

Particle Post September 2012

"We make a living by what we get, but we make a life by what we give." W. Churchill



Previous issues

Note from the Chair Thomas Roser



The cool-down for RHIC run-13 is scheduled to start in early January and the 15-week run will focus mainly on 500 GeV polarized proton collisions. In this difficult and uncertain budget climate we have strong support from our funding agency, the DOE Nuclear Physics Office, for this 15-week run as well as a similar length run in 2014.

The difficult federal budget situation, however, is making it necessary to reassess the plans for the future of Nuclear Physics facilities in the US. A Long Range Plan developed in 2007 called for three new projects: an energy upgrade of CEBAF at the Thomas Jefferson National Accelerator Facility (TJNAF or JLab) in Virginia, the construction of a new Facility of Rare Isotope Beams (FRIB) at Michigan State University and a major luminosity upgrade for RHIC (RHIC II). Of these projects the CEBAF energy upgrade is in progress, FRIB is ready to start construction, and the RHIC luminosity upgrade was completed at much lower cost and in much shorter time than originally planned using high-energy, bunched-beam stochastic cooling.

As I write these lines I am in Rockville, MD, where a subcommittee of the Nuclear Science Advisory Committee (NSAC) is meeting to hear from FRIB, JLab, RHIC, and others about their plans for the future. The team from RHIC has developed a very strong and compelling case that RHIC with its upgrades is a unique and world-leading facility and that the RHIC physics will remain the center piece of Nuclear Physics in the US for the next decade. You can find a write-up of the case for RHIC [here](#). This NSAC subcommittee needs to advise the Department of Energy, by end of this year, on how to implement the 2007 Long Range Plan under the present constraint federal budget.

It is clear that not everything can be implemented on the timescale that was originally planned. It is in this context that a premature termination of RHIC operations to free up funds for the construction of FRIB has been mentioned as you might have seen in some news reports. I consider this a very unlikely scenario because any funding saved from the termination of RHIC would very likely be lost from the Nuclear Physics budget and not be available for FRIB and also because RHIC produces nuclear physics results with the highest impact world-wide and is the only cost effective path to the long term future nuclear physics facility, the electron ion collider eRHIC. I will keep you informed as this process evolves over the next few months.

Administration Stephanie LaMontagne-McKeon



The Administrative group is in the process of preparing for fiscal year end closing on Wednesday, September 26th. At that point in time, our year-to-date expense on each program should reflect the value of all effort performed during the year, as well as the value of all goods and services received.

Throughout the year, expense in the last week of each month is processed in the following month. Thus, ending the year with a complete and accurate accounting of year-to-date expense requires additional effort. In order to capture direct labor effort through to September 30th, the September time card extends beyond the customary cut-off on the 20th of the month and includes effort through the final day of the month. Likewise, Facilities and Operations will bill for services through the end of the month. Power costs, normally billed in the month following actual consumption are estimated

for September and charged to the program as an accrual. In order to capture cost that reflects the level of effort expended on all construction, service and maintenance contracts, vendors are requested to provide an estimate of the value of their effort through September 30th. The estimated amount is then billed to the contract via the accrual process.

Please be attentive to requests for information and /or action throughout September. Additionally, in order to best position the Department for the possibility of a Continuing Resolution and / or budget cuts, you are again urged to *make every purchase count*. *Buy only what you need to support critical work scope for which purchasing now is necessary to maintain schedule and achieve programmatic milestones.*

Accelerator Division Wolfram Fischer



We are now preparing for the start of the next NSRL run on 1 October, again with beam from EBIS. This requires the completion of EBIS vacuum upgrades, and the commissioning of a new species, Si. The next RHIC run will feature a long polarized proton run at 255 GeV, but we are now also asked to prepare for a few days of pp2pp at the beginning. In this mode we will have large beam sizes in STAR, and low-intensity beams which may allow the use of stochastic cooling for this proton mode also. For the proton run we are also on track to get a new polarized source thanks to Anatoli Zelenski and his team, and we are planning to install the electron lenses.

In the recent discussion with the experiments the case for low-energy cooling was made, and STAR has requested the implementation of such cooling. Our goal would be to increase the Au-Au luminosity by about an order of magnitude around the injection energy and below. Alexei Fedotov is working out a parameter set, suitable for the use with a superconducting electron gun. Implementation would take several years, with not before 2017, and would give the RHIC physics program a significant boost.

Experimental Support & Facilities Division Phil Pile



Steve Vigdor has given us preliminary guidance for the start of Run 13. If funds permit we will begin Run 13 in early January with 255 x 255 GeV polarized protons with RHIC setup to accommodate a special 4 day run for the STAR experiment configured to make use of the pp2pp Roman Pots. This will require special optics for STAR (larger beta*) and less beam per bunch than usual. PHENIX will run concurrent with STAR during this period but with ~x10 reduced luminosity. The hope is to run for at least 15 weeks but as usual the run length is totally dependent on the outcome of the congressional budget process.

The experiments continue to stay on track for an early January start for Run 13. The STAR experiment is making preparations to roll the detector back into the IR with a complete Forward GEM Tracker system, ~half of the Muon Telescope Detector (MTD) array and with provisions to install at least one prototype Pixel sector for the Heavy Flavor Tracker (HFT). The PHENIX experiment work for this shutdown is proceeding well - rehab of the North and South Muon Piston Calorimeters (MPC) detectors, a rework of the Vertex Trackers (VTX) and Forward Vertex Trackers (FVTX) plus other detector maintenance. Preparations are in progress to install more shielding in the North and South tunnels to reduce background from beam loss affecting operation of the Resistive Plate Chamber (RPC's). We expect PHENIX will be ready for beam by the first part of January.

NSRL is on schedule to begin Run12C for NASA on 1 October and run to 19 November. The NASA run will likely be followed, sometime after Thanksgiving, by NSRL beam operations in support of National Reconnaissance Office (NRO) experiments aimed at studying ways to improve electronics survival in space. The EBIS will be used to inject beam into the Booster for these experiments. Three new beams for EBIS will be required, Carbon, Silicon and Oxygen. These beams will be developed this month before the beginning of the NSRL run. EBIS is proving to be a very versatile source for both RHIC and NSRL.

BLIP has completed processing targets irradiated during the last run and plans to start up again with RHIC in January.

One issue (fall-out from the 29 June ladder incident) that we are struggling with as we prepare for Run 13 is the lack of access to many key areas due to either a non-OSHA/BNL compliant ladder or due to lack of an inspection. Please be patient as we work through this and follow the current rules for ladder use.

Accelerator R&D Division Ilan Ben-Zvi



Ilan is traveling - stay tuned for next month.

Operations Paul Sampson



Shutdown work throughout the CAD complex continues. Major works at RHIC including e-lens installation, RF upgrades, major experimental work and general shutdown maintenance are progressing with the goal of completion before January 2013. Preliminary tests of various systems, including the RHIC RF, are scheduled for later in September.

The injectors are presently being brought up for NSRL run 12C. Shutdown items, maintenance and installation for EBIS, Tandem, Booster and NSRL are nearing completion. Much of September will be dedicated to final checkout, start up and reestablishment of beams for NSRL. This run will feature several new ion species

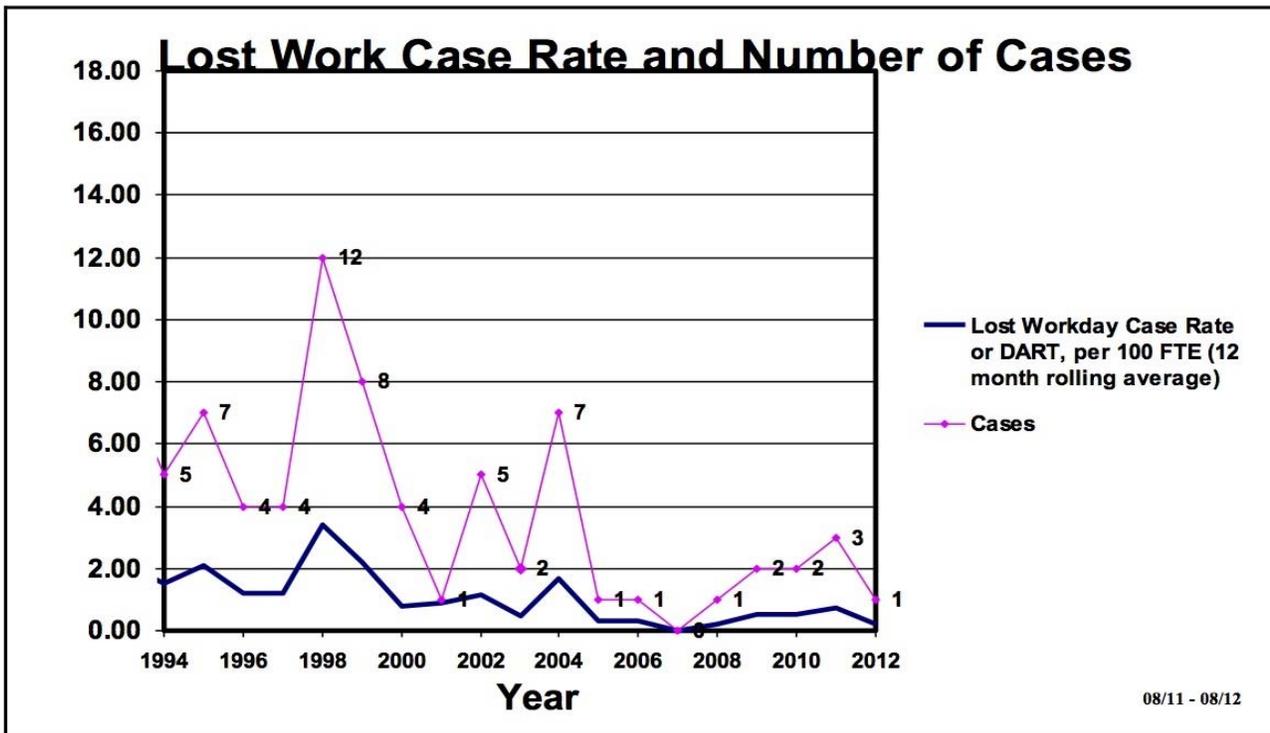
from EBIS and protons from the Tandem. The start of NSRL Science is October 1st.

Other work includes AGS Access Controls installation, IPM and BBQ systems installation. Also in the AGS, a magnet position survey, corrector power supply tests and LLRF development are underway. In the U line, added equipment for fault protection is being added. Removal of V line transport magnets nears completion.

Many other projects are in progress. To view a list of the approved work for the shutdown, go the [Job Request System](#) and select "Shutdown 12". This link is behind the firewall and requires privileges to view.

For schedule updates see: [This Week](#), which can be viewed by all.

Safety Stats



C-AD Occupational Injury Statistics

For Year 2011 For Year* 2012

First Aid Cases	4	1
Recordable Cases	3	2
Lost Work Cases	3	0

* Calendar Year through 8/12

REMINDER: TLD exchange is done the **FIRST FRIDAY** of the Month.

EXCHANGE DATE: FRIDAY, September 7, 2012

next date will be October 5, 2012

Pete Cirnigliario



EXTENSION

Kyle Kulmatycki appointment has been extended until May 31, 2013.

WELCOME!

DEPARTURES

Joseph Aronson, Control Systems Group will be leaving the lab effective September 11..

Miguel Lopez, GEM Fellow working with Mike Costanzo in the Control Systems Group appointment ended August 24.

Brian Streckenbach, Co-Op Engineer working with Jonathan Hock in the Mechanical Systems Group appointment ended August 24.

GOOD LUCK!



Inside RHIC. Please click on link to the left to view the latest web publication of Inside RHIC.



*We wish all of you born in **September**
a happy and healthy year ahead.
Birthday people **ONLY** click on cake*



DID YOU KNOW

By [Liz Seubert](#) | September 6, 2012

BNL's Satoshi Ozaki Honored by Consulate General of Japan in New York



Ambassador Sigeyuki Hiroki (left) presents a citation for distinguished service to BNL's Satoshi Ozaki. Photo courtesy of Hirohito Saigusa

In a ceremony at the Consulate General of Japan in New York, Satoshi Ozaki, senior advisor to the BNL Director, was honored by Ambassador Sigeyuki Hiroki in recognition of his "distinguished service in

contributions to the deepening of the mutual understanding and friendship between Japan and the United States.”

A news release issued by the Consulate General described Ozaki’s outstanding contributions to the design and construction of accelerators — including the TRISTAN collider at the KEK Laboratory in Japan, and the [Relativistic Heavy Ion Collider](#) (RHIC) at BNL — that has led to the realization of major machines for fundamental science on two continents, and his promotion of international collaboration for more than 30 years.

Said Ozaki, “It is highly gratifying to receive this recognition from Ambassador Hiroki, the head of the Consulate General of Japan in New York. Looking back, I have been very fortunate that I was at right places at the right time throughout my adult life. I also appreciate having had the right bosses both at KEK and at BNL, who trusted and strongly supported me, either in leading the construction of accelerator facilities for research or in promoting international collaboration at these facilities.”

BNL Director Sam Aronson, who was invited to address the company at the ceremony, said, “I have benefited from Dr. Ozaki’s advice and guidance over many years, currently as Lab Director as well as much earlier when I worked on the PHENIX experiment at RHIC. PHENIX was and is a beneficiary of Dr. Ozaki’s strong support for US-Japan collaboration at RHIC.”

Ozaki joined BNL in 1959 with an MS in physics from Osaka University, Japan, and a Ph.D. in physics from the Massachusetts Institute of Technology. His work on particle physics and major accelerator research facility development at Brookhaven led to an 1981 invitation from the National Laboratory for High Energy Physics, a research institute in Japan also known as KEK, to direct the construction of TRISTAN, the first major high-energy particle collider in the country. Under Ozaki, this \$500-million project was completed on time and within budget. TRISTAN, which started operations in 1987, accelerated and stored beams of electrons and positrons at 30 billion electron volts — the highest energy in the world at the time. Furthermore, as recognized in the recent news release, Ozaki “promoted internationalization of the research at TRISTAN by facilitating participation of foreign researchers including those from the U.S. and neighboring countries in Asia.”

In 1989, Ozaki returned to BNL to head the \$660 million RHIC Project, leading the decade-long development and construction of this world-class particle collider. About 1,000 physicists from around the world run experiments at RHIC, colliding subatomic particles known as heavy ions head on to study the type of matter that existed a millionth of a second after the Big Bang. Ozaki was also instrumental in bringing a polarized proton capability to RHIC with funding support from the RIKEN Institute of Japan. The first polarized proton run was achieved in 2001, celebrated by scientists from BNL, RIKEN, and collaborators from many other national and international institutions. He was also instrumental in the establishment of the RIKEN-BNL Research Center at BNL in 1997. RBRC became and remains an important RHIC physics analysis center and a hotbed of development for outstanding young physicists from Japan and the U.S.

Ozaki is a Fellow of the American Physical Society (APS) and a former Chair of the APS Forum for International Physics. His honors include the 2007 IEEE Particle Accelerator Science & Technology Award, which he won with BNL’s Michael Harrison for leadership in the successful design and construction of RHIC; and the 2009 APS Robert R. Wilson Prize, cited “For his outstanding contribution to the design and construction of accelerators that has led to the realization of major machines for fundamental science on two continents, and his promotion of international collaboration.”

From: Karol, Raymond C
From the National Weather Service:

The Safest Place To Be During A Tornado Is In A Basement. Get Under A Workbench Or Other Piece Of Sturdy Furniture. If No Basement Is Available...Seek Shelter On The Lowest Floor Of The Building In An Interior Hallway Or Room Such As A Closet. Use Blankets Or Pillows To Cover Your Body And Always Stay Away From Windows. If In Mobile Homes Or Vehicles...Evacuate Them And Get Inside A Substantial Shelter. If No Shelter Is Available...Lie Flat In The Nearest Ditch Or Other Low Spot And Cover Your Head With Your Hands.

Thursday, August 23, 2012

Immediate Actions to Take Following a Serious Injury

By Jack Ellerkamp and Joe Falco

We never want to have a serious workplace injury, and our goal is to never have one occur. Unfortunately, we've had several during the past two years. One outcome from the investigation into last November's aerial lift fall during the decommissioning of the Brookhaven Graphite Research Reactor (BGRR) is the importance of the Lab community knowing how to respond if a coworker suffers a serious injury.

When a worker suffers a serious injury, co-workers should immediately contact the Laboratory Protection Division by calling Ext. 2222 (631-344-2222 from a cell phone) or 911. An injured worker should not be moved before the Fire Rescue Group arrives, especially if the worker has a head, neck, or spine injury, or a possible broken bone -- none of which may be immediately apparent. Moving him or her could worsen the injury and result in paralysis or other severe complications. The only exceptions are to:

- ε Administer basic life support or use an automated external defibrillator (AED), if needed
- ε Apply pressure to a wound that is seriously bleeding
- ε Get the worker out of imminent danger. (Note that a worker is not in imminent danger just because he or she is in an area controlled for radiological purposes.)
- ε The Fire Rescue Group knows how to brace or splint an injured worker so that he or she can be transported safely. They may call upon you to provide assistance after their arrival.

After the injured worker is attended to, it is important to preserve and restrict access to the accident scene so that a thorough accident investigation can be performed. The supervisor should also contact the Occupational Medical Clinic (OMC) at Ext. 3670 and report the injury to an OMC nurse.

In cases where an injury does not require hospital transport, the supervisor should bring the employee to OMC for evaluation, and should wait at the OMC for further instruction by an OMC staff member on whether an employee can return to work, and if work restrictions are required. It is also the supervisor's responsibility to take the lead in the accident investigation, working with the Environment, Safety, and Health coordinator and Safety Engineering Group.

We encourage managers and supervisors to discuss this information at toolbox and staff meetings. More information is available at the [Injury Management](#) and [Injury and Illness-Notification and Analysis](#) Subject Areas.

— Jack Ellerkamp
Safety Engineer, Safety and Health Services Division
ellerkamp@bnl.gov

— Joe Falco
Manager, Occupational Medicine Clinic
falco@bnl.gov



Fun Time

Magic Squares

Put the numbers in order so that they read 1-8.



The 0 is the 'empty' place. Click on any number

7 8 0

next to 0 and they will switch places.

of moves:

0

New Game

Free JavaScripts provided
by [The JavaScript Source](#)



Folks,

Once again, I'd like to thank everyone at C-AD for your continued support, donations and contributions that you so freely give to the Food Drive throughout the year. It means a lot to so many families.

If everyone can bring in at least one non-perishable food item, this would help the local food pantries in our area. There are so many families who are in need of food and depend on their local food pantry to have at least one meal a day. With the food supply so low, the volunteer's who help out at our local food pantries can't help those in need. So please.....bring whatever you can to replenish the food supply for those in need.

Your donation of any non-perishable food item can be left in the box marked "Food Drive" located in the 911A Lobby.

Your continued support is appreciated.

Thank you.

Anne Marie Luhrs

From: Carter, Christine B

Subject: Please pass on, print, share! BERA UPDATE!

***DISCOUNT Splish Splash, Movie, and Atlantis Marine World tickets for sale at the BERA Store in 488! Ext. 3347**

open Mon-Fri 9-3pm.

***DISCOUNTS:** Raymour & Flanigan, local stores, and more! <http://intranet.bnl.gov/bera/recreation/>

***Keep the summer going – OPEN SWIM at POOL continues next week from 3:30-5pm FREE!!! Parent must be present.**

*** Swim Lessons for 4 Year Olds (only) in September! Register today! <http://www.bnl.gov/bera/recreation/pool.asp>**

***School Supply Drive on until 9/14! Drop off in Bins in 400 by Badging~**

***MEMBERSHIP DRIVES to the local warehouse clubs-
SAVE THE DATES:**

BJ's Wholesale here on Fri. Nov. 9 from 11am-1:30 in Berkner

Costco here on Wed. Nov. 14 from 10am-2pm

Sam's Club here on Thurs. Nov. 1 from 11am-2pm

FITNESS CLASSES START THIS WEEK OR NEXT! JOIN NOW!

http://www.bnl.gov/bera/linkable_files/2012_Sept-Oct.pdf

TRIPS: To make your reservations with payment, please go to the BERA Store (M-F, 9a-3p). All tickets are NON-REFUNDABLE and are for those 21 years and older unless accompanied by BNL employee/parent. Tickets and arrangements are for the benefit of BNL/BSA employees, users, guests and their families.

New; FRIGHT FEST at Dorney Park!

Saturday Oct 20, 2012 \$35pp. 21 & over unless accompanied by BNL parent. Time to be confirmed: Depart BNL at noon, depart Dorney at 10PM

Saturday, Sept 15, 2012

Tickets for this trip go on sale Friday, 8/17 at the BERA Store (M-F, 9a-3p).

The **BIG E State Fair** in West Springfield, Mass. This is a very family friendly event! Cost is \$45 per person (adult or child) Under 2 that sit on your lap are free. The luxury Coach bus will leave Brookhaven Center at 8am and arrive at the State Fair approximately 11am. We will depart at 5pm. <http://www.thebige.com/fair>

ATLANTIC CITY Saturday, Sept 15, 2012

BERA bus trip to **Bally's Casino on the Atlantic City Boardwalk**. No one under 21 yrs of age allowed. Cost is \$30 per person. We leave Brookhaven Center at 9am, arriving approximately by 1pm and depart Bally's at 8pm. You will receive \$20 slot pay on arrival at the casino.

SCAVENGER HUNT- In Greenwich Village! Saturday, September 22, 2012

Come join us on this **Greenwich Village Scavenger Hunt!** Get into the nooks and crannies of The Village on this great scavenger hunt from 11am-1:30pm Free "Do As You Please" time afterwards till 5pm. Not suitable for children under 12. Maximum 40 persons on this trip. Cost is \$40 per person (adult or child). The coach bus will leave Brookhaven Center at 9am and depart from The Village at 5pm.

<http://www.watsonadventures.com/public/event/the-secrets-of-greenwich-village-scamenger-hunt/>

LONGWOOD GARDENS Saturday, Sept 29, 2012

Longwood Gardens are magnificent and well worth the trip! Cost is \$45 per person for this light autumn tour, display art show, ending with a great fireworks display! They have a very nice cafeteria or you may bring a picnic for the bus ride. The luxury coach bus will leave Brookhaven Center at 10:30am and leave Longwood at 8pm. <http://longwoodgardens.org> ~ <http://light.longwoodgardens.org/>

Sunday, September 30, 2012

Join us for this exciting trip to **Dover, Delaware**, we only have 40 tickets available. Party Chalet with catered food and beverages, great seats, and program and souvenir included! The coach bus leaves Brookhaven Center at 5am and will leave Dover at 6pm. \$200 includes the luxury bus, driver tip and all the benefits of the Party Chalet. Seats TBD.

Saturday, Oct 13, 2012

This is a wonderful family day trip!! Cost is \$25 adult or child, but under 3 yrs is free if they sit on your lap. The coach bus will leave Brookhaven Center at 9am and leave the Zoo at 5pm. Price includes Total Experience tickets, except for camel rides.

Be safe & enjoy the rest of the summer!



ALUMNI NEWS: AGS/RHIC/C-AD RETIRED CROWD - We'd enjoy hearing from you and what you have been up to. Please send your notes to pmanning@bnl.gov

A call from Elise Brown, daughter of the late Hugh N. Brown was received Friday, August 31. She informed us that there will be a memorial service for him as follows:

Date: Saturday, September 22, 2012

Time: 1:00 PM at:

Place: St. James Parish Hall

260 Beaver Dam Road

Brookhaven, NY 11719

631-286-0726

Please share with others who may have known him.

You can catch up on all of Eric Forsyth's travels by clicking on his sailing yacht below.



 <h2 style="display: inline;">September 2012</h2>						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
						1
2	3 Labor Day Holiday	4	5	6 C-AD AP Seminar "Novel Polarimetry for Frozen Spin Storage Rings", Richard Talman, Cornell U., 3:30pm, Bldg. 911B, LCR	7	8
9 Grandparent's	10	11	12 ASAP Career Workshop, "Preparing for a	13 ASAP Career Workshop, "Preparing for a	14	15

Day		 SEPTEMBER 11, 2001 Patriot Day Physics Colloquium, "The superluminal neutrino hypothesis: searching for tachyons or unicorns?", Robert Ehrlich, George Mason U., 3:30pm, Bldg. 555 Hamilton	Career After your Postdoc" 8am, Bldg. 490, LCR	Career After your Postdoc" 8am, Bldg. 490, LCR BNL Blood Drive 9:30-3:00pm, Brookhaven Center		
16	17 Rosh Hashanah	18	19 Brookhaven Lecture, "TBD" 4pm, Berkner	20 BWIS Colloquia Series, 4pm, Berkner	21 BWIS Event "Chasman Scholarship Award Presentation & Reception", 5:15pm Bldg. 911 Lobby	22 Autumn Begins
23 / 30	24	25	26 Yom Kippur	27	28	29



October 2012

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	1	2 Physics Colloquium, "Implications of the Higgs Discovery on SUSY Models", Sven Heinemeyer, IFCA, Spain, 3:30pm, Bldg. 555 Hamilton	3	4	5	6
7	8	9 BSA Distinguished Lecture, "The Atomic Bombs President Truman Did Not Drop", Michael Devine, Director, Harry S. Truman Library, 4pm, Berkner, Room A	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30 Physics Colloquium,	31			

3:30pm, Bldg. 555
Hamilton



We Remember

USS New York - A ship forged from the steel of the World Trade Center

Sept. 11, 2001

Editor: Pamela Manning x4072