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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

Catalyzed soot filter (CSF) has been widely used as an effective device for particulate control for diesel passenger cars since 2005. In addition to its particulate function, CSF has become increasingly important in converting gaseous pollutants in advanced emission control systems. Depending on the catalyst system configuration, CSF can be used to convert additional hydrocarbon and CO after a diesel oxidation catalyst, to oxidize NO to NO₂ for burning soot on filter or maximizing the NO_x conversion of a down-stream SCR catalyst, or to clean up H₂S generated by a lean NO_x trap catalyst. Soot filter is also widely used as a carrier to house urea SCR catalyst for diesel vehicle applications. In this presentation, I will focus on the catalysis side of CSF. Specifically, I will discuss the oxidation of NO to NO₂ on Pt-based catalyst and the use of NO₂ to regenerate the soot filter. For filter regeneration, I will focus on the phenomenon of multiple NO to NO₂ turnovers during NO₂+C reaction. For catalytic NO oxidation, I will discuss the effects of Pt/Pd ratio, aging temperature, hydrocarbon species, Pt crystallite size on NO conversion and turnover frequency. Finally, I will explore the nature of structure sensitivity for this reaction.

Dinner is a buffet, and includes
a choice of beef, chicken or fish

Social Hour (Cash Bar)

Dinner

Presentation

6:00 PM

7:00 PM

7:45 PM

Members

Non-members

Students

Retired/Post-Doc/ Unemp.

Annual Dues

\$40

\$50

\$25 (Student Members = \$10)

\$40 (Members = \$30)

\$35 (Student/Retired = \$15)

Deadline for dinner reservations is 2:00 p.m. Friday, May 17, 2013

Email Xiaoming Wang (xiaoming.wang@basf.com) for reservations. With the exception of extreme circumstances, anyone not canceling reservations by the above deadline will be billed for dinner regardless of attendance.

2012-2013 Officers: **Simon Podkolzin** (Chair), **Lucas Dorazio** (Chair-Elect), **Marco Castaldi** (Past Chair), **Israel Wachs** (Catalysis Society Rep), **Xiaoming Wang** (Secretary), **John Brody** (Treasurer), **Robert McGuire** (Webmaster), **David Harris, Partha Nandi, John Byrne** (Directors)