Grand Challenge Scholars Program (GCSP) First Graduates

In Spring 2018 two grand challenges scholars, Jenna Greenlees and Quinn Huisman, both from Civil Engineering Department will be graduating. Providing safe drinking-water to the public has been identified as one of the 14 Grand Challenges by the National Academy of Engineering.

Quinn is working on the hydrocarbons and petroleum carbons, both pollutants that can affect water quality. These pollutants do not fade away easily and have caused global problems. Quinn is performing research that tries to predict the biodegradability of them in a laboratory setup. Quinn is also studying the wastewater treatment methods using bacteria. Quinn has been reading and summarizing the literature on this topic, setting up the predictive model and verifying it. Quinn and Dr. Xiao are planning to publish the results of this research soon.

When Quinn was asked what made him to join GCSP, he mentioned that the founding coordinator of GCSP at UND, Dr. Tande, encourage him and other members of Engineers Without Borders (EWB) to join. Since he already has some experience in global project and service projects he started the program. When he got a chance to go to GCSP annual meeting held by NAE he felt how important the program was. He could see how the program could train better engineers for future challenges. Quinn did a global project in Peru and Iceland with a group called “Green Program International.” This was a 10 day trip. Quinn is taking entrepreneurship course ENTR 101, that is a lot of fun while he learns more about entrepreneurship.

Jenna’s work is on a self-sustained disaster relief water filtration system. This is a system that catches the rain-water and uses it to provide drinking water for a small community. It is a suitable solution for disaster recovery time as it does not require any power source and can operate manually. This is a big advantage of this system over similar systems, as most of water filtration systems require electric power that might not be available after disaster strikes. The system is not currently portable, but it can find other applications in future. Jenna found that doing this project was very different from doing laboratory assignments. In this project she had to think out of the box, learn about various possible solutions, and use all she learned in classroom to come up with a suitable solution for the problem at hand. She is accepted to present her work at the 2018 ND EPSCoR Conference in Grand Forks and the 2018 World Environmental & Water Resources Congress in Minneapolis, MN, an international conference hosted by ASCE.

Jenna’s global experience is from her study abroad in Thessaloniki, Greece. The city’s large population of over one million was very different from growing up in Grand Forks, ND. She could see the cultural differences and it was a great learning experience for her. In her resume she also has math tutoring, peer mentoring and activities as a Tau Bet Pi member. She has taken two entrepreneurship classes. She learned through these classes about creating business models for non-profit companies and water research companies. She thinks the GCSP is a great experience and she hopes the program will be extended to high schools.
Drillbotic’s Project Moves to “Build Phase”

Congratulations to the UND Drillbotics team! The UND Drillbotics is one of only nine universities teams to advance to phase II of the 2017-2018 competition. The SPE Drillbotics judges will travel to UND for the on-site test to observe the drilling into a hard rock using the manufactured drilling rig by the Drillbotics team. We wish them the best of luck.

ENGR 490: Slurry Loop Project (SLP)

This project is offered as part of the ENGR 490 (Topic in Engineering) course. The students from Petroleum and Mechanical Engineering will be designing a slurry loop to study the cuttings transportation in the annulus space and understand the effect of the cuttings geometry and density as well as the drilling mud rheological properties and flow rate on different type of the flow profiles that may form in the annulus. They expect to complete the design phase in Spring 2018 and start to build the slurry loop in summer/fall 2018. Vamegh Rasouli and Harry Feilen are advising this project with Petroleum Eng PhD student Foued Badrouchi and Dr. Tan Songcheng, a visiting Scholar to Petroleum Eng Department from China Uni of Geoscience, Wuhan, China.

Seminar Series

Continuing on the Jodsaas Center Seminar Series, three presentations were given during the first quarter of 2018. The presentation titles, abstract and the recording can be found from this link: http://engineering.und.edu/jodsaas-center/industry-seminar-series/index.cfm.

BIG Challenge (BIG Ideas Gym)

The Spring 2018 BIG Challenge topic is “Novel Technology or Devices to Improve Campus Parking”. Click on each image below to watch the videos of five students groups with their proposals for this challenge (http://engineering.und.edu/jodsaas-center/the-big-challenge.cfm). Final presentations will be held in April.

ENGR 410: Venture Technology

ENGR 410 is progressing at a great pace. Different speakers from UND Career Center and Center for Innovation gave invited talks for the benefit of the students. Students are now preparing their business plans. Students are planning to present their plans on following cutting edge topics, namely: (a) Metamaterials for Absorbing Seismic Waves; (b) Affordable, Compact/Transportable Hybrid Renewable Energy Systems; (c) Novel Biodegradable Plastics; and (d) Petroleum Software. Students, faculty, and staff are invited to participate and encourage the students when they pitch their ideas on 23rd and 25th April from 4-5 pm in UND Harrington Hall, Rm 217.

Contact (WE ARE HERE TO HELP!)

Address:
University of North Dakota, College of Engineering & Mines, Harrington Hall Room 100, 243 Centennial DR and Stop 8155, Grand Forks, ND 58202

Webpage: http://engineering.und.edu/jodsaas-center/
GCSP Coordinator: Sima Noghanian sima.noghanian@engr.und.edu
BIG Idea Gym Coordinator: Dustin McNally dustin.mcnally@engr.und.edu
General Inquiry Email: und.jodsaascenter@engr.und.edu

Upcoming Events

- April 5: Next Seminar Series
- April 18, 2018: The BIG Challenge Competition
- April 30, 2018: Senior Design Expo
- May 2018: Announcement of new GCSP Students