John Hays (“Jack”) Moore

Jack Moore died suddenly on May 2, 2010. Born in 1941, in Pittsburgh, PA, Jack completed his undergraduate studies (in mathematics) at the Carnegie Mellon University. He obtained his Ph. D in physical chemistry at The Johns Hopkins University in 1967, working under the direction of Dean Robinson. Jack continued at Johns Hopkins as a postdoctoral fellow in the laboratory of John Doering, before moving to the Department of Chemistry at the University of Maryland in 1969.

At Maryland, Jack quickly established an internationally recognized experimental program in the use of ion-impact spectroscopy to study optically-forbidden transitions in small organic molecules. Jack broadened this work to the study of stable and metastable negative-ion states of a wide variety of organic and metallo-organic molecules.

During a visiting fellowship at the Joint Institute for Laboratory Astrophysics in Boulder, CO, working with Ed Beatty, Jack was introduced to coincidence detection of charged particles. Returning to Maryland, and in collaboration with Michael Coplan of the Institute for Physical Science and Technology at the University of Maryland, Jack subsequently extended his work on electron-impact ionization spectroscopy to permit the detection, in coincidence, of the scattered and ejected electrons. These (e,2e) experiments probed directly the square of the momentum-space wavefunctions for individual atomic and molecular orbitals.

In many of Moore’s investigations of electron-molecular scattering, interpretation of the experiments was greatly aided by a close and long-standing collaboration with John Tossell, also of the Department of Chemistry and Biochemistry, a quantum chemist.

In his most recent research achievement, Jack, along with Coplan, John Doering (Jack’s postdoctoral advisor) and John Cooper (formerly of NIST), initiated the triple-coincidence study (e,3e) of the interaction between direct and indirect (Auger) ionization in simple systems.

Coincidence, Electrons and Molecules
a Tribute to the Contributions of Jack Moore

12 November 2010, Marker Seminar Room

9:00 INTRODUCTORY REMARKS, DEAN STEVE HALPERIN (UNIVERSITY OF MARYLAND)
9:10 “REFLECTIONS ON THE CAREER OF JACK MOORE” JOHN TOSSELL (GEORGE WASHINGTON UNIVERSITY)
9:25 “SLIPPERY WHEN WET: POLYMER BRUSHES AND LUBRICATION” NICHOLAS SPENCER (EIDGENÖSSISCHE TECHNISCHE HOCHSCHULE, ZÜRICH, SWITZERLAND)
10:15 “THE ROLE OF HIGH AND LOW ENERGY ELECTRONS IN NANOFABRICATION”, JASON SANABIA (RAITH, USA)
10:55 COFFEE BREAK
11:10 “SOME CHALLENGES AND ISSUES CONCERNING GAS HYDRATES”, (KENNETH JORDAN, UNIVERSITY OF PITTSBURGH)
12:00 LUNCH (FOR SPEAKERS AND VISITORS)
1:20 “BUILDING SCIENTIFIC APPARATUS AND INVESTIGATING ELECTRON MOTION IN ATOMS AND MOLECULES”, MICHAEL COPLAN (UNIVERSITY OF MARYLAND)
2:10 “MULTIPARTICLE COINCIDENCE STUDIES OF TRANSIENT SPECIES: CATIONS, ANIONS AND RADICALS” ROBERT CONTINETTI (UNIVERSITY OF CALIFORNIA AT SAN DIEGO)
3:00 “COINCIDENCE: A TOOL FOR A LIFETIME OR JUST A ‘COINCIDENCE’?”, ALAN MIGDAL (NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY)
3:40 COFFEE BREAK
4:00 “ELECTRON CORRELATION IN ATOMS: THE DEMISE OF HARTREE-FOCK?”, R. STEPHEN BERRY (UNIVERSITY OF CHICAGO)
5:00 CLOSING REMARKS, JOHN WEINER (NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY)
Speakers

Nicholas Spencer
Professor, Department of Surface Science and Technology
Eidgenössische Technische Hochschule, Zürich, Switzerland
B. A., University of Cambridge, 1977
Ph.D., University of Cambridge, 1980

Michael Coplan
Professor, Institute for Physical Science and Technology, University of Maryland
A. B., Williams College, 1960
Ph. D., Yale University, 1963

Kenneth Jordan
Distinguished Professor of Computational Chemistry
Department of Chemistry, University of Pittsburgh
B. A., Northeastern University, 1968
Ph. D. Massachusetts Institute of Technology, 1974

Robert Continetti
Professor and Chair
Department of Chemistry, University of California, San Diego
B. A. The Johns Hopkins University, 1981
Ph. D. University of California, Berkeley, 1989

Alan Migdall
Staff Physicist, National Institute of Science and Technology and Adjunct Professor, Department of Physics, University of Maryland
B. S., University of Maryland, 1978
Ph.D., Massachusetts Institute of Technology, 1984

Jason Sanabia
President and CEO, Raith, USA
B. S., Union College, 1996
Ph.D., University of Maryland, 2000

FEATURED SPEAKER

R. Stephen Berry
James Franck Distinguished Service Professor Emeritus
Department of Chemistry, University of Chicago
A. B., Harvard University, 1952
Ph. D., Harvard University, 1956

Professor Berry’s group is interested in the structure, properties, and dynamics of clusters and biopolymers. They use both analytic theory and computation to investigate the phases and phase changes of small systems, the topographies of multidimensional potential surfaces and the dynamics these imply, and the dynamics of proteins and their interactions.

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