

Dr. Harold Schobert, Professor of Fuel Science, Retires



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Dr. Harold Schobert, Professor of Fuel Science in the John and Willie Leone Family Department of Energy and Mineral Engineering and leading researcher in fuel chemistry in the EMS Energy Institute, has retired from Penn State after twenty-five years. His retirement was effective June 30, 2011.

“Harold is a distinguished scholar in fuel chemistry research and education,” said Dr. Chunshan Song, director of the EMS Energy Institute and Distinguished Professor of Fuel Science. “He has made great contributions to both research and teaching in fuel science at Penn State. I have learned a great deal from Harold as my mentor and enjoyed working with him as a close collaborator in fuel chemistry and fuel processing research.”

Dr. Schobert came to Penn State in 1986 and served as the Fuel Science Program Chair from 1988 to 1996. From 1998 to 2006, he served as EMS Energy Institute Director. He also served as the director for the Laboratory for Hydrocarbon Process Chemistry (1995-1998) and the director for the Carbon Research Center (1996-1998). Since 2005, he has been a visiting professor at North-West University in Potchefstroom, South Africa, as Extraordinary Professor of Natural Science.

During his tenure as EMS Energy Institute Director, Dr. Schobert helped make the Institute a vibrant research center. Under his leadership, the Institute saw increased collaboration with other units, and a rise in faculty affiliates. In addition, research funding within the Institute jumped from

\$3-4 million per year in 1998 to \$8-12 million per year by the time he stepped down.

He received his B.S. in Chemistry from Bucknell University in 1965 and his Ph.D. in 1970 from Iowa State University. He came to Penn State from Grand Forks, ND, where he was involved in many aspects of research and development relating to low-rank coals for the Energy Research and Development Administration, then the Department of Energy, and finally University of North Dakota (UND) Energy Research Center. His last position at UND was manager of the Coal Science Division, which conducted basic research on organic and inorganic geochemistry, coal structure, ash and slag behavior, and process chemistry.

Dr. Schobert has been involved in coal research for over thirty-five years and has made many important contributions to the advancement of fuel science. He is internationally recognized as a leading researcher for his accomplishments in the areas of fuel chemistry, including molecular structures of coals, conversion of coals to synthetic fuels or value-added carbon materials, coal-based jet fuels, coal ash behavior, and CO₂ capture. His most recent work focused on coal gasification, including behavior of coal and mineral matter in fixed-bed gasifiers, graphitization of coal/petroleum co-cokes, chemistry of South African coals, and zero-emission coal-to-liquid plants.

One of Dr. Schobert's most notable research accomplishments was a coal-based jet fuel program, which he directed over a 20-year period. The program successfully developed a coal-based replacement for Jet A and JP-8 jet fuels. The fuel, JP-900, also has an application for thermal management on board aircraft. This work is now being commercialized by a start-up company in Johnstown, PA.

Dr. Schobert was also instrumental in developing the industry-driven consortium, the Consortium for Premium Carbon Products from Coal (CPCPC), working closely with Dr. Frank Rusinko and the Department of Energy. In addition, he was one of several directors for the consortium, which ran from 1998 through 2010.

At Penn State, Dr. Schobert is widely respected as a teacher and leader in the area of energy and fuels. He has over 355 publications, including ten books, fifteen chapters in books and over 100 peer-reviewed journal articles. In addition, he has developed several new courses in energy and fuels during his tenure and two of his books, *The Chemistry of Hydrocarbon Fuels and Energy and Society: An Introduction*, are extensively used as textbooks in the U.S. and the world. For his outstanding accomplishments in research and teaching, Dr. Schobert is one of the few Penn State faculty members to receive the Matthew J. and Anne C. Wilson Awards for Excellence in Teaching and for Excellence in Research, which are the highest awards for research and teaching in the College of Earth and Mineral Sciences at Penn State.

Dr. Song commended Dr. Schobert's commitment as a mentor to young researchers and junior faculty members. "I am most grateful to Harold for his support and encouragement in the early stage and for many fruitful collaborative projects we had over the years," Dr. Song said. "In addition, Harold has made great contributions to the Fuel Chemistry Division of American Chemical Society, as reflected by the facts that he has won the Distinguished Service Award and the Henry Storch Award from ACS Fuel Division, and his election as the 2010 ACS Fellow."

Dr. Schobert has received much recognition for his research and service in the field of fuel science, and his commitment to students. Most recently, he was elected to the 2010 Class of Fellows of the American Chemical Society (ACS). In 2009, he received the ACS Division of Fuel Chemistry Distinguished Service Award and in 2004, he received the Henry H. Storch Award, which is the highest honor for research awarded by the ACS Fuel Chemistry Division. From The Pennsylvania State University, Dr. Schobert was awarded the Fred Cannon/Sloan Foundation Award for commitment to opportunities for minority students in graduate education in 2004, the Matthew J. and Anne C. Wilson Award for excellence in research in 2002, the Penn State chapter Golden Key Honor Society Outstanding Faculty Member Award in 1996, and the Matthew J. and Anne Wilson Award for excellence in teaching in 1988. Dr. Schobert was recognized with the Bituminous Coal Research / Richard A. Glen Award for best paper in Fuel Chemistry presented at 3rd North American Chemical Congress, Toronto, 1988 and a U.S. Department of Energy Award for sustained superior performance in 1982.

Dr. Schobert is an active leader and member in many professional organizations, including the American Association for the Advancement of Science; the American Chemical Society Divisions of Fuel Chemistry, History of Chemistry, and Petroleum Chemistry; the International Association for Stability and Handling of Liquid Fuels; the Materials Research Society; the Phi Kappa Phi Honor Society; Sigma Xi; the Solar Energy Institute; and the Society for Organic Petrology. In addition, he serves on the editorial boards of *Fuel*, *Energy and Fuels*, and *Fuel Processing Technology* journals.

?Personally, I have been very fortunate to have had the opportunity to work with Harold closely, and benefit from his wisdom and advice over the last 20+ years, beginning from day one of my career at Penn State,? said Dr. Song. ?I would like to congratulate Harold for a highly successful career and sincerely wish him all the best after the retirement.?

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