2005 AIChE South Texas Section Best Paper Awards

Dr. Chen E. Ramachandran of CRI/Criterion (Shell Brookhollow) chaired the team of reviewers that selected the 2005 Best Fundamental and Applied Papers. Members of the team were as follows:

Joe Alishusky  Smita Edulji  Shilpa Damle-Mogri
Manish Bharati  Ann Lauritzen  Priyam Sheth
Franklin Caputo  Lorna Ortiz-Soto  Sue Degaleeson
Pierre Carrette  Max Ovchinnovich  Ernesto Uehara
Les Chewter  Mike Reynolds  Eduardo Dozal
Jingyu Cui  John Roble  David Wallace

A total of ten papers were reviewed. One paper is an on-line publication and another is a chapter of a textbook which was published in 2005. The STS Best Paper Awards were presented at the October South Texas Section-AIChE dinner meeting at the Westchase Hilton. The papers reviewed were:

The Use of Heat Transfer Fluids in the Synthesis of High-quality CdSe Quantum Dots, Core/shell Quantum Dots, and Quantum Rods
Stationary Transversal Hot Zones in Adiabatic Packed-Bed Reactors
Carbon Combustion Synthesis of Complex Oxides: Process demonstration and Features
Designing Pd-on-Au Bimetallic Nanoparticle Catalysts for Trichloroethene
Hydrodechlorination
Genetic/quadratic search algorithm for plant economic optimizations using a process simulator
Lessons Learned: Batch Processing, Scaleup from Laboratory to Plant
A new modeling approach to the effect of antimicrobial agents on heterogeneous microbial populations
Advanced process control cuts offshore production constraints
Make Your Plant More Energy Efficient

The 2005 STS Best Fundamental Paper was “Stationary Transversal Hot Zones in Adiabatic Packed-Bed Reactors” authored by G. Viswanathan, Dr. Dan Luss (University of Houston), A. Bindal, and J. Khinast. This paper was published in the AIChE Journal, Vol. 51, No. 11, pp. 3029-3038. (Authors who were STS members in 2005 are indicated in bold.)

The 2005 STS Best Applied Paper was “Designing Pd-on-Au Bimetallic Nanoparticle Catalysts for Trichloroethene Hydrodechlorination” authored by Drs. Michael O. Nutt (Custom Catalytic Solutions), Joseph B. Hughes, and Michael S. Wong (Rice University). This paper was published in Environmental Science and Technology, Vol. 39, pp. 1346-1353. (Authors who were STS members in 2005 are indicated in bold.)
Saudi Aramco Downstream Development

Abstract: The presentation provides an overview of Saudi Aramco activities in downstream development. The increased growth in refined and petrochemical products has led Saudi Aramco to consider various initiatives to develop its downstream business. In the current domestic arena, Rabigh Refinery Development, a major 400,000 barrels per day refining and petrochemical complex, is in the construction phase.

Other refining and petrochemical initiatives in the early planning and engineering phase include two 400,000 barrels per day export-oriented refineries and a petrochemical complex integrated with the 550,000 barrels per day Ras Tanura Refinery. In addition, Saudi Aramco is actively pursuing technical, research and commercial development in oil desulfurization, product quality and process unit improvements.

Bio: Khalid A. Hamid is the head of Saudi Aramco’s Manufacturing Planning Division. His career with the Company covers over 20 years of downstream engineering and planning experience.

For more information on the topic and speaker, see page 4.