Los Alamos NATIONAL LABORATORY EST.1943

NewsLetter

Week of May 9, 2005 Vol. 6, No. 10

Inside this issue …

Director Nanos to step down

Laboratory Director Pete Nanos recently announced that effective May 15, he will step down as director of the Laboratory to pursue a new opportunity with the Department of Defense in Washington, D.C. Robert W. Kuckuck has been named interim director by the University of California and will assume the position on May 16.

In a memo to Lab employees, UC President Robert Dynes said Nanos "has been deeply committed to the mission of the Laboratory, and I am grateful for his tireless efforts over the last two years." Dynes went on to introduce Kuckuck, saying he "has been intimately involved in nuclear weapons research and programs for more than four decades … [and] has extensive experience in the national laboratory and nuclear weapons complex, having worked at Lawrence Livermore National Laboratory and the Department of Energy's National Nuclear Security Administration." For more information, see the May 9 Daily Newsbulletin at *www.lanl.gov/news/index.php?fuseaction=nb.main&nb_date=2005-05-09* online.

NewsLetter
P.O. Box 1663
Mail Stop C177
Los Alamos, NM 87545

Nonprofit Organization
U.S. Postage Paid
Albuquerque, NM
Permit No. 532

LALP-05-002

Work force of tomorrow

Incoming students bring new energy to Los Alamos

by Hildi T. Kelsey

Employees need only look around at the bright, eager new faces to figure out that students have once again descended upon the Laboratory for another summer of learning. However, what some people may not realize is how critical students are to the future of the Laboratory.

Since 2001, 38 percent of the Laboratory's new technical staff member hires were former student interns or postdoctoral researchers, half of whom are former undergraduate or graduate student interns. This fact emphasizes the important role student internships, postdoctoral programs and science education outreach activities play in developing the Lab's critical work force of the future, asserts Dave Foster of the Education Program Office (STB-EPO).

This future work force is fed by a student pipeline, which draws its strength from student internships and outreach programs co-sponsored by STB and numerous Laboratory divisions, including Nuclear Materials Technology (NMT); Computing, Communications and Networking (CCN); Material Science & Technology (MST); Physics (P); Engineering Sciences and Applications (ESA); Los Alamos Neutron Science Center (LANSCE); Computer and Computational Sciences (CCS); Theoretical (T); Chemistry (C); International, Space and Response (ISR) and Communications and External Relations (CER) among others.

Notable Lab-wide efforts to increase the flow of the student pipeline include internship programs (graduate, undergraduate and high school), formal student internship programs (high school, undergraduate, graduate), new research partnerships with four New Mexico universities, technician training programs conducted in cooperation with regional community colleges, the Lab's critical skills development program, tribal education initiatives and scholarship programs for distinguished students — this year marks the first year that the Department of Energy Office of Science has provided scholarship money to the Lab through its Science Undergraduate Laboratory Internships Program.

While these activities deal primarily with college students and advanced education, many of the Lab's student-outreach efforts start much earlier. Some of these programs targeting kindergarden through 12th grade and aimed at sparking an early interest in science (along with their division sponsors) are listed as follows:

- Northern New Mexico Math and Science Academy (STB)
- Science on Wheels (CER)

continued on Page 3

Cancer study earns top honors at Supercomputing Challenge

Karalyn Baca, right, and Punit Shah of the Albuquerque Academy won the top award at the 15th annual New Mexico Adventures in Supercomputing Challenge awards ceremony at the Laboratory. The duo designed software to probe how cancer develops. Baca and Shah won several other awards, including best technical poster and the Student's Choice Award. For the complete story, see Page 7. *Photo by Ed Vigil*

Bicycle safety tips from the American Red Cross

• Many bicycle injuries can be prevented by wearing a helmet. Always wear a correctly-fitting helmet when riding. Even children using tricycles or bikes with training wheels should wear helmets. Adults also should wear helmets at all times, including when riding with children. The Bicycle Helmet Safety Institute has more information on how to fit a helmet.

• Be sure that helmets meet standards set by the Consumer Product Safety Commission, the Snell Memorial Foundation or the American Society for Testing and Materials. Look for a label or a sticker on the box or inside the helmet indicating that it meets the above standards.

• Wear closed shoes when riding a bike.

• Make sure the adult's bike and the child's bike have good brakes, a front light and effective reflecting material.

• Ride only in safe areas and at safe times.

• Make sure bikes are the correct size for the rider.

Learn about bicycle etiquette, laws, and safe riding practices and teach children about them.

Los Alamos NewsLetter

The *Los Alamos NewsLetter,* the Laboratory bi-weekly publication for employees and retirees, is published by the Public Affairs Office in the Communications and External Relations (CER) Division. The staff is located in the IT Corp. Building at 135 B Central Park Square and can be reached by e-mail at *newsbulletin@lanl.gov,* by fax at 5-5552, by regular Lab mail at Mail Stop C177 or by calling the individual telephone numbers listed below. For change of address, call 7-3565. To adjust the number of copies received, call the mailroom at 7-4166.

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Los Alamos National Laboratory is operated by the University of California for the National Nuclear Security Administration (NNSA) of the U.S. Department of Energy and works in partnership with NNSA's Sandia and Lawrence Livermore national laboratories to support NNSA in its mission.

Los Alamos enhances global security by ensuring safety and confidence in the U.S. nuclear stockpile, developing technologies to reduce threats from weapons of mass destruction and improving the environmental and nuclear materials legacy of the Cold War. Los Alamos' capabilities assist the nation in addressing energy, environment, infrastructure and biological security problems.

National Nuclear Security Administration

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Welcome students!

Laboratory Director Pete Nanos

As summer approaches and students return to the Laboratory, I have one message: Welcome! You are the Laboratory's work force of the future. Last year 35 percent of our new hires were either former student interns or current post-graduate students. Do you want to envision the staff of Los Alamos in 20 years? Then hold a mirror to the hundreds of high school, college and post-graduate students joining the Laboratory this summer.

Students, you are important to Los Alamos. Not only do we depend on your skills, energy and vitality, but we rely on you to help fulfill a critical institutional objective — recruiting, retaining and developing the Laboratory's long-term work force.

As the summer begins, I want to emphasize three principles. In keeping with the Laboratory's first priorities of safety and security, we want you to work safely and securely. Please, have open, honest and frequent discussions about safety with your mentor and co-workers. Speak up if you encounter a potentially hazardous condition or situation. Take responsibility for your own safety, your own safe behaviors and the safety of those around you. There's nothing theoretical or abstract about safety; in human terms, safety means that you should end the summer as accident- and injury-free as you began it.

Second, we want to facilitate a productive, positive relationship with your mentor. Simply put, mentors help you succeed. They orient you to the work environment, develop your student work plan, and provide guidance and coaching throughout your time here. A successful summer hinges on successful mentoring. That's why we've updated our mentor training and developed a new mentor tool kit.

Finally, and equally importantly, we want you to have a high-quality experience. Opportunities abound at an institution delivering "the world's greatest science protecting America." Attend the student colloquia, lectures and programs. Explore everything from science, engineering, mathematics and technology to operations and administration. Embark on a summer of learning and discovery!

We are all striving to make Los Alamos a better, safer, more enriching place to work. As you join us for the journey ahead, we say 'Welcome!'

Education Program Office focuses on process improvements

by Hildi T. Kelsey

As part of a corrective action plan resulting from the student laser injury last July, Training Services (PS-13) tasked the Education Program Office (STB-EPO) with modifying the existing student mentoring policy and procedures. STB-EPO, in partnership with the Performance Surety (PS) Division, coordinated several focus groups and meetings comprised of the University of California Office of the President, students, mentors, division safety officers, division student liaisons, members of the Students' Association and the Student Programs Advisory Committee.

For 2005, changes are primarily focused on processes owned by STB-EPO and PS-13, so the only requirement for mentors is to attend a mentor orientation session. However, once approved, the new student mentoring policy will have some bearing on the mentor's role in 2006.

"This year, the focus will be on applying identified key process improvements. Full implementation will begin via a two-year phased process once the document has been signed and approved. Among the process improvements for this year is the increase in the number of training classes being offered, including electrical safety," said Carole Rutten of STB-EPO.

The first draft of the revised policy was submitted to PS-13 last December. In January, STB-EPO briefed the UCOP Environment, Safety and Health panel on the progress of the document. As part of the process for the second draft, the document was again sent out to focus group members for input. Additionally, STB-EPO received feedback from Chief Science Officer Tom Bowles and the Science and Engineering Advisory Council. The final draft was sent to PS-13 on March 31.

Rutten said that SPAC also has been a key player in the revision process. SPAC serves as an advocate for the quality of each student's experience at the Lab and monitors the quality and impact of student programs to ensure effective communication. SPAC also recommends policy changes and initiatives as well as addresses issues surrounding student programs.

"SPAC has devoted the past few months to extensive review of the policy, as the changes will have a huge impact on student programs. SPAC has provided STB-EPO and PS-13 with recommendations regarding content and implementation of the policy," Alexis Lavine of Environmental Geology and Spatial Analysis (EES-9), chair of SPAC, said about the student mentoring policy.

SPAC also is working closely with STB-EPO to enhance Laboratory mentor and student liaison training sessions. "Mentors are division staff members who hire and directly supervise students, while student liaisons are informative resources available to students and mentors," said Lavine. "Additionally, liaisons provide support if problems arise with either the student or the mentor, oversee division student programs, help to integrate students into the [Lab] community, provide guidance, develop student Web pages and e-mail lists, participate in student recruiting efforts, and organize student activities."

Important numbers

- Education Programs Office: 5-5194
- 4myhr: 4-6947, new hires, salary issues, questions
- Benefits and Employment Services: 5-1806
- Training for students, Training Services (PS-13): 5-8644
- Badge Office: 7-6901
- Bradbury Science Museum: 7-4444
- Housing Office: 661-2626
- Ride service: 7-TAXI (7-8294)
- Park and Ride commuter bus service: 424-1110

LACDC: students are vital to community, Laboratory

by Fran Talley of the Los Alamos Commerce and Development Corp.

"Students bring a renewed vitality to our community, the region and its world-class institutions," said Kevin Holsapple, executive director of the Los Alamos Commerce and Development Corp. "Their presence offers us a chance to demonstrate that opportunities abound right here in our own back yard."

Carole Rutten, student/mentor liaison in the Education Program Office (STB-EPO), agrees. "Many students who intern at the Lab decide this is where they want to launch their careers and ultimately reside. This also is part of the Science and Technology Base (STB) Program Office business strategic plan to continue to improve partnerships and find ways to collaborate with external local community organizations."

According to Rutten, of the approximately 14,000 employees at the Laboratory, about 2,000 are in the high school, undergraduate, graduate or post-doctoral program.

Appreciation for the student demographic hasn't escaped the local business community. Again this year, participating LACDC Chamber of Commerce merchants will offer in-store discounts to Lab student and post doctoral employees via the Community Welcome Card. The welcome card, valid from May 1, 2005, to April 30, 2006, soon will be distributed by the Laboratory's Students' Association. A list of participating businesses will be posted on the Students' Association Web site at *http://sa.lanl.gov/* online.

One program open to students in which the LACDC partners with the Laboratory is the Innovators' Forum, which provides Laboratory students and other professionals with a glimpse into the world of start-ups, spin-offs and the management of small, technology businesses. The forum is co-sponsored by LACDC, the Laboratory's Technology Transfer (TT) Division and Technology Ventures Corp.

"This collaboration offers an in-depth look at what it takes to start, manage and grow a successful technology business," said LACDC Business Development Director Patrick Sullivan.

For information on the Innovators' Forum or to be added to their mailing list, contact Erica Sullivan of TT Division at 7-9219 or write to *eab@lanl.gov* by e-mail.

To learn more about Los Alamos and its many activities, go to *http://losalamoschamber.com* online or call 661-4815.

Student programs support Laboratory contract performance measures

by Carolyn Zerkle, principal deputy associate Laboratory director for administration

The Laboratory has made significant strides in an Appendix F implementation guideline that hinges, in part, on interactions with students of all ages and with educators.

Appendix F is a negotiated measure of how the University of California is performing under its prime contract with the Department of Energy/National Nuclear Security Administration. Performance Measure 10.1 of Appendix F states that the Laboratory "… will establish and maintain science education outreach programs with the joint goals of community outreach and substantive contribution to science education."

The Laboratory has implemented many successful programs in support of this specific performance measure. These programs would not be complete without the crucial involvement of students and educators from the region and beyond. A sampling of some of the more visible programs held this year in support of Appendix F include

- Expanding Your Horizons in Math and Science, a conference held March 31 that included more than 150 sixth- through eighth-grade girls from New Mexico schools and more than 15 teachers.
- The 2005 Math and Science Academy, which received $177,000 from the New Mexico Legislature and strives to improve mathematics and science education for nearly 2,000 students in New Mexico.
- A partnership between the Laboratory and Santa Fe Indian School to hire a scholarship writer to assist regional Native American students; the program also helped in the placement of 12 Native American student interns at the Laboratory.
- A March robotics workshop for Española schools.
- The funding of eight students under the DOE Department of Science's Science Undergraduate Laboratory Internship program.
- An exciting robotics and rocketry workshop for Native American teachers.

In addition, two Laboratory graduate students were selected to participate in the 55th annual meeting of Nobel Laureates and Students in Lindau, Germany.

It is gratifying this summer to see so many students coming to the Laboratory to launch or continue their careers in science. Perhaps, some of our students' interest in pursuing science was originally cultivated in programs like the ones mentioned above. I can only hope that many of our students will pass their passion for science along to their peers and siblings, thereby adding momentum to science mentoring that is so important to this institution. Welcome students! Your success is our success.

Students, our future

by Tom Bowles, chief science officer

Los Alamos has a long history of bringing students to the Laboratory. During my 25 years at the Lab, I have worked with many students. A number of these first came to the Lab as undergraduates and then came back as graduate students during the summer. A few of them decided to do their [doctoral] theses with our group. This has been a tremendous benefit to our research program, while also providing a great learning experience for the students.

The Laboratory is not a university, but we do strive to maintain an open learning atmosphere. Access to talented staff and experimental and computing resources that most universities cannot match provides the basis for a remarkable learning experience. We are encouraging our staff to mentor students. Of course, the events of last summer generated concern about how we provide the necessary supervision to ensure the safety of our students.

Our new mentoring policy is based on common sense — the degree of supervision required increases as the risks that the students are exposed to increase. Our goal is to ensure none of the Laboratory's students suffer an injury while here. At the same time, we are trying to balance that [goal] with having enough flexibility to carry out research in a reasonable manner. While this is a challenge, we believe it can be achieved. We have increased the frequency of required training courses.

We also are working to ensure that students are required to take only that training which is directly relevant to their work. We have staff in many divisions who have volunteered to help ensure that the students have a meaningful and productive time at the Lab.

The bottom line is that we greatly value our students — they play a singularly important role in shaping the future of the Laboratory. We are committed to doing all that we can so that every one of the students will look back on their time at Los Alamos as one of their best memories. If I can help in achieving that, please feel free to contact me at *cso@lanl.gov* by e-mail.

Work force …

continued from Page 1

- A Day in Los Alamos at the Bradbury Science Museum (CER)
- New Mexico Adventures in Supercomputing Challenge (CCN)
- Go Figure Mathematical Challenge (STB)
- Robotics workshops (STB, NMT, ISR)
- Expanding Your Horizons Student and Teacher Conferences (Northern Chapter of the New Mexico Network for Women in Science and Engineering with Lab co-sponsorship)
- Los Alamos Space Science Outreach (ISR)

The Laboratory also works closely with the New Mexico Public Education Department, New Mexico Legislature, the New Mexico congressional delegation, business leaders, educational nonprofits and the LANL Foundation. It also chairs Northern New Mexico Council for Excellence in Education.

With the task of overseeing student activities and ensuring Appendix F Work force (7.1), Science Education (10.1), and Community/Tribal Initiatives (10.2) measures are met — essentially tying together the Lab's science education initiatives into a cohesive, measurable effort — STB specifically concentrates on four areas: organizing outreach activities, improving the K-12 and undergraduate education infrastructure in Northern New Mexico, facilitating and overseeing student internships and workshops and supporting tribal education initiatives.

This time of year, STB focuses mainly on providing a mutually beneficial and memorable encounter for Laboratory interns, but it is not alone in this effort. The student experience is further fostered and refined with the help of the Students' Association and the Student Program Advisory Committee, which are both committed to enhancing the quality of student programs at the Lab.

In addition to its typical student support measures, the Students' Association has organized a student lecture series to motivate students and facilitate academic advancement and achievement. Along the same lines, SPAC is involved in mentor orientation sessions, assisting the Students' Association with the annual student-mentor picnic, sponsoring the all-student meeting with the director, evaluating and promoting the student postings initiative, assisting with the student symposium and awarding the distinguished student and mentor awards.

Also, student mentors and student liaisons play important roles as resources and points of knowledge for the interns.

Their combined efforts have resulted in a robust student calendar with a full schedule of training and information sessions, as well as fun events, during which students can learn about their peers — and maybe even a little bit about themselves.

This issue of the Los Alamos NewsLetter highlights the Lab's efforts to develop the work force of tomorrow and provides useful information to visiting students.

Lab employees give boost to pueblo education, support student pipeline project

'Education is not the filling of a pail, but the lighting of a fire.'
—William Butler Yeats

Igniting such a spark in the minds of pueblo students is exactly what Ron Wieneke of Waste Management/ Environmental Compliance (NMT-7) and Barbara Tenorio-Grimes of the Government Relations Office (CER-1) aim to accomplish with an interactive, hands-on instructional outreach initiative designed to support the Lab's educational commitments to the accord pueblos, while also establishing a viable student pipeline. This pipeline is a long-range plan designed to provide a local source of qualified graduates in science and engineering to fill technical staff member positions at the Lab.

In cooperation with the Tribal Relations team in GRO, the Nuclear Materials Technology (NMT) Division has developed a student education program consisting of three different student workshops, two of which will be preceded by a half-day of classroom instruction. The workshops will be presented at all four accord pueblos schools – San Ildefonso Day School, Santa Clara Day School, Jemez Day School and Cochiti Elementary.

The teachers and Lab participants utilized state education standards in designing the classroom sessions. Each workshop is customized to fit the specific needs of a designated age-group: grades 1-2 will be introduced to chemical properties through a tie-dye workshop; third and fourth graders will learn math and science concepts through a model rocketry workshop; and fifth- and sixth-graders will take science and engineering a step further as they delve into the world of robotics.

"Utilizing the skill-sets and scientific knowledge of the Lab volunteers, our goal is to introduce teachers to different aspects in science of which they were previously unfamiliar," said Wieneke. "This knowledge sharing will reinforce those math and science principles that may have been overlooked without such exposure, thus, opening the door for students to explore a broader range of topics and concepts in science."

According to Wieneke, the effort also meets the Lab's Appendix F, measure 10.1 dealing with education outreach, under which the Laboratory is tasked with the "joint goals of community outreach and substantive contributions to science education."

To ensure the classroom sessions and student activities were developed to meet state education requirements and needs of the students, NMT and GRO recently co-hosted an all-day pueblo teachers' workshop — attended by educators from the Jemez Day School, Cochiti Elementary School, Santa Clara Day School and San Ildefonso Pueblo.

"Our activities will be based on direct feedback from the teachers on what they think will be useful for students," said Tenorio-Grimes, adding, "It was important that we gain their perspective and get an idea about their needs."

Wieneke and Tenorio-Grimes anticipate the student classroom lectures and workshops will begin this month.

This educational outreach effort comes at an important juncture in the Lab's relationship with these pueblos, since Laboratory Director Pete Nanos recently reinforced the Lab commitment to the accords when he attended the 18th cooperative agreement executive meeting, where attendees were given the opportunity to discuss issues of mutual concern and share progress reports.

Division student liaison duties

Division student liaisons are a resource for mentors, students and the division. Division student liaisons add value to the student internship experience by linking students to needed resources within the division, the Laboratory and the community. A successful student liaison monitors students and mentors through regular communication to ensure that students and mentors are meeting all requirements and report any problems to management.

The primary functions of a liaison are

- Takes an active role in promoting effective mentoring and safe work practices for students, as defined by the division;
- Serves as a point of contact when a conflict between a student and mentor arises;
- Works with STB and the Human Resources (HR) Division to establish a listing of students and mentors in their divisions;
- Assists mentors within their division with the procedural requirements for mentoring a student;
- Serves as a point of contact and resource to assist students within the division;
- Keeps students and mentors informed of current Laboratorywide activities and resources available to them;
- Coordinates a division student/mentor orientation session;
- Attends the bi-annual Education Programs Office (STB-EPO) liaison training session.

Laboratory divisions are encouraged to appoint a liaison. For more information about division student liaisons, contact Carole Rutten of STB-EOP at 5-5194 or write to *crutten@lanl.gov* by e-mail.

Student calendar of events, summer 2005

This schedule is subject to change. For updates go to http://sa.lanl.gov/ online.

May

- May 16, New student orientation, 8 a.m., Canyon Complex, Room 160 (offered every Monday, Tuesday and Wednesday from May 16 to June 20 with the exception of Memorial Day)
- May 25, Student breakfast, 8:30 a.m., Technology Transfer, Technical Area 00, Building 1325
- May 30, Memorial Day, Laboratory closure

June

- June 7 and 14, Winning résumé workshop for undergraduates, 8:30 a.m., Canyon Complex, Room 172
- June 8, Students' Association student lecture series, Geoffrey West, 3 p.m., Physics Building Auditorium, TA-3
- June 14, Student breakfast, 8:30 a.m., Research Library, TA-3, Building 207
- June 16, All-students meeting with Student Program Advisory Committee, 1 p.m., Physics Building Auditorium
- June 22, Students' Association student lecture series, Bette Korber, 3 p.m., Physics Building Auditorium
- June 29, Students' Association student lecture series, David Poston, 3 p.m., Physics Building Auditorium
- June 30, Student breakfast, 8:30 a.m., Theoretical (T) Division, TA-3, Building 123, Room 121

July

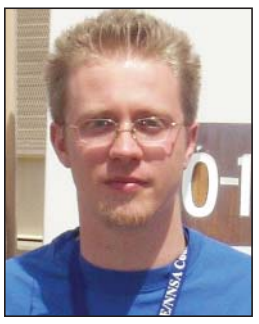
- July 4, Laboratory closed in observance of Independence Day
- July 6, Students' Association student lecture series, Carla Kuiken, 3 p.m., Physics Building Auditorium
- July 7, Winning résumé workshop for undergraduates, 8:30 a.m., Canyon Complex, Room 164
- July 13, All-students picnic, 11 a.m., Urban Park
- July 18, Students' Association elections
- July 19, Curriculum Vitae workshop for graduate students, 9:30 a.m., Canyon Complex, Room 164
- July 20, Students' Association student lecture series, David Loaiza, 12:15 p.m., Physics Building Auditorium
- July 26, Winning résumé workshop for undergraduates, 8:30 a.m., Canyon Complex, Room 172
- July 29, Student breakfast, 8:30 a.m., Office of Equal Opportunity and Diversity staff, Canyon Complex, Room 172

August

- Aug. 2 and 3, Annual student symposium, University of New Mexico-Los Alamos
- Aug. 3, Symposium keynote speaker, Randall Hyer, 6 p.m.

Housing information is available on the Students' Association Web site at http://sa.lanl.gov

Students' Association encourages participation



Zachary Norwood

by Zachary Norwood,
Students' Association member-at-large

With all the negative publicity surrounding the Laboratory, it is easy to lose sight of one of its most consistent, positive attributes: students.

Students are integral to the future success of the Laboratory. Not only do students represent its potential, future work force, but they also remind us of the academic spirit of the Los Alamos culture. The Lab is in some ways an extension of the university, a continuation of higher education. So, when students are given the opportunity to visit one of the labs and advance their knowledge and practical experience, they remind current employees of their mission: to advance science in the name of global security.

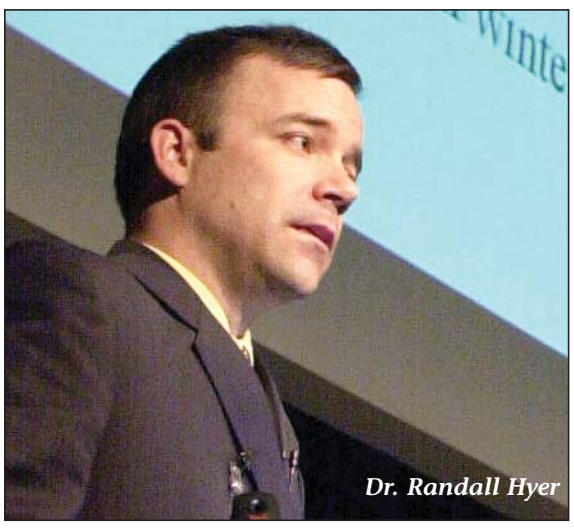
But science does not advance on its own. It needs original thinking, a continuous influx of new ideas. It needs the open-endedness and open-mindedness of the academic spirit. This is what students offer the Lab, and the Students' Association is the vehicle that makes it happen.

Every year, the Students' Association assists in organizing and directing the influx of students by introducing them to Lab policies and procedures, guiding them through the process of reimbursement for travel expenses, helping them find housing and transportation and fostering a sense of community and mission. Not only does the association monitor student satisfaction through the use of student liaisons and regular polling of student opinion, but it also facilitates socialization. The association hosts regular social events, such as the annual student-mentor picnic, and provides the resources necessary for students to advertise and organize their own social events — movie screenings and sports activities, for example.

The SA also fosters a sense of academic advancement and achievement by hosting an annual research symposium, organizing a lecture series and encouraging mentors to push their students into new areas of research.

Students are the heart and soul of the academic spirit at the Lab, and each year the SA assures the continuation of that spirit. This year is no exception. On behalf of the Students' Association, I encourage all employees to actively participate with student programs and maintain enthusiasm and pride in your work by sharing your expertise with a student. For more information, go to the Students' Association Web page at *http://sa.lanl.gov/* online or contact a student representative.

Los Alamos native Hyer to give keynote talk at student symposium



Dr. Randall Hyer

by Steve Sandoval

Los Alamos High School graduate Dr. Randall Hyer is the featured speaker at the Laboratory's annual student symposium Aug. 2-3 at the University of New Mexico's Los Alamos branch campus.

The symposium provides high school, undergraduate and graduate students and post doctoral appointees an opportunity to present their research and projects with a poster presentation or technical talk. The symposium is open to students and postdoctoral appointees from the Laboratory and Sandia National Laboratories, said Carole Rutten of the Education Programs Office (STB-EPO).

Hyer will speak about his academic and professional career, as well as encourage students to continue their education in the sciences, said Rutten. His talk is at 6 p.m., at the symposium awards banquet.

"Being the keynote speaker at the banquet is a priority to me as it is an opportunity to give something back to where I came from," said Hyer.

Hyer is a doctor with the World Health Organization in Geneva, Switzerland. He currently is a civilian-military liaison officer and medical officer for global alert and response in WHO's Department of Communicable Disease Surveillance and Response.

A 1981 graduate of Los Alamos High School, Hyer earned a bachelor's degree in chemistry from the U.S. Naval Academy, a doctoral degree from the University of Oxford in England and a medical degree from Duke University. Hyer also has a master's degree in public health from Harvard.

Before joining the World Health Organization, Hyer served in several medical capacities with the Navy, including at the Walter Reed Army Institute of Research and the Naval Medical Center in San Diego. He also served as medical officer and assistant officer in charge at the McMurdo and South Pole stations in the Antarctica and deputy surgeon in Atlas Response, the United Nation's flood relief response program in Mozambique in 2000.

To sign up for the student symposium and for more information, call Rutten at 5-5194 or go *http://stb.lanl.gov/education/symposium.xml* online.

Students' Association lecture series

The Students' Association is hosting a lecture series this summer.

Zachary Norwood, a post-baccalaureate student and SA member-at-large, organized the event with the hope of promoting the academic spirit of the Lab.

Every other week, from June 8 to Aug. 3 in the Physics Building Auditorium at Technical Area 3, a guest lecturer will survey their particular field of study and current research.

Since the goal of the series is to highlight on-going research in and outside the Laboratory, with the intent of demonstrating the range of research topics currently and historically explored by Lab faculty, each lecture will feature a different topic, ranging from the physics of biological scaling to the methods used to treat and safely dispose of contaminated wastewater.

Although the lecture series is primarily for students — from undergraduate to post-doctorate — all Laboratory personnel are encouraged to attend, especially mentors. Most of the speakers have mentored a student at the Laboratory at some point in their career.

Below is a preview of each of the scheduled lecturers.

Geoffrey West
3 p.m., June 8

West of Elementary Particles and Field Theory (T-8) currently is interim president of the Santa Fe Institute where he studies universal scaling laws in biology.

Bette Korber
3 p.m., June 22

Having recently won the E.O. Lawrence award for her research on HIV sequences, Korber of Theoretical Biology and Biophysics (T-10) is a leading figure in the movement to design an HIV vaccine.

Carla Kuiken
3 p.m., July 6

Working alongside Korber in T-10, Kuiken focuses her attention on the databases for hepatitis C and HIV while also conducting research on HIV and HCV.

David Loaiza
12:15 p.m., July 20

Loaiza is the Critical Experiments Facility Team leader in Advanced Nuclear Technology (N-2) and has performed several critical mass experiments using highly enriched uranium, plutonium and neptunium in support of various programs.

Pete Worland
Mid July (date to be determined)

As process engineer for Nuclear Waste and Infrastructure Services — Radioactive Liquid Waste (NWIS–RLW), Worland facilitates the treatment and environmentally sound disposal of contaminated waste-water generated by nuclear facilities at the Laboratory.

Student Posting Initiative helps students, mentors

Students looking for new or additional job opportunities at the Laboratory have no further to look than on the World Wide Web. A new electronic database also allows them to showcase their skills and interact with mentors looking to fill vacancies in their organization.

The Student Postings Initiative Web page was created for the Education Programs Office (STB-EPO) by Science Applications International Corp., said Carole Rutten of STB-EPO. Through the Web page, students can find opportunities that fit their field of study in school and/or their research interests, while mentors can find students who meet their needs, she explained.

"We've all heard the stories of a chemistry major working on a loading dock all summer, never to come back again based upon his or her experience," said Rutten. "The Student Postings Initiative was designed to help students and mentors find each other via a more proactive and professional process."

The Web page is open to students worldwide, not just current Lab students. Students can go to *http://www.lanl.gov/education/jumpstart/* online to register, submit an online application or search current internship opportunities at Lab.

The Student Posting Initiative is located at *https://spi-internal.lanl.gov/spi/mentor* online. This page requires mentors to use a Crypto-Card to authenticate.

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Lab interns to attend meeting of Nobel Laureates

Graduate students **Sara Breitzmann** and **Denise Pauler** will participate in the 55th annual meeting of Nobel Laureates and students in Lindau, Germany from June 23 to July 1. The meeting is sponsored by the Department of Energy Office of Science and the National Science Foundation. The student interns were nominated by Director Pete Nanos based on their innovative research projects and solid, exceptional performance at the Lab.

Q: This summer, the Laboratory is again hosting hundreds of high-school and college students who come to Los Alamos to "earn and learn." Do you think it is important that the Laboratory continues hiring summer students? If yes, why? If no, why not?

Charlotte Lindsey, Chief Information Officer (CIO)

Yes, it is important. It is an opportunity for students to learn about the Lab and what we do here. It helps energize students to continue their education studying science as a vocation.

Phillip Jewett of Departmental Computing (CCN-1)

I think it is very beneficial, especially for college students. They can come here, get some experience and consider the Laboratory as an opportunity for long-term employment when they finish college.

Jennifer Montoya of Los Alamos Neutron Science Center (LANSCE)

I think it is an awesome opportunity for students to get the experience they need in the workplace.

Jimmy Harris of Training Services (PS-13)

It is a great opportunity for students to get in touch with the "real world" and help them identify more clearly their interests. It also is great for the Lab to work with and encourage students. This type of experience was invaluable to me having spent a summer at Bell Laboratories and seven months at Lawrence Livermore National Laboratory.

Nathan Anaya of KSL Services

Yes, it's important for youth to have a good education and to gain some skills and experience. The Lab helps students do that.

Dana Berkeland of Biological and Quantum Physics (P-21)

Absolutely. Yes. I think it is very important from a community outreach aspect, because it helps us when we can get others without a science background excited about the work we do at the Laboratory. It's extremely beneficial for the students because they get to learn things that many of their peers may never have a chance to. And the students are just plain fun to have around.

Sara Breitzmann

Breitzmann has been an intern at the Lab since 2003 working at the Los Alamos Neutron Science Center (LANSCE). Her mentors are Larry Rybarcyk and Bob Macek, and her project, which is supported by the DOE-SC, is titled "Test of Active Damping (Transverse Feedback) as a Cure for the two-stream e-p instability at PSR." She attends Indiana University and is working on a doctorate in physics.

"I feel very honored to have been given the chance to meet with Nobel Laureates and students from around the world. It is just one of the many benefits a young scientist can gain by working at the Lab," said Breitzmann. "I am fortunate to have such dedicated mentors here who encourage me to pursue opportunities like this one."

Denise Pauler

Pauler has interned in Theoretical Chemistry and Molecular Physics (T-12) since 2003. Her mentor is Joel Kress and her project, which is supported by the NSF, is titled "Decomposition of Nitroplasticizer in Plastic Bonded Explosive PBX9501." She attends Cornell University and is working on a doctorate in theoretical chemistry.

"I am excited about being chosen by Los Alamos. I would like to thank my mentor and my group. They have been extremely helpful in making me aware of opportunities at the Lab like this one," said Pauler. "I am looking forward to meeting other students at the conference as well as talking to the laureates. It will be interesting to learn how they discover such unique research ideas."

In August, Breitzmann and Pauler will present a student seminar at the Lab to discuss their experience in Lindau.

Seven students receive science undergraduate Laboratory internships

Seven students will do internships this summer in the Laboratory's new Science Undergraduate Laboratory Internships (SULI) program. The seven students are

• **Bryan Cort**, a sophomore at the University of Waterloo in Ontario, Canada, where he is majoring in mathematics and statistics. Cort will work at the Laboratory's Seaborg Institute. Cort's mentor is Al Migliori of the National High Magnetic Field Laboratory (MST-NHMFL).

• **Melissa Ensor**, of the University of the South in Sewanee, Tenn., is a junior majoring in chemistry. Ensor was a participant in the Lab's Seaborg Institute last summer and will be returning to the program. Kevin John of Actinide, Catalysis, and Separations Chemistry (C-ACS) is Ensor's mentor.

• **Eric Flynn**, who is graduating from Harvey Mudd College in Claremont, Calif., where he is a major in civil engineering, will be participating in the Laboratory's Dynamics Summer School (DSS). Flynn's mentors are Chuck Farrar and Gyu Hae Park, both of Weapon Response (ESA-WR). DSS is part of the Lab's Critical Skills Development Program (CSDP).

• **Christy Hyde**, a student at the University of Alabama in Tuscaloosa, Ala., where she is a senior majoring in physics, will be participating in the Accelerated Strategic Computing Pipeline Program (ASCP), another CSDP program. Hydes's ASCP mentor is Frank Timmes of Theoretical Astrophysics (T-6). Hyde participated in the summer school in the CSDP's Physical Sciences Program last summer.

• **Bradley Hyde** attends the University of Alabama, where he is a senior majoring in electrical engineering. Hyde's mentor is Garrett Kenyon of Biological and Quantum Physics (P-21).

• **Adam Light**, who is graduating from Case Western Reserve University in Cleveland, Ohio, with a major in physics, is a returning student in the Applied Science Internship Program (ASIP). His mentors are Ivo Furno and Tom Intrator, both of Plasma Physics (P-24). ASIP also is part of the CSDP.

• **Sam Skillman**, a sophomore at Harvey Mudd, where he is majoring in physics, will be a participant in ASCP under Timmes' mentorship.

The Science Undergraduate Laboratory Internships Program is a new program at Los Alamos. A partnership between the DOE Office of Science and the Laboratory's education program office, SULI places students in paid internships in science and engineering at 14 DOE facilities across the complex.

Each facility is given funding for a different number of students. The Laboratory received $48,000 from the DOE for this summer's program.

Database helps managers identify high school co-op students

Laboratory mentors looking for a high school co-op student have an online resource to assist their search.

Through an electronic database, Laboratory managers/mentors can begin their search by going to *http://hrweb.lanl.gov/hrsearch/StudentSearch.asp* online, explained Brenda Montoya of STB-EPO. The database is maintained by the Human Resources (HR) Division, said Montoya, however, STB-EPO has oversight of the program.

"The high school co-op program provides qualified high-school seniors the opportunity to develop employability skills and gain work experience, while receiving exposure to a variety of technical and administrative career fields," said Montoya.

Montoya went to 12 area high schools earlier this year to talk about the program and generated a list of this year's applicants, their grade point average and area of academic interest. There are more than 100 high-school co-op students available for hire, she said.

Montoya can be contacted at 7-4866 or *bmontoya@lanl.gov* by e-mail regarding the applicants.

Mentors interested in hiring a student under the age of 18 should be aware of the work area regulatory restrictions and requirements associated with minors. A restrictions checklist for minors can be found at *http://int.lanl.gov/ education/mentors/pdfs/minors_restrictions_checklist.pdf* online (Adobe Acrobat Reader required).

Student posting …

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Rutten said mentors may create a [job] posting either from scratch or by reviewing other postings. Once a mentor creates a posting, it is reviewed and approved by STB-EPO. Students can then view the posting; although students are still required to use the old on-line application to apply for a job, they have the ability to express an interest in specific positions. Students also receive feedback on the status of the interests they express.

Mentors also benefit from feedback by the system. They are notified when their posting has been approved or disapproved as well as when students express interest in their postings. Mentors are able to view student applications and can contact the student directly through electronic mail. Mentors also are able to see how many other mentors are currently interested in a student helping them gauge where their "best bet" might be.

At some point, a mentor will make their selection and begin the process of bringing the student on-board, said Rutten. This process begins with the creation of a work plan. Using the system to create a work plan not only helps the mentor find a better match, it helps reduce the amount of data entry that must be done, said Rutten.

For more information, contact Rutten at 5-5194 or *crutten@lanl.gov* by e-mail, or Brian McCool of Science Applications International Corp. at 665-6655, extension 27, or write to *brian.s.mccool@saic.com* by e-mail.

Cancer study earns top honors for Albuquerque Academy students at Supercomputing Challenge

by Jim Danneskiold

A pair of budding computer geniuses from Albuquerque Academy who designed software to probe how cancer develops captured the top prize at the New Mexico High School Adventures in Supercomputing Challenge held at the Laboratory.

Karalyn Baca and Punit Shah's project, "A Computer Program for Tracking Cancer Development and Movement," earned each of the high-schoolers a $1,000 U.S. Savings Bond, while their teacher, Jim Mims, received a Hewlett-Packard computer monitor for his classroom.

Now in its 15th year, the Challenge is open to any New Mexico high-school or middle-school student. Over the past year, a total of 77 teams of students from 33 schools researched thorny scientific problems, developed sophisticated computer programs, learned computer science with mentors from the state's national laboratories and other organizations, and got the opportunity to run their programs on some of the world's most powerful computers.

The goal of the year-long event is to increase knowledge of science and computing; expose students and teachers to computers and applied mathematics; and instill enthusiasm for science in middle- and high-school students, their families and communities. Participating students improve their understanding of technology by developing skills in scientific inquiry, modeling, computing, communications and teamwork.

Baca and Shah, whose mentor is Dr. Gene Wong, also captured the Student's Choice Award, The Albuquerque Tribune Lighthouse Award and the prize for the best technical poster. They will share a $100 cash prize for the poster, which will grace the cover of the document containing final reports from all teams. Shah took home the Los Alamos National Laboratory Environmental Award last year for a wildfire simulation.

Another health model earned second place in the competition for a team from Silver High School. Adam Cummings, Cyrus Marcum and David Saxton each won a $750 Savings Bond for their project, "Statistical Modeling of the AIDS Virus," while their teacher, Peggy Larisch, received a projection system for her classroom. The Silver High team also received Fat Cow's Best HyperText Markup Language Award. The team's mentor was Berry Estes.

"The Adventures in Supercomputing Challenge provides high-school and junior-high students with the opportunity of a lifetime; the chance to run a program on a high-performance computer at Los Alamos," said Joe Watts of Actinide and Fuel Cycle Technologies (NMT-11), who served as master of ceremonies.

"Beyond that, the Challenge gives young minds obstruction-free interactions with a tremendous group of dedicated mentors that includes scientists, business leaders, educators and government officials. These mentors care deeply about young people and their educations, great science and the creation of a successful new crop of highly educated New Mexicans," Watts said.

Two teams won honorable mentions and $100 each. Another team from Albuquerque Academy, Charlie Clauss, Alfredo Davila, Thien-Cam Nguyen, Matt Strange and Jennifer Turner, were recognized for their cosmic project to simulate theories of how the solar system formed. The Albuquerque Academy team's solar system study also was recognized by the Society for Technical Communications as the Best Written Report and received the Cray High Performance Award.

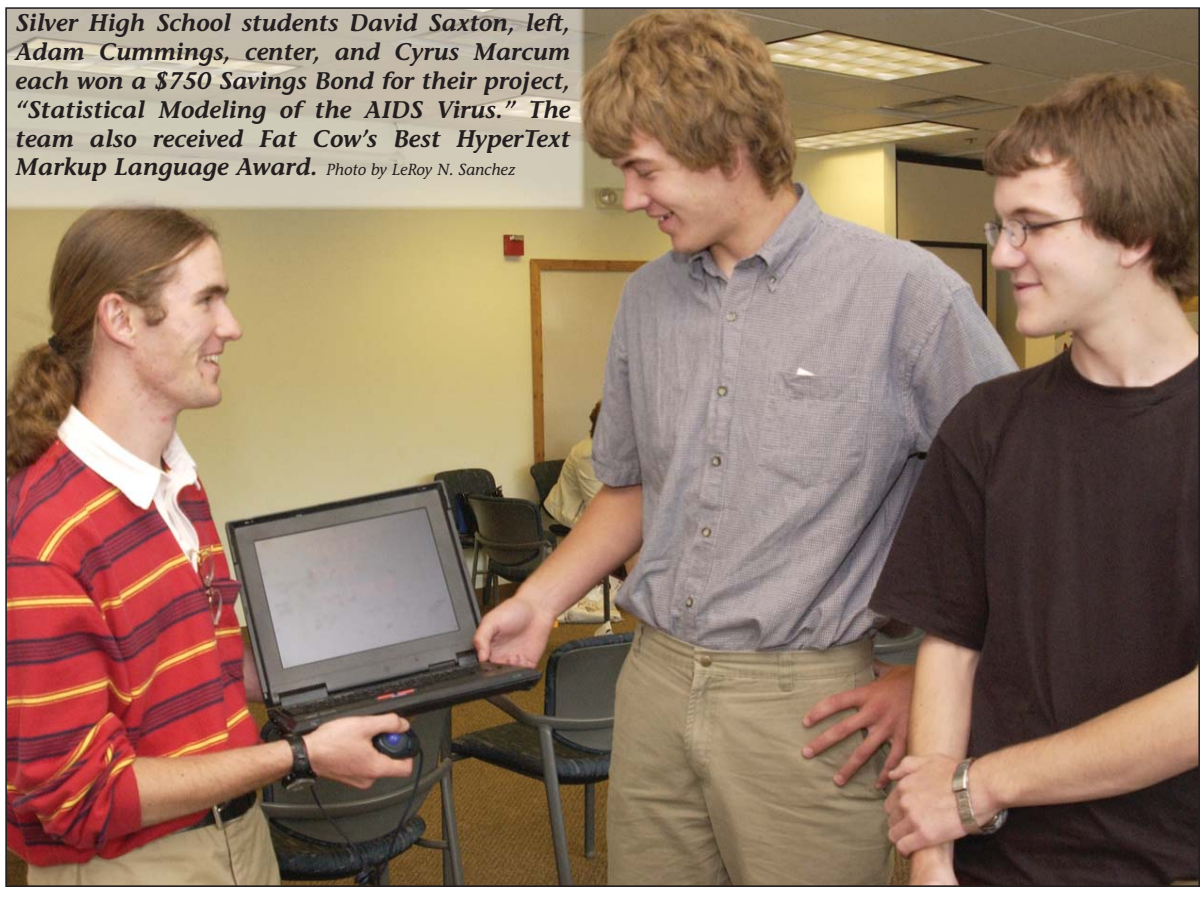
The other honorable mention went to a team from Albuquerque's Sandia Preparatory School who developed mathematical models for the spread of smallpox. The Sandia Prep team of Alex Clement, Greg Fenchel, Jayson Lynch and Beryl Wootton also won the Judge's Special Recognition Award for Grace under Fire.

For a complete listing of awards and scholarships, see the April 27 Daily Newsbulletin at *http://www.lanl.gov/newsbulletin.*

More information on the New Mexico Adventures in Supercomputing Challenge can be found at *http://www.challenge.nm.org/* online, while final student reports are available at *http://www.challenge.nm.org/ FinalReports/* online.

Karalyn Baca, center, and Punit Shah of the Albuquerque Academy are interviewed by Albuquerque Tribune science writer Sue Vorenberg at the 15th annual New Mexico Adventures in Supercomputing Challenge in the Physics Building Auditorium at Technical Area 3 following the awards ceremony. The pair took top honors with their project, "A Computer Program for Tracking Cancer Development and Movement." *Photo by Ed Vigil*

David Kratzer of High Performance Computing Systems (CCN-7) received the Governor's Award for his efforts at making the Adventures in Supercomputing Challenge a success. Kratzer is the longtime coordinator of the challenge. He shared the award with Bill Blackler, president of the Challenge Board of Directors. *Photo by LeRoy N. Sanchez*



Silver High School students David Saxton, left, Adam Cummings, center, and Cyrus Marcum each won a $750 Savings Bond for their project, "Statistical Modeling of the AIDS Virus." The team also received Fat Cow's Best HyperText Markup Language Award. *Photo by LeRoy N. Sanchez*

Katie Houder of West Las Vegas has a hair-raising time with the Van de Graaff generator during a demonstration on static electricity.

Science on the move

Museum program brings science to area school districts

"Has anyone ever been to the Bradbury Science Museum? Perhaps on a school field trip or with your parents?" asks June Dukowicz of Public Affairs (CER-20) as she stands in front of an eager, wide-eyed fifth-grade science class at Santa Fe School for the Arts. About three-quarters of the class sit perched on the edge of their wooden chairs frantically waving their hands in the air as if they would burst from excitement at any moment. Dukowicz looks around and nods her head to acknowledge each student's participation. "Well today, *we* are on the field trip — our program is called Science on Wheels," she says.

Science on Wheels, a hands-on educational outreach program sponsored by the museum, is designed to bring exciting, science-based activities to students (grades K-8) in Northern New Mexico. Museum educators travel as far away as Mora, Las Vegas and Taos. This year's program topics include ChemLab, Volts and Jolts, Let's Rock, Galaxy-to-Go, Circuits and Magnets.

Bradbury Science Museum Team Leader John Rhoades and museum staff Mary Ellen Ortiz, Patricia Berger and Dukowicz — along with assistance from other members of the Public Affairs Office, such as Todd Hanson and Hildi Kelsey — have brought science concepts and a lot of fun to students of all ages in this half of the state.

"I enjoy being an educator for Science on Wheels because I love being in the classroom and traveling to areas of Northern New Mexico that I might never have experienced if it were not for the program," said Dukowicz.

Kelsey shares this enthusiasm for Science on Wheels. "When the students' faces light up and you can really tell they learned something new, it is so rewarding to know, at least that day in your life, you made a difference," she said.

On a recent trip to Tierra Amarilla Elementary School, Dukowicz and Kelsey brought a "shocking experience" to students through the Volts and Jolts program, an interactive workshop about static electricity. They were greeted with a warm welcome from the students followed by letters of appreciation from some of the students after completion of the program.

These types of insightful and entertaining letters from students who have experienced the program, provide inspiration to Science on Wheels staff and reinforce the importance of reaching out to Northern New Mexico schools. Science on Wheels will make a total of about 65 trips and will have reached nearly 6,000 students by the end of the 2004-2005 school year.

Student Nicki Litherland of West Las Vegas helps Hildi Kelsey of Public Affairs (CER-20) demonstrate how the Van de Graaff generator administers a static electric shock while June Dukowicz of CER-20 looks on. Photos by Ed Vigil