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**Wednesday, May 22, 2013**

**Somerset-Bridgewater Hotel, Somerset, New Jersey**  
(Formerly Crowne Plaza Hotel)

**Excellence in Catalysis Award Lecture**

**Yuejin Li**

**BASF Corporation**

**25 Middlesex/Essex Turnpike, Iselin, New Jersey 08830**

**Catalyzed Soot Filters for Diesel Vehicle Emission Control**

The 2013 Award for Excellence in Catalysis has been awarded to **Dr. Yuejin Li** of BASF Corporation, recognizing his significant contributions to the field of environmental catalysis. This award is sponsored by ExxonMobil Research and Engineering Company.

Yuejin received his PhD degree from Yale University in 1989 under the supervision of Professor Gary Haller. After 20-month postdoctoral research with Professor Keith Hall at University Pittsburgh, he started his industrial career at Air Products in 1990. In 1997, he joined Engelhard that later became BASF. During his post-doctoral research, he investigated the decomposition of NO on Cu-ZSM-5 and studied the reaction kinetics and mechanism. His work led to the identification of spontaneous O<sub>2</sub> desorption as a key step for this reaction. At Air Products, he pioneered the research on selective reduction of NO<sub>x</sub> with CH<sub>4</sub> and discovered a series of metal-exchanged zeolites as effective catalysts for this reaction. He also discovered a number of effective catalysts for N<sub>2</sub>O decomposition, including metal-zeolites and metal oxides with spinel structure. His work there also touched upon other areas of environmental catalysis: total oxidation of CH<sub>4</sub> and selective oxidation of NH<sub>3</sub> to N<sub>2</sub>. In addition, while at Air Products he invented a catalytic process that converts light alkanes directly to acetonitrile. At BASF, Yuejin has focused on developing commercial catalytic technologies for diesel vehicle emission control. He started the company's lean NO<sub>x</sub> trap (LNT) research in 1997 and developed a layered design concept. He also worked in the area of diesel oxidation catalyst and developed technologies functioning at low temperature, transient exhaust conditions. For the past 8 years, he has been responsible for BASF's catalyzed soot filter (CSF) development. He successfully incorporated various catalytic functions into a wall-flow filter while maintaining its particulate function as well as other physical requirements. He developed catalyzed filter technologies that can efficiently oxidize CO and HC, or oxidize NO to NO<sub>2</sub> before a SCR catalyst, or clean up H<sub>2</sub>S generated by a LNT catalyst. His research has resulted in many commercial catalysts that are being used in diesel passenger cars and heavy-duty trucks today. Yuejin is an inventor of 23 U.S. patents and an author of 31 papers.

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