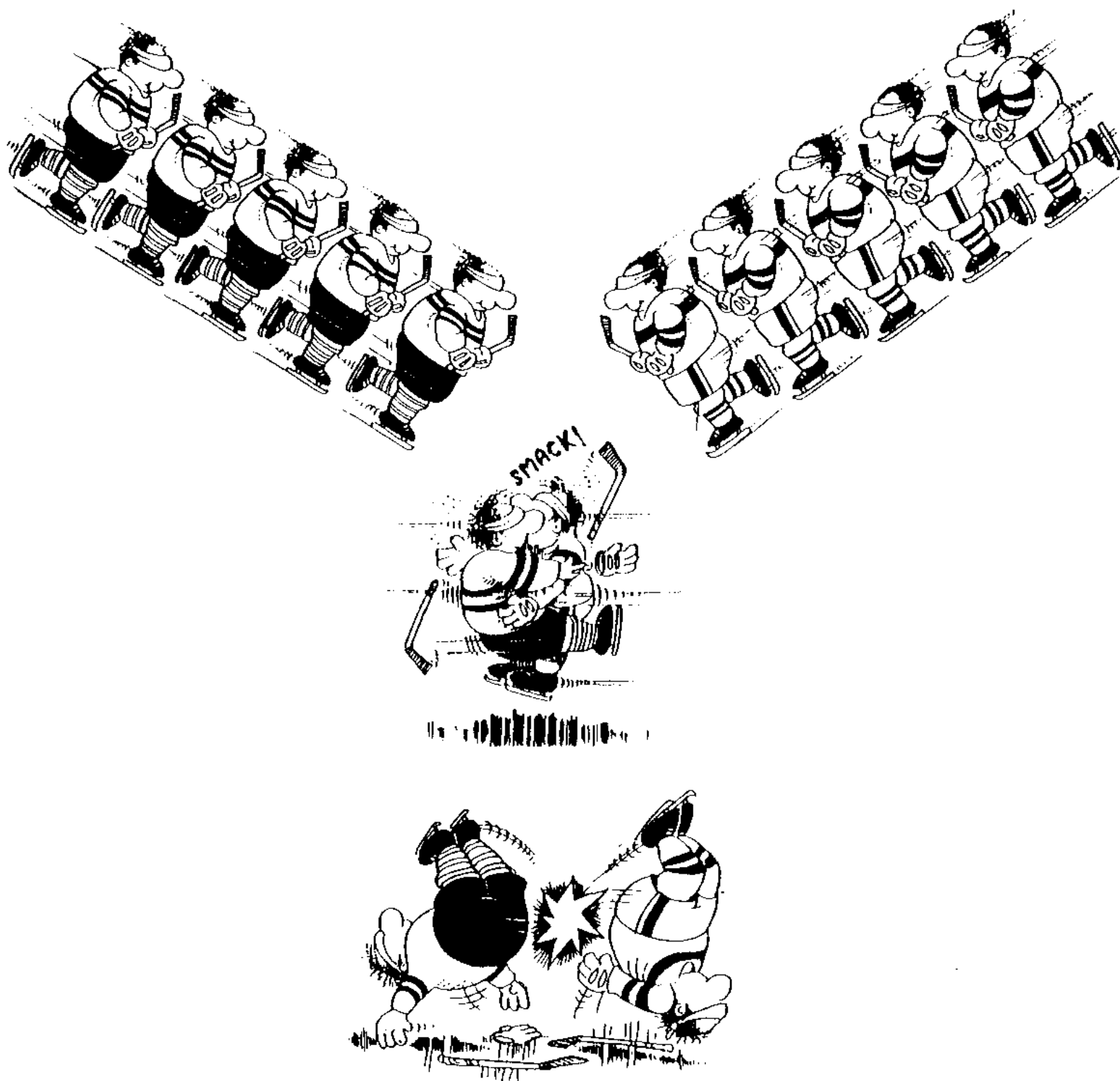


# Boston University Physics Colloquium

## The Dean S. Edmonds, Sr. Distinguished Lecture



# Taming Wild Molecules

Chemical reactions ordinarily occur between mobs of molecules that capriciously beget unruly progeny. This talk will describe how such molecular wildness has been tamed to reveal the intimate dynamics of single collisions between pairs of molecules. Reaction properties thereby made accessible include the disposal of energy among translation, rotational, and vibration of the product molecules, also electronic excitation when allowed; angular distribution of product emission and rotational tumbling; variation of reaction yield and other attributes with impact energy, closeness of collision, spatial orientation or vibrational excitation of the reactant molecules. The cornucopia of experimental results has provoked an orgy of theory. Happily, major features of the reaction dynamics prove to be governed by simple aspects of electronic structure that provide heuristic insights of wide scope.

**Dudley Herschbach**

Baird Professor of Science, Emeritus, Harvard University

April 13, 2010 (Tuesday) at 3:30pm (Refreshments at 3:15pm)

SCI 107, Metcalf Science Center, Boston University

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