

BERKELEY LAB



BioSci Communiqué

05.02.18

Events Highlights

Refer to the [Area Events Calendar](#) for events, details, and up-to-date information.

John Lawrence Seminars in Biosciences

Mn-51 and -52g for Positron Emission Tomography Imaging | Jonathan Engle, University of Wisconsin, Madison | May 15, 4 - 5 PM, Location TBD

From Arsenic as Leukemia Therapy to Toxins as Pediatric Leukemogens: An Acute Leukemia Journey | Scott Kogan, University of California, San Francisco | June 5, 4 - 5 PM, Berkeley Lab, B66 Auditorium

Capturing the Interactive Dynamics of the Human Host/Microbiome System | Larry Smarr, University of California, San Diego | June 12, 4 - 5 PM, Aquatic Park, Gray Auditorium

Upcoming Events

[Microbiome Initiative](#) Re-launch Event | May 14, 10 AM - 1 PM, Tamalpais Room of the Brower Center, UC Berkeley. Morning coffee and afternoon lunch will be provided. [RSVP](#) (for catering and working group purposes) by Friday, May 4.

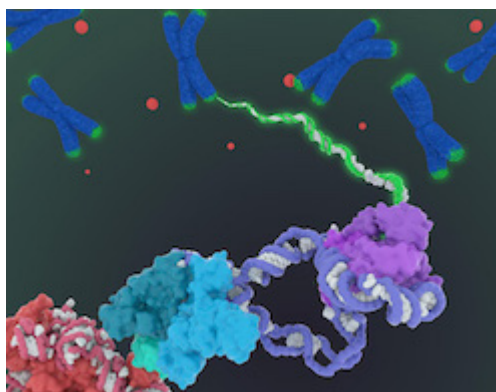
JGI's 11th Annual Safety & Wellness (SWELL) Fair will be held on Wednesday, May 30, from 12 - 2 PM in the JGI Courtyard in Walnut Creek. Everyone is invited to participate.

Lab Director's Distinguished Women in Science Speaker

News Roundup

- Strong Biosciences Presence at East Bay STEM Career Awareness Day [>>](#)
- Cryo-EM Reveals Structure of Human Telomerase [>>](#)
- Biosciences Area FY18 LDRD Projects [>>](#)
- Assessing Soil Microbial Responses to Land Use Change [>>](#)
- Rethinking Agriculture from an Ecosystem Perspective [>>](#)
- JBEI Participates at Daughters and Sons to Work Day [>>](#)
- Maxon Addresses Global Bioeconomy Summit 2018 [>>](#)
- Maxon Co-authors Editorial on State S&T Policy Fellows Program [>>](#)
- JBEI Participates at Earth Action Initiative [>>](#)
- A Core-Shell Nanotube Array for Artificial Photosynthesis [>>](#)
- Northen Lab Publishes Video Protocol for Building EcoFABs [>>](#)
- Freedom and Flexibility: Thinking Outside the Cell for Functional Genomics [>>](#)

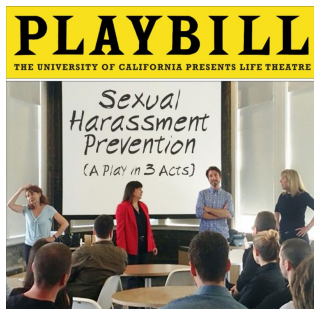
More news on the Biosciences Area [website](#).



ALD Message

Last week, I had the privilege of being accompanied by “fresh faces” to the spring meeting of the Biological and Environmental Research Advisory Committee (BERAC) and, following the meeting, to give brief presentations to program managers from DOE’s Office of Biological and Environmental Research (BER). Four researchers, all at relatively early points in their independent research careers at Berkeley Lab, were nominated by their directors and spent a month preparing for the visit. Ben Brown from Environmental Genomics and Systems Biology (EGSB), Simon Roux from the Joint Genome Institute (JGI), Deepti Tanjore from Biological Systems and Engineering (BSE), and Susan Tsutakawa from Molecular Biophysics and Integrated Bioimaging (MBIB) gave outstanding presentations that highlighted their work and future directions relevant to BER. Paul Adams served as emcee for the group, while Louise Glass and Nigel Mouncey facilitated introductions to and fruitful conversations with BER staff. Kudos to all for their hard work!

Series I Geri Richmond,
University of Oregon, in
conversation with NPR's
Science Correspondent, Joe
Palca | June 11, 1:15 PM,
Berkeley Lab, B50 Auditorium



Sexual Harassment Prevention Training

The Lab is offering a live, interactive theater experience, with trained actors, to foster a harassment-free workplace. Staff are encouraged to attend as a way to increase diversity, inclusion, and positive behavior. Sessions will be held on May 3, 10 AM to noon, at the Lab's B50 Auditorium, June 13, 10 AM to noon, at JBEI, and June 21, 10 AM to noon, at JGI. Attendees will receive harassment-prevention training credit. Email [Leticia Ericson](mailto:Leticia.Ericson@berkeleylab.org) to register.

JGI Upcoming Deadlines

ASM Microbe 2018

[Register](#) for JGI's June 7 workshop, "[Mining Microbial and Viral Genomes and Metagenomes for Biotech Applications using IMG](#)," at the American Society for Microbiology's [ASM Microbe 2018](#). JGI and KBase will have a joint booth at the June 7-11 meeting in Atlanta, Georgia.



MGM Workshop

[Registration](#) is open for the Microbial Genomics &



During the BERAC meeting, Associate Director for Biological and Environmental Research Sharlene Weatherwax highlighted some new directions for BER-funded programs. One of these, "secure biosystems design," aims to develop genome-scale tools to introduce robust, stable, and resilient synthetic genomes into microbes and plants, and to

understand secure controls for microbe-plant interactions in the environment. I later learned that this concept was inspired by some of the white papers that Biosciences sent to BER earlier this year in response to the BERAC Grand Challenges report. I hope that this is merely the first of many new program concepts influenced by our teams of researchers who submitted white papers! Also at the meeting, Adam Arkin shared updates on KBase's recent progress and Deb Agarwal of the Computational Research Division spoke about the ESS-DIVE program. These and other presenters' slides can be [viewed](#) and downloaded.

The prior week I had the honor of representing Biosciences at the [Global Bioeconomy Summit](#) (GBS) in Berlin. I was asked to speak about new biotechnologies and adapting regulatory frameworks to changes in technology. While at the GBS, I also described how the Agile BioFoundry is building a public, accessible biomanufacturing infrastructure by uniting the complementary capabilities and assets of the national laboratories under the visionary leadership of the DOE. Since that presentation, representatives from four organizations have contacted me to learn more about how they might build similar enabling platform technologies in their countries. It is gratifying to see DOE's leadership spark interest around the world.

As mentioned in my April 13 email to the Area, Biosciences' Operations Deputy, Helen Cademartori, has accepted a new position in the Computing Sciences Area. Helen will transition to her new position in mid-May. We are actively searching for her replacement and are aiming to have a new Area Operations Deputy in place as soon as possible. Please join me in wishing Helen well in her new role and in thanking her for her service to the Biosciences Area!

Best,
Mary

Area News

Lab Hosts Nanjing Medical University Visitors

Berkeley Lab, including BSE researchers led by Antoine Snijders, hosted the President of Nanjing Medical University and a delegation on April 12 for a tour of the Advanced Light Source, Aquatic Park, and the Joint BioEnergy Institute. Other highlights on the tour included BELLA and the Molecular Foundry. Researchers and delegates engaged in discussions about possible future collaborations.

BSA/CSA Hackathon

During the first week of April, 30 attendees from Biosciences Area (BSA), the Computing Sciences Area (CSA), and the Lab's IT department participated in a Data Incubator course and Hackathon to learn how to apply machine-learning techniques to their datasets.

Metagenomics (MGM) Workshop on September 17-21, 2018, in Walnut Creek.

DNA Synthesis Proposal Call

JGI has an ongoing call for DNA synthesis proposals in the form of brief white papers. These proposals will be reviewed twice a year; [submit](#) by July 31 for consideration at the next review.

IPO Update

Breakout Labs Increases Funding Max to \$500K

Breakout Labs, a fund within the Thiel Foundation that supports early stage companies, has increased its maximum funding per company to \$500,000. The fund has already invested \$15M in 40 companies, helping startups to reduce technical risk, develop business models and understand market fit. To date, Breakout Labs companies have raised almost \$200M in additional capital. Read [more](#) on Medium and [apply](#) for funding.

Outreach



East Bay STEM Career Awareness Day

The 7th Annual East Bay STEM Career Awareness Day took place on April 26 at Aquatic Park, home to Biosciences Operations at Berkeley and several Area research groups. Three hundred students from four school districts – Berkeley, Emeryville, Oakland, and Richmond – engaged in a one-day exploration event that included laboratory tours, a networking lunch with STEM professionals, and an exhibit.

The event was organized by: Kjersten Fagnan (JGI/NERSC; chair), Mariam Kiran (ESnet), Hector Garcia-Martin (JBEI), Ben Bowen (JGI), Kristopher Bouchard (BSE), Chris Beecroft (JGI), and Andrew Wiedlea (Lab IT). The successful event was supported by Lab IT and Biosciences (BSE and JGI). Assistants at the Hackathon session were Mariam, Hector, Ben, Chris, and Jan Balewski (NERSC).



JGI Strategy Workshop

On April 18-19, JGI held a strategic workshop in Napa attended by 28 JGI leadership and program staff as well as 15 invited external participants with expertise in areas of relevance to the strategic directions of the JGI. The off-site meeting featured presentations by internal and external attendees, as well as several breakout sessions structured around JGI's 15 strategic framework, which outlines a strategic vision for JGI organized around the themes of Identification, Interrogation, Investigation, Integration, and Interaction. The directions discussed at this workshop will provide a foundation for a new strategic plan for the JGI, to be published later in 2018.

SSURF's Up!

The JGI participated in the Society for Science at User Research Facilities (SSURF) 2018 Capitol Hill Science Expo and Reception April 25. The event was hosted by the Joint Staff of the Senate Energy & Natural Resources Committee in the Dirksen Senate Office Building. JGI partnered with the Environmental Molecular Science Laboratory (EMSL) on a demo entitled, "Science-Enabling Infrastructure for Translating Discoveries from Soil to Sustainable Energy & Agriculture," which featured an EcoFAB supplied by Joelle Schlapfer, postdoctoral scholar from the Northern Lab, and an Oxford Nanopore MinION sequencer on loan from Juna Lee, R&D Coordinator in the Sequencing Technologies Group. The event was preceded by House and Senate office visits, led by Don Medley, Berkeley Lab Government and Community Relations Head. JGI user Laura Bartley, associate professor of Plant Biology at Oklahoma University, staffed the demo with EMSL's Mary Lipton and joined JGI's Senior Manager of Communications and Outreach David Gilbert on the foray into the halls of Congress to update members and their staff of the role national user facilities play in advancing the nation's bioeconomy.

Strategic Planning

This month, Biosciences will be publishing the Biosciences Strategic Plan (BSP) 5-Year Progress Report, which assesses the strides we have made towards meeting the 5-year milestones listed in the BSP and the outlook for achieving our 10-year success metrics. This report highlights the accomplishments of the Biosciences Area, including the establishment of new research programs and projects resulting from the original visioning for the BSP.

Go [here](#) to see photos and a list of volunteers.

Biosciences Area Social Media

In April's [top tweet](#), @LBNLBioSci promoted a new particle detector design proposed by LBNL researchers including MBIB's Stephen Derenzo, Stephen Hanrahan, and Gregory Bizarri. The detector could greatly broaden the search for dark matter into an unexplored realm.



Follow the Biosciences Area on Twitter [@LBNLBioSci](#) and [LinkedIn](#). Help us disseminate further by liking and/or sharing!

Operations Update

Spring Cleaning

This afternoon there is a site-wide clean-up at JGI, which aims to clear out unwanted lab and office items, as well as tidy up digital files. A Safety Clean-Up Day will be taking place on Tuesday, May 15, at all of the Biosciences Operations at Berkeley locations on the Hill, in Donner, and at Aquatic Park. This is an excellent opportunity to dispose of excess equipment and chemicals, as we will have our ES&H partners on hand to help with the effort, and disposal will be free. We will also have bins for paper materials to be shredded at each location. Emery Station Operations Center's Cleanup Day will be Wednesday morning, May 23. Please mark your calendars and plan to join this effort.

Property Inventory

We need your help! The mandatory wall-to-wall inventory is in its final month and your assistance and cooperation is needed to locate and scan the remaining items. DOE requires that we scan every item and **divisions falling below a 98 percent completion rate will be required to repeat a wall-to-wall inventory in 2019.**

Notes of Interest

Early Career Researchers Highlighted

JGI's [Emiley Eloie-Fadrosch](#) and [Simon Roux](#) were featured in *Today At Berkeley Lab* as part of the Early Career LDRD profile series.

Science and Fiction

On April 14, Corie Ralston (MBIB) gave a keynote talk at the annual Barbara McConnell Great Books Weekend in Asilomar about the intersection of science and science fiction, and about the role of women in science fiction through the years.



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