



Message from the Head:

When people say that time flies, it really resonates with me. While lack of time is a recurrent theme among members of the academe, I can say that time has also created opportunities in our department. I started my 4th year as department head this fall. It is a good time to look back, but it is a better opportunity to look forward. This Newsletter reports a plethora of positive news, but also the news of Dr. Donald Stinson's passing. He was a great mentor to many and a very successful Faculty, entrepreneur and family man. We held a memorial this fall and will share stories of this legend. His family contributed an article everyone should read. Please, consider contributing to a scholarship to honor Don's memory. On department news, I attended the second SW Region Chairs/Heads meeting that took place in Tempe, AZ in June. ASU did a fantastic job at hosting the meeting and the warm reception led to productive discussions. Colorado School of Mines (CSM) and the University of Wyoming will cohost the 2020 meeting on the CSM's campus. We look forward to supporting the next year's meeting in Golden, CO.



The **Process Control and Instrumentation Engineering (PCI)** minor is now a reality. The program has been thoroughly vetted and fully approved. We conducted an open search for a Professor of Practice in this area with the financial commitment of our Dean's office. Dr. John Tatarko accepted our offer to join Chemical Engineering in this capacity. He has had a good start, showing boundless enthusiasm for the development and growth of the program. He prepared informative articles that were included in this Newsletter. Our PCI champion, Prof. David Bagley, will continue to contribute to the program, but is delighted to pass this responsibility along to Dr. Tatarko. Dr. Bagley has become a Faculty Fellow in Academic Policy and Leadership. Our first cohort will start their first course in Spring 2020.

We delayed the Brewing First Year Seminar to address other priorities in the department, but it will be offered in the fall 2020. Dr. Oaky continues to lead efforts to develop the Biomedical Engineering minor. This will be a great opportunity for bio-inclined students in Chemical Engineering. Moreover, and just like the PCI minor, we are coordinating with other departments to make the offering available to other majors in the college.

Our students continue to serve as a source of pride to everyone. The Society of Women Engineers (**SWE**) local chapter will take 16 students to the national conference this year. This is a fantastic accomplishment, as this is the second year with this large number of UW attendees. SWE will certainly strive at maintaining a strong presence at the national meeting in the future. The AIChE student chapter will take a good group of students to the annual meeting. An excellent student contingent participated in the regional AIChE **Chem-E-Car Competition** this year. Our faculty and staff remain dedicated to the core functions. Students' success remains at the top of our priority list. Faculty publications and graduate students that completed their degrees in this cycle are available in the Newsletter. Drs. David Bell and John Oaky were promoted to full on July 1st. We look forward to hearing of their future success as Full Professors. Carbon Engineering continues to evolve with contributions of several faculty in Chemical Engineering. The Materials Science and Engineering group continues to prosper.

We foresee exciting news in the ongoing academic year and welcome interest in choosing us as your academic program. Enjoy our Newsletter!

In Memory of Don Stinson

By Scott H. Stinson

Dr. Donald L. Stinson, founding Chair of Petroleum and Chemical Engineering at the University of Wyoming, died on July 9th, 2019 in Laramie. He was 88 years old.

In 1947 at age 16, Dr. Stinson graduated from Sheridan High School and headed to Laramie that summer to begin his university studies. He met with University President Duke Humphrey because he had to have his personal authorization in order to register for 21 hours that semester. (Then additional hours came with no additional tuition costs). He transferred to finish at the University of Oklahoma so that he could earn a BS in Chemical Engineering in 1950. He then went on to earn an MS ('51) & PhD ('57) from the University of Michigan where he was one of Donald Katz's graduate students.

Dr. Stinson worked for Phillips Research and Development in Bartlesville, OK for five years and then Gulf R&D in Harmorville, PA for an additional two. In 1960, he jumped at the opportunity presented him by Dean H.T. Person to return to the University of Wyoming and establish a petroleum engineering program. He would chair this department, later adding chemical and mineral engineering degrees, for 21 years. During his tenure, UW was known for producing good, practical engineers that were well suited to tackle the challenges of the Rockies.

After leaving the University, he enjoyed a second career as a consultant and expert witness for the next 36 years – retiring in 2016 at age 85, when the infirmities of age meant he could no longer give his clients good value for their money.

He was a member of a host of professional and honorary organizations as well as the author of many technical papers and patents. He was proudest of the organizations closest to home: Wyoming State Board of Examining Engineers, Charter Member of the N. Rockies Chapter – Society of Petroleum Evaluation Engineers, and the local Professional Engineering Society. He was a registered professional engineer in Wyoming, Colorado, Utah, Oklahoma, and New Mexico

Dr. Stinson derived his greatest career satisfaction from the years he spent teaching at the University of Wyoming and the lifelong impact on and connection he had with his students. He was well known for the deep personal care and interest he took in them, their lives and future careers. More than one student has credited his assistance with enabling them to complete their degrees or land their first job.

While serving as Department Head, he welcomed and championed the first female Petroleum Engineering graduate from UWYO. He was also the chapter advisor for the Society of Women Engineers, SWE, at UW. Commitment and performance were what mattered to Dr. Stinson, not who his students were or where they were from. He was proud of his graduates and stayed in touch with many throughout their careers. He took a special interest in working with potential employers to place graduates in positions where they were most likely to succeed based on their personal strengths, which he recognized were not defined by their GPA's.

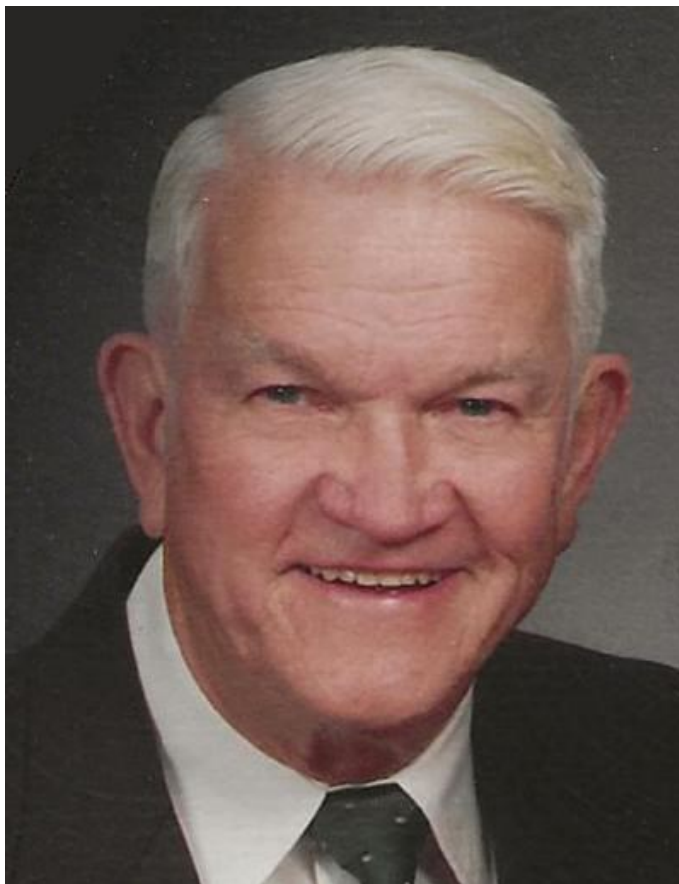
In Memory of Don Stinson (continued)

By Scott H. Stinson

Dr. Stinson's spirit lives on in his hundreds of graduates and industry colleagues and friends. He is survived by his wife of 67 years, Betty Hoehmann Stinson, four of his six children (two of whom are also engineers), as well as 12 grandchildren and 20 great grandchildren.

The family, friends, and former students of Dr. Donald Stinson have established the Dr. Donald L. Stinson Memorial Scholarship in care of The University of Wyoming Foundation, 222 South 22nd Street, Laramie, WY 82070. This Scholarship will be managed by the Departments of Chemical and Petroleum Engineering. All funds contributed will go directly to this scholarship and will be used to assist continuing Chemical or Petroleum Engineering students in harmony with the spirit that Dr. Stinson himself would have sought to make a difference. Contributions may be made either by direction to the Foundation or online at via the below link.

<https://securelb.imodules.com/s/1254/giving/interior.aspx?SID=1254&GID=1&PGID=366&CID=985&bledit=1&dids=232>





UNIVERSITY OF WYOMING

REMEMBERING DON STINSON

Memory by Sandra Underwood - Bachelor of Science in Chemical Engineering 1978

"I do want to weigh-in on Don Stinson's impact on my formative years--an undergraduate degree in Chemical Engineering in 1978. He was my academic advisor and he provided the type of mentorship that I needed at that time. In fact, if we could clone him today, I think we'd have a better position on STEM education in the US!

I did read his obituary in the Laramie Boomerang, and I could not agree more with the writer regarding the care/interest Dr. Stinson took in his students. My anecdote on this matter is that I corresponded with a woman who attended UWyo at the same time as I did, but when we graduated, I left Laramie for my life adventure; Marcella remained in Laramie. Somewhere in the 1990's (?), she told me that the annual letter I penned (not a typical update, by any means) found its' way to the hands of Don Stinson. In this case, here is an example of him keeping up on my antics by having his office just down the hall from my former dormitory pal. I think that is pretty neat.

He was a real treasure, no doubt about that."

Memory by Bob Shankel - Bachelor of Science in Chemical Engineering 1970

"I fondly remember my first meeting with Dr. Stinson. I was considering changing from EE to Chem E since I did better at chemistry than circuits. I made an appointment and he greeted me like a lost son. Well, he didn't put a ring on my finger or anything but his genuine warmth and care were obvious. The Chemical-Petroleum Department was small so each of us was important to him. As my advisor, he guided me through the curriculum, especially my last semester. I had plenty of hours due to my AFROTC classes that were in addition to the Engineering College requirements, a few hours of which he authorized as electives to complete my qualification for graduation.

I know the education garnered at Wyo has been beneficial in many ways. Growing up in Kansas, choosing to go there at the time, and even now, seems strange to some, but I believe it was a good decision. Seeing the improvements over the last few years, I can recommend UW CEAS to anyone. I'm proud to be an alum."

ALUMNI STORIES

Brady Wilkison, UW BS ChE May, 2016 joined the Sinclair Casper Refining Company (SCRC) in Casper, Wyoming as Associate Process Engineer just after graduation. Brady had an internship with SCRC during the summer of 2015, following his Junior year at UW. Within the Engineering Dept., Brady has been assigned to the Reformer and Diesel Hydrotreating Units in Casper.

The Reformer was shut down for a catalyst change during October, 2017, and Brady successfully led this effort. Catalytic reforming converts refinery naphtha into a high octane gasoline blend stock called reformate. A reformer catalyst change involves extensive advanced planning to have a successful outcome. Catalyst, support material, catalyst handlers, operations procedures, engineering staff, gases and chemicals all must be in the right place at the right time. After installation the catalyst must be oxidized, reduced, and sulfided for proper platinum distribution and activity. Under Brady's direction the catalyst change out was an outstanding effort, and the Reformer is back on-line and operating well -- quite an accomplishment for a junior engineer one year out of school!



Process Control Minor Introduction

Hello All,

I am John Tatarko and I am excited to be on the campus of a great school, the University of Wyoming, with an exciting new minor: Process Control Engineering. Here is a chance to garner practical skills in an area that spans many industries. There is a big demand for engineers that can keep a process intact and running when things go haywire; engineers that are versed in process safety, engineers who know what SCADA, DCS, and PLC programming, mean. Professor Bagley and I have searched the entire world for laboratory components that will show you how process control really works and there is something in the program for engineers in all disciplines, electrical, mechanical, and chemical. The new minor launches Spring 2020 with CHE 4990; *Practical Fundamentals of Process Control*.



Our corporate partners throughout Wyoming and the United States have asked us to initiate this minor. Current engineering graduates have little exposure to control engineering and are overwhelmed by the technology that must be absorbed when entering industry. We will give you a jump on this...and more! Interested? Please come see me to chat. I am in EN 4022 and my phone number is 307-766-4331. There are three non-negotiable goals for the first course and all the other courses in the minor:

1. Learn something about process control
2. Have fun
3. Get a good grade

Sincerely,

Dr. John Tatarko (JT)

NEW MINOR, STARTING SPRING 2020

MINOR in PROCESS CONTROL AND INSTRUMENTATION

Who: All Engineering Students who want to gain additional expertise in process control and instrumentation, beyond that provided by their current bachelor's degree programs.

Why: To gain knowledge, enhance job opportunities, and have fun. Every industrial process depends on automatic control to function safely, efficiently and effectively. Wyoming industries in particular are looking for engineers with process control skills. Yet many engineering graduates received limited education and experience in this critical field and are not well-qualified for these jobs. This new **Minor** will help you develop and enhance your process control skills.

What: New 18 credit hour **Minor** that was developed specifically to meet the needs of Wyoming industries for engineering graduates who have interest and expertise in process control and instrumentation. No more than 6 hours of coursework taken for the minor may also count as required (non-elective) coursework toward a student's major.

Required Courses (5 courses, 12 hours)

- CHE 2005 Chemical Process Analysis (3 hr)
- CHE 2090 Practical Fundamentals of Process Control (2 hr) (*NEW COURSE*)
- CHE 3090 Applying Simulation to Dynamic Processes (1 hr) (*NEW COURSE*)
- CHE 4092 Controlling Process Systems (3 hr) (*NEW COURSE*)
- One of: CHE 4090 Process Dynamics and Control (3 hr), or EE 4620 Automatic Control Systems (3 hr), or EE 4621 Honors Automatic Control Systems (3 hr)

Approved Elective Courses (At least 6 hours)

- ES 2210 **Electric Circuit Analysis** (3 hr) - EE 2220 Circuits and Signals (4 hr)
- **EE 3220 Signals And Systems** (3 hr)
- ME 4020 Design of Mechanical/Electronic Systems (3 hr)
- COSC 4450 Computer Graphics (3 hr) - COSC 4765 Computer Security (3 hr)
- CHE 4972 Internship in Process Control Engineering (1-6 hr, max 6 hr) (*NEW COURSE*)

When: CHE 2090 will be first offered in Spring 2020 as CHE 4990 Topics: Practical Fundamentals of Process Control. The prerequisite for this course is a C or better in MATH 2205 but hurry! Enrollment is limited to 20 students.

How: Complete the Program Change Form to "Add a Minor". (Download the form from http://www.uwyo.edu/registrar/students/forms_and_petitions.html). Take the completed form to the advising center in EN 2085.

NEW COURSE, SPRING 2020

CHE 4990 Topics: Practical Fundamentals of Process Control

Who: All Engineering Students who have completed MATH 2205 (C or better). Limited to 20 students.

What: New sophomore-level course in process control that "Introduces students to sensors, valves, actuators and the assembly of process control components. Provides hands-on practical experience with level control, flow control, temperature control and pressure control processes. This course consists of one (1) hour of lecture and two (2) hours of laboratory per week."

CHE 4990 counts toward the new Minor in Process Control and Instrumentation (in place of CHE 2090).

When: Monday 2:10-3:00 pm Lecture
Wednesday 2:10-4:00 pm Laboratory

Where: Lecture in Anthropology Room 150. Laboratory to be determined.

How: Register for CRN 25272. If you have difficulty registering, please contact Ms. Elyse Johnson, Department of Chemical Engineering, ejohns33@uwo.edu, 766-2500, Engineering Hall 4055.

Why: To gain knowledge, enhance job opportunities, and have fun. More specifically:

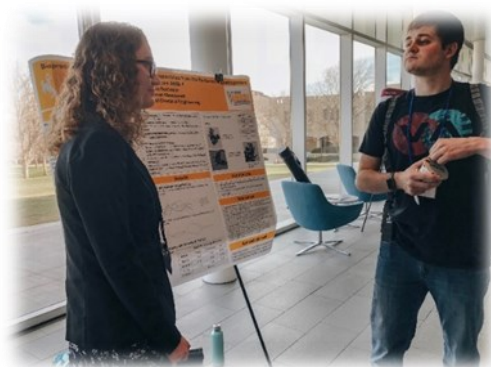
Every industrial process depends on automatic control to function safely, efficiently and effectively. Wyoming industries in particular are looking for engineers with process control skills. Yet many engineering graduates received limited education and experience in this critical field and are not well-qualified for these jobs. This course is the first in a sequence of new courses (that are part of the new Minor in Process Control and Instrumentation) to help you develop and enhance your process control skills. Because the field of process control is large, complex, and constantly being updated, a guiding focus of *Practical Fundamentals of Process Control* is to:

- (a) Provide you with strong practical and theoretical fundamentals,
- (b) Instill enthusiasm in you for continued learning, and
- (c) Strengthen your "common sense" and experience in process control.

Questions? If you have any questions about CHE 4990 or the new Minor in Process Control in Instrumentation, please contact Dr. John Tatarko, Department of Chemical Engineering, jtatarko@uwo.edu, 766-4331, Engineering Hall 4022.

AICHE Student Chapter Update

This year AIChE has participated in many different activities and conferences. In October, 12 students attended the 2019 Annual Student Conference in Pittsburgh, PA. Thomas Christensen and Emily Lynch competed in the undergraduate research poster session, with Thomas placing second in his division. In March and May, members of AIChE participated in a brew tour at Altitude Chophouse in Laramie, WY, and New Belgium Brewery in Fort Collins, CO. Members were able to learn about the brewing process from start to finish and observe the methods and equipment. Students of age were able to sample different beers made by each brewery.



In April, 21 members attended the Rocky Mountain Regional Conference 2019 at Colorado School of Mines in Golden, CO. A team of students competed in the ChemE Jeopardy Competition. Jacy Busboom presented her undergraduate research for UW at the Poster Competition. Members of the ChemE Car Team competed with The ChemE Car That Cud, a car that utilizes organic matter to run a hydrogen fuel cell, placing seventh. Students also attended various workshops that enhanced their knowledge of possible careers, communication strategies, and understanding of specific operations used in industry.

enhanced their knowledge of possible careers, communication strategies, and understanding of specific operations used in industry.

In May, AIChE held an Undergraduate Research Dinner at the Engineering Education and Research Building. Students from AIChE, as well as students from the department, were invited to dine with professors and learn about the research being held. Students were also given a chance to tour the labs of several professors.



This year, the focus of the University of Wyoming's chapter is to increase student involvement and provide information about all the opportunities in chemical engineering. In addition to the events held last year, the chapter has planned to tour different industries around the state. The biweekly meetings will be full of presentations from students with internship/research experience and professionals from various industries.



UNIVERSITY OF WYOMING

SWE

SWE Student Chapter Update

SWE has many wonderful things planned for this year. This semester SWE will host the WOMENgineering conference on the UW campus for around fifty middle school girls. The girls will be with volunteers all day and they will experience workshops from most of the engineering departments. There was very positive feedback last year, and the girls who participated enjoyed the presentations. SWE is excited to be able to host this event again this year.



Additionally, the chapter is gathering funding and planning their trip to the annual SWE National Conference. This year, it will be held in early November in Anaheim, California. Last year sixteen girls attended the conference, which hosts one of the largest job fairs in the country, and many

Wyoming students left with job and internship opportunities. The conference also has many different workshops available to attend. Other women engineers speak about what has made them successful in their careers and about the challenges they faced and how they overcame them.

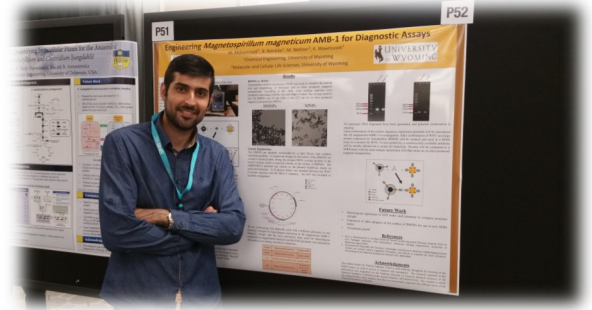
SWE is very excited to see where they are headed this semester and is hopeful to keep seeing large numbers of girls attending their meetings.



Student Achievements

Moein Mohammadi PhD Candidate:

The Society for Industrial Microbiology and Biotechnology annual meeting and exhibition is organized by the Society for Industrial Microbiology and Biotechnology (SIMB). It is an excellent opportunity for networking and scientific dialogue and provides the attendees with the opportunity to gain insights into the five SIMB focus areas of Biocatalysis, Environmental Microbiology, Fermentation & Cell Culture, Metabolic Engineering, and Natural Products. This year's meeting was in the U.S. capital of Washington D.C. on July 21-24, and it was special since it was the 70th anniversary of the creation of SIMB.



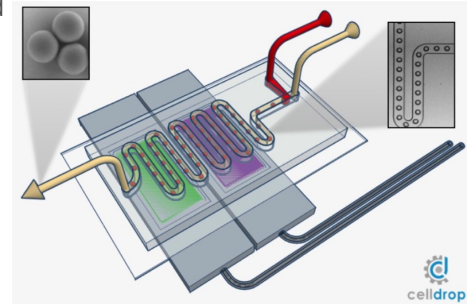
I had the opportunity to hear about and discuss the latest developments in core topic areas of industrial microbiology and biotechnology. There were also a few session topics covering natural products from microbiomes, cell-free biochemical production, and fermentation of mixed cultures. Besides, there were two special sessions: one on innovations driving carbon economy, and a panel discussion for federal perspectives on biomanufacturing research and development.

We had two poster sessions. Students participating in the Carol D. Litchfield best student poster presentation competition were judged anonymously by special members of the Awards and Honors Committee during the hours of presentation. There were more than 240 interesting posters from all over the world and finally, five best poster presentation awards were given, one for each of the Society's core areas.

Our poster was about an interesting project in Dr. Wawrousek's lab, which is about engineering a particular species of Magnetotactic bacteria to use in field-deployable diagnostic assays for the detection of both human and livestock pathogens. I am pleased to announce that I received the award for fermentation and cell culture area.

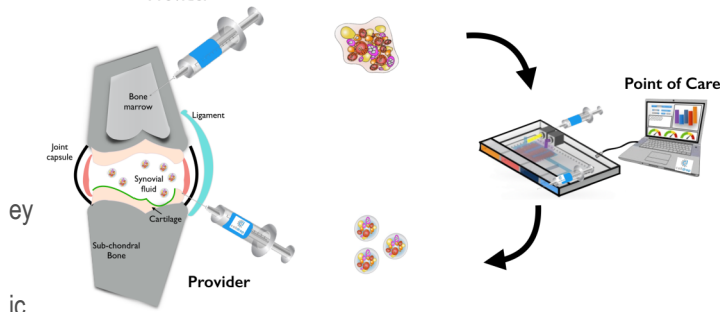
Benjamin Noren PhD Candidate:

Ben is a 4th year Chemical Engineering graduate student in Dr. John Oakey's lab. His research focuses on using microfluidics (the manipulation of microscopic quantities of fluid) and polymer chemistry to create realistic artificial tissues for regenerative medicine.



Seeing his work as an opportunity to significantly advance healthcare technology, Ben cofounded the startup CellDrop with his advisor John Oakey and UW alumni Kaspars Krutkramelists to translate research from the Oakey Lab to industry.

Ben was awarded a NSF grant called the Innovation Corps (I-Corps) to aid CellDrop in this commercialization effort. The I-Corps grant "Prepares scientists and engineers to extend their focus beyond the university laboratory and accelerates the economic and societal benefits of NSF-funded, basic-research projects that are ready to move toward commercialization."



This 7 week grant funds a team consisting of Ben, Professor John Oakey, and Entrepreneur in Residence Peter Scott to conduct in-person interviews with potential customers and industry experts in order to gain insight into bringing their proposed product to market.

The team seeks to commercialize a technology developed by Ben and the Oak-Lab that regenerates slow healing tissue such as cartilage, and could treat diseases like Osteoarthritis that currently have no cure. This technology enables therapeutic cells from a patient's bone marrow to be encapsulated in microscopic hydrogel droplets (cells in tiny gel marbles). These microscopic hydrogel marbles prolong the cells viability and localize them after they are injected back into

the injured area of a patient. This extends the time cells can secrete healing factors, and targets them to enable the regrowth of tissues that otherwise wouldn't regenerate.

Ben and his team members see the I-Corps grant as enabling the commercialization of their current project, as well as paving the way for translation of future technologies. "This will be a fantastic learning experience", said Ben. "I'm passionate about using the technology I develop to help people, and this grant enables me to meet individuals who can help me bring my research from the lab bench to patients who can benefit from it."

Recent Graduates



Jiashi Yin
PhD
Fall 2018



Christian McWorkman
MS
Fall 2018



Teniel Schumacher
MS
Spring 2019



Anthony Menghini
MS
Spring 2019



Feng Guo
PhD
Spring 2019



Andrew Jacobson
PhD
Spring 2019



Kaidi Sun
PhD
Summer 2019



Lingli Kong
PhD
Summer 2019



Anqi Qu
MS
Summer 2019

Faculty Publications

Dr. Vladimir Alvarado

H. Yu; K. Ng*, J. Kaszuba, D. Grana, V. Alvarado, E. Campbell, (2019), "Experimental Investigation of the Effect of Compliant Pores on Reservoir Rocks under Hydrostatic and Triaxial Compression Stress States", Vol. 56:7, pp. 983-991, Canadian Geotechnical Journal. DOI: 10.1139/cgj-2018-0133

Wang, E.A. Taborda, F.B. Cortés and V. Alvarado*, (2019), "Influence of SiO₂ Nanoparticles on the NMR-T₂ and Diffusion Responses of Heavy Crude Oils", Vol. 241(C), pp. 962-972, Fuel. DOI: 10.1016/j.fuel.2018.12.103

Dr. Saman Aryana

Y Wang, SA Aryana and M Allen. An extension of Darcy's law incorporating dynamic length scales, *Advances in Water Resources*, 129:70–79, 2019.

F Guo, SA Aryana, Y Wang, JF McLaughlin and K Coddington. Enhancement of storage capacity of CO₂ in megaporous saline aquifers using nanoparticle stabilized CO₂ foam, *International Journal of Greenhouse Gas Control*, 87:134–141, 2019.

F Guo and SA Aryana. An experimental investigation of flow regimes in imbibition and drainage using a microfluidic platform, *Energies*, 12:1390, 2019.

J Leonard, S Chamberlin, SA Aryana, M Lazic and A Even. Using STEM internships to recruit Noyce scholars into elementary education. In J Leonard, A Burrows & R Kitchen (Eds.), *Recruiting, Preparing, and Retaining STEM Teachers for a Global Generation*. Amsterdam: Brill|Sense Publishers, 2019.

J Barnes-Johnson, SA Aryana and J Leonard. Becoming equity-minded STEM teachers through mentoring and internship experiences. In J Leonard, A Burrows & R Kitchen (Eds.), *Recruiting, Preparing, and Retaining STEM Teachers for a Global Generation*. Amsterdam: Brill|Sense Publishers, 2019.

Z Li and SA Aryana. Visualization of subsurface data using three-dimensional cartograms. In: H. El-Askary, S. Lee, E. Heggy, B. Pradhan (eds) *Advances in Remote Sensing and Geo Informatics Applications*. *Advances in Science, Technology & Innovation* (IEREK Interdisciplinary Series for Sustainable Development). Springer, pp. 17–19, 2019.

F Guo and SA Aryana. Foam flooding in a heterogeneous porous medium. In: S. Banerjee, R. Barati, S. Patil (eds) *Advances in Petroleum Engineering and Petroleum Geochemistry*. *Advances in Science, Technology & Innovation*. Springer, pp. 65–67, 2019.

Y Wang and SA Aryana. Nonequilibrium effects in immiscible two-phase flow. In: S. Banerjee, R. Barati, S. Patil (eds) *Advances in Petroleum Engineering and Petroleum Geochemistry*. *Advances in Science, Technology & Innovation*. Springer, pp. 81–84, 2019.

F Guo and SA Aryana. A microfluidic study of immiscible drainage two-phase flow regimes in porous media. In: S. Banerjee, R. Barati, S. Patil (eds) *Advances in Petroleum Engineering and Petroleum Geochemistry*. *Advances in Science, Technology & Innovation*. Springer, pp. 73–75, 2019.

F Guo and SA Aryana. Nanoparticle-stabilized CO₂ foam flooding. In: S. Banerjee, R. Barati, S. Patil (eds) *Advances in Petroleum Engineering and Petroleum Geochemistry*. *Advances in Science, Technology & Innovation*. Springer, pp. 61–63, 2019

Dr. David Bell

Low Temperature Heating and Oxidation to Prevent Spontaneous Combustion using Powder River Basin Coal

Ying Wang, William C. Schaffers, Shuai Tan, Jong Suk Kime, Richard D. Boardman, and David A. Bell, * Accepted by *Fuel Processing Technology*, Jong Suk Kim and Richard D. Boardman are from Idaho National Laboratory.

Faculty Publications

Continued from last page

Dr. Joseph Holles

Holles, J.H., Work in Progress: Developing an Undergraduate Theory and Methods of Research Class for Honors Students, ASEE Rocky Mountain Section Conference, Laramie, WY, May 2019. https://indico.uwcedar.online/event/1/papers/1/files/55-WIP_Undergrad_Research_Methods_Final.pdf

Holles, J.H., Incorporating Research Data Management into an Existing Graduate Course on Theory and Methods of Research, ASEE Rocky

Dr. Katie (Dongmei) Li-Oakey

Understanding the Supercapacitor Properties of Electrospun Carbon Nanofibers from Powder River Basin Coal, Shuai Tan, Theodore Klaus and **Katie Dongmei Li-Oakey**, Fuel, 245 (2019), 148-159. DOI: 10.1016/j.fuel.2019.01.141

Two-dimensional Molybdenum Disulfide Based Membranes for Ionic Liquids Separation, J. Yin, P. Hoang-Hanh Duong, S. Tan, Katie Dongmei Li-Oakey, Separation and Purification Technology, 226 (2019), 109-116. DOI: <https://doi.org/10.1016/j.seppur.2019.05.090>

Engineering Functional Hydrogel Microparticles Interfaces by Controlled Oxygen-Inhibited Photopolymerization, Daniel Debroy, **Katie Dongmei Li-Oakey**, and John Oakey, Colloids and Surfaces B: Biointerfaces, 2019 Aug 1; 180: 371–375. DOI: 10.1016/j.colsurfb.2019.05.001

Carboxyl-functionalized Covalent Organic Framework as a two-dimensional nanofiller for mixed-matrix ultrafiltration membranes, Phuoc H. H. Duong, Valerie A. Kuehl, Bruce Mastorovich, John Hoberg, Bruce A. Parkinson, and **Katie D. Li-Oakey**, Journal of Membrane Science, December, 574 (2019), 338-348. <https://doi.org/10.1016/j.memsci.2018.12.042>

Dr. John Oakey

Light-Inducible Activation of the Cell Cycle in Microfluidic Networks, Bisht, J., LeValley, P., Noren, B., Kloxin, A., Gatlin, J.C., Oakey, J., In Press "Lab on a Chip", 10.1039/C9LC00569B, 2019.

Engineering Functional Hydrogel Microparticle Interfaces by Controlled Oxygen-Inhibited Photopolymerization, Debroy, D., Li, D., Oakey, J., In Press "Colloids and Surfaces B: Biointerfaces", 10.1016/j.colsurfb.2019.05.001, 2019.

Local Immunesuppression in Peripheral Nerve Grafts by Targeted Regulatory T Cell Delivery, Roballo, K.C.S., Dhungana, S., Jiang, Z., Oakey, J., Bushman, J., In Press "Biomaterials", 2019.

Microfluidic Investigations of Crude Oil-Brine Interface Elasticity Modifications via Brine Chemistry to Enhance Oil Recovery, Liu, Y., Kaszuba, J., Oakey, J., Fuel, 239, 338-346, 2019.

Photodegradable Poly(ethylene glycol) Hydrogel Surfaces for the Capture and Release of Rare Cells, LeValley, P., Kloxin, A., Tibbett, M., Toner, M., Anseth, K.A., Oakey, J., In Press, Colloids and Surfaces B, 2019.