

# PACESETTER

News From the Office of Technology Policy ■ Summer 1998



## Maryland IT Town Meeting

At a January press conference at the University of California, Berkeley Commerce Secretary William M. Daley announced that the Office of Technology Policy (OTP) would hold a series of regional town meetings to discuss the growing need for developing an information technology work force.

OTP was pleased to respond to a Maryland request to hold the first meeting in Montgomery County. The day began with a roundtable discussion as area CEOs joined Commerce Secretary Daley, Maryland Senator Paul Sarbanes (D-MD) and Congresswoman Connie Morella (R-MD) in an open dialogue

of concerns, suggestions and success stories. This was followed by a general plenary session and breakout groups on specific topics.

Participants agreed area firms were having trouble filling current open job positions, and that the tight job market is limiting growth and the creation of wealth throughout the country. Area employers noted that with an unemployment rate of around 2 percent, upgrading skills of the current work force is a critical need. Several innovative practices and partnerships were identified: TRACOR has developed effective linkages with community colleges and the University of Maryland to establish

curriculum and train employees. SAIC has put 350 courses on desktops to help employees get the certification they need. The Maryland Partnership for Workforce Quality

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## Take Our Children to Work

Careers in Science and Technology was the theme at the Department of Commerce-sponsored "Take Our Children to Work" day on April 23. The Technology Administration coordinated Department events that would actually give students an idea of exciting career opportunities. The Department hosted more than 400 children at various Commerce locations for the all-day event.

Morning events at the Hoover building were hands-on and included a

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■ Top: Secretary William M. Daley shares a laugh with the audience during his speech.

■ Bottom: Secretary Daley takes his turn answering press questions. To his left, Senator Sarbanes, Rep. Connie Morella. Standing in the background, Gary R. Bachula, Acting Under Secretary for Technology, Kelly H. Carnes, Deputy Assistant Secretary for Technology.



■ Top: Secretary Daley signs temporary ID badges and takes questions from the audience.

■ Bottom: Pat Flaherty explains the future of the automobile. Ms. Flaherty is a Fellow at the Technology Administration on loan from the Chrysler Corporation.

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■ Top: Maryland Congresswoman Connie Morella and Secretary Daley discuss the details.

■ Bottom: Secretary Daley and Maryland Senator Paul Sarbanes exchange thoughts after the speech.

shares costs with companies for upgrading the skills of current workers serving 227 companies in 1997.

Across the board, it was noted K-12 education needs improvement as does teacher training. Congresswoman Morella emphasized the need to interest more

women and minorities in the fields of science and engineering, while improving access to the Internet in classrooms. Senator Sarbanes discussed his bill to sponsor regional training councils. Secretary Daley reminded the audience IT is responsible for more than 25% of economic growth and that there are currently 20,000 high technology jobs open in the state of Maryland.

The May event was sponsored by the Greater Montgomery County Chamber of Commerce, the High Technology Council of Maryland, the Montgomery County Department of Economic Development, The Montgomery County Workforce Development Corporation, and the Shady Grove campus of the University System of Maryland which hosted the event at its Shady Grove Campus.

(All town meetings are being recorded and OTP will publish a summary document at the end of the town meeting series. The completion of this document will be publicly announced and available on our web site at [www.ta.doc.gov](http://www.ta.doc.gov)). ■

Take Our Children to Work from page 1

virtual trade mission, a mock press conference, web page design classes, a videoconference, a moot court and other events designed to explain the work done by DOC employees.



■ Secretary William M. Daley welcomes DOC children and their parents to "Take Our Children to Work" day.

The afternoon program hosted by Secretary Daley included "Speaker's Corners" and allowed the children to interact with the presenters. Guest speakers included: a NOAA "Hurricane Hunter" pilot, a meteorologist, a NIST scientist, ship captains, and a Detroit auto executive illustrating present and future cars. A representative from the Patent and Trademark office used Beanie Babies and crayons to talk about safeguarding and marketing intellectual property through the use of patents and trademarks.

Children coming to the DOC did more than shadow their parents. They got a real day's worth of events designed to capture their imagination, while stressing the importance of math and science in school. Parting gift bags included a metric ruler, conversion chart, Year of the Ocean poster and workbook, and a book entitled, "Daniel and his Electric Car." ■

Dr. Robert S. Ludley, a winner of the 1997 National Medal of Technology takes his seat amid applause during the Maryland town meeting. Dr. Ludley discussed three new initiatives announced by Secretary Daley that the Medal program will initiate this fall: Tech talks at science and technology museums; a Speaker's Bureau; and Technology Mentoring on-line for K-12 students. These new programs will be profiled in-depth in the fall edition of the Pacesetter. ■



## The Technology Administration Announces A New Grants Program to Assist States Develop Technology

On Tuesday July 14, 1998, the Technology Administration began accepting applications for the 1998 Grant Round of The Experimental Program to Stimulate Competitive Technology (EPSCoT). EPSCoT is a new program that will support technology development, deployment and diffusion.

Technology is a major factor, if not the single most important factor, in sustained economic growth. Commerce Department research shows that firms that adopt advanced technology grow faster, create more jobs and pay higher wages.

EPSCoT will support technology development, deployment and diffusion in eligible jurisdictions by promoting partnerships between state and local governments, universities, community colleges, non-profit organizations and the private sector. Through these partnerships, EPSCoT seeks to support state and local efforts to: build state-wide institutional capacity to support technology commercialization; create a business climate that is conducive to technology development; deployment and diffusion; compete in Federal R&D programs.

Successful technology development, deployment, and diffusion drive economic growth and are increasingly essential to U.S. competitiveness. Given the central role that technology plays in economic growth, all jurisdictions—federal, state and local — are concerned with creating and maintaining the conditions that are conducive to the development of new technologies, and the adoption and diffusion of existing ones.

In most less-populated jurisdictions, manufacturers and industries tend to be small, and therefore have a limited industrial research base. These jurisdictions lack the critical mass

necessary to develop industrial clusters. Such clusters can spur a virtuous cycle of collaboration between universities, private companies and public sector agencies. This collaboration in turn improves a region's ability to anticipate and respond to changing economic conditions.

The Technology Administration has launched a competitive matching grants program to address these issues in rural states. The Experimental Program to Stimulate Competitive Technology (EPSCoT) is meant to act as a catalyst for state efforts to foster technology-based economic growth.

EPSCoT parallels the National Science Foundation's Experimental Program to Stimulate Competitive Research (EPSCoR). While EPSCoR's primary emphasis is improving the competitive performance of major research universities of these jurisdictions, EPSCoT seeks to support state efforts to improve the commercial environment for R&D, and is meant to assist jurisdictions in their attempts to promote technology development, deployment and diffusion by improving the commercial environment for R&D. A strategy for doing so should build on the resources of

the state government, research universities, community colleges, vocational schools, business community, finance community and any federal resources the jurisdiction may have.

Applicants must be headquartered in a jurisdiction that is eligible to participate in the National Science Foundation's Experimental Program to Stimulate Competitive Research (EPSCoR). These are Alabama, Arkansas, Idaho, Kansas, Kentucky, Louisiana, Maine, Mississippi, Montana, Nebraska, Nevada, North Dakota, Oklahoma, South Carolina, South Dakota, Vermont, West Virginia, Wyoming and the Commonwealth of Puerto Rico.

The Request for Proposals (RFP) can be found on the Technology Administration's web site <http://www.ta.doc.gov>

For the 1998 Grant Round, approximately \$1.6 million is available. We expect to award between four to six grants in this Round. The Winter *PACESETTER* will highlight the winning grants. ■



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**EPSCoT**

This new grants program will award 4-6 grants to help under represented states develop technology. The Winter *PACESETTER* will highlight the winners.



Participants from six states gather to discuss IT work force developments.

## Gulf States IT Town Meeting Ellisville, Mississippi

At the invitation of Majority Leader, Trent Lott (R-MS), the Office of Technology Policy (OTP) and the Department of Education joined forces with the National Science Foundation (NSF) to participate in a Gulf States town meeting hosted by Jones County Junior College (JCJC). This small campus in rural Mississippi is located in a city of only 3,600 people, yet it is a recipient of NSF's Advanced Technological Education grant, and drew participants from Georgia, Tennessee, Alabama, California and the Pacific Northwest to this event.



■ Associate Deputy Secretary Kent Hughes uses his keynote address to focus on the importance of training and education for Americans to excel in the high-tech jobs that dominate our economy.

Rep. Charles (Chip) Pickering (R-MS) joined us by videotape to thank JCJC President, Dr. Ronald Whitehead for his role in organizing the event. The Congressman suggested Mississippi was a natural meeting place as “we have gone from being the home of cotton, chicken and catfish to the home of WorldCom, the leading provider of Internet services, Skytel and other leaders in telecommunications.”

The academic setting naturally gave the meeting a focus on education. OTP continues to hear concerns and complaints about basic K-12 education in this country, that teachers are not trained to fully use computers and the Internet as learning tools, and that companies are often forced to assist their employees in remedial education as

well as technical training. This was a theme that the Basic Math and Science Competencies focus group presented at the January Berkeley convocation, and it has repeated itself in business roundtable discussions and break out sessions in subsequent public forums.

At this town meeting, the educators were not shy in taking the floor, echoing that problem, venting their



■ Ms. Diane Warren, instructor in Computer Information Systems Technology at Jones County Community College makes a point from the floor during the town meeting.

After his formal presentation, Associate Deputy Secretary Kent Hughes talks to five of the 100 students enrolled in the federally-funded Upward Bound Program at Tougaloo College in Tougaloo, Mississippi. These students had plenty of questions to ask about computers, technology and future business opportunities after college. Even though these students are still in high school, their goals were firmly headed for a high tech future, and they were full of questions about what the Commerce Department does, potential career opportunities for themselves in industry, and pointers on how to start their own business.

This intensive summer program

frustrations and suggesting solutions. From the high school teachers we met in inner city New Orleans to the junior college professors at JCJC, they spoke passionately of low salaries, lack of teacher aides, classrooms of multi-language, multi-cultural students, lack of parental involvement, drugs, crime, gangs and poverty. Learning how to use the Internet in the face of such overwhelming challenges slides down the priority list.

Educators suggested a “Teacher’s Co-op” which already has established itself in Seattle as a pilot program. Teachers enjoy a joint appointment with their school district and with a local business or industry. Depending on the academic calendar, summers are often spent on the manufacturing floor or office headquarters learning the latest technology. This is on-going, hands-on teacher training that results in up-to-date classroom instruction, higher teacher salaries and interaction with the community—a win-win solution that may be worthy of expanding to school districts around the country. ■

provides high school students with a head start on their college careers with classes in math, science and foreign language as well as a wide



variety of cultural enrichment opportunities. Students can choose from a wide range of interests—drama, choir, photography and karate in addition to a series of educational field trips. ■

## Tech Crews: A DOC-funded Student Work Force

While in Ellisville, Mississippi for the IT town meeting, OTP took a side trip to Jackson, to visit the state Department of Education to learn about Tech Crews, a project funded by the U.S. Department of Commerce through a TIIAP (Telecommunications and Information Infrastructure Assistant Program) grant.



■ Technical Assistant, Robin Suttiff talks about Tech Crew successes in the video conferencing center at the State Department of Mississippi.

Tech Crews are student volunteers trained in network operations, web design and computer software. On the first NetDay in 1997, these newly-trained students gathered in St. Joseph High School to assess the internal wiring needs to operate a computer network. Says Technology Specialist Ellen Burnham, "Tech crew members divided into teams, some measured the hallways, others looked in the ceiling to discover the secrets it held, still other checked out the electrical panel, phone box, patch panel location and checked to make sure the requested drops were in appropriate places." After the initial survey, the crews debated how best to wire the school and drew up a plan. By 7AM the next morning,

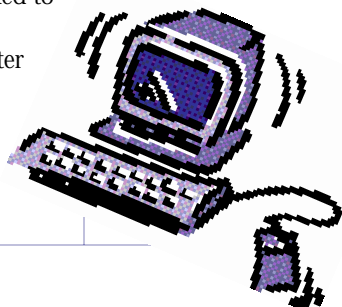
the student crew had reassembled to start the arduous task of bringing the high school into the digital age.

In addition to each tech crew developing a local area network in their own school, they have gone on to wire the local hospital so their fellow students can stay in touch with e-mail and class assignments while hospitalized.

Not everyone was an instant believer in the abilities of these young teenagers. In Greenville, a skeptical school board embraced the networking idea only after students showed up one night to teach board members how to use e-mail! ■



■ Student artwork graces the hallways and skylights of the building that houses the Mississippi State Department of Education. This paper mache classroom takes us from chalkboard to computer terminal in a scene entitled, "The Joy of Learning" presented by 4th-6th grades from the Newton County Elementary School.



## The Algebra Project

The fear of math is being tackled by an innovative program called the Algebra Project. During our recent visit to Louisiana-Mississippi, we visited with Professor Staff as Broussard at the University of New Orleans and several high school teachers to talk about the challenges of teaching inner city students.

Tackling the fear of math, equations and working with abstract concepts is the brain child of Bob Moses, a mathematician and civil rights leader who developed a program to help inner city and rural middle-school students. He got his start with a "genius grant" from the MacArthur Foundation to establish a program that would deliver his innovative curriculum.

Dr. Broussard says one of the key points in helping students develop a positive attitude that translates into problem-solving skills, is to get them out of the classroom. Field trips involve students in a five-step process in which they use their physical surroundings as tangible references for mathematical ideas.

The Algebra Project has been so successful, that this project which started in the rural South, has now been duplicated around the country including a school in Baltimore, Maryland. ■

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**IT Town Meeting Series**  
Commerce Secretary William M. Daley will host a Pacific Northwest town meeting at Bellevue Community College near Seattle Washington on August 18. At the event, the Secretary is expected to unveil a new IT resource guide home page hosted by the Office of Technology Policy.

## A Magnet School for the C+ Student Who Wants to Succeed

In Louisiana, the New Orleans Center for Science and Math takes a different approach to learning. More than 300 students with a broad range of abilities attend this school with hands-on science and tech learning for half the day, then return to their home high schools the other half.

The school boasts hand-picked teachers with advanced degrees in the subjects they teach and up-to-date equipment. The school is 65 percent female and 93 percent African-American. Seventy percent of the students are at the poverty line or below. This school is open to motivated students who want to

learn, not just the best and the brightest. Principal Barbara MacPhee has been quoted as saying "The main mistake we (as a nation) made, was to turn science and math into an elite club. It was a disastrous, unspoken public policy."

The Tech Squad is a summer internship program that is an initiative to create successful and stable high tech workers through a four year program of internships and network analyst certification. Students receive a "13th year" of instruction in the form of mentoring to assist their entry into a guaranteed job or higher education. The student-teacher partnership can prevent the crisis of confidence which can derail the success of inner city youth as they enter high tech fields. ■



■ Top: Deputy Assistant Secretary Kelly Carnes, and school founder Colby "Skip" Dempsy watch the school's Tech Squad at work.

■ Bottom: Members of the New Orleans Tech Crew, their teachers and principal Barbara MacPhee take time out of their busy summer schedule to talk to DOC officials about the program, their interest in technology and their plans for the future. Here four Crew Members tell their stories in the school's well-equipped lab.



### Medalists as Mentors

The National Medal Program will be launching three new programs this fall:

1. A Speaker's Bureau
2. Tech Talks at Science
3. Technology Museums and On-line mentoring for K-12 students.

Look for the details in the next *PACESETTER*.



## One Step Closer

### Government, Industry Make Strides To New Generation Vehicles

It's been called a challenge more difficult than landing the first man on the moon. But for teams of scientists and engineers working under the Partnership for a New Generation of Vehicles, that trailblazing spirit is accelerating them closer to developing the technologies for America's future cars—cars which get up to 80 miles per gallon and significantly reduce emissions while maintaining the safety, performance and affordability of today's cars.

The Partnership for a New Generation of Vehicles, or simply PNGV, is an historic alliance among seven federal agencies, 19 government labs, 300 automotive suppliers and the Big Three automakers—Chrysler, Ford and General Motors. Launched in 1993 by President Bill Clinton and Vice President Al Gore, PNGV has set its course on achieving three major goals:

- Significantly improve national competitiveness in U.S. automotive manufacturing by upgrading manufacturing technology
- Pursue technology advances that can lead to fuel efficiency improvements and emission reductions in the current generation of vehicle designs
- Increase fuel efficiency to up to three times that of the average 1994 Chrysler Concorde, Ford Taurus and Chevy Lumina automobiles with equivalent cost of ownership

With 1998 marking the partnership's fifth anniversary, PNGV researchers are making solid progress toward developing enabling technologies for affordable, midsize, family sedans that achieve remarkable fuel efficiency and low emissions levels.

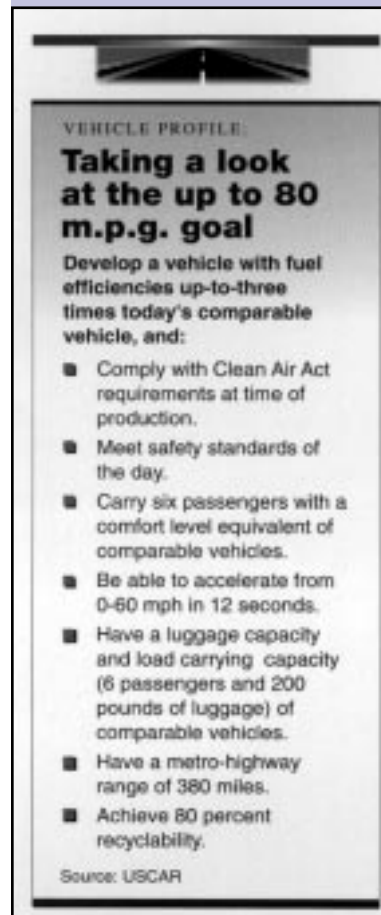
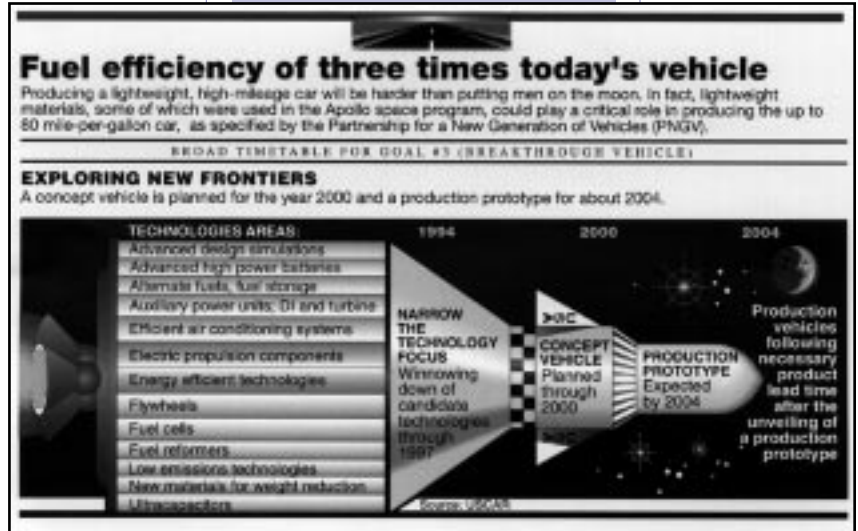
In January, PNGV completed its selection of technologies considered to be the most promising for achieving its ambitious goals. PNGV is

now focusing its coordinated portfolio of research and development in four key systems: hybrid-electric vehicle drive, direct-injection engines, fuel cells and lightweight materials.

During the 1998 North American Auto show in Detroit, several advanced concepts unveiled by Chrysler, Ford and General Motors reflected the continued

progress toward PNGV goals. "The remarkable, new, fuel efficient, experimental cars rolled out at the Detroit auto show prove that our partnership with the Big Three automakers is showing results," said Vice President Gore, "and that we can protect our environment and meet challenges such as global warming in a way that creates jobs and strengthens our economy. PNGV's selection of these technologies for focused research brings us one step closer to the next-generation cars that will both meet the needs of the American families and help us reduce pollution and protect our environment."

Chrysler, Ford and GM are all working on high-mileage concept vehicles to debut in 2000. Production prototypes will follow in 2004. The government partners, led by the Technology Administration's PNGV Secretariat, and their laboratories will continue to participate in long-range, high-risk research and development that could yield even greater benefits for the nation's energy security, environment and economic well-being. ■



With 1998 marking the partnership's fifth anniversary, PNGV researchers are making solid progress toward developing enabling technologies for efficiency and low emissions levels.



Something to Talk About!  
In the Next PACESETTER

■ **America's Automobile Industry**

**Cars are news.** With the GM strike in recent memory and a pending automobile merger, auto manufacturing as we have historically known it may be changing. In the next PACESETTER we will discuss: PNGV's 5th Anniversary Celebration, Daimler-Benz and Chrysler Merger: PNGV Impact, Impact of GM strike.

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