

BREA NEWS

www.bnl.gov/bera/activities/brea/

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March/April 2018

BREA Meetings

BREA meetings are held on the second Tuesday of every month (except for August), at 1 p.m. in one of the conference rooms in Bldg. 400 (except where noted).

All BREA members are invited to attend and participate.

Meeting Schedule

March 13, 2018

April 10, 2018

May 8, 2018

BREA Officers

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2017's Top-10 Discoveries and Scientific Achievements at Brookhaven National Laboratory

From unraveling new details of the particle soup that filled the early universe to designing improvements for batteries, x-ray imaging, and even glass, this year's Top-10 achievements at Brookhaven Lab span a spectrum of size scales and fields of science.

See summary page 2

From the President

by Steve Shapiro, shapiro@bnl.gov

Dear BREA Members,

Many of you have seen the New York Times article (go online to <https://nyti.ms/2jnxvAN>) from last fall that questioned TIAA's business practices, their fees, and whether the advisors were acting in the best interest of the clients. TIAA subsequently published a rebuttal to this article (see <https://goo.gl/NNXQ4K>).

Since TIAA supervises nearly all of our retirement accounts, BREA invited representatives of TIAA to attend our BREA meeting on January 9. Attending were Joseph McCartney, Wealth Management Director; David Donlon, Relationship Manager; and Gregory Mcgraim, Wealth Management Advisor. They gave a short presentation and answered attendees' questions.

We were told that there were many inaccuracies in the NYT article and the TIAA's advisors are indeed acting in the best interests of BNL retirees. It is impossible to summarize all that was said, but if you have more questions you should call your Wealth Management Advisor at TIAA.

– Steve Shapiro, shapiro@bnl.gov

In 2017: BNL's Top-10 in Science

1. Invisible Glass – By texturing glass surfaces with features measuring mere billionths of a meter, scientists at Brookhaven's Center for Functional Nanomaterials (CFN) almost completely eliminated surface reflections. This achievement could enhance solar-cell efficiency, support high-power laser applications, and potentially eliminate the nuisance of glare when viewing your smartphone on a sunny day.

2. Fattening Up Plant Leaves – Brookhaven biochemists devised a way to get plants to accumulate oil in their leaves. This could make plant oils more abundant and accessible for producing biofuels and other useful chemicals.

3. New Details of Quark Soup – New findings from particle collisions at Brookhaven's Relativistic Heavy Ion Collider (RHIC) revealed that the "perfect" liquid created in these collisions – which mimics the particle soup that filled the early universe – swirls faster than any known fluid.

4. Low-Temperature Hydrogen Catalyst – Brookhaven chemists used the National Synchrotron Light Source (NSLS) to decipher the details of a new low-temperature catalyst for producing high-purity hydrogen gas. Developed by collaborators at Peking U., the catalyst could be particularly useful in fuel-cell-powered cars.

5. Record-Breaking Small-Scale Patterning – Scientists at CFN set a new record for patterning materials at the nanoscale. Such small-scale patterning could dramatically alter material properties.

6. Trapping Gas in 2D "Cages" – Scientists using two-dimensional model surfaces to study catalysts discovered that these 2D structures could trap individual atoms of gas. Doing experiments at CFN, the original NSLS and NSLS-II, and in the Lab's Chemistry Division, they found argon gas atoms trapped inside the structure's nanosized pores. This could lead to the design of new adsorbent materials and membranes for capturing gases.

7. Promising Cathode for Sodium-Based Batteries – Using NSLS-II, scientists from Brookhaven and the Chinese Academy of Sciences have designed a new type of cathode that could enable future mass production of sodium batteries, a promising alternative to lithium batteries.

8. Possible X-ray Imaging Advance – Scientists from Stony Brook U. and BNL used NSLS-II to solve a mystery that could lead to a new generation of x-ray detectors that produce higher quality images with lower x-ray doses.

9. Machine Learning Reveals Chemistry in Action – BNL and Stony Brook scientists developed a new method to capture chemistry in action, using neural networks and machine learning techniques to teach computers to decode previously inaccessible information from x-ray data. They then used that data to decipher 3D nanoscale structures, gaining info needed to tweak the reaction conditions or catalyst chemistry to achieve desired results.

10. First Raft of Sensors for Major Telescope – Brookhaven scientists completed and delivered the first "science raft" for the Large Synoptic Survey Telescope, a massive telescope designed to capture images of the universe like never before. The raft is part of the sensor array that will make up the crucial camera segment of the telescope, under construction in Chile (see article on Peter Takacs, BREA News, January/February 2018, p 2).

BNL's role in the research described above is funded primarily by the DOE Office of Science. CFN, RHIC, NSLS/NSLS-II are DOE Office of Science user facilities.

– Source: BNL press release, <https://www.bnl.gov/newsroom/news.php?a=112669>

New BNL Policy on ID Badges for Families

BREA has worked with BNL management to establish a policy that allows spouses and significant others of deceased BNL retirees to retain their family badges. Here is the official Lab policy:

- BNL will honor BNL family badges of spouses/significant others of deceased BNL retirees.
- The spouse/significant other can continue to keep his/her badge as long as he/she renews it every two years BEFORE the expiration date. If the badge expires, it will NOT be renewed.
- Renewal must be done in person at the Badging Office in Bldg. 400.
- BNL family badges of children and/or stepchildren of retirees will not be renewed once they expire.

PLEASE NOTE: If you want to maintain your BNL ID badge and have access to the Laboratory, you must renew it in person on or before the expiration date.

Energy Employees Occupational Illness Compensation Program

The Energy Employees Occupational Illness Compensation Program offers compensation to former and current workers (or their survivors) employed at Department of Energy (DOE) facilities for radiation-related cancers and other work-related illnesses resulting from “toxic exposures” at these facilities. Congress established the program in 2000. Its original purpose was to compensate nuclear weapons workers, but the program has been expanded, including the establishment of a special exposure cohort (SEC) of employees, contractors and sub-contractors who worked at Brookhaven National Laboratory from January 1, 1947, through December 31, 1993.

The Department of Labor administers the program in two parts: Part B covers cancers caused by exposure to radiation while the claimant was employed at a DOE facility; under part B, benefits also extend to workers with chronic beryllium disease or beryllium sensitization. Part E covers illnesses resulting from “toxic exposures,” such as asbestosis or other illness from chemical exposures.

For information online about filing a claim, go here: http://www.dol.gov/owcp/energy/regs/compliance/Filing_Claim.htm. You can also contact the resource center in Amherst, NY: 6000 North Bailey Avenue Suite 2A, Box #2, Amherst, New York 14226; telephone: (716) 832-6200, Fax: (716) 832-6638, toll free: (800) 941-3943, e-mail: newyork@dolrc.com.

“Qualifying Cancers” Covered Under Special Exposure Cohort

Bone cancer (osteosarcoma)

Renal (kidney) cancers

Leukemia (other than chronic lymphocytic leukemia) provided the onset of the disease was at least two years after first exposure

Lung cancer (other than in-situ lung cancer that is discovered during or after a post-mortem exam)

The following diseases provided onset was at least five years after first exposure:

- Multiple myeloma

- Lymphomas (other than Hodgkin's disease)

- Primary cancer of the:

Bile ducts

Brain

Breast (female and male)

Colon

Esophagus

Gall Bladder

Liver (except if cirrhosis or hepatitis B is indicated)

Ovary

Pancreas

Pharynx (mouth/throat)

Salivary gland

Small intestine

Stomach

Thyroid

Urinary bladder

– Mona S. Rowe, mrowe.hi@gmail.com

Free Medical Screening for Former BNL Workers



Jonathan Corbin at the
2017 BREA luncheon
Photo by Joseph Rubino

The Worker Health Protection Program (WHPP) of Queens College offers free medical screening to former BNL workers who may be at an increased risk for illness. The main goal of the medical screening is to detect illness at an early stage, when treatment is more likely to be effective.

Independent occupational medicine physicians conduct screening in Suffolk County. Evaluations are based on potential work exposures to radiation, asbestos, lead, cadmium, noise, beryllium and other hazards, which may lead to a greater risk for developing certain conditions such as chronic lung disease, some cancers, beryllium-related lung disease and hearing loss. Exam results letters are often helpful in Energy Employees Occupational Illness Compensation Program Act claims. The program is voluntary and medical information is kept confidential.

Once enrolled, participants are eligible for a “rescreen” examination every three years.

Long Island area residents should call 1-888-241-1199 to schedule an appointment. Out-of-state residents can call 1-866-812-6703 for screening through the National Supplemental Screening Program.

– Jonathan Corbin, Outreach and Clinical Coordinator, Queens College
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Are Your Dues Paid? Renew Your BREA Membership!

I received dues from BREA member Robert Wayte. He is 93 years old and he renewed for five years – to the year 2022, when he will be 98. He has great confidence and enthusiasm for life. Robert sets a good example for all of us! Here's his letter:

I started work at Brookhaven National Laboratory as a Reactor Pile Operator in the graphite reactor. I became a Reactor Shift Supervisor and my crew was the one to make the last run of the reactor before it was shut down for good. I then became shift supervisor in the High Flux Beam Reactor and later became responsible for inspecting and accepting the fuel elements at the various plants that had the contracts over the year and also I was responsible for arranging the shipment of the spent fuel elements to the facility in Idaho. I retired after 35 years in 1986.

I was present for the ceremony before the Graphite Reactor was dismantled. I'm 93 years old now and look back at many interesting years at Brookhaven.

Robert E. Wayte



Robert E. Wayte

If you need to renew your dues, fill out the form below.

PLEASE PRINT

Last name: _____ First name: _____ MI: _____

Street: _____ City: _____ Zip+4: _____

Phone: _____ Email: _____

Membership type:

☐ annual (\$10) ☐ 5 years (\$40) Life ☐ (\$95)

Dues cover year(s) _____

Date: _____ Check amount: _____

MAKE YOUR CHECK OUT TO BREA.

☐ I want to receive BREA News by mail via the U.S. Post Office.

☐ I want to receive BREA News by email only. Do not mail it to me via the U.S. Post Office.

Mail the form with your check (made out to BREA) to:

Beth Lin, BREA Membership Chair

81 Westchester Drive

Rocky Point, NY 11778

– Beth Lin, Membership Chair, hellobylin@yahoo.com

In Memoriam

We deeply regret to inform you of the passing of the following retirees:

Al Bertsche, 83, Nov. 20, 2017

Meyer Garber, 89, Dec. 14, 2017

Hobart Wilson Kraner, 83, Jan. 11, 2018

Franklin Langdon, 85, Nov. 22, 2017

Bernard Manowitz, 95, Jan. 5, 2018

More information may be found at BREA's website: www.bnl.gov/bera/activities/bera.

To post an obituary for a deceased BNL employee or retiree, send information by email to msrowe.hi@gmail.com or by snail mail to BREA's address in the panel below.

Brookhaven Retired Employees Association

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