

# Land Grant Seminar Series: Celebrating Excellence

College of Agriculture, Food, and Natural Resources

## What

### Processing Cellulosic Biomass for Sustainable Fuel and Chemical Feedstock Applications

#### Summary

Cellulosic fraction of biomass is an abundant renewable feedstock and the most widely distributed natural polymer on earth. In recent times, an increased effort has been made to utilize this cellulosic fraction of biomass for the production of fuels and chemicals as renewable alternatives to petroleum-based resources. Efficient hydrolysis of biomass to sugars is a challenging step and the primary obstacle for the large-scale processing of cellulosic biomass to biofuels and chemical feedstocks. Ionic liquids are well known for their ability to dissolve cellulose, and our interest in the search for efficient catalytic methods for saccharification of polysaccharides has led us to develop -SO<sub>3</sub>H group functionalized Brønsted acidic ionic liquids as solvents as well as catalysts. This seminar presents the development of Brønsted acidic ionic liquid based artificial cellulase type catalysts, applications on biomass materials such as corn stover, switchgrass, poplar and synthesis of renewable fuels, chemicals and polymers.

## Who

**Ananda Amarasekara**, TAMU System Regents Professor of Chemistry, Department Head, Chemistry and Physics, Prairie View A&M University

**Dr. Ananda Amarasekara** received his Ph.D. in organic chemistry from The City University of New York in 1985 and joined Prairie View A&M University in 2003. His research interests include catalysis in biomass processing and energy storage in batteries. He has received funding from numerous funding agencies for his research projects, including NSF, USDA, DoE, DoD, NASA, ACS-PRF, and the Welch Foundation. He has supervised 32 graduate students and published more than 150 research publications in peer-reviewed journals. Since 2010, he serves as the bioenergy research group leader at NSF-CREST funded Center for Energy and Environmental Sustainability. He serves on the editorial boards of BioEnergy Research and Current Catalysis journals. He is the author of the book "Handbook of Cellulosic Ethanol" published by John Wiley, New York, 2014.



## Moderator

**Ali Fares, Endowed Professor, Chair Water Security and Water-Energy-Food Nexus**

## When

**11:00 AM - 12:00 PM (Noon), Thursday, February 8, 2024**

## Where

**Seminar Room (#015) at Cooperative Agricultural Research Center & Via Zoom: Passcode: 689900**

<https://pvpanther.zoom.us/j/95047435344?pwd=YWtoOGdBemZhTlklMGJmdmxSakh6dz09>

## Contact

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