POSTDOCTORAL POSITIONS
THEORETICAL CHEMICAL PHYSICS

LOCATION: Department of Chemistry, University of California, Irvine
DURATION: One year with a possible extension to a second year
SALARY: Ph.D. required, Annual Salary Depends Upon Qualifications Starting at $33,828
RESEARCH: Three positions are available in the following areas:

(A) Attosecond X-ray Spectroscopy of Molecules.
Developing time-dependent many-body approach to nonlinear x-ray and optical spectra and their
description in terms of real-space real-time wavepackets of electrons and nuclei.

(B) Electronic Excited States of Molecular Aggregates.
Developing time-dependent density functional and nonequilibrium Green’s Function techniques and
codes for computing optical excitations and ultrafast nonlinear spectra of molecular aggregates and
semiconductor nanostructures.

(C) Computational Biophysics.
Simulation of multidimensional femtosecond spectroscopic probes of structure, fluctuations and
energy transfer in proteins and photosynthetic complexes. Design of novel coherent optical pulse
sequences; Single-molecule spectroscopy.

TO APPLY: Send a curriculum vitae, publication list and arrange for three letters of recommendation to be sent to:
Professor Shaul Mukamel
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University of California, Irvine
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1. “Double-Quantum Resonances and Exciton-Scattering in Coherent 20 Spectroscopy of
Photosynthetic Complexes”, D. Abramavicius, D. Voronine, and S. Mukamel, PNAS, 25, 8525-
8530, 2008.
2. “Probing Molecular Chirality via Excitonic Nonlinear Response”, D. Abramavicius, W. Zhuang and
3. “Probing Electron Correlations in Molecules by Two-Dimensional Coherent Optical Spectroscopy.”
4. “A Coherent Nonlinear Optical Signal Induced by Electron Correlations”, S. Mukamel, R.
5. “Coherent Ultrafast Core-hole Correlation Spectroscopy: X-ray Analogues of Multidimensional
6. “Probing Valence Electronic Wavepacket Dynamics by all X-ray Stimulated Raman Spectroscopy; A
7. “Superoperator Nonequilibrium Green’s Function Theory of Many-body Systems; Application to
Charge Transfer and Transport in Open Junctions”, U. Harbola and S. Mukamel, Physics Reports (In
8. “Nonlinear Optical Spectroscopy of Single, Few and Many Molecules; Nonequilibrium Green’s
9. “Probing Intermolecular Couplings in Liquid Water with 2DIR Photo Echo Spectroscopy”, A.
S.Welack, J.B. Maddox, M. Esposito, U. Harbola and S. Mukamel, Nano. Lett., Vol.8, no.4:1137-
1141, 2008.

The University of California, Irvine is an equal opportunity employer committed to excellence through diversity.