

UC DAVIS

ENVIRONMENTAL HEALTH SCIENCES CENTER

October 2019 Newsletter



Preparing for our second five years

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Thanks to all the Environmental Health Sciences Center (EHSC) members whose accomplishments, pilot projects, innovative research concepts, community-scientist partnerships and new grants earned us an excellent-to-outstanding score on our EHSC renewal application! Reflecting on our first 4.5 years, EHSC truly hit the ground running and we established a strong track record with your hard work.

Examples include: From over 30 pilot projects, many moved or are moving to the next stage of full grants. Initially funded in part by a pilot grant, the vivarium, which uses highly polluted tunnel air for its exposure chamber, has supported two projects that were recently completed: one on Alzheimer's disease and one on autism spectrum disorder.

Our 2019 Environmental Health Sciences Scholar Dr. Hong Ji received her first R01 (see article below).

Multiple community-engaged projects are ongoing: Water contaminants from homes in the San Joaquin Valley identified by our community stakeholders produced evidence of reproductive perturbations in zebrafish (Dr. Swee Teh's laboratory); students from communities adversely affected by the drying of the Salton Sea collected air samples and spent a week at UC Davis learning how air pollutant toxicology studies are conducted (Dr. Pinkerton's laboratory); and an analysis of Kettleman City's hazardous waste sites is in progress (Dr. Clare Cannon).

Looking forward

- We will be redoubling our efforts in developing research on wildfires and their short and long-term consequences. Collections will continue for health data after the Northern California fires. Air pollution exposures from wildfire smoke will be linked with respiratory conditions and symptoms reported in the online survey.
- A major focus in the coming period will be on translational research that can move incrementally from basic science to applications specific for human health, and finally to interventions. One example is the development of non-invasive wearable sensors (Dr. Cristina Davis with Dr. Nicholas Kenyon) that can collect air samples for non-targeted metabolomics, which we expect to deploy in several human studies.
- Other translational work will be in partnership with Central Valley disadvantaged communities seeking to reduce asthma rates through citizen-science initiatives such as AB617 to monitor air pollution. By identifying the sources of these exposures, local and regional populations can be empowered, and ultimately policies and practices can be implemented to reduce those emissions.

Congratulations team! Can't wait to see how the next chapter unfolds!

Hong Ji: 2019-2020 Environmental Health Sciences Scholar

Congratulations to Hong Ji for being named the 2019-2020 Environmental Health Sciences Scholar! The EHS Scholar award is for early career investigators conducting EHS research, and it can provide salary coverage where needed and includes research funds for the recipient to spend as they see fit.

Dr. Ji is an assistant professor in the Department of Anatomy, Physiology and Cell Biology in the School of Veterinary Medicine, as well as a core scientist in the Respiratory Disease Unit at the California National Primate Research Center. Ji spent the early part of her career studying asthma's relationship to abnormalities in methylation in the airway's epithelial cells. A long-time collaborator with EHSC's [Lisa Miller](#), Dr. Ji now is studying the impact wildfires are having in primate models and just received her first RO1 to research the epigenetics of air pollution in children. [Read more about Hong's life, career and work here.](#)

Integrated Health Sciences Facility Core (IHSFC) update

The IHSFC's [Kent Pinkerton](#) and his team are leading several new and exciting [research projects on e-cigarettes and vaping](#). Two studies focus on the chemical composition of aerosolized e-cigarette solutions that people vape: propylene glycol/vegetable glycerin (PG/VG) ratios and how coil temperature of vaping devices affect chemical composition. Other new studies are looking at how vaping e-cigarettes affect pregnant women and newborns.

We'll have a longer article about the Pinkerton Lab's work in our newsletter next month. In the meantime, here's a video with immunology PhD student Morgan Poindexter explaining [how the vaping chamber works](#).

Community Engagement Core (CEC) update

EHSC workshop links scientists to communities

EHSC's CEC will host its annual [Community Stakeholders Advisory Committee \(CSTAC\) Workshop](#) at UC Davis on October 2. The workshop aims to build university-community relationships to help researchers better understand California's most pressing environmental health research needs.

This gathering is a great way for scientists to connect with community members doing work that's relevant to researchers' technical capabilities. At the workshop, several community organizations and agencies working in the San Joaquin Valley will talk about potential partnerships and help scientists define their research questions. Scientists will also share their research ideas and hear about how their projects could be useful to California communities. Some of the topics we'll discuss include:

- Pesticide exposure in school-age children
- Groundwater quality and human health
- Human health impacts of area-wide air emissions like ozone

If you're interested in applying for EHSC pilot project funding, this workshop can help explore community engagement in your research proposal. It's also a wonderful opportunity to engage with community activists who give their time to the CSTAC.

We expect a full house and look forward to a dynamic discussion! It's not too late: [Sign up for the event here](#). Contact [Aubrey Thompson](#) for more information.

New CSTAC members

- Dan Woo, California Department of Public Health, Office of Health Equity
- Dilhara Ranasinghe, Department of Pesticide Regulation
- Ingrid Borstrom, Center for Race, Poverty, and the Environment

Kettleman City: Toxic Cocktail (working title)

In October, the CEC will film a short video about Clare Cannon's pilot project in Kettleman City. It's also working to secure additional funding to transform this 5-minute video for the web into a 30-minute documentary for PBS and YouTube. If the CEC is able to raise money for a longer film project, the plan is to focus on community-engaged research.

In addition to Clare, a longer film would explore Clare's relationship with EJ activists and serve as a primer showing how successful community-engaged research works. Among other EJ activists, the longer film would feature two CSTAC members: Miguel Alatorre from Greenaction and Maricela Mares-Alatorre from Greenaction and El Pueblo Para el Aire y Agua Limpia. Filmmaker Paige Bierma will be directing, and Jennifer Biddle and Aubrey Thompson will join forces to produce the film.

Announcements

- **Tunnel studies talk:** Pam Lein will be giving a seminar talk on her tunnel studies on November 12th, 1-2:30 PM (two other speakers TBD). Don't miss it! Look for details on our website soon.
- **Waking Up to Wildfires:** We released the feature-length version of *Waking Up to Wildfires* on YouTube September 20 as part of the Global Climate Strike. Please share our YouTube link widely: <https://youtu.be/cBVLcgsSnFg>. Also, you can watch a 30-minute version of the doc on Sacramento's PBS affiliate KVIE on October 11 at 4 PM and October 13 at 6:30 PM. PBS will syndicate the film nationally in November. We'll keep you posted as we learn more!
- **Facebook Live event:** Just before the Global Climate Strike, KCRA reporter Edie Lambert interviewed Irva Hertz-Piccioletto about her wildfire research on Facebook. [Watch the interview here](#).
- **Round of applause:** Thanks to all the researchers who participated in answering questions for the Global Climate Strike September 20-27. You can see all their [videos on YouTube here](#).

Please email Jennifer Biddle (jsbiddle@ucdavis.edu) if you have any announcements or work you'd like to

share in next month's newsletter. Thank you!

