

the laboratory connection

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your community's link
to information, opportunities, and people
at Los Alamos National Laboratory

June 2001

word
from

Director John Browne

I recently had the opportunity to testify before the Senate Armed Services Committee's Strategic Subcommittee. I thought I'd describe here some of the points I emphasized in my oral testimony.

- I told the subcommittee that Los Alamos National Laboratory employees have rebounded from our security incidents and the Cerro Grande Fire with professionalism and with increased strength. This echoed comments General John Gordon, head of the National Nuclear Security Administration, made in his testimony about how impressed he is with the employees of the NNSA, particularly their dedication and the energy they bring to their jobs.
- I also emphasized that stockpile stewardship has been successful to date, but our ability to sustain the program is impacted by (1) aging effects in weapons, (2) the need to revitalize the infrastructure at the labs and plants, and (3) our ability to recruit so we replenish the skills in our work force.

I noted that pit manufacturing and certification are the highest priority at Los Alamos. In previous years, we could certify a pit through a test at Nevada. Now we have to certify in other ways, and this, I believe, is the most difficult challenge for stockpile stewardship.

General Gordon explained to the subcommittee that while we had not identified any show-

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Remembrances of One Year Past

Laboratory Director John Browne, shown in the photo above, hands a print to Los Alamos County Councilor Sharon Stover at Ashley Pond in Los Alamos during activities the weekend of May 5, 2001, to mark one year since the Cerro Grande Fire. A total of 20 prints of Smokey Bear sitting in a burned, forested area were made by award winning editorial cartoonist Pat Oliphant. The original artwork was done during last year's Cerro Grande Fire. Browne also presented a print to Los Alamos County Fire Chief Doug MacDonald. The originally signed Oliphant prints were purchased by Browne's senior executive staff for presentation to Stover and MacDonald. Other activities in downtown Los Alamos included a parade, arts and crafts, information booths, a pancake breakfast, and a "Renewal Run."

Members of the Laboratory, Los Alamos County Council, and residents also took part in a one-minute moment of silence at 1:01 p.m. on May 10th to mark the time when Los Alamos County

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Lab's Fire Recovery Plan Recognized

The national American Planning Association recently recognized the Laboratory's Cerro Grande Fire recovery planning efforts. The Lab received an honorable mention for the 2000 Planning Award in the category of Outstanding Collaborative Planning Project or Program. Dick Burick, the Lab's Deputy Director for Operations, said the award was given to the entire institution, rather than to one specific group or individual.

The framed certificate states: "These planning efforts for the Los Alamos National Laboratory in New Mexico demonstrate a well-integrated response to a natural disaster that has impacted human communities. The plan is very comprehensive and includes numerous elements which might become a checklist for other such responses to natural disasters."



Fire Scrapbook. Joe Ivie of the Lab's Accelerator Experimental Areas and Remote Handling, left, views the "Cerro Grande Fire Scrapbook" exhibit with Linda Baker of the Bioscience Division Office at Mesa Public Library in Los Alamos. Baker, who led the fire recovery effort for the division, obtained permission to scavenge for artifacts among the ashes on Lab property. She teamed with Pete Sanford of Communications Arts and Services and Electra Sutton of Biosciences to put together a collection of singed computer equipment, melted glass, and other unrecognizable objects in shadow boxes. The intent of the exhibit was to help people deal emotionally with the losses attributed to the fire. The exhibit was on display at Mesa Public Library during the month of May.

First Household Hazardous Waste Disposal Day in Española Is a Success



Deborah Daymon of the Lab's Solid Waste Operations and Matt Kaiser, right, of EnviroSolve, pour liquid waste into large drums during the first Household Hazardous Waste collection day in Española. City residents could bring household hazardous wastes to the Española transfer station for proper handling and disposal. The Lab co-sponsored the event with Duratek Federal Services. Shown at left is Matt Shanahan of EnviroSolve and Tim Reese (standing next to Kaiser) of Duratek.

More than 2,200 gallons of antifreeze and 50 gallons of bulk flammable liquids were among the items Española residents turned in at the first Household Hazardous Waste disposal event April 21st. The Lab, Duratek Federal Services, Inc., and the city of Española sponsored the event. More than 100 cars passed through the La Loma Transfer station drop-off points in Española to get rid of many hazardous waste items from their homes. Also dropped off were 200 gallons of containerized hazardous (corrosive, flammable, and toxic) chemicals, 350 gallons of paint, 200 aerosol cans, and 160 batteries, said Therese Trujillo of Duratek Federal Services.

Española City Manager Leonard Padilla enthusiastically welcomed the event, the first of its kind in Española. "Reaching out to our communities is an effort that takes money, time, and planning and but most importantly volunteers," he said. John Kelly, New Mexico

Regional Manager of Duratek Federal Services said he was impressed with the outcome and said helping out communities is worth the cost of staging community household hazardous waste disposal events.

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stoppers to certification, there is still a lot of work ahead. He clearly stated that the proposed FY02 budget will not support our efforts to demonstrate certification by the time the first W88 replacement pit is manufactured in 2003. That pit will be "certifiable," meaning it's ready for certification, but we will not be able to complete the necessary steps for certification under the proposed budget.

The subcommittee, led by Senator Wayne Allard, made very positive comments about the importance of stockpile stewardship and clearly recognized the needs we have in the areas of infrastructure revitalization and recruitment. The hearing was an opportunity to provide some initial comments on the impact of the proposed FY02 budget. I'll be watching with interest as the process to develop that budget continues in Congress.

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residents were evacuated because of the Cerro Grande Fire. The brief silent vigil was held in front of the "Touch the Sky" sculpture north of the County Administration Building. The County procured the sculpture, with assistance from corporate donors including the LANL Foundation, to give tribute to the future positive dreams of young children affected by the devastation of the fire.

Technology Commercialization Awards Announced

Eight Northern New Mexico businesses have received awards from a \$200,000 program aimed at facilitating the development and commercialization of promising new technologies. The Technology Commercialization Office at the Laboratory recently announced the recipients of the last of its Technology Commercialization Awards. The latest group of recipients brings the number of regional companies that have received funding in the program to 23 since 1997. Total funding provided by the program has been more than \$700,000.

The awards are in the form of subcontracts from the Lab's Industrial Business Development Program Office to the selected companies. Companies use the subcontracts to hire expert services such as engineering design services, legal assistance for patent applications, or to help establish new marketing programs. While the awards program does not require that a Laboratory-developed technology be involved, the technology should contribute to the broader Laboratory mission or a compelling national need.

Technology Commercialization Office



This year's awards went to:

1. Figaro Systems, Santa Fe, is the inventor of the Simultext Electronic Libretto System, which allows a musical performance's text to be displayed in any of eight languages on monitors as it is being performed. Under the awards program, Figaro will define new applications for the Simultext technology.

2. HYTEC, Los Alamos, working in partnership with another Los Alamos company, Innovative Surgical Technology, will use its award to develop a fetal heart monitor that functions as a modified vacuum extractor and a fetal heart monitor during a difficult delivery.

3. Innovative Web Applications, Los Alamos, will continue to develop Biotechmesa.net, a NM biotechnology information portal on the World Wide Web. A new feature will be Distributed Alerts—email alerts for users about new materials available in the research databases.

4. QTL Biosystems, Santa Fe, a developer of advanced biosensor technologies used in pharmaceutical and biomedical research, medical diagnostics, and national defense, will purchase a high through-put screening fluorometer, which will allow the assay of multiple samples used to develop homogeneous assays for high-through-put screening of potential drugs.

5. Retriever Technology, Santa Fe, designs and manufactures radiographic film scanners that convert x-ray film into

digitized computer files, allowing for the efficient storage, manipulation, and electronic sharing of radiographic test information. Retriever Systems will develop new software and upgrade existing software in order to improve image quality in digitized radiographic film images.

6. SeiraD, Los Alamos, is developing an innovative approach to rapid DNA sequencing. A fully developed sequencing instrument would reduce the cost of sequencing an individual's genome to a few thousand dollars and the time to a few days. SeiraD will upgrade the controlling software and hardware on a recently acquired scanning tunneling microscope.

7. STAR Cryoelectronics, LLC, Los Alamos, specializes in the design and manufacture of advanced sensors based on Superconducting Quantum Interference Devices. These sensors are highly sensitive detectors of magnetic flux to be used in applications in the areas of biomedical imaging, non-destructive testing, geophysical exploration, and laboratory instrumentation. They will establish a new integrated circuit fabrication facility in Santa Fe.

8. Strategic Analytics, Santa Fe, is the developer of Value Forecasting Services, an analytical technique that forecasts the long-range dynamics of consumer finance portfolios, e-commerce customers, and other account-based businesses using historical data. Strategic Analytics will use the award to obtain patent protection for core technologies.

Congratulating the winners, Laboratory Director John Browne said, "These awards are an indication of the Laboratory's ongoing commitment to strengthen and encourage Northern New Mexico's business and industrial community. I look forward to watching these companies turn their promising ideas into commercial activities that benefit the region."

New University of California Vice President for Lab Management



John P. McTague

The University of California Regents on May 17th approved the appointment of John P. McTague as vice president for laboratory management—a new UC position that has primary responsibility for oversight of the three UC-managed national laboratories, including Los Alamos. McTague will begin his duties on June 1. McTague has extensive experience in industry, as a scientist, in academia, and with the national laboratories. “The part of my background that I believe is most relevant to this position is that I have been associated with the DOE laboratories during the last 30 years,” McTague said.

“I was extremely pleased to hear of the selection of John McTague as UC’s vice president for laboratory management,” Lab Director John Browne said. “His background experience is not only impressive but highly relevant for this new position. I also know he is familiar with and appreciative of Los Alamos National Laboratory and the DOE complex in general. Having worked with John over the years, I personally look forward to his help and guidance as we work with UC, NNSA, and the DOE on our journey to

sustain excellence in scientific achievement and in the operation of our Laboratory.”

“I have always held an appreciation for Los Alamos [National Laboratory] and the important work that it does for the nation,” McTague said. “I have been a longtime admirer of people and programs at the Lab.” McTague—a physical chemist who holds a Ph.D. from Brown University—also was a founding co-chairman of the DOE National Laboratories Operations Board and has served as an advisor to DOE affairs in a number of other capacities. Much of McTague’s experience is directly relevant to the Lab. During the mid-1970s through the early 1980s, McTague worked as a consultant to the Lab’s Physics Division. He later was active in helping lay the foundations of the Pulsed Neutron Source, which he praised as a useful tool for advanced science.

In 1986 McTague served as deputy director and acting director of the White House Office of Science and Technology Policy, serving as acting science advisor to President Ronald Reagan. Later during the George Bush administration, McTague served as a member of the President’s Council on Science and Technology and as the United States chair of the U.S.-Japan High-Level Advisor Panel on Science and Technology. McTague also is former vice-president of Ford Motor Company and was the founder of USCAR, a collaboration between Ford, Chrysler, and General Motors that was initiated to explore the use of cutting-edge technologies to create better, safer, and more efficient automobiles.

Under the modified DOE contracts with UC, the university agreed to put in place a number of measures designed to strengthen oversight and operations of the two Labs. The modifications were incorporated in Appendix O, and these oversight and operations milestones will be reviewed regularly by the DOE. Failure to perform under Appendix O

can jeopardize potential UC discretionary funding and renewal of the contract itself. “We need to look at what initiated my position in the first place,” McTague said. “There was a need for significant improvement in the area of project management at the Labs. (The labs) have begun substantial improvement in this area, but it’s an area that must be watched. It’s an area I’ll be paying particular attention to.”

But McTague said his role also will focus on another major issue of importance to employees. “The most important asset to these (UC) laboratories is not facilities and infrastructure. It is people,” he said. “I will be looking at ways to improve working conditions for people. It is important to let them know that their work is appreciated and important. I am looking forward to the job.”



AsianWeek Interview with Browne. Laboratory Director John Browne recently sat down with AsianWeek, the only English-language news weekly in the United States aimed at the Asian Pacific Islander (API) community, to discuss some issues of concern to the API community and to reiterate the Laboratory’s commitment to a diverse workplace. That interview, a question-and-answer piece, is in the “Talk Back” section of the April 20 issue of AsianWeek. To access the interview online, enter this URL: http://www.asianweek.com/2001_04_20/news2_johnbrowne_qa.html

Students' On-line Periodic Table Gets Hits, Top Award

When budding scientists in elementary, middle, and high school need information about chemistry, they have a myriad of sources online. One very popular source turns out to be the Lab's periodic table site, linked to the Lab's Chemistry (C) Division's home page. How popular is it? Since May 2000 the site has logged nearly two million hits. Not only is the website popular, it's an award-winner, too. In May, ScientificAmerican.com, part of Scientific American Magazine, named the periodic table website one of the top 50 best web resources in science and technology. "The web offers any number of periodic charts," according to the magazine, "but this one from Los Alamos National Laboratory is by far among the best."

The really fun thing about the site for Moses Attrep and Nick Degidio of Isotope and Nuclear Chemistry Division, who maintain and update the site are the questions that pour in from kids taking their first steps toward a better understanding of chemistry. "We get two or three questions every day," said Degidio. "I do an initial screening and answer questions that don't deal directly with chemistry, then I pass the rest to Moses."

"It's fun, I really enjoy answering the questions," said Attrep. "I can tell if the kids are really curious about chemistry, or if they're just trying to get me to answer a question for their teacher. Sometimes the grammar is a bit suspect, but we try our best to supply a good answer."

A couple of recent questions received through the site include one on April 1 from Carolyn, who describes herself as a high-school junior and asks, "Would the reaction between SrO and water be acidic or basic? What would happen if AgNO₃

was added to a solution of NaAt?" "I could tell right away these were questions that had come from natural curiosity and not from a test," said Attrep.

Other questions are obviously motivated by homework assignments. Aaron, age unknown, also wrote on April 1 and supplied a list of 13 questions that included this question: "What are the alkaline earth metals and what main characteristics do they possess?" "It was very clear," said Attrep, "that Aaron was just dumping his homework on me. So I wrote him back and let him know that the answers to his questions were all there in his textbook and that he should try studying."

The periodic table website was recently featured on the Department of Energy homepage, "kidzone," which features a variety of sites for children. The site has also

been featured several times on Yahoo's "Science Web Ring" service that points Web surfers to scientific reference materials.

"The driving force has always been public and community service," said Attrep. "We just want to give something back, to share a bit of our knowledge."



There are many periodic table sites on the World Wide Web, most aimed at the college or professional level. The Lab's site is set apart from the others because of its easy-to-

use format and its feedback channel for questions and comments. To go directly to the periodic table click on <http://www.periodic.lanl.gov/> to see the full color periodic table with links to every element, answers to frequently asked questions, and place for asking new questions.



Los Alamos Employees' Scholarship Fund luncheon. Jeffrey Franken, left, of Las Vegas Robertson High School, talks with Laboratory Director John Browne at a May 14, 2001, Los Alamos Employees' Scholarship Fund Awards luncheon in the Los Alamos Inn. Thirty-eight high school seniors and college undergraduates received college scholarships through the fund. Franken received the four-year, \$10,000 a year scholarship and plans to attend the University of California, San Diego. Lab workers have again contributed to this year's scholarship fund drive which ran through May 25. Preliminary estimates are that the 2001 campaign will reach its goal of about \$105,000.

Coming Soon: 30 Trillion Calculations Per Second!

The cavernous, 43,500-square-foot computer room of the Laboratory's new Strategic Computing Complex under construction at Technical Area 3 is roughly the size of a football field and will house the world's largest and most capable computer (30 TeraOPS, or 30 trillion calculations per second) when it is installed next year. Work also continues on the 200-seat auditorium on the southeast corner of the SCC. The building is about 75 percent complete. Work on the SCC is scheduled to be completed later this year. Hensel Phelps Construction Co. is the general contractor for the Strategic Computing Complex. Hensel Phelps also is building the Nonproliferation and International Security Center adjacent to the SCC. The SCC facility will provide a dynamic environment for approximately 300 scientists and engineers to collaborate to extend the cutting edge of simulation and modeling development in support of nuclear weapons stockpile stewardship requirements.



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Los Alamos
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