



## 2024 CUWP Summer Seminar



**Sreekanth Pannala**  
Research Fellow, SABIC  
Corporate Research and Development  
Houston, TX

### **Novel Annual Jet Reactor for Direct Conversion of Oligomers to Olefins and Aromatics with Pathway to Carbon Neutrality**

#### **Abstract:**

We have utilized a novel reactor to directly convert oligomers to high value chemicals. It has very high heat transfer rate and ability to convert a fine spray of oligomers to high value chemicals. Its novel design maximizes the high-value chemicals while minimizing undesired by-products. This pathway will provide an efficient way to convert mixed plastic waste oligomers to high value chemicals, and more details along with comparison to current chemical recycling routes will be presented at the seminar.

#### **Bio:**

Dr. Sreekanth Pannala is a Research Fellow at SABIC from 2015. Sreekanth is a multidisciplinary technologist and computational scientist using advanced modeling to accelerate development of novel reactors and processes that are energy efficient, sustainable, and use alternative feedstocks such as crude oil and mixed plastic waste. Prior to this, he was a distinguished research staff member in the Computer Science and Mathematics Division at Oak Ridge National Laboratory. He received his B. Tech (1993) in Aerospace Engineering from IIT Kharagpur and M.S. (1994) and Ph.D. (2000) in Aerospace Engineering specializing in the area of computational combustion of two-phase flows from Georgia Tech. He received Federal Laboratory Technology Transfer award in 2006 and R&D 100 award in 2007 for his contribution to the development of MFIX (<http://goo.gl/kO130>), an open-source multiphase reacting flows simulation suite. He has served as a principal investigator on various DOE computational science projects and has over 100 journal and conference publications in various areas of computational science and engineering. He also served as a lead editor for a book on computational gas-solids reacting flows (<http://goo.gl/QwU32>) and co-edited an internal book at SABIC on high temperature natural gas pyrolysis. He led the development of battery simulation software environment (<http://vibe.ornl.gov>). He was also awarded Secretary of Energy's Achievement Award - highest non-monetary award from Department of Energy.

**Tuesday August 13, 2024**

Lecture at 3:00pm CST Zoom

<https://uwmadison.zoom.us/j/3560705402>