

UT Energy Bulletin | May 2020

Energy@UT News



New UT Collaboration to Revolutionize the Way Methane Leaks Are Found

Project Astra, a new collaboration between UT's <u>McKetta Department of</u> <u>Chemical Engineering</u>, the Environmental Defense Fund, ExxonMobil, Gas Technology Institute and Pioneer Natural Resources Company, will leverage breakthrough technology to detect methane emissions and reduce releases into the atmosphere. Led by <u>Dave Allen</u>, the team will produce data to be used as the foundation for the Digital Methane Challenge, supported by the UT Energy Institute. Read more about Project Astra here.

Supercomputing Helps Model Coronovirus Impacts, Identify Treatments

Researchers at the <u>College of Natural</u> <u>Sciences</u> are on the front lines of discovery in the COVID-19 pandemic,





using the Frontera supercomputer at the <u>Texas Advanced Supercomputing</u> <u>Center</u> to help understand the virus and the path forward. From exploring the structure of the virus at the molecular level to forecasting the spread of the disease and developing vaccines, <u>learn</u> <u>more</u> about this partnership with the world's fastest academic supercomputer.

Blowing Up the Coronavirus: Using Diesel Engines to Remove COVID Indoors

UT's <u>Walker Department of Mechanical</u> <u>Engineering</u> is currently developing a way to use electric motor-powered diesel engines to burn SARS-CoV-2 particles through compression heating, which could potentially protect people from COVID-19 in crowded environments like hospitals and grocery stores. Inspired by project lead <u>Chris Rylander's</u> fire piston expertise, the team aims to deactivate the virus and sterilize the air in large indoor settings with the right combination of pressure and temperature. Read more <u>here.</u>



Turning Waste into Energy: Q&A with Professor Wen Song

Wen Song and her team at UT's Department of Petroleum and Geosystems Engineering are working to develop techniques to leverage coal ash and other waste streams as a potential source of critical materials. This can provide cost-effective domestic sources of rare earth elements to be used in the development of solar panels, magnets for wind power, vehicle electrification, and grid-scale energy storage, while reducing environmental impact. Read more about Dr. Song's research here.



Experts Optimistic About the Permian Basin's Post-COVID Resilience

In the wake of the recent collapse in oil prices and rise in Saudi Arabian oil production, U.S. oil companies have significantly cut back operations in the Permian Basin. However, the <u>Tight Oil</u> <u>Research Assessment (TORA)</u> <u>Project from UT's <u>Bureau of Economic</u> <u>Geology</u> expects to see a recovery, due to the area's untapped resource base. TORA researchers contend that Permian resilience will be further bolstered if companies with footholds in the region use this slowdown to undertake long-term planning. Read more <u>here.</u></u>



Rising Global Temperatures Could Reawaken Extreme Climate Patterns

Climate change simulations created by researchers from the UT <u>Institute for</u> <u>Geophysics</u> and <u>Jackson School of</u> <u>Geosciences</u> predict that global warming will disturb the Indian Ocean's surface temperatures in the coming decades, causing extreme weather phenomenons similar to El Niño as early as 2050. Read more about this discovery <u>here.</u>



Delia Milliron Reflects on Her Career 10 Years After Winning DOE Award

After being named the winner of the Department of Energy Office of Science's 2010 Early Career Award, Delia Milliron with the McKetta Department of Chemical Engineering has pursued the development of nanocomposite thin films with electrochromic properties that control both visible and infrared light that passes through glass. Her work helps facilitate energy-saving smart windows for buildings



and transportation, as well as upgrades to battery and capacitor electrode materials. Read more about <u>Dr. Milliron's</u> career <u>here.</u>

Switch Energy Alliance Announces Release of New Film

More than 2 billion people worldwide live without safe, reliable access to energy. Scott Tinker, director of UT's **Bureau of Economy Geology** and chairman of the nonprofit **Switch Energy Alliance (SEA)**, explores the implications of developing nations' lack of energy access in SEA's new film **Switch On**, the sequel to Switch. Click **here** to learn more and schedule an online screening of the film.

More news from around campus

- Cockrell School of Engineering: <u>Michael Pyrcz</u> named virtual instructor for <u>Transform2020 conference</u>
- UT Medical Branch, Galveston: <u>Scott Weaver</u> discusses a connection between <u>climate change and infectious diseases</u>
- McCombs School of Business: <u>Michael Sadler</u> weighs in on <u>recent oil</u> <u>volatility</u>
- Bureau of Economic Geology: Explore the history of the lightbulb with BEG's EarthDate podcast
- School of Law: EnergyTradeoffs podcast releases new May episodes
- Cockrell School of Engineering: Watch PBS's <u>Power Trip: The Story of</u> <u>Energy</u>, featuring <u>Michael Webber</u>
- KBH Center for Energy, Law, & Business: Watch KBH Center's recent <u>Distinguished Lecture</u>, "ESG in The Time of COVID-19 & \$15 Oil"

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