

THE Core SAMPLE

Internal Newsletter of the School of Energy Resources

January | 2023

PEABODY GIFT TO UW SCHOOL OF ENERGY RESOURCES SUPPORTS LONG-TERM ENERGY INNOVATION

A \$500,000 gift by Peabody, a leading coal producer, to the University of Wyoming School of Energy Resources (SER) will support innovation in the field of carbon engineering and carbon management. In addition to the initial gift, Peabody has made a sustaining commitment of 1 cent per ton of Wyoming coal sold by Peabody to support these efforts.

The gift will create the Peabody Education, Innovation and Technology Fund to support SER's pioneering solutions in carbon engineering, management, capture, utilization and storage, as well as reclamation, alternative coal uses, regulatory analysis and policy, and more. These technologies are important to reduce carbon emissions while also meeting the world's energy needs.



[Continue Reading >>>](#)

PUREWEST ENERGY GIFT TO UW SCHOOL OF ENERGY RESOURCES ADVANCES NATURAL GAS RESEARCH

A \$250,000 gift from PureWest Energy LLC to the University of Wyoming School of Energy Resources (SER) will support Wyoming natural gas research.

The contribution will establish the PureWest Energy Natural Gas Research Fund to support research conducted by SER faculty, staff and students that is focused on Wyoming's natural gas — methane detection and abatement, blue hydrogen, potential blockchain applications, and carbon capture, utilization and storage.



[Continue Reading >>>](#)

HIGHLIGHTS

Research Centers of Excellence

- The *Center for Economic Geology Research (CEGR)* will be awarded a \$10.5 million grant from the Department of Energy for the HERO Basalt CarbonSAFE Project. More details in Feb. Issue!

- Researchers in the *Center Carbon Capture and Conversion (CCCC)* published an article in the *Journal of Material Sciences*. The article, "Development of coal-derived carbon-based structural unit as a potential new building material," was co authored by Ph.D. student Md Tarik Hossain, SER Research Scientist Chooikim Lau, Postdoctoral Research Associate Hua Yu & Associate Professor Kam Ng. [Download Article >](#)



Academics

- Professional Land Management (PLM) Student **Micah Brandt** was featured in a UW Institutional Marketing video to promote the PLM program. [Watch Here >](#)



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



School of Energy Resources

SCHOOL OF ENERGY RESOURCES ANNOUNCES PROPOSAL WINNERS FOR NUCLEAR-RELATED RESEARCH AT UW

The University of Wyoming's School of Energy Resources (SER) has selected three proposed research projects to receive funding for nuclear-related research at UW.



— **Charlie Zhang**, an assistant professor in civil and architectural engineering, leads the project titled “Economic Study of Adopting or Becoming a Manufacturer of Components of Small Modular Reactors (SMR) or Micro Reactors (MR) to Improve Wyoming Economy,” along with Selena Gerace, an SER associate research scientist.

— **Caleb Hill**, the J.E. Warren Chair and an associate professor of chemistry, and co-director of the Nuclear Energy Research Center (NERC), leads the project titled “Establishing a Nuclear Chemistry Core Facility at the University of Wyoming.”

— **Bradley Carr**, an associate research scientist in the Department of Geology and Geophysics and the director of the UW Near-Surface Geophysics Instrument Center, leads the project titled “Pilot Study of Integrated Geophysical Method Characterization of Deposition/Roll Front Uranium Deposits in the Shirley Basin, Wyoming.” Additional collaborators on his project include professional geologists Terrence Osier and John DeJoia, with Strathmore Plus Uranium Corp.

[Continue Reading >>>](#)

NUCLEAR ENERGY RESEARCH CENTER RELEASES WHITE PAPER SERIES

The Nuclear Energy Research Center (NERC) at the UW School of Energy Resources (SER) has released five white papers on nuclear-related topics relevant to Wyoming.

The objective of the NERC white paper series is to share preliminary research conducted on nuclear-related energy issues in the state as they emerge to serve as a timely and relevant public resource.

These projects were supported with program development funds as part of the Emerging Market Analysis (EMA) initiative led by Idaho National Lab (INL). The collaborative effort includes researchers from INL, University of Michigan, University of Alaska, MIT, and Boise State University.

[Continue Reading >>>](#)



HIGHLIGHTS

Academics Cont.

- Professor Tara Righetti wrote a blog post for the Environmental Law Institute's "Vibrant Environment Blog" on the 45Q Tax credit and CCUS. [Read Here >](#)

General Announcements

- Executive Director Holly Krutka was featured in the video "Managing Our Carbon," produced by the *Rational Middle*. [Watch Here >](#)



Dr. Holly Krutka
Executive Director
School of Energy Resources
University of Wyoming

DR. KAM NG NAMED AMONG INAUGURAL PROVOST TERM PROFESSORSHIPS

Six University of Wyoming faculty members have been selected for inaugural Provost Term Professorships.

With faculty excellence funding from the UW Board of Trustees and the UW Foundation, Provost and Executive **Vice President Kevin**

Carman announced four Provost Term Professorships beginning this year and two that will start in 2024.

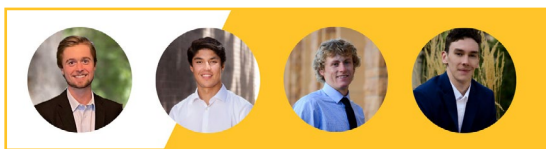
Awardees for 2023 include **Dr. Kam Ng**, an associate professor in civil and architectural engineering, and adjunct professor for SER. His research focuses on transportation and energy geotechnics, and innovative construction materials.

[Continue Reading >>>](#)



FOUR SCHOOL OF ENERGY RESOURCES SENIORS REPRESENT UW AT 2023 NAPE ANNUAL SUMMIT

The School of Energy Resources is sending four graduating seniors to the



2023 North American Petroleum Expo (NAPE) Annual Summit event taking place January 31-February 3 in Houston, Tex.

Founded in 1993 by the American Association of Professional Landmen (AAPL), NAPE is an organization to benefit the energy industry at large through programs such as education, legislative and regulatory advocacy, technical publications, public lands access efforts, scholarships and more.

Kieran McMullen and **Eli Vigil**, both of Castle Pines, Colo., along with **Dayton Reese** of Brighton, Colo., and **Montgomery Hughes** of Claremore, Okla., will represent the University of Wyoming at the event. All majoring in Energy Resource Management and Development (ERMD) at SER, the quartet of students have all pursued the Professional Land Management (PLM) concentration within the program.

[Continue Reading >>>](#)

UW STUDENTS AWARDED SCHOLARSHIPS IN MARTIN KNAUSS EXPERIENTIAL ENERGY EDUCATION COMPETITION

Students in the University of Wyoming's School of Energy Resources (SER) and the College of Engineering and Physical Sciences recently received scholarship awards as part of the Martin Knauss Experiential Energy Education competition.

The winners of the competition, receiving scholarships totaling \$4,500, were:

— First place: **Ryan Jardee**, from Franktown, Colo., with a dual major in petroleum engineering and chemical engineering.

— Second place: **Gavin Geertson**, of Gillette, with a dual major in mechanical engineering and energy systems engineering.

— Third place: **Kieran McMullen**, from Castle Pines, Colo., majoring in energy resource management and development, with a concentration in professional land management, as well as a dual degree in finance, with a minor in mathematics.



[Continue Reading >>>](#)



Pictured left to right: SER Professor of Law Tara Righetti, Dayton Reese, Gov. Mark Gordon, Elijah Vigil Vigil, Montgomery Hughes, Kieran McMullen and SER College Relations Representative Karolina Klatka.

IMPORTANT DATES

- **Hydrogen Energy Awareness Event**
February 8, 2023
- **National Women in STEM Day**
February 11, 2023
- **Distinguished Speaker Series - Skip York (Energy Economics)**
February 28, 2023
- **UW Spring Break**
March 13-17, 2023
- **Directors Reports Due for ERC**
March 17, 2023
- **Distinguished Speaker Series - Marne Jones (Public Utilities)**
March 20, 2023
- **Distinguished Speaker Series - Sondes Kahouli (International Energy Econ.)**
March 22, 2023
- **Distinguished Speaker Series - Mark Northam (Energy Trans. in Norway)**
March 29, 2023
- **Carbon Energy Innovation Summit**
March 30, 2023
- **Energy Resources Council Meeting**
March 31, 2023



SER SPONSORED STUDENTS PRESENT RESEARCH POSTERS AT LEGISLATIVE RECEPTIONS

After an abrupt change of plans due to the good 'ol Wyoming weather, SER-funded graduate and doctoral students presented their research posters at legislative receptions during the January session, in lieu of the WEA legislative luncheon.

Graciously invited to attend the receptions hosted by the Petroleum Association of Wyoming (PAW) and the Wyoming Mining Association (WMA), students were able to showcase their projects to new and returning legislators, as well as industry representatives.

Students represented at the events included:

--**Ellen Polites**, Ph.D. Candidate, Geology & Geophysics
"Integrity of the Mowry Shale as a Caprock for Carbon Storage"
Advisor: **Dr. John Kaszuba**

--**Sophie Stuart**, Masters Student, Geology & Geophysics
"Distribution of Io-exchangeable Rare Earth Elements and Critical Minerals in Coal-hosted Clays of the Powder River Basin, WY"
Advisor: **Dr. John Kaszuba**

--**Moustafa Aly**, Ph.D. Candidate, Petroleum Engineering
"Effect of Fracture Orientation on Foam Flow Performance in Sandstones"
Advisor: **Dr. Soheil Saraj**

--**Gideon Dordzie**, Ph.D. Candidate, Petroleum Engineering
"The Potential of Nanoparticles for EOR in Fractured Carbonate Reservoirs During Sequential Injection With Low-Salinity Water and Surfactant"
Advisor: **Dr. Morteza Dejam**

--**Eli Ellis**, Masters Student, Mechanical Engineering
"Flash Pyrolysis of Wyoming PRB Coal"
Advisor: **Dr. Erica Belmont**

--**Md Tarik Hossain**, Ph.D. Candidate, Civil Engineering
"Coal-derived Carbon-based Structural Unit and Char-based Insulation Foam"
Advisor: **Dr. Kam Ng**

--**Suraj Pandey**, Masters Student, Civil Engineering
"Coal-Derived Char-Based Building and Construction Products"
Advisor: **Dr. Kam Ng**

--**Priyanka Joshi** Masters Student, Civil Engineering
"Coal-derived Materials for Stabilization of Weak Soil?"
Advisor: **Dr. Kam Ng**

--**Iftekhar Alam Dipta** Masters Student, Civil Engineering
"Coal-derived Graphene Oxide for Concrete"
Advisor: **Dr. Kam Ng**

--**Prayush Jonchhe**, Masters Student, Civil Engineering
"Novel Coal Char-Cement Grout"
Advisor: **Dr. Kam Ng**

--**Sahul Kharel**, Masters Student, Civil Engineering
"High Strength and Durable Coal Char-Based Building Bricks"
Advisor: **Dr. Kam Ng**

--**Yu Hau**, Postdoctoral Researcher, Civil Engineering
"High Strength and Durable Coal Char-Based Building Bricks"
Advisor: **Dr. Kam Ng**

--**Rami Alloush**, Ph.D. Candidate, Petroleum Engineering
"Phase Behavior of Hydrocarbons in Nanoporous Media using a Patented Automated Apparatus"
Advisor: **Dr. Mohammed Piri**



Women in STEM *Own It! Awards*

Nominations are being accepted for the seventh annual Own It! Awards for women who make a difference in science, technology, engineering and mathematics (STEM) at the University of Wyoming.

Organizers are seeking nominations in the following categories:

- **RESEARCH.** A woman student, STEM professional, faculty or community member who has made significant contributions to her field of research.
- **SERVICE.** A woman who demonstrates service, leadership and mentoring among her peer group.
- **TEACHING.** A woman who inspires teaching and learning among her community.
- **OVERALL.** A woman who is deserving of celebration.



Submit [Nomination Here](#) > by 5 p.m., Feb 17

ENERGY JOKE

