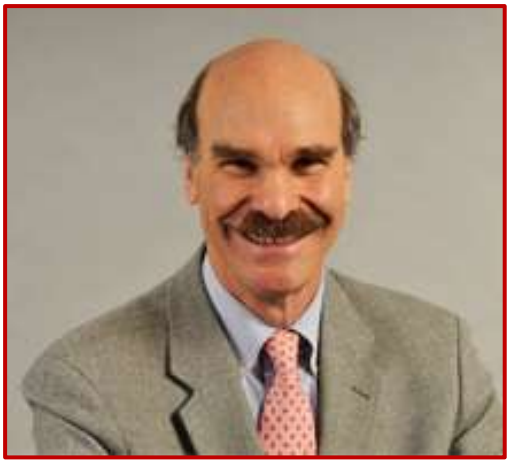
DEPARTMENT OF
CHEMISTRY
UNIVERSITY OF NEBRASKA-LINCOLN

FALL 2014 CHEMISTRY COLLOQUIA CO-SPONSORED BY NCMN



Prof. Mark A. Ratner
Northwestern University

September 19, 2014

2:30 Reception Rm 548
3:00 Lecture Rm 112
Hamilton Hall

INAUGURAL NC3 AWARD LECTURE

"Molecular Mesoscopics: Transport in Molecular Junctions"

The two phenomena of electron transfer in molecules and electron transport through molecules are closely related to one another. Some of the phenomena exhibited in one of these areas can be mirrored in the other, but there are also differences. In this talk, we discuss the transport situation and different mechanisms for transport that occur under different temperature conditions and with different molecular structures. In particular, we will examine transport through more complex organic molecules than usual, and the interference phenomena that can result from cross-coupling, from meta linkages, and from simultaneous transport through more than one molecule. Emphasis will be conceptual (no complicated equations, no harping on methodology), and some concepts of physical organic chemistry, and their relationship to transport, will be addressed.

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