UNIVERSITY OF ALBERTA FUTURE ENERGY SYSTEMS RESILIENT RECLAIMED LAND AND WATER SYSTEMS

## July-September 2020 Happenings

## **Events**

PhD students **Maggie Cascadden** and **Kylie Heales** and their supervisor **Dr Dev Jennings** participated in the 80<sup>th</sup> annual meeting of the Academy of Management, 2020 Broadening Our Sight, 7-11 August. They virtually presented, followed by a discussion, their joint paper What's in a Name? Impact of Community Power, Identity, and Logics on Cross-Sector Agreement Quality is part of their research on collaboration across sectors in environmental issues, including the energy sector, to support better outcomes. Dr Jennings was engaged in two professional development workshops at the conference. He co-organized and presented at Building a Research Agenda and Community for the Anthropocene Epoch and was senior scholar commentator at Theorizing for Circular Economy: Broadening Our Sight of Organizations and Resources.

**Jerico Fiestas Flores** was among 60 PhD students from across North America invited to attend The Berkeley/Sloan Summer School in Environmental and Energy Economics from August 17-27. Leading researchers in the field presented on the latest advancements in the areas of environmental justice, carbon pricing and electricity markets, among others. Jerico presented the research proposal for a collaborative project on policy design to create incentives for land and water reclamation from oil sands projects in Alberta. From the feedback received, he has created a new network of PhD students and professors from all over the continent. Jerico comments "This will allow us to improve our approach and develop research aligned with the newest research in the field of environmental and energy economics".

**Dr Aman Ullah** delivered a keynote lecture on his research including the use of feather biopolymer-based sorbents for water treatment at the 3<sup>rd</sup> International Virtual Conference on Chemistry, Synthesis of Monomers and Biopolymers from Renewables Using Green Chemistry, held September 21-22 in Lahore, Pakistan.

Future Energy Systems is holding a Research Showcase November 23 to 27. Many of our theme members have submitted abstracts for consideration at the digital poster event. If your abstract was accepted please email Sarah (<u>sarah.wilkinson@ualberta.ca</u>) or Pamela (<u>chelmeayala@ualberta.ca</u>) so we can track who will be presenting from our theme.

## **Achievements**

Five papers from theme co-lead Dr Mohamed Gamal El-Din's lab were accepted for publication.

Wang, D, D Yang, C Huang, Y Huang, D Yang, H Zhang, Q Liu, T Tang, **M Gamal El-Din**, T Kemppi, B Perdicakis and H Zeng. 2021. Stabilization mechanism and chemical demulsification of water-in-oil and oil-in-water emulsions in petroleum industry: a review. Fuel (Accepted September 2020).

**Abdalrhman, AS**, C Wang, **ZT How** and **M Gamal EI-Din**. 2021. Degradation of cyclohexanecarboxylic acid as a model naphthenic acid by the UV/chlorine process: kinetics and by-products identification. Journal of Hazardous Materials 402:123476. DOI: 10.1016/j.jhazmat.2020.123476

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**How, ZT** and **M Gamal EI-Din**. 2021. A critical review on the detection, occurrence, fate, toxicity, and removal of cannabinoids in the water system and the environment. Environmental Pollution 268:(Part A)115642. DOI: <u>10.1016/j.envpol.2020.115642</u>

**Arslan, M**, B Xu and **M Gamal EI-Din**. 2020. Transmission of SARS-cov-2 via fecal-oral and aerosols-borne routes: environmental dynamics and implications for wastewater management in underprivileged societies. Science of the Total Environment 743:140709. DOI: 10.1016/j.scitotenv.2020.140709

**Ganiyu, S** and **M Gamal EI-Din**. 2020. Insight into in-situ radical and non-radical oxidative degradation of organic compounds in complex real matrix during electrooxidation with boron doped diamond electrode: a case study of oil sands process water treatment. Applied Catalyst B: Environmental 279:119366. DOI: <u>10.1016/j.apcatb.2020.119366</u>

PhD student **Zhexuan An** was the recipient of two awards in September: the Gordon R. Finch Memorial Graduate Scholarship in Environmental Engineering and the Jacob H Masliyah Graduate Award in Oil Sands Engineering. Congratulations!

MSc student **Laura Bony** successfully defended her thesis, Salt Affected Soils And Their Relationships With Plant Communities On Reclamation Well Sites, on September 18. Her research focused on better understanding the scientific basis for the use of electrical conductivity and sodium adsorption ratio as primary measures of salt impacts on soil and plants, the potential for inclusion of specific ions, and to make recommendations for reclamation criteria. Laura was supervised by Dr M Anne Naeth.

PhD students **Maggie Cascadden** and **Kylie Heale**'s research on economic incentives for land reclamation in the oil sands industry is currently featured in a Future Energy System's article on line at <u>www.futureenergysystems.ca/news/post/collaborative-codesign-could-be-key-to-better-environmental-decision-making-study</u>. Maggie and Kylie are supervised by Dr Dev Jennings.

## **Notices And Reminders**

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Our annual theme workshop will be held Tuesday December 8. This will be a virtual format. More information on presentations and schedule will be provided in October. It is expected that all theme members attend to share their research and provide input on others research.

Virtual conference expenses such as registration fees are considered a travel expense; however, the full FES Travel Form is not required. Supporting documentation should include conference name, dates and location, hosting organization(s), relevance to your FES research and indicate if presenting. For HQP, an email indicating approval to attend from your supervisor is required.

As many may be focusing on research manuscripts at this time, remember FES has standard acknowledgement requirements for papers and presentations. Contact our theme Coordinators for details.

Mid year project budget updates will be sent to researchers this month.