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**Wednesday, May 21, 2014**  
**Somerset-Bridgewater Hotel, Somerset, New Jersey**  
(Formerly Crowne Plaza Hotel)

### **Excellence in Catalysis Award Lecture**

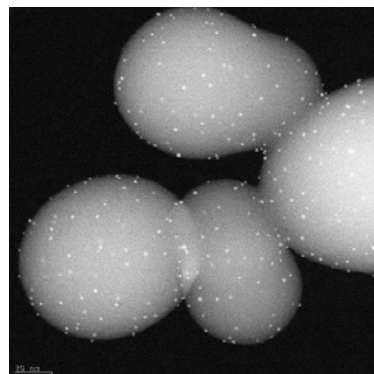
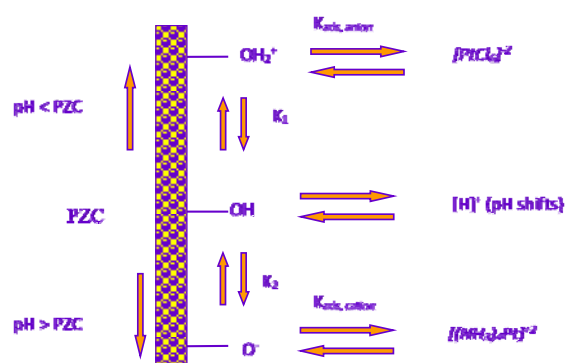
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### **A Rational Preparation of Supported Metal Catalysts**

Our group's efforts have been directed toward "the transformation of the art of catalyst preparation into a science." To this end, we have been conducting fundamental studies of catalyst impregnation, the process whereby solutions containing atomically dispersed metal precursors are contacted with high surface area supports. The goal of the synthesis is to create a catalyst with the highest amount of stable active sites: small metal particles firmly anchored to the support.

The adsorption of noble metal coordination complexes such as platinum hexachloride,  $[\text{PtCl}_6]^{-2}$ , and platinum tetraammine,  $[(\text{NH}_3)_4\text{Pt}]^{+2}$ , over many oxides and carbon surfaces can be explained by a relatively simple electrostatic model. Oxide and oxygenated carbon surfaces terminate in hydroxyl groups, which can become protonated and positively charged at low pH and deprotonated and so negatively charged at high pH, relative to the characteristic pH of point of zero charge (PZC) of a material.

In this talk, it will be demonstrated that "strong electrostatic adsorption" (SEA) of many noble and base metal cationic and anionic complexes occurs over a wide variety of oxide and carbon supports, and after reduction, this synthesis strategy yields small, well dispersed metal particles.



Applications of the SEA method for selective metal partitioning over mixed oxide supports such as promoted or bound catalysts, and for bimetallic catalysts, will also be demonstrated.

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

**Deadline for dinner reservations is 2:00 p.m. Friday, May 16, 2014**

Email Zhong He (zhe@primusge.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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**2013-2014 Officers:** Lucas Dorazio (Chair), Xiaoming Wang (Chair-Elect), Simon Podkolzin (Past Chair), Israel Wachs (Catalysis Society Rep), Zhong He (Secretary), John Brody (Treasurer), Robert McGuire (Webmaster), John Byrne, Marco Castadi, Partha Nandi (Directors), Taejin Kim (Director-Membership), Christopher Keturakis (Student Representative)