

Benjamin J. Schwartz

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EDUCATION

University of California, Berkeley – Ph.D. in Chemical Physics, awarded in December 1992. Thesis: "Femtosecond Dynamics of Fundamental Reaction Processes in Liquids: Proton Transfer, Geminate Recombination, Isomerization and Vibrational Relaxation."

University of Michigan, Ann Arbor – B. S. in Physics and Chemistry with highest distinction and honors in chemistry, awarded in May 1986. Senior Thesis: "Conversion of Nuclear Energy to Chemical Potential Energy: The Irradiolysis of Simple Salts."

RESEARCH POSITIONS

Assistant Professor: Department of Chemistry and Biochemistry, UCLA (1/97– present)

- Femtosecond laser studies of the dynamics of charge transfer reactions in solution
- Classical and quantum non-adiabatic computer simulation of charge transfer and solvation dynamics
- Relationship between photophysics, structure and charge transport in conjugated polymer films; optimization of polymer interchain interactions for use in practical applications
- Development of 3-D lithography via 2-photon absorption and applications to 3-D structures

Postdoctoral: Polymer Institute, Univ. of Calif., Santa Barbara (10/95-12/96) Advisor: Alan J. Heeger

- Ultrafast and other photophysical studies of semiconducting polymers and polymeric devices
- Investigations of solid state polymer lasing and stimulated emission in various environments

Postdoctoral: Dept. of Chemistry, University of Texas at Austin (2/93–9/95) Advisor: Peter J. Rossky

- Microscopic analysis of solvation dynamics and quantum decoherence via computer simulation
- Extensive theoretical studies of transient hole-burning spectroscopy of the hydrated electron
- Construction of classical and quantum non-adiabatic molecular dynamics simulations

Graduate: Dept. of Chemistry, University of California, Berkeley (9/86–1/93) Advisor: Charles B. Harris

- Femtosecond laser studies of solvent effects on proton transfer and isomerization reactions
- Ultrafast investigations of excimer formation dynamics, vibrational energy transfer and geminate recombination of small molecules in condensed phases
- Design and construction of an amplified femtosecond laser and data acquisition electronics

Research Scientist: Fuels and Lubricants Dept., General Motors Research, Warren, MI (5/86–8/86).

- Studies of fuel composition effects on diesel engine performance and emissions
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AWARDS, HONORS and CURRENT EXTRAMURAL GRANTS

DARPA/MTO Subcontract, Multiphoton Lithography (8/00–12/01)

Research Corporation Cottrell Scholar Award (5/99–4/01)

National Science Foundation Grant, Division of Materials Research (6/1/99–5/31/02)

Alfred P. Sloan Foundation Research Fellow (4/99–3/01)

National Science Foundation CAREER Award, Chemistry Division & EEP supplement (3/1/98–2/28/02)

American Chemical Society Petroleum Research Fund (Type "G") (1/15/98–8/31/00)

Allocation of Supercomputing Resources from the San Diego Supercomputer Center (7/98–7/01)

National Science Foundation Postdoctoral Fellowship in Chemistry (5/93– 4/95)

W. R. Grace and Company Foundation Graduate Fellowship (11/89–8/90)

National Science Foundation Graduate Fellowship (9/86–8/89)