

Windfall

Carbon-14 levels discovered on ORR provide a unique scientific opportunity

Researchers at ORNL and several other national labs and universities are turning an unexpected release of a radioisotope into a research opportunity. In fact, it's a good example of how luck and sharp observation can turn proverbial lemons into lemonade.

A California graduate student, Julia Gaudinski, discovered elevated levels of carbon-14 on the ORR during the summer of 1999 while making measurements for her Ph.D. dissertation. The "pulse"—which is how the researchers refer to the unexpected presence of carbon-14—confounded her planned observations.

Using wind records and the locations of enriched background carbon-14 in plant leaves and tree rings, researchers pretty much narrowed the source to one or more incinerators operating on the ORR. Researchers



The carbon-14 opportunity would have gone unrealized had Julia Gaudinski not chosen to work on her dissertation at ORNL.

aren't sure of the exact source, amount or time of the release. Whatever the cause, scientists realized the radioisotope had provided them with a "label" that represented an unmatched opportunity to learn more about carbon cycling.

Levels of the carbon-14 were below minimum exposure standards but above expected background levels. In fact, the enrichment of carbon-14 was so minimal, only highly specialized instruments are sensitive enough to detect it. Julia's samples were analyzed at Lawrence Livermore National Laboratory's Center for Accelerator Mass Spectrometry.

Subsequent measurements of leaves and tree rings in 2000 showed that the 1999 carbon-14 pulse was most prevalent on the west end of the Oak Ridge Reservation. Plant material from the east end was closer to expected background levels.

"The 1999 carbon-14 release gives us a unique, ecosystem-

scale pulse-labeling experiment right here on the reservation," says the Environmental Sciences Division's Paul Hanson. "Knowing how quickly carbon is turned over and stored in the soil in this or other climates represents a holy grail of information about carbon sequestration and other studies related to climate and environment."

Because of the mid-year timing of the 1999 carbon-14 release, Paul explains, much of the carbon was taken up by the plants through photosynthesis and stored in plant tissues. Tracking where this carbon-14 labeled carbon goes will allow researchers to trace carbon's complicated journey from growth through death and then to decomposition.

"This includes carbon pools that are resistant to decomposition," Paul says. "The naturally grown and uniquely labeled plant material 'built' in 2000 from material stored during the 1999 pulse is not something that can be created in a lab experiment."

The carbon-14 levels measured with respect to ORR's local release are similar to those experienced throughout the Northern Hemisphere at the height of the Cold War, just before the Test Ban Treaty ended open-air

(See WINDFALL, page 4)

Lab employees respond to storm-stricken communities

At one point, as they huddled in their basement-turned-storm shelter, Tony and Brenda Stansberry wondered if they would live.

The tornadoes that swathed a path of death and destruction through several upper East Tennessee counties on the night of November 10 put two ORNL employees out of their homes. Brenda Stansberry works in ORNL's Creative Media group. If you're reading this story on the Web, she coded it. Facilities and

"There goes the chimney."

Operations employee Merle Sexton, the Stansberrys' next door neighbor, also

lost his home in the storm that devastated many, many others in Morgan, Anderson and Cumberland counties. Brenda's husband, Tony, is an electrician at Y-12.

Tony and Brenda's fright wasn't an overreaction. The disaster, which dominated the national news as the sun came up, took two lives in their Joyner community alone and turned the landscape into, as Brenda described

to TV reporters, a "war zone" of dazed and displaced families.

ORNL employees, who have never shied away from charitable causes, rose to the occasion once again. A collection drive on the rainy morning of November 19 took in nearly \$16,000. That sum came after and in addition to private and spontaneous collection efforts at ORNL and the other DOE sites.

Facilities and Operations employees, with DOE support, fanned out into stricken areas to help clear brush and debris. Atomic Trades and Labor Council members worked for a week in Cumberland County with chainsaws and heavy equipment.

ORNL, working

with DOE's Property Management organization, also delivered a number of donated items to the Morgan County relief center, including shelving, tables, chairs and insulation. The center was stacked with items, and the material from the Lab helped relief workers get the material organized and displayed.

The Red Cross Appalachian Chapter's

(See TWISTER, page 2)



This and similar scenes greeted residents of Morgan, Anderson and Cumberland counties when the sun came up on November 11.

Tim Myrick

Twister

Continued from page 1

brand-new disaster relief van, which was purchased with the help of a successful fund drive at ORNL last spring, made its maiden voyage into Morgan County in the early morning of the 11th with ORNL Modernization Project Coordinator and fund drive organizer Tim Myrick in tow. He sent back early accounts and photos of the destruction, which he termed “incredible” and “breath-taking and disheartening.”

With the outpouring of assistance into the stricken counties in the immediate aftermath of the disaster, ORNL officials have taken the long view in rendering assistance to the people and the communities. Needs of the moment were quickly met for the most part. The tasks of rebuilding homes and lives will take many months.

ORNL plans to convene a group of employees to consider and recommend the best uses for the funds for final approval by the Leadership Team. “The first priority will be to assist Lab employees who were directly impacted by the storms,” says Communications and Community Outreach Director Billy Stair. “A second goal is to support longer-term needs that become apparent after immediate assistance declines. Opportunities for volunteer assistance, such as the possible construction of a Habitat for Humanity home for an uninsured family, also will be considered.

The Stansberrys were like many others who,

in the space of a few minutes, found their lives turned upside down by weather usually related to flatter regions of the country. Twisters aren’t normally an East Tennessean’s concern, but they aren’t unheard of. In 1993 a cyclone just missed the Y-12 Plant, deroofed the FEDC building, which was then serving as the offices for the Advanced Neutron Source project, and skittered up Union Valley. The November 10 storm was much more serious. From a few counties away, the sky over Morgan and Anderson counties glowed like a faulty neon light.



The Morgan County disaster was the first trip for the Red Cross Appalachian Chapter’s disaster relief van, which Lab employees helped buy.

“Tony said ‘there goes the chimney.’ Then our outbuilding slammed into the side of the house. Our new addition was torn away,” Brenda recalls. “Then water started pouring into the basement through the ductwork, like a sinking submarine.”

Most of their structure, though thoroughly soaked and ruined, remained upright. Brenda’s 83-year-old Aunt Macel Phillips, across the hill in the now-famous Mossy Grove, sat in the flooded basement of the flattened wreck of her home until a neighbor coaxed her out. She received a hug and

reassurances from Gov. Don Sundquist the next day.

Mobile homes were particularly vulnerable; the Stansberrys’ yard was littered with belongings from a neighboring trailer. Brenda toured a network news crew through the shattered Stansberry dwelling. She ultimately appeared on at least three national newscasts. Not mentioned in any of them were some of

Recovery volunteer visits his great grandfather’s namesake



Joel is shown in front of his great grandfather’s portrait at the Holifield Facility.

Volunteers from AmeriCorps, a network of national service programs, were among those who came to help with tornado recovery. One AmeriCorps member, Minnesotan Joel Mulholland, has a historic tie with the region.

While here, Joel and his group were given a special tour of the Holifield Radioactive Ion Beam Facility, which was named after his great grandfather, Congressman Chet Holifield. Holifield chaired the Joint Committee on Atomic Energy for many years, and, for a short time in 1974–75, ORNL was renamed Holifield National Laboratory.

the more subtle situations disasters create; for instance, the Stansberrys for a time had one of the only still-functioning bathrooms in the neighborhood.

Brenda says the support from the community, including the couple’s co-workers at the DOE facilities, has helped them pick up from a harrowing life experience.

“The response and help from all the people at work have been overwhelming,” Brenda says. “The help we received from so many people brought us through the worst part of this disaster.”—B.C. [ornl](#)

Contributions still welcome

Follow-up to the tornado relief effort continues. If you or members of your immediate family suffered loss or damage in the November 10 tornadoes and need assistance in whatever form, contact Karen Garrett in Communications and Community Outreach (Bldg. 4500N, MS-6266; garrettk; or 576-1946).

Moving? Call OneCall

If you are a retiree and have changed your address, call OneCall, 574-1500 or 1-877-861-2255, and request a change of address form. Once Benefits Delivery receives your signed and completed form, your address will be corrected on Benefits Delivery’s files, and it will also update your address to receive the *ORNL Reporter*.



The Quality Services Division’s Twana Taylor was one of the browsers at this month’s United Way book fair, the first activity for next year’s campaign. This year’s campaign exceed its goal.



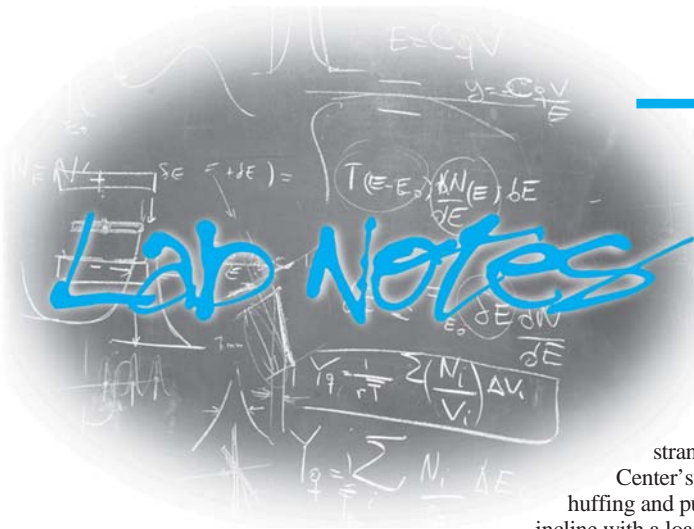
is published for the employees and retirees of Oak Ridge National Laboratory, which is managed and operated for the U.S. Department of Energy by UT-Battelle.

Bill Cabage, editor
Phone 865/574-4399
E-mail cabagewh@ornl.gov

Deborah Barnes, associate editor
Phone 865/576-0470
E-mail barnesds@ornl.gov

On the Web: www.ornl.gov/reporter

DOE Inspector General Hotline: 1-800-541-1625



Gravity 'discovered' at Metrology Lab

The least understood of the four forces, no one knows what gravity really is, but at least we know how much we have. As part of an effort to improve the ORNL Metrology Lab's accuracy, Dr. John Brown, a geophysicist from Micro-g Solutions Inc., was invited to measure the absolute acceleration of gravity in the Metrology Lab's new Building 5510A facility.

"Knowing this value with precision will improve the accuracy of many of the Metrology Lab's calibrations," says the lab's Roby Effler. "The average gravity on earth—one *g*—is about 981,000,000 microGal (One Gal, a unit named for Galileo, is equal to 1cm/sec²). However, precisely at the point indicated by a brass plaque now imbedded in the floor in room 200 at 5510A, gravity is actually 979,697,620.06 microGal."

Roby says the incredibly accurate measurement was accomplished by dropping a weight in an evacuated cylinder 1,200 times while measuring its acceleration with a laser interferometer and a rubidium time standard. Then the effects of the tide, ocean load, polar motion, barometric pressure and the height of the apparatus were factored into a calculation to determine the true gravity.

As Bill Wright, the Metrology Lab's

technical manager is often heard to say, "Gravity isn't just a good idea; it's the law!"

Family treks together

Gerry Eddlemon promo'd his talk with the teaser: "Why was that strange fellow on the Fitness Center's far treadmill last summer, huffing and puffing up the maximum incline with a loaded pack, leg weights and trekking poles?"

The reason, now well known, is that he was fixing to climb up to the "roof of Africa," Mount Kilimanjaro. He took his wife and son along on what was no ordinary trek: The 19,344-foot peak claims a few lives each year, and the already athletic Eddlemons still had to train for the strenuous climb and high altitudes.



The Eddlemons in Africa: onward and upward

Gerry was nice enough to share his experiences in an Environmental Sciences Division seminar on November 13. He brought back photos of the amazing diversity of life climbers experience as they rise out of the equatorial jungle to the icebound heights. He noted their guides' and porters' street clothes that contrasted with the climbers' high-tech gear.

The famed snows of Kilimanjaro are disappearing fast, which could be interpreted as an effect of global warming, although the mountain has melted several times since the ice

ages. In fact, mud was one of the many challenges of the trip. But the Eddlemons were not to be denied—each made it to the top. Thanks for the postcard.



Curtis Boies

Here's one for the history books. All four directors of ORNL were at the Lab on November 15 for Director Emeritus Alvin Weinberg's talk on Eugene Wigner, in celebration of Wigner's centennial. Weinberg, a self-proclaimed Wigner "disciple," recalled a number of instances of the Nobel laureate's foresight and brilliance in a talk in Weinberg Auditorium titled "Weinberg on Wigner in Weinberg." Posing under a portrait of Wigner, from left, are Al Trivelpiece, Bill Madia, Herman Postma, and Weinberg.

Cranes complete comeback tour

Here's some follow-up on an effort, supported by some Lab researchers and Team UT-

Battelle, to help a group of whooping cranes, a once-nearly extinct species, find a migratory route to Florida.



Cranes over Florida with ultralight escort

Like the Eddlemons, they made it. Ultralight aircraft helped lead the cranes along migratory routes that include a stretch over Tennessee. Lab proponents of the effort were Lynn Wright and Janet Cushman.

Populations of whooping cranes have been reestablished, but they've been nonmigratory. Migrating whooping cranes hadn't been seen in more than a century, and the known population, pressured by unrestricted hunting and habitat loss, had at one point dwindled to 16.

Now they're back, and wintering in Florida. How many of us wish we could say the same?

Reported by Bill Cabage



ORNL was a major presence at November's Super-computing '02 conference in Baltimore. The Lab's exhibit stopped many attendees in their tracks. Among the visitors were Energy Secretary Spencer Abraham, right, shown here being briefed by Associate Lab Director for Computing and Computational Sciences Thomas Zacharia, left, and Computer Science and Mathematics Division Director Jeff Nichols, center.

Windfall

Continued from page 1

nuclear weapons tests. Those levels peaked in the early 1960s, then dropped off quickly after the tests ended.

To take advantage of what the researchers call the ecosystem-level pulse label, researchers from Oak Ridge, Argonne, Lawrence Livermore and Lawrence Berkeley national laboratories, along with University of California-Irvine and UC-Santa Cruz, proposed the Enriched Background Isotope Study to provide significant knowledge of carbon cycling, particularly below ground.

Researchers gathered acres of enriched and background leaf litter produced from the 1999 carbon-14 pulse, and are in the process of using it in a multi-year manipulation of the forest floor at four different sites on the ORR representing two different soil types.

"The carbon-14 tracer incorporated into root systems also allows us to track root decomposition and evaluate leaf litter or dead roots as the source of soil carbon," Paul says. ESD and other researchers will then study the carbon as it makes its way through the decomposing material into the soil pools. Researchers at other locations are also interested in acquiring some of the magic carbon-14 leaves in order to conduct other experiments.

"What we'll know from these studies is how carbon accumulates and moves within the soil cycle," Paul says. "Up until now, we've been forced to make a lot of assumptions in a black box."

Observations of the movement of the carbon-14 pulse throughout the forest ecosys-

tem have already shed light on ecosystem processes that are otherwise difficult to resolve. For instance, fungi sampled following the carbon-14 introduction can be characterized as either relying on carbon directly from plants or on carbon from decomposing organic matter in the soil. A rapid increase in the carbon-14 levels within squawroot (a non-photosynthetic higher plant) suggests that it thrives on sugars taken from other plants, but not from decomposing plant material.

The carbon cycle is of interest to scientists because carbon, particularly in carbon dioxide form, is a contributing factor to global warming. Carbon sequestration in soils—essentially a long-term lock up of carbon dioxide as organic carbon—is being vigorously studied as a possible way to mitigate increases of atmospheric greenhouse gases. Carbon behavior and movement in the soil is an important aspect of that research because soils represent a very large pool of the Earth's carbon.

"All of this happened because a graduate student, Julia, noticed something that no one probably would have ever noticed," Paul says. "Now it's a million-dollar-per-year research project. Not often are we handed such an opportunity."—*B.C. ornl*



Squawroot thrives on living living plants.

Committee for Women stays busy in 2002

ORNL's Committee for Women has chalked up an active year. The committee's primary purpose is to foster and promote the Laboratory as a desirable work place for women, which involves enhancing the workplace environment, including policies and procedures and attitudes; development opportunities for women in all career paths; and recognition of ORNL as a preferred employer by women.

Toward those goals, the CFW, which includes both women and men, compiled an impressive track record in 2002.

The CFW and local chapters of the Association for Women in Science, the American Nuclear Society/Professional Women in ANS, Federally Employed Women, the Society of Women Engineers, and Women in Nuclear hosted Women's History Month programs in March. The CFW serves on the community DOE/Contractor Committee for Women's History month.

The CFW's series of brown-bag seminars included "The Status of Women in Physics: An International Perspective," by Dr. Aparna Venkatesan of the University of Colorado, Boulder, Center for Astrophysics and Space Astronomy, and "Parent to Parent," a video workshop series on the fight against drugs, provided by the Children's Advocacy Network. The series will be offered again next spring.

A jury organized by the CFW selected five nominations for the YWCA Tribute to Women competition, sponsored by the Oak Ridge and Knoxville YWCAs to recognize area women for their outstanding accomplishments in their respective fields. Amy K. Wolfe of the Environmental Sciences Division won the science and Technology category.

Three nominations for the CFW also went to the Oak Ridge YWCA's Night of Tribute competition.

For the second year in a row, a Team UT-Battelle contingent of 182 led by the CFW received the largest corporate team award in the Susan G. Komen Race for the Cure. Volunteers who helped assemble and organize the 2001 team received an Awards Night Exceptional Volunteerism by a Team award.

The committee has also taken an active role in issues concerning women at the Lab. The CFW is working with Deputy Director of Operations Jeff Smith toward seeking a decision on a child-care facility for ORNL. The committee is represented on focus teams ORNL Ombudsman Steve Stow has organized to explore areas of work force diversity. The committee has also been working with Facilities and Operations staff to address safety and lighting issues in ORNL parking lots and paths.

To learn more about the CFW, see their Web page at www.ornl.gov/cfw. *ornl*

Summer's strontium-90 event could focus cleanup attention back to on-site issues

Another, more recent event from the skies over ORNL could also have a positive outcome. The discovery of strontium-90 contamination last summer in the center of the ORNL campus caused initial consternation and considerable expense with the cleanup. But ESH&Q Director Kelly Beierschmitt says the contamination, which remained below allowable minimums and stayed confined to the area, has focused attention back to environmental cleanup issues at the Lab.

"The event drew attention of the EM program back to stabilizing areas on site," says Kelly. "This was a very active program in the mid-'90s that had lost emphasis to more visible public projects. The outcome could be increased funding for cleanup or stabilization projects inside the Lab."

Kelly says the incident also drew attention to the importance of Bechtel Jacobs' EM presence at the Laboratory and its effect on Lab operations. A not-yet-released corrective action plan, the result of BJC's investigation, points out causal factors ranging from the contractor's unfamiliarity with contamination present in the facilities' ductwork to the ventilation system design to lack of proper work planning procedures for doing the work. Those problems are being addressed, he says.

"Monitoring of the most affected Fifth Street and Central Avenue areas has continued since the event. We've seen no recurrences; discovery of contaminated materials tailed off after the event and massive cleanup," says Kelly. "No one has been found to have received any internal exposures or personal contaminations as a result of the incident."—*B.C. ornl*



Monitoring of areas affected in last summer's strontium-90 event has continued.

Have desiccants exhibit, will travel

Mobile exhibit seeks to expand popularity of comfort-conditioning technology

When a rock band has a new album to sell, they take it on the road. DOE is following a similar course with a new climate control technology: taking the desiccant humidity control message to the heating, ventilation and air-conditioning industry with the help of a mobile exhibit developed at ORNL.

Desiccants—materials that remove moisture—are a relatively new approach to comfort-conditioning systems. Because the application is new, commercially available systems now represent a small, fledgling niche in the market. Managers in DOE's Energy Efficiency and Renewable Energy program decided it would be a good idea to take a traveling exhibit to places where HVAC experts gather.

ORNL's buildings technology researchers have demonstrated that desiccant systems are better, healthier and more environmentally friendly at making buildings more comfortable. The mobile exhibit is an outreach tool to promote their use.

"Conventional systems, particularly in damp environments, often lose ground at taking moisture out of the air," says the Engineering S&T Division's Jim Sand. "That's why you often have that clammy feeling when you first walk into a motel room."

In a desiccant system, the air is passed through the desiccant material and dehumidified. The desiccant is then regenerated with a heat source that cooks the moisture out. Ultimately, the energy spent with a desiccant system is usually less than what a conventional air-conditioning system uses trying to dehumidify and cool air.

"Plus," says Jim, "it feels better."

The Desiccant Humidity Control Van is a semi trailer packed with exhibits that demonstrate to industry reps, up close and personal, the advantages of desiccants. The trailer is even divided into two sections, one with conventional AC, the other with a desiccant system.

"The idea is that when you pass through the air lock between the two, you can feel the difference," Jim says.

The traveling exhibit has already appeared at building industry trade shows. It drew an audience at shows in Orlando and Atlanta, generating a jump in industry inquiries. That popularity will likely help it stay booked and on the road.

"This exhibit has been popular with professional societies and utility consortiums, such as the American Society for Heating, Refrigeration and Air-Conditioning Engineering and the American Gas Association, and we can schedule it to appear at local meetings and other secondary venues on its way to the big shows. If these groups cover some of the drivers' and other expenses, the cost to them is really no more than booking a speaker. So it's a win-win situation," Jim says. "It's been pretty successful with the local ASHRAE chapters."

Industry reps also serve as hosts in the exhibit, which helps with the exhibition costs. Because the desiccant comfort-conditioning systems are so new, the equipment reps tend to emphasize the technology instead of pushing their own product lines. To visitors, the DHC van offers a 15-minute tour of exhibits that include dazzling plasma screens, a 45-

minute overview of the technology and workshops that last from an hour to a day.

"The desiccant system technology, at this point, needs explanation," Jim says. "The DHC van is helping us to inform the building industry about desiccant systems, and it's also giving industry reps the opportunity to help us spread that message."—B.C. [ornl](#)



The Desiccant Humidity Control Van is a semi trailer packed with exhibits that demonstrate to industry reps, up close and personal, the advantages of desiccants.

ORNL people

Three newly elected American Physical Society fellows are from ORNL. **Carlos O. Reinhold** was elected for pioneering contributions to the understanding of classical-quantum correspondence in time-dependent interactions of atoms with ions, solids and electromagnetic pulses. **Thomas George Thundat** is cited for his pioneering work in developing a micromechanical sensor platform for biomolecular detection and the elucidation of the fundamental physical principles underlying the adsorption-induced forces. The society cited **Mohana Yethiraj** for important neutron scattering studies of vortex structure, spin and lattice dynamics of high-temperature and other superconductors.

ORNL's protein fold prediction software remains in the top tier. A Lab team of **Ying Xu, Dongsup Kim, Dong Xu, Juntao Guo, Manesh Shah, Sergei Passovets** and **Kyle Elliott** placed fifth in a field of 150 in the fifth Critical Assessment of Techniques for

Protein Structure Prediction Experiment, called CASP5. They were the top-placing national laboratory. The team used the ORNL-developed and R&D 100-winning PROSPECT software (PROtein Structure Prediction and Evaluation Computer Toolkit), developed by researchers in the Life Sciences and Computer Sciences and Mathematics divisions.

David Greene, corporate fellow and leader of ESTD's Transportation Policy and Planning group, has received a life-time appointment as a National Associate of the National Academies. This appointment recognizes David's "extraordinary work and service to the National Academies in advising the government and the public on matters of science, technology and health." The National Academies include the National Academy of Science, the National Academy of Engineering, the Institute of Medicine and the National Research Council.

Metals and Ceramics Division's **Bill Corwin** has been named national research director for DOE's Generation IV Reactor Materials Program by DOE's Office of Nuclear Energy, Science and Technology

(DOE/NE). Bill will lead DOE-NE's national research program for developing and qualifying advanced materials for all of the next-generation nuclear reactor concepts that DOE is studying.

The Computer Science and Mathematics Division's **Robert J. Harrison**, the principal architect of the Northwest Computational Chemistry Software (NWChem), received the IEEE Computer Society's 2002 Sidney Fernbach Award. Robert joined the staff at ORNL from Pacific Northwest this past summer. The prize was announced at the Supercomputing '02 conference.

The Engineering S&T Division's **Richard Montgomery** has been elected Republican Caucus Minority Whip for the upcoming 103rd General Assembly. Richard is a newly re-elected state representative for District 12, Sevier County.

Small Business Program Office Director **Will Minter** received the Economic and Community Development Advocate Award from the Tennessee Black Caucus of Legislators at their annual legislative retreat and training conference on Nov. 16.

Heading off conflict

When two sides disagree, mediation produces better, more productive work place

Disputes and disagreements are a part of life. Although they may not always be unavoidable, they aren't necessarily unsolvable. Resolution sometimes is a simple matter of two sides coming together and understanding each other's point of view.

Often, that process works better if someone helps it along. David Rupert of Human Resources and Diversity Programs is a volunteer mediator for the Knoxville Community Mediation Association and the Anderson County Community Mediation Center. David's training and certification qualify him to participate in court-appointed mediation. He also teaches a behavior and social science course at Roane State Community College that includes a conflict management component.

It's a service the overloaded court system needs—when disputes can be ironed out before they get to the trial stage.

"Alternative dispute resolution is much in vogue,"

David says. "It was introduced to try to resolve issues before they get out of hand and into a courtroom."

David is a Rule 31 mediator qualified by the Supreme Court of Tennessee, Alternative Dispute Resolution Commission, to work with the courts in the field of General Civil

Mediation. David also performs juvenile, criminal and family mediation.

His interest isn't exclusive to the court system. David believes that mediation can be a valuable asset in the work place when disputes occur both between employees and between an employee and a supervisor.

"When disputes arise on the job—and they will—we need to try to resolve them before they become conflicts and begin to contribute to a nonproductive work environment," David says. "The company doesn't necessarily always win—it doesn't have to be a matter of who wins or who loses."

When David deals with work-place

conflicts he usually suggests the two parties sit down and work through the issues. In situations between an employee and a supervisor, the supervisor has to be willing to sit in on the process as an equal. For that reason, particularly when the issues involve a supervisor's responsibilities, mediation isn't always appropriate.

"Mediation is more in line with personality issues or misunderstandings," David says. "Most importantly, it has to be a voluntary process."

David's experiences as a mediator often bear out the value of communication.

"Any time a lot of change is happening, like now at ORNL, you need to stress communication. When people talk to each other, 75 percent of the problem is solved. If people aren't talking, they make assumptions, and



Curtis Boiles

David Rupert says disputes in the work place should be resolved before they lead to a nonproductive work environment.

Lab welcomes 2 new Wigner fellows

ORNL welcomes two Wigner fellows, Sergei Kalinin and Maria Varela. The Eugene P. Wigner Fellowships provide research opportunities for exceptional new scientists in honor of the Nobel laureate and ORNL's first research director.

Sergei completed his Ph.D. in materials science at the University of Pennsylvania this fall. His previous undergraduate and graduate work was completed at Moscow State University, Russia. Sergei has received the American Vacuum Society Graduate Student and the Materials Research Society Graduate Student awards, along with the Novoselova prize in Inorganic Chemistry at Moscow State in 1997. He authored more than 40 scientific



Kalinin



Varela

papers and four book chapters. Sergei will work in the Condensed Matter Sciences Division under Art Baddorf and Ward Plummer, and he will contribute to ORNL's new Center for Nanophase Materials Science.

Maria received her Ph.D. in solid state physics from the Complutense University, Madrid, Spain, in July 2001, where she excelled in the field of materials science. She has experience in the growth, physical properties measurements and structural characterization of thin films, in particular high-temperature superconducting thin films and superlattices. Maria will be working with Stephen Pennycook's electron microscopy group in the Condensed Matter Sciences (former Solid State) Division. [ornl](#)

those assumptions are usually negative. That's fundamental—get the people talking to each other and get them past the 'I want revenge' stage and looking to the future."

Mediation is a facet of HRDP's Concerns Program. Both David and colleague Mylissa Buttram have had training in conflict management.

"We live in a complex society, with lots of differences in cultures, perspectives, backgrounds and opinions," David says. "I'd encourage people to try to understand and respect those differences and not look at them negatively. Clearly, differences can lead to disputes that may escalate into nonproductive conflict. We want to promote an environment where people can learn to disagree without becoming disagreeable—learn to find ways to capitalize on their differences. This will lead to a more productive work environment and more productive lives. If people feel like those differences harm productivity, it may be time to pause and consider what the issue really is."

To learn more about ORNL's Concerns Program, contact David (576-2432, rupertdr@ornl.gov) or Mylissa (buttramms@ornl.gov).—B.C. [ornl](#)

Friends announce 2003 Community Lecture Series

The Friends of ORNL have set the slate for the 2003 Community Lecture Series, which kicked off in November with a talk by Oak Ridge native and professional basketball star Jennifer Azzi. The talks commence at 7:30 p.m. in the American Museum of Science and Energy Auditorium.

On February 25, science writer John Noble Wilford will talk on "Informed Wonder and Science Writing."

On March 11, Stephane Groueff will speak on "The Making of the Atomic Bomb: The Oak Ridge Story," and will be available to sign books.

On March 25, Michele Gerber will talk about the "History of the Hanford Operations" and will also sign her books.

On April 24, Tom Zava will speak about breast cancer.

On May 8, Robert Norris will discuss the legacies of General Leslie Groves and Oak Ridge.

Also, at a date to be determined, Oak Ridge native and attorney Tom Griffin is scheduled to talk.

The Friends of ORNL, which sponsors the Community Lecture Series, is open to all who are interested in the future and well being of ORNL. FORNL meetings are usually the third Wednesday of each month at the Oak Ridge Civic Center and also feature interesting presentations on research topics and Laboratory issues. [ornl](#)

Educational Assistance changes aim to boost participation, advancement

Recent revisions to ORNL's Education Assistance Program expand eligibility to more employees and help reduce the cost burden for those who participate. Some part-time employees are now eligible.

The enhancements and changes have completed the Standards-Based Management Systems process. The new policy includes

- Part-time employees who work at least 50 percent of a full-time schedule are now eligible to participate in educational assistance.
- The option to receive advance reimbursement following registration and payment of fees is now available. Evidence of successful completion of the course is still required when the course has ended. If preferred, participants may continue to wait until after they have completed the course to request reimbursement.
- The reimbursement requirement for successful completion of a course has been changed to require a grade of "C" or better for undergraduate and other for-credit courses, with the expectation that employees maintain an overall GPA of "B" or better to be eligible for reimbursement. Graduate courses now require a grade of "B" or better.
- Distance learning or other nontraditional courses that are significantly higher in cost than traditional, local courses will now be approved on a case-by-case basis and may require a statement of justification and management approval.

The EA program in its previous form has many success stories. Facilities and Opera-

tions' Robert Lyles, who was driving a truck a year ago, completed an associate's degree course in electronic engineering last spring and bid on and received an instrument technician job in Facilities and Operations. Robert says school required dedication.

"It wasn't easy; I went to school five nights a week, getting home at 10:30," Robert says. "But I'm really happy they had EA here to help me out. I'd recommend to anyone to take advantage of it."

Creative Media Manager Peggy Brown completed a Professional MBA program through UT, which involved going to school every weekend for 16 months. "I'm in management, but I didn't have a business degree. It helped me learn ways to be a better manager," Peggy says. "The EA program paid for it, and I'm not sure I would have considered the program otherwise because it was expensive."

F&O's Hurtis Hodges graduates from UT's Professional MBA course this month. "EA made the decision to get an advanced degree easier, that's for sure," says Hurtis, who completed the course with the support of his wife and two girls, age 5 and 7.

Marie Williams, a technician in the Metals and Ceramics Division, will complete a BS degree in engineering technology at ETSU next summer. "It has been great to have financial assistance," Marie says. "At one time, I even took advantage of the reduced work schedule, which enabled me to take a heavier course load for one semester. The EA application is easy to complete and reimbursements are quick."

"Adding part-time employees and changing the reimbursement policy will further encourage educational advancement for all staff and make it easier for staff to manage the financial commitments," says Human Resources and Diversity Programs Director Darryl Boykins.

"We're implementing the new grade requirements because, quite frankly, as a world-class laboratory we felt it appropriate that education standards be in line with the standard of excellence the Laboratory staff has established on the job."

Darryl notes that distance learning and online courses are gaining popularity but are often more costly than local, "traditional" courses. "The combination of these two factors required closer management of costs," Darryl says. "The goal of these changes is to enhance our ability to support and encourage staff in their pursuit of educational and development opportunities, but we must also prudently manage costs so that we can maximize our ability to assist all staff who are pursuing educational enrichment opportunities."

For further information, call the EA office at 241-4556.—B.C. [oml](#)

Service Anniversaries

December 2002

35 years: David U. O'Kain, Engineering Science & Technology

30 years: Robert D. Childs, Research Reactors; Stephen K. Combs, Fusion Energy; David E. McMillan, Ronald L. Shelton and Linda H. Sparks, Engineering Science & Technology

25 years: Alfred Akerman and Gwen T. Scudder, Engineering Science & Technology; Deborah S. Brown, Nuclear Science & Technology; Carol J. Cromwell, Business & Information Services Dir.; Douglas W. Edwards, Craft Resources; Dewey L. Foulk, Jr., Quality Services; Doris B. Glass, Operational Safety Services; Roddie R. Judkins, Energy & Engineering Sciences Dir.; Patricia K. Lankford, Life Sciences; Tommy R. Nelson, Computational Sciences & Engineering; Gary W. Ownby, Solid State; Karen L. Popham, Environmental Sciences; Brenda J. Smith, Communications & Community Outreach Dir.; Stephen D. Van Hoesen, Environmental Protection & Waste Services

20 years: Jerry G. Arnwine, Dennis M. Ferguson, Roger A. Hunt and Garry T. Lee, Craft Resources; Virginia L. Lynch, Business & Information Services Dir.; Debbie D. McCoy, Computing & Computational Sciences Dir.; Jonathan Z. Tischler, Solid State; Claudia A. Walls, Metals & Ceramics; Linda H. White, Life Sciences

New Staff Members

ORNL is growing. This new feature lists new employees at the Lab. Welcome all.

Wallace S. Birchfield, Environmental Protection & Waste Services

Bart A. Hammontree, Engineering

Chaitanya K. Narula, Metals & Ceramics

Vincent Raby, Environmental Protection & Waste Services

Craig Parker, Human Resources & Diversity Programs

Caroline Zimmer, Spallation Neutron Source

Robert Quinn, Office of Lab Protection

Christopher McCollister, Environmental Protection & Waste Services

Julius Coats Jr., Computational Sciences & Engineering

Nevin Sowle, Operational Safety Services

Suzanne Eubanks, Operational Safety Services

John Higgins, Craft Resources

Christopher Thomas, Chemical Sciences Division

Theodore Williams, Spallation Neutron Source

Kathy Carney, Environmental Protection & Waste Services

Richard Genung, former deputy director, dies

Former Deputy Director Richard Genung died October 30 at age 55. Richard, who served as deputy director from March 1997 until March 2000, was eulogized as one who "made work for thousands of scientists and engineers workable."



Genung

Before returning to the Lab for the deputy post, Richard served as director of ORNL's Chemical Technology Division, where he is credited with establishing the division's major mission in waste management and environmental technology. His concern for employees was illustrated by his support for employee development initiatives such as Leadership ORNL.

He is survived by his wife Donna and children, Mark and Linda, all of Farragut. [oml](#)

Volunteers, Friends provide home to scraps of Lab history

Items of possible historical interest have trickled into the ORNL History Room, including a few vintage scientific instruments and a scrapbook of wartime clips. The history room project, called “Preserving the Past: Collecting the Artifacts,” is a joint effort of Team UT-Battelle and the Friends of ORNL, aimed at saving potentially valuable historical items from being discarded as ORNL clears out its catch-all corners of legacy materials.

Martin Grossbeck, who is retired from the Metals and Ceramics Division, brought in a potentiometer for evaluation as an artifact.

Diners in 1945 complained of “scarcity of fruit.”

Although some might still be found in labs, they have been largely replaced by computer data-acquisition systems.

Probably the most fascinating thing about Martin’s instrument find is the elegant wooden case that contained it.

Also resurfaced and now in the history room is a scrapbook of Oak Ridge-related news clips and materials from Oak Ridge from World War II and shortly thereafter. The pages include maps and guides for employees—marked with all the requisite wartime security disclaimers—and programs from area performances and plays.

In fact, the scrapbook might be used to dispel the impression that early Oak Ridgers were starved for culture. One clip advertises

the appearance of a young Nathan Milstein at Oak Ridge’s Grove Theatre on Oct. 23, 1944. Milstein was one of the preeminent violinists of the twentieth century; whatever his stature in 1944, the appearance of a maestro in Oak Ridge would be a major event even today.

Also in the scrapbook is a program for a concert by the pianist Oscar Levant at UT’s Alumni Memorial Auditorium. Local wartime productions by the Oak Ridge Community Chorus and Orchestra include “Trial by Jury,” “Our Town,” “Swan Lake” and the inevitable “Nutcracker.” Several clips show Oak Ridge orchestra members, including the renowned ORNL chemist Waldo Cohn with his cello.

The scrapbook’s wartime relics include news accounts of Allied progress in either theater of war and news clips of the atom bomb strikes on Japan and their aftermath. More local to the 1940s work place is a 1946 phone directory and a letter dated May 31, 1945, unsigned and possibly unsent, outlining complaints against the Clinton Engineering Works’ cafeteria. Among them: “foreign bodies in

food,” “improper seasoning,” “unsanitary conditions” and a “scarcity of fruit.”

One small clip sums up an Associated Press account of postwar statements by Gen. Leslie Grove in which he contends that the atom project is “drifting” and that he is “tired and wants to quit.”

From more than a half-century’s perspective, it’s hard to blame him.

FORNL volunteers who have looked over some of the items turned in include Fred Young, retired Solid State Division director; Jim Cox, retired Operations (former Research Reactors) Division director; Bobby Lyon, retired editor of the *ORNL Review*; Ray Evans, retiree, M&C Division; and Jim Weir, retired director of the M&C Division.

If you have an item with historic

value that you would like to have evaluated or wish to donate to the new ORNL History Room, have it green-tagged and contact organizer Marilyn McLaughlin, 574-4163 (email: zmc@ornl.gov). The history room is located in Building 4500-North, Room F-15.



Curtis Boies

Martin Grossbeck examines a potentiometer that he turned in to the ORNL History Room. If you come across items or documents that you think might have historical value, volunteers in the history room will check them out.

ornl reporter

P.O. Box 2008
Oak Ridge, TN 37831-6146

PRSR STD
U.S. Postage
PAID
Permit #37
Powell, TN

Number 44, December 2002

Carbon opportunity, page 1

Storm-stricken, page 1

Lab Notes: Gravity, trekking, migrating, directors assembled, page 3

Desiccants on the road, page 5

Mediation works, page 6

Educational assistance, page 7

Inside