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Draft RFP for contract to manage the Lab released

Last week, the Department of Energy released a draft request for proposals for the management contract for the Laboratory. In a letter to Lab employees, University of California Vice President for Laboratory Management Robert Foley gives a brief update about what steps UC is taking regarding the upcoming competition.Page 2




Lab scientists keep tabs on Santa
Space Data Systems (ISR-3) is keeping an eye out for the jolly old man in the red suit, Santa Claus. Beginning at 6 a.m., Dec. 24, Los Alamos scientists will track Santa on his whirlwind travels around the world and give hourly updates via its Web site at <http://santa.lanl.gov> online on Santa's progress toward Northern New Mexico. . . .Page 3

Was Chicken Little right?

Archaeologist Bruce Masse of Ecology (ENV-ECO) thinks so. At a presentation this summer at the Santa Fe Institute, Masse suggested that ancient myths — such as the sky falling on Chicken Little — may depict actual celestial events.Page 8



What is your one wish for the holiday season and the coming year? Learn what your co-workers had to say on Page 6.



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Scientists explore atomic mysteries of ancient pigment

by Todd Hanson

Scientists from Los Alamos' National High Magnetic Field Laboratory, Pulsed Field Facility, working with colleagues from Tokyo Metropolitan University, the University of Buenos Aires in Argentina, the National Institute of Chemical Physics and Biophysics in Estonia, the National High Magnetic Field Laboratory in Tallahassee, Fla., and the University of Tokyo, have discovered an ideal candidate for Bose-Einstein condensation in the ancient Chinese pigment, Han Purple.

In research featured recently on the cover of *Physical Review Letters*, the team describes how the application of a strong magnetic field to Han Purple ($\text{BaCuSi}_2\text{O}_6$) creates a gas of bosonic spin triplet excitations. The field acts as a chemical potential causing the weakly interacting bosonic gas to undergo Bose-Einstein condensation (BEC) when the temperature is reduced to minus 453 degrees Fahrenheit, six orders of magnitude higher than the temperature normally required for BEC in atomic gases.

"The discovery of BEC at such higher temperatures was a surprising scientific advance that will no doubt foster more research in this area," said Los Alamos physicist Marcelo Jaime of the MST-NHMFL. "This research was rewarding from several perspectives. First, it was a pleasure collaborating with a truly international team to make the discovery, and the work wouldn't have been possible without a strong international collaboration in the environment of a national facility like the National High Magnetic Field Laboratory. Second, it was enjoyable working with the Han Purple pigment, which has such a long and intriguing history of use."

Chinese chemists synthesized Han Purple pigment from barium copper silicates for the first time roughly 2,000 years ago and used the pigments for pottery and trade, in addition to large imperial projects such as the Qin Terracotta Warriors of Xi'an in Shaanxi Province. Preceding the invention of both paper and the compass, the ancient creation of Han Purple possibly makes it the first man-made compound containing a metallic bond.

A Bose-Einstein condensate is an unusual state of matter that is unlike both liquids and solids. BEC was first predicted in 1925, but it took roughly 70 years of intense theoretical and experimental effort before it was discovered in very dilute

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Qin Terracotta Warriors of Xi'an in Shaanxi Province. Photo courtesy of National Tourism Administration of China



Holiday safety tips

The American Red Cross urges caution around the holidays when decorating with candles, cooking holiday meals and driving to and from holiday celebrations.

The following tips released by the American Red Cross were developed to help individuals in neighborhoods across the country prevent injuries or even fatalities during the holiday season.

• **Beware of holiday lighting.** Take care when burning candles. Be sure they are kept away from decorations or other combustible materials. Don't leave children unattended in a room with lighted candles and always keep candles, as well as matches and lighters, out of the reach of children. Never display lighted candles in windows or near exits. Lighted candles should not be used as tree decorations.

• **Decorate only with flame-retardant or noncombustible materials.** Avoid using candles during parties. If guests will be smoking, provide them with large, deep ashtrays and check them frequently. After the party, check inside and under upholstery and in trash cans for cigarette butts that may be smoldering.

• **Keep Christmas trees fresh.** Choose a fresh Christmas tree and secure it in a sturdy stand. Place the tree away from heat sources and exits, and water it daily. If you purchase an artificial tree, be sure it is labeled as fire-retardant. If you plan to hang stockings on your fireplace, do not use the fireplace for fires.

• **Designate a driver.** When attending a party, always designate a non-drinking driver. If you are the host of a holiday gathering, be sure non-alcoholic beverages are available for guests who are driving.

• **Buckle up.** During the holiday months, people travel more than ever. Wearing a seat belt is the easiest and best way to prevent injury in a motor vehicle collision. Ensure that all passengers are also wearing safety belts.



FROM THE TOP

UC's Foley sends message to the Laboratory work force

Dear Colleagues (LANL employees),

The Department of Energy [has] released a draft request for proposals (RFP) for the management contract for Los Alamos National Laboratory. The draft RFP is at www.doeal.gov/lanlcontractrecompete/default.htm online. In early October, DOE released the LANL Acquisition Plan and the release of the draft RFP is the next stage in this complex process. Now that the draft RFP has been released, I am sure many of you are interested in what steps UC is taking regarding the upcoming competition. I want to give you a brief update.

UC Laboratory Management staff, working with the Los Alamos National Laboratory Acquisition Team, are reviewing the draft RFP, and we will submit comments to the Department by Jan. 7, 2005, after a thorough review is completed. The university expects to see the final RFP in early 2005, and we will have 60 days to finalize a proposal. Selection of the contractor will occur in the summer of 2005 and begin full contract performance on Oct. 1, 2005.

While the final decision regarding competition will be made by the UC Board of Regents after the Department of Energy releases the final RFP, there is much to be done before then to ensure that the University of California has the best proposal should the regents decide to compete. We have retained external experts to assist us in the proposal process. Separate space has been retained to house the proposal efforts with appropriate supporting business systems. We also are considering options for industrial partner(s) to assist us in developing progressive management systems and higher levels of operational effectiveness.

As you may be aware, as part of the overall management of the [Laboratory] acquisition process, UC has engaged Rich Mah to serve as our [Laboratory] acquisition manager. Rich is already in place and with UCOP is leading the acquisition team through the initial phases of this proposal process. Rich has a tremendous amount of experience and a strong familiarity with [the Laboratory] and UC. Salaries of all personnel working on the proposal come from UC's earned fee funds that have been allocated for the proposal's preparation. These are non-Laboratory funds and do not come out of the university's general funds provided by the state, students or private supporters for its campuses.

With the strong actions the University of California is taking throughout its laboratory system and with the continued dedication and scientific excellence of the [Laboratory] staff, I believe we will be in an excellent position to submit a strong, winning proposal should the [UC Board of] Regents choose to do so.

I recognize that many of you have questions about employee retention, compensation and pension issues as we move through the competition process. I believe it is important to highlight that the language in the draft RFP includes language that specifically address these issues. In addition, the Department of Energy's press release regarding the draft RFP includes the following language:

"Key elements of the proposed contract included in the draft RFP are: A requirement to retain [the Laboratory's] current work force (excluding the Laboratory director and the most senior managers) and provide comparable pay and benefits."

Thank you for your ongoing commitment and service.

Sincerely,
S. Robert Foley, Jr.



S. Robert Foley Jr.

Los Alamos National Laboratory NewsLetter

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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.



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Scientists explore ...

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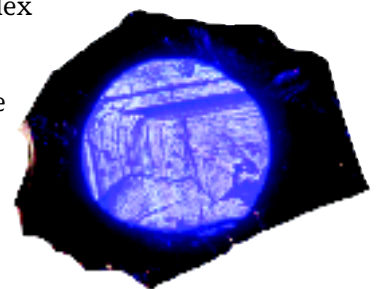
atomic gases in 1995. In essence, a BEC is a strange consequence of quantum theory regarding the wave nature of matter: atoms can act like the waves in water or sound in certain ways. At very low temperatures, certain types of atoms spontaneously occupy the same quantum state. As a result, the atomic "waves" overlap, forming a giant "matter wave"; each atom loses its identity, with the assembly of atoms, in effect, acting as one giant atom or condensate.

The study of the BEC is indispensable to the fundamental understanding of quantum mechanics and could also be utilized in advanced "quantum computers," but very few examples have been found. Besides dilute atomic gases, the BEC is thought to occur in "superfluid" liquid helium and some forms of superconductivity. The possibility that a magnetic BEC exists in Han Purple represents a significant contribution to quantum physics. The original discovery of the BEC effect has since been confirmed by the same team using new samples prepared simultaneously by Tsuyoshi Kimura of Condensed Matter and Thermal Physics (MST-10) and by Ian Fisher at Stanford University.

According to Alex Lacerda, NHMFL Pulsed Facility director, this is the second NHMFL-Los Alamos experimental result to be featured on the cover of Physical Review Letters. The first was March 7, 2003, and this latest one on Aug. 23.

The research team included Jaime, as well as Victor Correa, Neil Harrison and Peter Sharma, all of MST-NHMFL; Cristian Batista of Condensed Matter and Statistical Physics (T-11); Guillermo Jorge of the University of Buenos Aires and Los Alamos; Naoki Kawashima and Yoichi Kazuma from Tokyo Metropolitan University; Raivo Stern and Ivo Heinmaa from the National Institute of Chemical Physics and Biophysics; Sergei Zvyagin from the National High Magnetic Field Laboratory in Tallahassee; and Yoshitaka Sasago and Kunimitsu Uchinokura from the University of Tokyo.

The research was supported by the National Science Foundation through the National High Magnetic Field Laboratory, the state of Florida and the Department of Energy.



Microscopic image of Han Purple.
Image by Marcelo Jaime of MST-NHMFL.

Motorists should beware of deer and animals on roadways

by James E. Rickman

Motorists traveling on roads through Los Alamos and Laboratory areas should be extra cautious about animals on the highway for the next several months, say Emergency Management and Response (EM&R) officials.

During winter months, as the snow level increases, food becomes increasingly scarce in the high country for deer, elk and other animals, said James Biggs of Ecology (ENV-ECO). In addition, the end of daylight savings time means that more motorists are traveling at dawn and dusk, periods when animals tend to be more active. As a result, motorists can encounter more animals on roadways during late fall and winter.

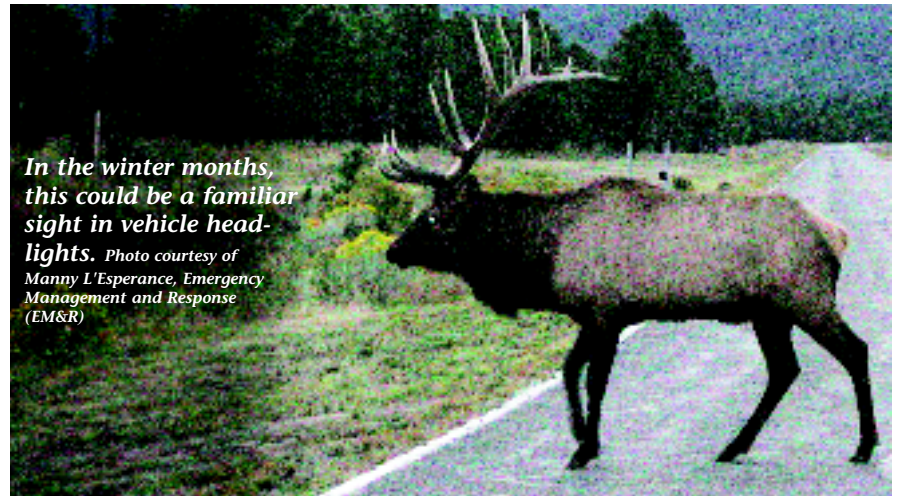
Indeed, EM&R officials have been alerted to an increase in accidents between vehicles and animals during the past several weeks, said Bill Purtymun of EM&R.

Biggs and his colleagues in the Ecology Group have been gathering information for the past 12 years about animal-vehicle accidents on and around Laboratory property.

"Although accidents can occur on any road in the area, we have found that a greater number of accidents occur throughout the length of Pajarito Road, on NM 502 near the west end of Los Alamos Airport; on East Jemez Road (the truck route) near the entrance to the Los Alamos Neutron Science Center and the PTLA firing range; and on the portions of NM 4 that separate Bandelier National Monument from Laboratory property," Biggs said. "We typically observe an increase in accidents during the winter months."

Biggs said the most likely time for a motorist to encounter a large animal on the roadway is from 4 to 8 a.m. and from 4 p.m. to midnight.

Biggs and Purtymun urge motorists to slow down and remain vigilant during the dusk and dawn hours and along sections of road where vegetation can provide cover for animals.



In the winter months, this could be a familiar sight in vehicle headlights. Photo courtesy of Manny L'Esperance, Emergency Management and Response (EM&R)

"Motorists who see animals near the roadway can signal other motorists to slow down by flashing their headlights," said Purtymun. "Accidents with large animals don't injure only the animal — such accidents have been known to kill the people involved in the crashes as well."

Lab employees involved in an accident or who need emergency assistance should dial 911; they also may call EM&R at 7-6211. The nonemergency phone number for the Los Alamos Police Department is 662-8222.

Drivers who hit an animal also can assist Biggs and Sherri Sherwood of ENV-ECO in their ongoing study by reporting the accident to Biggs at 5-5714 or Sherwood at 5-9876. The ENV-ECO Web site also has a wildlife accident report form located at www.esh.lanl.gov/~esh20/accidentform.shtml online.

Laboratory personnel can report injured, trapped or abandoned animals on Laboratory property or encounters with mountain lions or black bears from one of the links located at www.esh.lanl.gov/~esh20/encounters.shtml online.

Best recruiting practices:

Spouse and Domestic Partner Career Assistance Program

Editor's note: This article is the second in a series spotlighting the Lab's best practices in recruiting.

by Brooke Kent

The employees of Staffing (HR-S) are singing a new tune. The catch? It's actually an old Beatles refrain, "Sometimes I need a little help from my friends."

Credit the Lab's Spouse and Domestic Partner Career Assistance program for that musical throwback. Launched in February 2004, the initiative provides career assistance for the spouses and domestic partners of the Lab's new University of California hires.

"The SDCA emerged from one objective of the Director's Performance Improvement Process — that of increasing the Lab's success at work force retention and recruiting,"

explained Beth McCormick of HR-S, the Lab's recruiting manager. "The Lab lost some potential UC hires in the past due to the lack of employment assistance for spouses and domestic partners. As a result, this program should increase the Lab's acceptance and retention rates among UC new hires and help position the Lab as an employer of choice."

The SDCA initiative offers one-on-one consultations and strategic career assistance. "Especially for spouses and domestic partners new to the area, advice about how to find work within Los Alamos and its surrounding communities is invaluable," said McCormick. "We counsel individuals on everything from how to tailor their résumés to the Lab's position postings to how to network and market themselves within or outside the Lab."

The SDCA does not guarantee employment of a spouse or domestic partner, nor does it function as a career-placement service. Instead, spouses and domestic partners must compete for positions on an equal footing with all other applicants; the Lab's policy states they should not receive preferential treatment or favoritism during the selection process.

Within these parameters, the SDCA provides general career, employment and networking advice. According to Margot Bachman, an HR advertising and events coordinator who utilized the program, that's more than sufficient. "As a newcomer, this service was particularly helpful and informative," Bachman said. "The SDCA coordinator assisted me with every step of my job search, from deciding which Lab organizations to consider to revising my résumé to tracking the status of my applications."

Minhua Li, a member of the Weapons Budget Office (CFO-3), concurs. "I probably wouldn't be here without the SDCA's support," said Li. "The program explained the Lab's hiring process, helped me with my

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The next generation

by Tom Bowles

The Laboratory's ability to effectively carry out research as an institution depends to a large extent on our students and postdoctoral employees. The Laboratory has encouraged staff to take advantage of both students and postdocs in research and recruitment efforts, as is reflected in the number of students and postdocs at the Lab. We have worked, through Science and Technology Base Programs (STB), to ensure that all students and postdocs have a positive experience at the Laboratory. Unfortunately, during the cessation of activities last summer, the students and postdocs were disproportionately affected due to their

limited tenure. We tried in several ways to mitigate the impact, but there is still no doubt that real harm was done in some cases. From an institutional perspective, the cessation of work was clearly required — we know that Kyle McSlarrow, deputy secretary of the Department of Energy, had started to issue an order to stand down the Laboratory when he learned that Director Nanos had already stopped all nonessential activities at the Lab.

We are working during the resumption process to improve our ability to carry out the science mission of the Laboratory in a safe and secure manner in which we still excel in research. Part of that effort is to let our students and postdocs know that they are highly valued members in carrying out our science mission. The Chief Science Office is charged with ensuring that student and postdoc concerns are carried to senior management and that the Laboratory responds to those concerns. I urge [students and postdocs] to send concerns to CSO@lanl.gov by e-mail. I will ensure that we follow up on issues that are raised.

Finally, the Lab's postdocs should know that they form the single largest pool of talent that the Laboratory draws on in bringing new staff on board — postdocs account for 40 percent of all new science and engineering hires in the Laboratory. We fully expect that our postdocs will continue to be our most important asset in creating the next generation of staff at the Laboratory.

Before you leave for the winter closure...

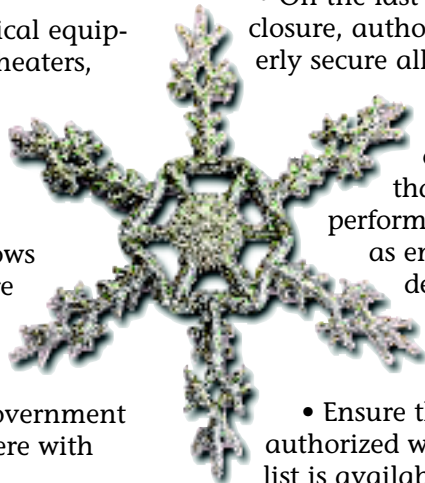
The Laboratory's annual winter closure is Dec. 24 through Jan. 2, 2005. While Facilities Management teams will inspect major and problem buildings during the closure, all employees should take precautionary steps to help secure their work space before leaving for the break.



To that end, the Office of Security Inquiries (S-OSI) and the Facility (FM) Division offer the following guidelines:

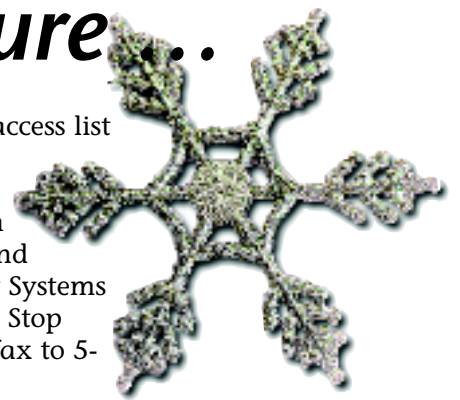
- Turn off and unplug all electrical equipment, including coffeepots, space heaters, humidifiers, office machines and all experimental equipment that can be turned off.
- Leave thermostats at their normal settings.
- Close all exterior doors, windows and blinds to conserve heat. Where feasible, leave internal doors open to allow heat to circulate.
- Remove all private vehicles from Lab parking lots and park government vehicles where they will not interfere with snow removal operations.
- Make sure plants have enough water to survive through the holidays.
- Secure or lock all exterior doors from the outside.

"The procedural guidelines for closing up leased space during the winter break should be the same as for Lab facilities, with regard to tenants unplugging their equipment and checking and securing doors and windows. However, residents of Lab-leased space should communicate with their landlord about specific concerns and procedures related to their facilities during the closure," said Kenneth Schlindwein, group leader of Diversified Facilities (FM-DF). The Security and Safeguards (S) Division also offers the following reminders to ensure that security controls work smoothly during the closure:



- On the last business day before the closure, authorized workers must properly secure all classified matter.
- Area-access custodians with travel plans or other holiday activities that will prevent them from performing duties on Dec. 23, such as end-of-day checks, should designate an alternate, authorized worker ahead of time to ensure that a substitute is available.
- Ensure that one or more of the authorized workers on the area-access list is available during the closure to make contact with the fire department and protective force personnel during emergency situations or in case a vault/vault-type room has to be re-entered.

Update the access list if necessary by completing Form 1088 and send it to Security Systems (S-3) at Mail Stop G725 or by fax to 5-8477. If the available workers are at the bottom of the list, consider posting a memo on the vault/vault-type room indicating which authorized workers to get in touch with during the closure to speed up the contact process.



Information about who is assigned to a particular facility and emergency-contact information for Facilities Management Unit (FMU); Health Safety and Radiation (HSR); Supply Chain Management (SUP) and Chief Financial Officer (CFO) divisions; FWO; Project Management (PM); S and KSL Services will be published in the Daily Newsbulletin.

For more information about this year's winter closure, check the Daily Newsbulletin at www.lanl.gov/newsbulletin online.

Best recruiting practices ...

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résumé and alerted me to openings that matched my background. You can count me as an SDCA success story!"

Replicating that success is the program's goal. As McCormick emphasized, "Director [G. Peter] Nanos has challenged us to attract and keep the very best employees. The SDCA facilitates the job-search efforts for spouses and domestic partners of new UC employees. It also gives potential hires another reason to accept a Lab employment offer. That's what makes the SDCA a Labwide best practice in recruiting."

For more information on the SDCA program, go to <http://int.lanl.gov/recruiting/sdca.shtml> online, or send e-mail to sdca@lanl.gov.



Go the way to the winter holidays

Wishing you peace and joy this holiday season

and best wishes for the new year

Peter Nanos

Director G. Peter Nanos and staff



For Laboratory closures, delays or early dismissal information, call UPDATE at 667-6622 or 1-877-723-4101 (toll free).

Is he here yet?

Lab scientists keep tabs on Santa



Space Data Systems (ISR-3) is keeping an eye out for the jolly old man in the red suit, Santa Claus. Beginning at 6 a.m., Dec. 24, Los Alamos scientists will track Santa on his whirlwind travels around the world and give hourly updates via its Web site at <http://santa.lanl.gov> online on Santa's progress toward Northern New Mexico.

Kids of all ages also can keep track of Santa by listening to hourly reports on radio station KRSN, AM 1490.

"We expect Santa to arrive to Northern New Mexico around midnight, Mountain Standard Time on Christmas Eve," said Diane Roussel-Dupré of ISR-3. "Basically, we expect that he will be busy chasing midnight in all locations around the world as he makes his deliveries to the good girls and boys."

Laboratory space scientists will use satellite tracking dishes located in Los Alamos and Fairbanks, Alaska, to monitor Santa's progress as he races around the world delivering presents and goodies to children everywhere. In addition, Los Alamos scientists will keep an eye on St. Nick with sensors on the ALEXIS and FORTE satellites, and the U.S. Air Force with its nine tracking stations around the world also will help monitor the sleigh and its eight tiny reindeer.

"We like to think of our efforts as another way to help spread glad tidings," Roussel-Dupré said. "This is our present to the communities of Northern New Mexico."

Findings, recommendations of laser incident investigation team presented at briefing

by Brooke Kent

"This [was] a sobering event, but it illustrates how even the best of us can make mistakes sometimes," said Fred Tarantino, principal associate director for the nuclear weapons program, at a recent briefing about a laser incident this summer in which a student suffered an eye injury. "It [also] illustrates the value of [safety] processes and procedures."

Speaking to employees in the Administration Building Auditorium at Technical Area 3, Tarantino positioned the July 14 incident as the last event in a series that led Lab Director G. Peter Nanos to suspend operations and order a comprehensive analysis of risks, hazards and safety and security procedures. Not only did "the laser incident affect all [Lab employees]," Tarantino continued, "all of us can learn from it to help make Los Alamos a safer place."

The incident occurred while an undergraduate employee was collaborating with a Lab scientist on an experiment involving two Class IV lasers: a particle-generating laser to suspend particles in an evacuated target chamber and a laser-induced breakdown spectroscopy laser to vaporize the suspended particles. The principal investigator asked the student to bend down beside him to observe the suspended particles; as the student bent down, she saw a flash and subsequently noted a reddish-brown substance floating in her left eye.

The internal investigation team — which included four experienced laser users and three Department of Energy certified accident investigators — concluded that the student suffered a retinal traumatic hole

caused by pulsed laser light. Tarantino said doctors independently confirmed the injury's cause and timing, despite rumors that it occurred previously or due to a flash lamp light.

Tarantino's summary of the internal investigation team's findings, included the following:

- The accident resulted from violating basic laser-safety procedures. Neither the principal investigator nor the student wore laser eye protection; furthermore, they looked directly down the laser beam path.
- The employees involved failed to immediately report the accident and secure the accident scene, thus compromising the subsequent investigation. "Organizations with very good safety cultures ... have rapid and redundant [incident] reporting mechanisms," Tarantino said. "Being able to report safety issues very quickly shows that they are important to the organization."
- Management performance monitoring failed to identify and correct at-risk behaviors, requirement violations and work-control deficiencies. The directorate and division involved had a recent history of serious safety incidents and near misses; however, corrective actions were either ineffective or not completed.
- The execution of Integrated Work Management failed to produce detailed work descriptions and the associated hazard analyses and controls that would have mitigated the potential optical radiation hazard. As a case in point, no hazard-control plan or integrated work document captured the principal investigator's nonstandard configuration of the two Class IV lasers.

According to Tarantino, this incident



Tarantino summarizes some of the findings of the team that conducted an internal investigation of the July 14 laser incident in which a undergraduate researcher's eye was injured. Photo by Ed Vigil

highlights the need to strengthen the Lab's management-performance-monitoring process. "Safety is a human behavior [and requires] analysis of human behavior [and management and processes]," said Tarantino. He added that managers must have precursor data on small and large accidents alike to anticipate and prevent safety incidents.

Tarantino called on Lab employees to achieve peer-to-peer safety accountability. It is only when "employees start caring about the safety of other employees," Tarantino said, "that you start to drive accidents out of the workplace."

So...what do you think?

Question: What is your one wish for the holiday season and the coming year?



Cathy Guillen of Enterprise Applications Support (CFO-EP)

Peace and good will for all — be happy and enjoy family and friends — make some

lasting memories.



Raul Archuleta Of Business Systems Support (CFO-SYSTEM)

My wish and prayer is for health and blessings for my family, friends and loved ones. I also

pray that my family and I can continue to make a difference in other people's lives.



Patricia Pierotti, Deployed Strategic Research Directorate (HR-D-SR)

Peace, love and good health.



Eric Anderson of Telecommunications (CCN-4)

My wish is for my entire family to be together for Christmas and for my grandson who will be

joining us in February, to be born a healthy and happy baby.



Linda Anderman of the Community Relations Office (CER-30)

To better enjoy and appreciate what I already have and to find something to enjoy everyday.



Don Shires of the Enterprise Project (IM-EP)

My dad is currently in the hospital and I wish him a speedy recovery so that he can be home

by Christmas.



Wanda Roybal-Trimmer Benefits and Employment Services (HR-B)

"Peace."

PEOPLE



Cristian Batista

Batista receives Postdoctoral Publication Prize in Theoretical Physics

Cristian Batista of Condensed Matter and Statistical Physics (T-11) is the 12th recipient of the Laboratory's Postdoctoral Publication Prize in Theoretical Physics.

Batista spoke about his research at a Physics/Theoretical Division colloquium. At the colloquium, Batista also received a monetary award and certificate in recognition of his winning the Publication Prize in Theoretical Physics.

His winning paper is titled "Electronic Ferroelectricity in the Falicov-Kimball Model," published in Physical Review Letters in 2002. Batista was nominated for the prize by Jim Gubernatis of T-11.

Ruy Ribeiro of Theoretical Biology (T-10) received an honorable mention for his paper, "In Vivo dynamics of T cell activa-

tion, proliferation, and death in HIV-1 infection. Why are CD4+ but not CD8+ T cells depleted," published in the November 2002 issue of Proceedings of the National Academy of Sciences.

Ribeiro also received a certificate acknowledging his receiving an honorable mention. He was nominated by Alan Perelson of T-10.

This biennial prize, jointly sponsored by the Laboratory and retired staff member Leon Heller, was awarded for the best article in theoretical physics, published or accepted for publication after Jan. 1, 2002. The article had to describe work performed primarily during the tenure of the postdoctoral appointment. Heller, who created the prize in 1976, will provide the prize money. He has paid the cash award since the inception of the program.

Batista has been at the Lab since January 2000. He received his doctoral degree in

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Ruy Ribeiro

In Memoriam

Marion "Lou" Rector

Laboratory retiree Marion "Lou" Rector died on Sept. 29. He was 88.

Rector came to Los Alamos in 1951 and worked as a Laboratory machinist in the former Shops Department Division. He retired in 1976.

Rector is survived by his wife, Marjorie, and their three children, Wendy Hahn, James Rector and Linda Nickeson.

Langdon Toland

Laboratory employee Langdon Toland, 70, died Oct. 18 in Los Alamos.

A retired United States Air Force pilot, Toland received his bachelor's degree from Fordham University and his master's degree from Rollins College. He joined the Lab in April 1990.

During his tenure at the Lab, Toland worked in the Public Affairs Office, the Earth and Environmental Sciences (EES) Division, the former Associate Director of Operations Office, and the Communications and External Relations (CER) Division office. He joined the Community Relations (CRO) Office in July 2002, where he was employed at the time of death.

Before joining the Laboratory, Toland was executive vice president and director of LINCO Corp., in Oklahoma City, Okla.

Toland is survived by two daughters and two sons.

Henry "Bud" David Reed

Laboratory retiree Henry "Bud" David Reed died on Oct. 8. He was 71.

Reed was born in Bound Brook, N.J. in 1933. Reed's career at the Lab began in 1979 working as a mechanical technician/prototype machinist in the former Shops Department (SD). While at Los Alamos, he also worked in the former Mechanical Fabrication (MED), Design Engineering (WX) and Experimental Physics (P) divisions. He retired from Los Alamos in 1993.

Reed is survived by his wife, Beverly, and daughters Dana Peterson and Karen Pulliam.



December service anniversaries

35 years
Joseph Kindel, X-1
Carlos Montoya, ESA-WR

30 years
Annette Carroll, B-2
Kathleen Holian, CCN-12
Marlene Lujan, STB-RL
Kathleen Roybal, NMT-4
Donna Sanchez, SMFP
Weldon Scoggins, IM-2
Eduardo Viramontes, DX-3

25 years
John Eddleman, LANSCE-7
Louella Lopez, SUP-7
Aaron Martinez, CCN-2
Michelle Melton, HR-EP

20 years
Cecilia Burciaga, ESA-WR
Grace Casados, CFO-2
James Cobble, P-24
Patrick Foy, C-INC
Mary Jolene Hatler, NMT-2
Alexandra Heath, X-5
Cheryl Host, CCN-5
D. Lynn Kluegel, CCN-5
Graham Mark, CCN-12
Martin Martinez, LANSCE-6
Debra McInroy, OMBUDS
Gabriel Ortiz, CCN-2
Robert Patterson, OSSCM

Gerald Reisz, CIO-PO
Sharon Smith, STB-RL
Sheena Wadlinger, P-25
Gary Webb, S-11

15 years
Anna Lisa Adkins, CFO-2
Thomas Bell, MST-8
Jesse Castanon, SUP-8
Shuh-Rong Chen, MST-8
Juan Corpion, MSM-3
Rita Galvan, DX-4
Charles Graham, LANSCE-10
Carolyn Guillen, HR-SP
Ware Hartwell, IM-EP
Lynne Kroggel, MSM-4
Lesley Lacy, SUP-5
Derrick Montoya, DX-1
J. David Olivas, NMT-10
Yvette Valdez, ESA-AET
Mahlon Wilson, MST-11

10 years
Denise Archuleta, CFO-3
Kirsty Archuleta, NMT-DO
Stephen Black, ESA-TSE
Dennis Duran, HSR-1
Shirley Fillas, HR-TD
Joanna Foster, ENV-DO
Claude Gallegos, HSR-1
James Gallegos, NMT-11
Robert Gentzlinger, ESA-WDS
Michael Henderson, ISR-1
Judith Huchton, NWO-OS

John Lestone, X-5
Leland Maez, ESA-MEE
Ellena Martinez, ENV-ECR
Anne Montoya, FM-WFM
Barbara Nelson, C-INC
Lakshman Prasad, ISR-2
Carmela Romero, HAZMAT
John St. Ledger, D-3
Maco Stewart, N-3
Steven Story, ENV-MAQ
Cetin Unal, X-4
Rudy Valdez, NMT-14
Diana West, ESA-TSE
Mark Wingard, CCN-2

5 years
Brian Bluhm, NMT-15
Dolores Garcia, ESA-TSE
Neddie Gurule, NMT-2
Lisa Gutierrez, DV
Gary Hirokawa, HR-SP
Jennifer Hollingsworth, C-PCS
Richard Ortiz, ISR-4
Ian Philp, CCN-5
Julianne Stidham, CCN-8
Charles Tesch, ESA-TSE
Duane Vigil, NMT-5

Better late than never
Theresa Connaughton, IM-9, was inadvertently left off the May 2003 service anniversaries. She celebrated her 25th anniversary.



This month in history ...

December

- 1621 — Galileo invents the telescope.
 - 1831 — Charles Darwin sets sail aboard the HMS Beagle.
 - 1853 — The Gadsden Purchase adds 45,000 square miles to the territory of New Mexico.
 - 1901 — The first Nobel Prizes are awarded.
 - 1913 — The first modern crossword puzzle is printed in the New York World newspaper.
 - 1930 — Robert Goddard launches his first rocket in New Mexico from a ranch near Roswell.
 - 1938 — Otto Hahn and Fritz Strassmann first demonstrate proof of uranium fission.
 - 1941 — Japanese planes attack Pearl Harbor.
 - 1942 — The Los Alamos Ranch School receives official notification that the site is needed for military purposes.
 - 1953 — The security clearance of J. Robert Oppenheimer is rescinded.
 - 1958 — Project SCORE, the world's first experimental communications satellite, launches.
 - 1962 — President Kennedy visits the Laboratory for briefings on Project Rover and other subjects.
 - 1965 — First doctoral degree is awarded by a computer science department (University of Pennsylvania).
 - 1972 — Astronauts Harrison Schmitt and Gene Cernan land on the moon during the Apollo 17 mission.
 - 1979 — The Laboratory closes for one full day and part of another as the result of a storm that dumps nearly two feet of snow.
 - 1987 — Congress approves a measure designating Yucca Mountain in Nevada as the only site to be considered as a high-level radioactive waste repository.
 - 1991 — The Soviet Union is dissolved with the signing of an agreement creating the Commonwealth of Independent States.
 - 2002 — Don Pettit, a former Laboratory staffer is part of a NASA crew aboard the Expedition 6 mission to the International Space Station.
- And this from the December 1946 Los Alamos Times:** Names for the community's three main east-west thoroughfares were selected this week from scores of entries submitted. Canyon Road, Trinity Drive and Central Avenue were the winning names picked by a town council committee.

The information in this column comes from several sources including the online History Channel, the Newsbulletin and its predecessors, the atomic archive.com, Echo Vitural Center, Science & Technology, Real History Archives, and Carey Sublette, "Chronology for the Origin of Atomic Weapons" from www.childrenofthemanhattanproject.org/MP_Misc/atomic_timeline_1.htm. Submissions are welcome. Please be sure to include your source.

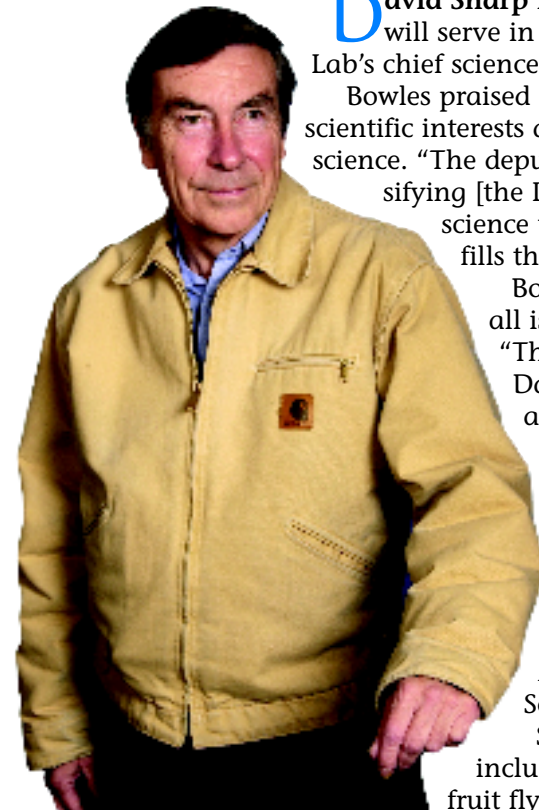
Batista ...

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condensed matter physics from Instituto Balseiro in Argentina. He previously was a Distinguished Oppenheimer Postdoctoral Fellow.

Ribeiro has been at the Lab since January 2000. He received his doctoral degree in mathematical biology from Oxford University.

Sharp new deputy chief science officer



David Sharp

David Sharp is the Lab's new deputy chief science officer. Sharp will serve in that position for three years and then become the Lab's chief science officer when Tom Bowles's term ends in 2007.

Bowles praised Sharp for his commitment to research, breadth of scientific interests and familiarity with a range of issues affecting Lab science. "The deputy chief science officer plays a critical role in intensifying [the Lab's] efforts to sustain and enhance the outstanding science that is [the Lab's] foundation," Bowles said. "No one fills that role better than David."

Bowles and Sharp will shoulder joint responsibility for all issues impacting the future of science at Los Alamos. "This is a critical position," said Bowles, "and in it, David will play a pivotal part in envisioning, articulating and steering the future direction of Lab science."

A Laboratory Fellow, Sharp most recently was group leader of Complex Systems (T-13), as well as a senior technical adviser in the Applied Physics (X) Division. In addition to serving on the Science and Engineering Advisory Council and the X-Division Science Council, Sharp chaired the Associate Director for Weapons Programs' Predictive Science Advisory Council.

Sharp currently is active in several areas of research, including fluid mixing, the functional genomics of the fruit fly, and the development of methods for quantifying uncertainty in predictions of the behavior of complex systems. In 1991, he received the Department of Energy's

Defense Programs Award of Excellence for developing certification methodology.

Sharp characterized his appointment as a natural extension of his love for research. "What attracted me to Los Alamos in 1974 were the unique opportunities to pursue diverse lines of research, spanning basic and applied science with a strong connection to national security," Sharp said. "As deputy chief science officer, I hope to help the Lab capitalize on that rich research heritage, while intensifying and expanding the breadth and depth of the Lab's scientific portfolio."



Was Chicken Little right?

by Brooke Kent

Was Chicken Little right? Archaeologist Bruce Masse of Ecology (ENV-ECO) thinks so.

At a presentation this summer at the Santa Fe Institute, Masse suggested that ancient myths — such as the sky falling on Chicken Little — may depict actual celestial events.

Masse, a former Navy archaeologist stationed in Hawaii, began by dating supernatural myths embedded within the genealogies of Hawaiian chiefs. He then correlated the myths with known celestial events, such as auroral substorms, comets and solar eclipses.

The results surprised even Masse. “Not only did the supernatural myths correspond completely with known celestial events, but they also preserved verifiable descriptive details, such as the occurrence’s shape, size and timing.”

But how could oral myths passed down for several generations remain accurate? Wouldn’t they suffer from a devastating “telephone game” effect?

“On the contrary,” refuted Masse, “the Hawaiian culture had strict institutional mechanisms, including solstice ceremonies, chants and dances, to preserve orally transmitted sacred knowledge largely intact for hundreds or even thousands of years.”

Masse continued that, “in a modern mindset, the myths sprang from priestly job security. Religious authorities framed otherwise inexplicable natural events (such as a solar eclipse) in supernatural terms (such as a demigod restoring a stolen sun). The ruling chiefs, in turn, tapped myths as a heaven-sent source of power and authority; as a result, stories about transient celestial occurrences were



wrapped into the group’s political and religious identity and perpetuated over time.”

Taking Masse’s Hawaiian findings seriously requires that the seemingly childish Chicken Little myth be re-examined.

“In South America alone, several myths describe the sky, the sun or the moon falling and causing ‘world fires.’ The myths’ geographical distribution corresponds to historic locations where meteorites hit and probably ignited widespread grassland and dryland forest fires, decimating parts of the local population,” said Masse.

“Broadening our focus, almost every culture places a great flood myth at its creation; many versions begin with the sky falling. One interpretation is that in 2807 BC a comet impacted the ocean, tossed gigatons of water into the upper atmosphere and triggered flooding through tsunamis and torrential rainfall.”

It doesn’t fluster Masse that his speculation counters two tenets of conventional wisdom: first, no cosmic impact has ever killed a human; and second, no globally catastrophic cosmic impact has occurred in at least the past 100,000 years, and certainly not during the Holocene period of the last 11,000 years.

Masse concludes that “Western science has failed to appreciate the power of myths. Within structured oral traditions, myths can faithfully retain accurate observational details for thousands of years. At the very least, we need to refine our geological, paleoenvironmental and archaeological methods and theories to capture the importance and insights of myths.”



Archaeologist Bruce Masse of Ecology (ENV-ECO)