

**HOLLY M. BEVSEK**

Chemistry Department

The Citadel

Charleston, SC 29409

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**EDUCATION**

University of Pittsburgh, Pittsburgh, Pennsylvania, 1989–1996

Ph.D. in Chemistry, April 1996

Thesis Title: “Electron Spectroscopic and Theoretical Studies of the Chemical Reaction Dynamics of Molecular Penning Ionization”

Thesis Advisor: Professor Peter E. Siska

Marquette University, Milwaukee, Wisconsin, 1985–1989

B.S. in Chemistry with Physics Minor, May 1989

Thesis Title: “Binding Energies of Positron Complexes with Atoms and Atomic Ions”

Thesis Advisor: Professor David M. Schrader

**ACADEMIC POSITIONS**

**Department Head**, Chemistry Department, The Citadel, Charleston, SC 29409; 1/2015-8/2020; 7/2024-present

**Associate Professor**, Chemistry Department, The Citadel; 2012–present

**Assistant Professor**, Chemistry Department, The Citadel; 2006–2012

**Adjunct Professor**, Chemistry Department, The Citadel; 2005–2006

**Visiting Assistant Professor**, Department of Chemistry, Susquehanna University, Selinsgrove, PA 17870; 2002–2005

**Dutton Fellow in Chemistry**, Lyman Briggs School and Department of Chemistry, Michigan State University, East Lansing, MI 48824; 1997–2002

**Visiting Postdoctoral Fellow**, Chemical Sciences Division, Lawrence Berkeley National Laboratory/University of California-Berkeley, 1996–1997

**TEACHING EXPERIENCE**

**Associate/Assistant Professor**, Chemistry Department, The Citadel, 2005–present

- Introduction to Chemistry I and II (with laboratories); non-STEM majors
- General Chemistry I and II (with laboratories); STEM majors
- Physical Chemistry I and II (with laboratories)
- Physical Chemistry for the Life Sciences
- Inorganic Chemistry
- Conspiracy Theories, Pseudoscience, and Critical Thinking (Freshman Seminar)
- Technical Solutions for Climate Change (General Education)

**Visiting Assistant Professor**, Department of Chemistry, Susquehanna University, 2002–2005

- College Chemistry I and II (with laboratories); STEM majors
- Physical Chemistry I and II (with laboratories)
- Molecular Spectroscopy (with laboratory)
- Laboratory Coordinator, College Chemistry Lab I and II, Fall 2002, Spring/Fall 2004

## TEACHING EXPERIENCE, CONT.

**Dutton Fellow in Chemistry**, Lyman Briggs School and Department of Chemistry, Michigan State University, 1997–2002

- General Chemistry I and II, Lyman Briggs School, 1997–2002; STEM majors
- Laboratory Coordinator, General Chemistry Laboratories I and II, Lyman Briggs School, 1997–2002
- General Chemistry, Department of Chemistry, Fall 2001, Spring 2002
- Coordinator, Advanced Placement Chemistry (on-line), Department of Chemistry, 2000–2001

## RESEARCH INTERESTS

- Atmospheric chemistry of Earth and other solar system objects
- Catalysis
- Chemical education

## RESEARCH EXPERIENCE

**Associate/Assistant Professor**, Chemistry Department, The Citadel, 2005–present

- Investigation of decomposition of perfluorooctanoic acid on titanium(IV) dioxide
- Investigation of the reactivity of pyrite in prebiotic conditions.
- Investigation of reactive sinks for methane on Mars.
- *Collaboration with Dr. Margaret Tolbert, University of Colorado-Boulder.* Investigation of  $\text{FeCl}_3 \cdot \text{H}_2\text{SO}_4$  aerosol as the unknown ultraviolet absorber in Venus' atmosphere.
- *Collaboration with Dr. Eric Borguet, Department of Chemistry, Temple University.* Study of reactivity/adsorption properties of carbon nanotubes and fibers, using diffuse reflectance FTIR. Professor Borguet's group uses transmission FTIR and surface science techniques to discern reactive and adsorptive features of these materials at UHV pressures; my laboratory does FTIR spectroscopic and kinetic studies at high pressures.
- Kinetic study of the reaction of  $\text{NO}_2$  with  $\alpha$ - and  $\gamma$ - $\text{Fe}_2\text{O}_3$  using diffuse reflectance infrared Fourier transform spectroscopy.

**Visiting Assistant Professor**, Department of Chemistry, Susquehanna University, 2002–2005

- Kinetic study of the reaction of  $\text{NO}_2$  with  $\alpha$ - and  $\gamma$ - $\text{Fe}_2\text{O}_3$  using diffuse reflectance infrared Fourier transform spectroscopy.
- Analysis of student explanations of equilibrium demonstrations in general chemistry classes.
- Design and implementation of a test to diagnose misconceptions regarding stoichiometry and basic thermodynamics in general chemistry students.
- Analysis of polycyclic aromatic hydrocarbons from emissions of the Centralia, PA coalmine fire using GC/MS.

## RESEARCH EXPERIENCE, CONT.

**Dutton Fellow in Chemistry**, Lyman Briggs School, Michigan State University, 1997–2002

- Supervised one postdoctoral and one undergraduate professorial assistant.
- Research advisor for senior thesis: “Application of a New Model Using Demonstrations to Increase Students’ Understanding of Chemical Equilibrium”.
- Developed, piloted, and assessed a new method of demonstration presentation to encourage active learning.
- Extension of demonstration presentation project for use in large-enrollment lecture classes.
- Acted as advisor for two graduate students “Mentored Teaching Experience”, a requirement for a Teaching Certificate from the College of Natural Science. Projects were “Collaborative Learning in General Chemistry” and “An Active Learning Approach to Qualitative Analysis”.
- Research advisor on approximately 30 student independent projects, including the review of proposals, experimental procedures, and data analysis. All presented their results in a poster session; two groups additionally presented their research at an University-wide presentation.
- Research advisor for two Honors General Chemistry Laboratory students. Projects were “Spectrophotometric Determination of Lead” and “Spectrophotometric Determination of Mercury”.
- Investigation of how general chemistry students’ understanding of atomic structure changed as a result of traditional teaching compared to innovative teaching techniques.

**Visiting Scholar**, Department of Chemistry, Michigan State University, Summer 2001

Professor Lynmarie A. Posey, collaborator

- Performed laser spectroscopy and mass spectrometry of gas-phase solvated transition metal clusters.

**Visiting Scholar**, Department of Chemistry, Michigan State University, Summer 1998

Professor Marcos Dantus, collaborator

- Investigated femtosecond photodissociation dynamics of  $O_3$ .
- Designed interlock system for molecular beam vacuum system.

**Visiting Postdoctoral Fellow**, Chemical Sciences Division, Lawrence Berkeley National Laboratory, 1996–1997

Professor Yuan T. Lee and Dr. Arthur G. Suits, advisors

- Utilized resonance-enhanced multiphoton ionization techniques to investigate structure and energetics of  $O_2 \cdot O_2^*$  dimers.
- Investigated the reaction dynamics of  $C(^3P_i) + \text{propylene}$  using crossed molecular beams and electron-impact ionization of products prior to analysis with a quadrupole mass filter.

## RESEARCH EXPERIENCE, CONT.

**Graduate Research Assistant**, Department of Chemistry, University of Pittsburgh, 1989–1996  
Professor Peter E. Siska, advisor

- Investigated collision energy dependence of the reaction dynamics of the Penning ionization systems  $\text{He}^*(2^1\text{S}) + \text{H}_2$ ,  $\text{D}_2$ , HD, and CO using crossed molecular beams and electron spectroscopy.
- Performed inelastic quantum mechanical scattering calculations on the system  $\text{He}^*(2^{1,3}\text{S}) + \text{H}_2$  to model its electron energy spectrum.
- Performed *ab initio* calculations on the system  $\text{He}^*(2^{1,3}\text{S}) + \text{H}_2$  to determine the effect of  $\text{H}_2$  bond length on intermolecular potential energy.
- Performed inelastic quantum mechanical scattering calculations on the system  $\text{He}^*(2^{1,3}\text{S}) + \text{CO}$  to model the real and imaginary parts of the optical potential.

## HONORS AND AWARDS

Climate Science Fellow, Lt Col James B Near Jr., USAF, '77 Center for Climate Studies, 2020-2021

Faculty Fellow: Citadel Center for Excellence and Innovation in Teaching, Learning, and Distance Education, 2018-2019

Recipient of *Insight Into Diversity's* "100 Inspiring Women in STEM" award, 2015

Medbery Summer Research Mentor Award, 2010, 2012, 2014 (The Citadel)

Honorary Member of the Lyman Briggs School Graduating Class of 2002 (student-voted award; Michigan State University)

Distinguished Member, National Society of Collegiate Scholars, 1999 (Michigan State University)

Department of Education Fellowship, 1992 (University of Pittsburgh)

Member of Phi Lambda Upsilon Chemistry Honor Society, 1991 (University of Pittsburgh)

Safford Award for Excellence as a Graduate Student Teacher, 1991 (University of Pittsburgh)

University of Pittsburgh Predoctoral Fellowship, 1989-90

Albert S. Puehlicher Memorial Scholarship, 1985-89 (Marquette University)

Member of Sigma Pi Sigma Physics Honor Society, 1988 (Marquette University)

Wisconsin Chemical Society Scholarship, 1986-87 (Marquette University)

## PROFESSIONAL AFFILIATIONS

American Association for the Advancement of Science (2008–present)

American Chemical Society (1990–present)

Division of Physical Chemistry

Division of Physical Chemistry–Astrochemistry Subdivision

Council on Undergraduate Research (2007–present)

Sigma Xi (2007–present); President Charleston Chapter, 2013-2014

Vice-President Charleston Chapter 2012-2013

## **STUDENT RESEARCH ADVISING**

### **Undergraduate-The Citadel**

Liam Hines (Spring, Fall 2024)  
Brennan Burnham (Fall 2024)  
Bentley Payne (Fall 2024)  
Hunter Smith (Spring 2022)  
Jacob Williams (Spring 2022)  
Nicolas Haddad (Summer 2016-Spring 2017)  
Matthew Lanetti (Spring 2016)  
William Epps (Fall 2015-Spring 2016)  
Joshua Arp (Fall 2014-Spring 2015)  
Alan Parrado (Fall 2014-Spring 2015)  
Brian Molnar (Spring & Summer 2014)  
Michael Garovich (Summer 2013)  
Andrew L. Phillips (Fall 2012-Spring 2013)  
Samuel T. Harbison (Summer 2012)  
Frederick Shriner (Summer 2011)  
Anna M. Fuzy (Fall 2011-Spring 2012)  
D. Evan Eich (Summer 2011-Spring 2012)  
L. Ashley Washington (Summer 2010-Spring 2011)  
John W. Jordan (Summer 2010)  
Pao Shun Ting (Fall 2007-Spring 2008)  
Tzu Hung Chu (Fall 2006-Spring 2007)

B.S. Biochemistry, 2027  
B.S. Chemistry, 2027  
B.S. Chemistry, 2027  
B.A. Chemistry, 2022  
B.S. Chemistry, 2022  
B.S. Biochemistry, 2017  
B.S. Chemistry, 2019  
B.A. Chemistry-Teaching, 2016  
B.S. Chemistry, 2015  
B.A. Chemistry, 2015  
B.S. Chemistry, 2016  
B.S. Biochemistry, 2016  
B.A. Chemistry, 2013  
B.A. Chemistry, 2014  
B.S. Chemistry, 2013  
B.S. Biochemistry, 2012  
B.S. Chemistry, 2012  
B.S. Chemistry, 2011  
B.S. Chemistry, 2012  
B.S. Chemistry, 2008  
B.S. Chemistry, 2007

### **Undergraduate-Susquehanna University**

Sheena Binkley (Spring 2005)  
Brian Hixson (Spring 2004-Spring 2005)  
Erica Wagner (Summer 2004)  
Joleen Rudy (Fall 2003-Spring 2004)  
Lindsay Shaffer (Fall 2003)  
Derek Butcher (Summer 2003)  
Megan Janssen (Summer 2003)

B.S. Chemistry, 2006  
B.S. Chemistry, 2005  
B.S. Biochemistry, 2006  
B.S. Chemistry, 2004  
B.S. Chemistry, 2004  
B.S. Chemistry, 2005  
B.S. Biochemistry, 2006

### **Graduate**

Tiffany Freedman (Summer 2017-2019)  
Randall Hicks (Fall 2000-Spring 2001)  
Emily Brown (Spring 2000)

University of St. Joseph, M.S. Chemistry, 2018  
Michigan State University, Ph.D. Chemistry, 2002  
Michigan State University, Ph.D. Chemistry, 2001

## GRANTS

### Externally Funded Research Grants

*The South Carolina Space Grant Consortium and SC NASA EPSCoR "Reaction of Methane with Hydrogen Peroxide Adsorbed on a Martian Soil Analog".* Principle Investigator: **Holly M. Bevsek**. Award: \$8,000 with \$8,000 institutional match. Funding period: 5/1/11-6/30/13.

*The Camille and Henry Dreyfus Foundation, Inc., Special Grant Program in the Chemical Sciences "A New Model to Increase Student Learning Using Lecture Demonstrations in General Chemistry" (SG-01-065).* Principle Investigator: **Holly M. Bevsek**. Award: \$25,949 with \$25,000 institutional match. Funding Period: 1/30/01–9/30/06.

### Internal Grants

Past seven awards.

*The Citadel, Citadel Foundation Research Grant "Determination of the Temperature Dependence of  $\text{FeCl}_3$  Vapor Pressure".* Principle Investigator: **Holly M. Bevsek**. Award: \$3,083.46. Funding period: 7/1/21-6/30/22.

*The Citadel, Climatological Research Studies Grant "Exploring the Role of Photocatalytic Decomposition of Perfluorooctanoic Acid on a Mineral Dust Proxy".* Principle Investigator: **Holly M. Bevsek**. Award: \$12,000. Funding period: 10/15/2020-12/15/2021.

*The Citadel, Citadel Foundation Research Grant "Investigation of the Reaction of Pyrite with Gas- and Condensed-Phase Formamide".* Principle Investigator: **Holly M. Bevsek**. Award: \$3,000.00. Funding period: 7/1/16-6/30/17; 7/1/17-6/30/18.

*The Citadel, Citadel Foundation Research Grant "Identification of Products Resulting from the Reaction of NO and NO<sub>2</sub> with FeS<sub>2</sub>".* Principle Investigator: **Holly M. Bevsek**. Award: \$3,000.00. Funding period: 7/1/15-6/30/16.

*The Citadel, Citadel Foundation Research Grant "Comparison of Surface-Assisted Photochemistry on Different Polymorphs of TiO<sub>2</sub> and Fe<sub>2</sub>O<sub>3</sub>".* Principle Investigator: **Holly M. Bevsek**. Award: \$2,250.00. Funding period: 7/1/14-6/30/15.

*The Citadel, Citadel Foundation Research Grant "Surface-Assisted Photochemistry of Iron-Containing Components of Martian Soil".* Principle Investigator: **Holly M. Bevsek**. Award: \$3,000.00. Funding period: 7/1/13-6/30/14.

*The Citadel, Citadel Foundation Research Grant "Investigation of the Role of Photoexcitation of Martian Soil in the Destruction of Methane".* Principle Investigator: **Holly M. Bevsek**. Award: \$2991.87. Funding period: 7/1/12-6/30/13.

## SERVICE

Reviewer, World Congress on Undergraduate Research (WorldCUR), 12/2022  
Member, Departmental Curriculum Committee, 8/15,22–present  
Visiting Associate Program Reviewer, Committee on Professional Training, ACS, 4/1/2021–1/26/2022  
Chair, Department of Chemistry Recruiting Committee, 8/15/21–present  
Member, Summer Instruction Task Force, 5/1/20– 6/24/20  
Member of *ad hoc* committee to develop continuity of instruction policy for laboratories during COVID outbreak, 3/20–5/20  
Chair, General Education Director search, 5/10/20– 6/25/20  
Councilor, At-Large Division of the Council on Undergraduate Research, 7/1/18–6/30/21  
Chair, Laboratory Safety Manager search committee, 2018  
Member of General Education Review Committee, 5/16–8/20  
Member of Citadel Faculty Senate, 1/16–8/2020, 1/2022–present; Vice Chair 2019–2020  
Member of Citadel Hazard Mitigation Planning Committee, 5/16–12/16  
Member of Citadel Enterprise Risk Management Council, 11/15–10/17  
Member of Citadel Academic Board, 1/15–12/15  
President of the Charleston Chapter of Sigma Xi, 2013–2014  
Served as outside person on a physics faculty tenure and promotion committee, 2014, 2016  
Served as outside person on a physics faculty 3<sup>rd</sup> year review committee, 2014  
Served on six search committees (chemistry and nursing)  
SACS Citadel reaccreditation group, 2012–2014  
External Evaluator for NSF GK-12 project: “Building Bridges: Integrating Mathematics, Science, and Engineering Education on the South Plains” (Texas Tech University), 2009–2014  
Citadel liaison for the Council on Undergraduate Research, 2006–2014  
Member of Core Curriculum Oversight Committee, AY 2012  
Mentor for new chemistry faculty hire, 8/08–5/10  
College-wide Curriculum and Instruction Committee, 8/07–5/12, Chair AY 2011  
Academic advisor for undergraduate chemistry majors, 8/07– present  
Krause Leadership Symposium Planning Committee, 3/07–5/08  
Reviewer of Chapters 7, 9–11; Tro “Chemistry in Focus”; Reviewer of Chapters 10–13; Atkins, de Paula, and Friedman “Quanta, Matter, and Change”  
Departmental curriculum (chair), facilities, introductory, and general chemistry committees, 8/06–5/12  
Organized outside speaker seminar series, AY 2004, Susquehanna University  
Interim department chair, 1/04–7/04, Susquehanna University  
Junior mentor for two new faculty members, 8/03–5/05, Susquehanna University  
Four search committees (three chemistry, one physics), AY 2002, Susquehanna University  
Secretary, Michigan State University American Chemical Society Local Section, AY 2000  
Reviewer, Journal of Chemical Education, ChemComm

## OUTREACH

“Using Demonstrations to Promote Conceptual Understanding in Chemistry: Making Connections on the Macroscopic, Microscopic, and Symbolic Levels”, Lilly Seminar Series, Michigan State University, September 29/30, 2006. Participants were MSU faculty, graduate students, and local community college instructors on September 29 and local high school teachers on September 30.

“Fostering Inquiry in the K-6 Classroom”, offered through the Science and Math in Motion program, Susquehanna University, June 14, 2005. Participants were local K-6 teachers.

“Using Demonstrations to Foster Inquiry: Making Connections on the Macroscopic, Microscopic, and Symbolic Levels”, offered through the Science and Math in Motion program, Susquehanna University, June 13, 2005. Participants were local junior high/high school teachers.

## OTHER EMPLOYMENT

**Consultant:** Clarkson, Walsh, & Coulter legal service, 2020

Provided advice to attorney defending a motel owner from a workman’s compensation claim.

**Consultant:** Young, Clement, Rivers legal service, 2015.

Wrote technical report on flammability of a cadweld mixture that was used to defend a company against a workman’s compensation claim.



## SELECTED PRESENTATIONS

### Oral Presentations

"Methane Plumes on Mars: Appearance, Destruction, and Controversy"

Brown Bag Lunch Presentation to Citadel campus section of Sigma Xi, The Citadel, September 20, 2013.  
(Invited)

"Reactivity of Carbon Nanotubes with High Pressures of Nitrogen Dioxide"

Brown Bag Lunch Presentation to Citadel campus section of Sigma Xi, The Citadel, March 12, 2008.  
(Invited)

"Chemistry on Aerosols and Carbon Nanotubes: Studying Surface Reactions Using Diffuse Reflectance Infrared Spectroscopy"

Department of Chemistry, Providence College, February 16, 2007. (Invited)

"Effect of Macroscopic, Microscopic, and Symbolic Representations Upon Student Understanding of an Equilibrium Demonstration"

H. M. Bevsek‡, H. Lim, D. Ebert-May, 18<sup>th</sup> Biennial Conference on Chemical Education, Iowa State University, 2004, Abstract S214.

"Improving General Chemistry Students' Understanding of Demonstrations through the Use of Different Conceptual Representations"

H. Lim, B. Lorson , H. M. Bevsek‡, 223<sup>th</sup> National Meeting of the American Chemical Society, Orlando, FL, 2002, Abstract CHED 590.

"Teaching Chemistry Electronically"

Explorations in Instructional Technology, Michigan State University, November 2, 2001. (Invited)

"First Direct Detection and Spectroscopy of  $O_4^*$ "

Air Force High Energy Density Matter Contractor's Conference, Chantilly, VA, 1997. (Invited)

"First Direct Detection and Spectroscopy of  $O_4^*$ "

Aeronomy Program, Molecular Physics Laboratory, SRI International, Palo Alto, CA, 1997. (Invited)

"Physical Chemistry at the University of Pittsburgh"

Talk addressed to participants of the "Research Experience for Undergraduates in Physics at the University of Pittsburgh: Emphasis on Minorities" program.

Department of Physics, University of Pittsburgh, Pittsburgh, Pennsylvania, 1994. (Invited)

‡Indicates presenter. Underline indicates undergraduate research assistant.

**SELECTED PRESENTATIONS, CONT.**  
**Poster Presentations**

"Investigation of the reactions of NO<sub>x</sub> species with pyrite (FeS<sub>2</sub>)", Tiffany Rush‡ and Holly Bevsek, 255<sup>th</sup> National Meeting of the American Chemical Society, New Orleans, LA 2018, Abstract GEOC 215.

"Investigation of the reaction of formamide on pyrite", Nicolas Haddad‡ and Holly Bevsek, 253<sup>rd</sup> National Meeting of the American Chemical Society, San Francisco, CA 2017, Abstract CHED 1680.

"Effect of computational chemistry software on student's comprehension of molecular properties", William Epps‡ and Holly Bevsek, 251<sup>st</sup> National Meeting of the American Chemical Society, San Diego, CA 2016, Abstract CHED 748.

"Reaction kinetics of NO and NO<sub>2</sub> with pyrite", Holly M. Bevsek‡, 249<sup>th</sup> National Meeting of the American Chemical Society, Denver, CO, 2015, Abstract PHYS 413.

"Photodecomposition of phenylalanine on the surface of titanium dioxide", J. Caleb Arp‡, Brian Molnar‡, Holly Bevsek, 249<sup>th</sup> National Meeting of the American Chemical Society, Denver, CO 2015, Abstract CHED 1365.

"Reaction of methane with hydrogen peroxide adsorbed on a Martian soil simulant", D. Evan Eich‡ and Holly M. Bevsek, 243<sup>rd</sup> National Meeting of the American Chemical Society, San Diego, CA 2012, Abstract CHED 1285.

"Reaction of methane with perchloric acid adsorbed on a Martian soil simulant", Anna M. Fuzy‡ and Holly M. Bevsek, 243<sup>rd</sup> National Meeting of the American Chemical Society, San Diego, CA 2012, Abstract CHED 1318.

"Investigation of the effect of oxygen-containing functional groups on the reaction of single- and multi-walled carbon nanotubes with NO", L. Ashley Washington‡ and Holly M. Bevsek, 241<sup>st</sup> National Meeting of the American Chemical Society, Anaheim, CA, 2011, Abstract CHED 1136.

"Investigation of the reaction of NO with  $\gamma$ -Fe<sub>2</sub>O<sub>3</sub>", J. W. Jordan‡ and Holly M. Bevsek, 241<sup>st</sup> National Meeting of the American Chemical Society, Anaheim, CA, 2011, Abstract CHED 1117.

"Comparison of NO<sub>2</sub> Reactivity with  $\alpha$ - and  $\gamma$ -Fe<sub>2</sub>O<sub>3</sub>", Brian C. Hixson‡ and Holly M. Bevsek ‡, 237<sup>th</sup> National Meeting of the American Chemical Society, Salt Lake City, UT, 2009, Abstract PHYS 326.

"Reaction of NO<sub>2</sub> with Purified Multi-Walled Carbon Nanotubes", PS Ting‡ and Holly M. Bevsek, 235<sup>th</sup> National Meeting of the American Chemical Society, New Orleans, LA, 2008, Abstract CHED 332.

"Study of the Reaction of NO<sub>2</sub> with Multi-Walled Carbon Nanotubes", Tzu-Hung Chu‡ and Holly M. Bevsek, 233<sup>rd</sup> National Meeting of the American Chemical Society, Chicago, IL, 2007, Abstract CHED 486.

"Undergraduate Students' Conceptions of the Quantum Mechanical Atom", Holly M. Bevsek‡ and Diane Ebert-May, Gordon Research Conference: Innovations in College Chemistry Teaching, Connecticut College, June 19-24, 1999.

‡Indicates presenter. Underline indicates undergraduate research assistant.

## PUBLICATIONS

### Journal Articles

"Utilizing Problem Based Learning in Qualitative Analysis Lab Experiments", Randall W. Hicks and Holly M. Bevsek, *J. Chem. Educ.*, **2012**, 89, 254.

"Reaction products and kinetics of the reaction of NO<sub>2</sub> with  $\gamma$ -Fe<sub>2</sub>O<sub>3</sub>", B. C. Hixson, J. W. Jordan, E. L. Wagner, and H. M. Bevsek, *J. Phys. Chem. A.*, **2011**, 115, 13364.

"Direct detection and spectroscopy of O<sub>4</sub><sup>\*</sup>", H. M. Bevsek, M. Ahmed, D. S. Peterka, F. C. Sailes, and A. G. Suits, *Disc. Farad. Soc.*, **1997**, 108, 131.

"Crossed-beam reaction of carbon atoms with hydrocarbon molecules. IV: Chemical dynamics of methylpropargyl radical formation, C<sub>4</sub>H<sub>5</sub>, from reaction of C(<sup>3</sup>P<sub>1</sub>) with propylene, C<sub>3</sub>H<sub>6</sub> (X<sup>1</sup>A')", R. I. Kaiser, D. Stranges, H. M. Bevsek, Y. T. Lee, and A. G. Suits, *J. Chem. Phys.* **1997**, 106, 4945.

"A vibrationally adiabatic theory of molecular Penning ionization", H. M. Bevsek and P. E. Siska, *J. Chem. Phys.* **1995**, 102, 1934.

"Nascent vibrational populations in He\*(2<sup>1,3</sup>S) + H<sub>2</sub>, HD, and D<sub>2</sub> Penning ionization from electron spectroscopy in crossed supersonic molecular beams", H. M. Bevsek, D. C. Dunlavy, and P. E. Siska, *J. Chem. Phys.* **1995**, 102, 133.

"Recent Retreats in Penning Ionization: A New Look at the He\*(2<sup>1</sup>S) + Ar → He + Ar<sup>+</sup> + e<sup>-</sup> Reaction in Crossed Molecular Beams", E. J. Longley, D. C. Dunlavy, M. F. Falcetta, H. M. Bevsek, and P. E. Siska, *J. Phys. Chem.* **1993**, 97, 2097.

### Proceedings

"Atomic orbital alignment in photodissociation" Bracker, A S, Bevsek, H M, Blunt, D A, Sailes, F C, and Lawrence Berkeley National Lab., CA. United States: 1997.

Underline indicates undergraduate research assistant