



EX-Ls Retiree Newsletter

Lawrence Berkeley National Laboratory – Winter 2022

Join Us for the EX-Ls FREE ZOOM Speaker

Date: Thursday, February 17, 2022

Speaker: Carol Burns, LBNL Deputy Lab Director for Research

REMOTE: Zoom Meeting

Speaker: 1:00 to 2:00 pm

Time: 12:30 to 1:00 pm practice connecting

Register [Here](#):

If you need help, please contact Kathy Bjornstad, interim EX-Ls Activities Coordinator

kathy.bjornstad73@gmail.com

EX-Ls is proud to have SPEAKER: Carol Burns, Deputy Lab Director for Research

TITLE: Conversation with Deputy Lab Director for Research Carol Burns

ABSTRACT: Carol Burns joined Berkeley Lab on August 1, 2021 as Deputy Lab Director for Research and Chief Research Officer. She brings more than 25 years of scientific leadership experience in a national laboratory setting to the position. She also has deep experience with science policy at a national level, having served as a senior policy analyst for Homeland and National Security in the White House Office of Science and Technology Policy (OSTP). Being in Berkeley is sort of a homecoming for Carol as she earned her Ph.D. in Chemistry at UC Berkeley as a Hertz Fellow.



During her talk with the EX-Ls, Carol will share recent Lab highlights, as well as her observations from her initial months at Berkeley Lab. She will discuss some of the Lab's goals for 2022. These include supporting ongoing efforts to find ways for the three UC-affiliated National Labs to work more closely with the 10 campuses of the University of California. She will also reflect on the administration priorities and emerging programs in the Department of

Energy as well as ways in which Berkeley Lab is well suited to help in the administration's priorities.

BIOGRAPHY: Carol Burns was recently appointed Deputy Director for Research and Chief Research Officer at Lawrence Berkeley National Laboratory (Berkeley Lab). Burns joins the Berkeley Lab with deep experience in the DOE national laboratory system. In this role, she is responsible for the development, implementation, and stewardship of Berkeley Lab's research enterprise, and serves as the Lab's chief research liaison with the Office of Science, the University, the other national labs, and other key partners.

Carol brings more than 25 years of scientific leadership experience in a national laboratory setting, most recently serving as executive officer to the Deputy Director for Science, Technology, and Engineering at Los Alamos National Laboratory, assisting in oversight of line and DOE program organizations, as well as coordinating the integration of science and technology strategy, as well as associated investments and stewardship mechanisms.

Burns is a recognized expert in f-element and radiochemistry with more than 100 peer-reviewed publications and invited book chapters, and has served on a number of editorial boards, review boards, and advisory panels. She pioneered the development of an entirely new class of high-valent uranium compounds containing metal-ligand multiple bonds, contributing substantially to the understanding of the electronic structure of the early actinides. She is the recipient of a number of awards for scientific achievement and leadership, most recently the American Chemical Society's Francis P. Garvan-John M. Olin Medal, recognizing distinguished service in chemistry by women chemists. She is a fellow of the American Association for the Advancement of Science.

She has extensive experience in the systems enabling the research enterprise in the national laboratories, including a deep commitment to workforce development and diversity in STEM. She has experience in science policy at the national level, having served as a senior policy analyst in the Office of Science and Technology Policy (OSTP).

Burns received her B.A. in Chemistry from Rice University, and her Ph.D., in Chemistry as a Hertz Foundation Fellow at the University of California at Berkeley.

We welcome new members to the LBNL Retirement Association the EX-Ls.

If you would like to change your email address, please send an email to: <http://retirement.berkeley.edu/ex-ls> with the words "Address Change" in the Subject line. Include your name and the old and new email addresses in the body of the email. EX-Ls Address at UCB Retirement Center Mailing Address: LBNL EX-Ls; 101 University Hall, Berkeley CA 94720-1550 Website: <https://retirement.berkeley.edu/ex-ls>

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President's Report – Howard Hatayama



Peace, prosperity and most importantly, health to you all in this Year of the Tiger. I am very pleased and honored to serve as the President of your Board of Directors for 2022, our 40th anniversary. As we head into this new year, I want to first thank our previous two Presidents, Bob Cahn (2020) and Ben Feinberg (2021), Activities Coordinator, Kathy Bjornstad, along with Carey Sweeney, Director of the UC Berkeley Retirement Center (UCBRC), for their leadership in navigating the uncharted waters of the COVID-19 pandemic's impact on our organization. I also want to thank Esther Schroeder for serving as our Secretary since 2015 and Phyllis Gale for serving as our Newsletter Editor for the last two

years. We elected new officers for 2022 in addition to myself: First Vice-President, Kim Williams; Second Vice-President (vacant); Secretary, Ken Barat; Treasurer, Howard Matis; Activities Coordinator Kathy Bjornstad; Membership Coordinator Jane Tanamachi and we appointed Lynn Yarris as the Newsletter Editor. Nancy Brown remains the representative to CUCRA (Council of University of California Retirement Associations). Thank-you all for volunteering to serve in these roles! Without you, there would be no EX-Ls.

As noted above, we have yet to find someone to serve as the Second Vice President for this year. We also know that two of our current Board members, Kim Williams and Kathy Bjornstad, are moving away from the Bay Area sometime this year. While we are always looking for volunteers to help keep the EX-Ls afloat, there is a critical need to support this year's program and to carry the EX-Ls into the future. Please volunteer or suggest a fellow retiree with the right skills for these important positions.

While we all mourn the suspension of our in-person luncheons due to the pandemic, our virtual luncheons have had the unexpected benefit of allowing retirees who have moved away from the Bay Area or have limited mobility, to attend the talks and interact with former co-workers. We have been able to engage with many more EX-Ls through this medium with registration exceeding 100 for most events. As we head into the new year, our in-person activities are still limited by the COVID-19 pandemic and the need to remain socially distant. Talks by Carol Burns, Berkeley Lab Deputy Director for Research on February 17, 2022, and by Faith Dukes, the Lab's Director for K-12 STEM programs on May 19, 2022, will be presented via ZOOM. We hope to be able to gather in person for our August 18, 2022 event depending on how the pandemic evolves. In the longer term, we along with many other similar organizations are looking for a good way to keep in touch with our far-flung membership while providing opportunities for the personal interactions with former colleagues that we all miss.

For those who are interested but unable to attend these talks, recordings are posted along with all our past ZOOM talks on the EX-Ls website (<http://retirement.berkeley.edu/ex-ls>), which is hosted by the UC Berkeley Retirement Center. The Center's website provides an incredible array of resources in support of the EX-Ls and three other UC affiliated retirement associations: the UC Berkeley Emeriti Association, the UC Retirees' Association at Berkeley (UCRAB), and the President's and Regents' Retiree Association (PARRA). It also provides critical resources for UC employees who are soon to retire or contemplating retirement. Carey Sweeney and Associate Director Camille Koue are available to help navigate these resources and provide advice to retirees and prospective retirees. Please come join us. Membership is free and includes the spouse or partner of the retired employee.

Calling All EX-Ls! – Kim Williams

We're grateful to all of you for being part of EX-Ls, and for sharing your wisdom, knowledge and camaraderie in our activities. EX-Ls will be celebrating our 40th Anniversary this year as a retiree organization. We have all come to appreciate the social and intellectual exchanges that EX-Ls provides for Laboratory retirees, and we look forward to continuing our virtual offerings along with in-person events when conditions permit. EX-Ls is a special group, and one that we want to sustain, but we must rely on volunteers to serve in Board and key coordination roles. We're starting 2022 with a terrific EX-Ls leadership team led by President Howard Hatayama and including our newest team members, Board Secretary Ken Barat, Newsletter Editor Lynn Yarris, and Participation Coordinator Jane Tanamachi! Still, we have some key roles to fill, including the Activities Coordinator (currently Kathy Bjornstad) and the First and Second Vice Presidents. If you can't take on one of these roles, but still want to help, please let us know, as we have sometimes have tasks for occasional volunteers.



We need your help. We need **YOU** to volunteer for a role so we can continue to offer the lectures, events, newsletters, and many opportunities provided by the UC Berkeley Retirement Center. If you have organizational or logistical skills, the Activities Coordinator may be a great role for you, since you'll manage the logistics of our virtual and in-person events. If you have good ideas for speakers and events, you'd be terrific as our First VP, and if you like building a team, the Second VP role might be perfect.

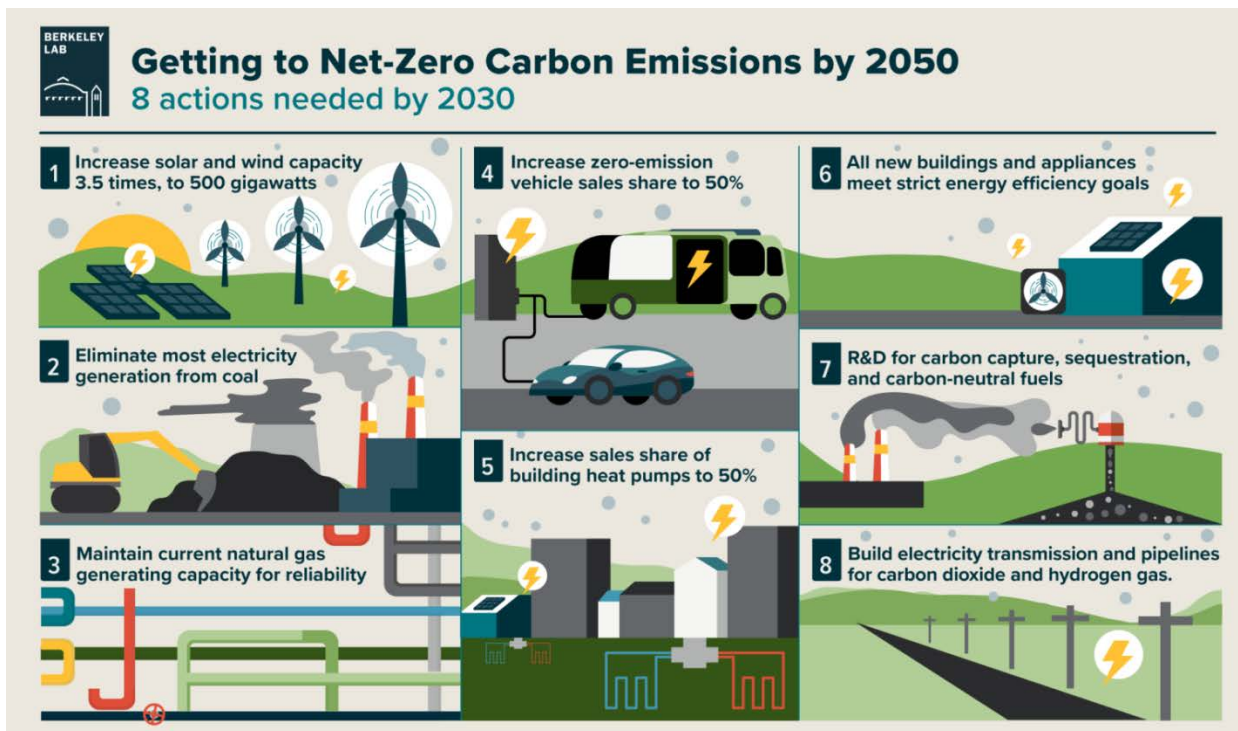
We know the past two years have been tough, and may have depleted your enthusiasm for volunteering. Still, we're asking you **to make an impact by taking the leap**, and joining the EX-Ls leadership team to serve hundreds of our fellow EX-Ls. Our First VP Kim Williams and Activities Coordinator Kathy Bjornstad are happy to speak with anyone interested, and to check in with those whom you think would be a good fit. Please contact Kim at williamskp9@gmail.com or Kathy at kathy.bjornstad73@gmail.com.

CAG Needs You Too

Berkeley Lab's Community Advisory Group (CAG) was formed in 2010 to serve as a forum for discussion about the Lab's initiatives and activities, such as capital projects and scientific initiatives that impact the community. Today, the CAG is also a venue to identify opportunities for the Lab, City of Berkeley, UC Berkeley, and other community members to collaborate in support of a vibrant and diverse community. EX-Ls member Rich Sextro has graciously served on the CAG since its inception, providing valuable feedback and insight over the years. With his retirement from the CAG effective January 2022, there is an opening for a new member of EX-Ls to join the CAG. To learn more or be considered, please contact Jenn Tang, Director of Community Relations, at jennifertang@lbl.gov.

Berkeley Lab's Most Popular Science Stories of 2021

Covid-19 continued to dominate the news throughout 2021, but in spite of all the obstacles, science at Berkeley Lab carried on. This past year saw the unveiling of a next-generation supercomputer named [Perlmutter](#) after the Lab's Nobel Prize-winning astrophysicist Saul Perlmutter; the establishment of a [mountain climate observatory](#) in the Rockies to help scientists predict water availability in the West; a high-tech growing chamber called an [EcoPOD](#); and a proposal for a quantum network testbed to pave the way for a nationwide [quantum internet](#). The Lab's scientific achievements were duly chronicled across all media outlets. These were the five most popular science stories on the Lab's News Center in 2021.



[Getting to Net Zero – and Even Net Negative – is Surprisingly Feasible, and Affordable](#)

A collaboration of researchers from Berkeley Lab, the University of San Francisco, and the consulting firm Evolved Energy Research created a detailed model of the entire U.S. energy and industrial system to produce the first peer-reviewed study of how to reach zero net emissions of carbon dioxide from energy and industry by 2050. The collaborators found that it can be accomplished by rebuilding U.S. energy infrastructure to run primarily on renewable energy, at a net cost of about \$1 per person per day.

[Scientist at Berkeley Lab Played a Hand in “Inescapable” COVID-19 Antibody Discovery](#)

A successful new COVID-19 antibody therapy called “sotrovimab,” which has been given expedited emergency approval by the FDA, was developed with help from Jay Nix, leader of the Molecular Biology Consortium based at Berkeley Lab’s Advanced Light Source. His work, alongside other crystallography and cryo-electron microscopy findings, helped generate detailed structural maps of how these S309 antibodies bind to the SARS-CoV-2 spike protein.

[The Future Looks Bright for Infinitely Recyclable Plastic](#)

In 2019 Lab scientists invented a new plastic called PDK that has traditional plastic properties but can be recycled indefinitely with no loss in quality. In 2021, a comprehensive analysis at the Lab showed that an industrial scale rollout of PDK could compete with



conventional plastics while sparing overloaded landfills, and reducing the energy consumption and emissions associated with production and recycling processes.

Discoveries at the Edge of the Periodic Table: First Ever Measurements of Einsteinium



Berkeley Lab scientists reported the first study characterizing the properties of element 99 – einsteinium – which was discovered in 1952 from the debris of the first hydrogen bomb. This study opens the door to a better understanding of the remaining transuranic elements of the actinide series.

Building a Giant 2D Map of the Universe to Prepare for the Largest 3D Map



By combining 200,000 telescope images and several years of satellite data with images of over a billion galaxies, an international collaboration of scientists led by Berkeley Lab has created the largest-ever 2D map of the universe. This giant 2D map will serve as a roadmap for the Dark Energy Spectroscopic Instrument (DESI) that is designed to create the largest-ever 3D map of the universe. The DESI collaboration, also led by the Lab, is expected to provide answers about the history as well as the future of the expansion of the universe.

Jennifer Doudna Gets Her Road

In keeping with the tradition begun by former Lab Director Steven Chu, in which the roads traversing the hill are named for Nobelists affiliated with the Lab, our most recent Nobel laureate, Jennifer Doudna, now has a road of her own. Doudna Road starts at the intersection of Lawrence and Smoot Roads and climbs to the intersection of Chamberlain

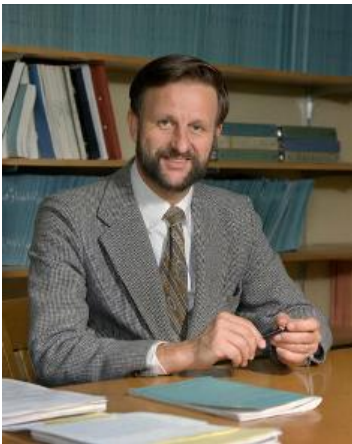


and McMillan Roads. Doudna shared the 2020 Nobel Prize in Chemistry with Emmanuelle Charpentier for their development of the CRISPR-Cas9 molecular system as a revolutionary gene-editing technology. Since CRISPR technology was first unveiled in 2012, its use in the biomedical fields has exploded. Clinical trials for using CRISPR to treat sickle cell disease, congenital blindness, and several forms of cancer are already underway. CRISPR is also being explored for use in preventing dementia and cardiovascular disease, and to bolster immunity against future pandemics.

Celebrating the 40th Anniversary of EX-Ls – Rich Sextro

(The year 2022 marks the 40th year since the founding of the Berkeley Lab retiree organization EX-Ls. We will celebrate this anniversary throughout the year by highlighting notable events decade-by-decade over the next four newsletters.)

The exact origin of EX-Ls is a bit ambiguous, at least as described in the historical documents contained in the EX-Ls [webpage](#). The idea of an organization for lab retirees was discussed with then director Dave Shirley at the Director's retiree reception in the fall of 1981. Kathleen Handron (employee services coordinator) had a follow-up discussion in December 1981 with two Lab retirees who were the leading advocates for such an organization, Ted Bowers, an engineer who'd worked at the Bevatron, and Tané Nutting, who worked in the Personnel Division. The following March (1982), Bowers and Nutting met with Deputy Director Earl Hyde to discuss the details of establishing EX-Ls, which would be housed, like other employee organizations, in Employee Services.



Director Shirley officially announced the formation of EX-Ls at the Director's retiree reception in September 1982. The first general meeting was held in October, quickly followed by a November meeting, where Bowers was elected president, an office he held for three years. The first luncheon meeting was in February 1983 at the Faculty Club on the Cal campus. The first luncheon with a speaker, Walt Hartsough, was held at Solomon Grundy restaurant in May. By that time, there were more than 100 EX-Ls members. Until 2016, members paid annual dues to belong to EX-Ls; after that all Lab retirees were automatically enrolled with no annual dues.

The list of luncheon venues in the first decade shows a wide variety of dining establishments, including the Concord Inn, Berkeley House, Hs Lordships, Spengers, and the Hotel Mac. This last venue was typically dinner, followed by attendance at the Masquers Theater in Point Richmond. Other special events included tours at the Monterey Bay Aquarium, Oak Knoll, the state Capitol in Sacramento, Angel Island, the California Maritime Academy and the Oakland Museum, and a day at an Oakland A's ballgame.

EX-Ls Presidents during the first organization's first decade were:

Ted Bowers - 1982 to 1984

Bill Bigelow - 1985

Virginia Cherniak - 1986

Ken Lou - 1987

Al Amon - 1988

Ethel Skyrdlinski Thompson - 1989

Howard Browne – 1990 to 1992

Of Elephant Seals and Honey Bees – ZOOM Talks from Fall and Summer 2021



Elephant seals and honey bees were the topics of the ZOOM talks hosted by EX-Ls on November 18 and August 19 of 2021. The November talk was titled “Elephant Seals, Sea Level Rise and Coastal Restoration at Point Reyes National Seashore.” It was given by Sarah Allen, a science advisor for the National Park Service for more than 20 years, and the science lead for the Pacific West Region and Research Coordinator in the Californian Cooperative Ecosystem Studies Unit at UC Berkeley. The timing of her talk coincided with the start of the elephant seal breeding season in Point

Reyes. The seals re-colonized Point Reyes in the 1980s after being hunted to near extinction along the Pacific Coast during the previous century. Over the past 40 years, the seal population has grown to more than 200,000. Sarah described the unique physical attributes of the elephant seals, such as their large size – males typically weigh some 5,000 pounds – and the distinct proboscis of males that resembles an elephant's trunk and gives them their name. She also discussed their ability to dive a mile deep and stay submerged for over 100 minutes, and their migratory and feeding patterns, which entail two journeys a year, covering some 9000 miles and ranging as far north as the Kenai peninsula and as far south as Baja. Winter storms and rising seas have caused significant mortality among elephant seal pups because they cannot swim at birth. While climate change has eroded the terrestrial habitat for elephant seals, coastal restoration projects such as the marsh restoration at Drakes Beach should help. Studies continue to focus on the impacts of sea level rise, elevated ambient temperatures and other environmental changes. Conservation efforts emphasize layers of protection of elephant seals and other marine resources rooted in the recently established Marine Protected Areas along the coast.

The August talk, “Keeping Honey Bees,” was delivered by Jerry Przybylski, an engineer who retired from the Lab ten years ago and began an urban beekeeping business in the backyard of

his home in Oakland. Starting with two hives the first year, Jerry and his wife, Laurel, have maintained five to ten hives every year since, working exclusively with colonies collected locally. For the past eight years, Jerry has been one of the volunteers answering the Alameda County Beekeeper Association's swarm-hotline, the Association's Vice President, a mentor coordinator, and writer of the "Beekeepers' Corner" article in its monthly newsletter. In his talk, Jerry covered some of the history of beekeeping from the ancient Egyptians to present day.



Modern beekeeping, he said, has paved the way for an explosion in basic research as well as development of efficient business practices. He shared some practical approaches to dealing with swarms safely for both humans and the bees, emphasizing that backyard beekeeping requires a long term commitment to maintaining a healthy population through continuous care. Neglected hives tend to be nesting grounds for parasites and pathogens that can spread to other hives in the neighborhood, posing an ongoing challenge to the health of beekeeping operations.

2022 EX-Ls OFFICERS, INFORMATION & CALENDARS

EX-Ls BOARD OF DIRECTORS

President: Howard Hatayama
1st Vice-President: Kim Williams (interim)
2nd Vice-President: open
Secretary: Ken Barat
Treasurer: Howard Matis
Membership: Jane Tanamachi
Activities Coordinator: Coordinator: Kathy Bjornstadt (interim)
LBNL Liaison: Margaret Dick
CUCRA Representative: Nancy Brown
UCBRC Advisory Board: Ben Feinberg/Howard Hatayama
Editor EX-Ls Newsletter: Lynn Yarris
UCBRC Director and Liaison: Cary Sweeney

EX-Ls Address at UCB Retirement Center

Mailing Address: LBNL EX-Ls; 101 University Hall, Berkeley CA 94720-1550

Website: <https://retirement.berkeley.edu/ex-ls>

Webmaster: Camille Koue, UCBRC

2022 EX-Ls Board Meeting Calendar

April 7, 3:00 - EX-Ls Board Meeting
July 7, 3:00 - EX-Ls Board Meeting
October 13, 3:00 - EX-Ls Board Meeting

2022 Virtual Luncheon Meetings & Events

February 17, 1:00 - EX-Ls Virtual Luncheon
May 19, 1:00 - EX-Ls Virtual Luncheon
August 18, 1:00 - EX-Ls Event – Berkeley Yacht Club
October (date TBD) – Director's Retiree Reception
November 17 – EX-Ls Luncheon – Berkeley Yacht Club

Newsletter Suggestions

If you have an item to suggest for the EX-Ls Newsletter or an article you would like to see please contact Lynn Yarris: lcyarris@gmail.com