spring 2025

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ABOUT THE SCHOOL OF ENERGY RESOURCES

The University of Wyoming (UW) School of Energy Resources (SER) was created in 2006 to enhance the University's energy-related education, research, and engagement. SER directs and funds cutting-edge energy research and technology development. It further bridges the gap between academics and industry through targeted engagement efforts. The partnerships formed between academics and industry ensure programs are relevant, current, and deliver impact and high value to stakeholders and the state.

Since its inception, SER has maintained flexibility in its focus and structure to meet the changing needs of Wyoming's energy industries and the state's economy–which is now more critical than ever.

This quarterly newsletter highlights SER's significant achievements from mid-January 2025 through April 2025, in academics, research, newly emerging areas of focus, and engagement to keep UW and Wyoming at the forefront of the energy sector.





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ACADEMICS

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UW's Dario Grana to Receive 2025 Felix Chayes Prize

Dario Grana, a School of Energy Resources professor and Wyoming Excellence Chair in the University of Wyoming Department of Geology and Geophysics, has been named the 2025 recipient of the Felix Chayes Prize for Excellence in Research in Mathematical Petrology.

The prize, awarded in alternating years by the International Association for Mathematical Geosciences (IAMG), is presented to recipients with exceptional potential and proven research ability and for outstanding contributions to statistical petrology or related applications of mathematics or informatics.

The award will be presented at the 23rd annual conference of the IAMG in Zhuhai, China, in October. Grana also will deliver the keynote address, discussing "Revealing Subsurface Petrophysical Properties Through Bayesian Learning."



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UW School of Energy Resources and Engineering College Launch Grad and Undergrad Nuclear Certificate Programs

The University of Wyoming will offer new nuclear-focused certificates at both the undergraduate and graduate levels to prepare UW students for careers in the nuclear energy industry.

As approved by the UW Board of Trustees during its November meeting, the School of Energy Resources, in collaboration with the College of Engineering and Physical Sciences, will launch the two new nuclear energy sciences certificates available to students beginning this fall.

Both certificates received final approval from the Higher Learning Commission earlier this month.

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Energy Resource Management and Development Student Excels in Wyoming Office of Governor Internship

Harper Pollock, a University of Wyoming junior from Casper, was selected for an internship with the Wyoming Office of the Governor during the spring of 2025.

Studying Energy Resource Management and Development (ERMD) with a concentration in Energy and Environmental Systems (EES) in the School of Energy Resources, as well as a Land Administration Certificate from SER, Pollock has a deep interest in both the Wyoming agricultural and energy sectors. Involved in both the Student Chapter for Energy Resources and the Future Farmers of America (FFA), she is an avid adventurer and natural resources aficionado.

Pursuing the internship opportunity has allowed her to delve further into both subject areas, particularly on the policy side.



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ACADEMICS

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UW SER and Engineering Students Tour Drill Site, **Attend Commission Meeting**

Students from the University of Wyoming's School of Energy Resources and College of Engineering and Physical Sciences recently participated in two educational programs.

The 17 students attended the March session of the Wyoming Oil and Gas Conservation Commission (WOGCC) and visited an active drill site to gain firsthand insight into the regulatory framework and operational realities of Wyoming's oil and gas industry.

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Eight School of Energy Resources Students Represent UW at 2025 NAPE Summit

Eight University of Wyoming students in the School of Energy Resources academic program attended the 2025 North American Petroleum Expo (NAPE) Annual Summit Wednesday-Friday, Feb. 5-7, in Houston, Texas.

Gwen Andela, of Gillette; Connor Fleming, of Huntersville, N.C.; Ryan Fogg, of Carpenter; Kendall Klos, of Johnsburg, Ill.; David Meraz-Ordonez, Addison Potts and Lars Quinlivan, all from Cheyenne; and Rachel Reese, of Johnstown, Colo., were in attendance to represent UW.





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Academics Highlights

- The University of Wyoming's School of Energy • Resources will be offering a 1-credit course on workforce development in fall 2025. The synchronous course is open to working professionals interested in attending online! Reach out to our academic program to learn more and apply: seracad@uwyo.edu.
- The University of Wyoming's School of • Energy Resources once again hosted the **Rocky Mountain Professional** Landman Conference in April. Headlining the event was Nancy McCaskell, the current president of the American Association of Professional Landmen (AAPL). Presentation recordings will be made



available on the UW SER YouTube Channel.

In recognition for her academic achievements, senior Kendall Klos was nominated for the American Association of Professional Landmen (AAPL) Outstanding Graduate Award as part of the Landman Scholarship Trust (LST). LST recognizes an **Outstanding Graduate**

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each year from graduating seniors of AAPL's accredited college or university undergraduate programs who are pursuing a career as a landman and have demonstrated great leadership in work, extracurricular activities and their student landmen's association. UW is one of 11 accredited programs by the AAPL.

WATCH HERE >

RESEARCH

Hydrogen Energy Research Center

H₂ERC Continues to Advance Research on "Orange Hydrogen"

Program Manager **Charles Nye** in the Hydrogen Energy Research Center (H₂ERC) in the School of Energy Resources (SER) attended the ARPA-E Energy Innovation Summit along with Petroleum Engineering Ph.D. student **Sheida Sheikheh**, and Assistant Research Professional **Robert Cincotta**. The conference featured a presentation on the University of Texas at Austin-led project on "orange hydrogen," which is naturally produced from rust-reactions in iron rich rocks using natural catalysts.

In collaboration with H₂ERC, the team is exploring the feasibility of this process on different rock types across the United States, including basalts from the Midcontinent Rift in Iowa, banded iron formations in Wyoming and ultramafic rocks in the Midwest.

Center for Energy Regulation and Policy Analysis

CERPA Releases New White Paper Exploring Marketability of Wyoming Certified Natural Gas

The Center for Energy Regulation and Policy Analysis in the School of Energy Resources has released a new white paper exploring Certified Natural Gas in Wyoming.

Authored by Senior Research Professional **Esther Wagner**, the paper is centered on maintaining and expanding Wyoming's natural gas export markets.

Certified natural gas – also known as differentiated natural gas – is natural gas sold based on its verifiable environmental properties. As leaders in the industry, Wyoming producers are actively meeting certified natural gas criteria and were among the first to achieve the coveted "gold standard" emissions rating.

In order to provide clarity on the reasoning behind the standard and why it is relevant to Wyoming moving forward, the white paper explains the purpose of certification, provides information on the process and components of certified natural gas, differentiates between certification programs and voluntary frameworks, and addresses the slow growth of certified natural gas to date.



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CERPA Launches Issue Snapshot Series

SER's Center for Energy Regulation and Policy Analysis (CERPA) has launched a new paper series called "Issue Snapshots." These mini-papers provide an overview of various topics in a manageable size.

The first paper in the series focuses on the outlining leasing, permitting, rules and regulations for naturally occurring hydrogen exploration and production, written by **Esther Wagner**, Senior Research Professional on Energy Policy at CERPA.

A second paper authored by Assistant Research Professional **Dawson Kluesner**, focuses on the decline in coal-derived electricity generation as a primary catalyst for the decline in Wyoming coal production through an analysis of the electricity generation portfolios in the top ten states, export demands for Wyoming coal, and changing markets.

Download both papers and more resources on the CERPA website.

CERPA PUBLICATIONS >

Center for Economic Geology Research

REE Extraction from Powder River Basin Coal Byproducts Project Testing Begins at Wyoming Innovation Center

A National Energy Technology Laboratory (NETL) collaboration with the University of Wyoming's School of Energy Resources to develop technologies and methods for extracting rare earth elements from coal fly ash has started testing on a pilot-scale production facility at the Wyoming Innovation Center near Gillette.

Funded by the U.S. Department of Energy's Technology Commercialization Fund, the pilot plant will scale up the extraction technologies previously developed in the laboratory by NETL, and will work to demonstrate the economically viable production of rare earth elements from coal-related feedstocks.



SER Research Professional Cole Messa tests rare earth element extraction.

READ MORE >

Energy Engagement, Leadership, and Careers Program

UW SER to Host Inaugural Critical Minerals Leadership Academy

The University of Wyoming School of Energy Resources will host the inaugural Critical Minerals Leadership Academy (CMLA) Aug. 3-10 in Laramie.

Sponsored by the U.S. Department of Energy, the CMLA will assemble future leaders with diverse backgrounds to build a strong domestic critical minerals network and contribute to the buildout of critical minerals industries.

With an interdisciplinary faculty, the CMLA 2025 program will consist of lectures, workshops and field excursions in Wyoming, highlighting conventional and unconventional critical mineral research and development.

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Jurisprudence of Underground Law and Energy Group

UW School of Energy Resources Releases Community Resource Guide for CO₂ Pipelines

The University of Wyoming's School of Energy Resources recently released a new resource guide for Wyoming landowners that addresses frequently asked questions regarding carbon dioxide (CO_2) pipelines.

The publication, "What Every Wyoming Community Should Know About Carbon Dioxide (CO_2) Pipelines," provides a general overview of the where, why and how of CO_2 transport, and includes sections addressing safety concerns, siting and permitting, and landowner guidance.

READ MORE >

DOWNLOAD LANDOWNER GUIDE >





Center for Carbon Capture and Conversion

Solvent Extraction Pilot Plant Advances Toward Operation

As part of the carbon engineering initiative in the School of Energy Resources, the Center for Carbon Capture and Conversion has developed a solvent extraction coal-processing technology to create a valuable feedstock, resulting high-value products derived from Wyoming coal.

Moving out of the lab, a scaled-up pilot plant demonstrating the solvent extraction technology is nearing construction completion and is anticipated to begin operating in the summer.

The pilot plant will provide much needed samples for both roofing and paving industrial research facilities to test the product for wide-scale use.



Pictured: a group from the Wyoming Department of Transportation visiting the Solvent Extraction Pilot Plant in Laramie.

Research Highlights

- The fifth paper in a white paper series dedicated to exploring the economic feasibility of a nuclear industry in Wyoming was released by the *Center for Energy Regulation and Policy Analysis (CERPA)*. The latest installment focuses on the challenges and opportunities associated with spent fuel.
 READ HERE >
- Scarlett Forrest, an assistant research scientist in the Jurisprudence of Underground Law and Energy (JOULE) research group published



an article in the Journal of the Texas State Bar Section of Oil, Gas, and Energy Resources Law (OGERL) exploring the legal implications of consolidated interim storage facilities for nuclear waste.

 The research team led by Kam Ng, the provost's term professor in the Department of Civil and Architectural Engineering and Construction Management, published an article the Journal of Building Engineering on the use of coal-derived char in various cement-based construction and building materials. READ HERE > SER's Director of the Center for Carbon Capture and Conversion (CCCC) Trina Igelsrud Pfeiffer traveled to Bergen, Norway where she met up with SER's Director of Cross-Cutting Programs Erin Phillips. Phillips is spending the semester in Bergen as a Fulbright Association Scholar conducting research related to critical minerals.

While there, the pair visited the Northern Lights CCS Facility and Igelsrud Pfeiffer presented to researchers at the NORCE Norwegian Research Centre on the CCCC's carbon engineering program.



• **Tara Righetti**, Co-Director of the *Nuclear Energy Research Center (NERC)* attended the International Nuclear Law Essentials



2025 Session in Paris, France. While there, she connected with the Organisation for Economic Co-operation and Development (OECD) Nuclear Energy Agency.

OUTREACH

OUTREACH

Spring 2025 Distinguished Speaker Series

The University of Wyoming School of Energy Resources hosted its regular Distinguished Speaker Series during the spring 2025 semester. The series is designed to bring in experts from all disciplines as they relate energy. Speakers regularly come from academia, industry, government, and business sectors.

Featured speakers in the spring included: **Temple Stoellinger**, Associate Dean in the University of Wyoming Haub School of Environment and Natural Resources, Wyoming Excellence Chair, and Co-director of the Gina Guy Center for Land and Water Law at the UW College of Law; **Julian Fisher**, President of Fisher Engineering and Contracting Inc.; **Kris Walker**, Staff Research Scientist with Chevron; and **Dimitrios Papavassiliou**, the David L. Boren Professor and C.M. Sliepcevich Professor & Director of the School of Sustainable Chemical, Biological and Materials Engineering at the University of Oklahoma.



Energy Frontier: The Wyoming Landscape Podcast Reaches 50 Episode Mark

The podcast of the School of Energy Resources (SER), "Energy Frontier: The Wyoming Landscape," released 50 episodes in its first year of production. Hosted by SER Executive Director Holly Krutka, episodes bring together academic researchers, industry professionals, students, policymakers and more to explore energy topics, including SER's research efforts and developing Wyoming projects.

Following its latest milestone, the podcast will now move to a schedule releasing episodes every other week. Tune in to learn about innovative energy research and projects in Wyoming! Available to listen to on all streaming platforms.



LISTEN NOW >

Outreach Highlights

 Please stay up to date on our upcoming events by checking the
EVENTS CALENDAR >



- The School of Energy Resources participated in the STEM Roadshow organized by the UW Science Initiative to teach K-6 students in Wyoming about a wide range of STEM topics. The SER team taught students about energy, and how coal is formed with a handson learning activity developed by Outreach Director Christine Reed and Outreach Coordinator Sabrina Kaufman.
- The research team of Charles Nye and Sarah Buckhold in SER's Hydrogen Energy Research Center (H₂ERC) provided an interactive demonstration to create hydrogen in the UW residence halls. Using a simple electrolysis system, students could visually see the



separation of water molecules into hydrogen and oxygen.

Looking for ways to stay connected to SER?

Contact SER Director of Outreach Christine Reed at christine.reed@uwyo.edu

ENERGY RESOURCES COUNCIL

UW School of Energy Resources Adds New Members to Energy Resources Council

The University of Wyoming's School of Energy Resources (SER) has added four new members to its Energy Resources Council (ERC).

The ERC plays a vital role in advising SER on its research priorities, educational programs and outreach initiatives. The council is composed of leaders from industry, government, academia and the community. The council represents a broad range of perspectives on energy issues, helping provide direction on SER priorities.

Bill Miller, executive vice president of the Anschutz Corp., and **Peter Gottfried**, president of Natural Systems Analysts Inc., both were nominated by **Gov. Mark Gordon** and confirmed by the Wyoming Senate. Both bring extensive experience and unique perspectives to the council, enhancing its capacity to guide SER's objectives in addressing critical energy challenges.

In addition to the governor-appointed positions, the ERC is statutorily required to include representatives of the Wyoming Legislature to ensure that SER's work is relevant, impactful and aligned with the needs of Wyoming and the nation. Serving a minimum of a two-year term, one member comes from the Wyoming Senate, appointed by the president of the Senate, and the other from the House of Representatives, appointed by the speaker of the House.

New to the ERC, beginning in 2025, are **Sen. Ed Cooper** and **Rep. Scott Heiner**. **Paul Ulrich**, Vice President, Jonah Energy LLC also joined the board as a liaison for the UW Board of Trustees.

READ MORE >



Picture left to right: Bill Miller, Peter Gottfried, Sen. Ed Cooper, Rep. Scott Heiner, Paul Ulrich

Outgoing ERC Members and Liaisons

The School of Energy Resources would like to extend our sincerest thanks to the outgoing board members of the Energy Resources Council.

Carl Bauer | President of C.O. Bauer Consulting Inc.

Rep. Donald Burkhart, Jr. | Wyoming Legislature, formerly representing District 15

Sen. Jim Anderson | Wyoming Legislature, representing District 28 Vello Kuuskraa | President of Advanced Resources International Dave True | Co-owner of True Companies, former UW Trustee



Picture left to right from top: Vello Kuuskraa, Carl Bauer, Rep. Don Burkhart, Sen. Jim Anderson, Dave True

PHILANTHROPIC SUPPORT

Wold Foundation Supports Student Success in Oil and Gas with New UW Excellence Fund

A major gift from the Wold Foundation to the University of Wyoming School of Energy Resources (SER) will enhance the educational opportunities for UW students and to support its long legacy of serving Wyoming's oil and gas sector.

The \$225,000 contribution is doubled by the state of Wyoming's matching program to create the Wold Foundation Oil and Gas Student Success Fund.

The fund will provide graduate fellowships to students working with the SER Centers of Excellence and affiliated faculty on oil and gas projects. It will support scholarships,

experiential learning opportunities and events, engagement activities with Wyoming high schools and community colleges, and student organizations.

WOLD FOUNDATION

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Hassler Family Makes Major Gift to UW SER to Support Emerging Energy Research Opportunities

A major gift from Wyoming engineer and energy strategist **Bryan Hassler** will support energy innovation at the University of Wyoming (UW) School of Energy Resources (SER).

Known as the Hassler Family Energy and Emerging Opportunities Excellence Fund, the significant contribution – doubled by the state of Wyoming's matching program – will fuel critical initiatives within UW's energy programs and support emerging opportunities that drive economic diversification across the state.

The Hassler Family's gift underscores a commitment to advancing Wyoming's role in the evolving energy landscape and fostering the development of new industries. The funds will be strategically allocated to enhance excellence, provide financial support, and to cultivate promising departmental opportunities at SER.

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MAKE A GIFT



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School of Energy Resources