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**Wednesday, November 14, 2012**  
**Somerset-Bridgewater Hotel, Somerset, New Jersey**  
(Formerly Crowne Plaza Hotel)

**Ciapetta Award Lecture**  
**Thomas F. Degnan, Jr.**  
ExxonMobil Research and Engineering Company  
Annandale, NJ 08801

## **Bifunctional Zeolite-Metal Catalyzed Paraffin Hydroisomerization: Implications for Fuels and Lubricants**

Among the most important hydroconversion processes in today's refineries are those that improve the viscosity and combustion properties of hydrocarbons via paraffin isomerization. Industrial catalytic applications range from light naphthas (gasoline octane improvement) to diesel fuels (cold flow properties) to lubricants (viscosity index). Hydroisomerization catalysts are also important for production of advanced fuels from alternative feedstocks such as biomass and gas-to-liquid products. Zeolite catalysts containing noble metals have superseded amorphous, supported metal catalysts for the majority of these processes.

These new zeolite catalysts require metal-acid site intimacy, intraparticle diffusion, transition –state shape-selectivity, and acid-metal balance considerations well beyond those of earlier amorphous catalysts. A substantial amount of effort has been directed towards the detailed modeling of these bifunctional catalysts with the aim of improving our understanding of the interplay between the metal and acid sites and the pore geometry of the zeolite.

This presentation will examine the interplay of fundamental measurements that assist in the design of highly selective and active fuels and lubes isomerization catalysts. The presentation will also provide a survey of the current and prospective applications of these catalysts.

Dinner is a buffet, and includes a choice of beef, chicken or fish		Members	<b>\$40</b>
		Non-members	<b>\$50</b>
Social Hour (Cash Bar)	6:00 PM	Students	<b>\$25 (Student Members = \$10)</b>
Dinner	7:00 PM	Retired/Post-Doc/ Unemp.	<b>\$40 (Members = \$30)</b>
Presentation	7:45 PM	Annual Dues	<b>\$35 (Student/Retired = \$15)</b>

**Deadline for dinner reservations** is **Friday, November 9, 2012**

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.

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