Stephen T. Pratt

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Professional Experience

- **2001-Present**. Senior Chemist at Argonne National Laboratory.
- **1985-2001**. Chemist at Argonne National Laboratory.
- **1984-1985**. Assistant Chemist at Argonne National Laboratory.
- **1982-1984**. Postdoctoral Appointee at Argonne National Laboratory.

Education

- Ph.D., Chemistry, Yale University, 1982. (Advisor: William A. Chupka)
- M.Phil., Chemistry, Yale University, 1980.
- M.S., Chemistry, Yale University, 1979.
- B.A., Chemistry, Bennington College, 1977.

Awards

- Argonne National Laboratory Pacesetter Award (1987)
- Visiting Professor, Laboratoire Aime Cotton, Universite de Paris Sud (Orsay, France) (2003)
- Chercheur Associé, Laboratoire Collisions Agrégats Réactivité, CNRS (Toulouse, France) (2008)
- American Physical Society "Outstanding Referee" (2008)

Career Activities & Highlights

- Areas of Research and Expertise
    - Chemical Physics; Molecular Photoionization and Photodissociation.
    - Vacuum ultraviolet and multiphoton studies of atomic and molecular photoionization dynamics, photoionization and photodissociation from excited states, and autoionization and predissociation phenomena; multichannel quantum defect theory calculations of molecular photoionization processes.
    - Decay processes of highly excited states including unimolecular reaction dynamics, Rydberg state collisions and reactions, field-ionization dynamics, ion-molecule reactions, and the mode dependence of decay processes in larger molecules.

- Professional Organizations

- American Physical Society (Fellow)
- American Chemical Society
- Optical Society of America

- Professional Activities

  - DOE Workshop on Advanced Laser Technology for Chemical Measurements, Co-Chair (1989)
  - Local Organizing Committee, Twenty-Third Meeting of the APS Division of Atomic, Molecular, and Optical Physics (1992)
  - Organizer, Symposium on Coherent Control of Physics and Chemistry, Twenty-Third DAMOP Meeting (1992)
  - Local Organizing Committee, 49th Annual Gaseous Electronics Conference (1996); Program Committee, APS Division of Atomic, Molecular, and Optical Physics (1997-1999)
  - Co-Organizer, Workshop on Microbeams: Techniques and Applications, at the Ninth Users Meeting of the Advanced Photon Source (1998)
  - Organizer, Symposium on Gerhard Herzberg's Contributions to AMO Physics, Thirty-First DAMOP Meeting (2000)
  - Co-Organizer, Symposium on Molecular Photoelectron Spectroscopy, Spring Meeting of the American Chemical Society (2001)
  - Member, National Research Council Committee on Atomic, Molecular, and Optical Sciences (2001-2004); Chair of the Gordon Conference on Multiphoton Processes (2004)
  - Member, National Research Council Committee to prepare the 2010 Survey of Atomic, Molecular, and Optical Physics, 2004-2006
  - Optical Society of America, Meggers Award Committee 2008-2009 (Chair 2009)
  - National Research Council Committee on Atomic, Molecular, and Optical Sciences (Chair), (2009-)

- Outside Collaborations
  - Wallace L. Glab (Texas Tech University)
  - Christian Jungen (Laboratoire Aimé Cotton, France)
  - Valerie Blanchet (Laboratoire Collisions Agrégats Réactivité, France)

Publications

- Ch. Jungen and S. T. Pratt, “Jahn-Teller Interactions in the Dissociative Recombination of H3+ , Physical Review Letters, 102, 023201 (2009).
- C. A. Taatjes, D. L. Osborn, T. Selby, G. Meloni, H. Fan, and S. T. Pratt, “Absolute Photoionization Cross Section of the Methyl Radical”, The Journal of Physical Chemistry, A112, 9336-9343 (2008).

- Ch. Jungen and S. T. Pratt, “Renner-Teller Interactions in the Vibrational Autoionization of Polyatomic Molecules”, The Journal of Physical Chemistry, 129, 164310 (2008).
- Ch. Jungen and S. T. Pratt, “Renner-Teller Interactions in the Dissociative Recombination of HCO+”, The Journal of Physical Chemistry, 129, 164311 (2008).
- H. Fan, S. T. Pratt, and J. A. Miller, “Secondary Decomposition of C3H5 Radicals Formed By The Photodissociation of 2-Bromopropene”, The Journal of Chemical Physics, 127, 144301 (2007).
- E. R. Peterson, C. Buth, D. A. Arms, R. W. Dunford, E. P. Kanter, B. Krässig, E. C. Landahl, S. T. Pratt, R. Santra, S. H. Southworth, and L. Young, “X-Ray Absorption by Laser-Aligned Molecules”, Applied Physics Letters, 92, 094106 (2008).
- H. Fan and S. T. Pratt, “Photodissociation of Propargyl Bromide and Photoionization of the Propargyl Radical”, The Journal of Chemical Physics, 124, 144313-1/144313-8 (2006).
- H. Fan and S. T. Pratt, “Photoionization of Hot Radicals: C2H5, n-C3H7, and i-C3H7”, The Journal of Chemical Physics, 123, 204301-1/204301-8 (2005).
- F. Aguirre and S. T. Pratt, "Photoionization of Vibrationally Hot CH3 And CF3”, The Journal of Chemical Physics, 122, 234303-1/234303-13 (2005).
- S. T. Pratt, “Vibrational Autoionization in Polyatomic Molecules”, Annual Review of Physical Chemistry 56, 281-308 (2005).