

**AUGUST '16
ISSUE**

PARTICLE POST

COLLIDER-ACCELERATOR DEPARTMENT

PREVIOUS ISSUES

July 2016

Contact: [A. Lamberti](#)

[{HOME PAGE}](#) | [BNL WEBSITE](#) | [C-AD WEBSITE](#) | [ES&F WEBSITE](#) | [BERA](#) | [BNL CLASSIFIED ADS](#) | [INSIDE RHIC](#)

Quote of the Month: "Men love to wonder, and that is the seed of science." - Ralph Waldo Emerson

A WORD FROM:

Business Ops

Accelerator

ES&F

eRHIC R&D

Operations

ATF

MIRP



NOTE FROM OUR CHAIR: Thomas Roser

I would like to welcome Ferdinand Willeke to the Department as the new eRHIC R&D Director. He started on August 1 and comes with extensive leadership experience at BNL's NSLS II and also at the only existing electron proton collider HERA at DESY, Germany. Ferdinand will oversee the eRHIC R&D efforts and the development of the eRHIC designs.

The two eRHIC design teams have been very busy over the last few months developing low risk designs for eRHIC based on a Linac-Ring and Ring-Ring configuration, respectively. Both teams have already assembled extensive design reports for the two designs. We also compiled a summary report that outlines the development of a low risk eRHIC design and describes the path forward towards a proposal for the construction of eRHIC at BNL to be submitted to the Department of Energy, probably in 2018. Such a report was requested by the DOE Office of Nuclear Physics.

► Arrivals & Departures

Safety Stats

[VIEW UPCOMING CONFERENCE PROJECTIONS.](#)

PROJECTIONS DUE ASAP

DID YOU KNOW??

Check out who received an employee Service Award this year! Collider-Accelerator Dept. employees who received a [Service Award](#).

Check out who received an employee [Spotlight Award](#) this year!

*****Check out these photos from BNL's [Summer Sundays!](#)*****

A Note from Adam Rusek:

This past Saturday, August 13th, the Chiang family held a celebration of I-Hung's life at Lombardi's on the Sound, hosting over 100 people, mostly friends and family, and about 20 people from the Lab, some from I-Hung's distant past, some from the more recent. Several tributes were given and I wanted to share mine. I would like to add that there are many stories I could have told but didn't; perhaps things I shouldn't but did anyway. For what it's worth, it all came from the heart.

The family is looking for stories about I-Hung that people might want to share, as they are planning to compile these into a book. You may send such stories to me, and I will make sure they make it into their hands.

EVENTS/SEMINARS

**August 18 & 25 - (Bldg. 734, Conf Rm. 201)
Condensed-Matter Physics & Materials
Science Seminar**

**August 19 - (Berkner Hall Auditorium | 1p)
Office of Educational Programs Event: "High
School Research Program Poster Session"**

**August 26 - BERA Trip: Yankees vs
Baltimore Orioles Game**

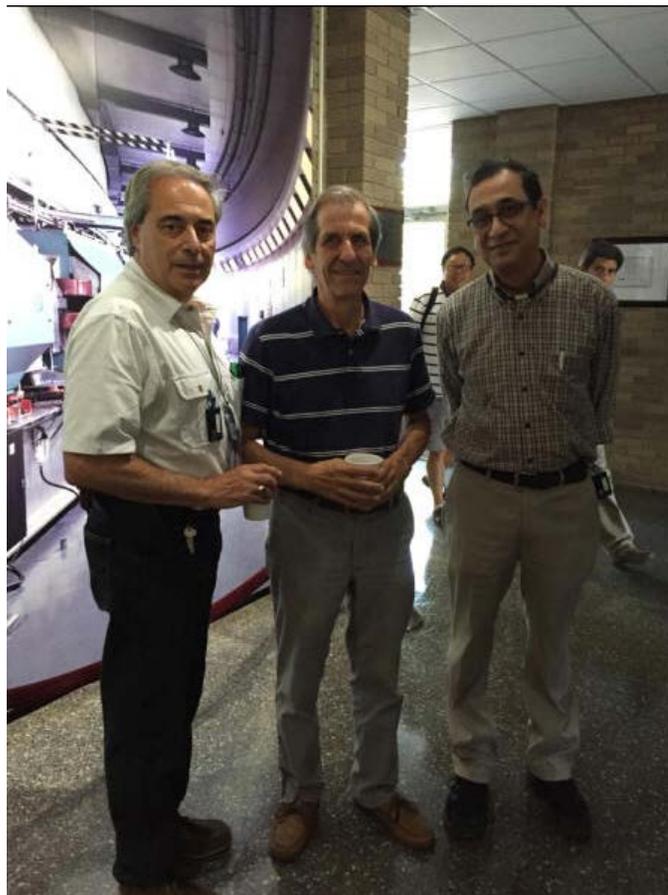
**September 1 - (Bldg. 30, The Center | 9:15a)
Blood Drive**

**September 1 - BERA Trip: Jersey Boys
tickets (last day to purchase for the Nov. 5th
show!)**

Of the countless things I learned during my 15 years with I-Hung none stand out as this one: In a world where you can choose to be anything you want to be, choose to be kind.

Read Adam's heartfelt tribute [here](#).

Jim Alessi recently retired from C-AD after 35 years! Congratulations, Jim!



September 5 - Lab Holiday: Labor Day

September 7, 14, 21 & 28 - (Recreation Hall, Bldg. 317 | 10a) Hospitality Coffee & Playgroup Event

September 8 - (Berkner Hall, Rm. B | 6:30p) Community Advisory Council Meeting "Open to the Public"

September 10 - BERA Trip: Bronx Zoo

September 15 - (Berkner Hall Auditorium | 4p) BSA Distinguished Lecture "Solar Driven Water Splitting"

IN OTHER NEWS...

SNMMI's 63rd Annual Meeting Highlights History of FDG and Showcases New Research
More than 5,700 physicians, technologists, scientists and exhibitors gathered at the Society of Nuclear Medicine and Molecular Imaging's 2016 Annual Meeting, held June 11-15 in San Diego, CA. This year's meeting included a celebration of the 40th anniversary of FDG.
[Read more.](#)

Local Scientists Take Home First Place Honors in BNL Science Fair

Budding young scientists filled the auditorium of the Suffolk County Legislature on Wednesday to educate Legislators on their outstanding projects that won first place accolades at the year's Brookhaven National Laboratory's Science Fair.
[Read more.](#)

New Graphene-Glass Combo Powers "Spontaneous" Solar Cell

Brookhaven Does (Graphene) Windows. Apparently the Brookhaven solution to the graphene problem has been staring everybody in the face, ever since graphene was first discovered in 2004: ordinary glass window.
[Read more.](#)

Research Teams Use DNA to Make 3-D Nanoparticle Structures with High Precision
DNA strands anchored to the surface of nanoparticles allow researchers to assemble the particles into three-dimensional crystalline lattices. Such control allows researchers to make new materials with desirable properties. [Read](#)



[more.](#)

Farmingdale takes first in BNL High School Science Bowl

Farmingdale High School students have one contest down to a science. [Read more.](#)

New cathode material stops batteries turning crusty with age

Scientists at three US Department of Energy (DOE) national laboratories have discovered how to keep a promising new type of lithium ion battery cathode from developing a crusty coating that degrades its performance. [Read more.](#)

RHIC Particle Smashups Find that Shape Matters

Scientists colliding football and sphere-shaped ions discover evidence supporting a paradigm shift in the birth of the quark-gluon plasma. [Read more.](#)

Two American Physics Labs Are Vying for a Billion Dollar Particle Accelerator

Two labs are vying for government funding to host a billion-dollar atom smasher, and the battle is getting political. [Read more.](#)

Neutrinos Change Their Flavor and Snag Another Nobel Prize

Early this morning the world learned that the 2015 Nobel Prize in Physics has been awarded to Takaaki Kajita and Arthur B. McDonald for discovering that neutrinos can change from one type to another. [Read more.](#)

World's largest atom smashers create world's smallest droplets

How long can a droplet shrink and remain a



liquid? [Read more.](#)

'Inflatable Dark Matter' Could Explain Why We See Less Than Many Theories Predict

Many wonderful theories that explain the evolution of the universe fail because they predict more dark matter than is actually out there. Now a new paper proposes one event in the early universe that would reduce the amount of dark matter in all the theories. [Read more.](#)

Ion collider produces droplets of primordial goo

The Relativistic Heavy Ion Collider just spit out tiny droplets of a liquid researchers say resembles the seeds of the cosmos, primordial goo created by the Big Bang, which existed on briefly before cooling the matter that helped birth stars, galaxies and planets. [Read more.](#)

Brookhaven National Laboratory projects are up for awards

Four projects developed at BNL have been nominated as finalists for awards to be presented this year by a national magazine. [Read more.](#)



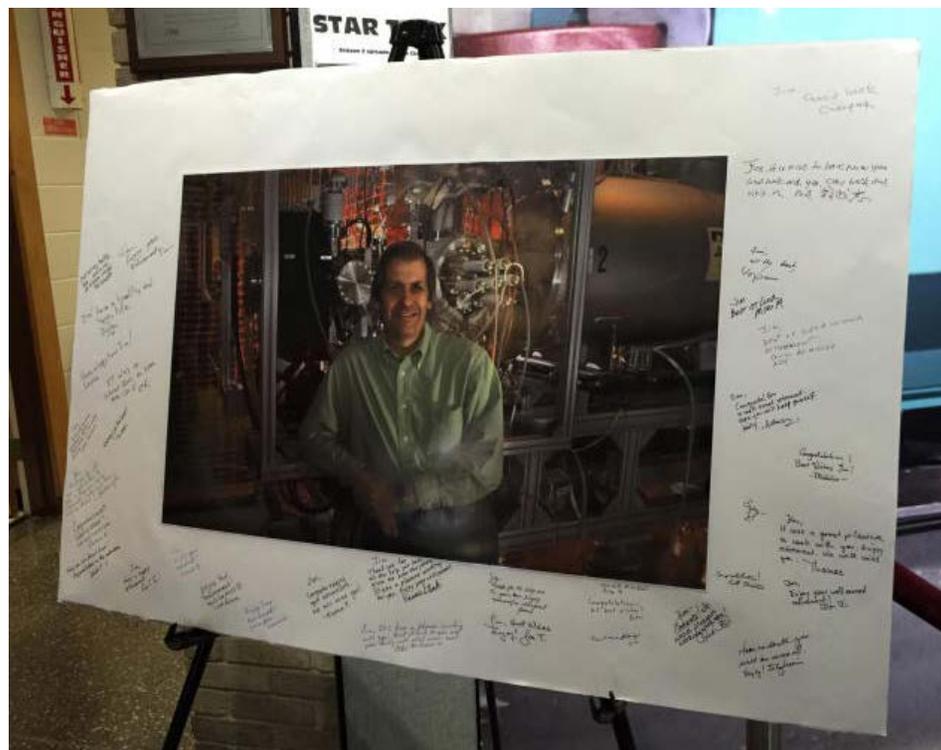
Scientists Create Primordial 'Perfect Liquid' in Lab

The BNL's Relativistic Heavy Ion Collider smashed together large nuclei at nearly the speed of light to recreate the fundamental particles in the primordial soup present during the earliest days of the universe. [Read more.](#)

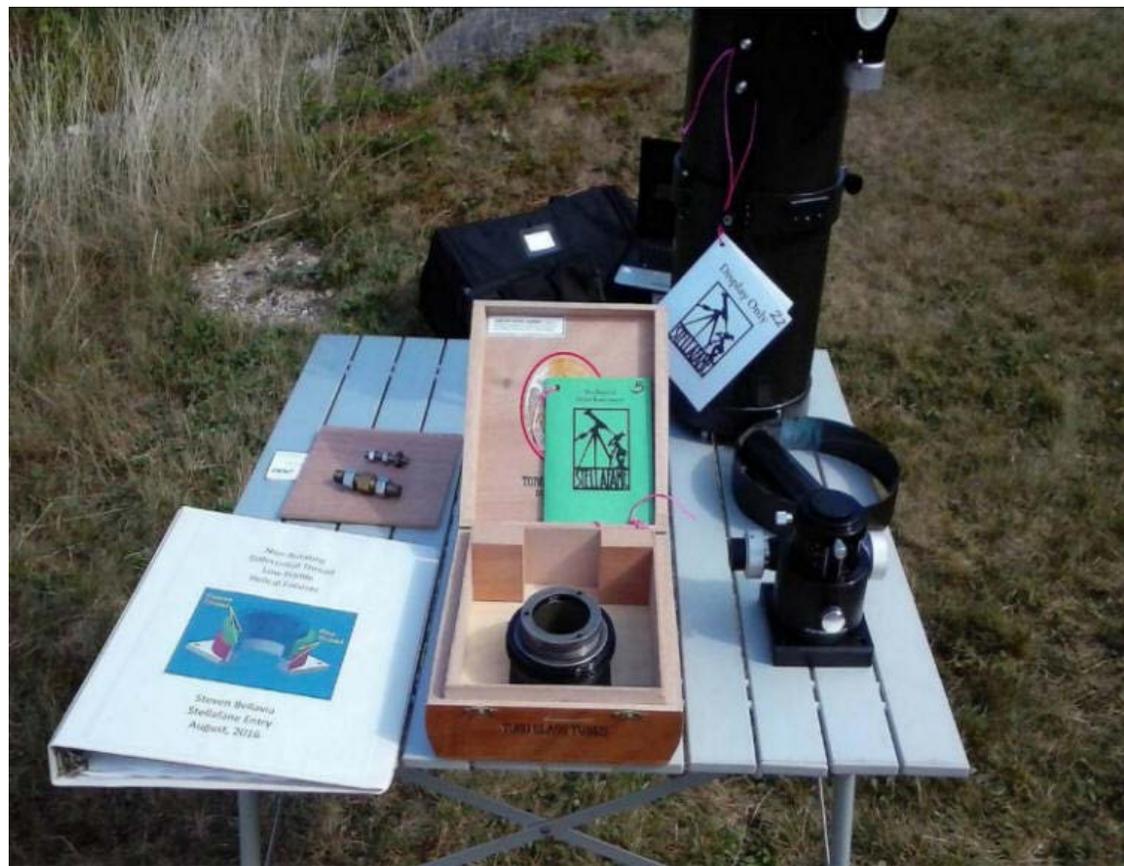
World's most powerful digital camera being built by US Department of Energy

The US Department of Energy is building a digital camera that puts your camera to shame. [Read more.](#)

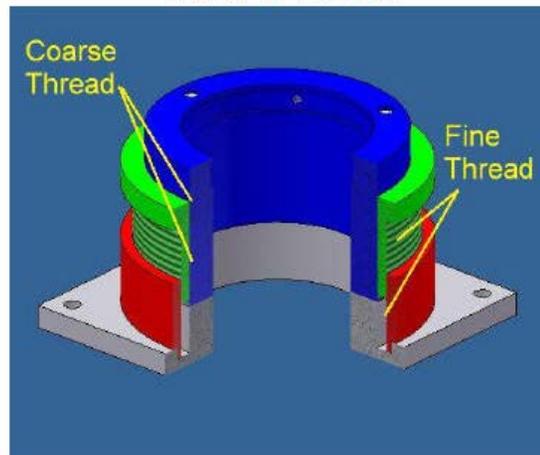




As many of you probably know, Steve Bellavia enjoys astrophotography as a pastime. He has also developed a passion for telescope making and was recently awarded with the Innovative Component Award at the 81st Annual Amateur Telescope Makers Convention, Stellafane, in Springfield, VT, for inventing a precise helical focuser for astrophotography.



Non-Rotating Differential Thread Low Profile



Engineering & Design: Steven Bellavia
Precision Machining: Richard Wall
Dicronite Coating: Franco Baca



Congratulations, Steve!

WHAT'S GOING ON IN OUR NEIGHBORHOOD?

Interested in Cycling?

<http://www.bicyclelongisland.org/majoride.htm>
<http://www.cyclotour.com/events.htm>

Interested in Running or Walking?

Ellen's Run 5K - August 20 in Southampton
Run The Farm 4 Mile Challenge - August 20 in Centereach

DAY AT THE VINEYARDS...

Duckwalk North - SOUTHOLD - Music on Saturdays (4-6pm)

Castello di Borghese Vineyard & Winery - CUTCHOGUE - Vineyard Tours & Wine Tastings Every Thursday & Sunday at 1pm & FREE Jazz Every Saturday (2-4p) with Marguerite Volonts

Jamesport Vineyards - JAMESPORT -Live

Run For The Hill Of It 10K - August 21 in Selden
Jamesport Fire Department Sound to Bay 10K/5K - August 28 in Jamesport

...Check out the [LI Running Calendar](#) for more!

For the Kids:

Youth Programs - Port Jefferson Village Recreation Department presents a number of youth programs and summer camps your child can enjoy this summer. Find more information [here](#).

Stony Brook Events:

Sunday Summer Concerts On The Village Green - FREE! - Every Sunday from July 10 - Aug 21 (7-9p) - 7/24: Tom Manuel & His All Stars, 7/31: Just Sixties!, 8/7: Jack's Waterfall, 8/14: Left Jab & 8/21: The Precisions

Motorcycles and the Open Road - Jul 9 - Sep 5 Unique motorcycles from across the decades are on exhibit at the Educational & Cultural Center with special events throughout; open 7 days a week.

It Take a Team to Build a Village Special Exhibit - May 21 - Sep 7 Experience the story of the reconstruction of Stony Brook Village in a Spring and Summer long exhibit on the building of the Stony Brook Village Center! On display will be historical documents, photos, original prints, sketches, memorabilia and more.

Discover Wetlands Cruise! - Take the pontoon boat "Discovery" on a 1.5 hour tour through an 88-acre wetlands preserve. A naturalist is onboard to describe the wildlife and flora that you'll see.

Port Jefferson Events:

2nd Annual Port Jefferson Heritage Weekend - August 20 (12p - 5p) throughout the Village

Annual Mustang Show - August 28 (10a - 5p) at the Village Center

Sunset Concerts - Eastbound Freight Bluegrass - August 31 (6:30p) at Harborfront Park

Farmers Market - Every Sunday through November (9a - 2p) at the Village Center. Purchase local produce, honey, bread and baked goods, seafood, international specialties, plants and flower bouquets.

Check out Erik Forsyth's Travels:

Music from 1-4pm every Fri, Sat & Sun

Martha Clara Vineyards - RIVERHEAD - Live Music every weekend

Palmer Vineyards - RIVERHEAD - Live Music every Sat (12-4).

Pindar Vineyards - PECONIC - Live Music Every Saturday (1-5pm)

Baiting Hollow Farm Vineyard - BAITING HOLLOW - Music every Sat & Sun from (2-6)

Paumanok Vineyards - RIVERHEAD - Fresh, Local Oysters (2-5pm) every Sat & Sun starting Memorial Day through September



[HTTP://WWW.YACHTFIONA.COM](http://www.yachtfiona.com)

**AUGUST '16
ISSUE**

PARTICLE POST

COLLIDER-ACCELERATOR DEPARTMENT

PREVIOUS ISSUES

August 2015

Contact: [A. Lamberti](#)

[{HOME PAGE}](#) | [BNL WEBSITE](#) | [C-AD WEBSITE](#) | [ES&F WEBSITE](#) | [BERA](#) | [BNL CLASSIFIED ADS](#) | [INSIDE RHIC](#)

Quote of the Month: "Men love to wonder, and that is the seed of science." - Ralph Waldo Emerson

A WORD FROM:

Business Ops

Accelerator

ES&F

eRHIC R&D

Operations

ATF

MIRP

▶ Arrivals & Departures

 Safety Stats

NOTE FROM BUSINESS OPERATIONS: Sue Pankowski



From a financial standpoint, the month of August is when we begin our transition towards fiscal year end. During this time we try to find that delicate balance between spending our remaining allotted funds on mission-critical efforts and maintaining a healthy balance to help sustain operations at the start of the new fiscal year - one that will almost certainly begin with a continuing resolution.

As we proceed, we request you follow a few guidelines that have been agreed to by C-AD management. Spending should be limited. Buy only what you need to support critical work scope. For RHIC, that critical work scope should be in support of LEReC, CeC, and preparation for RHIC run 17. All other expense activity should be deferred. Furthermore, all RHIC purchase activity (webreqs., work orders, etc.) requires Wolfram's approval.

Pay attention to project numbers, be it on timecards, webreqs., RFQ's or credit card purchases. Where multiple programs benefit from spending activity, the cost should be allocated in proportion to the programs receiving the benefit.

All C-AD Employees are asked to input estimated time on your SEPTEMBER monthly timecard (covering the period 8/21 through 9/30/2016) by Friday, August 26 (but DO NOT SUBMIT timecards until the appropriate deadline.) Entering in your estimated time for the month early on allows those of us in the business operations group to estimate September labor costs. You can modify your timecard as needed throughout the month until the submission deadline.

In summary, we have adequate funds to close out fiscal year 2016 on September 30, and with your help we will be well prepared to sustain operations in the new fiscal year that will begin with the usual budget uncertainty.

**AUGUST '16
ISSUE**

PARTICLE POST

COLLIDER-ACCELERATOR DEPARTMENT

PREVIOUS ISSUES

August 2015

Contact: [A. Lamberti](#)

[{HOME PAGE}](#) | [BNL WEBSITE](#) | [C-AD WEBSITE](#) | [ES&F WEBSITE](#) | [BERA](#) | [BNL CLASSIFIED ADS](#) | [INSIDE RHIC](#)

Quote of the Month: "Men love to wonder, and that is the seed of science." - Ralph Waldo Emerson

A WORD FROM:

Business Ops

Accelerator

ES&F

eRHIC R&D

Operations

ATF

MIRP

► Arrivals & Departures

 Safety Stats

NOTE FROM OUR ACCELERATOR DIVISION: Wolfram Fischer



The Linac operation for BLIP ended on Monday, 1 August 2016, and all machines except the Tandems are now in shut-down mode. The Linac had an extraordinary increase of 48% more protons delivered to the BLIP targets compared to last year. This was possible because of the newly installed Raster system and a number of upgrades in the Linac. It is very impressive to see a machine that delivered its first beam in 1970 ramp up the current at such a rate. We have plans to increase the Linac current by another factor of 2.

In RHIC the shut-down is under way. The main activities this year are modifications to the CeC PoP installation, and LEReC installations. For LEReC we plan to install an electron gun, delivered from Cornell, and commissioning beam line, and warm cavities delivered from industry. These systems will be commissioned during the next RHIC Run.

Preparations for the next RHIC Run are under way, lead by the Run-17 Run Coordinator Vahid Ranjbar. We will run polarized protons at 255 GeV.

**AUGUST '16
ISSUE**

PARTICLE POST

COLLIDER-ACCELERATOR DEPARTMENT

PREVIOUS ISSUES

August 2015

Contact: [A. Lamberti](#)

[{HOME PAGE}](#) | [BNL WEBSITE](#) | [C-AD WEBSITE](#) | [ES&F WEBSITE](#) | [BERA](#) | [BNL CLASSIFIED ADS](#) | [INSIDE RHIC](#)

Quote of the Month: "Men love to wonder, and that is the seed of science." - Ralph Waldo Emerson

A WORD FROM:

Business Ops

Accelerator

ES&F

eRHIC R&D

Operations

ATF

MIRP

▶ Arrivals & Departures

 Safety Stats

NOTE FROM OUR EXPERIMENTAL SUPPORT & FACILITIES DIVISION: Bill Christie



The work on the two RHIC detectors progressed well through the month of July.

For the PHENIX detector this has entailed opening up the shield wall between their assembly hall and the interaction region so that they could roll their East Carriage assembly into the assembly building. This was the start of what will be an estimated 18 month effort to disassemble and re-purpose (re-use, return, or recycle) the detector. With all the necessary Work planning documents in place the early stages of this process ramped up in July, and, so far, it looks like the work is ahead of schedule. The equipment on the East Carriage is being carefully removed (the racks are planned to be reused for sPHENIX), and as the platform levels are cleared the platforms themselves removed. Early in August the large drift chamber sub system has also been rigged off of the carriage.

For STAR, the main effort throughout the month of July was to disconnect all of the services (gas, vacuum pipes, water, power, etc.) from the detector, remove some of the muon chambers on the top of the detector (so it could fit through the door), remove the shield wall, and move the detector from the interaction region out to the assembly building. This entire effort went as planned, and actually finished a few days ahead of schedule. As August started installation fixtures were assembled on the East side of the detector, and the central carbon support cylinder, with the silicon sub systems and beam pipe (aka Heavy Flavor Tracker (HFT)), were removed from the center of STAR. This entire assembly has been placed in a storage location in the STAR assembly building for possible re-use sometime after 2020. The original carbon fiber central support cylinder has been rigged onto the installation fixture, where it will have the original STAR beam pipe integrated inside it. This original carbon fiber cylinder/original beam pipe configuration is what is envisaged for the central region of STAR, at this point, through the 2020 RHIC run.

**AUGUST '16
ISSUE**

PARTICLE POST

COLLIDER-ACCELERATOR DEPARTMENT

PREVIOUS ISSUES
August 2015

Contact: [A. Lamberti](#)

[{HOME PAGE}](#) | [BNL WEBSITE](#) | [C-AD WEBSITE](#) | [ES&F WEBSITE](#) | [BERA](#) | [BNL CLASSIFIED ADS](#) | [INSIDE RHIC](#)

Quote of the Month: "Men love to wonder, and that is the seed of science." - Ralph Waldo Emerson

A WORD FROM:

Business Ops

Accelerator

ES&F

eRHIC R&D

Operations

ATF

MIRP

NOTE FROM OUR ERHIC R&D PROGRAM: Ferdinand Willeke



Input forthcoming

▶ Arrivals & Departures

 Safety Stats

**AUGUST '16
ISSUE**

PARTICLE POST

COLLIDER-ACCELERATOR DEPARTMENT

PREVIOUS ISSUES

August 2015

Contact: [A. Lamberti](#)

[{HOME PAGE}](#) | [BNL WEBSITE](#) | [C-AD WEBSITE](#) | [ES&F WEBSITE](#) | [BERA](#) | [BNL CLASSIFIED ADS](#) | [INSIDE RHIC](#)

Quote of the Month: "Men love to wonder, and that is the seed of science." - Ralph Waldo Emerson

A WORD FROM:

Business Ops

Accelerator

ES&F

eRHIC R&D

Operations

ATF

MIRP

▶ Arrivals & Departures

 Safety Stats

NOTE FROM OPERATIONS: Paul Sampson



C-Ad is in Shutdown mode throughout the month of August.

AGS and Booster shutdown work continues. Major efforts include installation of a new D6 foil actuator in Booster and repair of the cold snake in the AGS.

LINAC maintenance and shutdown work is underway. Repair of mod 6 has been completed and testing is underway.

EBIS and Tandem are completing maintenance and will continue to run periodically during the shutdown.

The "[RHIC Broadcast](#)" link displays the latest schedules for testing, power disruptions, outages and daily schedules.

To view a list of approved work for the Shutdown or to review past results, go to the [Job Request System](#) and select the appropriate date. This link is behind the firewall and requires privileges to view.

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

**AUGUST '16
ISSUE**

PARTICLE POST

COLLIDER-ACCELERATOR DEPARTMENT

PREVIOUS ISSUES

August 2015

Contact: [A. Lamberti](#)

[{HOME PAGE}](#) | [BNL WEBSITE](#) | [C-AD WEBSITE](#) | [ES&F WEBSITE](#) | [BERA](#) | [BNL CLASSIFIED ADS](#) | [INSIDE RHIC](#)

Quote of the Month: "Men love to wonder, and that is the seed of science." - Ralph Waldo Emerson

A WORD FROM:

Business Ops

Accelerator

ES&F

eRHIC R&D

Operations

ATF

MIRP

▶ Arrivals & Departures

 Safety Stats

Link to: [ATF Newsletter](#)

NOTE FROM OUR ACCELERATOR TEST FACILITY: Mark Palmer



The last couple months have been busy ones for everyone associated with the ATF. During that time, we have supported 4 experimental efforts in Building 820 - 2 for accelerator technology demonstrations and 2 in accelerator/laser research. The facility also underwent interlock re-certification and maintenance during this period. In Building 912, the Ultrafast Electron Diffraction (UED) facility has completed its initial beam commissioning, led by Mikhail Fedurin and Marcus Babzien, and the first electron diffraction patterns have been recorded. However, the recent hot and humid weather has demonstrated the need to further improve the environmental control capabilities for the facility. Charlie Folz and a team led by David Chan from F&O have been hard at work to implement the necessary improvements, which are key to bringing the UED facility into stable operation for users in the immediate future.

Alongside the above operations activities, the team prepared for the first major cost review of the re-baselined ATF-II upgrade plan. This review was carried out by a sub-panel of the BNL Project Oversight Board appointed by Bob Tribble. I want to express my appreciation to everyone who helped develop the detailed cost estimate, which will be our foundation for moving forward with the upgrade. This team was very capably led by Chris Cullen, our new ATF-II Project Manager. The comments and recommendations we received from the review panel, chaired by Ferdinand Willeke, have been extremely helpful and are not being incorporated into our full project plan.

**AUGUST '16
ISSUE**

PARTICLE POST

COLLIDER-ACCELERATOR DEPARTMENT

PREVIOUS ISSUES

August 2015

Contact: [A. Lamberti](#)

[{HOME PAGE}](#) | [BNL WEBSITE](#) | [C-AD WEBSITE](#) | [ES&F WEBSITE](#) | [BERA](#) | [BNL CLASSIFIED ADS](#) | [INSIDE RHIC](#)

Quote of the Month: "Men love to wonder, and that is the seed of science." - Ralph Waldo Emerson

A WORD FROM:

Business Ops

Accelerator

ES&F

eRHIC R&D

Operations

ATF

MIRP

▶ Arrivals & Departures

 Safety Stats

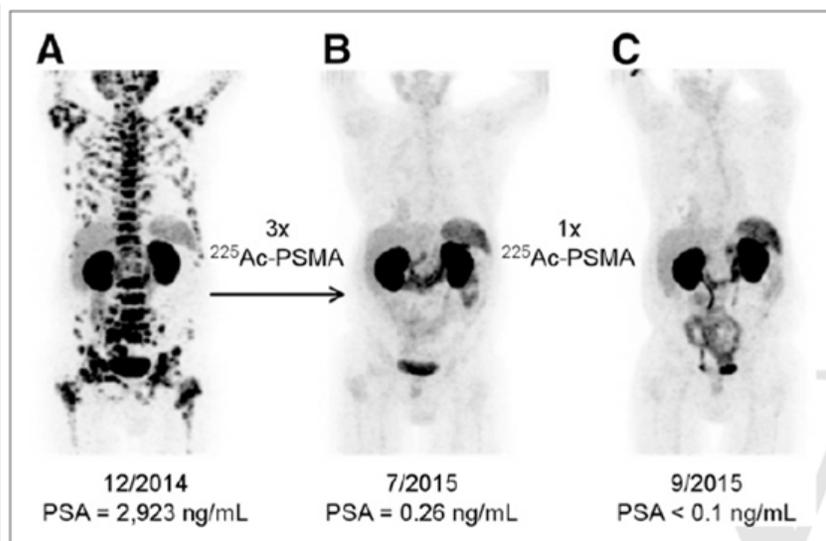
NOTE FROM OUR MEDICAL ISOTOPE RESEARCH & PRODUCTION PROGRAM: Cathy Cutler



The top research project for the DOE isotope program is the production of Ac-225 for medical applications. This is based on reports from NSAC, the IAEA and the NIH indicating this is their highest priority radioisotope. The first review of the project was conducted July 27th and 28th at DOE headquarters after approximately a year of work. The project is in stage one and has reached its first Go/No Go decision point. Actinium-225 is an alpha emitter with a half-life of 10 days. It undergoes alpha decay which delivers a very high dose in a very small range (1-3 cells) enabling the delivery of higher doses to tumor tissues, with lower doses to normal surrounding tissue, unlike many of the traditionally used beta emitters. Additionally Ac-225 can be used in a generator, portable source of radionuclides, and used to supply Bismuth-213 (Bi-213). Bismuth-213 has a very short half-life of 46 minutes and is also of interest for targeted alpha therapy. Thus the production of Ac-225 provides two alpha emitters with different nuclear properties that can be used to label a variety of targeting agents enabling the treatment of a wide range of tumors. Both of these radioisotopes have shown great promise in preclinical and preliminary human clinical trials.

Shown in figure 1 are images of two patients treated with Ac-225-PSMA after all other treatments had failed to affect the progression of their cancer. PSMA is a small molecule that was designed to target the prostate specific membrane antigen, a target that is present in high concentrations in patients with prostate cancer. Both patients after treatment showed no expression of disease. (Kratochwil et al. J Nucl Med 2016; 57:1-4). In the figure on the left is shown an image of the patient prior to treatment. The patient is imaged with Gallium-68-PSMA, a positron emitting isotope labeled to the targeting vector PSMA. The dark spots show the presence of the metastatic disease spread throughout the patient. Imaged A and C are of the patient post treatment showing uptake in only the clearance organs illustrating the high response of the tumors to treatment with Ac-225. At the bottom is listed the PSA numbers of the patients, decreasing numbers indicate lower disease.

Figure 1: Two patients treated with Ac-225-PSMA



The main impeditive to the use of Ac-225 and Bi-213 in the clinical has been their limited availability. The DOE isotope program is trying to change this by looking at methods large scale production that can provide a reliable quality supply to support targeted therapy applications. The review focused on the initial Go/No Go step focused on assessing the feasibility of using high energy protons (90-200 MeV) to irradiate natural thorium to produce Ac-225. This included developing robust targetry and chemical purification methods. The project is a tri-lab effort that includes BNL, ORNL and LANL with BNL and LANL focusing on using their high energy accelerators to irradiate targets and ORNL using their experience in Ac-225 chemistry and facilities to process the thorium targets. BNL has been heavily involved in developing targets for irradiations at BNL and LANL and in developing the chemistry to process these targets and extract Ac-225 in high yields and quality for evaluation by external users.

A major focus of the past year has been supplying material to three outside researchers for evaluating the impact of the Ac-227 impurity. The acceleration production route results in about a 0.15% production of Ac-227 a long-lived impurity not present in the Ac-225 produced via the more traditional Thorium-229 generator route. Concern is this impurity may pose negative impacts on the use of Ac-225 in patients. Although studies are still ongoing, results are indicating the impact of the Ac-227 is negligible compared to that of the Ac-225 and no difference is observed from the Ac-225 that is traditionally been provided via the Th-229 generator and the material being produced by high energy protons on thorium at BNL and LANL although in a hospital setting, the waste disposal problems and costs associated with this long lived radionuclide may prove to be an issue.

The project is currently under budget and ahead of schedule. The reviewers were very impressed with the progress made in the last year particularly on the targetry and chemistry. Kudos to Jonathan Fitzsimmons who has focused on the chemistry and Leonard Mausner and Dmitri Medvedev for their efforts the targetry. The review outcome was Go to proceed with the project. This was due in large part to the work performed at BNL and particularly those mentioned above. We would like to thank C-AD for all their support with this project which enabled this positive outcome. A [link](#) is provided to the manuscript describing the study shown in Figure 1.

**AUGUST '16
ISSUE**

PARTICLE POST

COLLIDER-ACCELERATOR DEPARTMENT

PREVIOUS ISSUES

August 2015 -

Contact: [A. Lamberti](#)

[{HOME PAGE}](#) | [BNL WEBSITE](#) | [C-AD WEBSITE](#) | [ES&F WEBSITE](#) | [BERA](#) | [BNL CLASSIFIED ADS](#) | [INSIDE RHIC](#)

Quote of the Month: "Men love to wonder, and that is the seed of science." - Ralph Waldo Emerson

A WORD FROM:

Business Ops

Accelerator

ES&F

eRHIC R&D

Operations

ATF

MIRP

► Arrivals & Departures

 Safety Stats

ARRIVALS: Welcome!

Benjamin Coe - Preinjector Systems, Accelerator Division

Tianmu Xin - RF Systems, Accelerator Division

Adam Zarcone - Maintenance Support - Machine Operations, Accelerator Division

Ferdinand Willeke - eRHIC R&D

DEPARTURES: Farewell, you will surely be missed..

Oluwafemi Bamgbose

Amani Ebrahim

Ian Fade

Roger Smith

DEPARTING SUMMER STUDENTS:

Jessica Abruzzese

Matthew Killicharran

Gazi Asif

Randy Kipnis

Mamoudou Ba

Vishrath Kumar

Taylor Campbell

Lisa Marie Marone

Huseyin Cicek

Fernanda Murillo

Marc DiFilippo

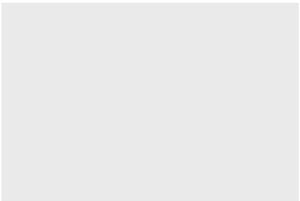
Robert Nidzyn

Klaire Hubbard

Jacqueline Noel

Nida Imtiaz

Hannah Lorraine Seymour



Kerry Jappe

Wayne Johnson

Matthew Tomko

Megan Wilken

Guest Notices:

**AUGUST '16
ISSUE**

PARTICLE POST

COLLIDER-ACCELERATOR DEPARTMENT

PREVIOUS ISSUES
August 2015

Contact: [A. Lamberti](#)

[{HOME PAGE}](#) | [BNL WEBSITE](#) | [C-AD WEBSITE](#) | [ES&F WEBSITE](#) | [BERA](#) | [BNL CLASSIFIED ADS](#) | [INSIDE RHIC](#)

Quote of the Month: "Men love to wonder, and that is the seed of science." - Ralph Waldo Emerson

A WORD FROM:

Business Ops

Accelerator

ES&F

eRHIC R&D

Operations

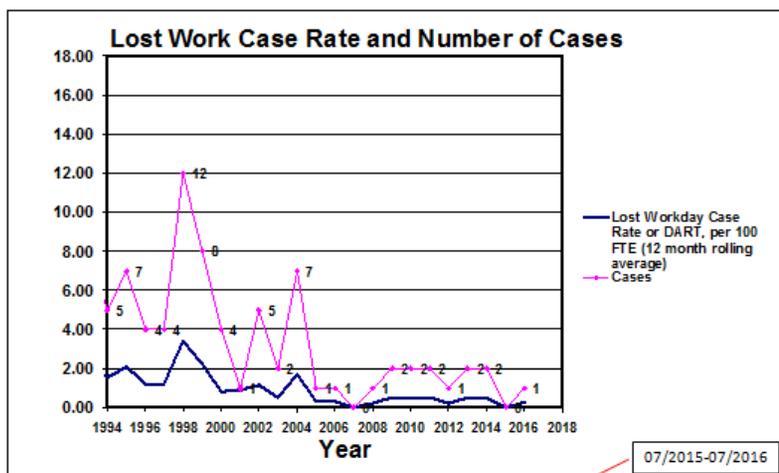
ATF

MIRP

▶ Arrivals & Departures



SAFETY STATS: Peter Cirnigliaro



Rolling Average for 12 months

C-AD Occupational Injury Statistics

For Year 2015 For Year* 2016

First Aid Cases	5	3
Recordable Cases	1	1
Lost Work Cases	0	1

* Calendar Year through 7/2016