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ABOUT THE PREMIER SPONSOR

The Schlinger Symposium is named in honor of Warren G. Schlinger, a Ph.D. graduate of the California Institute of Technology with a distinguished career in industrial innovation. In Schlinger's 35 years at Texaco he was a pioneer in gasification technologies now widely used for production of hydrogen, other chemicals, and power. Among other benchmarks, Schlinger had 15 U.S. patents issued during his career. He has been honored with the AIChE Technical Achievement Award and the Chemical Engineering Practice Award, and by the National Academy of Engineering.

SCHEDULE

WEDNESDAY, SEPTEMBER 12

3:00–5:00 p.m. **Innovation Day Pre-Session**
Franklin Rooms I and II, Conference Center at CHF, 2nd Floor

“New Chemical Engineering Innovations at the University Level”

Moderator: **Ron Reynolds**, Senior Adviser to the President, CHF

Speakers: **Israel Wachs**, G. Whitney Snyder Professor and Professor of Chemical Engineering, Lehigh University

Yossef Elabd, Associate Professor, Department of Chemical and Biological Engineering, Drexel University

Daeyeon Lee, Assistant Professor, Department of Chemical and Biological Engineering, University of Pennsylvania

5:30–6:30 p.m. **Opening Reception**
Jacobs Reading Room, 3rd Floor

6:30–9:00 p.m. **Dinner and Evening Plenary Address**
Ullyot Meeting Hall, 1st Floor

“Stimulating Innovation in Our Universities”

Speaker: **Thomas Peterson**, Assistant Director for Engineering, National Science Foundation

THURSDAY, SEPTEMBER 13

7:30 a.m. **Speakers’ Breakfast**
Jacobs Reading Room, 3rd Floor

8:00 a.m. **Continental Breakfast**
Ullyot North, 1st Floor

8:30–9:25 a.m. **Schlinger Symposium Opening Plenary Address**

Ullyot Meeting Hall, 1st Floor

“The Role of Diversity on Innovation and the Entrepreneurial Process”

Joseph DeSimone, Director, Kenan Institute of Private Enterprise; Chancellor’s Eminent Professor of Chemistry, University of North Carolina, Chapel Hill; and **William R. Kenan, Jr.**, Professor of Engineering, North Carolina State University

9:30–11:00 a.m. **Breakout Sessions**

Conference Center at CHF, 2nd Floor

CHF Conference Room, 6th Floor

Bio-Based Chemical Feedstocks

Moderator: **Paul Williams**, Director, U.S. Science and Technology, Arizona Chemical Company

Speakers: **Don McLemore**, Research Professor, Department of Chemistry, Georgia Southern University

Vivek Badarinarayana, Senior Scientist, Segetis Inc.

Amit Sehgal, Senior Staff Scientist, Rhodia Inc.

Francine Palmer, Research & Development Manager NA, Rhodia, Inc.

Feeding the World’s Expanding Population

Moderator: **William Provine**, Director, Science and Technology External Affairs, DuPont Company

Speakers: **Xandra Smith**, Group Manager Genomics and Ecology of Microbes (GEM), DuPont

Edward Dudley, Casida Development Professor of Food Science and Assistant Professor of Food Science, Penn State University

Improved Utilization of Electricity

Moderator: **Michael C. Kerby**, Global Chemical Research Manager, ExxonMobil Chemical

- Speaker: **Kenneth Van Meter**, Principal, Booz Allen Hamilton
 11:00 a.m.– **Poster Session**
 12:30 p.m. *Dow Public Square, 3rd Floor*
- Coordinators: **Nilesh Shah**, Global Research and Development Director,
 Dow Chemical Company
Peter Holmes, Chief Marketing Officer, Celanese Corporation
- 12:30–2:30 p.m. **SCI Gordon E. Moore Medal Ceremony and Luncheon**
Ullyot Meeting Hall, 1st Floor
- Awardee: **Dean E. Rende**, Senior Manager, Adsorbents, Honeywell UOP
 Gordon E. Moore Medal Lecture
“Engineered Catalyst Solutions in Petrochemical Processes”
- 2:30–4:00 p.m. **Breakout Sessions**
Conference Center at CHF, 2nd Floor
CHF Conference Room, 6th Floor

Life-Cycle Analysis to Improve Sustainability

- Moderator: **Wayne Ranbom**, Director of Research and Development,
 Arkema Inc.
- Speakers: **Todd Krieger**, Senior Consultant, Engineering Research and
 Technology, DuPont
Amy Landis, Associate Professor, School of Sustainable
 Engineering and the Built Environment, Arizona State
 University

The Future Role of Bioenergy

- Moderator: **Michael C. Kerby**, Global Chemical Research Manager,
 ExxonMobil Chemical
- Speakers: **Robert Avant, Jr.**, Program Director, Texas AgriLife Research
 Bioenergy Program, Texas A&M University
George Huber, Professor of Chemical Engineering, University of
 Wisconsin–Madison

Global Cultures of Innovation

Moderator: **Ian Shankland**, Vice President and Chief Technology Officer, Honeywell

Speakers: **Scott Zhang**, Vice President, Asia Pacific Region, Honeywell

Brent K. Jesiek, Assistant Professor, School of Engineering Education and Associate Director, Global Engineering Program, Purdue University

5:30 p.m.

Closing Reception and Museum Tours

Overlook Lounge, 2nd Floor

Museum tours will be available at 4:15 p.m. and again at 4:45 p.m.

POSTER PRESENTERS

David Lee, Celanese

Fanwen Zeng, The Dow Chemical Company

Yuesheng Ye, Drexel University

Francis W. Richey, Drexel University

Divya Chopra, DuPont

Brad Rosen, DuPont

Jos S. de Wit, Eastman Chemical Company

Stephanie K. Clendennen, Eastman Chemical Company

Dean Rende and Jeffery C. Bricker, Honeywell

Joseph Kocal and Suheil Abdo, Honeywell

Soe Lwin, Lehigh University

Jacob H. Prosser, University of Pennsylvania

Rose M. Mutiso, University of Pennsylvania

C. Francisco Buitrago, University of Pennsylvania

ABOUT THE 2012 SCI GORDON E. MOORE MEDALIST

Dean Rende will receive the 2012 Society of Chemical Industry (SCI) Gordon E. Moore Medal for his outstanding track record of discovery, development, and commercialization of novel catalysts and adsorbents. His significant contributions are exemplified by the breakthrough discovery of new catalysts used in the production of biodegradable detergents and petrochemical monomers. This discovery has broad applicability in catalysis and has led to commercialization of a novel catalyst-manufacturing methodology currently used to produce catalysts in multiple technologies.

Numerous catalytic reactions suffer from an imbalance between the intrinsic reaction rate and the mass transfer rate for the reactant. Rende and his team invented a layered catalyst technology involving an inner nonporous core bonded to a thin outer porous layer. The outer layer is either the active catalytic component itself or the layer where the catalytic components can be conveniently impregnated or incorporated in a controlled manner. Rende's innovation affected multiple petrochemical technologies, including those used to manufacture detergent-range mono-olefins and styrene monomers. This new manufacturing technique and the resulting catalysts have been commercialized around the world.

To realize this catalyst innovation Rende developed and advanced key areas of science:

- Pt-modifier sub-nanometer bimetallic catalysis (catalysis science);
- Material bonding—porous outer layer to inner nonporous core (materials science);
- Product manufacturing—bonding recipe and metal addition (manufacturing science);
- Intraparticle diffusion control (reaction engineering and catalysis science/kinetics); and
- Identification of a new deactivation pathway in paraffin dehydrogenation.

Rende began his career at Honeywell as a manager for catalysis research in the company's performance materials and technologies UOP business unit. He is currently senior manager and technical leader for adsorbents development at UOP. His accountabilities include breakthrough inventions in adsorbents and leading a

group of about 20 scientists and engineers. Rende's team works on increasing selectivity and capacity for some of UOP's existing adsorbents and developing adsorbents for new applications. One example involves the successful use of UOP IONSIV ion exchangers at the Fukushima Daiichi nuclear power plant for removing and reducing radioactive materials in the contaminated wastewater created by the 2011 earthquake and tsunami in Japan.

Rende holds a B.A. degree in chemistry from Franklin and Marshall College and a Ph.D. in chemistry from Ohio State University. He is the author of 9 peer-reviewed scientific articles and 15 U.S. patents, and has been awarded the prestigious Honeywell Specialty Materials Growth and Innovation Award.

ABOUT THE SCI GORDON E. MOORE MEDAL

The Society of Chemical Industry (SCI) has established the SCI Gordon E. Moore Medal to recognize early-career success in innovation, as reflected both in market impact and improvement to quality of life. By highlighting extraordinary individuals and their work, SCI aims to promote public understanding of research and development in modern chemical industries, enhance the interest of students in applied chemistry by providing role models, and emphasize the role of creative research in the global economy.

Gordon E. Moore co-founded Intel in 1968. He is widely known for Moore's law, in which in 1965 he predicted that the number of components the industry would be able to place on a computer chip would double every year. In 1975, he updated his prediction to once every two years.

Past SCI Gordon E. Moore Medalists

Doron Levin (2011)	Jonathan M. McConnachie (2006)
Emmett Crawford (2010)	Jeffrey John Hale (2005)
Emma Parmee (2009)	George Barclay (2004)
Edmund M. Carnahan (2008)	
Paul A. Sagel (2007)	

SPONSORING ORGANIZATIONS

About the Chemical Heritage Foundation

The Chemical Heritage Foundation (CHF) fosters an understanding of chemistry's impact on society. An independent nonprofit organization, we strive to

- Inspire a passion for chemistry;
- Highlight chemistry's role in meeting current social challenges; and
- Preserve the story of chemistry and its technologies and industries across centuries.

CHF maintains major collections of instruments, fine art, photographs, papers, and books. We host conferences and lectures, support research, offer fellowships, and produce educational materials. Our museum and public programs explore subjects ranging from alchemy to nanotechnology.

About the Society of Chemical Industry

SCI America International Group, launched in 1894, is part of the Society of Chemical Industry's international organization. It provides a unique networking forum for chemical industry leaders, industrial scientists, and technologists to exchange new business ideas and best practices. It celebrates achievement to promote public awareness of the contributions of industrial chemistry and inspire students to enter technical careers.

SCI America Section also offers its members the opportunity to become part of an international network of industry thought leaders and researchers. Through specialized conferences, e-events, and publications, it helps foster best practices in fields as diverse as fine and commodity chemicals, food, pharmaceuticals, biotechnology, agriculture, and environmental protection.

The Perkin Medal was established in 1906 to commemorate the 50th anniversary of the discovery of mauveine. Past recipients include Nobel laureates Glenn T. Seaborg, Carl S. Marvel, and Herbert C. Brown; Donald F. Othmer, chemical engineer; Stephanie Kwolek, inventor of Kevlar; Paul S. Anderson, medicinal chemist; and Gordon E. Moore, the founder of Intel.