

# GENEALOGY DATABASE ENTRY

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Mulliken, Robert Sanderson

1896 - 1986

DEGREE: PhD

DATE: 1921

PLACE: Chicago

TEACHER/RESEARCH ADVISOR: Harkins

Nobel Prize in 1966 for his role in the development of the molecular orbital theory of chemical structure; interpreted the spectra of diatomic molecules using quantum mechanics; described the electronic bonds between atoms in polyatomic molecules; explained the weak absorption spectra of ketones; wrote a series of papers on the intensities of spectra of organic compounds; credited with inventing the terms orbital,  $\sigma$ -electron, and  $\pi$ -electron; in 1944, helped draft *Prospectus in Nucleonics*, which described the postwar uses of atomic energy and warned of a forthcoming nuclear arms race; studied the charge-transfer interpretation of the binding and spectra of molecular complexes and showed quantum-mechanically how the partial transfer of an electron between two molecules explained the experimental observations, as well as many other observations on weak intermolecular forces.

1. Mulliken, R. S. *Robert S. Mulliken Life of a Scientist*; Ransil, B. J., Ed.; Springer Verlag: 1989.
2. *Biog. Mem. Fell. Roy. Soc.* **1990**, 35, 327-354.
3. *Les Prix Nobel en 1966*; P. A. Norstedt & Soener: 1967; p99-101.
4. *Science* **1966**, 154, 745-747.
5. *J. Chem. Ed.* **1975**, 52, 560-564.
6. *Nobel Laureates in Chemistry 1901-1992*; James, L. K., Ed.; American Chemical Society: 1993; p471-478.
7. *Molecular Orbitals in Chemistry, Physics, and Biology*; Löwdin, P.-O., Pullman, B., Eds.; Academic Press: 1964; p1-20.