

BREA NEWS

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

Volume 17, Issue 3

May/June 2017

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

May 9, 2017

June 13, 2017

July 11, 2017

BREA Officers

President

Liz Seubert

liz.and.ev@gmail.com

Vice President

Bob Kinsey

bobkin@optonline.net

Secretary

Arnold Moodenbaugh

moodenba@optonline.net

Treasurer

Steve Shapiro

shapiro@bnl.gov

* * *

Newsletter Editor

Mona S. Rowe

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Scenes from 2016
BREA luncheon

From the President

by Liz Seubert, liz.and.ev@gmail.com

Greetings, everyone,

As you read this, spring will have absolutely sprung, heavy-duty gardeners will be making appointments with their chiropractors to readjust their backs, boat people will have their prized crafts in the water, and we'll be raring to go for a great summer.

To start the season, come to the BREA luncheon get-together on Wednesday, June 7. That's where we bring old friends, meet other old friends, and make new friends among people we didn't have time to get to know while we were working – all this while selecting from appealing food that we didn't cook and we won't wash up! Thanks to Lillian Kouchinsky, who is organizing the event, we can enjoy ourselves with no worries. Do make a great effort to come. Even if you live in Outer Mongolia, spend a night with a friend on Long Island and join us! The registration form is on page 2. Fill it in, send it off, and we'll be so happy to have your company.

At the luncheon, the key speaker will be David Manning, head of the BNL Stakeholders and Community Relations Office. Some of you may have met David at last year's luncheon. He will highlight some of BNL's scientific achievements from the past 70 years, achievements made through the research and support of BNLers

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BREA Luncheon on June 7

- Date:* Wednesday, June 7, 2017
- Time:* 12 noon to 4 p.m.
- Place:* Bellport Country Club
- Meal:* Salad, choice of beef, chicken or fish entree, dessert, coffee or tea, and soda (wine and beer at cash bar)
- Price:* \$40 per person, must reserve and pay before luncheon

BREA will hold its 14th annual luncheon on Wednesday, June 7, 2017. This get-together for BREA members and guests is being organized by Lillian Kouchinsky, who says the event promises to be fun for everyone.

To make reservations, complete the bottom portion of this invitation and return it with your check in the amount of \$40 per person payable to BREA to the address below as soon as possible — but to be postmarked no later than June 1. Members who have not yet renewed for 2017 and would like to attend should follow the instructions on page 4 for renewing. If you are renewing your BREA membership, please write separate checks! For more information about the lunch, contact:

Lillian Kouchinsky
lkouchin@yahoo.com or (631) 874-8766

Directions: From LIE eastbound, take Exit 65. From LIE westbound, take Exit 66. From either direction, follow the service road to Bellport Ave. and go south (Bellport Avenue becomes Station Road). From Sunrise Highway, take Exit 56 to Station Road and go south. In Bellport village, turn right on South Country Road. Bellport Country Club is on the left about 1/2 mile down the road. The club's phone number is (631) 286-4227.

----- detach here and mail to BREA at the address below -----

Name _____

Street Address _____

City _____ State _____ ZIP _____

Telephone _____ Email _____

Spouse/Guest Name _____

For travel assistance, contact Lillian Kouchinsky at lkouchin@yahoo.com or (631) 874-8766.

Amount enclosed: \$ _____

Mail form and check to: BREA c/o BERA – Luncheon
Brookhaven National Laboratory
Bldg. 400
Upton, NY 11973

Investigating the Benefits of Cooperation

Tiny strands of fungi weave through the roots of an estimated nine out of 10 plants on Earth, an underground exchange in which the plant gives the fungus pre-made sugars and the fungus sends the plant basic nutrients in return. Scientists are interested in enhancing this mechanism as a way to help plants grow on nutrient-poor lands. Their success could lead to increased production of plant-based biofuels without having to compete with food crops for fertile farmland.

“When fungus grows within the plant’s root system, it produces hair-like extensions all throughout the soil. These are thinner than the root hairs so they’re able to diffuse nutrients a lot quicker, and they’re a lot longer so they can cover a much bigger area to scavenge nutrients for the plant,” said Tiffany Victor, a Stony Brook U. Ph.D. student who works in biophysicist Lisa Miller’s group.

Working with Miller as well as collaborator Leland Cseke of the U. of Alabama, Huntsville, Victor researches this mutually beneficial association of plants and fungi at Brookhaven Lab, where Miller manages microscopy and imaging at the National Synchrotron Light Source II.

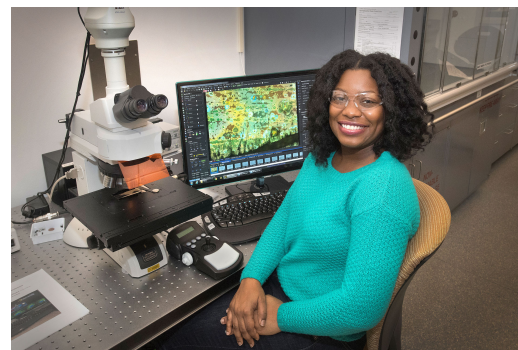
“We use an infrared microscope to follow the distribution of nutrients such as nitrogen and carbon within the plant’s rhizosphere, which is the section of soil closest to the plants roots, to try to understand how the fungus actually changes this nutrient distribution to facilitate the plant’s growth,” Victor explained.

Rather than digging up and examining roots in the forest, Victor studies small poplar seedlings that Cseke grows in a highly controlled environment. “His lab grows the seedlings in a nutrient gel on a glass slide,” Victor said. “It’s a tiny ecosystem on a glass slide.” By examining these slides under an infrared microscope at Brookhaven, Victor can map out the concentration of various nutrients near the plant’s roots, where the fungus resides. She tests different mixtures of fungus and bacteria, different levels of nutrients, and varied nutrient types.

Victor’s larger objective is to isolate the proteins that carry nutrients such as nitrate across cell membranes. Understanding the proteins’ structure and how they work could someday help scientists enhance this fungus-assisted nutrient uptake, and grow plants for biofuels on land where they won’t interfere with other crops.

– Lida Tunesi, ltunesi@bnl.gov

Editor’s note: Tiffany Victor is a member of BNL’s Association for Students and Postdocs (ASAP), which BREA supported in 2016 by paying for refreshments at two events: a meeting with journal editors from the American Physical Society and a career workshop. Said ASAP’s Board President Amber Teufel, “ASAP’s aim is to improve the quality of life for our members and act as a magnet to bring students and post-docs together, both in a social setting as well as furthering their scientific careers. We hope to make BNL a more inclusive and diverse community, fostering collaboration and mutual respect across the sciences.” Author Lida Tunesi is a science-writing intern with BNL’s Media and Communications Office and a recent graduate from UC Berkeley, where she studied chemistry.



Grad student Tiffany Victor explores how fungal associations help plants thrive

Upcoming BERA Trips

- *Finger Lake-Corning Glass and vineyard weekend, April 28-30, 2017* – Tour Finger Lake wineries, world-renowned Corning Glass Factory. Explore Gaffer/Corning district. Two nights at Radisson Corning Hotel. Prices from \$442 for 1/room to \$226 for 4/room, including bus transportation, breakfast and lunch at winery.
- *Trolley tour of historic Greenwood Cemetery in Brooklyn, Sunday, May 7, 2017* – \$55, includes time to browse Brooklyn Flea Market, see the sights.
- *Brownstone Brooklyn eats food tour, Saturday, June 17, 2017* – \$85 per person, includes food and beverages on food tour of Italian and Middle Eastern shops that have long been the staple of the neighborhood, coach bus, and driver tip. Come hungry! You will also have two hours to explore downtown Brooklyn on your own.
- *Chihuly Nights @ NY Botanical Garden & Arthur Ave. Italian District, Saturday, June 24, 2017* – \$45 per person. There will be a lot of walking for this trip, so wear comfortable shoes!

For details and information on how to sign up, go to <https://www.bnl.gov/bera/recreation/trips.asp>.

Renew BREA Membership

Membership expires on December 31 of every year no matter when you paid your dues (which are requested by January 31 of the following year). To stay on BREA's mailing list, complete the form below and mail it to me along with your payment. Include your email address so BREA can send you timely information.

If you have questions or if your contact information has changed, send me an email at hellobylin@yahoo.com.

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 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 form and check 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:

Worth "Pete" Austin Jr., 78, March 8, 2017
Donald (Don) David, 87, March 19, 2017
Norma Gertrude Gillespie, 94, March 8, 2017
Julius Hastings, 96, March 30, 2017
Peter Paul, 84, March 11, 2017
Joseph Savino, 86, April 2, 2017

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

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.

President's Message (continued from page 1)

past – us! – and present. He will also discuss what retirees may do to help support the Lab's future mission.

Among other activities, BREA enjoyed member Eric Forsyth's video/talk on his 50 years of ocean sailing. His adventures are captured in his new book, *An Inexplicable Attraction: My Fifty Years of Ocean Sailing*, which you can read about on his website, <http://yachtfiona.com/fiona-network-news/>. We've also started a friendship with members of Little Flower Children's Service in Wading River. BREA's Les Fishbone has already visited there to tell a group of teens about his trek up Mount Kilimanjaro as part of their series of cultural evenings focused on different countries.

Have a grand next two months, let us know about wonderful and wild things you've done, and remember, come to the luncheon on June 7!

– Liz Seubert, liz.and.ev@gmail.com

Brookhaven Retired Employees Association

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

