

Stephen J. Klippenstein

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Professional Experience

- **2005-Present.** Senior Scientist, Chemical Sciences and Engineering Division, Argonne National Laboratory.
- **2000-2005.** Principal Member of the Technical Staff, Combustion Chemistry Group, Sandia National Laboratories, Livermore, California.
- **2000.** Professor, Department of Chemistry, Case Western Reserve University.
- **1995-2000.** Associate Professor, Department of Chemistry, Case Western Reserve University.
- **1998, 1999.** Consultant, Sandia National Laboratory, Livermore, California.
- **1997.** Emerson Fellow, Chemistry Department, Emory University.
- **1996-1997.** Sabbatical Visitor, Argonne National Laboratory.
- **1989-1995.** Assistant Professor, Department of Chemistry, Case Western Reserve University.
- **1988-1989.** Postdoctoral Research Assistant, Department of Chemistry, University of Colorado, Boulder.
- **1988.** Postdoctoral Research Assistant, Chemistry Division, California Institute of Technology.

Education

- Ph.D., Physical Chemistry, California Institute of Technology, 1988. (Advisor: Prof. R. A. Marcus)
- B.S. (Honors) in Mathematics and Chemistry, University of British Columbia, Canada, 1983.

Awards

- Fellow American Physical Society (2007)
- O. W. Adams Award (2004)
- Lilly Teaching Fellow (1992-1993)
- Natural Sciences and Engineering Research Council of Canada Postgraduate Scholarship (1984-1987)
- Society of Chemical Industry Merit Prize (1983)
- Chemical Institute of Canada Prize (1982)

Career Activities & Highlights

- Areas of Research and Expertise
 - Development and application of theoretical methods for predicting the kinetics of gas phase reactions.
- Professional Organizations
 - American Chemical Society
 - American Physical Society
 - Combustion Institute
- Editorial Boards
 - Proceedings of the Combustion Institute (2008-present)
 - Journal of Physical Chemistry (2007-present)
 - International Journal of Chemical Kinetics (2005-present)
 - Progress in Energy and Combustion Science (2004-present)

Publications

L. B. Harding, S. J. Klippenstein, and J. A. Miller, "Kinetics of CH + N₂ Revisited With Multireference Methods," *The Journal of Physical Chemistry*, A 112, 522-532 (2008).

Y. Georgievskii, J. A. Miller, and S. J. Klippenstein, "Association Rate Constants For Reactions Between Resonance-Stabilized Radicals: C₃H₃ + C₃H₃, C₃H₃ + C₃H₅, and C₃H₅ + C₃H₅", *Physical Chemistry Chemical Physics*, 9 (31), 4259-4268 (2007).

M. Knepp, G. Meloni, L. E. Jusinski, C. A. Taatjes, C. Cavallotti, and S. J. Klippenstein, "Theory, Measurements, and Modeling of OH and HO₂ Formation in the Reaction of Cyclohexyl Radicals with O₂," *Physical Chemistry Chemical Physics*, 9 (31), 4315-4331 (2007).

W. Jasper, S. J. Klippenstein, L. B. Harding, and B. Ruscic, "Kinetics of the Reaction of Methyl Radical with Hydroxyl Radical and Methanol Decomposition," *The Journal of Physical Chemistry*, A 111 (19), 3932-3950 (2007).

L. B. Harding, S. J. Klippenstein, and Y. Georgievskii, "On the Combination Reactions of Hydrogen Atoms with Resonance Stabilized Hydrocarbon Radicals," *The Journal of Physical Chemistry*, A 111 (19), 3789-3801 (2007).

S. J. Klippenstein, L. B. Harding, and Y. Georgievskii, "On the Formation and Decomposition of C₇H₈," *Proceedings of the Combustion Institute*, 31 (1), 221-229 (2007).

J. A. Miller and S. J. Klippenstein, "Master Equation Methods in Gas Phase Chemical Kinetics," *The Journal of Physical Chemistry*, A 110 (36), 10528-10544 (2006).