



UNIVERSITY of WASHINGTON



CLEAN ENERGY  
INSTITUTE

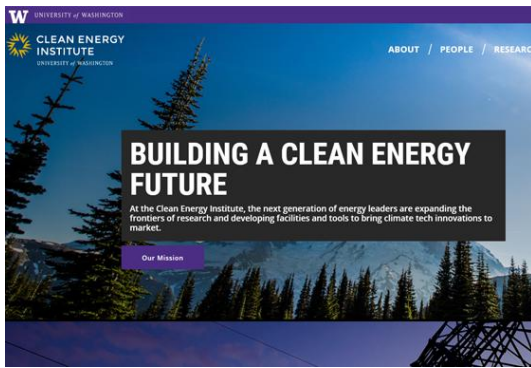
July 2020

## INSTITUTE NEWS



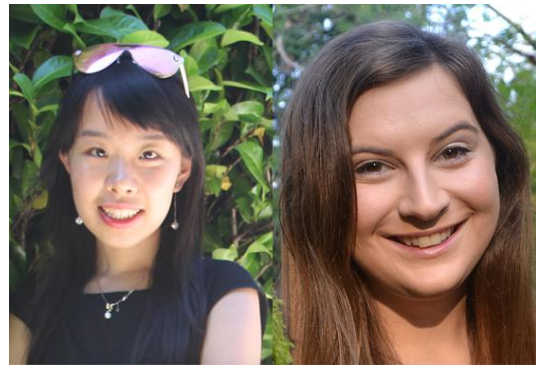
# Researchers join forces with industry to boost U.S. solar manufacturing

Working with leading domestic solar companies, the Washington Clean Energy Testbeds, NREL, UNC Chapel Hill, and the University of Toledo have formed the [U.S. Manufacturing of Advanced Perovskites Consortium \(US-MAP\)](#). This research and development coalition aims to accelerate the domestic commercialization of perovskite technologies. CEI Chief Scientist David Ginger, a member of US-MAP's executive board, spoke to the [Casper Star Tribune](#) earlier this year about advances in perovskite solar cells.



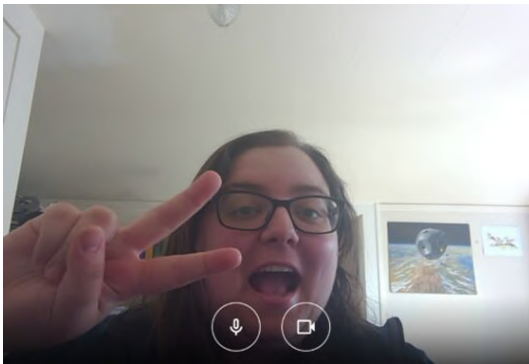
## **New website!**

[Our new website is here!](#) We'd like to thank the CEI students, faculty, and partners that contributed feedback and ideas. We hope you like it! Questions or comments, email [uwcei@uw.edu](mailto:uwcei@uw.edu).



## **Student Achievement Awards**

Yuanyuan Shi and Erica Eggleton received CEI's 2020 [Student Achievement Awards](#). Shi, who graduated from UW in June with a Ph.D. in electrical & computer engineering, won the Scientific Achievement Award for her work in machine learning for energy systems. Eggleton, a chemical engineering doctoral student, won the Outreach & Service Award for outstanding volunteer work in schools and at UW.



## **At-home learning during COVID-19**

Soon after COVID-19 closed schools, CEI developed [at-home learning resources](#) for K-12 parents, teachers, and students. In addition to lesson plans and science readings, we've offered virtual classroom visits from our clean energy ambassadors. Read more about this outreach work in [GeekWire](#).



## **That's debatable: Washington state can decarbonize in a decade**

CEI Director Dan Schwartz participated in [KUOW's live debate](#) on whether Washington state can decarbonize in the next decade--achieving zero emissions from our energy use. His teammate on the "con" side was Julia Barnett, an activist entering the 8th grade. On the "pro" side was UW

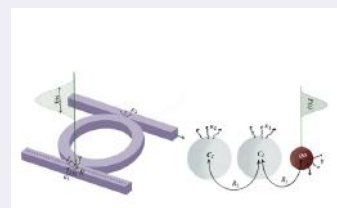
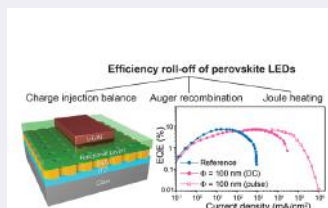
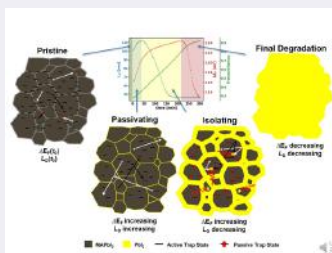
architecture professor Kate Simonen and Sarah Starman, a grassroots organizer.



## Environmental Innovation Challenge Winners

The CEI-sponsored “Clean Energy Prize” at this year’s [Alaska Airlines Environmental Innovation Challenge](#) went to Moment, a team of engineering students from Simon Fraser University in British Columbia. Moment is developing sustainable energy storage from used electric-vehicle batteries. The “Connie Bourassa-Shaw Spark Prize” was awarded to [ChocoLED](#), a team helmed by CEI Graduate Fellow Yunping Huang. ChocoLED is developing a low-cost, eco-friendly solution to lighting and displays by using cocoa beans.

## RESEARCH HIGHLIGHTS





**Using machine learning to forecast the degradation of perovskites**

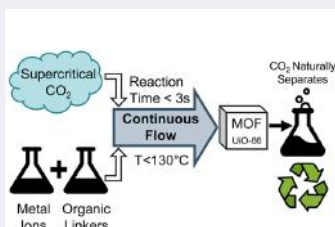
*ACS Energy Letters*

**Suppressing Efficiency Roll-Off at High-Current Densities for Ultra-Bright Green Perovskite Light-Emitting Diodes**

*ACS Nano*

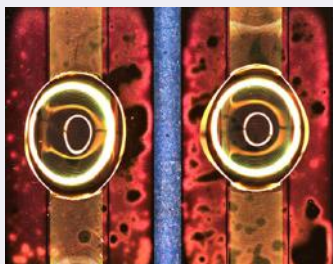
**A proposal towards a scalable single-photon source to create a quantum simulator**

*ACS Photonics*



**Scalable Continuous Flow Metal-Organic Framework (MOF) Synthesis Using Supercritical CO<sub>2</sub>**

*ACS Sustainable Chemistry & Engineering*



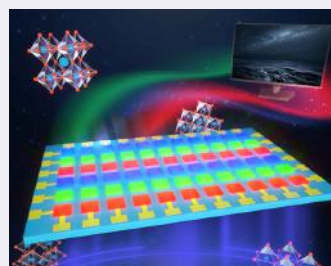
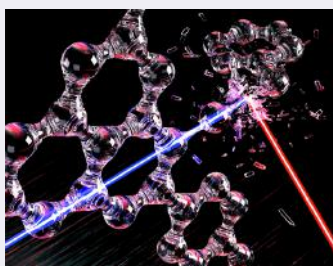
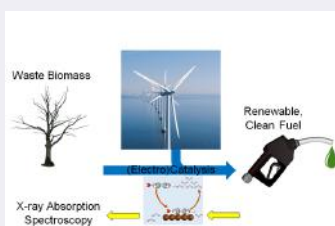
**Active self-cleaning surface design for solar panels with water droplets**

*Applied Physics Letters*



**The challenges and contradictions of Peru's Proyecto Masivo de Energía Solar**

*Elsevier Science*



[Understanding how solid catalysts powered by electricity convert organics in water to liquid hydrocarbons](#)

*Journal of Catalysis*

[Solar-to-fuel energy conversion: Multi-pulse laser experiments reveal a new way to control chemical reactions with light](#)

*The Journal of Physical Chemistry*

[Photolithographic Patterning of Perovskite Thin Films for Multicolor Display Applications](#)

*Nano Letters*

## JOB OPPORTUNITY

CEI's education director, Shaun Taylor, will retire this summer. CEI is looking for an [Associate Director of Education & Workforce Development](#).

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