

UNCONVENTIONAL

DEPARTMENT OF PETROLEUM ENGINEERING QUARTERLY NEWSLETTER

December 2021

Issue IV

Grand Opening Drilling & Completion Lab (DRACOLA)

On Oct. 22, UND's College of Engineering & Mines (CEM) formally dedicated and held a grand opening for the Drilling & Completion Lab (DRACOLA) and Research Facility in the former Minnkota Power Cooperative power plant building in Grand Forks. UND President Andy Armacost, who cut the ribbon during the dedication ceremony, said, "This facility is a collection of organizations and people with a strong interest in the economy of North Dakota and the oil and gas economy across the United States. The result is a great facility where we can test out new technologies, new ideas, involve students and faculty members in that work, and really build those partnerships with industry." During his remarks, Brian Tande, CEM dean, recalled how all the pieces came together two years ago to make the CEM research facility a reality. It started when Sidney Green, founder and retired CEO of TerraTek, approached UND with the idea of gifting the drilling lab simulator to UND. In remarks recorded for the dedication ceremony, Green said, "When I was considering where this facility would go, a number of universities became very interested – several to the point of very strongly indicating they wanted the laboratory. "But only one – UND and Professor Rasouli – really had the vision of the laboratory's capabilities and had someone like Harry Feilen who could set up and operate a large-scale testing facility," he said. "As I met with them, I quickly concluded that this is a group that could take the equipment and really do something with it. I was convinced right away."



Faculty

- Dr. Vamegh Rasouli (Chair)
- Dr. Kegang Ling
- Dr. Hadi Jabbari
- Dr. Minou Rabiei
- Dr. Hui Pu
- Dr. Thomas Jo
- Dr. Foued Badrouchi
- Mr. Harry Feilen, Director of DRACOLA

Adjunct Faculty

- Dr. Thomas Gentzis
Senior Geoscientist at Core Laboratories
- John Harju, VP for Strategic Partnerships, EERC
- Charles Gorecki, CEO, EERC
- John Hamling, Principal Engineer, EERC
- Larry Pekot, Principal Engineer and Reservoir Engineering Group Lead, EERC
- Mr. Vibhas Pandey, Senior Completion Engineer at ConocoPhillips
- Mr. Kalyan Venugopal, Schlumberger, Innovation FACTORI Manager
- Dr. Siamak Mishani
- Dr. Rahman Ashena
- Dr. Morteza Dejam

UND PE Receives API Outstanding Achievement Award

On November 19th, during the Williston Petroleum Banquet, the department received the API outstanding group achievement award, which is one of the most prestigious recognition for any institute and industry. The API Willison Basin Section selected UND PE for the award because of the following description: "The university recently held a groundbreaking for one of the world's largest oil drilling simulators that can benefit students and industry. The facility aligns activities with the needs of ND and the region and offers unique research and training capabilities to the oil and gas industry and to the state. The program began in 2010 in response to demand for engineers in the Bakken. Over 180 graduates now lead organizations working in ND and are supporting the industry in various roles at operating and services companies."



Vamegh Rasouli receiving the API OA Award trophy during the Williston Petroleum Banquet



Fall IAC Meeting October 21-22

The fall Industry Advisory Council meeting took place October 21-22 in the Hilton Garden Inn and was partly sponsored by UND SPE Student Chapter. During the first day meeting, the IAC members discussed the situation of the PE department and drafted a roadmap on how to increase the number of undergrad students during these challenging times. The IAC banquet took place the same day. Lynn Helms, Director ND Dept. of Mineral Resources, gave a talk on "Navigating Change Through Lifetime Learning, Flexibility, and Professionalism".

On the second day, a one-minute thesis competition was organized (1MT) where 50 PhD students presented a one-minute summary of their research. IAC members voted on the presentations to select the top three who are Nidhal Badrouchi, Demetrius Maxey and Lotfi Allam respectively.



Lynn Helms Talk during IAC Banquet

New PE Ph.D. Graduates in Fall 2021

Congratulations to our Ph.D. students who successfully defended their thesis Fall 21:

Abdulaziz Mustafa Em. Ellafi: "Integrative Approach for Improved Oil Recovery in Unconventional Reservoirs", advisor Dr. Hadi Jabbari.

Ogochukwu Ozotta: "Impact of CO2 Storage on the Geomechanical and Geophysical Properties of Unconventional Reservoirs.", advisor Dr. Vamegh Rasouli.

Vibhas Pandey, 2022 SPE Distinguished Lecturer

Vibhas Pandey was recently selected as one of the SPE Distinguished Lecturers for 22-23 session where he will be presenting on the topic of fracture height growth in layered formations. He is currently pursuing a PhD in PE from UND where he also serves as Adjunct Faculty and actively co-advises PhD students on their research.



Student Chapters Update

ARMA: ARMA hosted webinars including "Hydraulic Fracturing: Physics and Modeling" by Dr. Gang Han, the President of American Rock Mechanics Association, and the Itasca Information Session by Dr. Branko Damjanac.

SEG: SEG UND team received the prizes from their participation in the previous SEG EVOLVE edition, where SEG UND won the best project management, the best CCUS analyzes, and the best investment opportunity. SEG also registered to represent UND for SEG EVOLVE 2022 program.

IADC: Chapter members were able to virtually attend the IADC Advanced Rig Technology Conference as well as the IADC Managed Pressure Drilling Conference held in August and September, respectively. In November, a total of five members were fortunate enough to attend the IADC Annual General Meeting in Dallas, TX.

SPE: Nadia Moueden was elected as the vice president and Omar Bakkeli has joined the team of officers. Along with the online events organized by the SC such as Flow Assurance and Multiphase Flow Conditioning by Dr Carlos Avila, the student chapter started organizing onsite events as a hybrid with keeping the online presence available. The SC organized several events, training and field trips.

Contact (WE ARE HERE TO HELP!)

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or on Twitter: <https://twitter.com/UNDCEM>



Computing &
Engineering
Accreditation
Commissions

The ABET visit took place Nov 14-16 and the PE program received two strengths from the ABET evaluator regarding the close tie with the industry and the NDIC and establishment of DRACOLA. The official outcome will be announced around July next year.



To promote our 2+2 program with the South Alberta Institute of Technology (SAIT), a virtual tour of the labs and overview of the program were given to their students. Thanks to Daniel Cooley from the CEM advising team who presented useful information and answered students' questions.



SPE UND Student Chapter hosted
OilField Geomechanics Short Course
By: Neal B. Nagel and Marisela Sanchez-Nagel

Department Statistics

- 73 undergraduate students
- 3 Certificates
- 21 Master students
- 73 PhD students
- 1 Visiting Scholars
- 2 Ph.D. graduates in Fall 2021

Upcoming Events

- Jan 10: Classes start
- Mar 14-18: Spring Brake
- Apr 15-18: Holiday Brake
- May 9 -13: Last week of classes For Spring 2022

