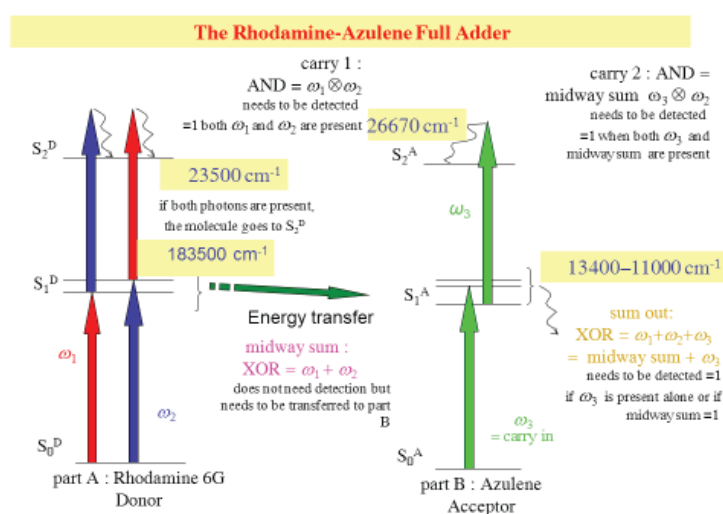


Elucidation of the Mechanism of Intramolecular Electronic Energy Transfer and its Implications in Molecular Electronics

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This lecture provides a review of the research done to elucidate the mechanism of short range intramolecular electronic energy transfer. Specially designed bichromophoric molecules were utilized in various environments such as solutions, stretched polymer films and supersonic molecular beams. Various spectroscopic tools were used exploring the dynamics of the transfer process. The role played by the bichromophoric molecular bridge will be discussed.



The prospects of utilizing bichromophoric molecules for realizing an all optical molecular full-adder logic element will be discussed.

Biography:

Shammai Speiser was born in Haifa, Israel, on December 26, 1941. He received the B.Sc., M.Sc. and D.Sc. degrees in chemistry from the Technion-Israel Institute of Technology, Haifa, in 1963, 1964 and 1970, respectively. In 1973 he joined in the Faculty of Chemistry at Technion, where he is presently a Professor Emeritus of Chemistry and was the holder of the Israel Freund Chair of Chemistry. He served as the Head of the Youth Liaison Office (1988-1991) and as the Dean of the Faculty of Chemistry (1991-1994), during his tenure as Dean he led a major change in the Faculty due to recruiting of 9 new faculty. He served as the Dean of the Division of Continuing Education and External Studies (2003-2009). Between 2003 and 2006 he served as the President of the Israel Chemical Society.

He was awarded several prizes and honors, among them the Klein Prize (1984), the New England Prize (1993), the John van Geuns Lecture-University of Amsterdam (1995), the JSPS Research Prize, Japan (1997), the Taub Prize (2001) and the Medal of Claude Bernard University in Lyon, France (2002).

His current interests are in the applications of lasers in chemistry, photophysics of organic molecules, inter and intramolecular electronic energy, electron and proton transfer, molecular opto-electronics & nonlinear optics and molecular electronics. He has published ca. 170 research papers.