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**Environmental Engineering**

**and Earth Sciences**

**EEES Department Seminar**

**Myself, Research, Education, and Students**

**Dr. Jikai Zhao**

University of Texas Rio Grand Valley

**Abstract:**

In this seminar, I will outline the challenges within the biofuels production field and detail how my research group endeavors to address them. Specifically, I will delve into our approaches involving integrated acid-alkali and ionic liquid-kosmotropic salt biomass pretreatments, as well as our innovative process for converting low-calorie tagatose from Greek yogurt acid whey, all aimed at fostering a circular bioeconomy. Additionally, I will discuss how my educational team leverages experiential learning and extracurricular opportunities to equip students with decision-making abilities, critical thinking skills, scientific writing proficiency, and effective communication skills.

**About the speaker:**

Dr. Jikai Zhao serves as an assistant professor in the School of Earth, Environmental, and Marine Sciences at the University of Texas Rio Grande Valley. He obtained his Ph.D. in biological and agricultural engineering from Kansas State University in May 2022. Subsequently, he held a position as a research associate in the Department of Chemical and Biological Engineering at the University of Wisconsin-Madison under the mentorship of Prof. George W. Huber. Dr. Zhao specializes in utilizing biochemical processes to transform agricultural and dairy waste into biofuels, platform chemicals, and materials. Additionally, he employs technoeconomic analysis and life-cycle assessment methodologies to evaluate the economic viability and environmental implications of proposed refineries.

**3:30 PM – 4:30 PM**

**Wednesday, May 8, 2024**

**Rich Lab Auditorium**

***Attendance is strongly encouraged for graduate students enrolled in***

***EES 8610, EES 9610, and GEOL 8610.***

***Refreshments following seminar.***