the Bulletin

BROOKHAVEN NATIONAL LABORATORY

Vol. 66 - No. 25

July 27, 2012

A Safety Message From Sam Aronson

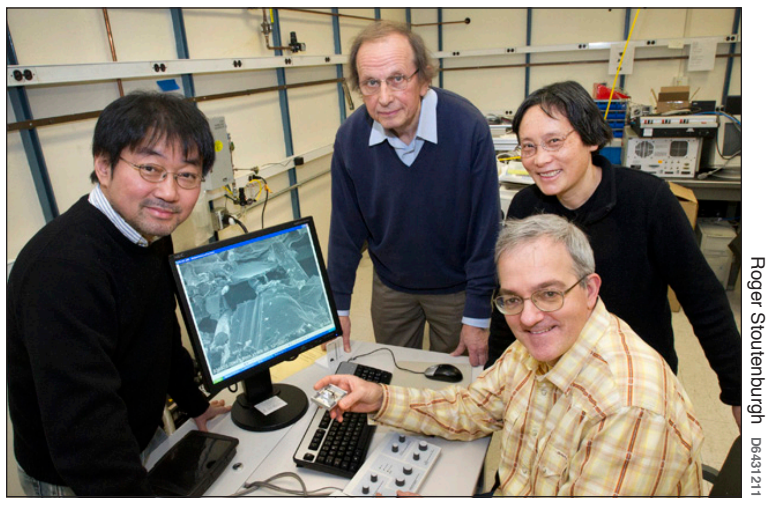
By Lab Director Sam Aronson

I'm encouraged by much of what I've been hearing from many of you over the past week regarding our safety and operational challenges and ways we can improve. I'm optimistic that many more of us now understand our situation, but we must follow that understanding with action. We need to adopt and sustain different ways of working — ways that engage us as a team, with all of us committed to our own and each other's success in working safely and effectively.

I ask you to join this Lab-wide effort — to opt out is an individual decision to accept and continue our unacceptable performance. Together, we have the power to correct our course, develop a culture of safety and operational excellence, and improve our performance — but it won't happen unless we all actively and mindfully work on it.

We've had a series of communications and meetings during the past two weeks to discuss the serious nature of our situation, listen to your thoughts on why we're in it, and talk about how we can recover. In addition to the special note I sent to the entire Lab community last week, I — along with George Goode, Lanny Bates, Steve Dierker and Gerry Stokes — met with all Lab supervisors to inform them about recent incidents, enlist their support, hear their ideas, and participate in a candid 45-minute question-and-answer session. The presentation and video are available on the intranet. I...

*See **Director's Message** on p. 2*



Roger Stoutenburgh D6431211

(From left) Brookhaven Lab chemists Kotaro Sasaki, Radoslav Adzic, Jia Wang, and Miomir Vukmirovic work on recently licensed electrocatalysts using a new electron microscope in their laboratory.

BNL Chemists Win R&D 100 Award for Fuel Cell Research

Chemist Radoslav Adzic and his research team at BNL have won a 2012 R&D 100 award from *R&D Magazine* for their work designing durable electrocatalysts for use in fuel cells. Their work could make future fuel cell vehicles more reliable and economical.

The R&D 100 awards recognize the 100 most technologically significant products introduced into the marketplace in the past year. Brookhaven scientists have previously won R&D 100 awards for excellence in a diverse array of fields, including imaging techniques, cancer detection, and microscopes for nanomaterials.

"We are deeply honored to be receiving this prestigious award," said Adzic. "We hope it will lead to even greater interest in this type of catalyst."

Adzic collaborated on the award-winning research with scientists Jia Wang, Miomir Vukmirovic, and Kotaro Sasaki, all, like Adzic, of the Chemistry Department. On November 1, they will be honored alongside the rest of the R&D 100 winners at a banquet in Orlando, Florida.

"Congratulations to this year's R&D 100 award winners," said Energy Secretary Steven Chu. "The research and development at the Department of Energy's laboratories continues to help the nation meet our energy challenges, strengthen our national security and improve our economic competitiveness."

Fuel cells convert chemical energy into electricity, using a catalyst for the necessary oxidation and reduction reactions. Platinum is the most efficient electrocatalyst for fuel cells, but it is also expensive and unstable.

To help reduce the cost and improve stability, the...

*See **R&D100 Award** on p. 2*

Hot Nuclear Matter Featured in *Science*

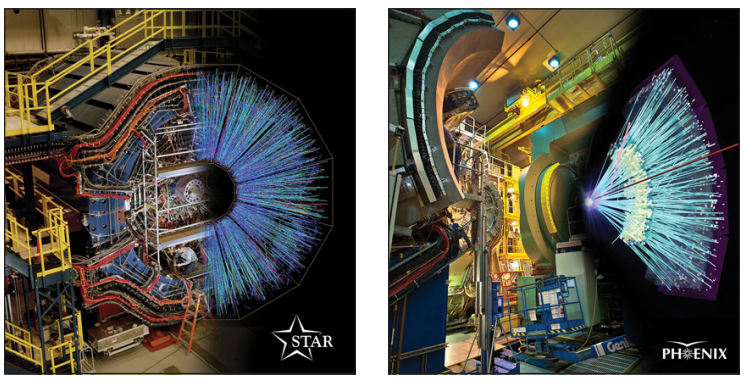
Prelude to new RHIC/LHC findings to be presented at Quark Matter 2012

A review article appearing in the July 20, 2012, issue of the journal *Science* describes groundbreaking discoveries that have emerged from the Relativistic Heavy Ion Collider (RHIC) at BNL, synergies with the heavy-ion program at the Large Hadron Collider (LHC) in Europe, and the compelling questions that will drive this research forward on both sides of the Atlantic. With details that help enlighten our understanding of the hot nuclear matter that permeated the early universe, the article is a prelude to the latest findings scientists from both facilities will present at the next gathering of physicists dedicated to this research — Quark Matter 2012, August 12-18 in Washington, D.C.

"Nuclear matter in today's universe hides inside atomic nuclei and neutron stars," begin the authors, Barbara Jacak, a physics professor at Stony Brook University and spokesperson for the PHENIX experiment at RHIC, and Berndt Mueller, a theoretical physicist at Duke University. Collisions between heavy ions at machines like RHIC, running since 2000, and more recently, the LHC, make this hidden realm accessible by re-creating the extreme conditions of the early universe on a microscopic scale. The temperatures achieved in these collisions — more than 4 trillion degrees Celsius, the hottest ever created in a laboratory — briefly liberate the subatomic quarks and gluons that make up protons and neutrons of ordinary atomic nuclei so scientists can study their properties and interactions.

"Quarks and the gluons that hold them together are the building blocks of all the visible matter that exists in the universe today — from stars, to planets, to people," Jacak said. "Understanding the evolution of our universe thus requires knowledge of the structure and dynamics of these particles in their purest form, a primordial 'soup' known as quark-gluon plasma (QGP)."

RHIC was the first machine to demonstrate the formation of quark-gluon plasma, and determine its unexpected properties. Instead of an ideal gas of weakly interacting quarks and gluons, the QGP discovered at RHIC behaves like a nearly frictionless liquid. This matter's extremely low viscosity (near the lowest theoretically possible), its ability to stop energetic particle jets in their tracks, and its very rapid attainment of such a high equilibrium temperature all suggest that the fluid's constituents are quite strongly interacting, or coupled.



RHIC's two large experiments, STAR (left) and PHENIX, have multiple detector components and complex electronics for tracking and identifying the particles that fly out after ions collide at nearly the speed of light.

> "Both RHIC and the LHC are essential to advancing our understanding of the subatomic interactions that governed the early universe, and how those gave form to today's matter as they coalesced into more ordinary forms."
>
> — Berndt Mueller, Duke University

"Understanding strongly coupled or strongly correlated systems is at the intellectual forefront of multiple subfields of physics," the authors write. The findings at RHIC have unanticipated connections to several of these, including conventional plasmas, superconductors, and even some atoms at the opposite extreme of the temperature scale — a minute fraction of a degree above absolute zero — which also behave as a nearly perfect fluid with vanishingly low viscosity when confined within an atomic trap.

String Theory, Black Holes?

Another stunning surprise was that mathematical approaches using methods of string theory and theoretical black holes occupying extra dimensions could be used to describe some of these seemingly unrelated strongly coupled systems, including RHIC's nearly perfect liquid. "Physicists were astounded," the authors note. Although the mathematics is clear and well established, the physical reasons for the relationship are still a deep mystery.

When the LHC began its first heavy ion experiments in 2010 — at nearly 14 times higher energy than RHIC's — they largely confirmed RHIC's pioneering findings with evidence of a strongly coupled, low-viscosity liquid, albeit at a temperature about 30 percent higher than at RHIC. With a higher energy range, LHC offers a higher rate of rare particles, such as heavy (charm and bottom) quarks, and high-energy jets that can probe particular properties of the QGP system. RHIC can go to lower energies and collide a wide range of ions from protons, to copper, to gold, to uranium — and produce asymmetric collisions between two different kinds of ions. This flexibility at RHIC allows scientists to produce QGP under a wide variety of initial conditions, and thereby to distinguish intrinsic QGP properties from the influence of the initial conditions.

"The two facilities are truly complementary," said Mueller, whose work on quantum chromodynamics (QCD), the theory that describes the interactions of quarks and gluons, helps guide experiments and interpret results at both...

*See **Hot Nuclear Matter** on p. 3*

Joseph Rubino D2820512

Mark Parsons, DOE Regional Response Coordinator (left), Lab Director Sam Aronson (right), with (from left) Kathleen McIntyre, BNL Radiological Assistance Program Manager, and honorees Stephen Musolino and Christopher Cacace.

BNLers Recognized for Relief Work

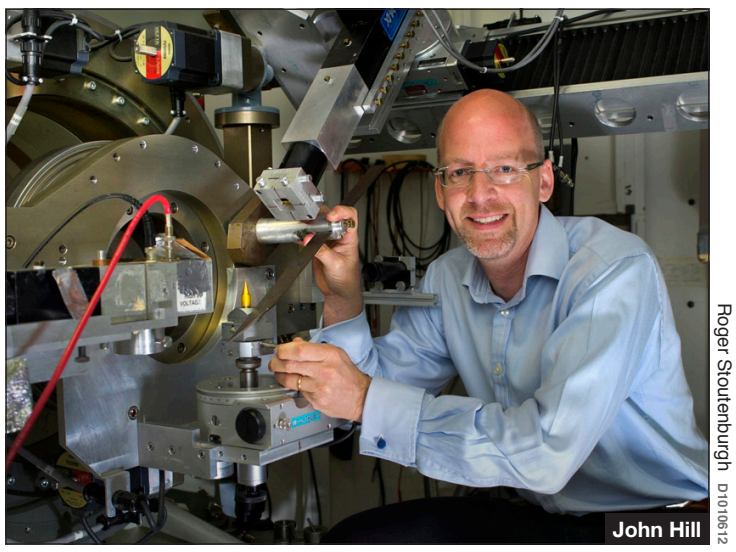
Christopher Cacace and Stephen Musolino of the Lab's Nonproliferation and National Security Department received accolades from Associate Administrator for Emergency Operations Joseph J. Krol of the DOE National Nuclear Security Administration (DOE/NNSA) for their assistance and relief work following the Japanese earthquake and tsunami in 2011.

Cacace and Musolino, members of BNL's Radiological Assistance Program (RAP), spent three weeks in Japan with the DOE/NNSA team assessing the environmental impact from radiation releases from the damaged nuclear power plants following the natural disasters. Prior to joining the team in Japan, Musolino also spent one week with the Consequence Management Home Team at the Remote Sensing Laboratory in Las Vegas, Nevada, to help assess the data from Japan.

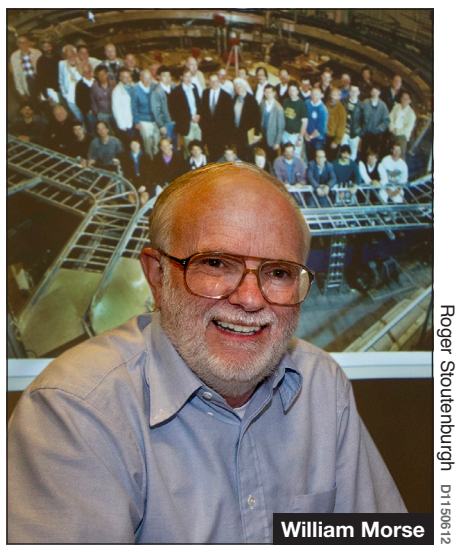
In a letter to Lab Director Sam Aronson, Krol wrote, "The contributions, expertise, and commitment to excellence have made your personnel an invaluable part of the DOE/NNSA team, and I commend you on a job well done."

"These two members of our RAP team worked hard to provide crucial information and important analyses to the United States and Japanese governments following these tragic events," said Aronson. "I...

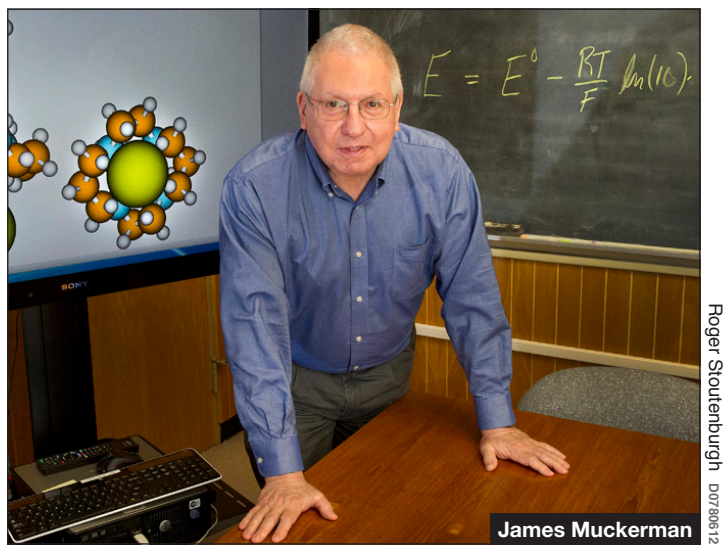
*See **BNLers Recognized** on p. 2*


John Hill

Roger Stoutenburgh D1010612


William Morse

Roger Stoutenburgh D1150612



James Muckerman

Roger Stoutenburgh D0780612

Meet 2012 Science & Technology Award Recipients Hill, Morse, & Muckerman

Brookhaven Lab's Science and Technology Awards are given to recognize distinguished contributions to the science and technology objectives of the Laboratory over one or more years. The 2012 Science and Technology Awards were presented by Doon Gibbs, Deputy Laboratory Director for Science and Technology in June, and the recipients were:

John Hill, Condensed Matter Physics and Materials Science Department

John Hill is recognized as a world leader in applying x-ray scattering techniques to the study of condensed matter systems. He has focused on using resonant elastic scattering to study magnetic and electronic order in a range of materials. He extended these studies by pioneering the use of inelastic x-ray scattering techniques to study electron dynamics in similar systems. At BNL he led the x-ray scattering group in the Condensed Matter Physics and Materials Science Department, laying foundations for programs using soft x-ray techniques to study nanoscale inhomogeneities and related phenomena in complex materials. Hill has also been engaged in developing programs for the new National Synchrotron Light Source II (NSLS-II). Indeed, he led the Experimental Facilities Division of the NSLS-II project, where he was responsible for the early development of the experimental program.

William Morse, Physics Department

William Morse provided vital leadership in an influential and technically challenging experiment at BNL's Alternating Gradient Synchrotron: muon g-2. Morse was a resident spokesperson for this experiment, in which the world's largest diameter superconducting magnet, constructed at BNL, was used to measure the anomalous magnetic moment of the muon with unprecedented precision. The result, which differed from the predicted value by 3.4 standard deviations, stands as one of the most significant pieces of evidence for "new" physics beyond the so-called Standard Model of particle physics. Morse's leadership, his many conceptual breakthroughs and his unique insight into new methods of analysis played a central role in this scientific tour-de-force. The muon g-2 result has drawn worldwide acclaim as a major BNL contribution to high-energy physics, with more than 1,700 scientific citations.

James Muckerman, Chemistry Department

James Muckerman has been a world-class leader in applying methods of quantum chemistry to advance the understanding of chemical conversion processes in energy science. He has elucidated molecular dynamics important in combustion research and has advanced catalysis for the conversion of solar energy into chemical fuels through artificial photosynthesis. He has made outstanding contributions to the development of BNL energy research programs through sustained innovations in theoretical chemistry, as well as in exemplary experimental collaboration, and strong scientific leadership. Muckerman's exceptional contributions to Brookhaven's mission over many years are recognized at BNL and among the international scientific community.

Director's Message *from p. 1*

…also met with the Brookhaven Science Associates (BSA) Board and held a special meeting of the Policy Council. Deputy Director for Operations Mike Bebon spoke with the Management Council and Directorate and division leaders have begun holding meetings with their staffs. I'll meet with all of you during our all-employee meeting on August 2, where we'll talk about our strategic plan as well as the operational excellence we need to support that plan.

The BSA Board-appointed peer review team will be at Brookhaven the week of August 6. For those of you who are contacted by the team, I encourage you to share your thoughts, concerns, and suggestions with them. Their independence, expertise, and "fresh eyes" can be of great assistance to us.

What can each of us do right now? Engage in forthright and respectful discussion about work. If you think there are hazards not addressed in the work plan, or have a concern or question about the equipment or process, bring it up with your supervisor, your peers, or the work group you're responsible for and get it resolved before commencing the work. These are examples of engagement and of holding ourselves accountable. Getting the work done safely and effectively is more important than getting it done as quickly as possible.

Producing breakthrough science and technology for this nation is why each of us is here every day — and sustained safety and operational excellence is an essential component. Our future success depends on preserving and extending our great reputation as a leading national laboratory; that reputation is threatened by our current performance. I look forward to our conversation on August 2 and hearing your constructive and supportive ideas on how we can reach our common goals.

R&D100 Award *from p. 1*

…Brookhaven team developed an electrocatalyst that uses a very small amount of platinum, a one-atom-thick nanoshell surrounding a palladium or palladium alloy nanoparticle core. Proper design of the alloy core both improves the catalytic activity and the durability of the platinum monolayer nanoshell.

"The core-shell structure of this catalyst is amenable to tailoring its properties," Adzic said.

Since platinum in automotive fuel cells tends to corrode during the voltage cycling of stop-and-go driving, the improved durability through proper design of the palladium alloy core is an important improvement. The core keeps the platinum stable and further increases the fuel cell's resilience.

The resulting catalyst is durable, highly active, and significantly less expensive than other catalysts, containing just one-tenth as much as platinum as a conventional catalyst. With platinum hovering at prices approaching $50,000 a kilogram, this advance represents a significant potential cost savings for fuel cell manufacturers.

Adzic's group is now working to find alternative materials for the palladium core to make electrocatalysts even more affordable.

Earlier this year, the team's invention was licensed for use in electric vehicles by N.E. Chemcat Corporation, Japan's leading catalyst manufacturer.

Adzic's research is funded by the DOE Office of Energy Efficiency and Renewable Energy and the DOE Office of Science, with some Cooperative Research and Development (CRADA) funding from industrial partners.

— Aviva Hope Rutkin

Has the Inspection Expired?

A lesson from the BGRR scissor lift fall

Safety makes science possible at Brookhaven National Laboratory

By Ed Nowak, Manager, Safety & Health Services Division

If you're a driver, you probably see the inspection decal on your car's front windshield every day. But do you really notice it? Maybe it catches your attention as the expiration date approaches, or maybe only when it has expired. Is your car any less safe just because the expiration sticker is expired by a day, a week, or a month? Do you care only because you want to avoid a traffic citation?

There's a lesson here: inspections, expirations, due dates, and other milestones for products and processes we use are constantly coming due. But, like so many things in our lives, these indicators can get ignored or lose importance because they're so common.

When one of our colleagues was injured as a result of a fall from an aerial lift at the Brookhaven Graphite Research Reactor (BGRR) this past November, the investigation revealed that the scissor lift's inspection sticker expired two months earlier. Although this was not a direct cause of the accident, the expired inspection had been noticed by workers who, daily, continued to use the lift anyway.

Complacency with routine tasks — such as ensuring equipment inspections are up to date — can result in the loss of a potential accident barrier. And this strikes a blow right at the center of the Lab's mission, including its pursuit of sustained safety and operational excellence. The consequences are dire: injuries — even fatalities, lost work time, and the loss of trust with colleagues, facility users, and the U.S. Department of Energy Office of Science.

Inspections allow experts to dig deeper and find problems not easily observed during daily use. Interlocks and safety features that provide key safety barriers, which are assumed to be effective as a part of work planning, can be verified during these thorough inspections.

Heavy equipment — such as aerial lifts, cranes, and forklifts — are required by national standards (as defined by The American National Standard Institute) to be inspected by a "competent person" on a periodic basis, at least annually and sometimes more frequently. The Lab follows the Occupational Safety and Health Administration's "competent person" requirement, defined as "a worker who has been specifically trained to recognize equipment hazards and to operate safely."

Although we have systems in place to notify appropriate staff of required inspections, our colleagues out there doing the work are the final barrier in ensuring that equipment is safe and ready for operation.

What does it take to change behavior that suffers from complacency, and instill a questioning and cautious attitude among all of us?

To assist in ensuring critical safety and operational aspects of equipment, our subject matter experts have developed checklists as operational aids on heavy equipment, and a "Pre-Use Inspection Record" Tag has been placed on all pieces of equipment to annotate that this checklist inspection has been performed.

By using these checklists, we break tasks into steps and focus attention on the critical items. Pilots and surgeons use checklists before every flight and procedure, no matter how clear the skies are that day or how routine the surgery. Using a checklist and tagging system builds in a step that gives workers a chance to verify that all equipment and procedures are ready.

Inspections play a critical role in providing a safe workplace and they are a part of work planning. If a piece of equipment requires periodic inspections, the Lab and its employees have the obligation to be sure these checklists and planning steps are performed before the start of any job.

BNLers Recognized *from p. 1*

…am happy to present them with this plaque and certificates of appreciation from NNSA."

Mark Parsons of the Brookhaven Site Office, Federal RAP Regional Response Coordinator for Region One, also personally congratulated the men. "Thank you for your hard work," said Parsons. "Your expertise was vital to long-term stabilization and future mitigation strategies."

For more information on this work, see *www.bnl.gov/today/story.asp?ITEM_NO=2454*.

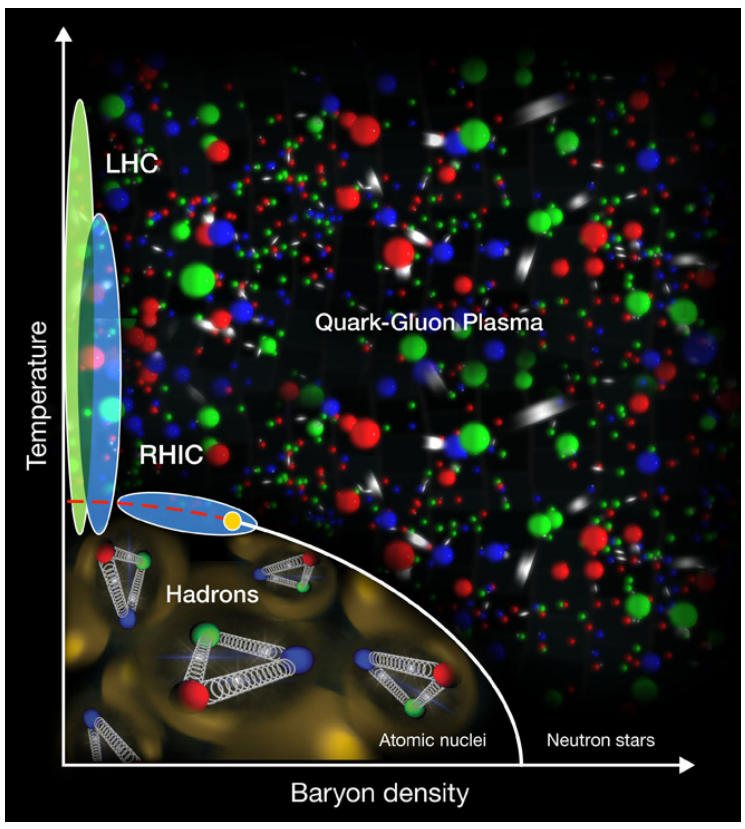
Arrivals & Departures

— Arrivals —

None

— Departures —

Edward Baker ..... CFN
John Gottlieb ..... Site Resources
Jungdae Kim..... Photon Scis



The nuclear phase diagram: RHIC sits in the energy "sweet spot" for exploring the transition between ordinary matter made of hadrons and the early universe matter known as quark-gluon plasma.

Hot Nuclear Matter *from p. 1*

…facilities. "Both RHIC and the LHC are essential to advancing our understanding of the subatomic interactions that governed the early universe, and how those gave form to today's matter as they coalesced into more ordinary forms."

An essential part of the experimental and theoretical research path going forward will be a detailed exploration of the nuclear "phase diagram" — how quark matter evolves over a range of energies, temperatures, and densities. LHC will search the highest range of energies, where the matter produced contains quarks and antiquarks in almost complete balance. But all evidence to date from both colliders suggests that RHIC is in the energy "sweet spot" for exploring the transition from ordinary matter to QGP — analogous to the way an ordinary substance like water changes phases from ice to liquid water to gas.

"It's extremely gratifying that our experimental program has succeeded so beautifully so far. The connections with other areas of physics are intriguing, and the results are turning out to be even more interesting than we expected," Jacak said.

Research at RHIC is funded primarily by the DOE Office of Science, and also by these agencies and organizations: *http://1.usa.gov/SUjP7h*. DOE's Office of Science is the single largest supporter of basic research in the physical sciences in the United States, and is working to address some of the most pressing challenges of our time. For more information, please visit *science.energy.gov*.

— Karen McNulty Walsh

Former Brookhaven Intern To Race in Olympic Games

This summer, someone from the BNL familiy will compete in the Olympic Games. Maria Michta, daughter of National Synchrotron Light Source (NSLS) scientist Richard Michta, will head to London next month for the 20,000-meter racewalk.

Michta, who qualified in the U.S.A. Olympic Trials in Oregon on July 1, says this is a dream come true.

"I was ranked number one [before the trials], but rankings are only sheet-deep. Plus, I'd had a severe injury in April," Michta says. "I knew that I was either going to fall over in the middle of the race trying and pass out, or cross the line and make the team. Luckily, I crossed the line first."

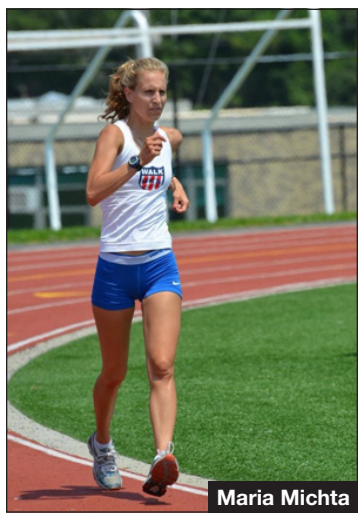
Michta started racewalking as a freshman at Sachem High School to stay in shape during soccer's off-season. She qualified for the national high school competition in her very first year of training.

She continued racewalking independently as a biology student at C.W. Post, where she graduated valedictorian of her class one semester early. She spent the nine months between graduation and graduate school at BNL, interning for Vivian Stojanoff at NSLS.

They studied what Michta affectionally calls "sunscreen for crystals" — how to prevent radiation damage to crystals of lysozyme, a protein found in egg white that helps protect from infections.

"Maria has the same dedication for her sport that she does for science," said Stojanoff. "In order to do anything, you need to focus to really excel. She is an example of that: motivated, focused, and dedicated."

While working at BNL, Michta was still competing, first training under Smithtown's Gary Westerfield and then under former Olympian Tim Seaman. In 2006, she


Maria Michta

placed fifth in the U.S.A. 20K Nationals. By 2010, she had reached first place, retaining her crown in 2011, and then again this year.

Michta is currently taking a six-month leave of absence from Mount Sinai Medical School, where she is pursuing a doctorate in microbiology, to focus on her Olympic training. She says she has two goals for the games: to reach the Olympic A standard for racewalking by finishing in under 1:33:30, and to place in the top 50 percent in her competition.

"I've never stopped believing that I have what it takes, that my desire and dedication will prevail and allow me to achieve my dream," Michta says.

When the games are over, Michta will return to Mount Sinai to finish her degree. In the future, she would like to continue living on Long Island and doing science research.

"I would love to come back to Brookhaven!" she says. "That would be a dream job. If they had an opening here for me, I would sign up right now."

Michta's event will take place on August 11 at noon EDT. You can read more about her journey to the Olympics at *www.mariamichta.com*.

— Aviva Hope Rutkin

CALENDAR

Friday, 7/27

Movie: *Mao's Last Dancer
Noon-1 p.m. Berkner Hall. Part II.

Sunday, 7/29

***Summer Sundays: Nano Science**
10 a.m.-3 p.m. Berkner Hall Center for Functional Nanomaterials. Free program, open to the public. Visitors to the Lab of 16 and older must carry a photo I.D. See p.4.

— WEEK OF 7/30 —

Tuesday, 7/31

Sam's Club Membership Drive
11 a.m.-1:30 p.m. Berkner Hall lobby. Sam's Club will sign up new members and renewals. Giveaways: $10 cash card, advantage membership $40, more.

Thursday, 8/2

All-Employee Meeting
10 a.m. Berkner Hall. Lab Director Sam Aronson will talk on the 10-Year Strategic Plan, safety performance, and sustained operational excellence.

APAA Shows Korean Film, Part I
Noon. Berkner Hall. "The Way Home" was the 2002 winner of the Korean Academy Award for Best Picture. Shown by the Asian Pacific American Association to benefit Dr. Mow Lin scholarship. All welcome. Part II, 8/3.

Friday, 8/3

APAA Shows Korean Film, Part II
Noon. Berkner Hall. See Part I, 8/2, above.

Sunday, 8/5

***Summer Sundays: RHIC**
10 a.m.-3 p.m. Berkner Hall and the Relativistic Heavy Ion Collider. Free program, open to the public. Visitors to the Lab of 16 and older must carry a photo I.D.

— WEEK OF 8/6 —

Monday, 8/6

***Defensive Driving, Part I**
6 p.m. Brookhaven Center South Room. See notice at left. Part II will be held on 8/13.

Select an Undergrad Intern by 7/31

Applications for the Fall 2012 Science Undergraduate Laboratory Internship (SULI) program are available. This 16-week program runs September 5 through December 21. Please contact Mel Morris in the Office of Educational Programs at *mmorris@bnl.gov* or Cindi Biancarosa at *biancarosa@bnl.gov* for the link to access the applicant pool. The students must be placed by this Tuesday, July 31.

Defensive Driving Course: Two Parts, 8/6 & 13

The next six-hour Defensive Driving (Point & Insurance Reduction) course will be held in two parts on consecutive Mondays, August 6 and 13, in the Brookhaven Center South Room. The course will be from 6 to 9 p.m. on both nights. The course is open to BNL, BSA and DOE employees, BNL facility-users, contractors, guests, family members, and friends. The cost is $33 per person. Preregistration is required. To sign up, call Ed Sierra, 821-1013, and leave a message. Or complete a New York DMV Approved Course Online for $39.95 with discount (Use code: "SAVE10" for $10 discount): *www.lidrivesafe.com*.

See Something Unsafe? Call Ext. 8800

Fidelity Investments One-on-One Meetings

A representative from Fidelity Investments will visit BNL on August 3 to answer employees' questions about financial matters. To schedule an appointment, please call 1-800-642-7131 or go online at *www.Fidelity.com/atwork/reservations*.

Social Media Guidelines for Lab Staff

By Peter Genzer, Manager, Media & Communications and Production Services

Social media sites and applications like Facebook, Twitter, LinkedIn, Pinterest, and Tumbler are revolutionizing how we interact with each other online. "Social media" include blogs, wikis, discussion boards, social networking sites, and many other forms of online publishing or discussion. Brookhaven Lab is well represented on many of these social networks through its institutional accounts — as well as through broad personal participation by employees.

It's in the Lab's interest for our staff to participate in these ways to exchange information and ideas, and contribute to online conversations about their work and areas of interest — provided that it's done in accordance with existing Lab policies.

Brookhaven values its reputation for wide-ranging scientific collaboration — our excellent reputation springs from the people who work here and talk about what we do. Social media provides an opportunity not only to contribute to our community and to the future of science and engineering, but also to further our reputation as a world-class center of research.

Brookhaven employees are free to choose whether or not to participate in social media. These social networks are public communications channels, so if you do choose to participate, please review the Lab's and DOE's policies and guidelines regarding computer use, political activity, and employee conduct. We want to ensure that employees understand how their participation in social media reflects — either positively or negatively — on them as individuals and on the Lab as a whole.

Over the past several months, representatives from the Community, Education, Government, and Public Affairs Directorate, Human Resources & Occupational Medicine Division, Information Technology Division, and Legal Office worked together to develop guidelines for employees participating in social media. We've based these guidelines on best practices used by other labs, industry, and academia. They're mostly "common sense" in nature, but they do include important considerations for those of us who participate in online discussions and are tied to the policies and principles that apply to other Brookhaven Lab-related interactions. Please take a moment to review the Lab's social media guidelines: *http://bit.ly/SUjCRw*.

Please Remember the BNL Food Drive

TIAA-CREF to Mail Important Information Regarding Retirement Plan Fees

Employees who participate — or are eligible to participate — in the Brookhaven Science Associates, LLC (BSA) Retirement Plan and 401(k) Plan should receive mail at their home regarding a new Department of Labor regulation. This regulation is intended to help people make more informed decisions about their investment options. The mailing is expected to arrive between July 23 and August 30.

TIAA-CREF has aggregated its data with information from Vanguard and Fidelity into a consolidated fee disclosure package. On behalf of BSA, TIAA-CREF will mail one package for the BSA Retirement Plan and a second for the 401(k) Plan.

To better understand services and fees associated with your retirement plan, you can also visit TIAA-CREF's website for helpful information, including:

- Understanding plan fees: the basics
- How to receive the most value for your plan
- Additional resources to help ensure you're on the right track

Please don't hesitate to contact the Benefits Office if you have questions. You can also speak with a TIAA-CREF financial consultant Monday through Friday from 8 a.m. to 10 p.m. and Saturday from 9 a.m. to 6 p.m. (Eastern Time) by calling 800-842-2273.

Classified Advertisements

Current job openings and a statement of job placement policy at BNL are available on the homepage at *www.bnl.gov/HR/careers/*. To apply for a position, go to *www.bnl.gov* and select "Search Job List." For more information, call Ext. 2882.

Motor Vehicles

11 TOYOTA RAV4 (MDL 4432K) – 9.7K mi. orig owner, 2.5L DOHC 4cyl w/dual vvt-i, 4spd, awd, a/t, a/c, p/s, p/w, abs, loaded, moving must sell. $18,900 neg. 229-6162.

09 TOYOTA CAMRY LE – 75K mi. great cond. $11,500. Avi, Ext. 8379, 646-660-3614 or ofan@bnl.gov.

06 FORD FREESTAR – 98K mi. gold, ext. v/gd except rear bumper, int. clean, cust wheels/tool box for storage, stands for plywood, etc. $5,000. Dan, 512-3658.

05 KAWASAKI VULCAN MEAN STREAK – 5.9K mi. 1600 cc shaft drive, water cooled, fuel injected, grt cond, pearl red. $5,000 neg. Bruce, 875-2190.

05 HARLEY-DAVIDSON SPORTSTER – 4.8K mi. excel cond, many dealer installed upgrades. $5,000 neg. 516-650-6969.

04 BMW 325XI – 130K mi. red w/blk htd lthr seats, p/moonrf, sport pkg, xenon lights, 5/sp, new clutch & tires, 30mpg, gar. $9,500. Ext. 2913 or guida@bnl.gov.

04 HONDA ODYSSEY EXL – 128.5K mi. 6-cyl minivan, fully equip, c/c, leather, htd seats, pwr drs, DVD/CD, new t-belt/water pump, Michelins, $7,200 neg. ndetweiler@bnl.gov.

01 TOYOTA TACOMA – 43.3K mi. 4-cyl, 2wd, 4spd a/t trans, 2.4 ltr eng, a/c, steel wheels, cargo bed liner & carpet w/flr mats, excel mech cond. $9,000. Mary, Ext. 6344.

Furnishings & Appliances

DINING ROOM – china closet, table and 6/chairs, excel cond, must see pic avail, $1,500. Ext. 7918 or difilip@bnl.gov.

DRESSER – solid wood, beautiful French style design 34h, 5w, 22d, $200. 751-8351.

IKEA FURNITURE, TV, HOME THEATER – like new, Assemb. by Ikea agent; moving sale, u-pic-up as is, price/neg, pics: http://tinyurl.com/7xpnhpx. 229-6162.

MICROWAVE – Sharp, carousel, black casing, works excel/$30. Millie, Ext. 7245 or mwiener@bnl.gov.

UPRIGHT PIANO – Hamilton, build by Baldwin, for beginners, Serial number is 160160, $400. Rachel, Ext. 4213, 681-7124 or rachelnehc@gmail.com.

VINTAGE ENAMEL TOP TABLE – Lt green w/deeper grn edge & swirl pttern, 2 pop up leaves, 30 1/2h, 39L, top 24 or 46w extd, white wood base/$350, pics. ndetweiler@bnl.gov.

Audio, Video & Computers

DESKTOP COMPUTER – Athlon XP 2400+, 3GB RAM, 500GB HD, 20.1" BenQ LCD, Logitech wireless keybrd/mouse, Fresh installed Windows XP, $275. Ext. 3970.

PRINTERS – HP Ofc Jet wide format printer, new, still in box/$150; HP Desk Jet 9800 wide format printer used, excel cond/$65. Mary, Ext. 6344, phraner@bnl.gov.

SLINGBOX PRO HD – Like new, in box. $245. Mark, Ext. 3970 or mwahlert@bnl.gov.

Sports, Hobbies & Pets

CAMPER - KODIAK K235 – Excel, 23' long, slide out, dinette, couch, 2 qu beds, m/wave, oven, stove, frig/freezer, full ba, heat, A/C, cable, sleeps 6+, $8000. 744-9308.

CANNONDALE BIKES – 2, 1/18" 200 LE, 1/200 SE, SE has post shock & Roc Shocks, both: hardly used & new tires, pics, $350/takes both. Chuck, Ext. 5476, 872-9268.

HUGE PLAYGROUND – Wood Kingdom playgrnd w/Adventure tree hse, 3 swings, 1/rocking, 2/slides, jungle gym, 8 yrs old, orig/3,800, ask/$1,000. Ext. 4289, 219-8941.

MEN'S MOUNTAIN BIKE – 2012 Fuji Tahoe 4.0. Not even 50 miles. 19" frame. List $1200 ask $900. Mark, Ext. 3970.

PIANO AND BENCH – Yamaha, excel cond, $1500. 288-3112.

ROCK CLIMBING GEAR – Stealth C4 5.10 Men's shoes, size US 12, $45; blk diamond harness, mens' L, $35; Attache locking carabiner, $7; belay, $5. Brian, Ext. 8240.

ROOF RACK UPRIGHt BIKE CARRIER – THULE 599XTR Big Mouth (w/o lock), leave both tires on, attaches to THULE load bars (sold sep), $80. Brian, Ext. 8240.

SURFBOARD – "Roxy", 7.5', light blue w/pink details, cushioned non-slip surface, leash incld, excel cond, $300. 219-7196.

THULE ROOF RACK – 50" LB50 load bars, 2 pck w/end caps/ $50; THULE 400 rf rk foot pack w/o locks, $25. bmccaffrey@bnl.gov.

TREADMILL – PROFORM XT70, low impact, like new, less than 100 mi, avail for test run. $350/neg. 831-3760.

Tools, House & Garden

ANDERSEN WINDOWS – Two, dble hung, 36x48. Wood inside, stained & poly'd. Installed 9 ys, gd shape. w/screens. $50/obo. Ext. 7781.

MOTORCYCLE JACK – used once, can lift 1500 lbs, 14" w/ safety locks, lockable casters, cost/$100, sell/$70/neg. Ext. 872-9268.

Miscellaneous

2 TICKETS TO POCONO RACEWAY – Aug 5, Nascar race at Pocono Raceway, 2 tickets Section NE, Row 27, great seats, $70/per ticket. 289-9727.

JIMMY BUFFETT @ JONES BEACH – 8/30. Orch G, Row PP, Seats 13&14: $365. Orch E, Row SS, Seat 25: $185. All face value tix. 478-8048 or thyberg@bnl.gov.

TRUCK CAMPER – '86 Realite, dry b/r; electronic jacks; new propane tanks; 2 deep cell batteries; v/clean; $3K firm. 404-8109.

Happenings

BUILD-A-BOAT & RACE CHALLENGE – Wanted: Teams of 2 to design, build, & race a small boat using only wood & Sikaflex as adhesive/sealant. Aug. 18&19. Port Jeff Harbor. Proceeds to benefit LISEC. Brian, Ext. 8240, bmccaffrey@bnl.gov.

CHICKEN BARBECUE – Sun, Aug 5, St.John's Ukrainian Cath Church, Franklin St/Roanoke Ave, Riverhead. 3-5 pm. Tix $18, kids under 12/$15. Live music, raffle. George, Ext. 5298, 591-1312 or rakowsky1@bnl.gov.

FUNDRAISER – On Aug 11, for Stephen Peragine who was involved in a motorcycle accident. Your support will be greatly appreciated. For info please see www.supportstephen.com. Lauri, Ext. 7090 or lperagine@bnl.gov.

Free

BABY'S DRESSER, TABLE & CHAIRS – solid wood Baby's Dresser, dining table & 3 chairs for free/obo, see: http://tinyurl.com/myBdresser. zidkit@gmail.com.

Wanted

ADOPT-A-PLATOON – Monetary donations gratefully accepted towards mailing shipments to our platoon stationed overseas and to send goodie packages to BNL family members. Thank you. Joanne, Ext. 8481.

BNL FAMILY MEMBERS IN MILITARY – If you have a family member that has been deployed overseas, please contact Adopt-a-Platoon so we may send them a goodie package. Joanne, Ext. 8481.

CAMPER ENTRY DOOR – 30"w x 68"h, in working cond. Donald, Ext. 7237.

CAR – gd mi, well maintd/gd cond, a/c,eater cd/radio, breaks, everything intact and fuctioning well, $2500/max!. Ashton, 504-8772 or apryce@bnl.gov.

GROCERY STORE GIFT CARDS – Needed from King Kullen or Stop & Shop for families at Thee Island INN Soup Kitchen in Middle Island; any denomination greatly appreciated!! Barbara, royce@bnl.gov.

POP TOPS FROM SODA/BEER CANS – Collecting for Shriner's Children's Hospital. Please send or drop off @ Bldg 400A, Transportation Office. Paula, Ext. 2535.

ROOMATES – to share lg home or apt, off st prkg, quiet, safe neighborhd, BNL vicinity, $700/mo neg, Kazek, kazekg@comcast.net or 847-477-1634.

SURF BOARDS – any cond, 9' or longer. Theresa, Ext. 2051, 457-0132.

USED GLASS WINDOWS/DOORS – looking for salvageable materials to make garden cold frames. Gary, Ext. 7779.

For Rent

DAYTONA BEACH, FL – nice 3/2 hse, 5 mins walk to ocean, 2 mins bike ride, wkly/monly, Pics avail. Edward, Ext. 7502.

CENTEREACH – 2-3 bdrm, nr LIE, deck, gazebo, igp, non-smkr, no pets, 1.25 acre lot, utils not incl, upgraded app's, granite c'tops, 2/mos sec, pics. $2,300/mo. 516-380-7322.

CORAM – priv rm & b/r, share lg home w/2 males, off st prkg, quiet n'hd, furnd or unfurnd, incls all, be OK w backgrd/credit check, 1st mo rent/1 mo sec. $550/mo. 848-4381.

MILLER PLACE – Share furn, Col. home, prof resid area, 10 mi to BNL, Stony Brk U, int, a/c/heat, tv cable, own bdrm, all incl, immed occ, resp. no pet non-smkr. $750/mo. 744-8386.

N.SHIRLEY – 1 bdr furn apt, ground flr, nr Lab, clean, quiet, pvt ent, util incl,no smkg/pets, 1 mo rent/sec. $850/mo. Ext. 3849.

RIDGE – 1 bdrm, eik, full bath, new applis, l/r, single occupancy, 1 mo rent/1 mo sec, job info/2 refs, all utils incld, avail 8/1. $850/mo. Grace, 839-6957.

RIDGE – 1 Bdrm Apt., a/c, Utils Inc., No Pets, Non-Smoker, 1 mo. sec. $1,300/mo. Tony, 275-0694.

RIVERHEAD – 3/bdrm, 2/full ba, spacious Ranch, kit, dw, l/r, d/r, w/d, gar, new windows & furn, quiet, nr shops, no smkg/pets, refs, credit ck reqd, 1/mo sec + util. $2,150/mo. McGill, 512-6470.

ROCKY POINT – 2nd flr legal 1 bdrm apt, new full ba, huge eik, lr, 18 min to BNL, priv ent, quiet, no smkg, access to priv beach incl elect/water/ heat/ cable/ wireless int 1st mo/1 mo sec@signing. $950/mo. 494-5474.

SHOREHAM – 1 bdrm furn apt, l/r, d/r, full kitch & ba, no smkg/pets, pvt ent/drvwy, util incl, 1/mth sec, 5/min to Lab. $1,150/mo. 375-7959 or judyb55@optonline.net.

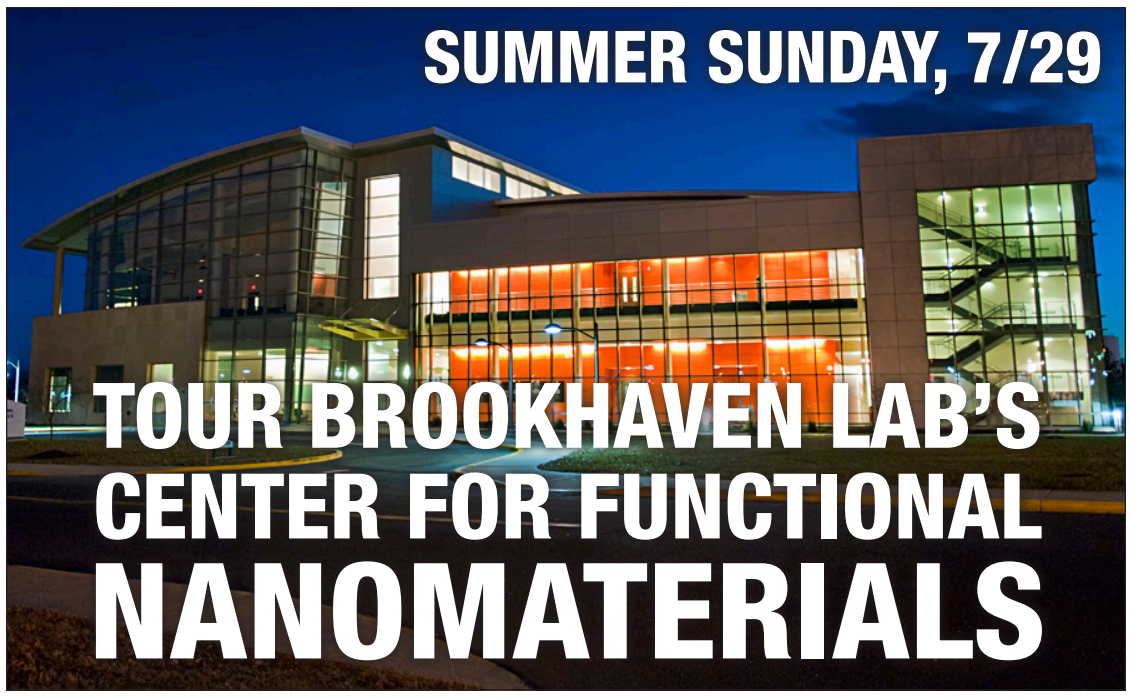
N. MYRTLE BEACH, SC – 2/bdrm 4/beds, 2.5bath, Townhse on golf course w/comm pool, daily/wkly/mo rates avail. $700/mo. Chris, 516-660-0290.

For Sale

CORAM – *Price drop* lg 1 bdrm co-op, updated kitch & b/r, laundry across from unit, in/outdr pool & gym. $104,900. Warren, Ext. 8329 or whalbig@bnl.gov.

RIDGE – just reduced, 1 bdrm condo in 55+ community, new carpet/paint, sunrm/pool/golf/clubhse, taxes $2,919 yr, 4/mi to BNL. $64,500 neg. 849-3305.

RONKONKOMA – 5 beds, 2/masters, 3.5 ba, l/r, d/r, den, updated kitch/ba, igs, cac, Cherry wd flrs, 1 car gar, prop, 5 min LIRR. $399,900 neg. 516-884-2788.



Joseph Rubino D0241210

Where can you go on a summer Sunday on Long Island to see exciting science shows, enjoy tours of world-class science facilities, and engage in hands-on science activities for the whole family — all for free? Visit BNL on Summer Sundays until August 5 to enjoy a fun-filled day while learning about dynamic scientific developments at the Lab.

A different BNL facility is featured each week. No reservations are needed, activities are first-come, first-served. Arrive any time between 10 a.m. and 3 p.m. — the last facility tour takes place at 3 p.m. Visitors age 16 and older must bring a photo I.D. Science shows will be held at noon, 1:30 p.m., and 3 p.m. in Berkner Hall. A cafeteria and gift shop, also in Berkner Hall, will be open until 2 p.m. and 4 p.m., respectively.

This Sunday, July 29: Explore the Center for Functional Nanomaterials

Come visit the Center for Functional Nanomaterials, where Brookhaven scientists probe structures as tiny as a billionth of a meter. Play with exciting new hands-on activities in the Nano-Toy-Zone. Learn to sing the "Nanosong." Enjoy the "Fantastic Forces" show.

August 5: Atom Smashing Fun

Tour the Relativistic Heavy Ion Collider, a world-class particle accelerator where physicists re-create the conditions of the universe as it is believed to have existed microseconds after the Big Bang! See particle detectors as big as a house! Be mesmerized by the "Magic of Science" show.

Congratulations, Volleyball Champs

Congratulations to last year's BNL volleyball champions (see photos below)! The season is over and teams may have celebrated — but that does not mean there is no more volleyball until the fall. Volleyball continues to be played indoors every Monday and Wednesday evening during the summer. Please sign up on the Doodle poll at *http://www.doodle.com/5mrdvev73scaz5wq* to indicate what time you can come to the gym and play (no login is required). All skill levels are welcome.


Joseph Rubino D3980512

Open A League

The champions of the Open A League, Edge of Chaos, drew back from the void to win over the runner-up Empire team with final game scores of 25-17, 25-18, 25-21 (3-0). Edge of Chaos team members are: (back, from left) Dave Levy, Chongai Kuang, Fernando Benito; (front) James Ackley and Gene Van Buren. Not pictured: Allen Jones and Art Sedlacek.


Michael Herbert D4010512

Open B League

Open B League champs, Dodging Bullets, evaded losing to the runners-up Block Party, winning with final game scores of 25-23, 25-17, 25-22 (3-0). Dodging Bullets team members are: (from left) Izzy Garcia, Jenn O'Connor, Martin Leitgab, Chongai Kuang, James Ackley, Dina Tullo, and Alain Domingo. Not pictured: Travis Shrey and Andreana Leskovjan.


Joseph Rubino D4000512

Mixed 2 League

Champions of the Mixed 2 League, Team Bad Pass, made great passes all around in playing runners-up Another Round, with final game scores of 25-13, 25-16, 26-24 (3-0). Team Bad Pass members are: (back, from left) John Van Houten, Heather Turbush, Chris Turbush; (front, from left) Timur Shaftan, Michelle Voelker, Loredana Tirziu, and Paul Humbert. Not pictured: Sarah Seiler.


Joseph Rubino D3990512

Mixed 3 League

Champions of the Mixed 3 League, Upton Ups, came up with a winning bet over the runners-up, All Sets Off, with final game scores of 23-25, 22-25, 25-15, 25-22, 25-23 (3-2). Upton Ups members are: (back, from left) Twig Bender, Kevin Heinrich, Mary Grace Meier, Jim Jardine, Ed Sperry; (middle) Richard DeRocher; (front, from left) Patti Bender, Jessie Wilke, and Brigitte Kimble. Not pictured: Ann Meier, Ed Nowak, Joseph Bender, and Michele Bender.

the Bulletin

Published weekly by the Media & Communications Office for the employees, facility users, and retirees of Brookhaven National Laboratory.

Liz Seubert, editor
Joe Gettler, assistant editor
Roger Stoutenburgh, photographer

On the Web, the Bulletin is located at *www.bnl.gov/bnlweb/pubaf/bulletin.asp*. A calendar listing scientific and technical seminars and lectures is found at *www.bnl.gov/bnlweb/pubaf/calendar.asp*.

Bldg. 134, P.O. Box 5000
Upton, NY 11973-5000
phone: (631) 344-2345
fax: (631) 344-3368
e-mail: *bulletin@bnl.gov*