



**Gabor A. Somorjai**

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Gabor A. Somorjai is a Professor of Chemistry at the University of California, Berkeley, and a Principal Investigator in the Materials Sciences Division of the Lawrence Berkeley National Laboratory.

### Research Interest

Professor Somorjai's research interests are in the field of surface science. His group is studying the structure, bonding, and reactivity at solid surfaces on the molecular scale. This knowledge is then utilized to understand macroscopic surface phenomena, heterogeneous catalysis, adhesion, lubrication, and biocompatibility on the molecular level. research is carried out in the following areas:

Studies of the structure and bonding of adsorbed monolayers of molecules on the surfaces of solids by sum frequency generation, surface vibrational spectroscopy, low-energy electron diffraction, scanning tunneling and atomic force microscopies, and electron spectroscopies. Studies of catalytic reactions on single crystals, nano-particles, or other well characterized surfaces. Most research projects utilize single-crystal surfaces, nano-particles deposited by electron beam lithography, or ordered monolayers deposited by various methods. Extensive use is made of ultrahigh vacuum techniques.

### Biography

Professor, born 1935; B.S. University of Technical Sciences, Budapest (1956); Ph.D. Physical Chemistry, University of California at Berkeley (1960); Guggenheim Fellow (1969); Unilever Professor, University of Bristol (1972); Chairman, Division of Colloid and Surface Chemistry of the ACS (1975); Kokes Award, Johns Hopkins University (1976); Emmett Award of the American Catalysis Society (1977); Baker Lecturer, Cornell University (1977); Miller Professor, Berkeley (1978); Member, National Academy of Sciences (1979); Colloid and Surface Chemistry Award of the American Chemical Society (1981); Member, American Academy of Arts and Sciences (1983); Henry Albert Palladium Medal (1986); Peter Debye Award in Physical Chemistry of the American Chemical Society (1989); Adamson Award in Surface Chemistry of the American Chemical

Society (1994); Van Hippel Award of the Materials Research Society (1997); Wolf Prize in chemistry (1998); Creative Research Award in Homogeneous and Heterogeneous Catalysis of the American Chemical Society (2000); Linus Pauling Award in 2000.

Honorary Doctorates: Technical University, Budapest (1989); Université Pierre et Marie Curie, Paris (1990); Université Libre de Bruxelles (1992); University of Ferrara, Italy; Member, Hungarian Academy of Science (1992); Faculty Senior Scientist, Materials Science Division, Lawrence Berkeley National Laboratory; Adamson Award in Surface Chemistry of the American Chemical Society (1994); Faculty Senior Scientist, Materials Science Division, Lawrence Berkeley National Laboratory. Honorary doctorate from the Royal Institute of Technology of Stockholm, Sweden 2000.

Professor Somorjai has educated more than 90 Ph.D. students and 110 postdoctoral fellows. He is the author of more than 800 scientific papers in the fields of surface chemistry, heterogeneous catalysis, and solid state chemistry. He has written three textbooks, Principles of Surface Chemistry, Prentice Hall, 1972; Chemistry in Two Dimensions: Surfaces, Cornell University Press, 1981; and Introduction to Surface Chemistry and Catalysis, Wiley-Interscience, 1994; and a monograph, Adsorbed Monolayers on Solid Surfaces, Springer-Verlag, 1979.

### Duties

International Advisory Committee, Chemical Research Center, Hungarian Academy of Sciences, International Advisory Board of the Dalian Institute of Chemical Physics, Advisory Board for Chemical & Engineering News, Advisory Board for ETH Department of Materials, Zurich, Switzerland, International Advisory Board for Physical Chemistry, Chemical Physics Panel of Scientific Advisors, Edge Analytical, Inc., Stanford, California Editor-in-Chief (with Sir John M. Thomas) of Catalysis Letters and Topics in Catalysis. Editorial Board Member of: Journal of Chemical Physics, Adsorption Science and Technology, Langmuir, Applied Surface Science, Colloid and Interface Science, Molecular Physics, Catalysis Reviews, Heterogeneous Chemistry Reviews, Nouveau Journal de Chimie, Journal of Kinetics and Catalysis, Journal of Molecular Catalysis, Hungarian Journal of Chemistry, Journal of Applied Catalysis, Encyclopedia of Chemical Physics and Physical Chemistry, Chemical Physics Letters, Chemical & Engineering News, Chemical Record

### Memberships

American Academy of Arts and Sciences  
American Chemical Society  
American Physical Society (Fellow)  
American Association for the Advancement of Science (Fellow)  
Cosmos Club, Washington DC  
National Academy of Sciences