

The internal monthly newsletter for Biosciences at Berkeley Lab.

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BERKELEY LAB



BioSci Communiqué

07.06.16

Upcoming Events

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

July 7

JBEI Special Seminar: *GeneGenie, SpeedyGenes, and Random Forests: Three Technologies for Navigating Sequence Space Intelligently in Synthetic Biology* | Douglas Kell, University of Manchester | Noon - 1 PM (refreshments provided), Emery Station, Rm 978-4132 & 4134

July 8

BioEPIC Special Seminar: *The Transporter-mediated Cellular Uptake of Pharmaceutical Drugs is Based on their Metabolite-likeness and Not on their Bulk Biophysical Properties: Towards a Systems Pharmacology* | Douglas Kell, University of Manchester | 9 - 10:30 AM (refreshments provided), B15, Rm 253 | [RSVP](#) to Eltra Green

EGSB Seminar: *Microfluidic Tools for Microbial Biotechnology* | Cullen R. Buie, MIT | 1:30 - 2:30 PM (refreshments provided), Walnut Creek, Rm 100-149A

July 13

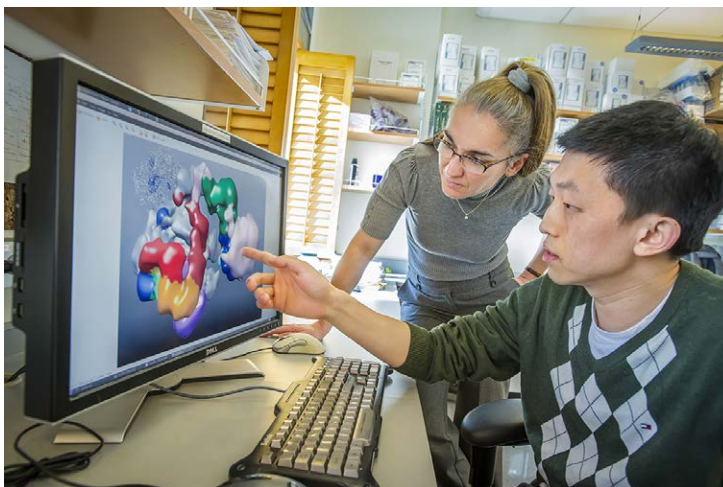
ECSS Imaging Workshop: *Real-time Deconvolution with Microvolution Software* | Noon - 1 PM, Aquatic Park, Rm 977-141 | [Register](#) by July 11; lunch provided | Contact: [Rosalyn Sayaman](#)

July 21

News Roundup

- New Technologies Fuel Cryo-EM's Renaissance [>>](#)
- DOE JGI Team Helps Develop Novel Techniques to Visualize Uncultured Microbial Cell Activity [>>](#)
- Downing Recognized with MSA Distinguished Scientist Award [>>](#)
- Bissell Honored with Medals from Two Societies for Outstanding Achievements [>>](#)
- National Bioeconomy Blueprint Makes Obama's Top 100 Science, Technology & Innovation Leadership List [>>](#)
- Doudna Wins Tang Prize in Biopharmaceutical Science [>>](#)
- Berkeley Lab Marks LGBT Pride Month [>>](#)
- Premier Annastacia Palaszczuk Visits JBEI [>>](#)
- JBEI Participated at Science Day Organized by CRS [>>](#)

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



Message from the ALD

I hope you all enjoyed the long Fourth of July holiday weekend. Next week I'll travel to DC along with other Associate Lab Directors to assist Mike Witherell in presenting Berkeley Lab's Annual Lab Plan to DOE on July 15. We've prepared the Biosciences slides to inform DOE about our latest efforts and future aspirations, including the Biosciences Campus Vision and the re-competition for the Joint BioEnergy Institute (JBEI). After having submitted a pre-application for consideration in mid-June, we received word from DOE last Friday that JBEI has been encouraged to submit a full proposal for the Bioenergy Research Centers Funding Opportunity Announcement for FY 2018 through 2022. On a related note, Governor Brown signed the California state budget last week on

Area Brown Bag on Program Development and Funding: Entrepreneurship Module @ Walnut Creek | Noon - 1 PM, Rm 310-345

Events Highlights

Program Development Brown Bags: Entrepreneurship Module

The Biosciences Area will hold the last of four brown bags in this module on July 21, Noon - 1 PM in Walnut Creek, Rm 310-345. Peter Bluford, Michelle Wong, Mary Maxon, and Katy Christiansen will discuss corporate sponsored R&D, startups, the invention process, how to find your value proposition, and more.

Imaging Tools for Biologists Workshop

The Biosciences' Early Career Scientists Society (ECSS) will host an Imaging Tools for Biologists Workshop on Real-Time Deconvolution with Microvolution Software on July 13, noon - 1 PM at Aquatic Park, Rm 977-141. Additional on-on-one and computer time for image processing is available until 5 PM. [Registration](#) required by Monday, July 11; lunch provided. Information: [Rosalyn Sayaman](#), ECSS workshop coordinator.

Lambda Alliance Holds Pride Month Coffee Hour at the JGI

To celebrate Pride Month, Berkeley Lab's [Lambda Alliance](#) co-chair Tom Gallant teamed with JGI's Joey Knelman and the Plant Functional Genomics team to host a coffee hour open to everyone in Walnut Creek on June 21. JGIers chatted over home-brewed nitro coffee and treats, and several signed up

June 27, and in doing so, approved \$3M for JBEI's re-competition proposal in a new show of support by the State of California for JBEI and its impact on the California economy. I'm grateful to Berkeley Lab's Government and Community Relations Office for their leadership in making this happen.

We're now preparing for the Biosciences Strategic Plan (BSP) implementation retreat on August 11, 2016. The purpose of our one-day retreat is to gauge how much progress we have made toward our 2018 five-year milestones, as well as identify new research efforts to present to our Bioscience External Advisory Committee early next year. We put a hold on production of the re-freshed BSP for 2016 pending review by Louise Glass, who just joined the Biosciences leadership team on July 1 as Division Director for the Environmental Genomics & Systems Biology Division.

Finally, we are getting ready to kick-off our preparations for the Biosciences Science and Technology Review for DOE's Biological and Environmental Research (BER) program. This large-scale effort captures relevant information such as scientific publications and patent applications from BER-funded programs across the Area, and requires that we develop a comprehensive presentation that integrates information from all three Divisions and the Joint Genome Institute. Helen Cademartori is spearheading this effort and I ask that you do your best to comply with requests for information by the deadlines that Helen will develop and share with us.

Regards,
Jay Keasling

Area News

MBIB Staffing Changes

Manfred Auer (pictured), staff scientist, and director of Physical Analysis at the Joint BioEnergy Institute, has agreed to serve as the department head of Cellular and Tissue Imaging in the Molecular Biophysics & Integrated Bioimaging ([MBIB](#)) Division. Auer has been with Berkeley Lab since 2004, studying inner ear molecular machines, molecular mechanisms in cancer malignancy, biofilms, and bioenergy, as well as developing new imaging methods. He succeeds Bill Moses, who retired on June 29 after 36 years at Berkeley Lab. Moses' research has focused on advanced instrumentation for nuclear medical imaging, including Positron Emission Tomography (PET), which he has also applied to the area of environmental bioremediation.



Biosciences Represented at National Academies' Studies

On June 1 and 2, Nathan Hillson presented at the Second Public [Meeting](#) of the National Academies' Biotech Study Committee in Washington, DC, Future Biotechnology Products and Opportunities to Enhance the Capabilities of the Biotechnology Regulatory System. His presentations, each followed by a panel discussion, were in the sessions Trends in Tools Enabling Biotechnology Products of the Future ([video](#)) and Tools and Opportunities to Enhance Risk Analysis ([video](#)). Mary Maxon is part of the study

for the Lambda Alliance mailing list. The Lambda Alliance hosts monthly coffee hours at the Lab, but this is the first event held offsite.



July Socials at the JGI

On tap for later this month, the JGI Genome Analysis, Functional Genomics and Resequencing groups, led by Zhong Wang, Matt Blow and Wendy Schackwitz respectively, are hosting the July 12 Social, 10 - 11 AM at JGI. Also, the JGI's Diversity & Inclusion Working Group will host Berkeley Lab Director Mike Witherell for his inaugural visit to JGI at a Social on July 29, 10 - 11 AM. All are welcome.

JBEI Holds Annual Meeting

JBEI staff and members of JBEI's Industry and Scientific Advisory Committees met on June 6-9 for their annual meeting. The objective of the meeting was to discuss the institute's current progress and future plans. This year's invited speakers were Jennifer Doudna, Molecular Biophysics & Integrated Bioimaging (MBIB) Division faculty scientist; Roland Kalb, JBEI Scientific Advisory Committee member and founder of Proionic GmbH; and Bill Orts, research leader at the US Department of Agriculture, Agricultural Research Service. During the annual meeting's close-out session JBEI CEO Jay Keasling presented several awards to JBEI's staff in recognition of their outstanding achievements and contributions this year.

committee and moderated a panel discussion on Future Emerging Open Release Products. Last week, Adam Arkin presented at the committee's Third Public [Meeting](#) in the session called Horizon Scanning, which was moderated by Maxon. The [study](#) will be concluded with a report due in December. On June 29, via Skype, Blake Simmons presented to the National Academies' Center-Scale Engineering Research Study Committee on the business and management models in place at JBEI.

Emery Station Opens Doors to Summer Students

On June 21, the Emery Station Operations Center welcomed 15 summer high school students who are participating in two different programs that give

motivated high school students a chance to learn what biofuels lab work is really like. The Introductory College Level Experience in Microbiology ([iCLEM](#)) program supports students from low-income households with a passion for Science,



Technology, Engineering, and Mathematics (STEM). The iCLEM students work on a research project at JBEI along with two teachers, two undergrads, and four post-docs. [Biotech Partners](#), a program by Bayer HealthCare, works with four Bay Area schools to identify and place students in summer internships. JBEI is hosting five students and ABPDU has two students who will be working on a wide variety of projects.

Lab Hosts First LGBTQ Pride Networking Event

Jay Keasling, Lambda Alliance's Executive Sponsor, provided a welcome message along with Lab Director Mike Witherell. The June



23 [event](#) at Wang Hall was also the launch of Berkeley Lab's [Workplace Gender Transition Guidelines](#) for transgender employees, which is considered a best practice among major companies.

Presentations included an introduction to the Lambda Alliance and the Employee Resource Group (ERG) by the co-chairs. All Lab employees were invited to this Pride Month celebration.

Safety Clean-Up Days

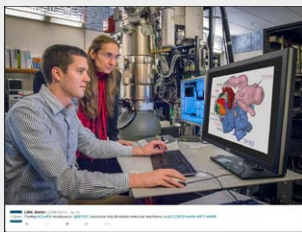
A joint Safety Clean-up Day has been scheduled on July 12 for the researchers and operations staff at the [Aquatic Park](#) Operations Center and [UHOO](#). [Emery Station](#) Operations Center held a Clean-up Day on June 22.

Programs & Initiatives

SynBio Foundry (Soon to be renamed!)

On June 14, the National Labs held a stakeholder engagement

@LBNLBioSci Twitter Highlight



Researchers in MBIB's Eva Nogales' Lab used cryo-electron microscopy (cryo-EM) and NERSC's supercomputing resources for the mapping of two important protein functions. Follow [@LBNLBioSci](https://twitter.com/LBNLBioSci) to keep up with the latest from the Biosciences Area. You can contribute content for our Twitter account by emailing bioscomms@lbl.gov.

workshop in Washington, DC, to gather input on the proposed plan for the SynBio Foundry. Key industry and federal agency stakeholders were in attendance and provided feedback to refine the vision for the implementation of the Foundry. The SynBio Foundry will be a distributed consortium of nine National Labs focused on improving the design-build-test-learn cycle for biomanufacturing of renewable fuels and chemicals. It is expected to be funded by DOE EERE's Bioenergy Technologies Office beginning in FY17.

Congratulations ABPDU Fermentation Team!

Congratulations to the Advanced Biofuels - and Bioproducts - Process Demonstration Unit (ABPDU) [fermentation team](#), led by Deepti Tanjore and Fre Tachea, for completing their 20th successful pilot-scale development campaign last week for one of their key industrial sponsors. A collaboration facility headed by Todd Pray, the ABPDU works with local, national and global businesses and researchers on a variety of bioprocess scale-up projects. This milestone was reached while working with [GreenLight Biosciences](#) on the production of a renewable chemical product intermediate.



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