

Curriculum Vitae

F. Fleming Crim

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Date of Birth: May 30, 1947, Waco, Texas

Education: B.S., Southwestern University, 1969
Ph.D., Cornell University, 1974

Awards: Alfred P. Sloan Research Fellow, 1981-83
Camille and Henry Dreyfus Teacher-Scholar, 1982
University of Wisconsin Romnes Faculty Fellowship, 1983
Helfaer Professor of Chemistry, 1985-91
Alexander von Humboldt Senior U.S. Scientist Award, 1986
Southwestern University Alumni Association Citation of Merit, 1987
Fellow, American Physical Society, 1989
Chancellor's Award for Excellence in Teaching, University of Wisconsin, 1991
Upjohn Teaching Award, Department of Chemistry, University of Wisconsin, 1992
Max Planck Research Award (with Jürgen Troe), 1993
John E. Willard Professor of Chemistry, University of Wisconsin, 1994
Japan Society for the Promotion of Science Fellow, 1995
Fellow, American Association for the Advancement of Science, 1995
Earl K. Plyler Prize for Molecular Spectroscopy, American Physical Society, 1998
Fellow, American Academy of Arts and Sciences, 1998
Hilldale Professor of Chemistry, University of Wisconsin, 2001
Member, National Academy of Sciences, 2001
Irving Langmuir Award in Chemical Physics, American Chemical Society, 2006
Silver Medal and Centenary Lectureship, Royal Society of Chemistry, London, 2008
Fellow, American Chemical Society (Inaugural Class), 2009
Hilldale Award in the Physical Sciences, University of Wisconsin, 2010
Honorary Professor, Dalian Institute of Chemical Physics, Chinese Academy of Sciences, 2011

Professional Experience: *September 1984 -*
Department of Chemistry, University of Wisconsin, Madison, WI
Professor, Chair (1995-98)
John E. Willard Professor (1994-)
Hilldale Professor (2001-)

September 1982 - August 1984
Associate Professor, Department of Chemistry, University of Wisconsin, Madison, WI

July 1977 - August 1982
Assistant Professor, Department of Chemistry, University of Wisconsin, Madison, WI

March 1976 - June 1977
Director's Postdoctoral Staff Member, Los Alamos Scientific Laboratory, Los Alamos, NM

September 1974 - February 1976
Staff Member, Western Electric Co., Engineering Research Center, Princeton, NJ

Professional Societies and Activities:

American Chemical Society (Fellow)
American Physical Society (Fellow)
American Association for the Advancement of Science (Fellow)

Department of Energy Combustion Research Facility Review Panel (1983-1985) (Chair, 1985)
Chair, ACS Symposium on State-to-State Chemistry (September, 1986)
National Research Council Workshop on the Chemistry Department of ^{the} Future (August, 1987)
Chair, Gordon Research Conference on Atomic and Molecular Interactions (July, 1988)
Chair, Physical Chemistry Division, American Chemical Society, (1988-89) (Chair Elect 1987-88, Vice-Chair 1986-87)
Editorial Advisory Board, *Journal of Physical Chemistry* (1987-93)
Department of Energy Review Committee, Chemistry Department, Brookhaven National Laboratory (1989)
AIP Ad Hoc Review Committee for the *Journal of Chemical Physics* (1989)
Editorial Advisory Board, *Encyclopedia of Applied Physics* (1989-)
External Advisory Committee of the Chemical and Laser Sciences Division, Los Alamos National Laboratory (1989-95) (Chairman, 1992)
Editorial Board, *International Reviews in Physical Chemistry* (1990-)
Editorial Board, *Journal of Chemical Physics* (1990-1992)
Associated Universities Review Committee, Chemistry Department, Brookhaven National Laboratory (1990-95)
Chair, ACS Task Force to Monitor the *Journal of Physical Chemistry* (1990-91)
Quantum Electronics and Laser Sciences, Program Committee, Optical Society of America (1990-91)
National Research Council Panel on Future Opportunities in Atomic, Molecular, and Optical Science (1991-93)
Earl K. Plyler Prize Selection Committee, American Physical Society (1992-94)
Advisory Editor, *Advances in Chemical Physics* (1993-2006)
Advisory Editorial Board, *Chemical Physics Letters* (1994-99)
National Research Council Panel on Free Electron Lasers (1993-94)
National Research Council Panel for the Joint Institute of Laboratory Astrophysics (1994-98) (Chair, 1996, 1998)
Board of Reviewing Editors, *Science* (1994-)
Committee on Professional Training, American Chemical Society (1999-2007) (Chair, 2003-05)
Department of Energy and ALS Scientific Advisory Committee Review Panel for the Chemical Dynamics Beam Line of the Advance Light Source (1999)
Graduate Education Advisory Board, American Chemical Society (2000-07)
National Academy of Sciences Chemical Sciences Roundtable (2002-06) Co-Chair (2003-6)
American Association for the Advancement of Science, Chemistry Section Committee (2003-6)
NSF Workshop on Postdoctoral Appointments: Roles and Opportunities (May, 2003)
ACS Invitational Conference on Education: Exploring the Molecular Vision (June, 2003)
Visiting Committee of the Institute for Atomic and Molecular Sciences, Academia Sinica, Taiwan (2003)
ACS Editorial Search Committee for the *Journal of Physical Chemistry* (2004)
Advisory Board of *Chemical and Engineering News* (2004-6)
Chair, Gordon Research Conference on Vibrational Spectroscopy and Molecular Dynamics, (2006)
National Academy of Sciences Board on Chemical Sciences and Technology, Co-Chair (2006-2010)
Distinguished Traveling Lecturer, Division of Laser Sciences, American Physical Society (2007-)
International Advisory Committee, OSU Symposium on Molecular Spectroscopy (2007-2009)
Divisional Fellowship Committee, Division of Chemical Physics, American Physical Society (2008-2010)
Visiting Committee, JILA Physics Frontiers Center (2008-2010)
Member-at-Large, Gordon Research Council, Gordon Research Conferences (2008-2011)
Steering Committee, EPSRC Programme in Reaction and Photodissociation Dynamics (Bristol and Oxford) (2009-2013)
Chair, Chemical Sciences Division Review Committee, Lawrence Berkeley National Laboratory (2010)
Chair, Chemistry Section, National Academy of Sciences (2011-2014)

Named Lectures:

Robert A. Welch Foundation Lecture, 1989
Bayer-Mobay Lecture, University of New Hampshire, 1991
Blacét Lecture, University of California, Los Angeles, 1996
Malcolm Dole Distinguished Lecturer, Northwestern University, 2000
Noyes Distinguished Lecturer, University of Rochester, Rochester, New York, 2003
Hascoe Distinguished Lecture, University of Connecticut, Storrs, Connecticut, 2003
Frank T. Gucker Lecture, Indiana University, Bloomington, Indiana, 2004
Distinguished Physical Chemistry Lecturer, University of Nevada, Reno, Nevada, 2005
Moscowitz Lecturer, Department of Chemistry, University of Minnesota, Minneapolis, Minnesota, 2006
Musselman Visiting Scientists Lectures, Gettysburg College, Gettysburg, Pennsylvania 2006
Molecular Physics Lecturer, Colloquium on High Resolution Spectroscopy, Dijon, France, 2007
Charles A. McDowell Lecturer, University of British Columbia, Canada, 2007
E. U. Condon Lecturer, University of Colorado, Boulder, Colorado, 2008
McGavock Lecturer, Trinity University, San Antonio, Texas 2009
Centenary Lecturer, Royal Society of Chemistry, Great Britain, 2009
Five Colleges Lecturer, Amherst, Hampshire, Mt. Holyoke, Smith, University of Massachusetts, 2010
Zhang Dayu Lecturer, Dalian Institute of Chemical Physics, Chinese Academy of Sciences, 2011
Coulson Lecture, Department of Chemistry, University of Georgia, Athens, Georgia, 2011
Centenary Lecture, Indian Institute of Science, Bangalore, India 2012

Recent and Forthcoming Invited Presentations:

Five Colleges Lectureship (March, 2010)

Smith College
University of Massachusetts – Amherst
Hampshire College

21st International Symposium on Gas Kinetics, Leuven, Belgium (July, 2010)

Gordon Research Conference on Vibrational Spectroscopy and Dynamics, Maine (August, 2010)

Department of Chemistry, University of Illinois, Urbana, Illinois (August, 2010)

Department of Chemistry, Massachusetts Institute of Technology, Cambridge, Mass (October, 2010)

Steacie Institute for Molecular Sciences, National Research Council, Ottawa, Canada (February, 2011)

Department of Chemistry, Lehigh University, Bethlehem, Pennsylvania (February, 2011)

Department of Chemistry and Photochemical Sciences, Bowling Green State University, Bowling Green, Ohio (April, 2011)

Dalian Institute of Chemical Physics, Chinese Academy of Sciences, Dalian, China (May, 2011)

University of Science and Technology of China, Hefei, China (May, 2011)

XV Time-resolved Vibrational Spectroscopy Meeting, Ascona, Switzerland (June, 2011)

Conference on Molecular Energy Transfer, Oxford, England (September, 2011)

Coulson Lecture, Department of Chemistry, University of Georgia, Athens, Georgia (October, 2011)

KVPY Symposium, Indian Institute of Sciences, Bangalore, India (November, 2011)

Spectroscopy and Dynamics of Molecules and Clusters, Bangalore, India (February, 2012)

Centenary Lecture, Indian Institute for Science, Bangalore, India (February, 2012)

Colloquium, Inorganic and Physical Chemistry Department, Indian Institute for Science,
Bangalore, India (February, 2012)

Department of Chemistry, Johns Hopkins University, Baltimore, Maryland (March, 2012)

Department of Chemistry, Ohio State University, Columbus, Ohio (April, 2012)

Solvay Workshop (FASE), Université Libre de Bruxelles, Brussels, Belgium (April, 2012)

Introductory Lecture, Faraday Discussion on Molecular Reaction Dynamics in Gases, Liquids, and
Interfaces, Perugia, Italy (June, 2012)

Gordon Research Conference on Vibrational Spectroscopy and Dynamics, Maine (August, 2012)

Publications:

1. *Nucleophilic Vinylic Substitution. I.*, R. L. Soulen, D. B. Clifford, F. F. Crim, and J. A. Johnson. *J. Org. Chem.* **36**, 3386 (1971).
2. *Inelastic Scattering of Vibrationally Excited KBr by Ar and CO₂*, M. S. Chou, F. F. Crim, and G. A. Fisk. *Chem. Phys. Lett.* **20**, 464 (1973).
3. *Inelastic Scattering of Vibrationally Excited KBr by Small Nonpolar and Essentially Nonpolar Partners*, F. F. Crim, M. S. Chou, and G. A. Fisk, *Chem. Phys.* **2**, 283 (1973).
4. *Inelastic Scattering of Vibrationally Excited Potassium Bromide by Polyatomic Partners*, F. F. Crim, H. B. Bente, and G. A. Fisk, *J. Chem. Phys.* **78**, 2438 (1974).
5. *Information Theoretic Analysis of Single Collision Energy Transfer from Highly Vibrationally Excited KBr*, F. F. Crim and G. A. Fisk, *J. Chem. Phys.* **65**, 2480 (1976).
6. *Single Collision Studies of Vibrational Energy Transfer Mechanisms*, G. A. Fisk and F. F. Crim, *Accounts of Chem. Res.* **10**, 73 (1977)
7. *IR Laser Induced Ionization in SF₆-Hydrocarbon Mixtures*, F. F. Crim, G. H. Kwei, and J. L. Kinsey, *Chem. Phys. Lett.* **49**, 526 (1977).
8. *Photon-Induced Ionization Changes in a Neon Discharge*, K. C. Smyth, R. A. Keller, and F. F. Crim, *Chem. Phys. Lett.* **55**, 473 (1978)
9. *Collisional Relaxation of HF($\nu=3,4$) by HF, CH₄, and CD₄*, J. K. Lampert, G. M. Jursich, and F. F. Crim, *Chem. Phys. Lett.* **71**, 258 (1980).
10. *Direct Observation of Unimolecular Reaction in State Selected Tetramethyldioxetane*, B. D. Cannon and F. F. Crim, *J. Chem. Phys.* **73**, 3013 (1980).
11. *Vibrational Relaxation of HF($\nu=3,4,5$)*, G. M. Jursich and F. F. Crim, *J. Chem. Phys.* **74**, 4455 (1981).
12. *Local Mode Excitation and Direct Unimolecular Reaction Rate Measurements in Tetramethyldioxetane*, B. D. Cannon and F. F. Crim, *J. Chem. Phys.* **75**, 1752 (1981).
13. *The Kinetics of Gas Phase Tetramethyldioxetane Decomposition and Product Chemiluminescence*, B. D. Cannon and F. F. Crim, *J. Am. Chem. Soc.* **103**, 6722 (1981).
14. *Laser Double Resonance Measurements of Rotational Energy Transfer in HF($\nu=2$)*, R. A. Copeland, D. J. Pearson, and F. F. Crim, *Chem. Phys. Lett.* **81**, 541 (1981).
15. *Vibrational Relaxation of HF ($\nu=3,4,5$) between 300 and 700 K*, T. J. Foster and F. F. Crim, *J. Chem. Phys.* **75**, 3871 (1981).
16. (Book Review) *J. Chem. Ed.*, **59**, A146 (1982).
17. *State-to-State Unimolecular Reaction of t-Butylhydroperoxide*, T. R. Rizzo and F. F. Crim, *J. Chem. Phys.* **76**, 2754 (1982).
18. *Laser Double Resonance Measurements of Vibrational Energy Transfer Rates and Mechanisms in HF($\nu=2$)*, R. A. Copeland D. J. Pearson, Jeanne M. Robinson, and F. F. Crim, *J. Chem Phys.* **78**, 3974 (1982).

19. *Rotational Energy Transfer in HF($\nu=2$): Double Resonance Experimental Measurements and Fitting Law Analysis*, R. A. Copeland and F. F. Crim, *J. Chem. Phys.* **78**, 5551 (1983).
20. *Product Energy Partitioning in the Decomposition of State- Selectively Excited HOOH and HOOD* T. R. Rizzo, C. C. Hayden, and F. F. Crim, *Faraday Discuss. Chem. Soc.* **75**, 223 (1983).
21. *Local Mode Excitation for Time Resolved Unimolecular Decay Studies*, T. R. Rizzo, B. D. Cannon, E. S. McGinley, and F. F. Crim, *Laser Chem.* **2**, 321 (1983).
22. *Vibrational Relaxation of HF($\nu=3,4,5$) by H_2 , D_2 , CH_4 , CD_4 , and CO_2* , G. M. Jursich, D. R. Ritter, and F. F. Crim, *J. Chem. Phys.* **80**, 4097 (1984).
23. *Selective Excitation Studies of Unimolecular Reaction Dynamics*, F. F. Crim, *Ann. Rev. Phys. Chem.* **35**, 657 (1984).
24. *State-Resolved Product Detection in the Overtone Vibration Initiated Unimolecular Decomposition of HOOH ($6\nu_{OH}$)*, T. R. Rizzo, C. C. Hayden, and F. F. Crim, *J. Chem. Phys.* **81**, 4501 (1984).
25. *Rotational Energy Transfer in HF ($\nu=2$): Energy Corrected Sudden Approximation Scaling Relations Applied to Double Resonance Measurements*, R. A. Copeland and F. F. Crim, *J. Chem. Phys.* **81**, 5819 (1984).
26. *Rates and Pathways of Vibrational Self-relaxation of HF($\nu=2$) between 300 and 700 K*, J. M. Robinson, D. J. Pearson, R. A. Copeland, and F. F. Crim, *J. Chem. Phys.* **82**, 780 (1985).
27. *Collisional Energy Transfer via Vibrational Predissociation: Relaxation of HF($\nu=1$) by HF Dimers*, K. J. Rensberger, R. A. Copeland, J. M. Robinson, and F. F. Crim, *J. Chem. Phys.* **83**, 1132 (1985).
28. *Vibrational Overtone Predissociation Spectroscopy of Hydrogen Peroxide*, H.-R. Dübal and F. F. Crim, *J. Chem. Phys.* **83**, 3863 (1985).
29. *A Direct Determination of the Role of Vibration to Vibration Energy Transfer in HF($\nu=3,4$) Self-relaxation*, J. M. Robinson, K. J. Rensberger, and F. F. Crim, *J. Chem. Phys.* **84**, 220 (1986).
30. *Unimolecular Reactions Near Threshold: The Overtone Vibration Initiated Decomposition of HOOH($5\nu_{OH}$)*, T. M. Ticich, T. R. Rizzo, H.-R. Dübal, and F. Crim, *J. Chem. Phys.* **84**, 1508 (1986).
31. *Homogeneous and Inhomogeneous Structure in the Vibrational Overtone Spectrum of Tetramethyldioxetane*, E. S. McGinley and F. F. Crim, *J. Chem. Phys.* **85**, 5741 (1986).
32. *Overtone Vibration Initiated Unimolecular Reaction of Tetramethyldioxetane in a Free Jet Expansion: A Comparison with RRKM Theory*, E. S. McGinley and F. F. Crim, *J. Chem. Phys.* **55**, 5748 (1986).
33. *Vibrational Overtone Spectroscopy of Bound and Predissociative States of Hydrogen Peroxide Cooled in a Supersonic Expansion*. L. J. Butler, T. M. Ticich, M. D. Likar, and F. F. Crim, *J. Chem. Phys.*, **85**, 2331 (1986).
34. *Unimolecular Reaction Rate Measurements for Molecules with Excited Overtone Vibrations*. E. S. McGinley, L. J. Butler, T. M. Ticich, M. D. Likar, and F. F. Crim, *J. Chim. Phys.*, **84**, 393 (1987).
35. *The Dissociation of Highly Vibrationally Excited Molecules*, F. F. Crim, *Molecular Photodissociation Dynamics*, ed. J. Baggott and M. Ashfold (Royal Society of Chemistry, 1987) pp 177-210.
36. *Collisional Relaxation of DF($\nu=1$) and HF($\nu=1$) by the DF Dimer*, K. J. Rensberger, J. M. Robinson, and F. F. Crim, *J. Chem. Phys.* **86**, 1340 (1987).

37. *Specific Rate Constants $k(E,J)$ and Product State Distributions in Simple Bond Fission Reactions. II. Application to $\text{HOOH} \text{OH} + \text{OH}$* , L. Brouwer, C. J. Cobos, J. Troe, H-R. Dübal, and F. F. Crim, *J. Chem. Phys.* **86**, 6171 (1987).
38. *Two-Color Vibrationally Mediated Photodissociation of Nitric Acid*, A. Sinha, R. L. Vander Wal, L. J. Butler, and F. F. Crim, *J. Phys. Chem.* **91**, 4645 (1987).
39. *Vibrationally Mediated Photodissociation of Hydrogen Peroxide*, T. M. Ticich, M. D. Likar, H-R. Dübal, L. J. Butler, and F. F. Crim, *J. Chem. Phys.* **87**, 5820 (1987).
40. *Spectroscopy and Photodissociation Dynamics of Highly Vibrationally Excited Molecules*, M. D. Likar, A. Sinha, T. M. Ticich, R. Vander Wal, and F. F. Crim, *Ber. Bunsenges. Phys. Chem.* **92**, 289 (1988).
41. *Vibrationally Mediated Photodissociation*, M. D. Likar, J. E. Baggott, A. Sinha, R. L. Vander Wal, and F. F. Crim, *J. Chem. Soc. Faraday Transactions II*, **84**, 1483 (1988).
42. *Vibrational Overtone Spectroscopy of H_2O ($4\nu_{\text{OH}}$) Using Energy-Selective Electron Impact Ionization*, C. C. Hayden, S. M. Penn, K. J. Carlson, and F. F. Crim, *J. Phys. Chem.* **92**, 1397 (1988).
43. *Collisional Relaxation of Single Rotational States in Highly Vibrationally Excited Acetylene*, E. Carrasquillo M., A. L. Utz, and F. F. Crim, *J. Chem. Phys.* **88**, 5976 (1988).
44. *Experimental and Theoretical Study of the Relaxation of Vibrationally Excited HF by NO and CO*, K. J. Rensberger, J. T. Blair, F. A. Weinhold, and F. F. Crim, *J. Chem. Phys.* **91**, 1688 (1989).
45. *The Photodissociation of Methyl Iodide at 229.4 nm: A Determination of the Fragment Recoil Anisotropy using Energy-Selective Electron Impact Ionization and Time-of-Flight Mass Spectrometry*, S. M. Penn, C. C. Hayden, K. J. Carlson-Muyskens, and F. F. Crim, *J. Chem. Phys.* **89**, 2909 (1988).
46. *Vibrationally Mediated Photodissociation of *t*-Butyl Hydroperoxide: Vibrational Overtone Spectroscopy and Photodissociation Dynamics*, M. D. Likar, J. E. Baggott, and F. F. Crim, *J. Chem. Phys.* **90**, 6266 (1989).
47. *The Vibrationally Mediated Photodissociation Dynamics of Nitric Acid*, A. Sinha, R. L. Vander Wal, and F. F. Crim, *J. Chem. Phys.* **91**, 2929 (1989).
48. *Controlling the Pathways in Molecular Decomposition: The Vibrationally Mediated Photodissociation of Water*, R. L. Vander Wal and F. F. Crim, *J. Phys. Chem.* **93**, 5331 (1989).
49. *State Resolved Unimolecular Reactions: The Vibrational Overtone Initiated Decomposition of Nitric Acid*, A. Sinha, R. L. Vander Wal, F. F. Crim, *J. Chem. Phys.* **92**, 401 (1990).
50. *A Molecular Beam Time-of-Flight Mass Spectrometer Using Low-Energy-Electron Impact Ionization*, C. C. Hayden, S. M. Penn, K. J. Carlson Muyskens, and F. F. Crim, *Rev. Sci. Instrum.* **61**, 775 (1990).
51. *Selectively Breaking the O-H Bond in HOD*. R.L. Vander Wal, J.L. Scott, and F.F. Crim, *J. Chem. Phys.* **92**, 803 (1990).
52. *Bond-Selected Bimolecular Chemistry: $\text{H} + \text{HOD}(4\nu_{\text{OH}}) \rightarrow \text{OD} + \text{H}_2$* , A. Sinha, M. C. Hsiao, and F. F. Crim, *J. Chem. Phys.* **92**, 6333 (1990).
53. *State-to-State Vibrational Energy Transfer in $\text{DF}(v=1-3)$* . J. M. Robinson, M. A. Muyskens, K. J. Rensberger, and F. F. Crim, *J. Chem. Phys.* **93**, 3207 (1990).
54. *State- and Bond-Selected Photodissociation and Bimolecular Reaction of Water*. F. F. Crim, M. C. Hsiao, J. L. Scott, A. Sinha, and R. L. Vander Wal. *Phil. Trans. Roy. Soc.* **332**, 259 (1990).

55. *State and Bond Selected Unimolecular Reactions*, F. F. Crim, *Science* **249**, 1387 (1990).
56. *State Resolved Photodissociation of Vibrationally Excited Water: Rotations, Stretching Vibrations, and Relative Cross Sections*, R. L. Vander Wal, J. L. Scott, and F. F. Crim, *J. Chem. Phys.* **94**, 1859 (1991).
57. *An Experimental and Theoretical Study of the Bond-Selected Photodissociation of HOD*. R. L. Vander Wal, J. L. Scott, F. F. Crim, K. Weide, and R. Schinke, *J. Chem. Phys.* **94**, 3548 (1991).
58. *The Effect of Bending Vibrations on Product Rotations in the Fully State-Resolved Photodissociation of the A-State of Water*. R. Schinke, R. L. Vander Wal, J. L. Scott, and F. F. Crim, *J. Chem. Phys.* **94**, 283 (1991).
59. *Controlling Bimolecular Reactions: Mode and Bond Selected Reaction of Water with Hydrogen Atoms*. A. Sinha, M. C. Hsiao, and F. F. Crim, *J. Chem. Phys.* **94**, 4928 (1991).
60. *Energy Disposal in the Vibrational State- and Bond-Selected Reaction of Water with Hydrogen Atoms*. M. C. Hsiao, A. Sinha, and F. F. Crim, *J. Phys. Chem.* **95**, 8263 (1991).
61. *Mode- and Bond-Selected Bimolecular Reaction of Water*. F. F. Crim, A. Sinha, M. C. Hsiao, and J. D. Thoemke, in *Mode Selective Chemistry*, J. Jortner, *et al.* editors, (1991), pp. 217-225.
62. *Controlling Bimolecular Reactions: Mode and Bond Selected Reaction of Water with Translationally Energetic Chlorine Atoms*. Amitabha Sinha, John D. Thoemke, and F. Fleming Crim, *J. Chem. Phys.* **96**, 372 (1992).
63. *The Photodissociation of Water in the First Absorption Band: A Prototype for Dissociation on a Repulsive Potential Energy Surface*. V. Engel, V. Staemmler, R. L. Vander Wal, F. F. Crim, R. J. Sension, B. Hudson, P. Andresen, S. Hennig, K. Weide, and R. Schinke, *J. Phys. Chem.* **96**, 3201 (1992).
64. *Energy Transfer in Highly Vibrationally Excited Acetylene: Relaxation for Vibrational Energies from 6,500 to 13,000 cm^{-1}* . A. L. Utz, J. D. Tobiason, E. Carrasquillo M., M. D. Fritz, and F. F. Crim, *J. Chem. Phys.* **97**, 389 (1992).
65. *UV Photodissociation and Energy-Selective Ionization of Organometallic Compounds in a Molecular Beam*, J. A. Bartz, T. M. Barnhart, D. B. Galloway, L. G. Huey, T. Glenwinkel-Meyer, R. J. McMahon, and F. F. Crim, *Laser Chemistry of Organometallics*, ed. J Chaiken, American Chemical Society Symposium Series **530**, 116 (1993).
66. *State-to-State Rotational Energy Transfer in Highly Vibrationally Excited Acetylene*. J. D. Tobiason, A. L. Utz, and F. F. Crim, *J. Chem. Phys.* **97**, 7437 (1992).
67. *Pathways and Kinetic Energy Disposal in the Photodissociation of Nitrobenzene*. Douglas B. Galloway, Jeffrey A. Bartz, L. Gregory Huey, and F. Fleming Crim, *J. Chem. Phys.* **98**, 2107 (1993).
68. *The Direct Observation, Assignment, and Partial Deperturbation of the ν_4 and ν_6 Vibrational Fundamentals in 1A_u Acetylene (C_2H_2)*, A. L. Utz, J. D. Tobiason, E. Carrasquillo M., L. J. Sanders, and F. F. Crim, *J. Chem. Phys.* **98**, 2742 (1993).
69. *The Direct Observation, Assignment, and Partial Deperturbation of ν_5 and $\nu_3+\nu_5$ in 1A_u Acetylene (C_2H_2)*, J. D. Tobiason, A. L. Utz, and F. F. Crim, *J. Chem. Phys.* **99**, 928 (1993).

70. *Gas Phase Photodissociation of (η^5 -Cyclopentadienyl)Fe(CO)₂R and (η^5 -Indenyl) Fe(CO)₂R in a Molecular Beam: Competitive Loss of Alkyl Radical and Alkene Detected by Vacuum Ultraviolet Ionization and Time-of-Flight Mass Spectrometry*, J. A. Bartz, T. M. Barnhart, D. B. Galloway, L. G. Huey, T. Glenewinkel-Meyer, R. J. McMahon, and F. F. Crim, *J. Am. Chem. Soc.* **115**, 8389 (1993).
71. *Vibrationally Mediated Photodissociation: Exploring Excited State Surfaces and Controlling Decomposition Pathways*, F. F. Crim, *Ann. Rev. Phys. Chem.* **44**, 397 (1993).
72. *Direct Measurements of State-To-State Rotational and Vibrational Energy Transfer in Highly Vibrationally Excited Acetylene: Vibrational Overtone Excitation-LIF Detection*. J. D. Tobiasson, A. L. Utz, and F. F. Crim, *Proceedings SPIE Conference on Laser Techniques for State-Selected and State-to-State Chemistry*, SPIE Proceedings, **1858**, 317 (1993).
73. *Selectively Breaking Either Bond in the Bimolecular Reaction of HOD with Hydrogen Atoms*. Ricardo B. Metz, John D. Thoenke, Joann M. Pfeiffer and F. Fleming Crim, *J. Chem. Phys.* **99**, 1744 (1993).
74. *The VUV Photodissociation of Silane at 125.1 nm*, Th. Glenewinkel-Meyer, J. A. Bartz, G. M. Thorson, and F. F. Crim, *J. Chem. Phys.* **99**, 5944 (1993).
75. *The Ultraviolet Photodissociation of Copper Hexafluoroacetylacetonate in a Molecular Beam*, Jeffrey A. Bartz, Douglas B. Galloway, L. Gregory Huey, Thomas Glenewinkel-Meyer, and F. Fleming Crim, *J. Phys. Chem.* **97**, 11249 (1993).
76. *Normal Modes Analysis of A-state Acetylene Based on Directly Observed Fundamental Vibrations*, J. D. Tobiasson, A. L. Utz, E. L. Sibert, and F. F. Crim, *J. Chem. Phys.* **99**, 5762 (1993).
77. *The Non-Resonant Signal in Laser-Induced Grating Spectroscopy of Gases*, D. E. Govoni, J. A. Booze, A. Sinha, and F. F. Crim, *Chem. Phys. Lett.* **216**, 525 (1993).
78. *The Kinetic and Internal Energy of NO from the Photodissociation of Nitrobenzene*, Douglas B. Galloway, Thomas Glenewinkel-Meyer, Jeffrey A. Bartz, L. Gregory Huey, and F. Fleming Crim, *J. Chem. Phys.* **100**, 1946 (1994).
79. *Direct Measurements of Rotation Specific, State-to-state Vibrational Energy Transfer in Highly Vibrationally Excited Acetylene*, J. D. Tobiasson, A. L. Utz, and F. F. Crim, *J. Chem. Phys.* **101**, 1108 (1994).
80. *The Reaction of Chlorine Atoms with Highly Vibrationally Excited HCN*. Ricardo B. Metz, Joann M. Pfeiffer, John D. Thoenke, and F. Fleming Crim, *Chem. Phys. Lett.* **221**, 347 (1994).
81. *State-to-state Relaxation of Highly Vibrationally Excited Acetylene by Argon*. J. D. Tobiasson, M. D. Fritz, and F. F. Crim, *J. Chem. Phys.* **101**, 9642 (1994).
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133. *Vibrationally Mediated Photodissociation of Ammonia: The Influence of N-H Stretching Vibrations on Passage through Conical Intersections,* Michael L. Hause, Y. Heidi Yoon, and F. Fleming Crim, *J. Chem. Phys.* **125**, 174309 (2006).
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143. *Ultrafast Observation of Isomerization and Complexation in the Photolysis of Bromoform in Solution.* Stacey L. Carrier, Thomas J. Preston, Maitreya Dutta, Andrew C. Crowther, and F. Fleming Crim, *J. Phys. Chem. A* **114**, 1548 (2010).
144. *The Influence of Vibrational Excitation on the Photoisomerization of Electronically Excited trans-Stilbene in Solution.* Kristin A. Briney, Leslie Herman, David S. Boucher, Adam D. Dunkelberger, and F. Fleming Crim, *J. Phys. Chem. A* **114**, 9788 (2010).
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146. *Dissociation Energy and Vibrational Predissociation Dynamics of the Ammonia Dimer.* Amanda S. Case, Cornelia G. Heid, Scott H. Kable, and F. Fleming Crim, *J. Chem. Phys.* **135**, 084312 (2011).

147. *Formation and Relaxation Dynamics of iso-CH₂Cl-I in Cryogenic Matrices*. Thomas J. Preston, Maitreya Dutta, Brian J. Esselman, Aimable Kalume, Lisa George, Robert J. McMahon, Scott A. Reid, and F. Fleming Crim, *J. Chem. Phys.* **135**, 114503 (2011).
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149. *The Photoisomerization and Relaxation Dynamics of a Structurally Modified Biomimetic Photoswitch*. Adam D. Dunkelberger, Ryan D. Kieda, Jae Yoon Shin, Riccardo Rossi Paccani, Stefania Fusi, Massimo Olivucci, and F. Fleming Crim, *J. Phys. Chem. A* (2012) (*submitted*).

January 20, 2012

University Committees:

Admissions Policy Committee (1982-1985)
Graduate School Research Committee (1983-1986)
Ad-Hoc Committee on Planning and Construction (1984-1985)
All-Campus Committee on Future Directions (1987-1989)
College of Letters and Science Development Committee (1987-1994)
Graduate Dean Search Committee (1989)
Physical Sciences Laboratory Review Committee, Chair (1990).
Teaching Awards Committee (1991-3) (Chair, 1993)
Letters and Sciences Administration Review Committee (1992)
Research Ethics and Data Integrity Committee (1994-1995)
Physical Sciences Review Committee, Hilldale Undergraduate Research Awards (1999-2004)
Academic Planning Council, College of Letters and Science (2000-2003)
Named Professorships Committee (2004-2007)
Honorary Degrees Committee (2004-2008)

Department Committees:

Language Examination Committee
Safety Committee
Graduate Admissions Committee
Shops Committee (Electronic Shop Director)
Ad hoc Faculty and Student Lounge Committee (Chair)
New Building Committee
Long Range Planning Committee (Chair)
Laser Laboratory Committee
Finance Committee (Chair)
Student-Faculty Liaison Committee
Post-tenure Review Committee (Chair)
Industrial Relations (Chair)
Long Range Planning (Chair)
Undergraduate Curriculum Committee (Chair)
Awards Committee (Chair)
Facilities and Building Committee (Chair)
Development Committee (Chair)

Courses Taught:

General Chemistry	Chem. 103
General Chemistry	Chem. 104
General Chemistry	Chem. 109
General and Analytical Chemistry	Chem. 110
Chemical Principles	Chem. 115
Physical Chemistry	Chem. 562
Physical Chemistry Laboratory	Chem. 563/564
Chemical Kinetics	Chem. 604
Molecular Reaction Dynamics	Chem. 762
Selected Topics: The Spectroscopy and Dynamics of Highly Vibrationally Excited Molecules	Chem. 860
Physical Chemistry Seminar	Chem. 960
Molecular Dynamics Seminar	Chem. 964

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