

Particle Post January 2009

"Here's to the bright New Year, and a fond farewell to the old; here's to the things that are yet to come, and to the memories that we hold." ~ Anonymous

Previous issues

A Note From Our Chairman



A Happy and Healthy New Year to everyone. May the New Year be a lot better than the previous one.

Hopefully on January 21 our budgetary fortunes will improve. It is expected that Congress will provide for substantially more scientific research support. We will have to wait and see what transpires.

In the meanwhile, the RHIC cooldown process has begun. I would remind everyone that as soon as the RHIC ring temperature goes below 450K the ring will be posted as ODH 1. To enter, you must have the appropriate training, medical clearance and PPE. Above 450K the ring will be posted as ODH 0.

BLIP will begin operations shortly and AGS commissioning of polarized protons will also begin.

I would like to thank everyone who heeded the request to bring some non-perishable food for the drive to feed the needy in our community. The breakfast, according to everyone who spoke to me, was a great culinary and social success. We will do it again next year.

Administration

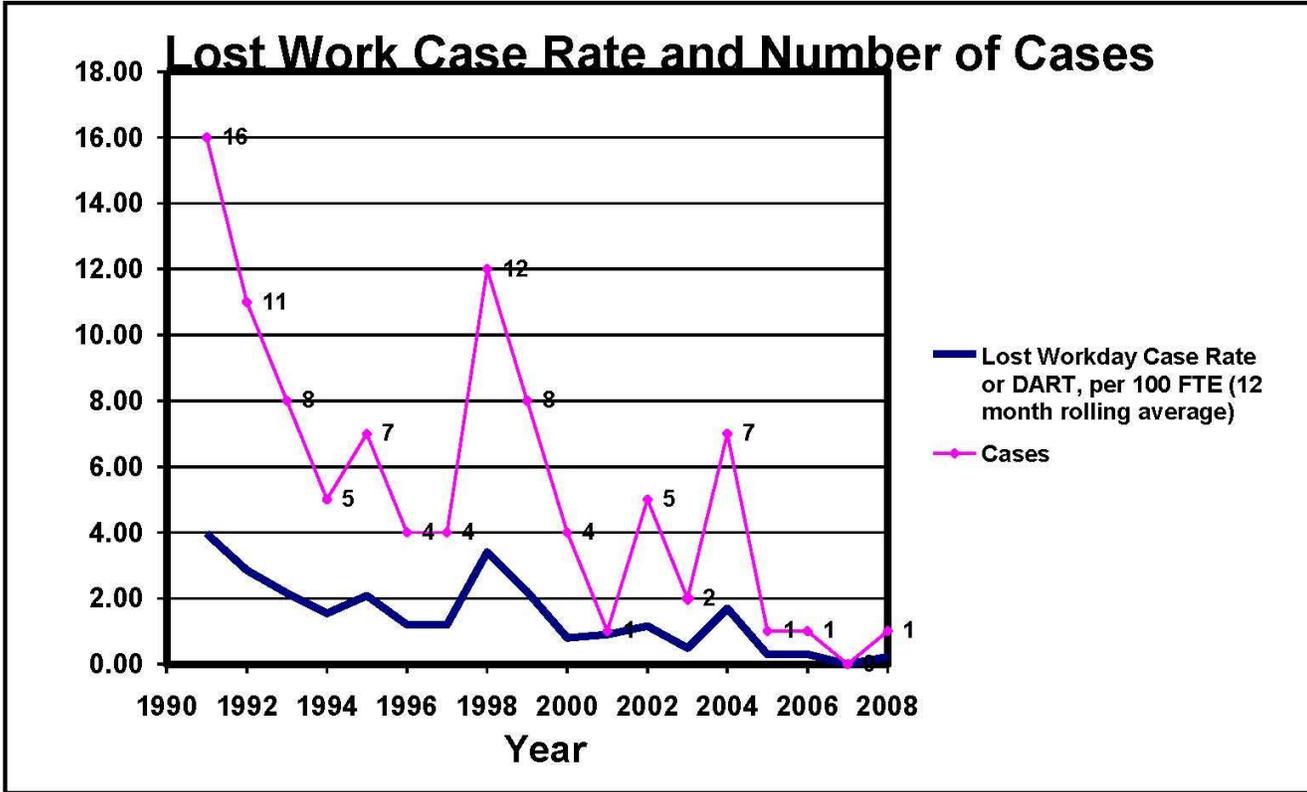


As preparations for RHIC Run 9 continue, Laboratory management is hopeful that the FY 2009 budget will support RHIC Operations well beyond the planned 10 week program.

Material expenses for operations have been light and the use of overtime judicious. Of the \$55.8M in interim funding provided by the Continuing Resolution, we have expensed only \$24.6M. The balance of \$31.2M is adequate to fund preparations for the planned run and prudent spending has preserved our ability to respond to a flat budget should that become a reality. Our careful planning has also enabled us to continue to augment engineering and technical staff. In December alone, five new employees joined C-AD. New hires this fiscal year total twelve.

The Laboratory's annual budget submission exercise will begin in earnest in January. In anticipation of news regarding the FY 2010 Presidential Budget, Field Work Proposals are in process. For both FY 2010 and FY 2011, manpower plans and cost estimates will be formulated to support a full operating program.

Safety Stats



C-AD Occupational Injury Statistics

For Year* 2007 For Year* 2008

First Aid Cases	4	6
Recordable Cases	1	3
Lost Work Cases	0	1

* Calendar Year

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

EXCHANGE DATE: FRIDAY, FEBRUARY 6, 2009

Pete Cirnigliario

happy new year

Arrivals

Oluwafemi Bamgbose joined the department on January 5, working with Ron Zapasek in the Collider-Electrical Power Supplies Group.

Leonard DeSanto, joined the department on December 22, working with Michiko Minty in the Instrumentation Group.

Pratik Mehta, Guest Research Associate, started working with Larry Hoff in the Controls Division on December 4.

Gang Wang joined us on December 29, working with Mai Bei and Vladimir Litvinenko in the Superconducting Accelerator and Electron Cooling Group.

WELCOME!

happy new year

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

happy new year

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



happy new year

C-AD Service Awards December

40 years	Lawrence Arnold
25 years	Henry Biedenkapp
	Christopher Gardner
20 years	Richard Kurz
10 years	Joseph Piacentino

Congratulations!

happy new year

Get To Know Your Co-Worker

Sumanta Kumar Nayak, Vacuum Group, has been with us about 9 months now. He has been working in four major projects, such as EBIS, NSRL, Spin Flipper and dEDM. Apart from these responsibilities he has also worked on other activities related to the Vacuum Group. At the same time he is pursuing his MS degree at Pennsylvania State University. He and his wife, Damayanti Naik, Superconducting Accelerator and Electron Cooling Group, have a 6 month old son named Ankur Nayak. He is growing very fast and we are getting excited with his activities day by day says Sumanta. Previously he has worked at Variable Energy Cyclotron Centre and Bhabha Atomic Research Center in India. Sumanta enjoys playing cricket, badminton, and tennis. Here are some pictures of his family.





happy new year

Fun Time

Discover The Word Game plays much like Wheel of Fortune. A sequential A-Z image button panel is provided to discover the word easily. You must guess using 5 tries or less. Includes over 200 words! Click [HERE](#) to play.

happy new year

Did You Know

Collider-Accelerator Department Makes Large Contribution to BNL Food Drive

Kudos to the Collider-Accelerator Department!

At their annual holiday breakfast on December 18, staff members from the Collider-Accelerator Department (C-AD) filled six-and-a-half large barrels with more than 350 pounds of non-perishable foods for the BNL Food Drive.

"This is the most C-AD has ever collected at one time," said C-AD's Paul Sparrow, a co-organizer of this welcomed food donation blitz. Sparrow has volunteered with the BNL Food Drive for nearly seven years.



Members of the Collider-Accelerator department Paul Sparrow (left), Marion Heimerle (second from left), Ann Marie Luhrs (fourth from left), and Derek Lowenstein (fifth from left) with BNL Food Drive co-chair Linda Rundlett (right)

and volunteer Jerry Quigley, who stores and manages all food drive contributions (third from left).

Along with C-AD chair Derek Lowenstein and staff members Marion Heimerle and Ann Marie Luhrs, Sparrow began encouraging others from the department to bring a food drive donation to the C-AD holiday breakfast nearly a month ago. In addition to promoting the food drive during the holiday season, the team hoped to raise awareness and increase the amount of year-round contributions to the effort. "This is an exceptional example of BNLers coming together to offer good wishes and help people in need living on Long Island," Sparrow said.

In addition to the C-AD donation, the Food Drive recently received sizeable food and cash contributions from the Staff Services division, the Music Club, Indo-American Association, those who attended the BERA Holiday Party, and other BERA clubs.

According to Linda Rundlett, who co-chairs the BNL Food Drive with Linda Greves, "The drive is completely operated by volunteers so there aren't any overhead or administrative costs. One hundred percent of all donations to the Food Drive, whether food or cash, goes directly to help feed people in the Brookhaven township."

Year round, the BNL Food Drive accepts financial contributions and donations of non-perishable food items, such as canned goods, cereal, cookies, sauces, and pasta. Drop-off boxes for food are located in most buildings on-site. For more information, contact Linda Rundlett, Ext. 3333, or Linda Greves, Ext. 3750.

Help feed your neighbors in need today!

Brookhaven Lab Physicist Ilan Ben-Zvi Named IEEE Fellow



Ilan Ben-Zvi

UPTON, NY – Ilan Ben-Zvi, a senior physicist at the U.S. Department of Energy's Brookhaven National Laboratory, has been recognized as an IEEE Fellow. The IEEE originally represented electrical and electronics engineers, but it has expanded its scope and today is the world's leading professional association for the advancement of technology. The IEEE Fellowship is one of the organization's most prestigious honors.

Ben-Zvi was recognized "for leadership in superconducting accelerators, high brightness electron sources and free electron lasers."

Ben-Zvi is head of the superconducting accelerator and electron cooling group at Brookhaven Lab's Collider-Accelerator Department, where he develops state-of-the-art superconducting radio frequency accelerator elements and high-current, high-

brightness electron beams. As director of Brookhaven Lab's Accelerator Test Facility (ATF) for 15 years, Ben-Zvi saw to its development as the premiere advanced accelerator physics facility in the world. Working at the ATF, Ben-Zvi developed devices and techniques for improving free electron lasers, instruments used to study a wide variety of materials and chemical reactions; and devices for more efficiently operating accelerators for physics research.

After earning a Ph.D. in physics from the Weizmann Institute of Science, Israel, in 1970, Ben-Zvi went to Stanford University, where he helped develop superconducting linear accelerators. In 1975, he returned to Weizmann and founded a cryogenic technology laboratory. From 1980-1982, Ben-Zvi was a visiting associate professor of physics at Stony Brook University. He helped to establish an accelerator at Stony Brook, and he invented and developed accelerator systems now used throughout the world.

Ben-Zvi joined Brookhaven Lab as a visiting physicist in 1988 and rose through the ranks to become a senior physicist in 1997. He served as head of Brookhaven's Accelerator Test Facility from 1992 to 2007, and he is currently the associate chair for superconducting accelerator R&D at Brookhaven's Collider-Accelerator Department as well as an adjunct professor of physics at Stony Brook.

Ben-Zvi is a Fellow of both the American Association for the Advancement of Science and the American Physical Society. He is also the recipient of the IEEE Accelerator Science and Technology Award in 1999 and the IEEE Nuclear & Plasma Sciences Society Merit Award in 2008. He received Brookhaven Lab's Science and Technology Award in 2001 and the Free Electron Laser Prize in 2007, sponsored by the International Free Electron Laser Conference. He has served in leading roles in many international scientific meetings and distinguished scientific panels, including a National Academy of Sciences' committee. He is the author or coauthor of over 375 publications.

Meet Ron Schroeder

An Innovative Energy Conservationist

What is my carbon footprint? Does this car get enough miles per gallon? Should I buy solar panels for my house? When is the best time to fill the home-heating oil tank? Is there alternative energy that I should use?

Have you found yourself questioning your energy usage and the financial and environmental costs? Ron Schroeder of Brookhaven Lab's Collider-Accelerator Department has for more than 30 years. As a result, he has created his own alternative-energy systems for both his car and his home.



Ron Schroeder points to the main component of his home-heating, recycled cooking oil burner.

Schroeder, an electronic technician, is a native of Ohio and the son of a chemist who lived through the Great Depression; he is also one resourceful guy. His first alternative-energy projects stemmed from an amateur radio hobby in which he designed solar and lard fuel systems to power radio equipment on mountaintops where electricity was not available.

Since Schroeder's early successes using lard to power a diesel generator for radio equipment, he has continued to use recycled cooking oils in a number of ways. "A diesel engine can run on almost any combustible fluid that you can inject in it," he explained. "Gasoline and diesel fuel was inexpensive back when I started, but I knew that the local McDonald's was having a problem getting rid of the lard used to cook French fries. I was able to put it to good use for a few things."

Hit the Road, Ron

In early 1981, Schroeder expanded his work on the diesel generator powered by French fry lard and installed a similar, second heated-fuel system in his one-year-old, diesel-powered Audi. The modified car still started with ordinary diesel fuel but during the first few minutes of driving, the heat emitted from the motor was used to melt and thin the recycled lard. Once the lard was heated to a liquid state, Schroeder could then power the engine with the lard fuel system.



Before Ron Schroeder purifies and removes water from the recycled cooking oil, raw, recycled cooking oil is cloudy yet translucent. The purified, de-watered recycled cooking oil that is ready for use is transparent.

When restaurants shifted to healthier vegetable oils rather than lard, Schroeder's modified cars continued to run efficiently. "Regardless of what was cooked in the oil I use, most people say that the exhaust smells like burgers and steak. It doesn't smell as much as diesel fuel though," Schroeder said while listing the advantages of his vegetable oil-powered motors. "The alternate fuel systems also emit fewer greenhouse gases because they come from renewable CO₂ neutral sources. There are fewer unburned nitrous oxide and sulfur oxide compounds so it contributes less to pollution and acid rain."

While Schroeder's recycled cooking oil systems have worked well for him, he does not claim that they are the solution to the country's dependence on fossil fuels. "If everyone in New York modified their cars, there would probably only be about 12 gallons of recycled vegetable oil for each person per year. Not to mention, preparing the fuel is very time consuming." Schroeder must clean all of the recycled vegetable oil before using it, not only to remove leftover food scraps, but to remove water particles suspended in the recycled oil that would dramatically reduce the life of the engine.

Still, Schroeder has stuck with the system that has worked well for him and he said that he would not hesitate to drive his current car, a modified 1985 diesel Mercedes Benz, for a long stretch. "I would have to fill my trunk with jugs of pre-cleaned oil before leaving because there isn't any good way of de-watering the oil on the road. But if I were ever in a bind on the road, I could still run the car off of regular diesel fuel or buy jugs of new, clean cooking oil," Schroeder added.

Bringing It All Back Home

When Schroeder modified a car or truck, he added a separate tank, fuel lines and filter to carry cooking oil fuel to the vehicle's engine. Whether he used cooking oil or regular diesel fuel, either produced about the same power in the same engine. Schroeder faced a different challenge when he decided to heat his 10-room, Cape-style house using cooking oils: he had to build the home-heating equivalent of the car engine - a burner where the oil would be processed and create the heat for his entire home.

"The burner is especially difficult compared to converting a Diesel vehicle," Schroeder said.

The completed piece is nearly the same size as a regular home-heating oil burner and can provide heat using either regular home-heating oil or vegetable oil. The system uses electricity to heat the oil to 300 degrees Fahrenheit, reducing its viscosity. The system is also more efficient than a regular oil burner because it uses compressed air to more fully atomize, or evenly disperse, the oil within the unit. In one year, Schroeder's heating system uses well under 275 gallons of recycled cooking oil because his house is so well insulated and it burns much cleaner than a traditional home-heating oil system.

In addition to the cooking oil home-heating system, Schroeder utilizes other sources of alternative energy in his home. He has a geothermal cooling unit rather than a standard air conditioner. This unit uses the Earth's constant underground temperature of about 55 degrees Fahrenheit to keep the house cool during the summer. Schroeder also employs solar PV panels to provide his home with electricity throughout the day. "My solar electricity is tied in to LIPA's grid, so I sell electricity to LIPA when I produce more than I use and I buy back what I need when the sun's not out. Financially, it usually balances out pretty well," he said.

What's a Long Islander To Do?

If you find yourself hesitating to turn the heat up this winter or filling your gas tank more often than you like, consider Schroeder's advice: "It's usually better to save (conserve) energy than to find a better source of it." For homeowners, Schroeder recommends focusing on proper insulation and air sealing for the home, not only rushing to install solar panels. "By keeping heat in and drafts out during the winter, it's easier to be more comfortable while using less energy," he said. "For the long term, we DO have to find better sources of energy."

For those of us who must drive to work, Schroeder believes biodiesel-blended fuels offer the same advantages as his waste cooking oil system without requiring vehicle modifications. But these fuels are not yet available on Long Island. In the meantime, he recommends checking tire pressure, performing routine maintenance, and not over-accelerating. "The best ways to conserve energy are often very low-tech," he stated.

Schroeder has more advice for those who would like to switch to more alternative energy solutions. "Remember that there is no single alternative energy solution that will automatically save the environment and bolster your savings account," he said. "Before you do anything, consider the types of energy that you use, where it comes from, and where it goes. Re-evaluate whether or not these are the most efficient and cost-effective options available to you."

So the next time you hear the old cliché "Life is a journey," remember that Ron Schroeder has traveled for more than thirty years on the goop you can find in the grease dumpster behind your local McDonald's.

happy new year

BNL Gulf of Mexico Virtual Swim for 2009.

1750 miles of virtual swimming to Mexico to warm you through the winter months! From January-March, join in the fun and swim laps at your own pace to be included in the daily

mileage tally!

For more information, contact the Swimming Pool Monday-Friday 10am-2pm, and 4:30-8pm at ext. 3496.

Life Guard Certification begins in January!

American Red Cross Lifeguard Training

Manadatory Pre-test : Sunday, January 18, 2009 from 10:00am to 2:00pm, will include a water test, general information and registration. In order to register for training, you must pass all the qualifications listed below. Call 631-921-6218 to register.

Location: Pool at Brookhaven National Laboratory

Qualifications:

- Must be at least 15 years old.
- Pass swim test which includes 500 yard swim; 200 yards front crawl (freestyle); 300 yards alternating breast stroke, back stroke and side stroke.
- Tread water for 10 minutes.
- Stand in shallow end, swim 25 yards, retrieve brick from 9 feet, swim back – 1 min 40 seconds.
- Must attend ALL sessions (no exceptions).

FEE: \$325 (includes \$50.00 non-refundable deposit)

Class dates: Jan 25, Feb 1, 8, (15 or 22 same CPR class-pick one) Mar 1, 8, 15, 2009

Class time: 10am to 3pm

Successful Candidates receive certifications in the following:

- Lifeguard training
- Waterfront lifeguard training
- CPR for the professional rescuer
- Automated external defibrillator (AED)
- First aid

NOTE:

Candidates who fail to meet qualifications at Mandatory Pre-test will be given one additional chance to qualify at a later date. If candidate still does not qualify, then the \$50.00 is non-refundable. Call 631-921-6218 to register.

Send bottom portion to: Lifeguard Training, P.O. Box 502, Upton, NY 11973

Name: _____ DOB: _____

Name: _____ DOB: _____

Address: _____

Phone: _____

Amount Enclosed: _____

Make check payable to CASH

happy new year

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

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



happy new year



January 2009

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				1 New Year's Day Lab Holiday	2	3
4	5	6	7 "Introduction to On Site Physical Therapy Services", Gary Welch, OMC PT, DPT, 12noon, Berkner Auditorium	8	9	10
11	12 "Financial Fitness in the New Year", Nancy Losinno, BNL EAP, 12noon, Berkner, Rm B	13 Physics Colloquium, "Theory and experiments about an elementary coding system based on RNA", Jean Lehmann, The Rockefeller University., 3:30pm, Bldg. 510, Large Seminar	14	15	16	17
18	19  Lab Holiday	20 "Don't Want to Gain? - Use Your Brain!", Marie Kerr, 12noon, Berkner Rm B	21 445th Brookhaven Lecture, 4pm, Berkner	22	23	24 Gathering of the Slides Concert, 8pm, Berkner

25	26 Chinese New Year Year of the Ox	27	28 Kitka Musical Group to Perform, Noon, Berkner	29	30	31 High School Science Bowl Hosted by C. Osiecki 9am, Berkner
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February 2009

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1	2 Groundhog Day	3 "Fast and Fabulous Meals", Amy Shapiro, 12noon, Berkner Rm B	4	5	6	7
8	9	10 Physics Colloquium "TBD", Mikhail Khovanov, Columbia U., 3:30pm, Bldg. 510 Large Seminar	11	12 Lincoln's Birthday	13	14 Valentine's Day
15	16  HOLIDAY	17 "Exercise Anywhere, Any Time", Amy Shapiro, 12noon, Berkner Rm B Physics Colloquium "The CMS Detector and LHC Physics: the Good, the Bad, and the Ugly", Nick Hadley, U. of MD, 3:30pm, Bldg. 510 Large Seminar	18 Brookhaven Lecture "445th Brookhaven Lecture", 4:00 pm, Berkner Auditorium	19	20	21
22 Washington's Birthday	23	24 Physics Colloquium "TBD", Jean-Yves Ollitrault, Saclay, 3:30pm, Bldg. 510 Large Seminar	25	26	27	28



**We Remember
Sept. 11, 2001**

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

Editor: Pamela Manning x4072