

James A. Dumesic earned his B.S. degree from UW-Madison and his M.S. and Ph.D. degrees from Stanford University, under the supervision of Professor Michel Boudart. Dumesic joined the Department of Chemical Engineering in 1976, and he is currently the Steenbock Chair in the College of Engineering and the Michel Boudart Professor of Chemical and Biological Engineering. Widely recognized as a leading researcher in the fields of catalysis and chemical engineering, Dumesic has co-founded two companies and pioneered new processes for creating bio-derived fuels and chemicals.

Throughout his career, Dumesic has used spectroscopic, microcalorimetric, and reaction kinetics techniques to study the surface and dynamic properties of heterogeneous catalysts. Dumesic pioneered the field of microkinetic analysis, in which diverse information from experimental and theoretical studies is combined to elucidate the essential surface chemistry that controls catalyst performance. He has recently studied how aqueous-phase reforming of biomass-derived carbohydrates can be tailored to selectively produce H₂ or directed to produce liquid hydrocarbons. Most recently, he has been studying the use of furan compounds, levulinic acid, and γ -valerolactone as biomass-derived platform chemicals for the production of fuels and chemicals.

Dumesic has received a variety of awards and honors in the field of catalysis and chemical engineering. In 1998, he was elected to the National Academy of Engineering. In 2006, he received the Somorjai Award for Creative Research in Catalysis from the American Chemical Society. In 2007 he was awarded the Burwell National Lectureship by the North American Catalysis Society. In 2008, he received the Hilldale Award for distinguished professional accomplishment at the University of Wisconsin, and he received the inaugural Heinz Heinemann Award by the International Association of Catalysis Societies. He was elected as a Fellow of the American Academy of Arts and Sciences in 2009, and he was awarded the William H. Walker Award of the American Institute of Chemical Engineers for outstanding contributions to the chemical engineering literature. In 2011 he received the Michel Boudart Award for advances in catalysis at the North American Catalysis Meeting and at the meeting of the European Federation of Catalysis Societies. In 2012 he received the George A. Olah Award in Hydrocarbon or Petroleum Chemistry from the American Chemical Society, he was elected to the National Academy of Inventors in 2013, and he was elected to the National Academy of Sciences in 2014.

Information about research conducted by the Dumesic group can be found at the following link:

<http://www.engr.wisc.edu/che/>