Sandia researchers create nanocrystals nature's way

Diatoms, seashells provide lessons for development of complex nanomaterials

By Michael Padilla

Sandia researchers are developing complex nanomaterials that look strikingly similar to the microstructures of diatoms and seashells. Such materials may have potential for a wide range of applications.

Jun Liu (1846) says the ultimate goal is to develop general science and technology for reliable and scalable production of nanoscale materials based on environmentally benign chemical processes.

The research team currently includes Jim Voigt, Zhengrong (Ryan) Tian (1846), Matt McDermott (1846), Randy Cygan (6118), Louise Criscenti (6118), Dianna Moore (1846), Jessica Bickel (1846), and Tom Sounart (1141). The team's intent is to be able to predictively and precisely control a wide range of materials properties that are critical for the materials and device performances. These include composition, particle size and shape, crystalline structure, orientation, particle morphology, surface, and interface chemistry.

Jun says the biochemical processes involved in biomaterials are too complicated for synthetic materials. The team is learning from the physical and chemical principles behind the formation of natural materials, and is developing synthetic routes to achieve similar structural control for the production of nanomaterials.

The project intention is that such extended and oriented nanostructures will find applications in microelectronic devices, chemical and biological sensing and diagnosis, catalysis, and energy conversion and storage including photovoltaic cells, batteries, capacitors, and hydrogen storage devices. These structures could also have potential for light-emitting display, drug delivery, and optical storage.

"We have already demonstrated superior photocatalytic properties and new chemical sensor devices with our new materials," Jun says.

The team has demonstrated complete control of where and how crystals are formed by selectively activating the specific surface they desire to grow and spontaneously producing complicated three-dimensional structures that cannot be formed by other means.

NATURE'S WAY — Jim Voigt, left, and Jun Liu discuss complex nanomaterials developed to mimic nature.

Understanding nature's strategies

"We are not interested in duplicating the mechanisms in natural materials," Jun says. "Nor are we interested in reproducing biominerals."

However, Jun adds, an understanding of nature's strategy is necessary to comprehend how to create similar structures.

The strategies nature uses to produce biomaterials are drastically different from synthetic approaches. Natural materials are produced at low temperature — mostly room temperature — and do not produce significant waste. Seashells and diatoms extract calcium and silicate ions from ocean water to form hard tissues to protect the living organisms.

Natural systems use sophisticated protein molecules to precisely control the orientations and morphologies of the biominerals in order to optimize the material's properties such as the mechanical strength. As a result, very complex architectures are formed, such as in diatoms from

(Continued on page 4)

Bldg. 841 comes down, but its functions are alive and well

Bldg. 841 — often referred to as "the shops" — has been demolished, but its functions are alive and well. They just moved to other Sandia locations. Read about it in a story on page 8.

Feedback

Sandian asks tough questions about management initiatives

In a straightforward Feedback question, a 25-year employee asks some tough questions about Assurance, Governance, Self Governance, IESO, and ISO 9001. He wants to know "who is in charge, what is their name, why these efforts are not connected, and why is IESO measuring its activities separately from the rest of the corporation." Pace VanDevender (then 12100) responds candidly in his answer on **page 3**.

Sandia LabNews

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Sandia National Laboratories

Journey toward improved business systems continues at Sandia

Two more Sandia departments become ISO-certified

By Chris Burroughs

The journey toward improving business continues at Sandia as two more organizations become ISO (for International Organization for Standardization) certified.

Certified in May was Telecommunications Operations Dept. 9334. In July the International Contracts and Import Export Control Dept. 10257 received notice it has been recommended for ISO 9001:2000 certification.

Two other organizations have been certified in the past several years — Manufacturing Enterprise Departments 14181, 14186, and 14111 and the Material Processing and Coatings Laboratory.

The organizations sought ISO certification as one way to improve their business management systems — a fully integrated, well-understood, data-driven system that enables delivery of products and services that meet customer requirements.

ISO was established in 1947 as a nongovernmental worldwide federation of national standards bodies from some 140 countries. It promotes the development of standardization and

CARLOS BALDONADO exits a manhole that has fiber optic cable. His department, Telecommunications Operations Dept. 9334, was ISO-certified in May.

related activities to aid the international exchange of good and services. It also bolsters cooperation in intellectual, scientific, technological, and economic activity. ISO's work

(Continued on page 5)

What's what

You would have thought last Thursday after work was MESA Day at Garduños/Winrock, and you can forget that stereotypical image of the quiet, shy, geeky Sandia techie who wouldn't know a canapé from a canopy. MESA was outstandingly represented along the back wall of the patio by a boisterous, laughing, chattering, milling, munching, sipping group that just kept growing and growing.

They were having such a great time that I wondered if we'd gone through a time warp and MESA was finished. A drive-by the following morning deep-sixed that notion. But if that many happy MESA people can have that much fun at just the start of the project, whew! . . . I'd like to have the margarita and salsa concession for the finish!

* * *

Life shouldn't always be serious, and Laurence Phillips' recent "out-of-office" e-mail response reminded me of that and gave me a real chuckle — and a lot of others, too, I bet. He wrote:

"I'll be out until next Wednesday (7-16-03) dealing with my daughter's wedding. My primary all-around boss and pearl of great worth is Barbara Macias at 844-2219. She can possibly help you until I get back, but don't abuse the privilege. Later, LRP"

* * *

Sandians are justifiably proud of the precision and elegance of a half-century of work on some of the most exacting systems in existence. That amazing record is marveled at inside and outside the lab.

Imagine, then, Jack Hudson's (9322) double-take at some small red-on-white signs along the H Avenue sidewalk just north of Bldgs. 864 and 751: YEILD TO ON COMING TRAFFIC.

Much amused, he e-mailed: "Wonder if the signs were painted at Sandia?"

I don't know, but if they were, I hope the painters don't matrix to a chemistry lab, or worse — the vacation records desk.

* * *

And on the subject of words, acronyms or initialisms are often bewildering, but sometimes you run across a really clever one. One such fell into my e-mailbox last week, compliments of John Dexter (9322).

Charles Shirley (9620) had submitted a proposed blurb for the *Sandia Daily News* (that's my other hat) and copied Dex because it's his subject. It got to the SDN e-mailbox, but not to Dex, so Charles sent it again. Same result.

Telephone calls ensued and it turned out Dex had received them, but they weren't showing up due to something he had done. Realizing that, he responded: "Turns out all of your messages did show up in my mailbox. Let's just say it was a cockpit error, a PICNIC (problem in chair, not in computer)!"

So, if you make a mistake and discover it yourself, you can announce that the trouble has been sorted out and admit making the mistake without seeming to have done anything wrong. You can write back: "No problem, dude; it was a picnic!"

— Howard Kercheval (844-7842, MS 0165, hckerch@sandia.gov)

Heart of Diversity Award honors people who have positively addressed diversity

Ever see anyone in your workplace who has done something significant to positively address a diversity issue? You can now honor that person with a Heart of Diversity Award.

"The award is to give recognition for demonstrating knowledge and awareness around diversity issues, having the courage to take positive action on significant diversity issues, and making Sandia a better place to work," says Rochelle Lari (1356), who heads up the Labs Diversity Leadership Program.

Giving the award is the Corporate Diversity Team (CDT).

Anyone can nominate people by contacting their division CDT representative. CDT members review the nomination, discuss it in the monthly meeting, and reach consensus on a decision to make the award.

The award is presented to the recipient at a future CDT meeting or by the person's management at department or center meetings.

Some 50 people have been given the award since it was initiated in 2001. This is a simple, nonbureaucratic, and inexpensive way to reward appropriate behaviors of individuals who are, through their actions, creating an inclusive, high-performing workplace.

For more information contact Heidi Welberry at 844-7767 or Rochelle Lari at 844-2111.

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Sandia National Laboratories

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Ken Frazier, Editor **505/844-6210**
Bill Murphy, Writer. **505/845-0845**
Chris Burroughs, Writer. **505/844-0948**
Randy Montoya, Photographer **505/844-5605**
Nancy Garcia, California site contact. **925/294-2932**

Contributors: Janet Carpenter (844-7841), John German (844-5199), Neal Singer (845-7078), Larry Perrine (845-8511), Howard Kercheval (columnist, 844-7842), Will Keener (844-1690), Iris Aboytes (844-2282), Michael Padilla (284-5325), Rod Geer (844-6601), Michelle Fleming (Ads, Milepost photos, 844-4902).

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LOCKHEED MARTIN

Recent Patents

Michael Keenan (1812) and Paul Kotula (1822): Apparatus and System for Multivariate Spectral Analysis.

Aaron Hall, F. Michael Hosking, and Mark Reece (all 1833): Capillary Test Specimen, System, and Methods for In-Situ Visualization of Capillary Flow and Fillet Formation.

Jonathan Weiss (1739): Distributed Fiber-Optic Moisture Intrusion Sensing System.

Paul Miller and Ben Aragon (both 1118): Method for Generating Surface Plasma.

John Hurtado, Clark Dohrmann (9124), and Rush Robinett (6200): Distributed Optimization System and Method.

James Gee (former Sandian), Shawn-Yu Lin (1743), James Fleming (1749), and James Moreno: Thermophotovoltaic Energy Conversion using Photonic Bandgap Selective Emitters.

William Sweatt (1743) and Todd Christenson: Microoptical System and Fabrication Method Therefor.

David Adams and Michael Vasile (both 14171): Damascene Fabrication of Nonplanar Microcoils.

Carolyn Matzke (1763), Dennis Rieger (1763), and Robert Ellis (L&M Technologies): Silica Substrate of Portion Formed from Oxidation of Monocrystalline Silicon.

Employee deaths

Kenneth Griego of Weapons Program Integration Dept. 2102 died July 26 from injuries suffered in a motorcycle accident.


KEN GRIEGO

He was 34 years old.

Ken was an electrical/electronics/electromechanical engineer who had been at Sandia nearly six years.

He is survived by his wife Reane, son Tomas, and daughter Mackenzie.

* * *

Larry G. Hoffa, of California Weapons Engineering Dept. 8243, died after an auto accident July 29.


LARRY HOFFA

He was 55 years old.

Larry was a technologist and had been at Sandia 35 years.

He is survived by his wife Donna, son Brian, and daughter Kelly.

Feedback

Employee questions all the seemingly disparate initiatives

Answer: Governance, Assurance, IES, ISO 9001 are all part of effort to improve management of Labs

Q: *I have worked at Sandia Labs over 25 years, and recently find myself looking for work elsewhere . . . any kind of work, anywhere else.*

It seems as though the entire organization is exploding. We have Assurance, Governance, Self Governance, IESO, and now the NW organization is going ISO 9000. There are mountains of DOE orders, dozen of committees, and stacks of required reports. There are internal audits, risk assessments, QA assessments, ES&H surveillances, Safeguards and Security Assessments, and probably others I don't know about.

There are some questions I have as a loyal employee who is very frustrated?

1) Who is in charge? What is their name?

2) Why are these efforts NOT connected and working together?

3) Why is IESO measuring its activities separate from the rest of the corporation? Aren't they part of getting the service done? Doing the design?

4) Why can ANYONE ask us to do reports, surveys, assessments, but NO ONE has the authority to tell us to stop doing anything. We do 50 things 50 times, 50 ways.

5) We would not ask a chemist to do a physicist's job, but we ask engineers and physicists to design infrastructure programs and businesses. They invent new things, but none of them make sense. Are there NO employees in the lab with business management degrees, or training in re-engineering or business standards. Why do we put engineers in charge of business designs?

6) NW is creating a whole new system, unique to themselves. Has anyone noticed? Does this mean we have two separate corporations now, NW and Sandia? They do things different from each other. Is there anyone in management who understands that this is not ok? We should have some consistency in our corporate activities.

7) Last, but not least . . . if you are on the Admin side of the house, and you get a mentor on the technology side, you get to become an MTS [member of technical staff]. This means you make $30,000 more a year for doing the same work. If you are an MTS and are having problems, you move to the Admin side of the house. You remain an MTS; still make $30,000 more than the others doing the same work you are. Unfortunately, you have to hire a $2,000-a-day consultant to help you out. (Because you are creating new things that a first year business student would understand). This policy, or lack thereof will get Sandia sued. Has anyone noticed?

> *"What may appear a bevy of initiatives created by Dilbert-like bureaucrats out of whimsy, boredom, or plain old cruelty do relate to one another under an overarching construct."*
>
> **Pace VanDevender**

A: Your sense of frustration is obvious, and I apologize for that. You are not alone in your concerns about how all of the various initiatives and goals fit together. Even those of us in the middle of many of these initiatives can lose sight of the forest while we're hacking away at tree branches. And your questions have helped convince me that we are not doing a good job of communicating this within the Labs. So let me try a short explanation, and if you'd like more information I'll be happy to provide it.

What may appear a bevy of initiatives created by Dilbert-like bureaucrats out of whimsy, boredom, or plain old cruelty do relate to one another under an overarching construct. They are all parts of the larger effort to improve the management of the Laboratories, which in turn will help improve our technical contributions to the nation.

The Laboratories Leadership Team, which is the executive council comprising the President, Executive Vice President, the Vice Presidents, and the Director of Public Relations, Director of Executive Staff, and Chief Information Officer, is responsible for these initiatives. The product we want is an interactive and logical system of processes and procedures to (1) manage the Laboratories well and (2) prove that we are doing so to external regulators (such as NNSA) or stakeholders (such as Congress).

You mentioned some of the current initiatives:

- The Governance project is working to modify our M&O contract so that we work under fewer DOE orders as we accept a higher standard of accountability ourselves for interpreting and implementing laws and regulations.
- The Assurance effort aims to develop a system to prove to (or assure) our external regulators and stakeholders that we are indeed managing the Labs well. Self-assessment, the project to improve our ability to review our own work, is a sub-element.
- ISO 9001 is an important tool that multiple strategic management units (SMUs) are adopting in order to improve their internal programmatic and organizational management. The Labs' expectation is that different SMUs will adopt ISO to greater or lesser degrees as needs dictate.
- IES is an important effort to improve our infrastructure operations by adopting a program management structure for coordinating activities and spending indirect funds.

There are other initiatives, as well, that also support this goal of improving Lab management. LLT and the executive councils (Mission Council, Infrastructure Council, and Risk Management Oversight Council) regularly review the progress on all of these and suggest improvements. The Missions Committee and Governance Committee of the Board of Directors similarly review progress regularly, as does NNSA.

On the question of the Nuclear Weapons SMU, you are right: NW does some things differently from other SMUs, due to its large size (roughly $1.2B), the integrated nature of its work, and requirements from its customer, NNSA. Similarly, each SMU has tailored some internal business processes to meet the needs of its customers. Mission Council reviews the differences in these processes at several times during each year (through annual SMU program reviews, reviews of goals and milestones for each SMU, discussions of program management rates, etc) to ensure that the corporate management system allows such tailoring while still allowing the Labs to meet its institutional requirements.

Finally, let me address your question about administrative vs. technical jobs. Several studies in the past two years have raised this issue to LLT's attention: most recently, the ASA/MLS study, the Tech Managers and the Admin Managers' studies. The principles of Sandia's IJS system place responsibility for defining job content upon line management. Corporate resources can help a manager determine whether she needs administrative or technical staff in a position.

Managers should structure technical and administrative jobs appropriately for financial, legal, and ethical reasons. Employees who believe the jobs are not structured appropriately should approach their management first and then, if their concerns continue, consider utilizing the corporate support available through HR, Ombuds, or Ethics. That is the way that employees can ensure that someone does notice.

— Pace VanDevender, 12100
Executive Staff Director
[Now VP 1000]

In California . . .

East Ave. closure adds new measure of security

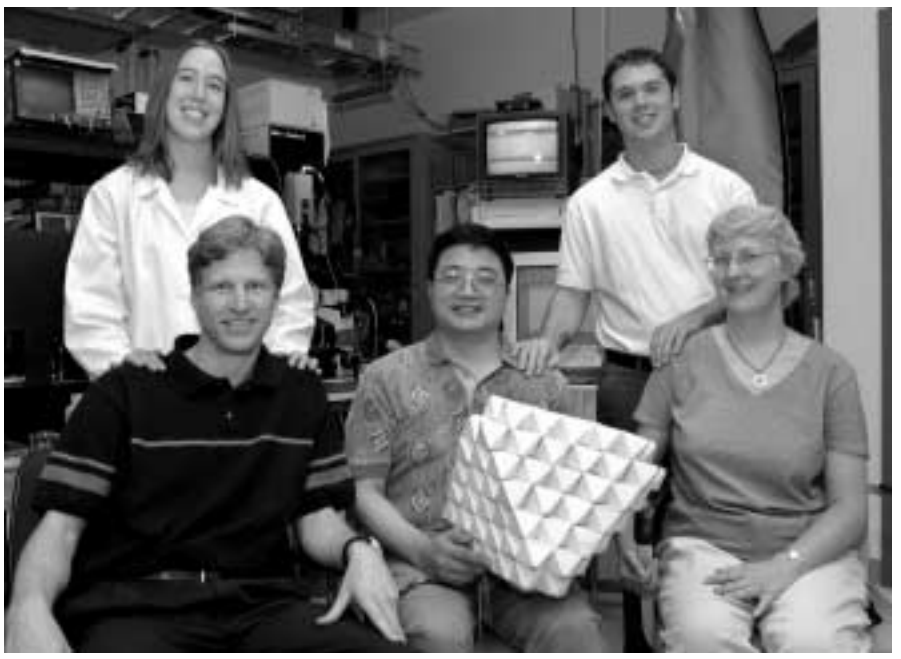
CLOSURE OF THE mile-long corridor between Sandia/California and Lawrence Livermore National Laboratory (LLNL) began Aug. 1, with access control instituted for this stretch of East Avenue in Livermore. Providing an additional measure of security — and set in motion following 9/11 after being considered for 20 years — the new checkpoints will allow access to anyone with a Sandia, LLNL, contractor, Department of Energy, or National Nuclear Security Administration badge, or residents on an authorized access list. To arrange for badges to be picked up by a visitor, contact the SNL/CA Badge Office at 294-3042. (Photo by Randy Wong)

Nanocrystals

(Continued from page 1)

very simple chemicals such as silicate. Silicate, Jun says, is a very common ceramic material that is frequently experimented on in laboratories.

In general, Jun adds, the proteins play two important tricks. First, the proteins control where the mineral is deposited. Second, they control how the minerals are formed. In red abalone, a marine snail, water-soluble proteins control mineralization of calcium carbonate. Some of these proteins are responsible for the formation of column-like calcite (a natural form of calcium carbonate), while others are for the formation of plate-like aragonite (an unusual form of calcium carbonate). The cooperative action of these proteins produces a highly ordered nanocomposite composed of oriented calcite columns and close-packed aragonite nanoplatelets. This combination gives the best mechanical properties to the hard tissue.



TEAM EFFORT — Sandia researchers display a model of a nanocrystal. Front row, from left, Tom Sounart, Zhengrong (Ryan) Tian, Louise Criscenti; back row, Jessica Bickel, Matt McDermott. (Photo by Bill Doty)

The process

The first step of the process is to understand and control the solution chemistry. Instead of using high temperatures, high concentrations of chemicals, and organic solvents, as widely investigated, the team studies low-temperature — well below the boiling temperature of water — and low-chemical-concentration experimental conditions in aqueous environments. Under these conditions the team has better control on how fast the materials grow from the solution and avoid precipitations commonly encountered.

JUN LIU

The minerals are controlled where they are formed through chemical and physical means. Modifying of the surface chemistry is often used to stimulate the formation of the minerals on specific locations. Other times nanoparticles are used as the nucleation seeds from which the new minerals will be formed. Using this approach the team can control exactly how the minerals are formed, and potentially align and pattern the minerals for microdevices. The orientation, microstructure, and morphology of the crystals are controlled. Since the roles of mineral-directing proteins are not yet completely understood, and since they cannot be directly applied to synthetic materials, simple organic molecules are used to control crystal growth. Computer modeling is also used to help understand how the organic molecules bind to the crystals.

Overcoming challenges

"Making these kinds of complex nanostructures is a very significant challenge," Jun says. "This is a very important new research area. Not a lot has been understood."

However, Jun says, manufacturing of nanoscale materials in general remains a significant scientific and technological challenge. Most of the approaches currently investigated involve high-temperature processes and complex toxic chemistry.

One challenge now is to fundamentally understand how organic molecules affect crystal growth. Jun says this is not only a challenge for synthetic materials, but also a problem for biomineralization that needs the attention of physicists, chemists, biologists, and material scientists. Another challenge is developing general rules that will guide the production of a wide range of nanomaterials.

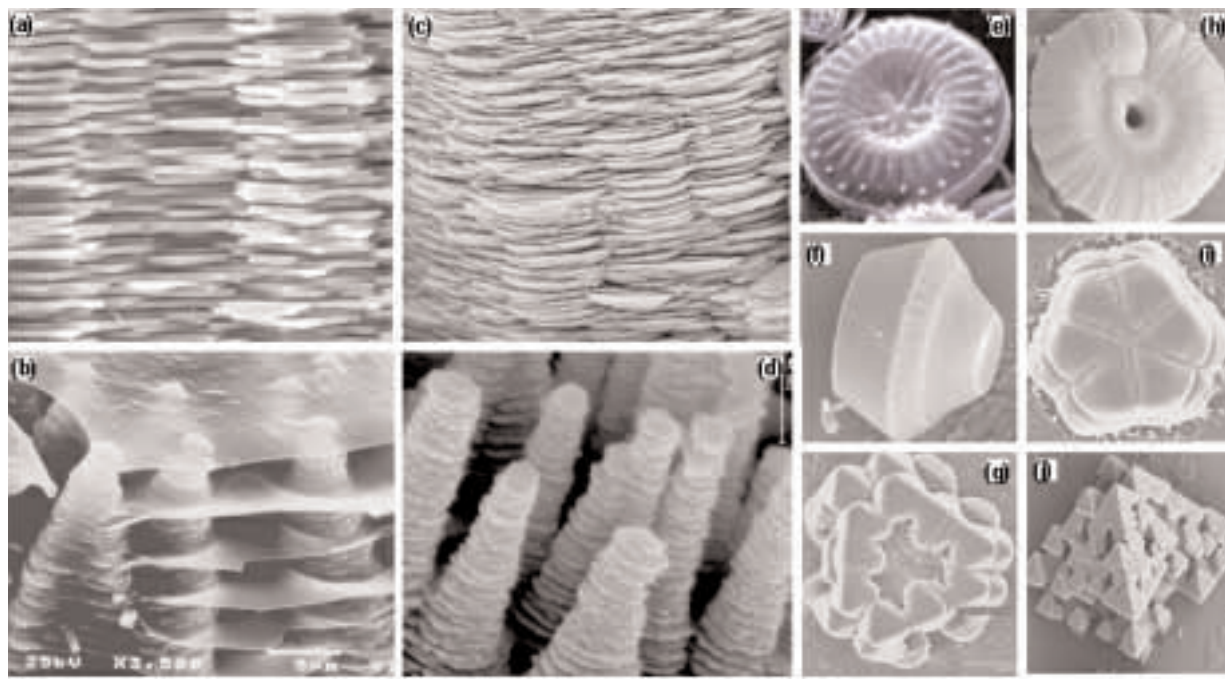
Optimistic outlook

Jun says the team is also in the process of developing tools to control the delivery, diffusion, and transport of the chemical species in the reaction chambers.

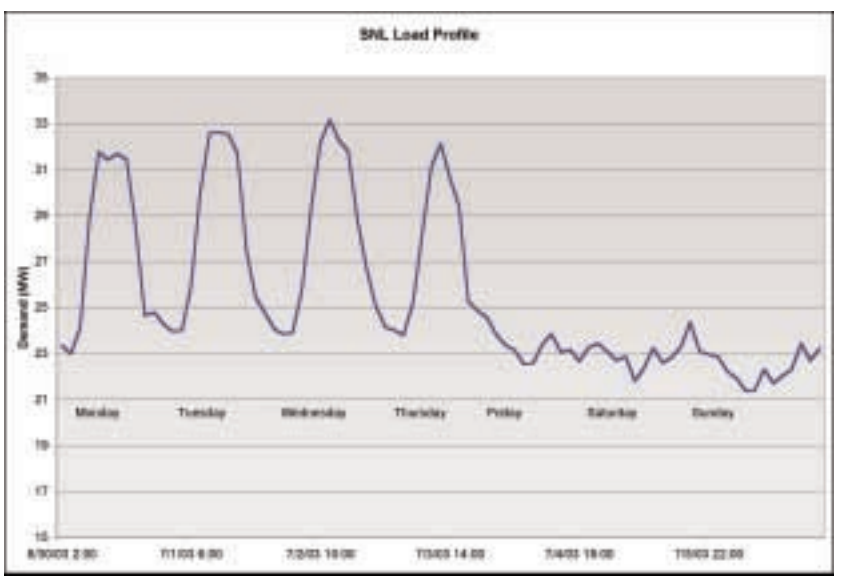
"We will use Sandia's state-of-the-art microfluidic platforms to provide precise control of the experimental parameters," Jun says. "The microfluidic studies may also lead to methods for continuous manufacturing of tailored nanoscale materials, including nanoparticles, nanowires, and complex nanostructured films."

The team recently published their studies in the *Journal of American Chemical Society*, *Agewandte Chemie*, and *Nano Letters*.

Jun says he hopes to bring visibility to this area and stimulate others to follow.



COMPLEX NANOSTRUCTURED crystals have been prepared showing striking similarities with those observed in biominerals. (a) and (b) are the microstructures from nacre of abalone shells, with (a) being the mature structure, and (b) from the growth tip. (c) and (d) are synthetic ZnO crystals. (c) contains the full-grown layered structure, and (d) contains the growth tips. (e) is a typical diatom made of silica. (f) to (j) are different types of synthetic silica crystals. The morphology depends on the growth conditions and can be controlled.



ELECTRICITY CONSUMPTION for Sandia/New Mexico, June 30-July 6, 2003.

Electricity consumption spikes down during July 4th weekend

The New Mexico site's holiday weekend "electricity spike-down" during the three-day weekend of July 4 resulted in some energy savings but fell short of the goal of using 40 percent less electricity than it uses on an average July workday, says Malynda Aragon (10862) of Sandia's Energy Management Program. New Mexico employees were asked to minimize electricity waste during the three-day weekend. During a typical week in July, the site's electricity demand peaks at 31 to 34 megawatts of continuous power. During the July 4 holiday weekend the site's electricity demand dropped to 22 to 24 megawatts, or about 70 percent of normal. "A lot of energy is wasted during weekends when few people are around, so we thought we would challenge people to see how much energy we can save during one weekend," says Malynda. The resulting 30 percent drop in demand is typical for a summer weekend, says Malynda. Watch the *Lab News* and *Sandia Daily News* for information about future spike-downs. For energy conservation information and assistance, call Malynda at 844-1288 or see Sandia's Energy Management Program web site at http://www-irn.sandia.gov/facilities/engn_proj/energyplan.htm.

ISO journey

(Continued from page 1)

results in international agreements that are published as international standards.

ISO 9001:2000 — the latest version of ISO 9000 — is used by companies seeking a management system that provides confidence their products conform to established or specified requirements.

"A robust Business Management System (BMS) that can be certified to ISO 9001:2000 means everyone in the organization understands how their work contributes to successfully addressing customer needs and requirements," says Felipe (Phil) Rivera (12142). "It also acknowledges a system is in place that addresses identified problems or issues to assure sustainable improvements. ISO certification comes at a considerable effort."

He adds, "However, being certified is not the end. It's the beginning of a journey that never ends to improve business. Our philosophy is to offer organizations a method of improving their business by using the criteria of the ISO 9001:2000 standard. As the organization matures and improves, a by-product may be ISO 9001:2000 certification."

Telecommunications

One Thursday in July two people in Media Relations and Communications Dept. 12640 were scheduled to swap offices. A little before 8 a.m. a telecommunications representative was on hand to change phones and take care of networking.

What lies behind such prompt service? Possibly ISO 9001:2000.

Telecommunications Operations Dept. 9334 officially became ISO 9001:2000 certified on May 13, a feat that involved more than two years of documenting and streamlining work methods, trouble shooting, and improving ways of doing work.

"As a result of our efforts, we have greatly improved how we deliver our products," says Mike Gomez (9334). "We can now respond faster to requests and problems."

The concept of adopting ISO 9001:2000 was first mentioned in the department in the summer of 2000. Several department members took an ISO class in December 2000, and over the next two years all 130 employees in the department were bought into the concept.

Mike says that before life with ISO, the department did its work well. Procedures, although written, were not used or valued by the staff.

As part of improving its business management system, the department defined seven processes to document and formalize: change management, trouble resolution, asset management, documentation and communication, quality improvement, design and evaluation, and human resources. They wrote down what the department did in each of these areas and then looked at ways to make improvements by developing a database for tracking corrective and preventive actions. They improved their use of Web FileShare and Sandia's internal web site. During each monthly staff meeting, they discussed how to improve their processes and systems.

PREPPING A TELEPHONE CABLE for termination in an outside plant pedestal is Carlos Baldonado.

"The entire time our focus was on improvement, not certification," Mike says. "We had to make ISO work for us and focus on our goals. We didn't do ISO for the sake of doing ISO."

In November 2002 the department had an internal preassessment audit performed by Bob Campbell representing the Performance Review Institute, followed in March 2003 by an official certification audit. It received certification to the 9001:2000 standard on May 13.

Mike says auditors noted that on a scale of 1 to 10, the department rated a 9 in the area of staff commitment. Some of the comments from the auditors at the closing meeting included:

• "You guys have one of the best systems I've seen and probably the most difficult ones I've ever had to audit."

• "I concluded your design process is pretty darn good."

• "The overall process from the time the customer communicates with you to the time you finish the work and communicate with them is pretty darn good."

• "You guys have become my benchmark on two things: one is you have the best handle on measuring customer satisfaction I've seen yet, two is you have probably the most complex system to understand."

Not bad, Mike says. But the department intends to continue to make improvements and be responsive to its customers. "We will keep seeking new and better ways to do our business."

MEMBERS OF THE International Procurement Team discuss results of their ISO management review. They are, from left, Lada Osokina, Patty Jojola, Erin Gardner, Beverly Polyard, Roy Fitzgerald, Michelle Kent, and Todd Dunivan.

"A robust Business Management System (BMS) that can be certified to ISO 9001:2000 means everyone in the organization understands how their work contributes to successfully addressing customer needs and requirements. It also acknowledges a system is in place that addresses identified problems or issues to assure sustainable improvements. ISO certification comes at a considerable effort."

International Procurement

The International Procurement Team's contracting effort with foreign suppliers around the world means they constantly work within a variety of different systems, regulations, and cultures. As a recognized worldwide quality management standard, ISO 9001:2000 provides the International Procurement Team (IPT) the ability to provide quality assurance to partners and suppliers around the world while meeting or exceeding customer requirements at home.

Aware of this and the opportunities ISO provides for continuous improvement, team members decided to seek ISO 9001:2000 certification.

"We first tried to understand what ISO was all about and how it would apply and help us conduct our business," says Roy Fitzgerald, Dept. 10257 Manager. "We quickly found that ISO would allow us to structure and implement a robust management system that was focused on continual improvement and made good business sense."

Roy and his eight-member team started the ISO journey about a year ago by mapping out existing processes and then determining where there were gaps in their system. They then put together comprehensive business policies and business objectives for their organization.

Roy notes that everyone in the department "became engaged" in developing objectives and procedures and took on ownership of their business management system — something necessary in order to improve the business and sustain their system.

After formalizing their processes, procedures, and objectives, the team performed a comprehensive internal audit followed by a comprehensive management review. The management review proved particularly beneficial to the team. It gave the team an opportunity to identify and address system deficiencies, customer evaluations, and feedback and then establish action plans and goals for the future. Roy was able to communicate to customers exactly what actions the team would be taking to address any concerns or deficiencies.

After the identification and correction of findings and deficiencies, the team engaged the services of an independent accredited third party registrar for two days to review the organization's operations and business management system.

"They interviewed everyone in our group, reviewed contracts and systems documentation, and talked to our customers," Roy says.

During the exit conference, the registrar commented on the high quality of services the team was able to provide and referenced recent comments obtained from the department's customers: "These people work above and beyond what I have experienced in most private-sector companies. Jet-lagged, working almost all night several nights in a row, and then still being able to negotiate with fresh adversaries on their home turf is exceptional. This doesn't happen on the outside!"

At the end of the two-day visit the registrar notified the team that they would be recommended for certification.

Roy says he is already seeing measurable benefits and anticipates even more in the future as the department adopts corrective actions, preventative actions, and best practices in order to continuously improve IPT services. The benefits will come in the form of cost savings, efficiency, and better customer service.

Mileposts

New Mexico photos by Michelle Fleming
California photos by Bud Pelletier


Joseph Brazil
35 8949


Richard Antepenko
30 14406


Patricio Abeita
25 10266


Art Pontau
25 8358


John Wolfe
25 5921


Yolanda Aragon
20 6251


Rene Bierbaum
20 8205


Bob Dooley
20 1222


Mike Eatough
20 1822


Alexander Gonzales
20 15415


Sharon Trauth
20 2993


Keith Bauer
15 6544


Sandy Leo
15 8516


J.D. Patrick
15 5835

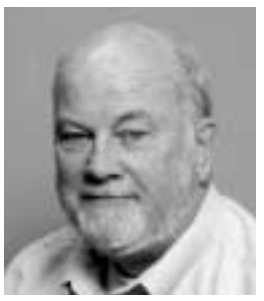

Allen Sault
15 6524


Eric Thulin
15 2994


Duane Vermeire
15 2994


Joel Wendt
15 1743


John Williams
15 5741


Theodore Welton
40 5714


Don Wright
36 12335


Tom Barger
34 5911


Henry Dodd
34 6214

Recent Retirees


Merle Riley
33 1118


Dan Brewer
31 6414


Ronald Lundgren
25 15414

Management promotions

New Mexico

Ann Campbell from Manager to Level II Manager, Microsystems Partnerships Dept. 5911.


ANN CAMPBELL

Ann joined Sandia in 1985 as a technical staff member working in materials characterization. From 1989 to 1999, she worked in the microelectronics failure analysis department, focusing on advanced microelectronics analysis techniques. Ann has managed the Microsystems Partnerships Department within the Systems Assessment and Research Center since 1999. Her responsibilities include managing Sandia's antitamper program, coordinating with Sandia's science and technology organizations to bring their technologies to bear on national security challenges, and managing one of the Nonproliferation and Materials Control LDRD investment areas.

Ann has a BS in materials engineering from Rensselaer Polytechnic Institute and an MS and a PhD in materials science from Harvard University.

* * *

Bill Marshall from Manager, Explosive Materials/Subsystems Dept. 2552, to Level II Manager, Emergency Response Programs Dept. 5810.


BILL MARSHALL

Since joining Sandia in 1983, Bill has worked in nuclear reactor safety, explosive field testing and component design, and as a member and manager of nuclear weapons emergency response programs. For the past two years, Bill has managed the Explosive Materials and Subsystems Dept. 2552, working with staff involved in analyzing and characterizing energetic materials, production of explosive components for weapon use, and surveillance of WR components.

As Sandia's new Emergency Response Program Manger, Bill will be working with a variety of organizations across Sandia to develop a unifying vision and technologies that can be applied to these important national response programs.

Bill has a BS and an MS in mechanical engineering from New Mexico State University.

Congratulations

To Janet Sheldon and Jack Smith (2991), married in Bernalillo, N.M., July 5.
To Terri and Hamilton (6517) Link, a daughter, Bronwen Faye, July 8.

Sandia Classified Ads Sandia Classified Ads Sandia Classified Ads Sandia Classified Ads

MISCELLANEOUS

REPTILE CAGE, black mesh, like new, 72" x 30" x 30", $60. Heintzleman, 294-1284.

CRIB W/MATTRESS, bumper pad, skirt, quilt, sheets, mattress pad, battery mobile, like new, $150. Berg, 898-2100.

BACKPACK, Jansport, framed, 4 pockets in back, 2 others on sides, $30. Ewen, 836-3563.

GE ROOM AIR CONDITIONERS: 8,000-Btu, $275 OBO; 12,000-Btu, $450 OBO; 3-yr. warranty. Cormican, 400-1821.

BEDROOM SET: Broyhill, dresser, headboard, 5-drawer chest, 2 nightstands, $500; swivel-top TV stand, 32-in., $50. Luikens, 891-0985.

TRANSMISSION, Cruise-O-Matic, 3-spd., from '64 Ford Galaxie 352 BB, other related parts, call for information, $800. Anderson822-9168, ask for Reuben.

CHINA CABINET, large, 2-pc., 2 glass shelves, lighted, great condition, $100; Lowry electric organ, Mardi Gras model, sheet music, head phones, $100. Hurst, 896-4218.

SOFA/LOVE SEAT, $225; coffee table, $75; chair, $25; grill, $50. Niese, 720-3512, ask for Aaron, http://mywebpages.comcast.net/aniese85/sale/.

WROUGHT IRON, excellent condition, for sliding patio door, w/deadbolt, $100; window, 3' x 5', $50; window, 3' x 4', $25. Sensi, 299-3958.

ELECTRIC HEDGE TRIMMER, Craftsman Bushwacker, 16-in., excellent condition, $20. Dwyer, 271-1328.

MULCHING LAWN MOWER, Murray, 5-3/4-hp, $90; gas blower, $60; power washer, 1300-psi, $60; gas grill, $40, exerciser, $70. Gluvna, 884-5251.

SCHWINN STAIRMASTER, adjustable hydraulic resistance, on-board computer, steel construction, 35" x 27", oversized pedals, transport wheels, $150. Klein, 797-2407.

FREEZER, General Electric, upright, w/lock, good condition, $125 OBO. Pratt, 256-7408.

ELECTRIC EDGER/TRIMMER, 15-in. Craftsman, 1/2-hp, auto feed, $15. Vigil, 271-1328.

BABY WALKER, Safety 1st, Monster truck, $15. Maestas, 883-7617.

DESK, oak, drawers on each side & middle, 5' x 30", $200; electric range, white, self-cleaning oven, sealed burners, $150. Dunham, 828-1755.

CEMETERY LOT, Sunset Memorial Park, Praying Hands section, $1,500. Kaufmann, 861-1080.

COMFORTER SET, Croscill, queen-size, w/bed skirt, shams, matching sheets & pillowcases, hardly used, like new, $95. Burstein-Lewis, 821-6688.

VIOLINS, 2 full-size, 1 under-size, German & Italian-made, high quality, beautiful tone, value >$600, asking $350 ea. Chu, 293-1222.

PORTA-POTTY, new, Sears top- of-the-line, never used, in original box, $75 OBO. John, 345-4006.

CANOPY BED, custom oak, king-size, w/12 drawers, bookcase headboard w/mirror, uses mattress/waterbed, beautiful, $650. Serna, 489-2340.

LAPTOP, Sotec 3120X, 1.2-GHz Celeron, 256MB RAM, 20GB HD, CD-R/DVD, 4.3-lbs., like new, $750. Woodall, 890-8516.

LOUNGE CHAIR, brown, swivels, rocks, reclines, good condition, $175; self-propelled lawn mower, 4-hp, Snapper, $130. Moss, 275-7299.

CAR-TOP CARRIER, beige, polyethylene, 48"L x 40"W x 23", average height, hinges for access, includes mounting brackets, straps, & locks, $20. Thompson, 292-2877.

UPRIGHT FREEZER, white, $100; Olympic weights, 300-lbs., $60; just moved, no room. Wiseley, 293-3643.

MATTRESS, queen-size, great condition, best offer. Mileshosky, 266-5901.

ALTO SAX, Bundy, student, used for 4 yrs., great shape, $1,300 new, asking $400. Fitzpatrick, 292-1630.

CALCULATORS: HP 10BII business calculator w/manual, $25; TI-83 Plus, graphing calculator, w/manual, $75. Callahan, 332-2506.

COLOR TV, Panasonic, 27-in., PIP, Virtual Surround Sound, remote, $100. Klein, 797-2407.

TRACTOR, 650 John Deere, w/Land Pride rototiller, $5,000. Martin, 861-7029.

SWING/GLIDE/SLIDE SET, good condition, for children up to 8 yrs. old, $35 OBO. Nelson, 265-7482.

WINDOW SHUTTERS, Quality Interior Home, white, wood construction, w/covered louvers, 3 doubles, 2 singles, $450 OBO. Stephens, 323-9523.

REFRIGERATOR, Whirlpool, 143 cu. in., frost-free, $97. Hilborn, 228-9085.

REFRIGERATOR, GE, 23.5 cu. ft., side-by-side, water dispenser, almond (bisque) color, $350; Panasonic microwave, $25; both great condition, Nelson, 828-2755.

WOOD STOVE, $75; camper shell for small truck, $60. Gonzales, 296-8006.

DRUM TABLE, Tema, excellent condition, retro, cylindrical, beech wood, steel legs, 17"H x 25-1/2" diameter, paid $450, asking $200. Martin, 889-0735.

SOFA, large sectional, w/recliner on each end, blue/gray, excellent condition, $700 OBO. Roth, 856-2925, ask for Donna.

DESK, work-center, 36-1/3' x 63-1/8" x 23-5/8", w/round bookcase end, excellent condition, $50. Smith, 259-9441.

MOVING BOXES/WRAPPING PAPER, ~20 ea. wardrobe, dish pack, 3 smaller sizes, ~500 sheets clean paper, $50. Hatch, 890-5723.

WASHER & DRYER, oversize, 2 yrs. old, perfect condition, $600; deep freezer, 5 cu. ft., 1 yr. old, $60. Longcope, 332-8824.

FURNITURE: couch & love seat, $350; coffee table w/marble top, beautiful, $150; 4-pc. bedroom set, full-size, $200. Jordan, 890-1601.

POOL TABLE, Olhausen, 8-ft., slate, w/balls, cue, & other accessories, >$5,000 new, asking $2,500 OBO. Bonnville, 294-6715.

ORGAN, Kimball M75 Temptation, Spanish pecan finish, 2 44-note manuals, Leslie speaker, numerous features, $1,150. Kobs, 281-1102.

COMPOUND BOW, American Archery, adjustable pull, great hunting or target bow, w/case, $120. Thornberg, 869-0421.

GARAGE SALES, neighborhood, Aug. 9, near Eisenhower Middle School, east of Juan Tabo, between Spain & Eubank. Ropp, 332-3197.

OFFICE DESK, 5' x 3', all wood, 8 drawers, $75; 3-tier shoe storage, wood, $75. Harstad, 298-6551.

PLAYPEN, Graco Pack & Play, almost new, $40. Maestas, 883-7617.

LOBO BASKETBALL TICKETS, 2, sec 23, row 35, seats 4 & 5, 10 rows from floor, want to share, 50/50, price for 2 tickets, 10 games, $403. Banks, 275-3800.

CAKE DECORATING ITEMS, mainly wedding supplies, pan sets, separator plates, pillars, stairs, novelty cake pans, $139, Willis, 286-1937.

ENGLISH PUB PUMP (beer engine), antique, cask condition your own ale, complete w/3 traps, $500. Prevost, 350-2882.

MOVING BOXES, 100 U-Haul, assorted sizes, $50. Harrison, 856-7483.

WOODWORKING TOOLS, Shopsmith Plus bandsaw, jigsaw, jointer & planer, Craftsman radial arm saw, many accessories. Linnerooth, 299-6558.

GRAVEL, many tons, river rock, you shovel, haul, individuals, companies OK, free. Pineda, 296-6700.

WATERBED, simple full-motion, $40; small trampoline, 36-in. diameter, for exercising, $7; floor lamp, $3. Jones. 856-1837.

BEARDED DRAGONS, 9-wk.-old babies, showing beautiful patterns, eating well, very healthy, $40 ea. Swanson, 275-9495.

TIMESHARE, full week, gold-star facility, Branson, 2-bdr., 2-bath suite. Pace, 281-7359, www.nmia.com/~bobpace/tshtml.jpg.

AIR COMPRESSOR, Sears, 20-gal. tank, 220-V, w/all attachments, $50. Freeman, 296-3452.

ELECTRIC DRYER, Frigidaire, white, brand-new condition, $125 OBO. Ritchey, 299-7082.

MATTRESS/BOX SPRING/FRAME, queen-size, McRoskey, cotton, innerspring, foam-free, gentle support, new. Vance, 265-0924, www.mcroskey.com.

TREADMILL, Pro-Form, programmable, $200 OBO; Dodge Dakota mid-size truck canopy, 8-ft. bed, $25. Bender, 281-4989.

BREAD MAKER, $20; pasta maker, w/many dies & pasta drying rack, $20. White, 296-4558, dougjennywhite@msn.com.

GOLF PASSES, 4, Twin Warriors Golf Course, can be used anytime, $200. Bread, 261-4685.

CHAIN-LINK FENCING FABRIC, posts & gates, 4'H x ~50'L, you haul, free. Mozley, 884-3453.

How to submit classified ads

DEADLINE: Friday noon before week of publication unless changed by holiday. Submit by one of these methods:

- **E-MAIL: Michelle Fleming (classads@sandia. gov)**
- **FAX: 844-0645**
- **MAIL: MS 0165 (Dept. 12640)**
- **DELIVER: Bldg. 811 Lobby**
- **INTERNAL WEB: On Internal Web homepage, click on News Center, then on Lab News frame, and then on the very top of Lab News homepage "Submit a Classified Ad." If you have questions, call Michelle at 844-4902. Because of space constraints, ads will be printed on a first-come basis.**

Ad rules

1. Limit 18 words, including last name and home phone (If you include a web or e-mail address, it will count as two or three words, depending on length of the address.)
2. Include organization and full name with the ad submission.
3. Submit ad in writing. No phone-ins.
4. Type or print ad legibly; use accepted abbreviations.
5. **One ad per issue.**
6. We will not run the same ad more than twice.
7. No "for rent" ads except for employees on temporary assignment.
8. No commercial ads.
9. For active and retired Sandians and DOE employees.
10. Housing listed for sale is available without regard to race, creed, color, or national origin.
11. Work Wanted ads limited to student-aged children of employees.
12. **We reserve the right not to publish an ad.**

HORSE, 1/2 Arabian, 1/2 Quarter, 2 yrs. old, imprinted, all shots, ground training complete, ~15-1/2 hands, sorrel, excellent for youth, barrels, dressage. Arana, 228-4134.

BRUSH GUARD, w/lights for '94 Toyota pickup, $150; 16-in. alloy rims for '02 Toyota Tacoma, $350. Martinez, 710-6603, ask for Anthony

TRANSPORTATION

'00 DODGE GRAND CARAVAN LE, w/handicapped conversion hoist for scooter, Pride Scooter included, 22K miles, $16,000. Walker, 294-2293.

'95 NISSAN XE PICKUP, 4-cyl., 5-spd., AC, AM/FM/CD/cassette, camper, alloy wheels, excellent condition, $4,200. Gonzales, 891-1426.

'99 MERCURY TRACER, 4-dr., 5-spd., PS, PB, AC, stereo tape, 54K miles, excellent condition, must see, $3,700. Roeschke, 238-0362.

MASERATIS — 1985 BI TURBO E, runs excellent; '86 425, not running, many extra parts; sell together, serious offers only. Forslund, 259-9072.

'97 ACHIEVA SPORTS, 4-dr., 2.4L, 4-cyl., AT, AC, PS, PB, PW, PL, AM/FM/cassette, CD adapter, alarm, 38K miles, great condition, $5,800. Hale, 298-1545.

'91 NISSAN 300 ZX, rare Twin Turbo, Stage V, 5-spd., fast, too much to list, $14,500. Sperli, 888-1941.

'97 GMC K1500, short bed, extended cab, 1.7 Vortec engine, $12,500. Hill, 459-1198.

'90 BUICK PARK AVENUE ELECTRA, new battery/brakes/tires, cold AC, lots of power accessories, reliable student car, $2,900 OBO. Moonka, 856-1110.

'86 FORD BRONCO II, 160K miles, runs great, must sell, $850 OBO. Glauner, 459-1538.

'96 VW JETTA GLS, 5-spd., green, 112K miles, $4,700 OBO. Rebarchik, 286-2667.

'95 FORD TAURUS, new tires/brakes & more, no AC, good shape, $2,200 OBO. Daigneau, 293-5077.

'93 CHEVY SUBURBAN SILVERADO, loaded, rear AC, 3rd seat, new transmission, running boards, new Michelins, $7,500 OBO. Burr, 293-2588.

'99 CHEVY PRIZM, 4-dr. sedan, AT, AC, AM/FM/CD, airbags, white, 40K miles, excellent condition, $6,500 OBO. King, 856-7565.

'91 DODGE DYNASTY, sold whole or for parts, needs some work & a transmission, $1,000 OBO. Giersch, 237-2339.

'86 300 ZX, runs great, great mechanical, interior & body straight, needs paint, $2,500 OBO. Anderson, 883-2647.

'81 JEEP CJ5, 4-cyl., 4-spd., good condition, $4,500, will trade for '00 or newer mid-size, street motorcycle. Davis, 907-2299.

'95 HONDA PASSPORT LX5, 3.2L V6, 4x4, AT, white, 67K miles, perfect condition, $8,200. Wilcoxen, 797-0803.

'97 GMC YUKON, 4x4, 4-dr., 5.7L Vortec, loaded, tow pkg., new tires, 77K miles, $12,500. Arrington, 550-8349, ask for Christian.

'93 JEEP GRAND CHEROKEE, 4x4, V8, 1 owner, 82K miles (little old lady, no joking), $6,750 OBO. Mayes, 821-0698.

'03 NISSAN FRONTIER, 4x4, 4-dr., long bed, supercharged, every option & accessory, 200 miles, new $30,000, asking $25,000 OBO. McDuffie, 720-9719.

'99 TOYOTA RAV4, 4WD, 4-dr., all power, 1 owner, 78K miles, perfect inside & out, $12,500 OBO. Hoffman, 352-2089.

'90 FORD F150, 4x4, Supercab, long bed, 4.9L V6, standard transmission, AC (R134), $3,000. Mendel, 299-6785.

'90 FORD F350, 4-dr., pickup, rebuilt 460 (headers & dual exhaust), new transmission, hide-a-ball gooseneck hitch, $5,000. Wilder, 345-0670.

'99 SATURN SL, 4-dr., 5-spd., 1.9L SOHC, AC, AM/FM, platinum/gray, 58K miles, owe $6,000, asking $5,500. Baca, 345-6082.

'99 MAZDA MIATA CONVERTIBLE, 10th anniversary edition, blue suede leather, alarm, 10K miles, $16,500. Espander, 286-8728.

'89 VOLVO 240DL, 4-dr. sedan, 5-spd., AM/FM/CD, cold AC, new tires, white, 162K miles, dependable, $2,450 OBO. Martinez, 610-9174.

'01 HONDA ACCORD EX, V6, 4-dr., AT, loaded, leather, white, LN, always garaged, 26K miles, $18,750. Peterson, 856-9629.

'96 DODGE GRAND CARAVAN LE, AT, PW, PL, 2 sliding doors, 1 owner, 100K miles, good condition, $4,200 OBO. Kane, 291-8576.

'98 GMC SONOMA SLS, 4x4, V6, ext. cab, AC, CC, PL, PW, CD, 3rd door, security, silver, 88K miles, $8,750. Hayward, 292-2980.

'88 VOLKSWAGEN FOX, standard, silver, basic, student car, $800 OBO. Keener, 294-1919.

'98 GRAND AM, PW, PL, AC, red, very nice inside/outside, 117K miles, $4,950 OBO. Gonzales, 294-9648, ask for Robert.

'98 JEEP WRANGLER SPORT, 6-cyl., 5-spd., AC, white soft-top, white body, 37K miles, $13,000. Brown, 293-5768.

'03 CHRYSLER PT CRUISER GT TURBO, loaded, silver w/gray flames, beautiful car, 2K miles, take over payments. Rogers, 489-2621.

'94 DODGE RAM 250 CONVERSION VAN, Hi-rise w/TV, VCR & Nintendo games, 4 captain's chairs, rear sofa bed, fully loaded, 72K miles, $10,900. Herrera, 884-4925 or 238-6334.

RECREATIONAL

MAD RIVER CANOE, Revelation model, 17-ft., used once, new $1,500, asking $1,000. Tarango, 232-9543.

'92 COLEMAN POP-UP TRAILER, sleeps 6, stove, sink, electric & water hookups, $2,000; 12-ft. Alumacraft, on trailer, 10-hp motor & trolling motor, $800. Hurst, 892-8744, ask for Debbie.

'00 HONDA CBR600F4, custom geeza, garaged, adult ridden, less than 5K miles, excellent condition, $4,600 OBO. DeBassige, 710-3775.

'97 PARTI-KRAFT, 24-ft. pontoon boat, 120-hp, w/trailer, very clean, 90 hrs. use, $13,500 OBO. Kerr, 744-4802.

'96 DUCATI SS/CR, extensive performance upgrades, new tires, 41K miles, excellent condition, $6,200. Hoke, 292-4823.

'96 SUZUKI KATANA 750, everything is new, great condition, $2,600 OBO. Valdez, 440-9200.

'81 HONDA GOLDWING INTERSTATE, needs electrical repair, 33K miles, $900 OBO. Adcock, 271-0765.

MOUNTAIN BIKE, Gary Fischer F4, full suspension, hardly used, 3 yrs. old, clip pedals, extras, $350. Kooser, 453-7018.

'78 POP-UP TRAILER, Apache Ramada, hard-sided, 16-ft., camper, heater, refrigerator, stove, AC, sleeps 7, $1,800. Abbott, 268-7237.

'99 AMERICAN EAGLE EVS, w/slide, Spartan chassis, ivory/walnut interior, many amenities, excellent condition, $169,000. Eno, 821-3055.

'02 KAWASAKI VULCAN NOMAD 1500, Vance & Hines, shaft drive, water-cooled, extras, 7K miles, excellent condition. Garcia, 241-3334 or 345-0787.

REAL ESTATE

LARGE RESIDENTIAL LOT, Foothills, view, adjacent Supper Rock Park, close to Sandia, $85,000 OBO. Caruthers, 296-5953.

4-BDR. HOME, 2,700 sq. ft., extra large bedrooms, formal living & dining, 2-car garage, covered patio, 1/4-acre, large backyard, $197,500. Mauldin, 293-3763.

3-BDR. TOWNHOME, 2-1/4 baths, 2-car garage, 1,340 sq. ft., $111,500, only $600 to move in. Butler, 401-0617.

3-BDR. HOME, 1-1/2 baths, service room, 1-car garage, '60's bomb shelter, storage outbuildings, Moon/Menaul area, $105,900. Prusak, 296-1571.

0.77-ACRE LOT, beautiful unobstructed view, in Glenwood Hills, on ridge overlooking the city. Stubblefield, 298-2991.

4-BDR. HOME, 1-3/4 baths, 2,340 sq. ft., passive solar, tall pines, saltillo tile, oversize 2-car garage, deck, Tijeras, $224,900. Black, 281-9016.

3-BDR. HOME, 1-3/4 baths, 1,200 sq. ft., 1-car garage, renovated, enlarged kitchen, new roof/windows/stucco/more, Eubank/Lomas area, $109,000. Hart, 323-0415.

3-BDR. EAST MOUNTAIN HOME, office, 1-3/4 baths, 2-car garage w/workshop, storage, great views, 2,000 sq. ft., $194,000. Culler, 286-1855, www.salebyownerrealty.com.

3-BDR. HOME, 2 baths, 2-car garage, 2-story, landscaping, shed, back on the market, 8309 Millstream NW, $124,000. Armijo, 836-2558.

4-BDR. HOME, 2 baths, 2,700 sq. ft., passive solar, borders KAFB, on Kathryn SE, very nice, $135,000. Lowrey, 450-4900.

WANTED

'65-'75 VOLKSWAGEN BUS, good condition, I lost your phone number. Aragon, 255-8451.

ELLIPSE EXERCISE MACHINE, good quality, in good working condition. Simon, 299-8468.

GOOD HOME, 2 very playful kittens, 4 mos. old. Mendoza, 864-6279.

SUPER 8MM MOVIE PROJECTOR, working condition, comparison chuckle time for 30-yr.-old kids, now parents. Eakin, 266-0532.

TREADMILL, curious on other options of exercise equipment. Flores, 291-0512.

HOUSEMATE, private furnished apartment, 4 Hills, mountain views, separate entrance, convenient to Sandia, $350 mo. Smith, 298-7365 or 292-1976.

VEHICLE DONATION, preferably a van for family of 6, having hardship. Chavez, 828-1289.

CARETAKER, 1 wk. in August, check house & care for garden, West side, enjoy patio w/fabulous bosque/city/mountain/views. Homer, 836-5043.

WINDOWS 98, second edition software. Jones, 203-2338.

LOST & FOUND

LOST: male tan Chihuahua, lost during storm, July 20, near San Martin church, West Gate. Martinez, 610-0993.

FOUND: silver clip-on hoop earring, conference room, either 218 or 220 in Building 811 on July 31. Fleming, 844-4902.

Sandia supplies books for 200 children at 33 sites in community's annual Summer Reading Program

More than 200 children received free reading material appropriate for their age after completing the 2003 Summer Reading Program sponsored by the City of Albuquerque, Bernalillo County, Sandia, Lockheed Martin, KNME-TV, University of New Mexico Athletics, and Albuquerque Business Education Compact (ABEC).

Children ages 6-16 at 33 recreation sites took part. The sites and participants include city/county community centers, playground programs, and Boys and Girls Clubs.

Children who read six books received a book purchased by Sandia and Lockheed Martin or KNME-TV and two tickets to a UNM Lobo volleyball or soccer game. Books and tickets were distributed in July.

"ABEC Read by Third Grade Committee members visited some of the centers to encourage the kids' participation," says Paula Padilla, ABEC manager. "But it was the staff at the summer recreation programs that provided ongoing encouragement."

Darlene Leonard, volunteer program manager in Sandia's Community Involvement Dept. 12650, handed out books to delighted children at the Whittier Community Center.

"We believe business should partner with education initiatives," Darlene says.

Jesse Zamora, director of the Whittier Community Center, says the reading initiative complemented a literacy program already in place. The goal, she says, is to invent creative ways to keep children reading during summer months. Some ways to get older youth involved are to read to them or encourage them to read to younger children.

Of Zamora's students, Chelsy, 9, read six books, naming *The Blanket Burglar* by Sandra G. Garrett and Philip C. Williams as her favorite. Anthony, 11, read numerous books including Jack London's *White Fang* and *Call of the Wild*.

Literacy is also valued at Anthony's home. "My dad is always reading," he says.

DARLENE LEONARD (12650, standing left), Sandia volunteer programs leader, hands out books to children at Whittier Community Center in the 2003 Summer Reading Program. Sandia/Lockheed Martin and KNME-TV purchased books for children who read six books in the program. (Photo by Laurie Mellas-Ramirez, University of New Mexico)

For more information about the Summer Reading Program, call Paula Padilla, ABEC, 767-5849, or Sandia's Darlene Leonard at 844-8024.

Bldg. 841 comes down, but its functions are alive and well

Bldg. 841 — often colloquially referred to as "the shops" and a key to Sandia's mission — may have just been demolished, as the photo below shows, but its functions are alive and well. They just moved to other Sandia locations.

What happened? Well, Bldg. 841 was identified as a structure that needed extensive modernization, including seismographic updates. A study revealed that the major renovation would require a complete evacuation of equipment and personnel. The modernization would have taken more than a year, and the renovation would have turned much of the useful shop space into unfriendly office space.

Bldg. 841 was designed and built to house laboratories and shops; it had outlived its original intent and it needed to come down. The coming down process began on July 8 and was recently completed.

During the planning stages of the demolition, the importance of the technologies that were housed in Bldgs. 841 and 842, including their link with science and technology, was immediately recognized.

They are an important part of Sandia's Manufacturing Enterprise (ME), carried out by three ISO-certified departments in Manufacturing Science and Technology Center 14100. The ME provides important major mechanical manufacturing services: machining, welding, precision metal forming, machine repair, metal preparation, mechanical measurements, mechanical calibration, manufacturing liaison services, and manufacturing computer applications.

Not all of those functions were uprooted by the destruction of Bldg. 841, but some were. Nevertheless, the ME people want everyone to know that all of these services are alive and well.

A team from Center 14100 and Sandia's Facilities organization (10800) located a new site for Metal Preparation (known as Raw Stock). Bldg. 867 was slightly remodeled, and Raw Stock moved into the remodeled space. That move left Bldg. 842 almost completely vacant.

Precision Welding and Mechanical Fabrication moved into Bldg. 842, as did Precision Metal Forming. The lapping activities moved into Bldg. 840. High Energy Density Welding went to Bldg. 867. All of the activities have been relocated; the shops are up and running and business is beginning to normalize, says Joe Stephenson (14181). "The majority of the displaced technologies lost floor space, and the location of other activities has created some distance hardships," he says, "but the people's push to excel is overshadowing the obstacles."

BLDG. 841 meets its doom during the major phase of its demolition. The aboveground part of the demolition began July 8 and took three and a half weeks. However, all the manufacturing services activities that for decades have gone on inside Bldg. 841— often called "the shops" — have been relocated and are alive and well and ready to serve you in Bldgs. 867, 842, and 840.

New locations of functions formerly housed in Bldg. 841, 842

Here's a summary of the new locations of the technologies that were once housed in Bldgs. 841 and 842:

Technology	Historic Location	New Location
Precision Metal Forming	Bldg. 841	Bldg. 842
Welding & Fabrication	Bldg. 841	Bldg. 842
Lapping	Bldg. 841	Bldg. 840
High Energy Density Welding	Bldg. 841	Bldg. 867
Metal Preparation	Bldg. 842	Bldg. 867
Weapon Destruction	Bldg. 842	Bldg. 867
CMI Lab	Bldg. 842	No Change

Feedback

Question about non-medical reserved parking hours

Q: *Many staff work any and all hours of the night to support Sandia's mission. I have a proposal. Why not make all non-medical reserved parking spaces open to anyone between the hours of 5 p.m. and 5 a.m.? This would include visitor, vanpool, and the like. I grow weary of walking past vast numbers of reserved parking spots on my way out to the far edge of the campus in the middle of the night. The last time I inadvertently parked in a vanpool spot I was ticketed, so I ask who needs this spot at 1 a.m.?*

A: Thank you for your suggestion and patience in waiting for a response. The Traffic Safety Committee, in their regular monthly meeting on June 19 discussed your suggestion in detail. The committee agreed that the recommended changes should not be implemented. The potential for abuse and demand on enforcement personnel far outweigh the benefit derived. Various members of the committee performed spot surveys and found that there is sufficient close-by open parking available for people arriving after 4 p.m.

— Ed Williams (10864)