

BNL's Radoslav Adzic Works on Electrocatalysts for Fuel Cells

Adzic Receives DOE's Hydrogen Program R&D Award

Radoslav Adzic, a senior chemist in the Chemistry Department, has received a 2008 DOE Hydrogen Program R&D Award, which recognizes him for his "outstanding contributions in electrocatalysis for fuel cells." Adzic was honored in June with a plaque at a DOE ceremony held in Washington, D.C.

Adzic has been conducting studies in surface electrochemistry and electrocatalysis for a considerable part of his career using various techniques, including atomic-level surface characterization with x-rays at BNL's National Synchrotron Light Source. Recently, he has focused on making efficient catalysts that may be used to convert hydrogen to electricity in fuel cells for electric vehicles.

"The rising cost of gasoline and concerns about global warming have made my research particularly relevant today," Adzic said. "It is difficult to predict exactly when the new technologies will be made commercial, and whose inventions will be used, but the progress in designing electrocatalysts for hydrogen fuel cells has been significant in recent years. I am grateful for this recognition from the Department of Energy and glad that I can continue my research in this promising field."

Adzic acknowledged the significant contributions to his work from his Chemistry Department colleagues Kotaro Sa-



saki, Miomir Vukmirovic, and Jia Wang; former BNL postdoctoral fellow Stanko Brankovic, University of Houston; former graduate students and postdoctoral fellows Minhua Shao, United Technologies Corporation, and Junliang Zhang, General Motors; and Wei-Ping Zhou, who is currently a BNL postdoctoral fellow.

Adzic and his coworkers designed the first platinum monolayer fuel-cell anode electrocatalyst, which consists of ruthenium nanoparticles with a few platinum islands of monoatomic thickness. This electrocatalyst has long-term stability and the same catalytic activity as a standard, all-platinum electrocatalyst, which has ten times more platinum, and is therefore very expensive. This new electrocatalyst has the potential to reduce the cost and increase the efficiency of fuel cells in electric vehicles, among other applications.

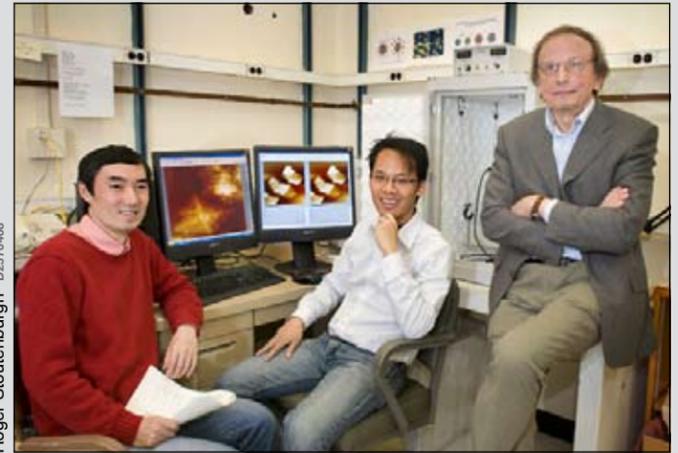
Recently, Adzic and his team developed several types of platinum monolayer cathode electrocatalysts. One type, for example, consists of a core of a metal such as nickel, co-

balt or iron, covered by a corrosion-resistant metal shell, such as palladium, gold, or iridium, covered with a platinum monolayer. These electrocatalysts have high activity and a very low platinum content, and their long-term stability tests are underway.

In addition, Adzic and his team found that gold clusters can increase the stability of platinum electrocatalysts. While platinum is the most efficient electrocatalyst for accelerating chemical reactions in fuel cells in electric cars, it dissolves in reactions during stop-and-go driving, and that is a major impediment. The addition of gold clusters kept the platinum intact during an accelerated stability test under laboratory conditions, which may be a big breakthrough in fuel-cell technology. Several long-term fuel-cell tests have to be completed to optimize these electrocatalysts for commercial applications.

Radoslav Adzic earned a B.S. in chemical technology in 1965 and a Ph.D. in chemistry in 1974, both from the University of Belgrade. He remained at the university, eventually becoming a professor and Director of the Institute of Electrochemistry. In 1979, he came to Brookhaven as a visiting scientist, and, in 1992, he joined the Laboratory as a senior research associate, rising to the position of chemist in 2001, and senior chemist in 2005.

See *Adzic Awarded* on pg. 2



BNL visitors Yuji Ando (left) and Wei-Fu Chen with the Chemistry Department's Radoslav Adzic (right).

Designing Better Electrocatalysts for Fuel Cells

Both the soaring price of gasoline and concerns about global warming make research on improving electrocatalysts for use in fuel cells for electric vehicles especially relevant today.

Radoslav Adzic, a senior chemist in the Chemistry Department, is currently host to two visitors who are performing basic research in this area: Yuji Ando, research scientist from the National Institute of Advanced Industrial Science and Technology, Tsukuba, Japan; and Wei-Fu Chen, a graduate student from National Cheng Kung University, Tainan City, Taiwan.

Ando is investigating new syntheses of carbon-supported platinum on ruthenium for use as an electrocatalyst to speed up oxidation of methanol in fuel cells. A methanol fuel cell may be used to power portable electronics, such as

computers and cell phones, in the near future. Such technology would provide power continuously with a simple change of a methanol cartridge, and it would be more efficient and lightweight than the batteries now used in such devices. The ultimate goal of Ando's basic research, however, is to find the most efficient and inexpensive electrocatalyst for fuel cells.

While platinum is the most efficient electrocatalyst for accelerating oxygen reduction at the fuel cell cathode to be used in electric cars, it is expensive, and still not stable or efficient enough to be used during stop-and-go driving, a major impediment. Chen is investigating the efficiency of a platinum monolayer by placing it on a stable metal or alloy clusters. His goal is to develop improved

See *Electrocatalysts* on pg. 2



Wearing safety glasses, gloves, and long pants, (from left) Bob Metz, Jim Milligan, and Richard Lagattolla of EWMS prevent accidents and avoid ticks while monitoring an on-site well.

Reducing Risks

How EWMS Works Safely, Avoids Accidents

BNL's Environmental & Waste Management Services (EWMS) employees manage containers of hazardous materials. They are called to take care of spills. They also dig wells and collect samples on site and in the Peconic River. It would be easy for one of these staff members to have an accident — they face and control significant risks in their responsibilities every day.

EWMS' 50 staff members focus not only on working efficiently, but also on working safely. The hazards in their jobs are analyzed and controlled as they work under BNL's

Environmental Management System to maintain the Lab's compliance with ISO 14001, an international standardized set of requirements for organizations that operate in an environmentally sustainable manner.

Segregating and collecting hazardous waste from different laboratories on site, monitoring on-site environmental conditions, and hosting student interns are but a few of EWMS's responsibilities.

"Our employees manually move heavy drums of hazardous

See *EWMS Safety* on pg. 2

BNL, Dowling, Southern University at New Orleans Team Fingerprints Pine Barren's Microbial Community

This summer at BNL, undergraduate students from the Southern University at New Orleans (SUNO) are working alongside professors — one from SUNO and the other from Dowling College — to map the microbial community of the Long Island Pine Barrens. This is the first-ever project of this type in the world. The research is supported by DOE's Office of Workforce Development for Teachers and Scientists, the National Science Foundation's Historically Black Colleges and Universities Undergraduate Program (HBCU-UP) and the U.S. Department of Education's Minority Science & Engineering Improvement Program (MSEIP).

Tim Green, who manages BNL's natural & cultural resources, and Noel Blackburn, an educational programs administrator at BNL's Office of Educational Programs (OEP), are facilitating this collaboration. In addition to contributing new findings to the field of microbiology, the research brings faculty from Dowling College, a small liberal arts school; and students and faculty from SUNO, an HBCU school, together with BNL scientists.

"The collaboration provides research opportunities not only



Working with BNL's Tim Green (right) this summer are: (from left) Murty Kambhampati, Jeffrey Ambrose and Nyesha Smith from Southern University at New Orleans, who form one of the Faculty and Student Teams (FaST) in the Office of Educational Programs' FaST program.

for the professors but for the students as well," Green said. "It is important that we develop researchers from schools where they otherwise might not have had a chance to do research."

Vishal Shah, a Dowling College professor, has been collaborating with Green on the project for the past two years. Last summer, Shah worked with high school student Bishnu Panigrahi, who received high honors at the 2008 Long Island Science Congress. This summer,

SUNO professor Murty Kambhampati and undergraduate students Jeffrey Ambrose and Nyesha Smith, OEP Faculty and Student Team (FaST) members, are working with Shah to map the community-level physiological microbial profile.

"My goal as a faculty member is to motivate under-represented students by exposing them to state-of-the-art science and technology in the field of environmental science,"

See *Pine Barrens* on pg. 3

CALENDAR

OF LABORATORY EVENTS

- The BERA Store in Berkner Hall is open weekdays from 9 a.m. to 3 p.m. For more information on BERA events, contact Andrea Dehler, Ext. 3347, or Christine Carter, Ext. 2873.
- Additional information for Hospitality Committee events may be found at the Lollipop House and the laundry in the apartment area.
- The Recreation Building #317 (Rec. Hall) is located in the apartment area.
- Contact names are provided for most events for more information.
- Events flagged with an asterisk (*) have an accompanying story in this week's Bulletin.

— EACH WEEK —

Weekdays: Free English for Speakers Of Other Languages Classes

Beginner, Intermediate, Advanced classes, various times. All are welcome. Learn English, make friends. See www.bnl.gov/esol/schedule.html for schedule. Jen Lynch, Ext. 4894

Mondays: BNL Social & Cultural Club
Noon-1 p.m., Brookhaven Center, South Room, free beginners dance lessons. Rudy Alforque, Ext. 4733, alforque@bnl.gov

Mondays & Wednesdays: Pilates
5:15-6:15 p.m. Rec. Hall. Ext. 5090

Mondays & Thursdays: Kickboxing
\$5 per class. Noon-1 p.m. in the gym. Registration is required. Ext. 8481

Mon., Thurs., & Fri.: Tai Chi
Noon-1 p.m., B'haven Cntr N. Rm. Adam Rusek, Ext. 5830, rusek@bnl.gov

Tuesdays: Hospitality Coffee
10:30 a.m.-noon, Rec. Hall lounge. All welcome. Ext. 5090

Tuesdays: BNL Music Club
Noon, B'haven Center, N. Room. Come hear live music. Joe Vignola, Ext. 3846

Tuesdays: Knitting Class
2 p.m. Rec. Hall. All levels of skill. Ext. 5090 for information.

Tuesdays: Jiu Jitsu
6:30-7:30 p.m. Gym. All ages, 6 yrs. to adult. \$10/class, pay as you go. Tom Baldwin, Bldg. 452, Ext. 4556

Tuesdays: Toastmasters
1st & 3rd Tuesday of month, 5:30 p.m., Bldg. 463, Rm 160. Guests, visitors welcome. www.bnl.gov/bera/activities/toastmasters/

Tue., Wed. & Thu: Rec Hall Activities
5:30-9:30 p.m. General activities, TV, ping pong, chess, games, socializing. Christine Carter, Ext. 5090

Tue., Thurs. & Fri.: Ving Tsun Kung Fu
Noon-1 p.m., B'haven Center, North Room. Taught by Master William Moy. Scott Bradley, Ext. 5745, bradley@bnl.gov

Tuesday & Thursday: Aerobic Fitness
5:15 p.m., Rec. Hall. 10 classes for \$40 or \$5 per class. Pat Flood, Ext. 7866, flood@bnl.gov

Tuesday & Thursday: Aqua Aerobics
5:30-6:30 p.m., Pool. Ext. 5090

Wednesdays: On-Site Play Group
10 a.m.-noon. Rec. Hall. Infant/toddler drop-in event. Parents meet while children play. Petra Adams, 821-9238

Wednesdays: Ballroom Dance Class
B'haven Center, N. Ballroom. Instructor: Giny Rae. Starts September 12 and 19. Ext. 3845

Wednesdays: Weight Watchers
Noon-1 p.m. Michael Thorn, Ext. 8612

Wednesdays: Yoga
Noon-1 p.m., B'haven Center. Free. Ila Campbell, Ext. 2206, ila@bnl.gov

Wednesdays: LabVIEW
1:30-3 p.m., Bldg. 515, 2nd fl. Seminar Rm. Free technical assistance from LabVIEW consultants. Ext. 5304

Thursdays: BNL Cycletrons Club
Noon-1 p.m., First Thurs. of month. Berkner, Rm. D. Toni Hoffman, Ext. 5257

Thursdays: Reiki Healing Class
Noon-1 p.m., Call for location. Nicole Bernholz, Ext. 2027

Fridays: Family Swim Night
5-8 p.m. BNL Pool. \$5 per family

Fridays: Family Gym Night
5-8 p.m. Family gym activities. Free

Fridays: BNL Social & Cultural Club
Noon-1 p.m., B'haven Center, S. Room, free beginners dance lessons. 7-11:30 p.m. N. Ballroom, Dance Social, workshops. Rudy Alforque, Ext. 4733, alforque@bnl.gov

CIGNA Representative

A CIGNA Healthcare representative is available as needed in Human Resources, Bldg. 400, or by phone to assist with claims issues you have been unable to resolve yourself through CIGNA's Customer Service number (1-800-CIGNA24). Mary Beth Kivlen will be available by appointment only. You will need to provide all pertinent documentation. To schedule, call the Benefits Office, Ext. 5126.

In Memoriam: Giuliano DeGrassi

Giuliano DeGrassi, a senior research engineer in the Energy Sciences & Technology Department died on July 30, 2008 after a long illness. He was 60.

Longtime BNL colleague and friend Charles Hofmayer said, "Giuliano is well known and respected by our sponsors at the Nuclear Regulatory Commission (NRC), as well as by international collaborators, for his expertise in mechanical engineering, particularly the analysis and design of nuclear power plant piping systems and components. His tireless efforts and contributions to the Engineering Mechanics and Infrastructure Group, and our division and department, will be a great loss. He was a wonderful colleague and extraordinary friend to many of us at the Lab. Above all, his kind and caring personality will be missed by everyone who knew him."

BNL colleagues said that DeGrassi did not only possess the talent of a good engineer, but he was also a dedicated husband, father, and grandfather who frequently shared stories and poignant family memories with his coworkers.

DeGrassi first joined BNL on February 1, 1986, as a research engineer 1 in what was then the



Giuliano DeGrassi

Department of Nuclear Energy. In 1988, he was named senior research engineer. During his time at the Lab, DeGrassi authored many papers and served as principal investigator on numerous projects, including high-level seismic testing of piping systems, NRC field inspection teams, and power plant design and construction.

The writer of this article, Jane Koropsak of the Community, Education, Government & Public Affairs Directorate, also has fond personal memories of DeGrassi. "When I first joined BNL in 1990, I was part of his team. I, too, will remember him for his extraordinary work

ethic, which was only exceeded by his graciousness to those around him."

DeGrassi is survived by his wife Connie; his mother Maria; daughters Jennifer and her husband Tony Iozzia and Jodi and her husband Mark Cupo; son James and his wife Kathena; three grandchildren, Jake, Kaylie and Ava; and sister Arianna.

At the request of the family, donations in DeGrassi's memory may be mailed to: Visiting Nurse Service (VNS) Hospice of Suffolk, 505 Main Street, Northport, NY 11768, or the Don Monti Memorial Research Foundation, 300 Community Drive, Manhasset, NY 11030. — Jane Koropsak

Azdic Awarded from pg. 1

Azdic won the Annual Award of Belgrade for Natural Sciences in 1983, the Medal of the Serbian Chemical Society in 1997, BNL's Science & Technology Award in 2005, and the Research Award of The Electrochemical Society's Energy Technology Division in 2007. He was elected as a correspondent member of the Serbian Academy of Sciences & Arts in 1993, and he became a Fellow of The Electrochemical Society in 2005.

— Diane Greenberg

Electrocatalysts from pg. 1

electrocatalysts that will facilitate the application of platinum in fuel-cell cathode electrocatalysts. Adzic designed the first platinum monolayer fuel-cell anode electrocatalyst, which consists of ruthenium nanoparticles with a sub-monolayer of platinum. He then used this same concept to design a platinum monolayer cathode electrocatalyst, which contains several times less platinum than commercial electrocatalysts, thus making it less costly. Chen is investigating new nanoparticle supports for the platinum monolayer that will produce less costly and more stable electrocatalysts.

Ando will be working at BNL until December, and Chen will be on site until November, completing his thesis for his Ph.D. Currently working in the Chemistry Department, both researchers also use facilities at the Center for Functional Nanomaterials and the National Synchrotron Light Source for their work.

— Diane Greenberg

Arrivals & Departures

— Arrivals —

Margaret Bullock Staff Svcs.
Frank D'Agostino..... PPM
Astrid Imig..... Physics
Bernard Kosciuk..... NSLS II
Xiaongying Tu..... Biology

— Departures —

John Brinker C-AD
Daniel Chenet C-AD
Kay Huebner Physics
Christopher Jackson Physics
Ariane Kretlow NSLS
Soo-Kwan Lee CFN
Jason Olfert Environ. Sci.
David Warburton..... C-AD
Xiaohong Yu..... Biology

Softball/Farmer BBQ, 8/15

All are welcome to attend the BERA Softball League and Tirre Farmer Memorial BBQ on Friday, August 15, at 5:30 p.m. at the Gazebo. Tickets for BERA Softball team members will be sold through their team captains at \$5; guest tickets for non-players will be sold at the BERA Store until August 8 at \$10 for adults and children over 12 years old.

The price includes snacks, dinner, dessert & soft drinks. No tickets will be sold "at the door!" Rain date: August 18. For more information, call Ext. 4638.

Join a BERA Trip!

Buy tickets at the BERA Store, Berkner Hall, Bldg. 488, Ext. 3347, weekdays, 9 a.m.-3 p.m. Trips leave from the Brookhaven Center.

- US Open, Tues., 9/2, not a Lab holiday. \$58/person for ticket & coach. Leave BNL 8:30 a.m.
- West Point Army vs. Akron, OH. Football game, Sat., 9/20. \$65 per person includes luxury coach, game ticket, and hot tailgate catered luncheon. Leave BNL 7 a.m.
- New York City Dinner Cruise. Sat. 9/27. Leave BNL at 5 p.m. Sail on the Skyline Princess in New York Harbor, 7-11 p.m. Cost: \$90/person includes tax, buffet dinner, dessert, coffee, cash bar, DJ dancing; coach transportation, and tax. For ages 21 and over.

SCCC Office Management Course Offered on Site

Suffolk County Community College (SCCC) will offer the following course on site for the fall 2008 semester that will satisfy requirements for most SCCC degrees as a business or unrestricted elective.

BA52 – Office Management – 3 credits

Introduces scope and responsibilities of administrative office management. Topics include planning, organizing, operating and controlling operations; leadership and human relations factors; and an overview of the effect office technology has had on the business world including telecommunications, re-prographics, office systems, records management, data processing, word processing and voice processing.

Employees who take college courses may apply for tuition assistance. BNL offers tuition advances or reimbursements at 75 percent for undergraduate courses. Only two more students are needed to reach the minimum number for this course, so your registration will be extra welcome. The registration deadline is fast approaching; contact Starr Munson, munson@bnl.gov or Ext. 7631.



EWMS' Mike Clancy (right), working with his staff to create safe work plans at a morning check-in meeting.

EWMS Safety from pg. 1

materials daily and we venture pretty far off the beaten path confronting many natural hazards, including poison ivy and ticks, as we collect samples of soil, air, water, flora, and fauna," explained Mike Clancy, EWMS Deputy for Waste Programs. "We also use heavy machinery and power tools on a regular basis."

To protect employees from these risks, Clancy and his fellow EWMS leaders have developed a culture that is conducive to working safely. EWMS supervisors regularly tell employees to "be your brother's keeper." It is within this culture that Clancy reminds his employees, "You are not a jerk or rude to stop someone if they are doing something in an unsafe way."

"We remind our people about the importance of safety every

day," explained Clancy. At daily morning meetings before work starts, EWMS supervisors offer safety tips and advice specific to that day's assignments. Employees also participate in planning a task and are briefed on the task just prior to beginning it. "We find that everyone works more safely when they know all about a job and can contribute to the plan," Clancy observed.

While on the job, EWMS employees adhere to procedures developed with safety in mind. Clancy noted, "We regularly instruct our teams in the right way to use gloves, safety goggles, ladders, and other equipment, and we remind them of the importance of following the procedures at all times."

"Many EWMS projects require external contracted workers to be hired, and I require that these non-

BNL employees adhere to the same commitment to working safely. It is just as important for contracted vendors to avoid injuries as it is for BNL workers," Clancy stated. "Some contractors are not used to the type of planning and safe work practices we expect, but they have to follow our procedures, which are designed to enforce all necessary safety controls."

EWMS's detailed work planning and emphasis on working safely has paid off. On June 19, 2008, the division celebrated its fifth year without a time-lost injury.

"We want to make sure people talk and think about safety all the time," stated Clancy. "People sometimes rush and cut corners. We try to slow them down so they get their work done properly and go home injury-free at the end of the day. That is what it is all about." — Joe Gettler

Meet Nora Detweiler

**New Community
Relations Specialist
Who Helps Lead
BNL's Summer
Sundays**



Joseph Rubino D1230608

Principal Community Relations Specialist Nora Detweiler, who was a former Deputy Commissioner of Parks, Recreation and Cultural Affairs for the Town of Islip and a former Executive Director of the non-profit Keep Islip Clean, joined BNL's Community Relations (CR) Office in June 2008 — shortly before the start of Summer Sundays, which is BNL's annual summer open-house program that Detweiler will lead beginning in 2009.

Within three years of BNL's 1947 founding, the Lab began opening its doors to the community through annual open houses. Then as now, the goal for these free, open-to-the-public events is for members of the community to see the Lab's 5,300-acre site, meet BNL scientists and support staff, and learn about Brookhaven's research, discoveries and operations. Over the years since the first open house in 1950, these events have evolved into an annual program that, since the early 1980s, has been called Summer Sundays.

Annually, some 6,500-plus Long Islanders and other visitors attended Summer Sundays, which is the Lab's largest community outreach program. It involves many Lab employees and volunteers to make it happen. This year, as a result

of the retirement of Barbara Blenn, who coordinated Summer Sundays for nine years, the program is led by Marsha Belford of CR, with Detweiler co-coordinating the effort.

Taking place over five consecutive Sundays, Summer Sundays 2008 began on July 20 and has already hosted about 3,000 visitors. The program continues this Sunday, August 10, with the Center for Functional Nanomaterials open house, and it concludes on August 17 when the Relativistic Heavy Ion Collider will be the featured facility.

Detweiler decided to join the Lab to assume the lead of Summer Sundays and take on other outreach projects because the position was a "perfect fit." As she explains, "The requirements of the position matched what I have done in the past — community relations, events management, volunteer recruitment, and program coordination. Since I arrived at the Lab, I've been non-stop — meeting employees, learning about facilities and working with Marsha to attend to all of the details that must be done before we welcome the public each Sunday. It has been a great way to get to know the Lab in a very short time."

— Diane Greenberg and Marsha Belford

Shipping, Receiving, Inventory Operations Move to Bldg. 98 Starts Today, 8/8

BNL's Central Shipping and Receiving and Central Stores Inventory operations will be relocated from Bldg. 100 to Bldg. 98 during the first weeks of August. While this move is being coordinated to minimize impacts to the Lab, the following outages of service can be expected. The current schedule for relocations is as follows:

- Suspend shipping/receiving and central inventory operations today, August 8, at 4:30 p.m.
- Relocate shipping/receiving operations to Bldg. 98 on Saturday, August 9
- Restart shipping/receiving operations at Bldg. 98 on Monday, August 11, at noon
- Relocate central inventory operations to Bldg. 98 starting on Monday, August 11, at 8:30 a.m.
- Restart central inventory operations at Bldg. 98 on Monday, August 18, at 8:30 a.m.

The move of the central inventory operations will prevent any materials from being issued from stock currently housed in Bldg. 100 during this week as all materials must be removed from the present storage locations and boxed for movement. The storage shelving and cabinets will be disassembled, relocated and reassembled.

The materials will then be restored to the new locations. This will mean that the materials presently housed in locations R158, R090, and R091 will not be available for that week. Please adjust your inventory requests accordingly.

This schedule is firm at this time as the construction is progressing on schedule. If any delays are anticipated, every attempt will be made to communicate these changes to the Lab community as soon as possible.

Take the Online 2008 BNL Vending Machine Survey

A survey of the BNL vending machine program managed by the New York State Commission for the Blind is now online at <http://intranet.bnl.gov/survey/vending/>. All BNLeers are encouraged to complete the survey, as these responses will help target areas for improved service.



Summer students Nyesha Smith (left) and Jeffrey Ambrose (right) study a soil sample with Dowling College professor Vishal Shah (center).

Pine Barrens from pg. 1
Kambhampati said. "That's why we formed this collaboration. Our team has had a great experience working with Dr. Shah. He is an enthusiastic mentor and an excellent team player."

The team goes out in the field to take soil samples from strategically mapped permanent forest health spots established by the Foundation for Ecological Research in the Northeast — 93 in all — throughout the forest. They take soil layers from three different levels and bring them back to Dowling for analysis.

This project, which will provide more information about the health of the Pine Barrens, might also lead to the discovery of new microbes with potential medicinal properties, Kambhampati explained.

"We took the challenge and so far the research has been successful," he said. "We look forward to making it a more meaningful project both scientifically and educationally."

Shah notes that this collaboration gives students confidence. "Even if you are in high school or an undergrad, if you believe in yourself, you can do wonders," he said.

Please Remember the BNL Food Drive

Food drive bins are in most buildings, e.g., the Post Office. Some people in Brookhaven Town depend on these donations. Thank you.

Ambrose and Smith, both of whom plan on pursuing combined M.D./Ph.D. degrees after completing their undergraduate degrees in biology, have benefited from their first research experience.

"Jeff and Nyesha have great potential and talent," Shah said. "By getting this research exposure and working with professors like Dr. Murty, I am sure that they will succeed in their future careers."

"It has been a fulfilling experience," Ambrose said. "It's a lot of hard work but we're up to the challenge."

Smith added that this summer helped solidify her future. "It has made me love research even more," she said. "Now I know what to expect in this field."

To learn more about the research done by BNL summer students, stop by the Student Symposium, Poster Presentations, and closing ceremony, which will be held in Berkner Hall from 9 a.m. to 4 p.m. on Thursday, August 14. For more information about FaST and other internships offered by OEP, visit www.bnl.gov/education/programs.asp.

— Kirsten Dorans



The Center for Functional Nanomaterials

Summer Sunday Tours: Functional Nanomaterials, 8/8

BNL again opens its doors to the public this summer, on Sundays through August 17, featuring a different tour each week. Adults and children can also enjoy a variety of entertaining activities, including the Whiz Bang Science Show and the Brain Teasers exhibit.

Summer Sundays are offered free, and no reservations are needed. Visitors may arrive any time between 10 a.m. and 3 p.m. The Whiz Bang Science Show will be staged at 10:30 a.m., noon, 1:30 p.m. and 3 p.m. All visitors age 16 and over must bring a photo ID. For more information, visit the BNL website: www.bnl.gov.

BNLeers who attend are most welcome, but please check in at Berkner first to join the regular groups taken to visit the featured facility. Lone rangers who show up solo at the facility can hold up the schedule, which has to be very tight.

The Summer Sundays schedule follows:

August 10 — Center for Functional Nanomaterials

Visit a new center where studies of the ultra-small may lead to ultra-big discoveries in many areas, from energy to electronics. This tour is appropriate for adults and children over 10 years old.

August 17 — Relativistic Heavy Ion Collider

Learn how gold ions are smashed together in an underground tunnel to recreate the temperature and energy density of the early universe. Tour appropriate for adults and children over 10 years old.

CALENDAR

— THIS WEEKEND —

Today, Friday, 8/8

Small Business Supplier Showcase
9 a.m.-1:30 p.m. Berkner Hall lobby. BNL hosts small business suppliers to showcase products and services to BNL employees. All BNLeers who use local products and services are encouraged to attend.

***Shipping, Receiving, Inventory Temp. Suspend Ops., 4:30 p.m.**

4:30 p.m. Shipping, Receiving, and Inventory services will be temporarily suspended after 4:30 p.m. today while operations are relocated from Bldg. 100 to Bldg. 98. Services will soon be resumed, see current schedule at left.

Sunday, 8/10

***Summer Sundays:**

Center for Functional Nanomaterials
10 a.m.-3 p.m. Open to the public. All are invited to visit the Lab for free tours. No reservations needed. Witness the Whiz Bang Science Show. Visit Center for Functional Nanomaterials on site. Visitors to the Lab of 16 and over must carry a photo ID. See notice below, left.

— WEEK OF 8/11 —

Thursday, 8/14

Summer Internship Symposium, Poster Presentations, Closing Ceremony for 2008

9 a.m.-4 p.m. Berkner Hall. All are welcome to the Office of Educational Program's closing ceremony for the 2008 summer interns (2-4 p.m.), expected guest speakers to include U.S. Representative Tim Bishop and DOE's Chief Human Capital Officer Jeff Pon. Earlier, students will have made oral presentations and displayed posters.

Friday, 8/15

***Softball/Farmer Memorial BBQ**

5:30 p.m. Gazebo. Softball League and Tirre Farmer Memorial BBQ, all are welcome. Last day to buy tickets is Friday, 8/8, at the BERA Store. See notice on pg. 2.

Sunday, 8/17

***Summer Sundays: RHIC**

10 a.m.-3 p.m. Last Summer Sunday of 2008. Open to the public. All are invited to visit the Lab for free tours. No reservations needed. Witness the Whiz Bang Science Show, try your hand at the Brain Teasers exhibit. Visit the Relativistic Heavy Ion Collider on site. Visitors to the Lab of 16 and over must carry a photo ID. See notice below, left.

— WEEK OF 8/25 —

Monday, 8/25

IBEW Meeting

6 p.m. Centereach Knights of Columbus Hall, 41 Horseblock Rd., Centereach. A meeting for shift workers will be held at 3 p.m. in the union office. The agenda includes regular business, committee reports, and the president's report.

— WEEK OF 9/1 —

Monday, 9/1

Labor Day Holiday

The Lab will be closed in observance of the Labor Day Holiday. No Bulletin on 9/5/08.

School Supply Drive

The annual BERA/Recreation School Supply Drive is now in progress. Donations are requested for schoolchildren who will not be able to buy items such as notebooks, folders, glue, crayons, pens, pencils, back packs, and lunch bags for the coming term. Drop off all supplies you can muster to the Quality of Life/BERA/Recreation Office in Bldg. 400. Your contributions will make a difference.

Classified Advertisements

Placement Notices

The Lab's placement policy is to select the best-qualified candidate for an available position. Candidates are considered in the following order: (1) present benefits-eligible employees within the department/division and/or appropriate bargaining unit, with preference for those within the immediate work group; (2) present benefits-eligible employees within the Laboratory; and (3) outside applicants. In keeping with the Affirmative Action Plan, selections are made without regard to age, race, color, religion, national origin, sex, disability or veteran status. Each week, the Human Resources Division lists new placement notices, first, so employees may request consideration for themselves, and, second, for open recruitment. Because of the priority policy stated above, each listing does not necessarily represent an opportunity for all people. Except when operational needs require otherwise, positions will be open for one week after publication. For more information, contact the Employment Manager, Ext. 2882. Access current job openings on the World Wide Web at www.bnl.gov/HR/jobs/.

To apply for a position, go to www.bnl.gov. Select "Job Opportunities" then "Search Job List."

OPEN RECRUITMENT - Opportunities for Lab employees and outside candidates.

POSTDOCTORAL RESEARCH ASSOCIATE - Requires a Ph.D. in physics, chemistry or materials science. Significant experience in surface-science experimentation, particularly UHV STM, including independent sample preparation, planning of experiments, data acquisition and analysis is also required. Previous experience in variable-temperature and/or high-pressure STM or LEEM is preferred. The successful candidate will have the opportunity to work in a multidisciplinary team of scientists studying different aspects of hydrogen storage reactions, and will collaborate closely with a parallel effort in *ab-initio* theory and modeling. The scientific focus will be on atomistic effects of dopants and catalysts on the reversibility and reaction kinetics of complex metal hydride hydrogen storage materials, studied by UHV scanning tunneling microscopy (STM), high-pressure STM, and low-energy electron microscopy (LEEM). Under the direction of P. Sutter, Center for Functional Nanomaterials. Apply to Job ID # 14583.

PROCUREMENT MANAGER: NSLS-II (M-2) - Requires a BA in business administration or in a related field (MBA and/or professional acquisition certification strongly preferred), and a total of 15 years' related experience including extensive management experience in the Federal contracts environment, and working within an agency-approved procurement organization. Applicants must have a highly successful, demonstrated management track record in strategic and tactical planning, execution, and working within an agency-approved procurement organization. Management experience in a large technical/scientific organization and particularly experience within the DOE complex is highly desirable. A broad background in procurement and a safety focus are required. The successful candidate will serve as the National Synchrotron Light Source II (NSLS-II) Procurement Manager, overseeing the entire procurement process for this ~\$900 million major system acquisition. This position will be matrixed from Procurement and Property Management (PPM), will report to the NSLS-II Project Support Division Director, and will be co-located at the NSLS-II Project Office. Project responsibilities will include the development, implementation and maintenance of the NSLS-II Project procurement strategy and processes, contract administration of the Architect/Engineer (AE) and General Contractor (GC) organizations, maintenance of the official procurement records for the Project and review and evaluation of contractor procurement operations. The Project Procurement Manager will participate in and contribute to NSLS-II monthly status meetings, risk management meetings, advisory committee meetings, and project reviews and will interact regularly with NSLS-II project management and technical division directors. Successful candidate will supervise other NSLS-II procurement staff, directing them to ensure that project milestones are met. The successful candidate must possess exceptional communications and interpersonal relationship management skills and operate with a high degree of customer orientation. Experience with and understanding of business ERP systems is very desirable. An exceptionally high degree of personal integrity and accountability are fundamental requirements. Procurement & Property Management Division. Apply to Job ID # 14582.

RECORDS MANAGEMENT SPECIALIST/STAFF SPECIALIST (A-6) - Responsibilities include the management and administration of the National Synchrotron Light Source II Project document management program and the establishment of procedures for proper document handling in accordance with DOE and BNL requirement regulations; training and coaching personnel in the area of document control policy and delivering presentations regarding the subject matter; implementing electronic records management, taxonomy, indexing, document protective practices in compliance with related government statutes and regulations which govern project management information; serve as primary point of contact with software vendor. Management of all procedures to ensure that records are managed and protected throughout their required retention period, as required by federal regulations, records retention and government record protection as directed by NARA, DOE and BNL. Position requirements: Bachelor's degree or equivalent in a related field with compatible experience in training and coaching team members; expert knowledge of records management concepts, operations, laws and regulations governing record creation and retention; excellent skills with document management software systems to track and control documents/records; six-10 years of prior experience using document control software; proficient use of MS Office Suite and Outlook; strong verbal and written communication skills, interpersonal skills, advanced organization and problem solving skills, and the ability to work independently with only strategic direction. 10+ years' experience in document control for large complex projects preferred. Position reports to the Configuration Manager, National Synchrotron Light Source II Project. ERAP eligible \$1,000.00. Apply to Job ID# 14579.

VACUUM SYSTEMS TECHNICAL SPECIALIST (T-2) - Requires an AAS degree in electro/mechanical technology or equivalent experience, plus four years experience in assembly, maintenance, repair and operation of ultrahigh vacuum systems and related equipment. Must be self-motivated, able to work with minimum supervision, and have good communication skills. Extensive experience in the use of hand tools and electronic test instruments is required as well as the ability to work from drawings, schematics, and verbal instruction. Experience with particle accelerator systems and/or large vacuum systems is preferred and proficiency with computers and machine shop practices is a plus. The candidate will be responsible for fabricating, assembling, commissioning, troubleshooting and repairing vacuum systems and related equipment such as leak detectors, turbo molecular pumps, ion pumps, titanium sublimation pumps, residual gas analyzers, vacuum gauges and their associated controls. Collider - Accelerator Department. Apply to Job ID#14584.

Motor Vehicles & Supplies

05 FORD F250 - SuperDuty supercab 4x4, tow/plow pkg, factory brake control, system 1/rack w/work winches. 48K mi. \$18,000/neg. 395-5773.

05 CARGO MATE TRAILER - barn doors on rear & side, single axle w/elect. brakes, contractor set up, V/noise. 12'x 6. 20K mi. \$2,000. 395-5773.

04 FORD XLT F250 - SuperDuty Crew Cab, 4x4, tow pkg., excel. cond. in & out. 30K mi. \$17,900/neg. 929-4886.

03 TOYOTA AVALON XLS - loaded, im-mac. cond. silver. 26K mi. \$18,000/neg. Ext. 7286 or 901-7520.

03 CHEVROLET VENTURE - a/c, p/w, p/l, 8 pass. 21/26 mpg, fr/side air bags, abs, traction cont., new tires, excel. cond. 67K mi. \$7,800. Ext. 5128 or 727-4417.

01 VOLKSWAGEN NEW BEETLE SPORT - >30mpg, <http://tinyurl.com/6eowht>, heated leather seats, spoiler. 75K mi. \$7,900/neg. Ext. 5245 or 974-1432.

00 TOYOTA AVALON XL - white, orig. owner, excl. cond., always maint'd. 74K mi. \$8,500. 722-4821.

00 HYUNDAI SONATA - 6cyl, a/t, 4dr, am/fm/cd, c/c, new starter motor & stereo, 116K mi. \$2,700/neg. Sarah, Ext. 4207.

99 ISUZU RODEO - 24/19 MPG, 4wd, 6 cyl, a/t, a/c, cass/cd, c/c, p/w, p/l, orig. owner, dlr maint, excel cond. 117K mi. \$3,800/neg. Ext. 3492 or 734-2593.

99 DODGE DURANGO - 8 cyl, 4wd, a/c, am/fm/cd, abs, c/c, p/l, p/s, p/w, tow pkg, excel. cond. 121K mi. \$3,600/neg. 258-4607.

98 TOYOTA CAMRY - great cond., well maint'd., new brakes & timing belt, dark green. 75K mi. \$6,100/neg. Ext. 5889.

97 BMW 328i - 5spd, 30mpg, prem sound, htd lthr seats, p/sunr, gar, serv recs, new cat conv, needs nothing, 174K mi. \$4,950. Ext. 2913.

96 AUDI A4 QUATTRO - V6, a/t, gray, leather, htd seats, m/roof, Alpine w/POd cable, new Michelins, lots of new parts. 135K mi. \$3,950/neg. Ext. 7277.

94 CHEVY TRUCK LT/BL - 4 pass., gas, 8cyl., cab body. \$3,000/neg. 727-1506.

ACCESS TONNEAU COVER - Used for short bed p/u truck, grt shape, all hardware incl., No drilling needed. Ext. 5299.

CLEARANCE LIGHTS - for truck/trailer, 6 amber and 3 red, brand new + 1 ea. used, ask/\$5/all. Peter, Ext. 5551 or 772-4751.

Audio, Video & Computers

CAMERA - Canon XTi 400D Digital SLR 10mp 18-55 lens, 2 batt., 2 mem. cards, filter, case, like new, \$650. Rich, Ext. 7294.

INTERNET SECURITY - Trend Micro, Anti-virus software for up to 3 PCs. It supports XP and Vista, NOT Win2000, \$20. Ken, Ext. 7578.

TV - Panasonic, TAU 36, HD, flat screen, silver cab, 2 component inputs, s-cideo, remote control, 36 3/4" w x 29 1/4" h x 23" d Francine, Ext. 3381 or 744-4061.

WIRELESS ROUTER - used Netgear Wireless Firewall, 108Mbps Model WGT624v2, w/CD, pwr. supply & stand, \$25. Bill, Ext. 2378 or 793-9111.

WASHER - used, Dependable Care Plus heavy duty 4 spd, 11 cycles, super capac, gd. cond., \$25. Ext. 7414 or 645-7707.

GAS RANGE - Frigidaire, white, self cleaning, 29 3/4w, 25 1/4d, 46.5h, u-pick up, \$200. Ext. 3500.

TV STAND - Oak TV Stand w/turn table; 2 shelves w/drs., \$20/all. Linda, Ext. 2383.

TWIN HEADBOARDS - 1 antique wood & 1 wicker; wooden quilt rack, \$10/ea. Ext. 2716.

WASHER - used, Dependable Care Plus heavy duty 4 spd, 11 cycles, super capac, gd. cond., \$25. Ext. 7414 or 645-7707.



Roger Stoutenburgh D2820708

Go World! Let the Games Begin!

When Chaofeng Mi of the Collider-Accelerator Department (C-AD) learned his father was going to China to visit family, he asked him to bring back an official Olympic flag. Jian-Lin Mi, who also works in C-AD, fulfilled his son's wish and returned to the United States with a flag bearing the official Olympic logo and the unique motif for the games being held this year in Beijing, China.

Chaofeng Mi, who enjoys biking, decided he would devise a method to attach the flag to his bike so that while he pumps

the pedals around the site, fellow BNLers would notice the flag and share his enthusiasm for the commencement of the world's most elite competition — the Olympics. Mi and two post-doc colleagues, Yue Hao and Qiong Wu, also from China, joined in the fun and have been biking along with Mi.

"I am proud to say that I am originally from Beijing," said Mi. "I have enjoyed watching my home city prepare for this exciting event. The spirited Olympic competition and celebration of athletic accomplish-

ments is universal. I hope that in some small way displaying the flag around BNL encourages people to watch the Olympics and applaud all the athletes. I hope the flag also serves as a reminder of the diverse cultures at BNL and of my personal appreciation of those who supported the relief fund for the China earthquake victims."

When Mi was asked for whom he planned to cheer during the games, he raised his arms above his head, smiled, and cheered, "Go World!"

— Jane Koropsak

Boats & Marine Supplies

27' C&C MKII - ready for race or cruise, 10 hrs on rebuilt Univ. Atomic 4, on trailer. \$6,500/neg. 298-7022/335-7173.

KAYAK ROOF MOUNTS - Yakima Hully-Roller #8004035; Yakima Mako Saddles #8004037 new in box. Don, Ext. 5299.

Furnishings & Appliances

AIR CONDITIONER - GE window, 6,000 Btu, \$50. Christine, 744-6874.

AMANA REFRIGERATOR - white, bottom freezer, pic. upon request, 29.5w, 30 1/4d, 65 3/4h, \$250 u-pick up. Ext. 3500.

BABY CRIB - Delta natural pine, convertible to toddler bed, easy disassemble, perfect cond., ask/\$100/neg. 681-5179.

BABY GRAND PIANO - Kranich & Bach circa 1920, Black w/orig. ivory keys, \$500/obo, make offer. Angela, Ext. 7397.

CABINET - wooden, old w/dr. & 4 shelves, needs refinishing, \$30; Singer sewing mach w/table, \$35; wing chair, \$50. Ext. 7647.

COFFEE GRINDER & MACHINE - lg. w/storage for beans, sep. coffeemaker, 4 cups, gd. cond., \$10/ea. or \$15/both. 974-1432.

DINING SET - Thomasville, pecan & ash wd, tbl 44x72, ext. to 116", pads, 6 chrs, server, china closet, new cond. \$5,500. Ext. 7286.

DINING SET - rect. table, 42"x64", 4 chrs, 2 armchrs, matchg cabinet 19"x62", cherrywd color, excel. cond., \$269. 751-0517.

DISHWASHER - Frigidaire, white, 23.5w, 25.5d, 33 7/8h, pic. avail., u-pick-up, \$150. Ext. 3500.

DRYER - used, GE, 5 cycle, auto heavy duty, extra lg capacity, gd. cond., \$25 u-pick up. Ext. 7414 or 645-7707.

GAS RANGE - Frigidaire, white, self cleaning, 29 3/4w, 25 1/4d, 46.5h, u-pick up, \$200. Ext. 3500.

TV STAND - Oak TV Stand w/turn table; 2 shelves w/drs., \$20/all. Linda, Ext. 2383.

TWIN HEADBOARDS - 1 antique wood & 1 wicker; wooden quilt rack, \$10/ea. Ext. 2716.

WASHER - used, Dependable Care Plus heavy duty 4 spd, 11 cycles, super capac, gd. cond., \$25. Ext. 7414 or 645-7707.

WASHER - used, Dependable Care Plus heavy duty 4 spd, 11 cycles, super capac, gd. cond., \$25. Ext. 7414 or 645-7707.

Sports, Hobbies & Pets

FREE SOLOFLEX - great cond. w/butterfly and leg atchmts, will deliver to the Lab for pick up. Jeffrey, Ext. 2525.

GUN SAFE - Browning American Tradition Pro Steel, hunter green/gold, u-pick-up, \$999. Ext. 5753 or 252-3356.

IPOD SHUFFLE - never used; wave skatebrd; skatebrd. ramp, \$50/ea. Ext. 2716.

POP-UP TRAILER - '83 Coleman, sleep 6, sink, stove, storage, needs new tires, gd. cond., ask/\$600. Ext. 2716 or 878-2425.

Tools, House & Garden

FRENCH FRONT DOOR - Andersen, right hand swing, new w/tags, terratone color, \$300/neg. John, Ext. 5319 or 258-8787.

GARDEN TRACTOR - 22 HP Crftsmn, 46" cutting deck, 3 bin bagger atchmt., 5 yrs. old, well maint., shrey@bnl.gov. Ext. 7451.

SCROLL SAW, DREMEL - Model 57-2, Moto Shop, w/table; \$45; saw horses, \$10/set; badminton net, \$5; Bandsaw w/table, \$45. Ext. 7647.

USED WOOD - Pressure treated CCA, 2x6x8', \$2/ea; 4x4x8', \$4/ea., straight, no nails. 744-1706.

Lost & Found

LOST KEYS - & remote found for a Hyundai at John Searing's going away party, Middle Island Fire Dept. Allen, 872-9264.

Miscellaneous

MEDICAL EQUIPMENT - shower chair, white; shower bench, grey; and walker; \$20/ea. Ext. 4340.

TREADMILL - One Lifestyler Expanse 600, \$139. Hong-Bo, 751-0517.

Free

TREAD MILL - in working cond., heavy, u-pic-up. Linda, Ext. 2383.

WATER PUMP MOTOR - used pump parts, for camper domestic water supply, 12 VDC. Peter, Ext. 5551 or 772-4751.

Happenings

DIVINE PERFORMING - life classical chinese dance & music in a colorful & exhilarating show, 8/24 @ 7:30 pm @ manhattan center. George, Ext. 4033.

Community Involvement

ZUCCHINI BREAD - taking orders for homemade zucchini bread for church fundraiser. Pat, 793-9178.

Wanted

EUROS - Will exchange for U.S. dollars. Ext. 5322.

FIREARMS - old/new, fair \$\$ pd. Joe, Ext. 3783 or 487-1479.

NATIVE FRENCH SPEAKING - tutor for individual lessons. Larisa, 252-1256.

PET CARRIERS - New or slightly used or donations towards purchase are needed for pet rescue. Kathleen, Ext. 3161.

RIFLES - starting a gun collection, looking mostly for rifles. Bob, 603-7261.

TROPHIES - needed for local civic organization, recycle the glory! Jim, Ext. 3293 or 929-7289.

For Rent

CENTER MORCHES - 1 bdrm upstairs apt., l/r, kit, combo, priv. ent./yd. for BBQ, for 1 person or couple, no smkg/pets, util./a/c incl. \$1,000/mo. 878-9457.

CORAM - 1 bdrm apt., grnd level, l/r/kit, combo, avail. immed. \$850/mo. 828-8687.

MIDDLE ISLAND - 1 lg. bdrm, 1st flr. apt., sep ent, full kit/bath, walk-in-closet, 5 min to Lab, water/heat/elec. incl. \$900/mo. 807-5196.

PORT JEFF - contemp. Victorian 4-bdrm, great rm., 2 bath, eik, wtrview, loft and fin. bsmt. pool and hot tub, walk to shops, + util., avail. 9/1. \$2,750/mo. 804-4662.

SHIRLEY - 1 rm, stove, kitnet., sep ent, full bath, 1 mo. sec. heat, cac, tv, wireless int, close to LIRR, 5 min to stores/beach, no smkg/pets. \$700/mo. Ext. 8321.

SHOREHAM - 3-bdrm., 4.5-bath waterfrt house on LI Sound, 1.5 acr, kit, l/r, d/r, f/p, igr, 2-car gar, furn./unfurn. monthly lease, + util., 2 mo. sec. \$2,750/mo. 886-1545.

SMITHTOWN - bsmt studio apt., furn., w/micro & frig., no smkg/pets or stove, walk to town, shop, LIRR, util. incl., 1 mo sec., 35 min. to Lab. \$625/mo. 265-3392.

For Sale

BELLPORT - 4-BR ranch, 2 bth, l/r, den w/dble tp, d/r, eik, oak flrs, deck, laundry rm, fin. bsmt w: 4th BR, bar, bath, 2 rms; gar, 2 shds, sprnkrls \$375,000. 949-7797.

FARMINGVILLE - 3 bdrm, 2 bath, lr, dr, fireplace, 2 garages, basement apt, central air, alarm system, many extras. 10 min to Lab. \$345,000. 289-5704.

MIDDLE ISLAND - 1 bdrm. co-op, lg. l/r, b/r, d/r & patio, open plan; 2nd flr. all ints. 3 yrs, rms, bath, kit., appli., many extras. \$124,500/neg. Ext. 5453 or 220-3487.

RIDGE - Colonial 4 bdrm. in great family neighborhood, 2 mi. to Lab, full finish. bsmt. w/ose, income potential, too many new options to list. \$472,500. 252-3356.

RIDGE - cust. Victorian, 3,000 sq.ft., mins.to Lab, 4/5 BR, 2+1/2 bth, jacuzzi, h/wd flrs, cent. air, full bsmt w/sep. ent., 2-car gar, 1 acre+, adjac. to protected land. \$549,000/neg. 255-8445.

On-Site Services

ON-SITE SERVICE STATION - How old is your battery? You can get your vehicle's battery and/or air conditioning checked and serviced, or have other repairs done, while you are at work. Ext. 4034.

ENTERPRISE CAR RENTAL - has moved to new Research Support Bldg., Bldg. 400 lobby. Cars, pick-ups, vans available for short or long rental. Discounted rates for BNLers. Ext. 4888.