

March | 2021

CENTER FOR ECONOMIC GEOLOGY RESEARCH WELCOMES NEW RESEARCH SCIENTIST



The School of Energy Resources (SER) is pleased to welcome a new research scientist among its ranks in the Center for Economic Geology Research (CEGR). **Dr. Ying Yu** of Xi'an, China joined the department in February 2021.

A specialist in CO₂ foam characterization and flow behavior in porous media, Yu brings a wealth of knowledge to CEGR

where she will primarily work on the Wyoming CarbonSAFE project, which has recently entered Phase III.

Yu attended Northwest University in Xi'an, China where she earned a B.S. in Geology and Earth Sciences in 2013. She then came to the University of Wyoming, where she studied petroleum engineering, earning both her M.S. in 2015 and her Ph.D. in 2020.

[Continue Reading Here >>>](#)

EORI TO LEAD WYOMING OIL AND GAS FAIR

A fixture of Wyoming's oil and gas industry for nearly a quarter of a century will continue under the leadership of the University of Wyoming's Enhanced Oil Recovery Institute (EORI).

Starting this year, EORI has committed to host the Wyoming Oil and Gas Fair, an annual event started in 1997. EORI will take the reins from Dave and Kathy Hutton, who have managed the event for much of its history.

It's likely that this year's event will be held virtually. Information about the event will be shared as details are finalized.

Those with questions or seeking additional information should email Lon Whitman, EORI's technical outreach manager, at lon.whitman@uwo.edu.

HIGHLIGHTS

Academic Program

- The Academic Program is conducting interviews with candidates for the Academic Manager position.
- A minor has been developed for the Academic Program, but administrative approval has been put on hold by the UW Faculty Senate pending a university strategic plan.
- SER has entered discussions with the College of Law to develop a 3+3 program.
- Preliminary work is being conducted to add a possible concentration area in energy and economic policy.

Research Centers of Excellence

- *Center for Energy Regulation and Policy Analysis (CERPA)* Director Kipp Coddington is a featured speaker along with Professor Tara Righetti on a webinar discussing legal pore space issues. ***
- *CERPA* sponsored a survey conducted by Dr. Rob Godby and Dr. Mark Peterson of the College of Business. The survey examined how Wyoming citizens feel about budget options facing the state legislature and provided a useful interactive tool.

[See Survey & Interactive Tool](#)

- *The Center for Carbon Capture and Conversion (CCCC)* is seeking to hire a new Senior Research Scientist as well as an Assoc. Research Scientist. Please encourage qualified candidates to [apply!](#)

*** more details in features

To submit news and updates email: Christine.reed@uwo.edu



School of Energy Resources

STUDENT PROFILE: MEET PAIGE TRENT



One of the most visible and prominent advocates for the Energy Resources Development and Management (ERDM) degree at the School of Energy Resources (SER) is **Paige Trent**. A long-time resident of Laramie, Trent had no idea that the degree program even existed when she enrolled at

the University of Wyoming. But, somewhere in the middle of her freshman year at the Haub School for Environment and Natural Resources (ENR), she crossed paths with SER and promptly signed up as a double-major.

Four years later, Trent has emerged as a leader among the campus community, a highly skilled energy scholar, and is on a trajectory to attend law school following graduation.

While the Haub School opened the door for Trent to the world of energy and natural resource management, SER is where she has found an academic home.

A student in the Professional Land Management (PLM) concentration of the degree, Trent discovered her proclivity and passion for energy policy and regulation.

[Continue Reading >>>](#)

SER STUDENT INITIATED PROJECT BECOMES A BILL IN THE LEGISLATURE

Work initiated by **Professor Kris Koski** and students in our Land Management Concentration to remove racist covenants in Wyoming is now in a bill (HB0091) before the Wyoming Legislature. The bill underwent a third reading in the WY House of Representatives on March 3rd and passed with an overwhelming majority.

The covenants are no longer enforceable and violate the law. However, the restrictive language still remains in the covenants and is difficult for landowners to remove. Legislative action would provide a means for removing the exclusionary language from the covenants permanently.



CEGR RESEARCH SCIENTIST CHARLES NYE LEADS ENERGY EFFICIENCY PROJECT

A project funded by the University of Wyoming Campus Sustainability Committee (CSC) and UW Operations has resulted in safer, more energy efficient lighting in the Guthrie House.

New LED lights were installed last week in the building that houses the Honors College. Heading the project was SER Research Scientist, **Charles Nye**.

[Read More Here >>>](#)

HIGHLIGHTS CONT.

Research Centers of Excellence Cont.

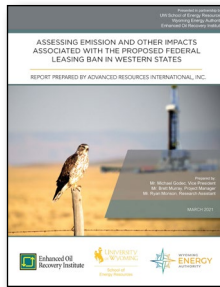
- The USA Soy Bean Board has approved an outline for a research proposal in the CCCC to use high oleic acid soybean oil (HOSO) for the manufacture of coal derived asphalt. The full proposal is due by end March 2021.
- CCCC is making preparations for the field demonstration of coal derived soil amendments at the Lingle and Powell agricultural research stations. The demonstrations, which will include sugar beets and sweet corn, will start at the end of March 2022.
- CCCC has completed an outline design of a field demonstration of the pyrolysis step of the coal refinery in collaboration with Atlas Carbon. An engineering cost estimate will now be produced.
- Update on CarbonSAFE: *The Center for Economic Geology Research (CEGR)* is making preparations to oversee the drilling of a second deep test well at the CarbonSAFE test site in early summer. Led by **Fred McLaughlin**, *CEGR* staff are working to develop the field testing, coring, and logging plan for the field activities.
- *CEGR* scientist **Charles Nye** is in Gillette this week installing the soil gas CO₂ monitoring network for the Wyoming CarbonSAFE project. The network will deploy soil-CO₂ sensors near legacy wellbores and other strategic locations to develop CO₂ baselines for the project.
- *CEGR* modeling team led by **John Jiao**, is working closely with project team member Los Alamos National Laboratory to develop machine learning models to (1) detect data gaps/issues; (2) predict site injectivity; (3) guide site exploration and experiment design; and (4) detect monitoring anomalies for the CarbonSAFE project.



WEA, SER AND EORI STUDY REVEALS SEVERAL IMPACTS OF PRESIDENT BIDEN'S PROPOSED FEDERAL LEASING BAN IN WESTERN UNITED STATES

The study reveals several impacts of the proposed ban that include:

- Greenhouse gas emissions could increase because of a federal leasing and/or drilling ban.
- Without an increase in oil and/or gas prices, US oil and gas production could decrease by 21% to 34% by 2030.
- A ban on future drilling on federal lands would prohibit development of 600 to 850 million barrels of incremental oil potential from CO₂ EOR in Wyoming, that would facilitate potential geologic storage of 420 to 570 million metric tons of CO₂.
- Without an increase in oil and gas prices, drilling levels in the six western states could drop by as much as 35% due to federal leasing/drilling policies.
- In Wyoming, by 2030, drilling levels decline by 28%, growing to 43% by 2050.
- In Wyoming, declines in expenditures associated with oil and gas well drilling would reach over \$800 million per year by 2030.
- In Wyoming, declines in state revenues associated from oil and gas production could reach over \$600 million per year by 2040.



[Read the entire study here >>>](#)

RIGHETTI AND CODDINGTON: FEATURED SPEAKERS ON PORE SPACE LEGAL ISSUES



Please Join School of Energy Resources Professor Tara Righetti and Center for Energy Regulation & Policy Analysis (CERPA) Director Kipp Coddington for a webinar on legal pore space issues.

They will be the featured speakers on a webinar presented by the Great Plains Institute as part of the Carbon Capture Deployment Initiative.

CO₂ Transport Infrastructure MOU Webinar: Pore Space and Legal Liability, will take place Thursday, March 18, 2021 at 9:00 am MDT.

Registration is required. This event is free and open to the public, and worth 1.5 hours of CLE credit with the Wyoming State Bar!

[Register Here >>>](#)

HIGHLIGHTS CONT.

Research Centers of Excellence Cont.

- *CEGR* scientists **Selena Gerace** and **Erin Phillips** are developing a roadmap to provide guidance on CO₂ injection well permitting (Class VI). The work is funded under the Plains CO₂ Reduction Initiative (PCOR) along with help from *CERPA*.
- *CEGR* is conducting a Rare Earth Element Coal Ash Pilot. The project is a 3-yr collaboration with NETL to develop economic REE extraction methodologies for PRB Coal Ash. *CEGR* scientist **Davin Bagdonas** is working closely with Basin Electric and Black Hills Energy to collect and characterize samples for the project.
- *CEGR* has signed a new cooperative agreement with NETL titled "Cores of Opportunity" which seeks to identify the distribution and occurrence of rare earth elements at the mine-scale. The program is led by **Erin Phillips** and is funding graduate student **Sydney McKim** (Geology & Geophysics) to analyze the Kemmerer Coal Mine core collection for rare earth elements.



- As part of the U.S. China Clean Energy Research Center (CERC), *CEGR* scientists



John Jiao and **Heng Wang** are finalizing the field development plans for the Baibo enhanced oil recovery field pilot in the Ordos Basin of China.



- SER faculty member **Maohong Fan** and others in *CEGR* are commissioning a CO₂ Capture Pilot to be located at WRI. The pilot will collect the needed parametric data for the catalyst to be deployed at the pre-commercial scale at the amine capture systems at the national Carbon Capture Center located in Wilson, Alabama.

COVID-19 VACCINE UPDATE

According to the University of Wyoming, Albany County's COVID-19 vaccination program is nearing the start of Phase 1c of the [Wyoming Department of Health's distribution guidelines](#).

The list of those who qualify under Phase 1c includes people between the ages of 50 and 64 as well as essential critical infrastructure workers. UW faculty and staff members will qualify under the "essential critical infrastructure workers" category.

As a reminder, members of the UW community are encouraged to sign up for [My Health Connection](#), IMH's patient portal, to be notified when a vaccine is available.

Current distributors of the vaccine in Albany County include Albany County Public Health, the pharmacies at Walgreens, Wal Mart, and Pole Mountain Pharmacy. If you are interested in receiving the vaccine earlier than your scheduled time, some people have had luck in getting on the "extra dose lists" at these locations.

GOVERNOR GORDON'S NET-NEGATIVE CARBON EMISSION CHALLENGE

Governor Mark Gordon recognized the hard work that the School of Energy Resources and its partners are conducting in his 2021 State of the State Address. He also set a challenge for Wyoming to achieve net-negative CO₂ emissions.

"I challenge you in making Wyoming net-negative in CO₂ emissions. Fossil energy makes that possible..... Wyoming can and must be a leader in this and other emerging technologies. Even as we pursue the development of resources such as wind and solar. I ask for your support as we actively and thoughtfully collaborate with industry, entrepreneurs, local communities and others to literally produce our way to net negative carbon emissions -- not by regulating away our past, but by innovating our way to a future. That is what the Wyoming Energy Authority and the University of Wyoming School of Energy Resources are working on."

Under the incredible leadership of **SER Executive Director Holly Krutka**, The School of Energy Resources and its partners are committed to continue to lead energy innovation and policy analysis in the state in order to make this challenge a reality.



HIGHLIGHTS CONT.

General Announcements

- The Energy Resources Council meeting has been moved to April. Please see calendar dates below for new deadlines and updates.
- SER is planning to host a virtual booth at the NAPE Summit 2021. The event will be a hybrid event with both virtual and in-person options beginning in August. For more details on the event, visit their [website](#).

GEOLOGY JOKE *Happy St. Patrick's Day!!!*

Q: Why do people wear shamrocks on St. Patrick's Day?



A: Because real rocks are too heavy.

IMPORTANT DATES

- **Pore Space Legal Liability Webinar**
March 18, 2021
- **Next All Staff Meeting**
March 23, 2021 | 9:00 am - 10:00 am
- **Next ERC Division Reports Due**
March 30, 2021
- **Spring Break - No Classes**
March 31 - April 4, 2021
- **Next ERC Meeting**
April 16, 2021