

Other Speakers in this series have been:

Professor Benjamin Widom (Cornell University), 1984
Professor William Klemperer (Harvard University), 1985
Professor Richard Bernstein (UCLA), 1987
Professor Dudley Herschbach (Harvard University), 1988
Professor David Chandler (University of California-Berkeley), 1989
Professor Ahmed H. Zewail (California Institute of Technology), 1990
Professor Roald Hoffmann (Cornell University), 1991
Professor Joshua Jortner (Tel Aviv University), 1994
Professor A. David Buckingham (University of Cambridge), 1995
Professor Yuan T. Lee (Academia Sinica-Taiwan), 1999
Professor Richard N. Zare (Stanford University), 2001
Professor Rudolph A. Marcus (California Institute of Technology), 2005
Professor Stuart A. Rice (University of Chicago), 2006
Professor Alexander Pines (University of California-Berkeley), 2008
Professor Robin Hochstrasser (University of Pennsylvania), 2009
Professor Kenneth B. Eisenthal (Columbia University), 2010
Professor W. E. Moerner (Stanford University), 2011
Professor Michael T. Bowers (University of California-Santa Barbara), 2012
Professor Russell J. Hemley (Carnegie Institute of Washington), 2013
Professor Eric J. Heller (Harvard University), 2014
Professor Peter G. Wolynes (Rice University), 2015
Professor Ann McDermott (Columbia University), 2016
Professor Marsha Lester (University of Pennsylvania), 2017
Professor Daniel Neumark (University of California - Berkeley), 2018
Professor Geraldine Richmond (University of Oregon), 2019

2022 FLYGARE MEMORIAL LECTURE

Naomi J.
Halas

Rice University



*Nanomaterials and Light for Sustainability
and Societal Impact*

Friday, May 6, 2022

4:00 pm. B102 CLSL

Reception 3:30 p.m. in CLSL-A Atrium

Department of Chemistry | School of Chemical Sciences
University of Illinois at Urbana-Champaign



Willis H. Flygare

University of Illinois colleagues remember Bill Flygare as one of the most creative and dynamic physical chemists in the world. Shortly before his death in 1981, Professor Flygare was awarded the Irving Langmuir Prize in Chemical Physics and was cited for:

“outstanding contributions to the understanding of molecular electronic structure and molecular dynamics through the introduction of high resolution microwave techniques and other innovations; for his many contributions in other fields including light scattering in and structure of liquids; for setting an example of combined theoretical and experimental excellence in chemical physics.”

Willis Flygare earned his bachelor's degree from St. Olaf College in 1958 and his doctorate from the University of California at Berkeley in 1961. He was a professor of chemistry at Illinois from 1961 until his death. During that period he developed a new experimental method involving the molecular Zeeman effect, and with it, he measured most of the known molecular quadrupole moments and magnetic susceptibility anisotropies. He developed a highly sensitive microwave spectrometer by combining molecular beams with Fourier transform techniques.

Professor Flygare received many awards for his work, including Guggenheim Fellowships in 1972 and 1978, the Phi Lambda Upsilon Fresenius Award in 1971, the Baekeland Medal in 1973 and the Irving Langmuir Prize in 1981. He was elected to the National Academy of Sciences in 1974 and was awarded an honorary doctorate from St. Olaf College in 1976.



Naomi J. Halas

Naomi J. Halas is the Stanley C. Moore Professor of Electrical and Computer Engineering at Rice University, where she also holds faculty appointments in the Departments of Physics and Astronomy, Chemistry, Materials Science and Nanoengineering, and Bioengineering. She received her B. S. Degree in Chemistry from La Salle University in Philadelphia and her PhD in Physics from Bryn Mawr College. She was a graduate fellow at IBM Yorktown for her PhD research and a postdoctoral fellow at AT&T Bell Laboratories prior to joining Rice.

Professor Halas is best known as the first person to demonstrate that controlling the geometry of metallic nanoparticles determines their color, and she studies the interaction and control of light by engineered nanoparticles. She has authored more than 350 refereed publications (H-index=159, Google Scholar; H-index=140, Web of Science) with more than 100,000 citations (Google Scholar; >70,000 citations, Web of Science), has more than 20 issued patents, and has presented more than 600 invited talks. She has been a Highly Cited Researcher in Chemistry, Physics, and Materials Science since 2013. Two companies have been founded based on her research: Nanospectra Biosciences (Photothermal Cancer Therapy, in clinical trials for prostate cancer) and Syzygy Plasmonics (ambient-temperature Photocatalysis for Hydrogen on demand). She is Fellow of six professional societies spanning Physics, Chemistry, Optics, Photonics, and Materials Research. Professor Halas has been elected to the National Academies of Sciences and Engineering (U. S.), the Royal Society of Chemistry (U. K.), and the American Academy of Arts and Sciences.