical careers as exciting, challenging and rewarding (such as the compelling manner in which lawyers were portrayed on the TV show, LA Law.)

Students Meet with Award Recipients to Kick off the Museum Exhibit

U.S. Deputy Secretary of Commerce Robert Mallett, along with National Medal of Technology recipients and officials of The Tech Museum of Innovation in San Jose, met to kick-off the design phase of a new exhibit, "The American Spirit of Innovation." The U.S. Department of Commerce has partnered with the museum to develop the exhibit, which will showcase the achievements of National Medal of Technology recipients. The exhibit will provide visitors with a lively and inspiring introduction to the world of innovation as told through the achievements of the nation's leading innovators.

Taking a positive step toward achieving the conference goal of developing the IT workforce, the group invited local students from Silver Oak Elementary School to the museum to learn about the challenges and thrills of developing breakthrough technologies and how to prepare for careers in technology-related fields. Research shows that the choice of subjects that students study in the sixth and seventh grades, particularly whether they continue to study math and science, can have a significant impact on whether they later pursue careers in science, engineering or other technology-related fields.■

■ Deputy Secretary Robert Mallet visits the Tech Museum of Innovation in San Jose. He was joined by Dr. Cheryl Shavers, Director of Emerging Technology at Intel Corporation and Medal of Technology winners, Dr. Alejandro Zaffaroni and Dr. Carl Djerassi, and students from Silver Oak Elementary School.

1997 Medal of Technology Festivities Celebrate the Spirit of American Innovation

A black-tie banquet, the unveiling of a special photo exhibit, and the guest appearance of actor Alan Alda were among the highlights of the 1997 National Medal of Technology award festivities held in Washington. The events, which took place on the day prior to the White House presentation ceremony, were a fitting celebration of the Medal winners and their remarkable achievements.

Scientific American magazine hosted a National Medal of Technology Luncheon Forum debuting a documentary film on the 1997 Medalists in conversation with Alan Alda, narrator for *Scientific American's* popular FRONTIERS PBS series. The film captured the excitement and creativity behind the process of technological discovery, exemplified by remarks like Robert Kahn's on his pioneering of the Internet with

Vinton Cerf: "From the moment we began this work, it was technologically exciting. We knew it had the potential to change computing."

The Forum was followed that evening by a black-tie banquet at Union Station honoring both the National Medal of Technology winners and the National Medal of Science winners, and co-hosted by the National Science and Technology Medals Foundation, Department of Commerce, and the National Science Foundation.

In his keynote address to the banquet audience, Secretary of Commerce William Daley emphasized the practical importance of the Medalists' achievements. "Leading economists have identified technical progress as the single most important factor in sustained economic growth. Technologically

advanced companies boost the economy and help American workers and American families create better lives," Daley said.

Acting Under Secretary Gary Bachula introduced the five Medalists, calling

National Medal Winners cut the ribbon to dedicate the Innovation Hallway.

them "role models of ingenuity and perseverance and standard bearers of excellence, who have made major contributions to our knowledge of the universe, to our economy, America's prestige around the world, and the quality of our lives." A short video presentation highlighting the Medalists' achievements preceded the Undersecretary's remarks.

Earlier in the day the Medalists joined Secretary Daley for a ribbon cutting ceremony at the Department of Commerce to mark the opening of a special photo exhibit, "Celebrating American Innovation." The permanent exhibit features dramatic photographs of technologies made possible by past Medalists.

The busy day for the Medalists began with a reception at the Department of Commerce honoring the Medal recipients and members of the Medal Nomination Evaluation Committee. The Committee conducts the annual peer review process that results in recommendations being forwarded to the Secretary of Commerce and then the President of the United States for final decision.

Nominations Now Being Accepted

If you know of an individual, team, or company deserving of recognition for outstanding technological innovation and leadership, send for a 1999 National Medal of Technology Nomination Packet.

Nominations will be accepted for achievements that have strengthened the American economy and standard of living through:

- Advanced product & process innovation
- Human resource development
- Advanced manufacturing technology
- Technology management
- Technology infrastructure
- Technology transfer

Revised Categories and Guidelines
Guidelines and forms have been revised for the 1999 Medal program year, and are undergoing review by the Office of Management and Budget. Revisions will be posted on the Medal website. The official call for nominations will begin June 29 and conclude December 1, 1998.

For more information or to receive your nomination packet, contact:
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Under Secretary Bachula Goes On Mission To Explore Cape Canaveral/Spaceport

Acting Under Secretary Gary Bachula traveled to Cape Canaveral Air Station, Florida with the Office of Air & Space Commercialization (OASC) in February to tour commercial launch facilities in Florida and observe the first launch of the Globalstar satellite communications system.

The Globalstar system is a constellation of 48 satellites which will provide voice, data, fax, and other telecommunications services to users worldwide. The first launch, aboard a Boeing Delta II launch vehicle, will lift four satellites to low earth orbit. Due to high winds however, the launch was postponed until later in the month.

While at the Cape, Bachula hosted a roundtable of space industry representatives and local government officials. It was an opportunity to discuss issues impacting the growth of the commercial launch industry, and the commercial space industry in general.

The group also toured launch facilities at the Cape. They first toured commercial launch facilities operated by Spaceport Florida Authority (SFA). SFA is a state agency which has refurbished an old launch pad so it can be used by small commercial launch vehicles. The first launch from the new SFA facility was NASA's Lunar Prospector mission aboard a Lockheed Martin commercial Athena II launch vehicle in January.

The second tour was of Air Force facilities at Cape Canaveral Air Station (CCAS). CCAS is run by the Air Force, but is used for commercial launches of Boeing's Delta II and Lockheed Martin's Atlas launch vehicles. The Air Force also launches government payloads out of CCAS, aboard the Delta, Atlas, and Titan IV launch vehicles. The tour included overviews of the Range Operations Control Center and the Atlas and Titan launch pads.

Although the postponement of the Globalstar launch was a disappointment, the mission of exploring the commercial space industry was a huge success. ■

■ Under Secretary Gary Bachula (Acting) listen to Edward Ellegood from Spaceport Florida describe launch comples number 46, a commercial spaceport.

■ Welcome to Titan
Department of Commerce employees and military escorts: (Left to right) Nicholas Flagler, Jason Kim, Keith Calhoun-Senghor, Byron Whitman, Col. Ronald Larivee, vice Wing Commander, 45th Space Wing, Under Secretary Gary Bachula (Acting) Lt. Col. Everett Thomas, Commander, 5th Space Launch Squadron.

Government, University and Industry Team Up For A High Tech Roundtable and Tour

Acting Under Secretary Gary Bachula and Deputy Assistant Secretary Kelly Carnes recently participated in a Government-University-Industry-Research Roundtable at UCLA to discuss "Overcoming Barriers to Collaborative Research." After the roundtable, they joined UCLA faculty members from the Graduate School of Education & Information Sciences, the School of Engineering and Applied Science and the School of Medicine for a two-day tour of information technology.

The stops included visits to Amgen, Solgene Therapeutics, and HRL Laboratories where participants discussed a wide range of research and policy issues ranging from gene and cell research to intellectual property, microelectronics and information technology. At the Jet Propulsion Laboratory, Gary and Kelly viewed satellite images of the Amazon River and a video of Mars to discuss how information technology impacts space exploration. ■

■ Above: (Left to right) Ed Pope of Solgene Therapeutics, Deputy Assistant Secretary Kelly Carnes and Under Secretary Gary Bachula.

■ Left: HRL Laboratory Tour. (Left to right) Art Chester of URL, Gary Bachula, Ed Johnsen, Kelly Carnes, Kim Savage of UCLA, John Bartelt of HRL and Ron Stevens of UCLA.

Internet Science and Technology Fair Sharpens Students' Research Skills

As any parent knows, student research projects have changed a lot in recent years. Surfing the Net is at least as important a resource and skill as sifting through library shelves. This past fall, students from around the country scoured the Net in search of answers to critical technology issues facing America, as part of their participation in the first annual Internet Science and Technology Fair (ISTF).

The distinctive feature of the Fair, a project developed by the University of Central Florida and involving the Department of Commerce's National Medal of Technology program, is that students have to do all of their research for their projects via email and the Internet — from tracking down newspaper and journal articles to consulting technical advisors in corporations and academia, and then submitting their actual entry as a website. In the future, the Office of Technology Policy hopes to have National Medal of Technology winners interact with students via the Internet and email.

The goals of ISTF are more than simply increasing Internet skills alone. "First and foremost, we want to pique students' interest in science and engineering and increase their 'technology literacy,'" explains Bruce Furino of the University of Central Florida, ISTF's director. "The more comfortable students are working with technology related issues, the more likely it is that they will consider careers in technology related fields," Furino says.

Working in teams, students first chose a technical topic involving one of the National Critical Technologies as identified by the White House Office of Science and Technology Policy. Categories range from energy and transportation to living systems and environmental quality.
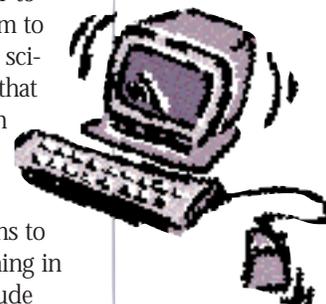
The students then used on-line resources to define the problems involved with their topic and explore the existing or potential technologies relevant to solving them. This year's topics included robotic tools, alternative fuels, and the effects of acid rain.

Results of the students' efforts were posted in "Project Homepages," which were evaluated by a panel of expert judges. Those teams judged the Best of each National Critical Technology category received a Certificate of Meritorious Achievement from the National Medal of Technology program.

This year's inaugural program was aimed at students from middle school and junior high, reflecting that age level's critical role in influencing a student's long-term interests. "We must be able to interest middle school students in science and engineering careers prior to high school if we expect them to take the necessary math and science courses in high school that will adequately prepare them for college," Furino says.

Even so, Furino believes the Fair can offer valuable lessons to students of all levels. Beginning in 1998, the program will include senior high participants, and eventually hopes to include the elementary grade levels as well. ■

President Clinton Honors National Medalists

Five leaders in technology whose achievements range from spearheading America's defense capabilities to dramatically changing the way we hear recorded sound were presented the 1997 National Medal of Technology by President Clinton at a White House ceremony this past December.

The President hailed the Medalists for their "extraordinary individual accomplishments," which exemplified "the American passion for discovery that has driven our nation forward from field to factory to the far reaches of cyberspace."

The President made his remarks during a joint ceremony that also honored the National Medal of Science winners. The 1997 Medal of Technology laureates include Norman Augustine, (CEO of Lockheed-Martin), Ray Dolby (President of Dolby Laboratories), Robert L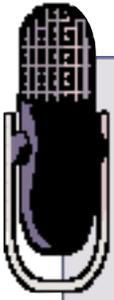edley (inventor of the first whole body CT scanner), and the team of Vinton Cerf and Robert Kahn (the "fathers of the Internet").

Secretary of Commerce William Daley joined the President in saluting the Medalists, noting that their efforts had created "practical technologies that are driving economic growth, U.S. competitiveness and higher standards of living."

After the Medal presentation, a reception was held for the Medalists in the Indian Treaty Room of the Old Executive Office Building. ■

■ (Left to right) Katie Wolf, Director of the National Medal of Technology Program, Norman R. Augustine, Vinton Gray Cerf, Robert E. Kahn, Ray M. Dolby, Robert S. Ledley and Kate Dobson, Associate Publisher of *Scientific American*.

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Something to Talk About!
In the Next PACESETTER

UPCOMING ARTICLES

■ **"Take Our Children To Work"**
Get the details on how Department of Commerce celebrated the traditional "Take Our Daughters to Work" day by also including sons of employees. The innovative and participatory career day, themed "Sparking a Child's Interest in Science & Technology," got the children involved in the S&T work done every day at DOC.

■ **First IT Town Hall Meeting**
Department of Commerce joined high tech businesses and officials in Montgomery County, MD, including Senator Paul Sarbanes and MD Representative Connie Morella, for the first in a series of town hall meetings designed to address strategies for developing the IT workforce. Find out what was said concerning this important issue.

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