

**LECTURE 19**  
**MOLECULAR DESCRIPTION OF ACIDS AND BASES**

**I. Properties of Molecules and Parts of Molecules: A Continuum**

- A. Acid → Base
- B. Electrophile → Nucleophile
- C. Oxidant → Reductant
- D. Acceptor → Donor
- E. Hydrochloric Acid, HCl

**II. Charge Distribution in Molecules**

- A. Lewis "cube model"
- B. Electron pair concept
  - 1. Aluminum Trichloride,  $\text{AlCl}_3$
- C. Metal Oxides
  - 1.  $\text{Na}_2\text{O}$
- D. Nonmetal Oxides
  - 1.  $\text{SO}_3$
  - 2. Phosphorus Pentoxide
- E. Amphoteric oxides
  - 1. Alumina