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Education

B.A. with honors, Chemistry, Oberlin College, Oberlin, Ohio, May 1984
Synthesis and Vibrational Spectroscopy of the Cyclopropenyl Cation (Prof. N. C. Craig)

Ph.D., Chemistry, Harvard University, Cambridge Massachusetts, June 1990
Kinetic and Mechanistic Investigations of Atom Abstraction Reactions (Prof. J. G. Anderson)

Postdoctoral, Atmospheric Chemistry, The Pennsylvania State University, University Park, 1990-1995
Measurements of tropospheric OH and HO_2 by laser-induced fluorescence (Prof. W. H. Brune)

Academic Appointments

Associate Dean for Faculty Affairs, O'Neill School of Public and Environmental Affairs, 2019-
James H. Rudy Professor, O'Neill School of Public and Environmental Affairs, Indiana University, 2012-
Chair, Environmental Science Faculty, School of Public and Environmental Affairs, 2008-2019
Professor, School of Public and Environmental Affairs, Indiana University, 2008-2012
Associate Professor, School of Public and Environmental Affairs, Indiana University, 2002-2008
Assistant Professor, School of Public and Environmental Affairs, Indiana University, 1995-2002
Director, Ph.D. Program in Environmental Science, Indiana University, 2007-2009
Adjunct Professor, Department of Chemistry, Indiana University, 2003-present
Adjunct Professor, Department of Geography, Indiana University, 1996-present

Awards and Honors

National Science Foundation CAREER Award, 2000-2005
Trustees Teaching Award, Indiana University, 2006
Undergraduate Teaching Award, School of Public and Environmental Affairs, Indiana University, 2015
Graduate Teaching Award, School of Public and Environmental Affairs, 1997, 2000, 2003
Teaching Excellence Recognition Award, Indiana University, 1997, 1998, 2000

Professional Affiliations

Sigma Xi, American Chemical Society, American Geophysical Union, American Association for the Advancement of Science

Publications (refereed)

Book Chapters

S. Dusanter and P. S. Stevens, Recent Advances in the Chemistry of OH and HO_2 Radicals in the Atmosphere: Field and Laboratory Measurements, in *Advances in Atmospheric Chemistry, Volume 1*, John R. Barker, Allison L. Steiner, and Timothy J. Wallington, Editors, World Scientific Publishing Co. Pte. Ltd, New Jersey, pp. 493-579, 2017

Journal articles

P. Rickly, B. Bottorff, H. Alwe, D. Millet, S. Sklaveniti, T. Léonardis, N. Locoge, S. Dusanter, S. Bertman, and P. S. Stevens. Measurements of total OH reactivity in a forest during PROPHET-AMOS, *ACS Earth and Space Chemistry*, in preparation.

B. Bottorff, M. Lew, B. Deming, E. Wood, A. Weinheimer, G. Tyndall, J. Ortega, D. Montzka, H. Alwe, D. Millet, S. Sklaveniti, T. Léonardis, N. Locoge, S. Dusanter, S. Alvarez, M. Erickson, J. Flynn, S. Bertman, and P. S. Stevens, OH, HO_2, and RO_2 Radical Chemistry in a Forest Environment During PROPHET-AMOS: Measurements and model predictions, *ACS Earth and Space Chemistry*, in preparation.

B. Bottorff, E. Reidy, L. Mielke, S. Dusanter, and P. S. Stevens, Development of a new Laser Photofragmentation/Fluorescent Assay by Gas Expansion instrument for the measurement of tropospheric nitrous acid, *Atmospheric Measurement Techniques*, in preparation.

R. F. Hansen, S M. Griffith, S. Dusanter, J. Gilman, M. Graus, W. C. Kuster, P. Veres, J. A. de Gouw, C. Warneke, S. L. Alvarez, J. H. Flynn, N. E. Grossberg, B. Lefer, B. Rappenglueck, R. A. Washenfelder, C. J. Young, S. S. Brown, and P. S. Stevens, Measurements of Total OH reactivity during CalNex-LA, *Journal of Geophysical Research Atmospheres,* in preparation

M. M. Lew, P. Rickly, B.P. Bottorff, S. Sklaveniti, T. Léonardis, N. Locoge, S. Dusanter, S. Kundu, B. Deming, E. Wood, and P.S. Stevens. OH and HO_2 radical chemistry in an Indiana forest: Measurements and model comparisons, *Atmospheric Chemistry and Physics*, submitted, 2019

M. Duncianu, A. Lahib, A. Tomas, P. S. Stevens, and S. Dusanter. Development and characterization of a chemical amplifier for peroxy radical measurements in the atmosphere, *Atmospheric Environment,* submitted, 2019

D. K. Farmer, M. E. Vance, J. P. Abbatt, A. Abeleira, M. R. Alves, C. Arata, E. Boedicker, S. Bourne, F. Cardoso-Saldaña, R. Corsi, P. F. DeCarlo, A. H. Goldstein, V. H. Grassian, L. Hildebrandt Ruiz, J. L. Jimenez, T. F. Kahan, E. F. Katz, J. M. Mattila, W. W. Nazaroff, A. Novoselac, V. W. Or, R. E. O'Brien, S. Patel, S. Sankhyan, P. S. Stevens, Y. Tian, M. Wade, C. Wang, S. Zhou, Y. Zhou. Overview of HOMEChem: House Observations of Microbial and Environmental Chemistry, *Environmental Science: Processes and Impacts*, in press, 2019

S. Kundu, B. L. Deming, M. M. Lew, B. P. Bottorff, P. Rickly, P. S. Stevens, S. Dusanter, S. Sklaveniti, T. Leonardis, N. Locoge, and E. C. Wood. Peroxy Radical Measurements by Ethane – Nitric Oxide Chemical Amplification and Laser-Induced Fluorescence/Fluorescence Assay by Gas Expansion during the IRRONIC field campaign in a Forest in Indiana, *Atmospheric Chemistry and Physics*, 19, 9563-9579,

2019

A. Akherati, C. D. Cappa, M. J. Kleeman, K. S. Docherty, J. L. Jimenez, S. M. Griffith, S. Dusanter, P. S. Stevens, and S. H. Jathar, Simulating secondary organic aerosol in a regional air quality model using the statistical oxidation model – Part 3: Assessing the influence of semi-volatile and intermediate volatility organic compounds and NO_x, *Atmospheric Chemistry and Physics*, 19, 4561-4594, 2019

C. Cai, J. Avise, A. Kaduwela, J. DaMassa, J. Gilman, B. Kuster, J. de Gouw, R. Volkamer, P. Stevens, B. Lefer, J. S. Holloway, I. Pollack, T. Ryerson, E. Atlas, D. Blake, C. Warneke, B. Rappenglueck, S. S. Brown, W. P. Dube, N. Wagner, and D. D. Parrish. Simulating the weekly cycle of NO_x-VOC-HO_x-O_3 photochemical system in the South Coast of California during the CalNex-2010 Campaign, *Journal of Geophysical Research Atmospheres, 124*, https://doi.org/10.1029/2018JD02985, 2019

D. B. Millet, H. D. Alwe, X. Chen, M. J. Deventer, T. J. Griffis, R. Holzinger, S. B. Bertman, P. S. Rickly, P. S. Stevens, T. Léonardis, N. Locoge, S. Dusanter, G. S. Tyndall, S. L. Alvarez, M. H. Erickson, and J. H. Flynn, Bidirectional ecosystem-atmosphere fluxes of volatile organic compounds across the mass spectrum: How many matter? *ACS Earth and Space Chemistry*, *2*, 764-777, 2018

J. A. de Gouw, J. B. Gilman, S.-W. Kim, S. L. Alvarez, S. Dusanter, M. Graus, S. M. Griffith, G. Isaacman-VanWertz, W. C. Kuster, B. L. Lefer, B. M. Lerner, B. C. McDonald, B. Rappenglueck, J. M. Roberts, P. S. Stevens, J. Stutz, P. R. Veres, R. Volkamer, C. Warneke, R. A. Washenfelder. Chemistry of Volatile Organic Compounds in the Los Angeles Basin: Formation of Oxygenated Compounds and Determination of Emission Ratios, *Journal of Geophysical Research Atmospheres*, 123, 2298–2319, 2018

S. Sklaveniti, N. Locoge, P. S. Stevens, E. Wood, S. Kundu, and S. Dusanter, Development of an instrument for direct ozone production rate measurements: Measurement reliability and current limitations, *Atmospheric Measurement Techniques, 11,* 741-761, 2018

M. Lew, S. Dusanter, and P. S. Stevens, Measurement of interferences associated with the detection of the hydroperoxy radical in the atmosphere using laser-induced fluorescence, *Atmospheric Measurement Techniques*, *11*, 95–109, 2018

P. Rickly and P. S. Stevens, A potential interference with laser-induced fluorescence measurements of ambient OH from the ozonolysis of biogenic alkenes, *Atmospheric Measurement Techniques, 11*,1-16, 2018

J. A. de Gouw, J. B. Gilman, S. W. Kim, B. M. Lerner, G. Isaacman-VanWertz, B. C. McDonald, C. Warneke, W.C. Kuster, B. L. Lefer, S.M. Griffith, S. Dusanter, P. S. Stevens, J. Stutz, Chemistry of Volatile Organic Compounds in the Los Angeles Basin: Nighttime Removal of Alkenes and Determination of Emission Ratios, *Journal of Geophysical Research Atmospheres*, 122, 11843-11861, 2017

B. C. Schulze, H. W. Wallace, J. H. Flynn, B. L. Lefer, M. H. Erickson, B. T. Jobson, S. Dusanter, S. M. Griffith, R. F. Hansen, P. S. Stevens, T. VanReken, and R. J. Griffin, Differences in BVOC oxidation and SOA formation above and below the forest canopy, *Atmospheric Chemistry and Physics*, *17*, 1805-1828, 2017

S. M. Griffith, R. F. Hansen, S. Dusanter, V. Michoud, J. B. Gilman, W. C. Kuster, P. Veres, M. Graus, J. A. de Gouw, J. Roberts, C. Young, R. Washenfelder, S. S. Brown, R, Thalman, E. Waxman, R. Volkamer, C. Tsai, J. Stutz, J. H. Flynn, N. Grossberg, B. Lefer, S. L. Alvarez, B. Rappenglueck, L. H.

Mielke, H. D. Osthoff, and P. S. Stevens, Measurements of hydroxyl and hydroperoxy radicals during CalNex-LA: Model comparisons and radical budgets, *Journal of Geophysical Research Atmospheres, 121*, 4211–4232, doi:10.1002/2015JD024358, 2016

P. E. Carey, Jr. and P. S. Stevens, Experimental and theoretical study of the kinetics of the OH + propionaldehyde reaction between 277 and 375K at low pressure, *Journal of Physical Chemistry A, 120*, 1377−1385, 2016 (*Invited article, James G. Anderson Festschrift*)

S. E. Pusede, T. C. VandenBoer, J. G. Murphy, M. Z. Markovic, C. J. Young, P. R. Veres, J. M. Roberts, R. A. Washenfelder, S. S. Brown, X. Ren, C. Tsai, J. Stutz, W. H. Brune, E. C. Browne, P. J. Wooldridge, A. R. Graham, R. Weber, A. H. Goldstein, S. Dusanter, S. M. Griffith, P. S. Stevens, B. L. Lefer, and R. C. Cohen, An Atmospheric Constraint on the NO_2 Dependence of Daytime Near-Surface Nitrous Acid (HONO), *Environmental Science and Technology*, *49*, 12774−12781, 2015

R. F. Hansen, M. Blocquet, C. Schoemaecker, T. Léonardis, N. Locoge, C. Fittschen, B. Hanoune, P. S. Stevens, V. Sinha, S. Dusanter, Intercomparison of the Comparative Reactivity Method (CRM) and Pump-Probe technique for measuring total OH reactivity in an urban environment, *Atmospheric Measurement Techniques*, *8*, 4243-4264, 2015

V. Michoud, R. F. Hansen, N. Locoge, P. S. Stevens, and S. Dusanter, Detailed characterizations of a Comparative Reactivity Method (CRM) instrument: Experiments vs. modelling, *Atmospheric Measurement Techniques*, *8*, 3537-3553, 2015

K.R. Baker, A.G. Carlton, T.E. Kleindienst, J.H. Offenberg, M.R. Beaver, D.R. Gentner, A.H. Goldstein, P.L. Hayes, J.L. Jimenez, J.B. Gilman, J.A. de Gouw, M.C. Woody, H.O.T. Pye, J.T. Kelly, M. Lewandowski, M. Jaoui, P.S. Stevens, W.H. Brune, Y.-H. Lin, C.L. Rubitschun, and J.D. Surratt, Gas and aerosol carbon in California: comparison of measurements and model predictions in Pasadena and Bakersfield, *Atmospheric Chemistry and Physics*, *15*, 5243-5258, 2015

C. J. Young, R. A. Washenfelder, P. M. Edwards, D. D. Parrish, J. B. Gilman, W. C. Kuster, L. H. Mielke, H. D. Osthoff, C. Tsai, O. Pikelnaya, J. Stutz, P. R. Veres, J. M. Roberts, S. Griffith, S. Dusanter, P. S. Stevens, J. Flynn, N. Grossberg, B. Lefer, J. S. Holloway, J. Peischl, T. B. Ryerson, E. L. Atlas, D. R. Blake, and S. S. Brown, Chlorine as a primary radical: evaluation of methods to understand its role in initiation of oxidative cycles, *Atmospheric Chemistry and Physics 14*, 3427-3440, 2014

R. F. Hansen, S. Griffith, S. Dusanter, P. Rickly, P. S. Stevens, S. B. Bertman, M. A. Carroll, M. H. Erickson, J. H. Flynn, N. Grossberg, B. T. Jobson, B. L. Lefer, and H. W. Wallace, Total hydroxyl radical reactivity during CABINEX 2009 - Part 1: Field measurements. *Atmospheric Chemistry and Physics*, *14*, 2923–2937, 2014

J. A. Liljegren and P. S. Stevens, Measurements of the kinetics of the reaction of OH radicals with 3-methylfuran at low pressure, *International Journal of Chemical Kinetics*, *45*, 787–794, 2013

P. L. Hayes, A. M. Ortega, M. J. Cubison, W. Hu, D. W. Toohey, J. H. Flynn, B. L. Lefer, N. Grossberg, S. Alvarez, B. Rappenglück, J. Taylor, J. D. Allan, J. S. Holloway, J. B. Gilman, W. C. Kuster, J. A. de Gouw, P. Massoli, X. Zhang, J. Liu, R. J. Weber, A. Corrigan, L. M. Russell, Y. Zhao, S. S. Cliff, A. S. Wexler, G. Isaacman, D. R. Worton, N. M. Kreisberg, S. V. Hering, A. H. Goldstein, R. Thalman, R. Volkamer, Y. H. Lin, J. D. Surratt, J. H. Offenberg, K. D. Froyd, S. Dusanter, S. Griffith, P. S. Stevens, J. Brioude, W. M. Angevine, J. L. Jimenez, Aerosol Composition and Sources in Los Angeles During the

2010 CalNex Campaign, *Journal of Geophysical Research Atmospheres*, *118*, 9233–9257, doi:10.1002/jgrd.50530, 2013

M. A. Navarro, S. Dusanter, and P. S. Stevens, Temperature dependence of the yields of methacrolein and methyl vinyl ketone from the OH-initiated oxidation of isoprene under NO_x-free conditions, *Atmospheric Environment*, 79, 59-66, 2013

S. M. Griffith, R. F. Hansen, S. Dusanter, P. S. Stevens, M. Alaghmand, S. B. Bertman, M. A. Carroll, M. Erickson, M. Galloway, N. Grossberg, J. Hottle, J. Hou, B. T. Jobson, A. Kammrath, F. N. Keutsch, B. L. Lefer, L. M. Mielke, A. O'Brien, P. B. Shepson, M. Thurlow, W. Wallace, N. Zhang, X. L. Zhou, OH and HO_2 radical chemistry during PROPHET 2008 and CABINEX 2009 – Part 1: Measurements and model comparison, *Atmospheric Chemistry and Physics*, 13, 5403-5423, 2013

K. A. Pratt, L. H. Mielke, P. B. Shepson, A. M. Bryan, A. L. Steiner, J. Ortega, D. Helmig, C. S. Vogel, S. Griffith, S. Dusanter, P. S. Stevens, M. Alaghmand, A one-dimensional model study of individual reactive biogenic volatile organic compounds and their contributions to organic nitrates above a mixed forest, *Atmospheric Chemistry and Physics*, *12*, 10125-10143, 2012

A. M. Bryan, R. Forkel, S. B. Bertman, M. A. Carroll, S. Dusanter, G. D. Edwards, S. Griffith, A. B. Guenther, R. F. Hansen, D. Helmig, T. Jobson, F. N. Keutsch, B. L. Lefer, S. N. Pressley, P. B. Shepson, P. S. Stevens, and A. L. Steiner, In-canopy gas-phase chemistry during the 2009 CABINEX field campaign: Sensitivity to isoprene chemistry and vertical mixing, *Atmospheric Chemistry and Physics*, *12*, 8829-8849, 2012

D. Kim, P. S. Stevens, and R. A. Hites, Kinetic isotope effects and rate constants for the gas-phase reactions of deuterated toluenes with OH from 298-413 K, *International Journal of Chemical Kinetics, 44*, 821-827, 2012

S. M. Dietrick, A. B. Pacheco, P. S. Stevens, and S. S. Iyengar, "Pump-probe" atom-centered density matrix propagation studies to gauge anharmonicity and energy repartitioning in atmospheric reactive adducts: Case study of the OH + Isoprene and OH + Butadiene reaction intermediates, *Journal of Physical Chemistry A, 116*, 4108-4128, 2012

M. M. Galloway, J. P. DiGangi, J. R. Hottle, A. J. Huisman, L. H. Mielke, M. Alaghmand, P. B. Shepson, J. Weremijewicz, H. Klavon, F. M. McNea, M. A. Carroll, S. Griffith, R. F. Hansen, S. Dusanter, P. S. Stevens, S. B. Bertman, F. N. Keutsch, Observations and modeling of formaldehyde at the PROPHET mixed hardwood forest site in 2008, *Atmospheric Environment*, *49*, 403-410, 2012

S. M. Dietrick, A. B. Pacheco, P. S. Stevens, and S. S. Iyengar, The influence of water on anharmonicity, stability and vibrational energy distribution of hydrogen-bonded adducts in atmospheric reactions: Case study of the OH + Isoprene reaction intermediate using ab-initio molecular dynamics, *Journal of Physical Chemistry A, 116*, 399–414, 2012

M. Alaghmand, P. B. Shepson, T. K. Starn, B. T. Jobson, H.W. Wallace, M. A. Carroll, S. B. Bertman, B. Lamb, S. L. Edburg, X. Zhou, E. Apel, D. Riemer, P. Stevens, and F. Keutsch, The Morning NO_x Maximum in the Forest Atmosphere Boundary Layer, *Atmospheric Chemistry and Physics Discussions, 11*, 29251-29282, 2011

R. A. Washenfelder, C. J. Young, S. S. Brown, W. Angevine, E. L. Atlas, D. R. Blake, D. M. Bon, M. J.

Cubison, J. A. de Gouw, S. Dusanter, J. Flynn, J. B. Gilman, M. Graus, S. Griffith, N. Grossberg, P. L. Hayes, J. L. Jimenez, W. C. Kuster, B. L. Lefer, I. Pollack, T. B. Ryerson, H. Stark, P. S. Stevens, and M. K. Trainer, The glyoxal budget and its contribution to organic aerosol for Los Angeles, California during CalNex 2010, *Journal of Geophysical Research, Atmospher*es, *116*, D00V02, doi:10.1029/2011JD016314, 2011

X. Zhou, N. Zhang, M. TerAvest, J. Hou, D. Tang, S. Bertman, M. Alaghmand, P. B. Shepson, M. A. Carroll, S. Griffith, S. Dusanter, and P. S. Stevens, Nitric Acid Photolysis on Forest Canopy Surface as a Tropospheric Nitrous Acid Source, *Nature Geosciences*, *4*, 440-443, 2011

M. A. Navarro, S. Dusanter, R. A. Hites, and P. S. Stevens, Radical dependence of the yields of meth-acrolein and methyl vinyl ketone from the OH-initiated oxidation of isoprene under NO_x-free conditions. *Environmental Science and Technology, 45,* 923–929, 2011

D. Kim, P. S. Stevens, and R. A. Hites, Rate constants for the gas-phase reactions of β-ocimene, β-myr-cene, and (E)- β-farnesene with OH and O_3 as a function of temperature. *Journal of Physical Chemistry A, 115*, 500–506, 2011

L.T. Molina, S. Madronich, J. S. Gaffney, E. Apel, B. de Foy, J. Fast, R. Ferrare, S. Herndon, C. Hostetler, J. L. Jimenez, B. Lamb, A. R. Osornio-Vargas, P. Russell, J. J. Schauer, P. S. Stevens, M. Zavala, An Overview of the MILAGRO 2006 Campaign: Mexico City Emissions and its Transport and Transformation, *Atmospheric Chemistry and Physics, 10,* 8697-8760, 2010

G. Li, W. Lei, M. Zavala, R. Volkamer, S. Dusanter, P. Stevens, and L. T. Molina, Impacts of HONO sources on the photochemistry in Mexico City during the MCMA-2006/MILAGRO Campaign, *Atmos-pheric Chemistry and Physics, 10,* 6551–6567, 2010

M. Baasandorj, S. Griffith, S. Dusanter and P. S. Stevens, Experimental and theoretical studies of the ki-netics of the OH + hydroxyacetone reaction as a function of temperature, *Journal of Physical Chemistry A, 113*, 10495-10502, 2009

S. Dusanter, D. Vimal, P. S. Stevens, R. Volkamer, L.T. Molina, A. Baker, S. Meinardi, D. Blake, P. Sheehy, A. Merten, R. Zhang, J. Zheng, E. C. Fortner W. Junkermann, M. Dubey, T. Rahn, B. Eichinger, P. Lewandowski, J. Prueger, and H. Holder, Measurements of OH and HO_2 Concentrations during the MCMA-2006 Field Campaign: Part 2 – Model Comparison and Radical Budget, *Atmospheric Chemistry and Physics, 9,* 6655-6675, 2009

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J. Zheng, R. Zhang, E. C. Fortner, L. Molina, A. C. Aiken, J. L. Jimenez, K. Gaggeler, J. Dommen, S. Dusanter, P. S. Stevens, and X. Tie, Measurements of HNO_3 and N_2O_5 using Ion drift – Chemical Ioniza-tion Mass Spectrometry during the MCMA – 2006 Campaign, *Atmospheric Chemistry and Physics, 8*, 6823-6838, 2008

D. Vimal, A. B. Pacheco, S. S. Iyengar, and P. S. Stevens, Experimental and ab initio dynamical investi-gations of the kinetics and intra-molecular energy transfer mechanisms for the OH + 1,3-butadiene reac-tion between 263 and 423 K at low pressure, *Journal of Physical Chemistry A, 112*, 7227-7237, 2008

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M. Baasandorj and P. S. Stevens, Experimental and theoretical studies of the kinetics of the reactions of OH and OD with 2-methyl-3-buten-2-ol between 300 and 415 K at low pressure, *Journal of Physical Chemistry A, 111*, 640-649, 2007

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J. D. Raff, P. S. Stevens, and R. A. Hites, Relative Rate and Product Studies of the OH-Acetone Reaction, *Journal of Physical Chemistry A, 109*, 4728-4735, 2005

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M. E. Davis and P. S. Stevens. Measurements of the kinetics of the OH-initiated oxidation of α-pinene: Radical propagation in the OH + α-pinene + O_2 + NO reaction system. *Atmospheric Environment, 39*, 1765-1774, 2005

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B. Chuong, M. Davis, M. Edwards, and P. S. Stevens, Measurements of the kinetics of the OH + α-pinene and OH + β-pinene reactions at low pressure, *International Journal of Chemical Kinetics, 34*, 300-308, 2002

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B. Chuong and P. S. Stevens, Kinetic study of the OH + isoprene and OH + ethylene reactions between 2 - 6 Torr and over the temperature range 300 - 423 K, *Journal of Physical Chemistry A, 104,* 5230-5237, 2000

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P. S. Stevens and J. G. Anderson, Kinetic measurements of the ClO + O_3 → ClOO + O_2 reaction, *Geophysical Research Letters, 17,* 1287-1290, 1990

P. S. Stevens, W. H. Brune, and J. G. Anderson, Kinetic and mechanistic investigations of F + H_2O/D_2O and F + H_2/D_2 over the temperature range 240-373 K, *Journal of Physical Chemistry*, *93*, 4068-4079, 1989

J. P. D. Abbatt, D. W. Toohey, F. F. Fenter, P. S. Stevens, W. H. Brune, and J. G. Anderson, Kinetics and mechanism of X + ClNO → XCl + NO (X=Cl, Br, F, OH, O, N) from 220 to 450 K. Correlation of reactivity and activation energy with electron affinity of X, *Journal of Physical Chemistry*, *93*, 1022-1029, 1989

N. C. Craig, J. Pranata, J. R. Sprague, and P. S. Stevens, Vibrational spectra of 3-fluoro-cyclopropene -d_o and -d_3, *Spectrochimica Acta, 43A(6),* 753-761, 1987

N. C. Craig, J. Pranata, S. J. Reinganum, J. R. Sprague, and P. S. Stevens, Vibrational spectra and a potential function for 3-chlorocyclopropene and its various deuterated modifications, *Spectrochemica Acta, 43A(4)*, 569-582, 1987

N. C. Craig, J. Pranata, S. J. Reinganum, J. R. Sprague and P. S. Stevens, Vibrational spectra of $C_3H_3^+$, $C_3D_3^+$, $C_3H_2D^+$, $C_3D_2H^+$ and force constants for this ion system, *Journal of the American Chemical Society, 108*, 4378-4386, 1986

N. C. Craig, J. Pranata, J. R. Sprague, and P. S. Stevens, Force constants for the cyclopropenyl cation, *Journal of the American Chemical Society*, 106, 7637-7638, 1984

N. C. Craig, K. L. Sloan, J. R. Sprague, and P. S. Stevens, 3-Fluorocyclopropene, *Journal of Organic Chemistry, 49*, 3847-3848, 1984

Research Grants and Fellowships (last 5 years)

National Science Foundation, AGS-1827450, 9/1/18-8/31/21, $766,198, "Measurements of HO_x radical chemistry above and below the forest canopy."

The Alfred P. Sloan Foundation, 7/1/18-6/30/21, $743,509, "Measurements of Radical Chemistry and Aerosol Production in Indoor Environments."

The Alfred P. Sloan Foundation, 11/1/17-10/31/19, $58,916, "House Observations of Microbial and Environmental Chemistry (HOMEChem)."

National Science Foundation, AGS-1440834, 10/1/14-9/30/18, $718,562, "$HO_x$ radical chemistry in forest environments: Measurements and characterization of instrument interferences."

National Aeronautics and Space Administration, NNX12AE55G, 1/20/12-1/19/16, $297,325, "Laboratory measurements of atmospheric peroxy radical reactions."

National Science Foundation, AGS-1012161, 9/1/10-8/31/15, $434,503, "Development of a Laser Photofragmentation/ Laser-Induced Fluorescence Instrument for Tropospheric Measurements of Nitrous Acid." Co-PI S. Dusanter.

National Science Foundation, AGS-1104880, 9/1/11-8/31/14, $446,119, "Measurements of HO_x radical chemistry in a changing forest environment."

Conference Presentations (* indicates student presentation) (selected, last 3 years)

B. Bottorff*, M. Lew, P. Rickly, P. S. Stevens, and E. Wood, HO_x Radical Chemistry in an Forested Environment During PROPHET-AMOS 2016: Model Comparisons and Radical Budgets, American Geophysical Union Fall Meeting, December 10-14, 2018, Washington, D.C.

E. Reidy*, C. Rosales, B. Bottorff, P. S. Stevens, C. Cantrell, L. Mauldin, D. Anderson, and E. Wood, An Informal Intercomparison of Ambient OH, HO_2, and RO_2 Measurements in an Indiana Forest Part 2:

Comparison with Model Predictions, American Geophysical Union Fall Meeting, December 10-14, 2018, Washington, D.C.

C. Rosales*, E. Reidy, B. Bottorff, P. S. Stevens, C. Cantrell, L. Mauldin, D. Anderson, and Ezra Wood, An Informal Intercomparison of Ambient Measurements of OH, HO_2, and RO_2 Radicals in an Indiana Forest, Part 1: Comparison of Instrumental Measurements, American Geophysical Union Fall Meeting, December 10-14, 2018, Washington, D.C.

C. Cantrell, L. Mauldin, P. S. Stevens C. Rosales, E. Reidy, B. Bottorff, Measurements of HOx and Other Species in a Mid-Latitude Deciduous Forest, American Geophysical Union Fall Meeting, December 10-14, 2018, Washington, D.C.

P. S. Stevens, OH and HO_2 radical chemistry indoors: Preliminary results from HOMEChem, Chemistry of Indoor Environments Science Meeting, October 24-26, 2018, Boulder, Colorado

C. Rosales*, E. Reidy, B. Bottorff, and P. S. Stevens. Measurements of hydroperoxy and peroxy radicals during HOMEChem using LIF-FAGE, Chemistry of Indoor Environments Science Meeting, October 24-26, 2018, Boulder, Colorado

B. Bottorff*, E. Reidy, C. Rosales, and P. S. Stevens, Indoor Measurements of HONO and OH during HOMEChem Cooking Events by Laser Photofragmentation/Laser-Induced Fluorescence, Chemistry of Indoor Environments Science Meeting, October 24-26, 2018, Boulder, Colorado

E. Reidy*, B. Bottorff, C. Rosales, and P. S. Stevens, Measurements of HONO and OH during HOMEChem Cleaning Events, Chemistry of Indoor Environments Science Meeting, October 24-26, 2018, Boulder, Colorado

P. Rickly*, J. Sakowski, B. Bottorff, M. Lew, P. S. Stevens, S. Sklaveniti, N. Locoge, S. Dusanter, Measurements of total OH reactivity during PROPHET-AMOS 2016, American Geophysical Union Fall Meeting, December 11-15, 2017, New Orleans, Louisiana

B. Bottorff,* M. Lew, P. Sigler, and P. S. Stevens, OH, HO_2, and HO_2* Radical Chemistry During PROPHET-AMOS 2016: Measurements and Model Comparison, American Geophysical Union Fall Meeting, December 11-15, 2017, New Orleans, Louisiana

P. S. Stevens, HO_x Radical Chemistry Above and Below a Forest Canopy: Measurements and Theory, Workshop on Ozone Dry Deposition: Constraints from multiplatform observations and multi-scale modeling, October 5-6, 2017, Lamont-Doherty Earth Observatory, Columbia University, New York

M. Lew,* B. Bottorff, P. Sigler, and P. S. Stevens, Measurements of OH, HO_2, and HO_2* during PROPHET-AMOS 2016, Gordon Research Conference on Atmospheric Chemistry, July 30 – August 4, 2017, Newry, Maine

M. Lew,* B. Bottorff, P. Sigler, and P. S. Stevens, HO_2 and HO_2* Radical Chemistry during PROPHET-AMOS: Measurement and Model Comparison, American Geophysical Union Fall Meeting, December 12-16, 2016, San Francisco, California

B. Bottorff,* M. Lew, and P. S. Stevens, Measurements of the OH radical in forested environments by laser-induced fluorescence, American Geophysical Union Fall Meeting, December 12-16, 2016, San

Francisco, California

P. Sigler,* S. Dusanter, B. Bottorff, M. Lew, S. Sklaveniti, T. Leonardis, N. Locoge, and P. S. Stevens, Measurements of total OH reactivity during PROPHET-AMOS 2016, American Geophysical Union Fall Meeting, December 12-16, 2016, San Francisco, California

S. Dusanter, S. Sklaveniti, P. S. Stevens, N. Locoge, Measuring Ozone Production Rates in the Troposphere: Performances and Limitations of the Mines Douai instrument, American Geophysical Union Fall Meeting, December 12-16, 2016, San Francisco, California

P. S. Stevens, Measuring HO_x radical chemistry: Can we see the forest through the trees? Workshop in Atmospheric Chemistry - New Insights into Gas-Phase Atmospheric Chemistry, July 18 – 22, 2016, Telluride, Colorado*)*

P. S. Stevens, Oh where oh where is OH? Measuring the elusive hydroxyl radical in the atmosphere using laser-induced fluorescence, International Symposium on Molecular Spectroscopy, Mini-symposium: Spectroscopy in Atmospheric Chemistry, June 20-24, 2016, University of Illinois at Urbana-Champaign

Teaching

Indiana University, School of Public and Environmental Affairs, Bloomington, Indiana:

E100/E162/E183: Environment and People
E451: Air Pollution and Control
E515: Fundamentals of Air Pollution
E400/E555: Advanced Topics in Atmospheric Chemistry
E262: Environmental Problems and Solutions
C409: Undergraduate Chemical Research
C500: Graduate Chemical Research

Dissertation Committees, Indiana University (past 3 years):

Colleeen M. F. Rosales (Ph.D. Environmental Science) “Measurements of Hydroxyl, Hydroperoxyl, and Organic Peroxy Radicals in Ambient and Indoor Environments: Outdoor-Indoor Relationships and Instrumental Analysis.” Chair, 2019-present.

Emily Reidy (Ph.D. Chemistry) “Measurements of Nitrous Acid and the Hydroxyl Radical in an Indoor Environment.” Chair, 2018-present.

Zachary Payne (Ph.D. Chemistry) “Design and Function of an Automated Dynamic Flow Chamber System for Reactive Nitrogen Flux Measurements from Boundary Layer Surfaces.” 2017-present

Nicole De Gregorio (Ph.D. Chemistry) “Geometric tessellations for efficient potential energy surface calculations and tuning entanglement to reduce quantum dynamics scaling: A case study of the biogenic volatile organic compound isoprene.” 2016-present

Brandon Bottorff (Ph.D. Chemistry) "Development of a new Laser Photofragmentation/Fluorescent Assay by Gas Expansion (LP/FAGE) technique for the measurement of tropospheric nitrous acid." Chair, 2013-present

Kellyn Patros (Ph.D. Chemistry) "Probing Neutral Atmospheric Complexes through Anion Photoelectron Imaging Spectroscopy." 2016-2018

Pamela Rickly (Ph.D. Environmental Science) "Measurement of interferences associated with the detection of atmospheric hydroxyl radicals by laser-induced fluorescence." Chair, 2012-2018

Erin Martin (Ph.D. Chemistry) "Electrochemical Reduction for the Detection, Degradation, and Understanding of Environmental Pollutants." 2015-2018

Michelle Lew (Ph.D. Chemistry) "Hydroxyl, hydroperoxyl, and organic peroxy radical chemistry in forested areas: Measurements, modeling and implications for atmospheric chemistry." Chair, 2010-2017

Melissa Donaldson (Ph.D. Environmental Science) "Atmospheric-Terrestrial Exchange of Reactive Nitrogen Species on Soil Surfaces." 2015-2017

Nicole Scharko (Ph.D. Environmental Science) "Nitrous acid sources on atmospherically relevant surfaces." 2014 - 2016

Caitlyn McGuire (Ph.D. Chemistry) "Electrochemical Reduction of Legacy Pollutants at Silver Cathodes." 2014-2016

Anumita Basu (M.S. Chemistry) "Experimental and Theoretical Studies of the Kinetics of the reaction of Methyl Ethyl Ketone with the OH radical." 2013-2016

Student Advising, School of Public and Environmental Affairs and Indiana University:

MSES General Program Advisor
MSES Environmental Chemistry Toxicology and Risk Assessment Concentration Advisor
MPA/MSES General Program Advisor
BSPA Environmental Management Major Advisor
University Division Advisor
Lilly Program Project Faculty Advisor

School and University Service

Committee Service, School of Public and Environment Affairs:

Bloomington Promotion and Tenure Committee (2017-2019)
Core School Promotion and Tenure Committee (2015-2016)
Personnel Committee (2009-2012)
MSES Curriculum Committee (2009-2015)
Ph.D. in Environmental Sciences Committee (1997-2019)

Policy Committee (2005-2007)
Budgetary Affairs Committee (2005-2007)
Masters Admission and Financial Aid Committee (1996, 1998-2003, 2016)
Awards Committee (1998-2002, 2003-2005)

Committee Service, Indiana University, Bloomington:

Multidisciplinary Science Building Phase II Oversight Committee, 2007-2019, Chair 2013-2019
Executive Committee, Integrated Program in the Environment 2013-2019
Tenure Advisory Committee 2013-2016
Advisory Committee, Center for Research in Energy and the Environment 2009-2012
Executive Committee, Center for Research in Environmental Science 2008-2012
Bloomington Faculty Council, Program Merger/Reorganization/Elimination Committee 2009
Office of the Vice Provost for Research, Faculty Advisory Committee 2008-2010
SPEA Dean Search Committee, 2007-2008
Multidisciplinary Science Building Phase II Planning Committee, 2004-2005
Multidisciplinary Science Building Facilities Subcommittee, 2000, 2002
Admissions Committee, Indiana University Chapter of Sigma Xi, 1998-2000

Public Service (selected)

Advisory Board, Improving Kid's Environment, 2012 - present

Café Science presentation: "A Radical View of Photochemical Smog" Bear's Place, September, 2017

Member, Indiana State Air Pollution Control Board, 2000-2012

Member, Technical Advisory Group, Southwest Indianapolis Air Toxics Study, Indiana Department of Environmental Management, 2006-2010

Chair, Mercury emissions study group, Indiana Department of Environmental Management, 2006-2007

Panel Member, Global Warming Teach-in, Columbus North High School, Columbus, Indiana, 2008

Café Science presentation: "Air Pollution and Global Climate Change." Borders Books and Music, September 14, 2006

Panel Member, Clean Air Town Meeting, Zion Evangelical United Church, Indianapolis, Indiana, 2003

Professional Service (selected)

Co-Convener, Atmospheric Oxidation Capacity Constraints: Laboratory Investigations, Field and Remote Sensing Observations and Modeling Studies, American Geophysical Union Fall Meeting, December 10-14, 2018, Washington, D.C.

Primary Convener, Biosphere-Atmosphere Interactions and Atmospheric Chemistry, American Geophysical Union Fall Meeting, December 11-15, 2017, New Orleans, Louisiana

Co-Convener, Atmospheric Oxidation Capacity Constraints: Laboratory Investigations, Field and Remote Sensing Observations and Modeling Studies, American Geophysical Union Fall Meeting, December 11-15, 2017, New Orleans, Louisiana
Co-Convener, Atmospheric Oxidation Capacity Constraints: Laboratory Investigations, Field and Remote Sensing Observations and Modeling Studies, American Geophysical Union Fall Meeting, December 12-16, 2016, San Francisco, California

Co-Convener, Atmospheric Oxidation Capacity Constraints: Laboratory Investigations, Field and Remote Sensing Observations and Modeling Studies, American Geophysical Union Fall Meeting, December 14-18, 2015, San Francisco, California

Co-Convener, Sources and Chemistry of Atmospheric Oxidants, American Geophysical Union Fall Meeting, December 9-13, 2013, San Francisco, California

Co-Chair, Workshop in Atmospheric Chemistry - New Insights into Gas-Phase Atmospheric Chemistry, August 9-13, 2010, Telluride, Colorado

Board Member, Telluride Summer Research Center, 2000-2003

Peer Review for Professional Grants:

National Science Foundation, Atmospheric Chemistry Program
National Science Foundation, Chemistry Program
National Science Foundation, Office of Polar Programs
National Aeronautic and Space Administration
National Aeronautic and Space Administration, AURA Science Team
The National Academies PEER program
Environmental Protection Agency, SBIR Program
Environmental Protection Agency, STARS Program
Department of Energy, National Institute for Global Environmental Change
The Petroleum Research Fund (American Chemical Society)
Natural Environment Research Council, United Kingdom
Research Corporation for Science Advancement

Peer Review for Professional Journals:

Atmospheric Chemistry and Physics
Atmospheric Measurement Techniques
Atmospheric Environment
Environmental Science and Technology
Journal of Physical Chemistry A
Journal of Atmospheric Chemistry
Journal of Geophysical Research - Atmospheres
Geophysical Research Letters
International Journal of Chemical Kinetics
Nature
Proceedings of the National Academy of Sciences
Science

Applied Physics B
ChemPhysChem
Chemical Physics Letters
Journal of Photochemistry and Photobiology A: Chemistry