

# BROOKHAVEN NATIONAL LABORATORY

#### May 2, 2008

## Structure Reveals How Cells 'Sugar-Coat' Proteins

Process essential to many proteins' functions can lead to disease when gone awry



#### Huilin Li (left) and Hua Li

Biologists at BNL, Stony Brook University (SBU), and the University of Wurzburg (UW), Germany, have deciphered the structure of a large protein complex responsible for adding sugar molecules to newly formed proteins - a process essential to many proteins' functions. The structure offers insight into the molecular "sugar-coating" mechanism, and may help scientists better understand a variety of diseases that result when the process goes awry.

The research appeared in the March 12, 2008, issue of the journal Structure, authored by: Hua Li of BNL's Biology Department and SBU's Manasi Chavan, co-first authors; Hermann Schindeli of UW; William Lennarz of SBU; and Huilin Li of Biology, who holds a joint appointment at SBU and is cocorresponding author on the Structure paper. The research was supported by the National Institutes of Health and by BNL's Laboratory-Directed Research & Development funds.

"Proteins perform their functions by interacting at their surfaces with other molecules. So you can imagine that adding or removing sugar molecules will change the protein's surface structure, and therefore its function," said Huilin Li. "Messing up this process can lead to the production of malformed proteins that are unable to do their jobs," he added.

The results can be devastating. Failure of glycosylation, as the "sugar-coating" process is known, can lead to a variety of genetic disorders characterized by neurological problems including seizures and stroke-like episodes, feeding disorders, and possibly even some forms of muscular dystrophy.

"We studied one enzyme involved in glycosylation, the one that recognizes the protein sequence and adds the sugar chains to the protein as it is being synthesized by the cell," said Lennarz. "The challenge is that the enzyme, known as oligosaccharide transferase (OT), is large by protein standards, has eight intricately linked components, and sits embedded in a membrane within the cell's protein-manufacturing machinery."

#### The Cryo-EM Technique

"Membrane proteins, particularly large ones, are very difficult to study structurally," said Li.

The scientists used a technique called cryo-electron microscopy (cryo-EM), which shows great promise in deciphering large membrane protein structures.

"We imaged the purified OT complex by cryo-EM and obtained a first snapshot of the complex by computer reconstruction of the micrographs," said Li, a cryo-EM expert.

In cryo-EM, he explained, samples are frozen in vitreous ice and maintained at cryogenic temperatures (-274° Fahrenheit) using liquid nitrogen while the samples are photographed in the high vacuum of an electron microscope. The sophisticated cryo-EM machine resides in BNL's Biology Department. Li and his collaborators also measured the mass of the OT complex at BNL's Scanning Transmission Electron Microscope (STEM) facility.

The structure deciphered by the group helps to explain many biochemical phenomena observed about the enzyme complex over the past two decades. It also offers hints as to how the enzyme performs its various jobs, from recognizing the sugar molecules to be added to the protein, scanning the protein as it is formed to identify the sites where sugars should be attached, and transferring the sugar molecules to the protein at the right positions.

"OT physically associates with the protein translocation channel which moves a protein across a membrane and the cell's protein synthesis machinery, forming an efficient threemachine assembly line for protein translation, translocation, and glycosylation," Li said.

The researchers say further research is needed to illuminate the molecular mechanisms of disorders of glycosylation involving OT. For example, they would like to do structural studies of the enzyme at higher resolution in association with substrates or with the cell's protein translocation and protein synthesis machinery. It is hoped that, next year, construction will begin on the National Synchrotron Light Source II, a powerful new facility at BNL that would make possible a great increase in the precision of this work.

### 2008 Joint NSLS/CFN Users' Meeting, 5/19-21



The Joint National Synchrotron Light Source and Center for Functional Nanomaterials Users' Meeting, to be held this year on May 19-21 at BNL, will provide a venue for scientists from diverse disciplines to share new research results and advances in experimental capabilities that utilize synchrotron radiation and focus on nanoscience. This year's theme, "Renewable Energy," will be highlighted during the main meeting by individuals currently involved in this area of research. All BNL employees are invited to attend the morning plenary session on Tuesday, May 20, free of charge. BNL employees and guests are also welcome to register for other sessions dedicated to scientific talks, workshops, and other events (registration and a nominal fee are required). For more information, go to www.nsls.bnl.gov/users/meeting/2008/.

### **Times Beacon Record Honors Two BNL Scientists**

A<sup>t</sup> a dinner sponsored by the Rocky Point Rotary and Rocky Point Lions Clubs on March 25, **BNL** scientists Walter Mangel (right) and Satoshi Ozaki were honored as Men of the Year 2007 in Health



and Science, awards given annually by the Times Beacon Record (TBR) newspapers.

Walter Mangel, named "Man of the Year in Health," is working with a Biology Department team, seeking ways to battle adenovirus. Adenovirus, which causes viral pink eye and epidemics of colds, can also cause blindness and, in the third world, diarrhea. The virus participates in opportunistic infections, killing many AIDS patients. As TBR noted in an December 2007 article on Mangel and his work and pastimes, he spends some of his free time as an artist. His work has been displayed in Long Island galleries and at the Lab.

Satoshi Ozaki, named "Man of the Year in Science" by TBR, was recognized for his leadership in the development and implementation of the Lab's successful Relativistic Heavy Ion Collider, a forefront particle accelerator designed to study matter as it existed fractions of a second after the birth of the universe. In 2006, Ozaki was named a Senior Project Advisor for the Lab's newest facility on the horizon - the National Synchrotron Light Source-II. In describing Ozaki's leisure-time interests, TBR reports that his major — Karen McNulty Walsh hobby is cabinet making. — Jane Koropsak

### Grollman to Speak on 'Unraveling the Mystery of an Environmental Disease,' 5/15

"Unraveling the Mystery mined that home-baked bread disease and associated cancers. White House Commission on



rthur Grollman, Director Aof Stony Brook University's Leo and Judy Zickler Laboratory of Chemical Biology, will give a BSA Distinguished Lecture titled

of an Environmental Disease," on Thursday, May 15, at 4 p.m. in Berkner Hall. BSA Distinguished Lectures are sponsored by Brookhaven Science Associates, the company that manages BNL, to bring topics of general interest before the Lab community and the public. The lecture is free and open to the public. Visitors to the Lab age 16 and over must bring a photo ID.

For many years, residents of farming villages along the Danube River basin suffered from a fatal kidney disease and

an associated urinary tract cancer. The cause of the disease remained a mystery for more than 50 years. Recently, however, Arthur Grollman and his colleagues have deteris implicated in the disease, known as Balkan endemic nephropathy.

Suspecting that a specific environmental toxin might be causing the disease, Arthur Grollman and his colleagues began epidemiological and clinical studies that solved the mystery. They discovered that home-baked bread, a dietary staple of farm families living in the affected area, was contaminated with aristolochic acid, a powerful kidney toxin and human carcinogen that is found in Aristolochia weeds that grow in many of the wheat fields of the Balkans.

Aristolochic acid is also found in herbal remedies used for centuries in Europe, Asia, and the Americas. Now, these popular herbal remedies are implicated as the cause of aristolochic acid-induced kidney

This finding may lead to the development of new therapeutic agents to treat common diseases similar to those caused by the toxin. The strategies used by Grollman and colleagues to trace the cause of a local disease also provide a model for investigations of environmental diseases around the world.

In addition to directing the chemical biology laboratory at Stony Brook University, Arthur Grollman is the founding Chair and Distinguished Professor of Pharmacological Sciences, and Evelyn G. Glick Professor of Experimental Medicine at the university.

Grollman has published more than 200 papers in molecular biology and cancer research. He is an expert in the clinical pharmacology of herbal medicines and has testified on this subject before the Alternative and Complementary Health Policy and other governmental committees. He has also served on numerous scientific editorial boards and advisory committees.

After earning a B.A. in chemistry from the University of California at Berkeley, Grollman received his M.D. from the Johns Hopkins School of Medicine, where he did his internship and residency in internal medicine. He then conducted research at the National Institutes of Health before joining the faculty of Albert Einstein College of Medicine. He began his career at Stony Brook in 1974. Grollman was elected to the Johns Hopkins Society of Scholars, and he received two Cancer Society Scholar Awards and a MERIT Award from the National Cancer In-— Diane Greenberg stitute.

#### The Bulletin

#### 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.

#### Tuesdaye: Teastmaster

Tuesdays: Toastmasters

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

#### 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., Only on first Thurs. of the month. Berkner Hall, Room D. Toni Hoffman, Ext. 5257

Thursdays: Reiki Healing Class

#### Lab Seeks Input on Commute Alternatives At least 1,300 survey answers needed for an analysis

Does the skyrocketing cost of gasoline get you down? Are you looking for a better way to commute to work? Recognizing the economic impacts employees are now feeling due to record gas prices and the stresses placed on the environment from vehicular travel, the Lab is taking a fresh look at the commute options currently available to employees to see how they might be improved or enhanced.

#### BNL is applying for a Long Island Regional Improving Commute grant available through Long Island Transportation Management (LITM). The application process has begun with the distribution of an online survey developed by LITM with input from the Lab. The survey can be found at http://www.custominsight. com/start/?bnl08.

"The survey asks about your current commute practices, your degree of interest in various commute alternatives, and whether

### Input Sought on Deer Management Proposals, Two Meetings Will Be Held, 5/6 & 5/7

Under BNL's Natural Resource Management Plan, the Lab proposes to establish an on-site deer management program to help maintain the deer population at a level the site can support. A "white paper" describing several options for deer management was recently forwarded to the Policy Council, and the Lab is now collecting input from the BNL community before making a final decision.

Members of the Lab community are invited to attend either of two meetings next week to hear about the options being considered and provide input on deer management in general and BNL's specific proposal. The meetings will be facilitated to capture as much information as possible and identify any issues and concerns.

The meetings will be held on Tuesday, May 6, from 11:30 a.m. to 1:30 p.m. in Berkner Room B, and on Wednesday, May 7, from 3:30 to 5:30 p.m., also in Berkner B. All are welcome to attend.

various services and incentives would prompt you to use the commute alternatives," said Lanny Bates, Assistant Laboratory Director for Facilities & Operations. "Your participation in this survey is crucial, since LITM will not analyze the responses and share the results with us unless at least 1,300 employees complete it."

As of April 28, approximately 600 employees had taken the survey. To encourage participation, the Environmental Services Division will give away several prizes, including a mountain bike, a \$75 gasoline gift card, and a \$25 Aid Auto Store gift certificate. The prizes will be awarded randomly to employees who complete the survey.

Employees should complete the survey even if they have no interest in carpooling or other commute alternatives, and include any comments or suggestions regarding commute alternatives in the spaces provided.

"I thank everyone for taking part in this effort to develop a plan to reduce the number of drive-alone trips to and from the Laboratory," said Bates. "Together, we can reduce traffic congestion and vehicular pollution during peak commuting periods."



Center Moriches Middle School students were the champions of the annual Maglev Contest held on April 16 at BNL, earning five out of a total of 21 prizes. Robert Moses Middle School students were the second-place winners with four prizes.

Brookhaven Lab scientists Gordon Danby and James Powell, now retired, invented Maglev — the suspension, guidance and propulsion of vehicles by magnetic forces — and patented it in 1968. Danby and Powell were honored guests at the contest, and they were delighted with the students' enthusiasm about Maglev, which might one day be the remedy for soaring gas prices.

Over 200 students from 12 Long Island middle

schools entered the contest, in which they were required to design and construct model Maglev vehicles according to engineering specifications in their choice of six categories: electrified track, wind power, gravity, self-propelled, futuristic, and scale-model design. Judging was based on speed, efficiency, and the appearance of the vehicles and the students' written design process.

Albert G. Prodell Middle School, Alfred G. Berner Middle School, East Northport Middle School, Great Neck South Middle School and Mineola Middle School each won two prizes. Longwood Junior High School and Northport Middle School each won one prize. All winning students received trophies.

Supervisors of employees who do not have access to a computer can print a downloadable pdf version of the survey at http://intranet.bnl.gov/esd/docs/BNLCommuterSurvey.pdf. Completed paper surveys should be returned to Jeff Williams, Bldg. 120. — Peter Genzer

### BSA Noon Recital: String Quartet, 5/7



### 'Compassion, Selfless Service: Pathway to Peace' Talk by Dayamitra Chaitanya, 5/8

Dayamrita Chaitanya, a disciple of Mata Amritanandamayi, or Amma, will give a talk on "Compassion and Selfless Service: Pathway to Peace," on Thursday, May 8, from 4 to 5:15 p.m. in Berkner Hall. Sponsored by BERA's Indo American Association Yoga Club and Asian Pacific American Club, the talk is free and open to the public. Visitors to the Lab age 16 and older must bring a photo ID.

Amma is widely regarded as one of the world's foremost humanitarian leaders, dedicated to alleviating suffering through personal outreach. Currently, she helps those in need through a network of charitable organizations. As manager of Amma's activities in the U.S., Canada, and Latin America for the past 14 years, Dayamrita is one of Amma's senior disciples, spreading her teachings of love and compassion. For more information, visit: http://geocities.com/aumamma/Info.html. — Diane Greenberg

#### Join the BNL Veggie Club!

Fresh organic produce from a local farm on Long Island is available, delivered to BNL, for those who wish to join the Community Supported Agriculture (CSA) at BNL. Members receive fresh organic produce from the Green Thumb Organic Farm in Water Mill, where the Halsey family has been farming their land since 1644. The Halseys grow over 350 varieties of fruits and vegetables, picked daily for delivery to provide the highest nutritional content. As a CSA member, each week, for 26 weeks, a selection of freshly picked organic produce will be delivered to BNL for you to pick up. The selection is based upon whatever is in season that week. Often the produce will be accompanied by a recipe giving ideas for preparing that week's specials. The fee for a season of produce is \$410, which may be paid immediately or in installments of \$275 on sign-up, by May 31, with one post-dated check for: \$135 for July 14. The first delivery is in early June, continuing through November. For more information, including a list of the fruits, herbs, and veggies that the Halseys grow, or to join CSA, contact Ruth Comas, comas@bnl.gov or Ext. 3545.

Noon-1 p.m., Call for location. Nicole Bernholc, 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, South Room, free beginners dance lessons. 7-11:30 p.m. North 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 CIG-NA'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.

The Hofstra String Quartet is the faculty quartet in residence at Hofstra University in Hempstead, New York. Since 1998 the quartet has performed highly acclaimed concerts at Hofstra's Monroe Theater, the Museum of the City of New York, the Huntington Museum of Art, and other venues, including BNL. On May 7, they will perform String Quartet no. 1 "From the Salvation Army" (1896), by Charles Ives (1874-1954); and String Quartet no. 1 (1934), by Michael Tippett (1905-1998). Quartet members Alexander Sharpe, Matthew Lehmann, Todd Low, and Benjamin Wolff are also in demand as orchestral, chamber and solo artists. They appear regularly in concert at Carnegie Hall, Merkin Hall, Alice Tully Hall, Avery Fisher Hall, and elsewhere throughout New York City.

### Cafeteria Closed This Saturday, 5/3

To accommodate BNL's annual Elementary School Science Fair, the Berkner Hall Cafeteria will be closed on Saturday, May 3. However, the Center Club in the Brookhaven Center, Bldg. 30, will be open, 7:30 a.m.-2 p.m., serving a continental breakfast in the morning and cold sandwiches at lunchtime.

### Talk: Healthy Travel for Business, Pleasure, 5/7

On Wednesday, May 7, noon-1 p.m., all are welcome to a talk by the Occupational Medicine Clinic Staff on how to stay safe and healthy while traveling for business or pleasure. The talk will be held in the Medical Department Large Conference Room, Bldg. 490.

### LabVIEW on Wednesdays

Every Wednesday, 1:30-3 p.m. in the Bldg. 515 2nd floor Seminar Room, a certified LabVIEW developer from ALE System Integration and/or an engineer from NI will be available for free technical assistance and consultation on automated test, control, and measurement applications. Bring any and all of your LabVIEW questions. "Pick me up" refreshments — coffee/soda and donuts/cookies — will be provided by ALE System Integration.

#### **The Bulletin**

### **Arrivals & Departures**

– Arrivals –	
Jun-Sik Lee	NSLS
<ul> <li>Departures –</li> </ul>	
Susan Centore	ITD

### Service Anniversaries

The following BNL employees celebrated a service anniversary during February 2008.

- 40 Years -	
Frank Kito	Biology
– 35 Years –	
William Casey	NSLS-II
- 30 Years -	
Leif Ahrens	C-AD
William Chaloupka	. Plant Eng.
Keith Radich	. Plant Eng.
Robert DiNardo	Instrum
George Ganetis	NSLS-II
Gerard Van Derlaske	NSLS-II
Maria Apelskog	Medica
Alexander Mallen	ES&T
Edward Hoey, Jr	NNS
Walter Ducoing	
- 20 Years -	
Frank Scheifele	C-AD
Daniel Wilson	C-AD
Vito Graziano	Biology

Vito Graziano	Biology
CherylAnn Kuhn	Fac.&Ops.
Phyllis D'Avanzo	Plant Eng.
Thomas Kim	NSLS
- 10 Years -	
Michael Sivertz	C-AD
Robert Karl	C-AD
Joseph Nasta	BSD
Charles Weilminster	Plant Eng.
Kenneth Galan	Fiscal

The following BNL employees celebrated a service anniversary during March 2008.

0
– 40 Years –
Satoshi OzakiDir.'s Office
– 35 Years –
Rippie Bowman C-AD
– 30 Years –
Frank TerranoNSLS
Robert SabatiniCMPMS
– 25 Years –
Louis Cannizzo C-AD
Robert Eich C-AD
Thomas Boucher Plant Eng.
George Elias Plant Eng.
Henry Hauptman Staff Serv.
– 20 Years –
Bert Haug C-AD
Gary McIntyre C-AD
Wahfun Ng C-AD
David Pate C-AD
Paul Sampson C-AD
Sung-Leung SoNSLS
JoAnn Totans ES&T
Richard SanniolaSSD
Michael Timm SSD
– 10 Years –

### Terence Higgins ..... C-AD

### **Diversity Education Talk**, 5/6

o celebrate May as National Asian Pacific American Heritage Month, the Diversity Office and the BERA Asian Pacific American Association will present a diversity education talk: "Unintentional Intolerance," in Berkner Hall on May 6, from 10 a.m. to noon. The presenter will be Steve Robbins, Ph.D., Chief "What If" officer at S.L. Robbins & Associates. All are welcome, with supervisory approval.

As Robbins will explain, research and experience tell us that we all have biases that we are often unaware of, or think little about. Yet, these biases guide our decision-making behavior and attributions on a daily basis. Could we be making "bad" decisions and engaging in exclusive behavior without knowing it? The answer is "Yes."

Robbins' powerful concept of "Unintentional Intolerance" has helped people to a better understanding of complex cultural competency issues in a safe and nonthreatening manner. In his talk, he will explore the "hows" and "whys" surrounding unintentional intolerance. An expert communicator, he engages his audiences with

blend of humor, stories and in-depth knowledge. Working with numerous individuals and organizations across the country, he has inspired and motivated listeners to be more mind-

a dynamic

ful about inclusion and valuing others for their unique gifts, skills and experiences. Those who have heard his talks leave with greater curiosity, motivation and intentionality about creating inclusive environments.

**Steve Robbins** 

For more information visit www.slrobbins. com/ or call Rosa Palmore. Ext. 2703.

### **BNL 'Virtually Swims' to the Bahamas**



ollowing last year's successful "Virtual Swim Raround Long Island," this year, 94 BNL swimmers — including 10 retirees — took on the more ambitious goal of virtually swimming to the Bahamas. The event was sponsored by BERA, the BNL Health Promotion Program, and the BNL Swim Club.

Starting after the New Year, the swimmers collectively logged over 1,500 miles in three months. The accumulative miles were summed weekly and tracked on a 3-foot by 4-foot map of the East Coast provided by Victor Cassella of Meteorology and placed in the pool area. The "virtual" swim traveled from Smith Point, LI along the shoreline all the way to Florida before heading out to sea to the final destination of Nassau, Bahamas. Robert Todd of the Collider-Accelerator Department logged just under 100 miles during the swim, and swimmers burned enough calories to lose over 150 pounds over the three-month period!

Each week, the nearest coastline city and state was identified on the map. Upon completion, the swimmers enjoyed a lunchtime party sponsored by BERA including certificates, BNL Virtual Swim tis@bnl.gov.

T-Shirts designed by Graphic Arts and donated by Michael Thorn of the Health Promotion Program in the Human Resources & Occupational Medicine Division, and a group photo.

Said Peter Heotis of the Radiological Control Division, who was a lead organizer of the event, "The BNL Swim Club thanks BERA and, in particular, Chris Carter and Joanne Rula for their enthusiastic support. In addition, the club thanks Sue Dwyer and Denise Jennings and all the lifeguards who participated and cracked the whip to assure we met our goal. A special thanks also to swim club member Ian Ballantyne for developing and tracking the data base for the swim."

#### **Use the Pool! Join the Club!**

The BNL Swim Club was established in 1984 to promote swimming and use of the Lab pool. "Watch for future club events including healthfest swims and an event to coincide with the Summer Olympics," says Heotis. "We are in the process of trying to revitalize the club and looking for new members." To get more information on the club, contact Heotis, Ext. 7461 or pheo

### CALENDAR

#### Friday, 5/2

Workshop: Biodiesel Status in U.S. 8:30 a.m.-3:30 p.m. Brookhaven Center.

Symposium: Neutrino Helicity at 50 9 a.m.-5 p.m. Large Seminar Room, Bldg. 510. All are invit-ed. Contact dkerr@bnl.gov.

#### **BJ's Wholesale Club Display**

11 a.m.-2 p.m. Berkner Hall lobby. Representatives of BJ's Wholesale Club will discuss savings for BNL employees.

#### \*Summer Dance Party

7:30 p.m.-midnight. Brookhaven Center. Sponsored by the BNL Social & Cultural Club. Kane Daly Band. See notice, p. 4.

#### Saturday, 5/3

\*Cafeteria Closed for Science Fair 7:30 a.m.-2 p.m. The Center Club at the Brookhaven Center will be open. See p. 2.

#### -WEEK OF 5/5 -

#### Mon. & Tues., 5/5 & 6

#### Book Fair (Two Days)

10 a.m.--2 p.m. Berkner Hall. Gifts, best sellers and children's books at discount prices.

#### Tuesday, 5/6

#### \*Diversity Education Talk

10 a.m.-noon. Berkner Hall. Steve Robbins to talk on "Un-intentional Intolerance." All are welcome, with supervisory approval. See notice, left.

Book Fair (2nd. day) 10 a.m.-2 p.m. See above.

### Wednesday, 5/7

#### **Perks Discount Cards**

11 a.m.-2 p.m. Berkner Hall lobby. Perks discount Cards will be available with a representative to explain the benefits to many of your shopping needs.

#### \*Talk: Healthy Travel Habits

Noon-1 p.m. Medical Department Large Conference Room. Occupational Medicine Clinic staff talk on staying safe and healthy while traveling for business or pleasure. See p. 2.

#### \*BSA Noon Recital, String Quartet

Noon-1 p.m. Berkner Hall. the Hofstra String Quartet will perform, sponsored by BSA. All are welcome to this free event, open to the public. See p. 2.

#### Thursday, 5/8

### \*Talk on Pathway to Peace

4-5:15 p.m. Berkner Hall. Sponsored by BERA's Indo American Association Yoga Club and Asian Pacific American Club, Dayamrita Chaitanya will speak on "Compassion, Selfless Service: Pathway to Peace." All are welcome. See notice, p. 2.

#### Friday, 5/9

#### **Costco Shopping**

11 a.m.-2 p.m. Berkner Hall lobby. A Costco representative

#### May 2, 2008

Frank Quarant, Jr. .....ITD Gregory Fess .....Dir.'s Office Margaret Randall ..... Plant Eng.

### BREA Luncheon, 6/4

The Brookhaven Retired **Employees Association (BREA)** will hold the fifth Annual BREA Luncheon on Wednesday, June 4, at the Three Village Inn in Stony Brook. All are invited to enjoy good conversation with old friends, make new friends, and eat delicious food. The cost of \$35 per person includes a halfhour of hors d'oeuvres and wine, noon-12:30 p.m., a three-course meal, with cash bar, soft background music played by Roger Colleo. By May 28, send your reservation with name, address, and telephone number, and a check made out to BREA to cover \$35 for each person in your party, to BREA, BNL, P.O. Box 5000, Bldg. 475, Upton, NY 11973-5000.

### Register for BERA Swim Program, 6/30-8/22

BERA will offer a swim program with a limited number of places outside the BERA summer camp for children or grandchildren of all BNLers. The child must be able to stand flat-footed in the shallow end of the pool, with mouth above the water, i.e., approximately 42 inches tall. It is requested that bathing suits be modest and in good taste, and that girls wear one-piece bathing suits or a T-shirt top.

Each child will be scheduled for one swimming lesson every week for a total of eight lessons. American Red Cross certificates will be awarded to those children who qualify. Classes will be held Monday through Friday, 2:15 to 3:15 p.m. Children should arrive at the BNL pool at 2 p.m. for preparation. The registration fee per child is \$80, with no make-up classes for missed swim lessons. Register with the Recreation Office, Building 400, with an \$80 check made payable to BERA. Payment in full is due on or before June 6. For more information, call the Recreation Office, Ext. 2873 and see www.bnl.gov/bera.

### Spring Ahead With BERA: Baseball, Plants

Baseball: Yankees & Mets tickets for games on various dates, and Long Island Ducks tickets are on sale from today, Friday May 2, at the BERA Store store, Berkner Hall, weekdays, 9 a.m.-3 p.m.

The Annual Plant Swap will be held at noon outside Berkner Hall on Friday, June 6. Bring your spare plants and swap for others.

### Coming Up, 5/28 **Brookhaven Lecture**

On Wednesday, May 28, Walter Mangel, Biology Department, will give the next Brookhaven Lecture on a topic to be announced.

### Bus Trip to NYC, 6/1

The Hospitality Committee is sponsoring a "do-as-you-like" trip to Manhattan on Sunday, June 1. The coach will leave from the Recreation Building in the apartment area at 9 a.m., with the drop off point in the Bryant Park area, and will leave Bryant Park at 6 p.m. The cost is \$10 for adults, \$5 for children up to 12. Advanced reservations are a must. Email Joanne Rula at jrula@bnl.gov or stop at Staff Services in Bldg. 400.

will discuss the benefits of discount shopping at Costco.

### — WEEK OF 5/12 —

#### Thursday, 5/15

#### Sam's Club Shopping

11 a.m.-2 p.m. Berkner Hall lobby. A Sam's Club representative will discuss the benefits of BNL employees' discount shopping at Sam's Club.

### - WEEK OF 5/19 -

#### Monday, 5/19

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 nominations for union president and officers.

### Welcome-To-Summer Dance Party Tonight!



The Kane Daily Band, featured previously in a BNL Music Club concert, will perform at the North Ballroom of the Brookhaven Center tonight, Friday, May 2, 9 p.m.-midnight, at a dance social. Earlier, at 7:45 p.m., a one-hour beginner West Coast Swing dance lesson will be given. Sponsored by the BNL Social & Cultural (S&C) Club, the event is open to the public. Visitors of age 16 and over must bring a photo ID. Tickets cost \$20. Buy them at the BERA Store, 9 a.m.-3 p.m, or at the door, but only 200 are available, so check with Rudy

Alforque, Ext. 4733 or rudy@bnl.gov, before you arrive without a ticket. The cost covers a cold hero dinner buffet, cookies, and refreshments, 7-7:45 p.m.; the dance lesson starting at 7:45 p.m.; the band, 9-midnight; and DJ music between sets. For more information, visit the S&C Club website at: http://www2.bnl.gov/rudy/social/.

### 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 "Careers at Brookhaven" then Employment Opportunities.

**OPEN RECRUITMENT - Opportunities for** Lab employees and outside candidates. POSTDOCTORAL RESEARCH ASSOCI-ATE/Control Applications (2 positions) -Requires a PhD in engineering, computer science, or physics. Must have experi-ence in the use of EPICS for accelerator control, extending EPICS through the existing program interfaces for the channel access client and the device support layer, and implementing and fielding equipment control through EPICS. Strong communication skills and the ability to work effectively with a diverse group of scientists and engineers are critical. Responsibilities include working on a team to design, develop, and deploy accelerator subsystem applications. The job includes all aspects of the subsystem: gather requirements, develop EPICS application, develop any new drivers needed, and develop any new tools needed. component test, installation, integration, automation and operational support. Reports to the Controls Group Leader. National Synchrotron Light Source II Project. Apply to Job #14465.

SENIOR TECHNOLOGY ENGINEER (I-8) -Requires a bachelor's degree in computer science, or related discipline, master's degree preferred, and a minimum of 8+ years experience in administrating data handling services in a grid-computing environment. Experience with grid-based data transport systems, large and complex distributed storage systems, tools and network optimization in support of large volume, long-haul data transfers is required. Responsibilities will include functioning as a team leader as well as supervising a group of people responsible for working on storage and data management, as well as contributing as a member of the RACF management team for the development and high level operation of the facilities. Technical responsibilities include the preparation and execution of a deployment plan related to storage and data management services aligned with the ATLAS goal and milestones, identifying areas that need further development or optimization, making recommendations to application developers, users and management, and identifying and scheduling the effort to implement the required modifications. Physics Department. Apply to Job #14460.

troubleshooting of information systems. Requires a strong background in the development and deployment of secure applications using ASP.NET, ASP, PERL, and JavaScript. Experience with SQL, Oracle and SQL Server Databases, PL/SQL or Transact-SQL stored procedures is also required. A detailed understanding of relational and object-oriented data modeling concepts and techniques is mandatory. Must be proficient in both Windows and Unix/Linux environments, and possess a strong understanding of basic networking principles. Also highly desirable are knowledge of XML, web services using SOAP and/or XML-RPC, and design and development experience with Microsoft Access. Candidates must display excellent written and oral communication skills, as well as experience in all phases of the SQA process. Responsibilities will include the design, development and maintenance of applications, reports, user interfaces, and database schemas; data mining; data processing; and the production and maintenance of technical, end-user, and project documentation. Some additional system administration tasks will also be required. Information Technology Division. Apply to Job #14459.

rience in the design, coding, testing, and

ADVANCED APPLICATIONS ENGINEER (I-7, term) - Requires a bachelor's degree or equivalent and at least 5 years' experience in computing and software. Experience with object oriented programming, C++, Python, ROOT, data management systems, and familiarity with experimental particle or nuclear physics applications on a variety of operating systems and platforms is required. Experience working collaboratively on large projects preferred, and ability to work in this environment essential, as is interest and aptitude in user support, is also desirable. Will work with members of the ATLAS experiment at the Large Hadron Collider, in coordination with the US ATLAS Research Program and CERN software teams to develop software for ATLAS event data model, ROOT persistency, physics analysis tools and user analysis support. As the ATLAS experiment begins to acquire data, the job responsibilities may shift to other areas, such as event visualization, grid environment support and other related software tasks. Omega Group/Physics Department. Apply to Job #14464.

#### Motor Vehicles & Supplies

06 SUZUKI GSX1300R HAYABUSA - limited edition, white pearl, mint cond. 2200 mi. \$8,600/neg. Lawrence, 702-3402.

05 MAZDA RX-8 - metalic white, blk int, loaded, a/t, sport suspnsn, 18" whis, extnd warr, perf cond 86k mi. \$19,000. Ext. 5665. 03 HARLEY ELECTRA GLIDE - many ex-

tras plenty chrome 48 miles/gallon 13,500 neg. Timothy, Ext. 2350. 00 FORD EXPEDITION - 5.4L, awd/4wd, tow pkg, rr a/c, lthr seats w/3rd row, 6 disk cd.

### Employee Lunchtime Tour, 5/9 **Come Birding!**



SPRINKLER HEADS - Hunter mgfr.; so-

lenoid valves; also, total repair & lawn

TICKETS - 2 wkend camping passes, '08

Gathering of the Vibes Music Festival,

WEDDING DRESS - White satin A-line

dress w/beaded lace on tulle overlay.

PORT JEFFERSON STA - Multi-family,

something for everyone, furn, lamps, tvs,

bric brac & more, 32 Comerford St., May 3. Susan, Ext. 4298 or 928-7893.

SPECIAL OLYMPICS - Need volunteers,

Sun. 5/4 Spc. Olym games, W.Fl. HS, hand awards, staff BNL tbl. jwilliams@

AUCTION - St. Andrew's Episc. Church, East Main St., Yaphank, Sat., May 3, starts

COMMUNITY CPB CLASS - Nesconset

F.D. Community CPR classes - Sat 5/17

9a-1p, Tue 5/20 7p-10p. RSVP emsweek@

BIRD CAGE - 1x1, 5x1.5', fish tank, 10

gal.,water filter/air pump, heater, more.

APARTMENT - 2 bdrm. for a young cou-

ple and child, price range \$1,000/neg.

DESIGNER BAGS - - Will pay top \$ for old

slightly used authentic designer bags,

GIRL'S BICYCLE - suit ages 5-8, any

cond., sell or donate. Need by May 31st.

GUITARS/AMPS - old, unwanted or in need

HOUSE FOR RENT - BNL family looking

for a house for rent, Rocky Point, Miller

Place SD. Local refs. available. Ext. 5437.

HOUSE OR LAND - to buy; property of an

acre or more; prefer Ridge, Yaphank, Manor-

PING PONG - table in reasonable cond.,

RECLINER - buy/borrow for someone

recovering from shoulder surgery. John,

ROOFING OR SHEETROCK - are you

spring cleaning? looking for extra mat'l for free/small fee. Carol, Ext. 2587.

ville areas; consider others. Ext. 4340.

can pick up, thanks, Jim, 929-7289.

of repair. Chris, Ext. 2094 or 831-3469.

need June 1 or later. 708-4778.

Chanel, Gucci etc. 516-527-3525.

nesconsetfd.org. Sonya, 631-236-1430.

12:30 pm. Admission \$5. Ext. 4538.

**Community Involvement** 

bnl.gov. Jeff Williams, Ext. 5587.

Happenings

Khamit, Ext. 8137.

Joseph, Ext. 2567.

Ext. 2667.

Wanted

Free

Chapel train, Sz. 6, \$350/obo, Ext. 7022.

sprinkler systems installed. 284-2277.

Aug. 1 -3. David, Ext. 7277.

Yard & Garage Sales

The next Employee Lunchtime Tour will be a birding walk on Friday, May 9. Meet the group in Berkner Hall upper lobby at noon to be transported to the bird-walk site, which will be on the roads, not in the woods, down by the ball fields. It would still be sensible to wear appropriate shoes and anti-tick garments: long sleeves, trousers, and big socks that can go over pant legs. Bring binoculars also if you have them. The group will return to Berkner Hall by 1 p.m. For more information, call Elaine Lowenstein, Ext. 2400.

this car an eye catcher for right person...

hitch & safety chains, non-adjstable. Ask

neg. \$9,000/neg. 298-7022/335-7173. instruments. \$25,000/neg. Ext. 4299.

Panel Hinged Patio Doors - Inswing rarely used. \$500 obo. Ext. 7443. mtchg chr, excel cond, \$250. Ext. 7647. by wk. end. Babu, Ext. 2568 or 375-5430.

PIANO - upright, gd. cond., needs tuning, can help move, \$500. Ext. 7235/286-1018. RATTAN DINETTE SET - Round glass table w/4 white washed cushioned matching castro chairs. Ask/\$500. 912-8844.

TABLE - Ikea L-shaped with extras. \$150

TABLE SET - w/6 chairs, oak, 2 leaf table on sgle pedestal w/carved chrs. 878-9020. capacity, white, \$290/both. Ext. 3294. WATER COOLER - Sunroc, uses 5 gal. bottles, has hot/cld faucets, \$25. Ext. 7779

#### Audio, Video & Computers

AUDIO TAPES - 71 Cassettes & 80 8 Track. Mostly country music, some Christmas. Make offer. Peter, Ext. 5551 or 772-4751. PRINTER - Epson CX7400 Color all-in-One, new, never opened, \$40. Ext. 3485.

#### Sports, Hobbies & Pets

AIR HOCKEY TABLE - gd. cond., \$50/ obo. Ext. 2253 or 821-3320.

CELLO - excel cond., German-made c 1950, nice sound, new hard-side case, \$5,700.00. Ext. 4475 or 929-3251.

RIM POOL - inflatable, 16' intex, used 4 wks, 36"d, w/pump, filter, skimmer, p/\$375, \$100/obo, intexstore.com. Ext. 4721.

VOLUNTEERS - needed to help give out awards at the BNL table for special olympics held at Wm. Floyd HS fields, Sun, 5/4. Jeff Williams, Ext. 5587.

WANTED - 4, 17" wheels for jeep. Ron, Ext. 2189 or 804 4588.

#### For Rent

BROOKHAVEN HAMLET - Room in lovely, quiet area, about 10 miles to Lab, pvt. ent., deck; avail. now, utilities included. \$875/mo. 776-9091.

CENTEREACH - 1 bdrm w/computer rm, lg.dbl hung bsmt windows, clean, full kit., pvt. ent., close to transport. prkg. off st., use of yd., incl. all. \$1,275/mo. 546-8600.

DAVIS PARK - Fire Island, Beach Cottage, 2 bdrm, 1 bath, 2 decks, outdoor shower all redone in 2005, direct TV, \$1,500/wk. Paul. Ext. 5829 or 356-4578.

FARMINGVILLE - large house, share bath w/2 (w/1 \$575) incl. cable, wifi, phone. benjil@bnl.gov. \$495/mo. Ben, 513-8275. LAKE SACANDAGA - Cabin with lake rights in Adirondacks, May thru October. Call for more details, \$600/wk, Peter, Ext, 4028 or 486-8199.

RIDGE - Ground level 1 bdrm apartment, 5 min from the Lab. EIK, den, price includes all. \$950/mo. Dennis, 484-9854.

RIDGE - basement level 1 bdrm apartment 5 min from Lab. EIK. Den. price includes all. \$950/mo. Dennis, 484-9854.

ROCKY POINT - share a 2-bdrm. apt. w/ PhD student, incl. heat, share 1 bath, kit, l/r, mcbennet@umich.edu \$550/mo. Marcus, Ext. 4962.

SANIBEL ISLAND, FL - Timeshare, 2 bdrm, 2 baths, w/d, full kit., sleeps 6, pool, grnd. flr., on beach, wk. Aug. 2-9. \$700/wk. Linda, Ext. 3750.

SHIRLEY - 1rm, microwave kitnet, full bath, sep ent, furn, tv, cac, cable, wireless int, 1mo sec. 5min to stores/beach. 14mi to lab. no smkg./pets, \$600/mo. Regis, Ext. 8321.

SHOREHAM - brand new, 1 bdrm, garden apt, 1st flr, indep. ent/drway, full bath, kit, I/r, cac, no smkg/pets, few mi. to BNL, 1 mo. sec., all incl. \$1,300/mo. 833-8374.

#### For Sale

BELLPORT VILLAGE - 4 bdrm cape, open living plan w/vaulted ceiling, 2 bath, flower & veg. garden, Ige deck, igp, quiet. walk to stores, bay. \$585,000, 286-8747. MILLER PLACE - well maintained Old Field Ranch, 3 bdrm, 1 full bath, I/r w/fp, Andersen windws, .34/acre level prop., 1.5

car det. gar. w/elec. \$320/neg. 241-4166. PATCHOGUE - ranch, Roe Blvd area, 3 bdrm, 2 bath, eik, flr, den, garage, basement, alarm. New: CAC, roof, siding, patio, electric, windows \$425,000/neg. 356-4578.

SHOREHAM - Middlecross Estates, 4 bdrm., 2.5 bath Col., frml I/r & d/r, den w/fp, lg. kit. w/dinette, 2-car gar., fin. bsmt., igs, more. \$539,000/neg. Ext. 2253 or 821-3320.

SOUTH SETAUKET - Ig 3 bdrm, 3.5 bath, la, mstr. bdrm., la l/r w/cath'l ceilina, hrdwd. flrs., 2-tier deck, 2 car gar., fin. bsmt. \$549,000 Xiao-Qing, 516-768-8944.

SOUTH SETAUKET - lg 3 bdrm 3-1/2 bath Ig mstr bdrm ceiling fan Ig I/r w/cath ceiling, hardwood floor 2-tier deck 2-car gar fin. bsmt great cond \$549,000, 516-768-8944.

SUMMERVILLE, SC - 3 bdrm, twnhse w/ loft, 2.5 bath, 1659 sq ft, blt '06, immac, end unit, mstr. suite downstrs. f/p. scr patio, ctrl a/c, all upgrades, comm. pool, lo ta \$173,000 Ext. 4567 or 516-241-4598.

WADING RIVER - lg. 3 bdrm, 2 bath, .5 acre, lg mstr bdrm w/cath'l ceiling, lg. lvg area, 1.5 car gar, unfin. bsmt. SWRSD, approx .5 mi to Sound. \$499,000/neg. 379-2282.

#### In Appreciation

On behalf of the Brokhaven Town Interface Prom & the Totes for Tots Programs, I thank everyone who donated gowns, makeup and jewelry, backpacks, toys, and cash so generously. It has done a world of good. Fluff your angel wings! - Christine Carter

23 FORD T- BUCKET - with time, cash 350 mi. \$10,000/neg. 767-1392 TOW BAR - 3500 lbs. capac. w/2" ball

\$50. Peter, Ext. 5551 or 772-4751.

#### **Boats & Marine Supplies**

20' SEASWIRL CUDDY CABIN - w/112 Johnson & trailer, w/CG equip., VHF, Fish finder, V-berth, etc. \$6,900. 495-7273.

27' C&C MK-1 - equip. for race/ cruise, 10 hrs on reblt atomic 4 inboard, \$10,500/ 28' CATALINA TALL RIG - 1992, wing keel, new jib & furling, diesel, h/c water, many

#### Furnishings & Appliances

ANDERSEN FRENCHWOOD DOOR - 2-DINING ROOM TABLE - oval w/2inserts & mtchg chairs; gd cond, \$100; Love seat & E'TAINMENT CENTER - 68"wx 28"dx31"h, \$325; TV, 32" Sony Trinitron, \$150; Beds, mple, twin, \$90 ea; Tbl, rnd, \$65. 874-3606. FORMAL DINING ROOM SET - Bassett Cherry; oval table 2/leaves, 6 chairs, curio, china cabinet. \$350 or best offer. 987-7725. MATTRESS SETS - queen/twin, all must go PATIO TABLE - 38"x 60". Excellent condition, Ask \$150. 631-335-4907.

or best offer. 987-7725.

WASHER & DRYER - gas, Whirlpool, Ig.

SENIOR APPLICATIONS ENGINEER (I-8) -Requires a bachelor's degree, or equivalent experience in computer science or a related field, and 8+ years of experem. start. 134K mi. \$5,250/neg. Ext. 7277.

99 MERCURY SABLE GL - 4dr., full pwr, a/ c, CD chgr, factory alum. whis, new fr brks, gd. cond. 102K mi. \$3,000/neg. 495-0858.

99 BMW 323I CONVERTIBLE - a/t, a/c, p/ w,p/l, abs, am/fm/cass, 6 dsk CD, lthr heatd seats, 81K mi. \$10,900/neg. 331-4538.

97 HYUNDAI SONATA - new tyres, battery, passed inspection. Urgent to sell, immed. departure. 80K mi. \$2,500/neg. Artemios. Ext. 7642 or 375-8750.

96 HONDA CIVIC EX - Gd mi., 4dr., a/t, a/c, rem strt, abs, am/fm, c/c, p/b, p/s, p/w, p/l, m/roof, 170K mi. \$3,200/neg. 751-1224.

93 NISSAN SENTRA XE 2D/COUPE - Maroon, am/fm/cd, new batt. & altntor. Mvg, must sell. 160K mi. \$900/neg. 974-6776.

84 PORSCHE 911 - silver, 5spd., 6cyl., s/roof, Ithr int., orig. owner, always g needs nothing. 55K mi. \$14,500. Ext. 2913.

71 MERCURY COUGAR - a/c, 4spd, red convertible, mint, 315 Cleveland. 100K mi, Richard, Ext. 7443.

SUMMIT TREE STAND - \$100: Ground Mount Claybird Thrower, \$50. Ext. 7647.

#### **Tools, House & Garden**

ENGINE ANALYZER - \$; car ramps, \$20. chris, Ext. 2094 or 831-3469.

LAWN MOWER - Craftsman push-type, 22" mulching deck, 6 hp, exec. cond., \$75. 878-0898.

#### **Miscellaneous**

CHAIR STAIR LIFT - new, Bruno Model SRE-2750, 6' track, 2 remotes, batt, backup & charger, \$1,200. Ext. 4298 or 928-7893.

PROM/EVENING GOWNS - One A-line black & pink satin dress, one sleek blue sequin dress. Never worn! \$50 ea. obo. Yong, Ext. 7022.

PROM/EVENING GOWNS - 1) A-line black/ pink satin w/ pink rhinestones 2) sleek blue seguin. Never worn. \$50/obo. Ext. 7022.

PUMPS - 3h.p. gas powered water pump \$75, 2h.p lawn sprinkler pump \$100. Ext. 5262 or 631-284-2277.



# Bulletin

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