Argonne NATIONAL LABORATORY

News

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Technique will open new vistas in microscopy

JARED SAGOFF

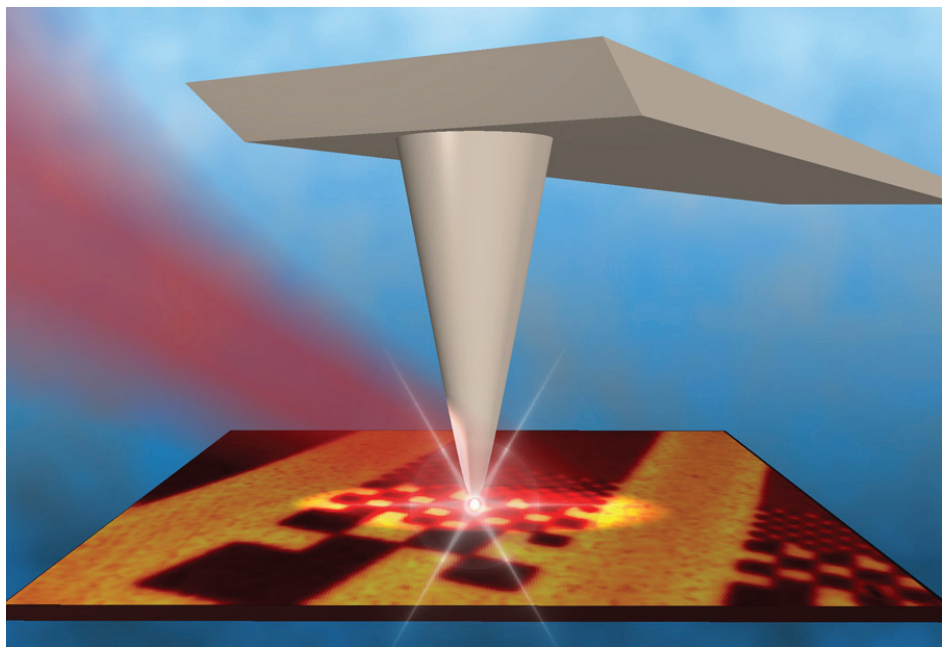
EVER looked through the highest-powered lens on your microscope and wanted just one more setting? Well, you may soon get your wish, as scientists at Argonne have demonstrated a way to resolve infinitesimally small areas in highly scattering environments and break through one of the most important barriers in optical microscopy.

Researchers Gary Wiederrecht (CNM) and Stephen Gray (CHM), along with colleagues John Rogers at the University of Illinois and Renaud Bachelot at the University of Technology at Troyes, made a significant adjustment to the typical method of near-field optical microscopy. Instead of shining only one laser beam incident on the sample, Wiederrecht and his team used a second beam to eliminate much of the unwanted scattering and diffraction that distorted the images obtained with the one-beam technique.

Earlier advances in optical microscopy were limited by what was perceived to be a rigid boundary: when attempting to resolve an area smaller than approximately 250 nanometers, or about half the wavelength of visible light, physicists were frustrated by the tendency of sample to diffract, or scramble, the incident light. While other forms of microscopy, such as electron microscopy, enable spatial resolution down to the nanometer scale, they do not reveal the light distributions present very near the sample — or near-fields — necessary to develop future nanophotonic devices. With this new technique, however, Wiederrecht sees the potential for near-field microscopy to close the gap.

"It is conceivable that near-field optics will enable spatial resolution with visible light at the single molecule level, which will open new vistas for optical microscopy," said Wiederrecht. "Current improvements in spatial resolution with near-field optics represent about an order of magnitude better special resolution than conventional optics, and it's improving all the time."

Near-field optical microscopy uses a scanning probe that traverses the sample, scattering incident light into a detector. The probe is attached to a cantilever, which vibrates rapidly up and down a few tens of nanometers. When the tip comes close to the sample's surface, it scatters the light from the laser beam, illuminating a small part of the sample.



A recent advance in near-field optics may enable spatial resolution with visible light at the single molecule level, which will open new vistas for optical microscopy.

Near-field optics experiments use probes with tips as small as five nanometers and work best for materials with very smooth surfaces that produce low amounts of ancillary light scattering. However, samples with more complex topographies, such as the periodic metallic structures used in the experiment, scatter light from regions far from the tip that interferes with the desired signal near the probe. This interference presents a significant limitation for characterizing a wide range of nanoscale materials and devices.

In order to overcome these issues, Wiederrecht and his colleagues added a second beam below the sample and tuned it to emit pulses synchronous with the vibrating – or "tapping" – frequency of the probe, a process known as acousto-optic modulation. This way, both amplitude and phase information coming from the sample could be differentiated from the diffracted noise. The results were published in April in *Optics Express* (Volume 15, pp. 4098-4105).

While Wiederrecht admitted that near-field optics still has a long way to go to achieving a resolution near the nanometer scale, he also said that scientists must pursue further advances in optical microscopy in order to understand the behavior of many nanomaterials. "We have the ability to make a lot of these next-generation optical fibers, fabrication-wise," said Wiederrecht. "But you need these sorts of tools to understand how or if light flows through these materials and then to use that to prove that these materials work." ■

MORE NEWS AND LATE-BREAKING UPDATES:
INSIDE ARGONNE
www.inside.anl.gov

Students turn 362 Auditorium into cosmic-ray observatory

JARED SAGOFF

HIGH-ENERGY physics, teamwork and good old-fashioned stick-to-it-iveness supplanted reading, writing and arithmetic as the course of study for a crew of local high school students who engaged in a week-long study of cosmic rays at Argonne in June.

Eleven students from six area high schools — Glenbrook North, Glenbrook South, Ida Crown Jewish Academy, Chicagoland Jewish, Alan Shepard and Plainfield-Central Campus — participated in QuarkNet, a particle physics outreach program based out of Fermi National Accelerator Laboratory that attempts to link mentors at universities and national labs throughout the country with high school students who have limited physics backgrounds.

"The idea was to have our students do some of their own unique research and to share that on the Web with students and teachers at other schools," said Carol Baker, curriculum director for Community High School District 218. "Having the kids here means that they're learning how do to science from the ground up, and building a network of students who will all know each other and work together."

During the week of June 22, the students appropriated the stage of the Building 362 Auditorium to assemble scintillators, photomultiplier tubes and GPS devices into cosmic-ray detectors.

(See "Students" on page 2)

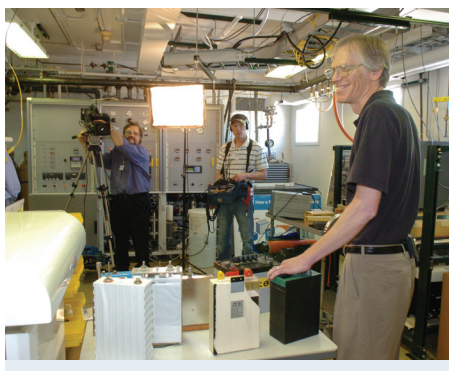
John M. Carpenter retires after 32 years as 'Dr. Spallation'

JENNIFER DEANGELIS

AFTER 32 years of service at Argonne, Jack Carpenter is hanging up his hat — but not quite for good. Carpenter, technical director of the Intense Pulsed Neutron Source (IPNS), will retire July 31, but he will remain part of the Argonne community as special term appointee, spending most of his time in the office as usual.

Carpenter's time at Argonne officially started in 1975, when he resigned his position as a professor at the University of Michigan to come to work under former Solid State Science Division Director David Price. But Carpenter had been collaborating with Argonne and developing innovative technologies for several years beforehand. A member of the Committee on Intense Neutrons, he became one of the first users of the Thermal Neutron Time-of-Flight

(See "Carpenter" on page 3)



'MODERN MARVELS' TAPS ARGONNE'S BATTERY EXPERTS

A film crew from the Discovery Channel's "Modern Marvels" program recently visited Argonne for an upcoming show focusing on batteries. They visited the Battery Test Facility and the Center for Transportation Research and interviewed several of Argonne's battery experts, including Jim Miller, Ira Bloom, John Basco, Andy Jansen, Ted Bohn, Mike Duoba, Glenn Keller and Neeraj Shidore. The show's air date has not been determined.

Students

(Continued from page 1)

Cosmic rays penetrated the auditorium and hit the scintillators; photomultiplier tubes converted the resulting flashes of light into electronic pulses that in turn were sent to a computer. The students then performed either a flux study, which measured the rays over time, or a shower study, which looked for bursts of rays that can pepper many different locations almost simultaneously.

The Argonne chapter of QuarkNet started in 2003 with a group of roughly a dozen teachers who tried to adapt the experience to a classroom setting. The difference between real-world research and classroom experiments complicated this transition, said Baker, so some of them decided to return with their most passionate students. "We send a lot of kids off to college thinking that science experiments begin and end within an hour and everything always works. And then they would come back and say how disappointed they were that they didn't understand what real research was like."

Aaron Weinberg, a junior at Chicagoland Jewish Academy, concurred with Baker's assessment. "This is real science," he said. "Kids are doing the research, and kids are collecting the data that scientists go and use to further science, which I think is appealing to every student. It's a dream."

The connection to "real science" also motivated Connie Poupard, a senior at Glenbrook North. "It's quite something just being exposed to people who are at the top of their game," she said. "You have to be pretty good to be working at Argonne."

Performing an experiment where neither the students nor the teachers have foreknowledge of the likely result provides a unique learning opportunity and a bonding experience, said Weinberg.

Ilan Cohn and Carol Baker, at left, take cosmic-ray data in the Building 362 Auditorium. Students from several local high schools engaged in a week-long study of cosmic rays at Argonne in June.

"There's a synergy between teachers and students," agreed Nate Unterman, a physics teacher at Glenbrook North. "If you just have a bunch of students or especially only a bunch of teachers together, you don't get a result quite as positive as this."

The frustrations and complexities of an actual scientific investigation render moments of realization and success that much sweeter, said Ilan Cohn, a senior at Ida Crown. "Things go wrong here and there, and sometimes you really want to get bent out of shape. Getting data to finally run across the screen, having all the work finally show something — that definitely was the payoff."

Students who can gain exposure to the scientific investigations that take place outside the classroom will have much to contribute once they re-enter it, said Unterman. "Having a trained student corps is a phenomenal asset. Their excitement will be contagious throughout their peer group. In many ways, they become the experts, and that's just what you want."

Baker agreed. "They're going to be the core trained group, and they're the ones who really need to be running the experiments. We really just need to stand on the side and help them along," she said. ■

SERVICE AWARDS FOR JULY 2007

45 YEARS
David L. Rink (NE)

40 YEARS
Connie S. Markiewicz (OCF)

35 YEARS
Steven C. Pieper (PHY), Arthur E. Wright (NE)

30 YEARS
Paula J. Hassert (OCF), Adrian M. Tentner (NE)

25 YEARS
Donald L. Barnett (PHY), Rodney W. East (AES), Lawrence G. Hill (DIS)

20 YEARS
Renato Chiarizia (CHM), Roger Dejus (ASD), Robert A. Erck (ES), David J. LePoire (EVS)

15 YEARS
Thomas Barkalow (SUF), Kurt D. Boerste (ASD), James P. Butler (EVS), Bruce Epperson (ASD), Ronald J. Erwin (FMS), Horst Friedsam (AES), Stephan L. Ginell (BIO), Thomas Gutowski (FMS), Vladimir Koritarov (DIS), Robert Wright (AES), Randall Zabel (ASD)

10 YEARS
Paul A. Fenter (CHM), Michael J. Monczynski (CIS), Geoffery Pile (ASD), Kevin J. Quigley (CMT)

5 YEARS
Mihai Anitescu (MCS), Klaus Attenkofer (XSD), Eric B. Blau (MCS), Diego M. Casa (XSD), Raymond P. Conley (XSD), Artem V. Guelis (CMT), Zhiyue Xu (NE)

AST employee receives SPOT award

ANDREA CIPRIANI

Shaw

Donna Shaw (AST) was presented with the SPOT Award for her quick actions in an emergency situation.

Shaw was contacted by a colleague who was in need of important documents quickly. Although there was a poor connection and Shaw was unaware of the emergency situation, she quickly recognized the importance of the call. She immediately put together the requested documents and promptly delivered them. Because of Shaw's quick action the emergency responders received the required information in a timely manner. Shaw's quick actions made a big impact in an emergency situation.

The SPOT Award recognizes employees' contribution to safety and quality at the laboratory. Nominations for SPOT awards can be sent directly to EQO Director Bob McCook at *mccook@anl.gov*. ■

Work on locomotive engine facility recognized

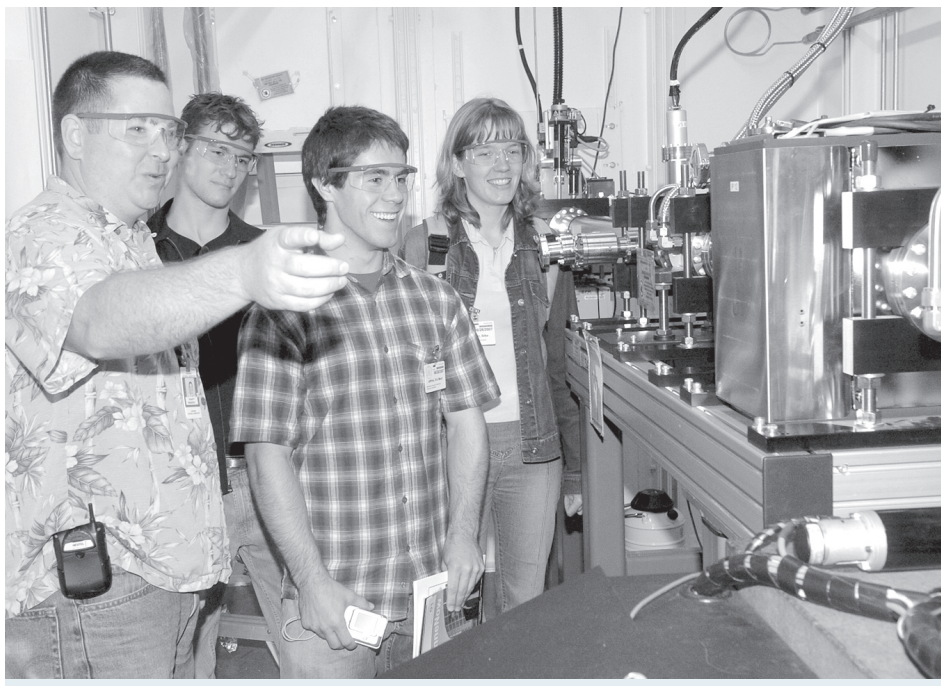
Four members of the Energy Systems Division have garnered an Argonne Pacesetter award for their work in locomotive engine performance and emissions research.

Doug Longman, Pat McPartlin, David Bell and Matt Lagessie received the award for "sustained high-quality research for over a decade in one of the largest and longest fully industry-funded work-for-others contract."

The Argonne team has worked with Electro-Motive Diesels, Inc., (EMD) to create and maintain a locomotive engine research facility that opened in 1996 with a single locomotive research engine. As a result of Argonne's investment in the project, EMD added a second engine in 2002 and has funded research on both engines since then.

"This is the largest and the longest private sector WFO investment in engine research among all the national laboratories," said Raj Sekar (TSD).

The work-for-others contract started in February 1996 with the opening of the facility and has been praised as "an excellent model for outstanding industry-national laboratory collaboration" by former Secretary of Energy Bill Richardson. ■



NOTRE DAME STUDENTS TOUR CNM

A group of 20 students in the National Science Foundation's Research Experiences for Undergraduates (REU) program at Notre Dame University were recently treated to an extensive tour of Argonne's Center for Nanoscale Materials. The day's events included a two-hour in-depth nanofabrication experience in the cleanroom facility under the enthusiastic guidance of staff scientist Leo Ocola (CNM). Scientific program overviews were given by Seth Darling (CNM) on self-assembly and scanning probe microscopy, and by Dave Gosztola (CNM) on nanophotonics; postdoc Ligang Zhang (CHM) described her nanobio interface research project. Finally, Robert Winarski and Martin Holt of the CNM's X-ray Microscopy group explained the X-ray nanoprobe beamline, located at Sector 26 of the Advanced Photon Source, including a tour of their experimental and optical hutches. The students' visit was led by Marya Lieberman and Kristy DiVittorio of Notre Dame.

Argonne NATIONAL LABORATORY

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Submit classified ads online at *www.anl.gov/Media_Center/Argonne_News/Classified_Ads* ■ Deadline for all materials is 5 p.m. Friday. ■ Argonne National Laboratory is managed by UChicago Argonne, LLC for the U.S. Department of Energy.

Jaydeep Bardhan receives Howes Scholar Award in computational science

Bardhan

ARGONNE'S Jaydeep Bardhan (MCS) has been named a Frederick A. Howes Scholar in Computational Science for 2007. The award was established to honor the late Frederick Anthony Howes, who managed the applied Mathematical Science Program in the U.S. Department of Energy during the 1990s and oversaw the DOE Computational Science Graduate Fellowship (CSGF) program. Only CSGF fellows are eligible for this prestigious award, and only one or two are named each year.

Bardhan was a CSGF fellow from 2002 to 2006 and spent a summer at Argonne in 2003 under that program. He received his Ph.D. in electrical engineering and computer science from the Massachusetts Institute of Technology in 2006. He is currently a Wilkinson Fellow at Argonne.

Bardhan's research focuses on biomolecular modeling, an emerging area that demands expertise in engineering, numerical methods, biology and high-performance computing. Among his accomplishments are the development of a novel technique for analyzing the interactions between protein molecules and the formulation of new approaches for determining optimal molecular targets for drug design.

Bardhan was one of two former CSGF fellows presented with the Howes Scholar award at the 2007 CSGF Annual Fellows' Conference in Washington, D.C., June 19-21.

More information on the Howes Scholar award is available online. ■

www.krellinst.org/news/howes2007.shtml

Argonne authors' book applies agent-based modeling to business

CHARLES Macal and Michael North (both DIS) have authored a new book. "Managing Business Complexity: Discovering Strategic Solutions with Agent-Based Modeling and Simulation" has been referred to as a must-read for anyone considering applications of agent-based modeling for solving real-world problems.

"Managing Business Complexity" brings recent discoveries in decision science to bear on the business world. This book is the first complete agent-based modeling and simulation resource targeted for business and government audiences. It represents new ways to understand data and generate information, providing organizations a view of the future and the ability to anticipate the likely effects of their decisions.

Agent-based modeling has been shown to have applications in determining social network effects, workforce administration, portfolio management and consumer behavior, and will have profound impacts on the way computers support decision making. It provides a method by which researchers and business managers can visualize the ways in which a large number of individual actors make decisions.

These models comprise many discrete self-determining rule-based programs located within larger networks. Therefore, even though each individual program, or "agent," bases its actions only on its own inputs, those actions help to determine the inputs, and therefore the actions, of other nearby agents. The resulting behavioral complexity of these networks closely represents the complicated processes and consequences of individual and organizational decision-making.

The book is available through *Amazon.com*. ■

Carpenter

(Continued from page 1)

Spectrometer instrument at the CP-5 reactor in 1971 and was one of the principal contributors to the research that used it.

He was eventually encouraged to develop a mock-up of a neutron source, which became known as ZING (ZGS Intense Neutron Generator). His mock-up used the track-etch method, applied by using uranium foils and plastic films to detect neutrons effectively, and he received a patent for his work on the decoupled reflector. In 1973, the ZING Prototype, or ZING P, was constructed with the prototypical rapid-cycling synchrotron and a neutron producing target with reflector—the first of its kind. In 1977, he and his colleagues built and operated a second prototype, ZING-P'. These showed Carpenter's ideas worked and could effectively be used to do scientific research. He was designated project leader of the next step: building IPNS.

Since IPNS opened for research in 1981, Carpenter has assisted in cultivating a community of more than 300 annual users. Affectionately known as "Dr. Spallation," he helped develop similar technology in Japan, China and several European countries, as well as the world's most powerful spallation neutron source, the Spallation Neutron Source (SNS) at Oak Ridge National Laboratory.

One of his favorite memories during his time at Argonne was working with his Japanese colleague, Motoharu Kimura. "Kimura was the one who made the crucial suggestion for me to build a prototype," Carpenter said.

Over the years, he and Kimura became good friends, and Carpenter helped Kimura translate his memoir, *Living with Nuclei*, into English. "Kimura reestablished accelerator science in Japan and was a great advocate for nuclear disarmament," Carpenter said. "It was a pleasure to help him fulfill his wish and share his story about life as a Japanese scientist after the Hiroshima and Nagasaki bombings."

Chun-Keung Loong (PS), a senior physicist and close colleague of Carpenter, said, "I never heard Jack proclaiming his conclusions final or invincible or saw him terminating a problem prematurely. He always starts with pencil and paper through qualitative modeling and analytic analysis, followed by numerical computations, modularization testing and prototyping. The dozens of Jack's unpublished *IPNS Notes* attest to the milestone accomplishments throughout IPNS history. Jack's style of approach and methodology have inspired his co-workers and mentored his students, many of whom are now well-established scientists all over the world."

Carpenter has been honored with the University of Chicago Award for Distinguished Performance, the Ilya M. Frank Prize from the Joint Institute for Nuclear Research, (Dubna, Russia) and the Clifford G. Schull Prize of the Neutron Scattering Society of America, as well as a number of academic awards. An Argonne Distinguished Fellow, he is also a fellow of the American Physical Society, the American Nuclear Society and the Neutron Scattering Society of America.

Upon retirement, he hopes to help IPNS redefine its role as a development and teaching facility, be an active consultant for SNS and international projects, and spend time with his five grandchildren. "I still expect to be here most days," he said. "I can't really face stepping away." ■

New technology improves safety communications

ANDREA CIPRIANI

ARGONNE recently teamed up with Raytheon JPS Communications and Sprint Nextel on the installation of an interoperable safety communication system that allows instant communication between all first responders and Argonne personnel during any onsite incident or emergency.

Argonne safety regulations require all area emergency supervisors (AES) are notified when there is any incident on site. Instead of paying for additional portable trunking radios that can cost as much as $4,000 each, Argonne worked with Raytheon JPS Communications and Sprint Nextel to achieve interoperability between 200 low-cost Nextel walkie-talkies, one ACU-1000™, and existing trunked radios.

The ACU-1000 system combined with Nextel walkie-talkie capability provides an automatic and permanent connection to the Argonne trunking system, which includes Argonne personnel, Argonne AESs, local fire departments and state and local police departments.

The new system utilizes Starcom21, a Motorola digital 800 mHz trunked system with a state-wide user network which allows users to communicate from virtually anywhere in Illinois and avoids channel congestion or radio incompatibility. This system fosters interoperability between federal, state and local government entities and has allowed Argonne to reduce approximately 25 voice communication channels to one, increasing spectrum efficiency.

"Interoperability is a major concern nationwide, as well as at the lab, and the combined technology gives us the ability to interact with various parties when and wherever we need to," said Vic Omiecinski, CIS telecommunications engineer. Different radio systems can be plugged into the ACU switch. Anyone in the emergency responder system simply dials the Nextel Walkie-Talkie number assigned to the ACU-1000 and is instantly connected to the emergency talk group on the Argonne trunking system.

This system was used June 9 when the lab participated in a full-scale emergency response exercise with neighboring fire departments. The system worked as planned to tie in communication channels from outside fire departments through the ACU-1000 to the Starcom21 system quickly and efficiently.

Vic Omiecinski (CIS) and Nicole Zubaty (SCD-FD) test the new interoperable safety communication system that allows instant communication between all first responders and Argonne personnel during any onsite incident or emergency.

The project took several years to negotiate and complete. The final result was a cost-effective, easy-to-use, safety communication system, which allows state-of-the-art interoperable communication and in the process saved the laboratory more than $4 million. ■

Classified Ads

MISCELLANEOUS

FREEZER — Kenmore Cold Spot chest freezer, 1989, 13.3 cu. ft. $80 o.b.o. Nicole Green, (815) 735-4524.

MISCELLANEOUS — 6-volume set of "Sommerfeld's Lectures on Theoretical Physics," 1964, mint condition. $75. 3-volume set of Feynman's "Lectures on Physics," 1965, mint condition. $25. Jerry Gieraltowski, (630) 964-4357.

PEDAL GO-KART — Four-wheel "Kettcar" pedal go-kart by Kettler, black and silver. Ages 4-10. $10. Bill Luck, (847) 559-0590.

MISCELLANEOUS — Chefmate mini-fridge, 1.7 cu. ft., used 6 months. $30. 25' metal extension ladder. $50. Jay Johnson, (630) 378-1248.

PRAIRIE DIRT — As much as you want. $5. Jill Jonkouski, (773) 586-1664.

MOVING SALE — Sofa, coffee table, futon, humidifier, girl's skates, car seat, pick-up only. Shaoheng Wang, (630) 946-4187.

HOME GYM — Bowflex Xtreme 2, like new. $800. John Grimmer, (630) 910-4679.

LOG CHIPPER/BRANCH/LEAF SHREDDER — Craftsman, 8 hp, chips up to 3" logs, leaf/branch schute, pneumatic tires, portable, used less than 10 hours. $265. Dick Konecny, (630) 964-3660.

MISCELLANEOUS — Small student desk, maple, 34"x18", 4-drawers. $20. Project one stereo receiver, 2 Marantz bookshelf speakers, 19"x11"x9". $30 o.b.o. Leslie Poch, (630) 852-9135.

PIANO — Kimball, upright. $300. Gary Griffin, (815) 258-1655.

MISCELLANEOUS — Wall cabinet, medium oak, 12"x12"x42". $25. Sink, 25"x19", base, medium oak, 18"x24"x31". $40. Above stove microwave, 1.5 cu. ft., 15"x30"x16". $50. Chuck Vulyak, (708) 636-1426.

DOG — Jack Russell Terrier, 2 years old, male, obedient, housetrained, neutered, dewormed, shots up-to-date, microchipped, bed, toys, harness, dog tags, flea/heartworm prevention meds. $50. Hyekyung Kim, (630) 388-8211.

BASEBALL TRADING CARDS — 40,000, 1988 to present. $150. Jim Oprzedek, (773) 586-0044.

MISCELLANEOUS — Dining room table, 4 side chairs, 2 arm chairs, excellent condition. $400 o.b.o. Nick Karonis, (630) 802-0991.

AUTOMOBILES

1998 VOLKSWAGEN — Jetta GL, 4 cyl, 2.0L, 72K miles, red, manual, A/C, multi CD, sunroof. $4,500 o.b.o. Jan Fedor, (630) 434-1917.

2001 HONDA — CR-V, 5-speed manual, 50K miles, excellent condition, many extras. $11,500. Ray Ziegler, (815) 254-7765.

1988 CHEVROLET — Caprice, 82.4K original miles, 4 door, full power, great condition, garage kept. $2,700 o.b.o. Chuck Vulyak, (708) 636-1426.

1987 CORVETTE — Burgundy, tan top/interior, 82K miles, newer paint, garage kept. $11,500 o.b.o. Michael Bartos, (815) 577-9291.

2001 VOLKSWAGEN — Passat, 83K miles, 5-speed, silver/gray, mint condition, new tires/brakes/battery. Sergey Stepanov, (630) 985-6887.

1995 PLYMOUTH — Voyager, 115K miles, good condition. $ 1,600. Binod Raj Giri, (630) 271-9473.

2000 VOLVO — S80 T6, excellent condition, 45K miles, 3 years warranty. $15,500. An Wang, (630) 863-0404.

HOUSING

HOUSE/SALE — Naperville, 4 bedroom, 3 bath, hardwood floor, upgrades. $354,900. Jiyong Zhao, (630) 234-2663.

HOUSE/SALE — Oswego schools, 4 bedroom, fireplace, 28x28 garage, 3.28 acres. $389,900. Dean Wyncott, (815) 475-4706.

CONDO/SALE — Tinley Park, 2 bedroom, 2 bath, fireplace, cathedral ceiling, garage and lot parking spaces, wash/dryer in unit. $163,500. Jim Podraza, (708) 212-5250.

HOUSE/SALE/RENT — Woodridge, 4 bedroom, 2.5 bath, vaulted ceilings, maple kitchen hardwood floors, walkout basement, wooded lot. $415,000 or $1,900 mo., $2,200 mo. furnished. Otilda Haasl, (630) 985-8772.

APARTMENT/RENT — Darien, furnished, 3 bedroom, 2 bath, gas heat/water included, available Aug. 1. $1,200 mo. Linda DeVito, (708) 257-5658.

CONDO/RENT — Downers Grove, 2 bedroom, 2 bath, patio, reserved parking, appliances, no pets, heat/hot water/gas included. $1,095 mo. Sam Ambegaoker, (630) 960-5731.

WANTED

BOX SPRING — Queen size, in good shape, no mattress needed. Ray Ziegler, (815) 436-4515.

BIKE — RANS Rocket recumbent for 17' white-water canoe. Don Timmerman, (815) 478-3431.

ENGINE — 10 or 12 hp vertical shaft for riding mower, does not need to be in running condition. Jim Emerson, (815) 436-2145.

MISCELLANEOUS — Tag-A-Long kids trailer bike. Betsy Grom, (630) 663-1396.

TO BE GIVEN AWAY

SWINGSET/SLIDE — Wood, decent shape, you haul. John Grimmer, (630) 910-4679.

LOST AND FOUND

FOUND — Silver setting/pink stone ring, found on sidewalk by 201 pond. Julie Emery, 2-3571.

Robert Nobles is fourth from the left in the back row of this photo of Met Lab alumni taken Dec. 2, 1946, the fourth anniversary of the world's first nuclear reactor. Pioneering physicist Enrico Fermi is in the front row, far left. Nobles, a retired engineer with 38 years of service, died June 12.

Argonne receives certificate of excellence in nuclear materials management and safeguards

At the 2007 Nuclear Materials Management and Safeguards System (NMMSS) users annual training meeting in Atlanta, Argonne's Material Control and Accountability (MC&A) Group received the U.S. Department of Energy's (DOE) certificate of excellence in reporting to the NMMSS during calendar year 2006.

The certificate was presented by Peter Dessaules of DOE and Brian Horn of the Nuclear Regulatory Commission. Selection was based on a combination of low transaction and inventory error rates, responsiveness to correcting and resolving problems, knowledge of reporting requirements, and minimal time taken to reconcile. This is the first time Argonne has received this award, which is indicative of the hard work and dedication displayed as well as the significant progress achieved over the past year by the entire MC&A Group. ■

RETIREES – JUNE 2007

GERALD CZOP (XSD) retired June 1 with 12 years of service.

CAROLE EALY (EVS) retired May 30 with 11 years of service.

GIUSEPPE PALMIOTTI (NE) retired June 15 with 17 years of service.

IN MEMORIAM – JUNE 2007

ROBERT NOBLES, a retired engineer with 38 years of service in EBR-AW, died June 12. Nobles was one of the original Manhattan Project scientists present at the operation of the world's first nuclear reactor in 1942. His wife, LaVergne, survives him.

NICHOLAS COLAIANNI, a retired instrument maker with 36 years of service in CS, died May 24. His four children survive him.

ROBERT CREED, a retired buyer senior with 22 years of service in PRO, died May 9. His wife, June, survives him.

GEORGE LAFORTE, a retired maintenance mechanic with 27 years of service in FMS-BM, died June 4. His wife, Giovanna, survives him.

JOHN PAVLIK, a retired engineering specialist with 36 years of service in RE, died May 30. His wife, Loretta, survives him.

Ar'Gang

NEW ARRIVALS

A boy, Zach, born May 27 to Alec and Molly Finster (EVS).
Proud grandparent: granddaughter, Annika Leonie, born April 18, to Gerard Hofman (NE).

WEDDINGS/ENGAGEMENTS

Congratulations to Bobby Herrera (EVS) on his May 19 marriage to Sarah Moffitt; Beth Bye (EVS) on her wedding May 5 to David Drewniak; Anthony Dvorak (EVS) on the May 19 marriage of his son Curt.

GET WELL

Get well to Georgianne Lamb, Courtney Blasier, Fred Kempke and Otilda Haasl (all from FMS-CU); Dan Sarro and Arnetta Bryant (both from TSD); Tom Kotek, Patria Leath and Konnie Wescott (all from EVS)

WELCOME

AST welcomes Rita Brzowski. CIS welcomes Matt Knor. FMS-BM welcomes Lee Atchley.

TRANSFERS

Good luck to Jessie Skwarek who transferred from C&PA to SUF-PA.

FAREWELL

Good luck to Carole Ealy, Dave Miller, and Nancy Ranek (all from EVS), Sally Peters (OCF-PRO) and Donna Jones-Pelkie (C&PA) who have left the laboratory.

PROMOTIONS

Promotions reported to Ar'Gang this month include: Rita Brzowski (AST) on her promotion to administrative secretary; Donna Gudgel (AST) on her promotion to administrative secretary.

CONDOLENCES

Our condolences to Kevin Fuller (FMS-BM) on the death of his mother; Terry Allocco (FMS-CU) on the death of his grandmother; Calvin Jackson (FMS-CU) on the death of his father; Larry Bersano (FMS-CU) on the death of his mother; Kathy Macal (TSD) on the death of her father-in-law; Mike Polowinczak (TSD) on the death of his father-in-law; Lou Martino (EVS) on the death of his father-in-law.

CONTRIBUTORS

Thanks to this issue's contributors: Nan Cantwell (FMS-BM), Brea Grischkat (NE) Cathy Nelson (TSD), Denise Voss (AST), Lori Greenwood (EVS), Shannon Lindgren for Georgianne Lamb (FMS-CU), Sally Peters (OCF) and Denice DiGiacomo (CIS).

NEED A RIDE TO THE UNIVERSITY OF CHICAGO? A FREE SHUTTLE BUS MAKES ROUND TRIPS EVERY WORK DAY. FOR MORE INFO, SEE **www.anl.gov/Visiting/shuttle.html**

Retirement vendors available to meet one-on-one

Argonne's retirement vendors will send representatives to Argonne during August to meet individually with employees and answer questions about retirement plans and assets. To schedule an appointment, call the number listed. Appointments are for one-half hour each. ■

VENDOR	DAY	FOR APPOINTMENTS, CALL:
Fidelity	Thursday, Aug. 16, and Thursday, Aug. 30	(800) 642-7131
TIAA-CREF	Wednesday, Aug. 1 Thursday, Aug. 2 Friday, Aug. 3	(800) 842-2005 or www.tiaa-cref.org/moc
Prudential (Morning only)	Wednesday, Aug 1, and Wednesday, Aug. 8	Cheryl (630) 285-8876