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Vol XVIII. June 2020

Read on for updates on our Cal Energy Corps interns, the EcoBlock project, and community resources for learning about systemic racism and what we can do to address it.

Upcoming Events

June 24th

[BECC Webinar "Transformational Communications: Increasing Government Ambition in Public Engagement on Climate Change"](#)

June 26th

[Berkeley Conversations: Structural Racism and COVID-19](#)

In the News

[Read Up on the Links Between Racism and the Environment:](#)

[California Was Set To Spend Over \\$1 Billion to Prevent Wildfires. Then Came COVID-19:](#)



Black Lives Matter.

We at CIEE firmly believe that Black lives matter, and that systemic racism has no place in our community, in our society, and in our country. The tragic events of the past few weeks, the all-too-frequent murders of Black Americans including George Floyd and Breonna Taylor have been a clarion call to work and truly reckon with the corrosive effects of systemic racism-- within our university and without-- and with how to create a more just and equitable society for all. We are listening, learning, and encouraging everyone to do the same. Please take some time to review some [anti-racism resources](#) provided by the University, and consider how we can all support our Black colleagues and community moving forward.



ecoblock

EcoBlock Website

Check out our updated EcoBlock website to learn more about the different aspects of the project, such as community, urban planning and process, design and construction, mobility, water, legality, business and finance, and energy.

The Oakland EcoBlock Project is a California Energy Commission-funded research project led by UC Berkeley that has taken the initiative in implementing integrated systems that would apply existing renewable technologies to a block of 30 to 40 adjoining residences to help reduce their fossil fuel and water consumption, ultimately reducing carbon emissions by 85%. The affected area will produce close to zero net energy on an annual basis and lower the amount of greenhouse gases emitted suburban areas.

The Pilot EcoBlock site is located in Oakland's Fruitvale District. This will be the first-of-its-kind block to demonstrate neighborhood-scale solutions to urban resilience, including energy and water efficiency, a communal solar-powered microgrid, and shared electric transportation. The project, led by UC Berkeley, will run from 2020 to 2023, and CIEE will be working with a variety of different organizations for this project, including but not limited to Franklin Energy, Siegel and Strain Architects, Lawrence Berkeley National Laboratory, Stanford University, Berkeley Law, the Transportation Sustainability Research Center, and the City of Oakland.

[Learn More](#)



Citris Foundry Innovation Incubator Applications Open

CITRIS Foundry is now accepting applications for its Innovation Incubator! Apply now to take part in a program that supports new ventures, social enterprises, and tech transfer pathways that can influence and impact entire industries.

The CITRIS Foundry Innovation Incubator empowers top entrepreneurs from the University of California to build transformative companies that will have a significant impact on the world. This on-campus program is headquartered at UC Berkeley and provides community, coworking space, individual coaching, and business resources for ambitious developing innovators. The program is for groups of 2-5 founders with projects based in information technology, biological or physical sciences, or other engineering fields to gain one-on-one mentorship from top University of California and Silicon Valley experts in their fields.

Applications will be accepted until the start of fall semester 2020.

Learn more about the Innovation Incubator here: <https://citrisfoundry.org/incubator/>

[Apply Now](#)

CALL FOR PROPOSALS:

CITRIS 2020 SEED FUNDING

CITRIS 2020 Seed Funding

The CITRIS Seed Funding Program invites Principal Investigators at UC Berkeley, UC Davis, UC Davis Health, UC Merced, and UC Santa Cruz to apply for seed funding that advances CITRIS and the Banatao Institute's research thrusts, strengthens UC campus connections, and drives novel technology applications.

Application Deadline: Thursday, September 10th, 2020 at 5:00 PM (PDT) via the application

portal: https://citris.smapply.org/prog/2020_citris_seed_funding/

More information: To download the RFP, view detailed areas of interest, eligibility, requirements, and FAQs, please visit the 2020 CITRIS Seed Funding webpage: <https://citris-uc.org/core-seed-funding/>

Contact seeds@citris-uc.org with questions.

Upcoming Events



**BECC Webinar:
"Transformational Communications: Increasing Government
Ambition in Public Engagement on Climate Change"**

BECC's next free webinar will be held on Wednesday, June 24th, from 11:00 AM - 12:00 PM PDT!

Governments have failed to effectively engage people on the issue of climate change, even 30 years after committing in the Framework Convention to inform and educate their citizens about this critical issue. Today, people are still disturbingly ill-informed about what is causing climate change, how urgent it is, and how it will impact their lives. So, how do we assert people's legal (and moral) right to know, and how can we transform our approach to engagement in order to overcome polarization and build a broad-based public mandate to support action? George Marshall, the founder of Climate Outreach, a non-profit based in Oxford, UK that is Europe's leading specialist in climate change communication, will make the case that public engagement is essential for achieving our climate targets and will discuss a major new international initiative to transform government commitments to public engagement.

If you would like to tune in, registration is free, and can be done so via the button below!

[Register Here](#)



UC Berkeley Campus Conversations: Structural Racism and COVID-19

UC Berkeley, throughout the COVID-19 outbreak, has been hosting regular webinars that are open to the public. Across the UC Berkeley campus, researchers are rising to meet the complex challenges of COVID-19 even as the crisis generates waves of news and information that can be confusing and contradictory at times. In response, the university's new online video series, "Berkeley Conversations: Covid-19", seeks to connect our leading experts with the public they serve, and each other. Through Q&A's, seminars, and panel discussions, faculty from a wide range of disciplines—from epidemiology to economics to the computing and data now undergirding their work—will share what they know and what they are learning

The next Berkeley Conversation is scheduled for June 26th and is titled "Structural Racism and COVID-19: The Political Divide, Re-Opening the Society and Health Impacts on People of Color". Recent California data show that citizen perspectives on rolling back shelter in place and other public health provisions related to COVID-19 are highly politicized and racialized. This Conversation features experts John Powell, Director of the Othering and Belonging Institute at UC Berkeley, Cristina Mora, Co-Director of the Institute of Governmental Studies, and Mahasin Mujahid, Epidemiologist, School of Public Health who will explore the impact of a polarized society on COVID-19, especially for vulnerable populations. Panelists will also discuss public health and social equity measures needed to safely re-open the society to address COVID-19 as well as the underlying pandemic of structural racism. In addition, they will examine bridging policies that can help overcome societal divisions and promote health justice for all.

[Watch Here](#)

A dark purple banner with a geometric pattern of overlapping circles and triangles. The text "Monthly Spotlight" is written in a white, clean, sans-serif font, centered on the banner.

Monthly Spotlight



cal energy corps

Blog Post Run-Down Volume 1

It's the end of June, and our interns have all begun their work in earnest. Despite the new challenges thrown at them by shelter-in-place, all of our Cal Energy Corps students are doing incredible work with their host organizations across the Bay Area, all from their own homes. They've been recording their progress via blog posts made on the Cal Energy Corps website, and it's been fascinating to hear about what they've been up to.

Sage Quinn, working over at Lawrence Berkeley National Laboratory, has been getting tough, with TOUGH2! But what is TOUGH2, exactly? As Sage puts it, "TOUGH2 is a numerical simulator for flows and heat transfer through porous and fractured media, that media most generally being rock. It can be used for many simulations related to energy including CO2 storage, nuclear waste storage, groundwater flow, and most relevant to me: geothermal energy generation. A large part of my first few weeks have been reading and working written problems to understand what TOUGH is as a numerical model and the equations behind it.

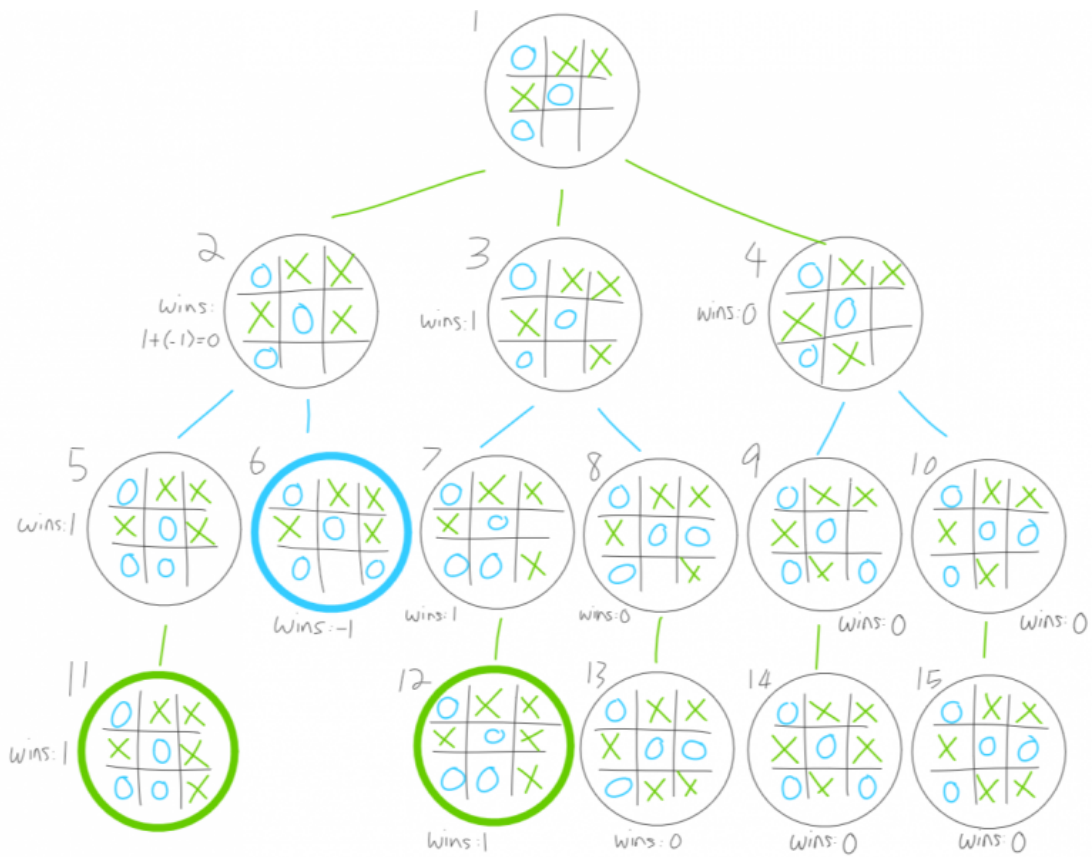
By using the physics and properties of various materials and systems, TOUGH2 is able to thoroughly simulate a wide variety of processes within energy geosciences. Although physical experiments are typically the most reliable source of data, they can be very time and resource expensive, but by using a simulator such as TOUGH2, you can run multiple scenarios quickly and adjust parameters to understand relationships and optimize performance."

Also with LBNL, Chi-Feng Wang is learning a complicated algorithm by using it to model a classic game: learning the Monte Carlo Tree Search algorithm by using it to model a game of Tic-Tac-Toe. In her blog-post, she explains:

"Monte Carlo Tree Search is an algorithm that predicts future moves of a game in order to take the most optimal action. There are four steps in the Monte Carlo Tree Search algorithm:

- Selection
- Expansion
- Simulation
- Backpropagation

At the very base of the Monte Carlo Tree Search algorithm is a search tree, where every node represents a specific move in the game. For tic tac toe, each node might store the player that made the move, the location before the move, the gameboard before the move, as well as the number of simulations and simulated wins stemming from this node (see *simulation*)."



...This tic tac toe agent is what I created! I made a game environment class as well as a MCTS algorithm class, then ran MCTS for both players in the tic tac toe game. After running multiple simulated games, I realized most of the games end in a draw – which makes sense since there’s no way to force a win in tic tac toe if both players are playing optimally.” Her blog post does a great job at breaking high-level concepts down into an easy-to-digest sample case, and we can’t wait to see how she uses this model in her research.

Last for this blog-post round-up is Edgar Hildebrandt-Rojo, who is working with a long time CIEE collaborator, PingThings! Edgar has been learning about a database structure very familiar with our Dr. Sascha von Meier; the BTrDB database, developed right here at Berkeley to handle the inputs of large amounts of sensors across the electrical grid. One of the highlights of Edgar’s first weeks was talking with Will Franzen, one of the front-end developers at PingThings. “Will started working at PingThings full-time early this May. Before, he was an intern just like us, which made our conversation all the more valuable. Will is also a rising senior, so he was able to provide us with helpful tips about managing our time and productivity.”

This is just a small slice of what our Cal Energy Corps interns are up to during their summers, and every student is posting to our blogs page every two weeks. We highly recommend checking in over the summer, and reading about some of the incredible research our students are undertaking.

Cal Energy Corps Blogs



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