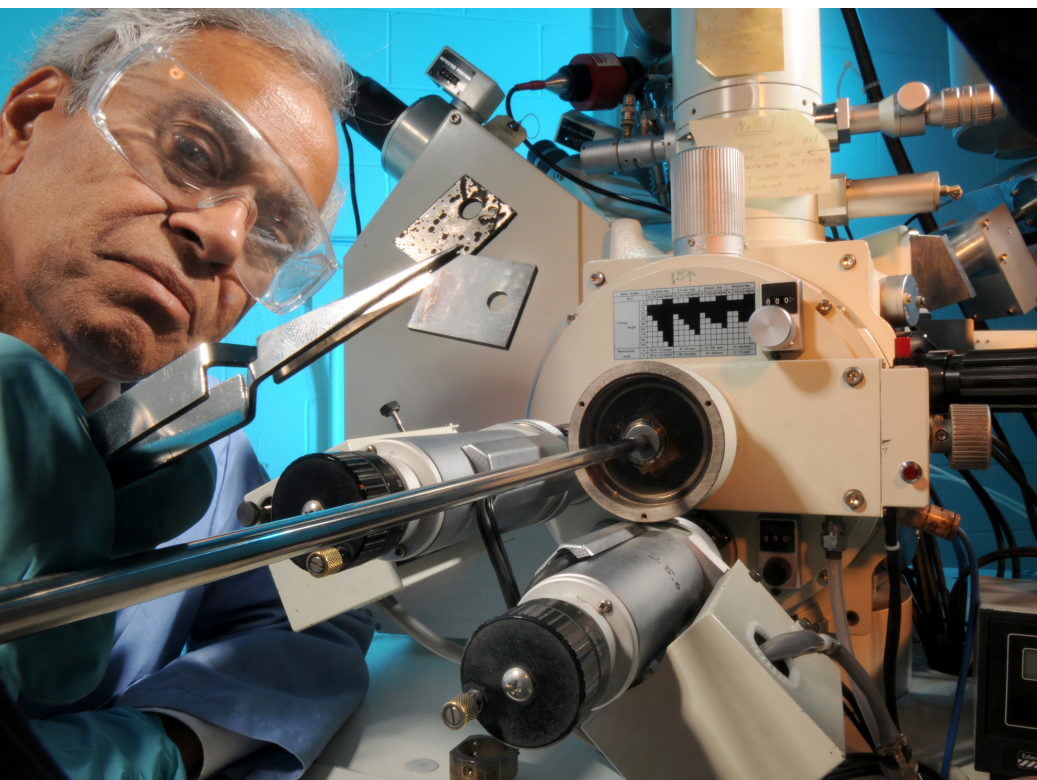


Networks of metal nanoparticles are culprits in alloy corrosion



Ken Natesan (NE) examines an example of corroded alloy and a new alloy created by his team at Argonne. Natesan and his colleagues determined that the corrosion was caused when carbon-bearing molecules slipped through the alloy's oxide defenses through metal nanoparticles. Photo by George Joch.

By Brock Cooper

Oxide scales are supposed to protect alloys from extensive corrosion, but Argonne scientists have discovered metal nanoparticle chinks in this armor.

Oxide scales develop on the outer surface of alloys at high temperatures, creating a protective barrier that keeps destructive carbon-bearing molecules from slipping into the alloy. The diffusion of carbon into oxide scales should be negligible, but studies have shown that carbon can sneak through the oxide line of defense, leading to brittleness and corrosion.

"The United States loses four percent of the gross national product due to alloy corrosion," said Argonne Distinguished Fellow Ken Natesan, who leads the Corrosion and Mechanics of Materials Group in Argonne's Nuclear Engineering Division. "A network of continuous metal nanoparticles allows the carbon to dissolve and diffuse through the protective oxide scales without the need of a crack or a pore."

It was commonly believed that carbon-containing molecules escaped into cracks or pores in the oxide scales, but using three separate techniques — nanobeam X-ray analysis at the Advanced Photon Source, magnetic force microscopy at the Center for Nanoscale Materials and scanning electron microscopy at the Electron Microscopy Center — Natesan, along with Argonne

scientists Zuotao Zeng (NE), Seth Darling (CNM) and Zhonghou Cai (XSD), discovered networks of iron and nickel nanoparticles embedded within the oxide scales.

Carbon can easily diffuse through the metals and create a path for carbon atom transport that does not involve defects in the scale.

"By examining the oxide scale, we find the metal nanoparticles," Zeng said. "If they are eliminated, we can create a more corrosion-resistant and longer-lasting alloy."

Based on the study, Argonne has developed laboratory-scale batches of materials that exhibit as much as 10 times longer life than commercial alloys with similar chromium contents, Natesan said. At present, 50-lb. batches of the alloys have been cast successfully by an alloy manufacturer and will be commercialized in due course. The Argonne-developed alloys are of considerable interest to the chemical, petrochemical and refining industry.

The findings might also have broad influence on not only metal dusting and carburization, but also in other research areas such as alloy development and surface coatings for high-temperature fuel cell applications.

Funding for this research was provided by the U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy, Industrial
See "Nanoparticles" on page 3

ISM verification team presents preliminary report

The laboratory's Integrated Safety Management (ISM) program came under close scrutiny by a team from the U.S. Department of Energy's Argonne Site Office July 14 - 22. In a closeout briefing July 24, team leader John Adachi shared the preliminary review findings, including several strengths and a pair of significant issues. The team's formal report will be issued in the fall.

"Everyone we dealt with throughout the lab was extremely open and cooperative," Adachi said, "and they all displayed an understanding of, and commitment to, ISM."

The team interviewed employees from several divisions in ESE, SUF and Operations, looking for improvements in work process and control and in contractor assurance systems. The team also examined machine guarding and Industrial Hygiene baseline exposure monitoring.

"The EQO Division did a terrific job in preparing the laboratory for this review, and lots of hard work went into enhancing ISM implementation this past year," said Steve Richardson,

Argonne chief operations officer. "Our people understand how we implement ISM and were ready to respond to the reviewers. Apparently the team is going to take a number of things they've seen here and present them as best practices. On the other hand, the laboratory understands how important these significant issues are, and will start to address them immediately — we won't wait for the final report. We hear DOE's message loud and clear."

Employee committee to provide feedback, input on safety - see page 2

The team listed as strengths:

- Strong commitment to ISM in all levels of management
- Work process and control is "mature and effective" in some parts of the laboratory, and efforts are under way to spread those practices across Argonne

• An active management
See "ISM verification" on page 3

Argonne and University of Chicago researchers pursue grasses as Earth-friendly biofuel

By Jared Sagoff

At a small site on the Batavia campus of Fermilab, ecologist Julie Jastrow (BIO) pushes the scientific frontier in a new and exciting way: She watches the grass grow.

As part of an effort to develop a new collection of alternative fuels, Jastrow and her colleagues from Argonne and the University of Chicago have planted seven different combinations of native Midwestern prairie grasses on the 13-acre site at Fermilab's campus.

The experimental facility that Jastrow planted in June will examine the sustainability of different perennial bioenergy crops: plants that could be turned into energy either by being burned directly or by being converted into cellulosic ethanol.

Although crops with high starch or sugar contents — most notably corn grain and sugarcane — are the focus of current bioenergy applications, botanists have also seen potential in perennial grasses. "Right now, if you looked at the



Argonne ecologist Julie Jastrow (BIO) examines stems of Indiangrass and big bluestem grass. Jastrow and colleagues at Argonne and the University of Chicago are studying several grasses as potential biofuels. Image courtesy of Fermilab.

list of perennial bioenergy crops being studied, switchgrass will be at the top of the list," Jastrow said.

See "Perennial grasses" on page 2

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- HEALTH FAIR 2008 TO HAVE PHYSICAL, MENTAL AND FINANCIAL HEALTH EXHIBITS, RAFFLE PRIZES
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UChicago
Argonne LLC



Employee committee to provide feedback, input on safety

A new Employee Safety and Health Committee has been formed to promote a safe work environment at the laboratory through employee involvement.

Established by Chief Operations Officer Steve Richardson, the committee will be responsible for working with management to make safety programs more effective by:

- Touring work areas at the laboratory with EQO safety and health professionals to familiarize committee members with the different types of jobs employees do and their work environments.
- Identifying areas where employees are at risk either through direct experience, observation or through concerns brought to their attention by other employees.
- Reviewing safety suggestions and concerns submitted by other employees; committee members will validate and prioritize suggestions and concerns and forward them to the Director's Safety Council (DSC).
- Reviewing incidents that result in work-related injuries, illnesses and com-

plaints, and making recommendations to the DSC and laboratory employees for preventing their reoccurrence.

• Conducting an annual review of training programs related to safety and offering thoughts on how these programs can be best structured in order to be most effective.

The committee also serves as a primary means of worker feedback in the implementation of an effective Contractor Assurance System.

Committee members include:

- Timothy Cundiff (HEP)
- Betty Dai (CIS)
- Kurt Goetze (AES)
- Donna Gudgel (ESE)
- John Herman (NOD)
- Dinesh Kaushik (MCS)
- Brad Orr (ARM)
- Doreen Schoening (FMS)
- Timothy Smith (XSD)
- Robert Tranter (CSE)
- Gary Zinkann (PHY)

Membership is voluntary; members must be non-managers approved by the appropriate director. Initial members will serve one, two, or three-year terms. ▀

Perennial grasses



A contractor plants grass seeds with a drill seeder on the Fermilab site where researchers from Argonne and the University of Chicago are studying several grasses for biofuel. Image courtesy of Fermilab.

Continued from page 1

According to Jastrow, DOE began to consider perennial forage crops as possible sources of alternative fuels during the oil crisis of the late 1970s and early 1980s. As Americans lost access to imported oil due to political instability in the Persian Gulf states, scientists saw an opportunity in the open grazing land of the Great Plains and the prairie remnants of the Midwest, where switchgrass and other native perennial grasses grow in dense stands from four to eight feet high.

The Argonne ecologists are working with several varieties, or cultivars, of switchgrass that differ in geographic origin and genetic attributes. In addition to switchgrass, they planted a number of other species, including big bluestem, Indiangrass and Canadian wild rye.

Jastrow and her colleagues are seeking to determine which grasses produce high yields of harvestable biomass while also pumping the most carbon underground through root growth. When roots die and decompose, some carbon is sequestered in soil organic matter, and nutrients such as nitrogen are recycled to sustain future plant growth.

“We expect to use some of the new genetic, bioinformatics, and molecular tools available through Argonne's Biosciences and Mathematics and Computer Science divisions, the joint Argonne-University of Chicago Institute for Genomics and Systems Biology, and Argonne's Advanced Photon Source to help tease out how differing plant traits and microbial communities interact in the soil environment to control these processes,” Jastrow explained.

In general, researchers interested in perennial grasses as bioenergy crops typically compare species or cultivars one at a time in “monocultures.” But recent studies suggest that planting a diverse mixture of grass species might lead to greater sustained yields over time.

“Diverse plantings are better equipped to deal with annual variations in climate and probably have fewer problems with pathogen buildup than monocultures,” Jastrow said.

But growing a feedstock consisting of several different grass species would complicate up-and-coming efforts to convert the cellulose in plant matter into

ethanol, a process that might require the use of a separate set of microbes for each grass species. Jastrow and her colleagues believe they can avoid this problem while reaping the benefits of diverse plantings by using a mixture of switchgrass cultivars to increase genetic diversity.

Although a number of other grass species grew abundantly in the prairies of the Midwest and Great Plains, switchgrass soon found favor among botanists selecting grasses for grazing and biomass production because of its unusually high response to fertilization.

“Most of the other prairie grasses,” she said, “are more nutrient-use efficient. If you fertilize them, it's all excess, and they don't grow much larger. Switchgrass, however, can really take off when it's fertilized.”

Next year, after the grasses are established, half of the area planted with each of the seven cultivar/species combinations will be fertilized annually, while the other half will remain unfertilized.

The addition of fertilizer, however, represents a “carbon cost” to the environment that derives from the process of making the fertilizer as well as the fuel for the vehicles required to ship and spread it; the planting, harvesting, transporting and processing of feedstocks creates other carbon costs as well. In Jastrow's view, the “carbon balance” of a particular type of grass — the difference between its “carbon cost” and the amount of carbon it offsets or sequesters — has to be considered when evaluating its potential effectiveness as a bioenergy crop.

“One of our ideas,” she said, “is that maybe you won't get as much production with some of the other grasses; but if you don't have to fertilize or if these grasses are better at sequestering carbon in the soil, then the overall carbon balance might be about the same or even better.”

Jastrow's collaborators on this project include Mike Miller and Roser Matala from Argonne and Geoff Morris and Justin Borevitz from the University of Chicago. Jastrow coordinates Argonne's contributions to the DOE Consortium for Research on Enhancing Carbon Sequestration in Terrestrial Ecosystems (CSiTE), which also includes scientists from Oak Ridge and Pacific Northwest national laboratories. ▀



First class

The first class of the joint Argonne-Fermilab Lee Teng internship program graduated Thursday, Aug. 7. The program, named after the physicist best known for his work in shaping Fermilab and Argonne, was designed to help develop the next generation of accelerator physicists. Interns were mentored by accelerator physicists, attended classes to help further their knowledge in the field and worked on individual research projects during their tenure at the labs. From left to right are Jerry Lee, Casey Bennett, Aminur Rahman, Adam Clark, Khoo Teng-Jian, Josh Hawke, Matthew Gooden, Pardis Niknejadi, David Yu and John Hlotke. Teng, a senior physicist at the Accelerator Systems Division, was recently honored with the American Physical Society's Robert R. Wilson Prize, which recognizes outstanding achievement in the physics of particle accelerators.

Mileage rate set at 58.5 cents per mile

The mileage reimbursement rate for travel by personal automobile is now \$0.585 per mile.

The laboratory follows the federal travel regulations established by the General Services Administration (GSA). The GSA is responsible for reviewing the

privately owned vehicle mileage reimbursement rate annually, or as needed. However, by law, GSA may not exceed the standard mileage reimbursement rate for a privately owned automobile established by the Internal Revenue Service. ▀

ISM verification

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assessment program at the division/department level

- The laboratory is aware of most of its ISM-related weaknesses and is already addressing them

A “significant issue” identified by the team was that Argonne’s ISMS (Integrated Safety Management System) does not “appropriately balance application of ISM principles ‘line management responsibility for safety,’ ‘clear roles and responsibilities,’ and ‘competence commensurate with responsibility.’” An example is the incident investigation process, where lab policies and procedures are lacking clear roles and responsibilities, expectations of competence, and appropriate management oversight of decision-making and assurance of effectiveness. The team noted that the laboratory already has efforts underway to improve that process.

Another significant issue cited by the team was inconsistent work planning and control (WP&C), and lack of a lab policy and establishment of clear expectations. For example, some divisions have only recently formalized work planning and control processes, while others have long-established, effective and formal WP&C processes. Again, the team noted that the laboratory has already begun to address this issue.

Creig Zook, DOE Argonne Site Office Deputy Manager, thanked the lab for its hard work in preparing for and making this review successful. He spoke briefly about recognizing the value of this review — value in focusing on work is planned to include identification of hazards and control of those hazards to reduce the risk of injury to employees, and value in evaluating the safety systems in place to ensure that they are effectively working as intended.

Don Levy, University of Chicago vice president for research and for Argonne, thanked the review team for “a very thorough and useful review,” and the Argonne staff for their hard work in providing the necessary information to the committee. Levy said he was pleased by the similarity between the preliminary results of the ISM review and a Board of Governors safety review chaired by Jim Porter of DuPont.

“My understanding of the messages from the Porter committee and the DOE review team is that we haven’t fixed everything yet, but that we’ve made great progress in fixing a lot of things and have a good understanding of the remaining problems and what needs to be done to address them,” Levy said. “We certainly have much work left to do. However when I remember where we were a year ago, I think we’ve made enormous progress; and it’s rewarding to have two outside committees confirm this.”

Argonne Director Robert Rosner said the review was very helpful to the laboratory.

“The review provided important feedback that tells us we’re headed in the right direction,” Rosner said. “Now it’s important to keep the momentum going as we continue on our ISM implementation journey.”



Three-on-three champs

Argonne’s three-on-three basketball tournament celebrated its sweet 16 this year with a rousing performance from the “Dream Team” and long-time favorite “Old School.” Old School pulled ahead to score 18 points to Dream Team’s 14 in a penalty-ridden first half. The Dream Team rallied at the beginning of the second half, climbing to a several-point lead, but Old School recovered; despite calling a time-out with nine seconds left in the game, the Dream Team’s dreams were dashed. The final score was 37-24. Photos by Rachel Lichtenfeld.

(Photos clockwise from top right) Winning team “Old School,” which consists of Tim Tess (NOD), Zach Bubinas (NOD), Eric Rod (SUF), Jason Dunkin (NOD), Eric Wilkinson (NOD) and Glenn Moonier (AES), with their championship trophies.

Wilkinson of “Old School” is on the drive as Paul Upshaw (FMS) defends and Moonier and Eric Bond (NOD) fight for position.

Dream Team’s Bond jumps to take the shot as Tess defends.

Health Fair 2008 to have physical, mental and financial health exhibits, raffle prizes

“Health Fair 2008” will be held at Argonne Wednesday, Sept. 10, from 11 a.m. to 2 p.m. in the Building 213 Cafeteria. Exhibitors will be located in the Building 213 Cafeteria and in Private Dining Room A. The fair will expand this year to include financial health in addition to physical and mental health.

Argonne health plan vendors, Argonne retirement plan vendors, medical department staff and other healthcare vendors will present information in a fun, interesting and interactive manner.

Free activities and educational topics will include chair massages; analysis of your ideal weight; basic exercises to keep you alive and fit; innovative and economical fitness tools for everyday use; blood pressure checks and talks with Argonne doctors and nurses; yoga; oral health and smoking; foot scans and analyses; saving for retirement; keeping fit by getting involved with the Argonne Exercise Club; acupuncture and Oriental medicine; personal energetic health screenings and more.

Many raffle prizes will also be given away. Stop by exhibitor tables and enter their raffles for a chance to

win. Raffles prizes will include two \$50 gas cards; one personal training package including four half-hour training sessions with an Argonne Exercise Club instructor and a personal training plan; one 2009 Argonne Exercise Club Membership (\$30 value); one \$25 gas card; one Sonicare Electric Toothbrush; one zippered tote bag filled with stuff; two duffle bags; one complimentary Natural Medicine Clinic new patient history and evaluation; one stadium blanket; one gym bag; one women’s tote bag, a one-hour Right Fit private fitness training session and a set of Indian clubs for weight training (\$150 value) and more.

The Health Fair is sponsored by Human Resources.

Nanoparticles

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Technologies Program. Argonne’s scientific user facilities such as the Advanced Photon Source, Electron Microscopy Center and Center for Nanoscale Materials are supported by the U.S. Department of Energy, Office of Science.

Music club plans ‘Blues and BBQ’

The Argonne Music Club will host an evening of “Blues and BBQ” Friday, Sept. 12, at the Argonne Guest House.

The ticket price includes an outdoor barbecue buffet and music provided by the Big Eddy Springs Blues Band. The event begins with a cash bar at 5 p.m.; music begins at 6 p.m.

The menu will include barbecue pulled pork, barbecue chicken wings, burgers, hot dogs, baked beans, coleslaw, grilled corn on the cob, fresh fruit and an assortment of fresh cookies.

The Big Eddy Springs Blues Band, fronted by George Joch (TSD), was formed at Argonne in 1993. The band regularly performs at several area establishments.

Tickets are \$10 (\$12 at the door) and will be sold this week, as well as next week, in the Building 213 Cafeteria from noon to 1 p.m.

A paper based on this work has been published recently in the scientific journal *Nature Materials*.

www.nature.com/nmat/index.html

Argonne's interface for the construction of TCS Building

The laboratory has no role in the actual construction of the new Theory and Computing Sciences (TCS) Building that is currently being built near the North Gate. TCS is being developed by a trust for lease to Argonne and therefore is not subject to U.S. Department of Energy or Argonne safety requirements.

During the construction phase, the laboratory's role is primarily limited to providing interfaces to laboratory utilities and occasional input as the future tenant. Jeff Sims (FMS/OPM) is serving as the point of contact as Argonne coordinates this effort with the trust.

All requests to enter the construction site must be coordinated through him. In general, Argonne employees will not be allowed on the construction site. All concerns and issues related to TCS should be directed to Sims, who can be reached at ext. 2-3515. ▀

Applied Superconductivity Conference showcases world progress

Argonne's Balu Balachandran (ES) chaired the 2008 Applied Superconductivity Conference (ASC2008), which convened Monday, Aug. 18, at the Hyatt Regency Chicago. ASC 2008 brought together more than 1,400 top scientists, engineers and industrial leaders from 34 countries to discuss the current status of superconductivity science, applications and products. The event is the largest conference in the world focusing on commercial applications of superconductivity. Superconductors carry electricity without heating and can transmit current with no losses. They can be used to carry electricity, make strong magnets and as tiny sensors that detect the magnetism in the brain.

Noted experts spoke on topics ranging from superconducting detectors to ultra-compact and light electric motors and actuators suitable for airborne applications. Advances in biomedical applications, including MRI and NMR magnets and non-invasive technologies, and new

applications in high energy physics were discussed. Balachandran welcomed attendees when the conference got underway, and opening remarks were presented by Adam Cohen, Argonne's deputy associate laboratory director for Energy Sciences and Engineering. ▀

Pace van-pooling program to be topic of presentation

Did you know that carpooling to work can save you over \$3,000 per year? The cost of driving is expensive with the high price of fuel, tolls, parking and wear and tear on your car.

By carpooling to work, you can save more than half your monthly commuting costs.

A representative from Pace, the suburban transit provider, will hold a

presentation on van pooling Thursday, Aug. 28, at 10:30 a.m. in the Building 200 Auditorium. All Argonne, DOE and University of Chicago employees whose schedules permit are welcome to attend.

Pace has several types of van-pool programs. In the traditional, basic program, employees who live and work near one another and share similar schedules can form a van pool, riding to and from work together in a vehicle provided by Pace. Each rider pays a low monthly fare based on distance and number of participants. This fee covers all costs, including fuel, maintenance, insurance, tolls, roadside assistance and van washes.

One of the participants volunteers to be the primary driver. He or she does not pay a fare and also receives 300 personal miles a month. Backup drivers receive a \$10 per month discount.

More information on the program and the benefits of carpooling is available online. ▀

www.anl.gov/Media_Center/Argonne_Today/media/2008/080811_Pace_pamphlet.pdf

Employees' safety actions recognized with SPOT Awards

SPOT Awards recognize contributions to safety and quality at the laboratory. The award is given to employees "on the spot" for demonstrating good safety behavior or initiative.

- Brenda King (FMS/CU) noticed a glass light cover dangling from a light pole in the parking lot of Building 223. King notified her supervisor who then notified building maintenance. The danger to people and property was eliminated when the line crew immediately corrected the issue.

- David Ressman (LCF) noticed a wasp's nest on a door frame in Building

369. This door is used by employees who enter the ISSF facility. Ressman immediately reported the situation, which might have prevented a fellow employee from being stung.

- James Lennon and Mike Furlan (both ES) identified a caustic spill in secondary containment while shutting down a project. Lennon and Furlan worked with their supervisor to develop a clean-up plan and used the proper PPE to safely clean up the material.

- Omar Karim (FMS) spotted a suspicious-looking wire protruding from a wall-mounted transformer while

painting. The transformer was below eye level and the wire was sticking out at the bottom, where it was not easily visible. Karim immediately reported the wire to the building manager. The wire was tested and found to be energized. Karim's attention to detail corrected an electrical hazard that could have caused a potential injury.

Employees also receiving SPOT Awards include:

- Linda Maher (DIS)
- Felicia King (ES)
- Charles Greenwood (FMS)
- Alvin Baggett (FMS)

- Chris Piatak (XSD)
- Tim Rutter (ES)
- Chris Powell (ES)
- Thomas Johnson (FMS/CU)
- Ulrich Lienert (XSD/MCG)
- Jonathan Levine (MSD)
- Anthony Young (FMS/CU)

Any authorized manager or supervisor may give a SPOT award to an employee when safe behavior or initiative is displayed, which gives the employee immediate recognition. Authorization is at the discretion of the division director. ▀

Classified ads

MISCELLANEOUS

MISCELLANEOUS – GE air conditioner with remote. \$50. 19" Acer LCD monitor, black. \$50. Oscillating pedestal fan, white. \$10. Reclined couch. \$150. End tables. \$5. Dining table with four chairs. \$50. Wood dresser. \$50. Kun Chen. (847) 849-0888.

TV – 19" Samsung flat screen LCD TV with remote and wall bracket. Last year's model but is new. \$300. Christine O'Brien. (708) 670-1261.

MISCELLANEOUS – Craftsman leaf bagger/shredder/bagger/blower, model #113797831. Lawn mower-sized, minimal use, works great. \$100. Large plastic tackle box, like new w/ trays and dividers. \$20. Ron Kmak. (708) 301-1269.

FURNITURE – Recliner sofa, two years old from Harlem, originally \$600, make an offer. Other furniture, including end tables, are also for sale. Ruobing Xie. (630) 945-5656.

BICYCLES – Two bicycles, one men's, one women's, red 10-speed Murray. \$40 for both. Fran Perri. (815) 439-1671.

MISCELLANEOUS – Lawn mower, Honda HR21, self-propelled, old but works. \$25 OBO. 20-ft aluminum extension ladder. \$40 OBO. String trimmer, Toro 14", electric, excellent condition. \$35. David Ayres. (630) 969-0192.

MISCELLANEOUS – Ventless gas log set includes logs, burner and grate \$75. Six foot round table, legs fold like a card table for storage. \$50. Wayne Michalek. (630) 257-7422.

SOUVENIR BASEBALL – White Sox 2005 world series championship Waterford crystal baseball. \$150. Sally Vargo. (303) 323-5641.

FIRE PIT – metal, above ground. John Quinn. (630) 960-9097.

AUTOMOBILES

2000 CHEVROLET – Blazer LS 1/2 ton V-6 4 door 4WD Navy Blue Leather seats, power windows and door locks, 106,770 miles. \$5,587. Craig Patterson. (815) 478-3653.

1988 HARLEY DAVIDSON – FLHTC Black and Gold, 85th Limited Edition, 621/850, very good condition. \$9,950. Tracy Ercoli. (630) 253-3270.

1991 FORD – Taurus, runs well. Qiang Zhang. (630) 210-1450.

2003 HONDA – Acura 3.2L, dark grey/black leather interior with sunroof. Excellent condition. Must see and drive. 108,000 highway miles. \$7,200. Tracey Stancik. (815) 588-1972.

1996 CHEVY – Impala supersport, one owner, garage kept, only driven in summer, black with blackened windows, new tires, excellent condition, only 59,000 miles, last of the big Impalas. \$14,000. Karen Kerwin. (630) 739-4283.

1999 CHRYSLER – Limited Sebring convertible. Black, six cylinder, leather, new brakes, runs great, 97,000 miles. Reduced to \$5,500. Pat Herman. (815) 436-5680.

HOUSING

ROOM/RENT – Country setting, 10 min from lab. John Jurca. (630) 739-0972.

TOWNHOUSE/FOR SALE – 3 bedroom, 2.5 bath with full basement located off of 159th & Cedar Rd. (Victoria Crossing Subdivision) in Lockport, IL. Booming area, one mile to I-355. Great

neighborhood, Homer Glen School District and much more. Priced to sell at \$217,000. Judy Benigno. (630) 247-6574.

CONDO/SALE – Fort Myers condo - two bedroom, two bathroom condo. Walking distance to Bell Tower mall, close to everything in a gated community. Very motivated seller. Randy Flood. (815) 254-3074.

TOWNHOME/SALE – Plainfield, end unit, 2 BR, 1.5 BA, finished family room, one car garage w/additional parking, neutral colors, new LR carpeting, one year warranty, easy access to I-55. \$162,500. Midge Urban. (630) 357-7931 or (815) 514-6640.

WANTED

ENCLOSED TRAILER FOR HIRE – Need someone with an enclosed trailer to transport a vehicle to Holland Mich. Will pay hourly rate plus gas expense. George Goepfner. (708) 460-4982.

TO BE GIVEN AWAY

DRILL – Porter-Cable industrial 14.4 volt cordless drill with charger and carrying case. Model# 8621, needs battery. Debbie Leasure. (815) 685-3414. ▀