

CURRICULUM VITAE

JACQUELINE SUZANNE BENNETT

Department of Chemistry & Biochemistry
State University of New York, College at Oneonta
Oneonta, NY 13820
(607) 436-3431
bennetjs@oneonta.edu

Education

Ph.D. in Chemistry University of California, Riverside **1999**

 Dissertation: Covalent Modification of Proteins and Peptides with Radiolabeled Ethyl Acetoacetate: Participation of Lysine and Tyrosine Residues

 Adviser: Dr. Thomas Hellman Morton

M.S. in Chemistry University of California, Riverside **1994**
B.S. in Chemistry West Virginia University **1992**
B.A. in Biology West Virginia University **1992**

Areas of Specialization

- Inquiry-based instruction
- Technology-enhanced learning
- Undergraduate laboratory development
- Small organic molecule synthesis
- Green organic synthesis
- Radiolabeled organic compound synthesis
- Bioorganic chemistry (peptide and protein modifications)
- Mass spectrometry

Professional Societies

- American Chemical Society, 1991-present
- American Society for Mass Spectrometry, 1992-present
- National Science Teachers Association, 2003-present
- National Teaching and Learning Forum, 2007-present
- Elsevier Innovation Explorers, 2009-present
- Binghamton Section American Chemical Society, 2006-present
- Ozark Section American Chemical Society, 2001-2006
 - Secretary, 2003-2006

Honors and Awards

- International Journal of Mass Spectrometry, Best Student Paper 1999 Award for Bennett, JS; DW Bell; BA Buchholz; ESC Kwok; JS Vogel; and TH Morton. **1998**. Accelerator mass spectrometry for assaying irreversible covalent modification of an enzyme by acetoacetic ester. *Int. J. Mass Spec.* 179/180: 185-193.
- Office of Naval Research Student Training Grant (AASERT) *Chemical modification of olfactory receptors in vitro and in vivo*. \$90,000. Awarded 1993-1996.
- Chemistry Department Fellowship. University of California, Riverside. Awarded 1992-1993.
- Best Undergraduate Teaching Assistant, West Virginia University, 1992

Teaching Positions

Assistant Professor	July 2006 to present SUNY College at Oneonta, Department of Chemistry & Biochemistry Organic Chemistry I Lecture and Laboratory, Organic Chemistry II Lecture and Laboratory, Elementary Organic Chemistry Lecture and Laboratory, Independent Study (research), Advanced Organic Chemistry, Senior Seminar
Assistant Professor	August 2001 to May 2006 Drury University, Chemistry Department; Springfield, MO Biochemistry Lecture and Laboratory, Organic Laboratory (I and II), Advanced Organic Synthesis, Chemical Literature, Analytical Laboratory, non-science major research, science major research, Instrumental Analysis, General Chemistry lecture (I and II)
Visiting Assistant Professor	August 2000 to May 2001 Claremont Colleges, Joint Science Department; Claremont, CA Organic Chemistry I lecture and laboratory, General Chemistry II lecture and laboratory
Lecturer	Summer 2000, 2001, and 2002 University of California, Riverside Organic Chemistry I, II, and III lecture and laboratory
Lecturer	September 1999 to June 2000 California State University, San Bernardino Organic Chemistry I and II lecture and laboratory; Computer Committee
Lecturer	August 1997 to July 1999 California State University, Fullerton Organic Chemistry (part-time 1997-1998; full-time 1998-1999) Organic Chemistry I and II lecture and laboratory
Teaching Assistant	August 1992 to December 1992 and August 2000 to May 2001 University of California, Riverside Organic and General Chemistry I, II, and III laboratory

Other Relevant Employment

Consultant	June 2008-present Cengage Learning
Camp Counselor	June 2007 PR ² EPS-High School Science Summer Camp SUNY College at Oneonta

Courses Taught and Modified at SUNY Oneonta

- Chem 221, Organic Chemistry I, 4 credit hours (Fall 2006, Fall 2008)
- Chem 322, Organic Chemistry II, 4 credit hours (Spring 2007, Spring 2009)
- Chem 323, Advanced Organic Chemistry, 3 credit hours (Spring 2009)
- Chem 226, Elementary Organic Chemistry, 4 credit hours (Summer 2006, Fall 2007, Spring 2008)
- Chem 299/399, Student Research Projects, 1-3 credit hours; 1-9 students (every semester)
- Chem 398, Senior Seminar, 1 credit hour (Fall 2009)

Innovative Teaching Methods

- Personal response systems (clickers)
- Collaborations in teaching and research using Google Docs
- Homework blog
- Inquiry-based experiments
- Peer flash cards & question cards
- Take-home organic exams
- Preview slides
- Independent lab projects
- Self-paced experiments
- Green organic experiments
- Customized experiments

Publications

Refereed (undergraduate coauthors are underlined, high school coauthor is *italicized*)

Bennett, J and T Forster. **2009**. IR Cards: Inquiry-based introduction to learning infrared spectroscopy. *Journal of Chemical Education*. In press.

Bennett, JS; KL Charles; MR Miner; CF Heuberger; EJ Spina; MF Bartels; and *T Foreman*. **2009**. Ethyl lactate as a tunable solvent for the synthesis of aryl aldimines. *Green Chemistry*. 11(2): 166-168. <http://xlink.rsc.org/?doi=B817379F>

Bennett, J; K Meldi; and C Kimmell II. **2006**. Synthesis and analysis of a versatile imine for undergraduate organic chemistry. *Journal of Chemical Education*. 83(8): 1221-1224. <http://www.jce.divched.org/Journal/Issues/2006/Aug/abs1221.html>

Bennett, JS; DW Bell; BA Buchholz; ESC Kwok; JS Vogel; and TH Morton. **1998**. Accelerator mass spectrometry for assaying irreversible covalent modification of an enzyme by acetoacetic ester. *International Journal of Mass Spectrometry*. 179/180: 185-193.

Best Student Paper 1999 Award – Int. J. Mass Spec.
<http://tinyurl.com/BennettIJMS1998>

Nguyen, VQ; JS Bennett; and TH Morton. **1997**. Bridging versus hydride shift in gaseous cations. Hydroxy as a vicinal substituent. *Journal of the American Chemical Society*. 119(35): 8342-9. <http://tinyurl.com/BennettJACS1997>

Submitted, in preparation, or in revision

Bennett, J and H Pence. **2009**. Managing laboratory research data using Google Docs. *Journal of Chemical Education*. In preparation.

Bennett, J; KL Charles; MR Miner; CF Heuberger; EJ Spina; MF Bartels, and *T Foreman*. **2009**. Imine synthesis with a twist: Capstone project for organic laboratory involving collaborative learning, unknown identification, and green chemistry. *Journal of Chemical Education*. In preparation.

Bennett, J; MR Miner, and J Urda. **2009**. ¹³C NMR Cards: Inquiry-based introduction to learning carbon-13 nuclear magnetic resonance spectroscopy. *Journal of Chemical Education*. In preparation.

Bennett, J; MR Miner, and J Urda. **2009**. ¹H NMR Cards: Inquiry-based introduction to learning proton nuclear magnetic resonance spectroscopy. *Journal of Chemical Education*. In preparation.

Bennett, J. **2009**. A tasty approach to green chemistry. *The Oneonta Faculty Convivium, Selected Essays*. In preparation.

Reviews

Bennett, J. **2009**. “The Academic Writer’s Toolkit” Arthur Asa Berger. Left Coast Press. *National Teaching and Learning Forum*. Submitted.

Bennett, JS. **2009**. “Teaching at its Best: A Research-Based Resource for College Instructors, 2nd ed.” by Linda Nilson. Anker.. *International Journal for the Scholarship of Teaching and Learning*. http://academics.georgiasouthern.edu/ijsotl/v3n1/book_reviews/Bennett/index.htm, **invited**

Bennett, J. **2007**. “Exploring research-based teaching.” Kreber, Ed. Jossey-Bass. *National Teaching and Learning Forum*. <http://www.ntlf.com/html/lib/exploring.pdf>

Book Chapter

Audier, HE; JS Bennett; MK Kelcher; and TH Morton. **1995**. Chiral Substitution with Isotopic Hydrogen: Mass Spectrometry and the Diastereomer Problem. In *Synthesis and Applications of Isotopically Labelled Compounds 1994*. Ed J. Allen. John Wiley & Sons, Ltd. 481-486.

Presentations (undergraduate coauthors are underlined)

2009 Jacqueline Bennett and Harry Pence. “Managing research data using cloud computing as an organizational tool” **Oral** Presentation in *Using Social Networking Tools to Teach Chemistry*. American Chemical Society Conference, Washington, DC (August 16-20, 2009)

2009 Jacqueline Bennett “A tasty approach to green chemistry” **Oral** Presentation. Faculty Convivium, SUNY College at Oneonta. (April 22, 2009)

- 2009** Matt Miner, Kaitlyn Charles, and Jacqueline Bennett. “Green photochemical dimerization of dibenzylideneacetone” **Poster** Presentation. SUNY College at Oneonta 2009 Student Research Day. (April 21, 2009)
- 2009** Elijah Spina, Caitlin Heuberger, Miyeon Presky, Jessica Rodriguez, and Jacqueline Bennett. “Green synthesis of beta-lactam antibiotic analogs” **Poster** Presentation. SUNY College at Oneonta 2009 Student Research Day. (April 21, 2009)
- 2009** Luke Soposki, Gwendolyn Nieves, and Jacqueline Bennett. “Organic chemistry mLearning” **Video** Presentation. SUNY College at Oneonta 2009 Student Research Day. (April 21, 2009)
- 2009** Jacqueline Bennett, Kaitlyn Charles, Matthew R. Miner, Caitlin Heuberger, and Eli Spina. “Ethyl lactate as an environmentally benign tunable solvent for imine synthesis” **Oral** Presentation in *New Reactions and Methodology*. American Chemical Society Conference, Salt Lake City, UT (March 22-26, 2009)
- 2009** Jacqueline Bennett. “Google Docs: A convenient way to organize collaborative data in teaching and research” **Oral** Presentation in *Computers in Chemical Education*. American Chemical Society Conference, Salt Lake City, UT. Also accepted as a poster in the Sci-Mix session. (March 22-26, 2009)
- 2009** Kaitlyn Charles, Caitlin Heuberger, Matt Miner, Michael Bartels, and Jacqueline Bennett. “Free radical and ionic bromination reactions: One apparatus, two mechanisms” **Oral** Presentation in *Advances in Teaching Organic Chemistry*. American Chemical Society Conference, Salt Lake City, UT. Also accepted as a poster in the Sci-Mix session. (March 22-26, 2009)
- 2009** Matthew R. Miner, Jacqueline Bennett, and Jared Urda. “NMR Cards: Inquiry-based approach to teaching NMR spectroscopy” **Oral** Presentation in *Advances in Teaching Organic Chemistry*. American Chemical Society Conference, Salt Lake City, UT. Also accepted as a poster in the Sci-Mix session. (March 22-26, 2009)
- 2009** Caitlin Heuberger and Jacqueline Bennett. “Photoreduction-dimerization of imines to make vic-diamines” **Poster** Presentation in *Undergraduate Research Poster Session: Organic Chemistry*. American Chemical Society Conference, Salt Lake City, UT. (March 22-26, 2009)
- 2009** Brendan Walker and Jacqueline Bennett. “Progress in greener synthesis of aziridines” **Poster** Presentation in *Undergraduate Research Poster Session: Organic Chemistry*. American Chemical Society Conference, Salt Lake City, UT. (March 22-26, 2009)
- 2009** Jacqueline Bennett, Kaitlyn Charles, Matthew Miner, Caitlin Heuberger, Eli Spina, Mike Bartels, and Taylor Foreman. “Greener chemistry using FDA-approved food additives as solvents” **Poster** Presentation. Faculty Research Show, SUNY College at Oneonta (February 12, 2009)
- 2008** Jacqueline Bennett “Inquiry-based instruction in organic chemistry” **Poster** Presentation. Celebration of Teaching, SUNY College at Oneonta
- 2008** Jacqueline Bennett “Google Docs: A convenient solution to collaborations in teaching and research” **Poster** Presentation. Celebration of Teaching, SUNY College at Oneonta
- 2008** Jacqueline Bennett “Integrating green photochemistry into the undergraduate chemistry curriculum” **Poster** Presentation. Celebration of Science Fund for Science Initiative, SUNY College at Oneonta

2008 Jacqueline Bennett, Kaitlyn Charles, Mike Bartels, Matt Miner, and Eli Spina. “Green imine synthesis appropriate for undergraduate organic chemistry” **Oral** Presentation. American Chemical Society Conference, Philadelphia, PA (**invited**)

2008 Tabetha Forster and Jacqueline Bennett. “Inquiry-based approach to learning infrared spectroscopy” **Poster** Presentation. Student Research Show, SUNY College at Oneonta

2008 Eli Spina and Jacqueline Bennett. “Green synthesis of aryl imines” **Poster** Presentation. Student Research Show, SUNY College at Oneonta

2008 Jacqueline Bennett, and Tabetha Forster. “Inquiry-based approach to learning infrared spectroscopy” **Oral** Presentation. American Chemical Society Conference, New Orleans, LA

2008 Jacqueline Bennett, Tabetha Forster, and Eli Spina. “Green organic chemistry: Working toward environmental friendliness” **Poster** Presentation. Faculty Research Show, SUNY College at Oneonta

2007 Caitlin Heuberger, Will Davidson, Amanda Minnock, Arthur Sy, and Jacqueline Bennett. “Almond to mint in two easy steps” **Poster** Presentation. Student Research Show, SUNY College at Oneonta,

2007 Matt Miner, Sandra Martin, and Jacqueline Bennett. “Development and application of a stovetop essential oil apparatus” **Poster** Presentation. Student Research Show, SUNY College at Oneonta

2007 Jacqueline Bennett, Matt Miner, Sandra Martin, Arthur Sy, William Davidson, Caitlin Heuberger, and Amanda Minnock, “Chemistry meets reality: Experiments designed with the student and the environment in mind” **Poster** Presentation. Faculty Research Show, SUNY College at Oneonta

2007 Caitlin Heuberger, William Davidson, Amanda Minnock, Arthur Sy, and Jacqueline Bennett “Almond to mint in two easy steps” **Poster** Presentation. American Chemical Society Conference, Chicago, IL

2007 Matthew R. Miner, Sandra A. Martin, and J. Bennett “Development and application of a stovetop essential oil apparatus” **Poster** Presentation, American Chemical Society Conference, Chicago, IL

2006 Andrew C. Moore, Sean R. LeNoue, Cole E. Denton, Scott A. Petrich, and Jacqueline Bennett “Activities of the Drury University student affiliates chapter” **Poster** Presentation, American Chemical Society Conference, Atlanta, GA

2005 Christopher Kimmell II, Kristen Meldi, and Jacqueline Bennett “Green synthesis intended for the undergraduate organic chemistry laboratory” **Oral** Presentation, 2nd International Conference on Green and Sustainable Chemistry and 9th Annual Green Chemistry and Engineering Conference” Washington, DC

2005 Christopher Kimmell* II, Jacqueline Bennett, and Kristen Meldi “A green synthesis intended for the undergraduate organic chemistry laboratory” **Oral** Presentation, Missouri Academy of Science Conference, Jefferson City, MO

***Third Place undergraduate award**

2005 Sarah J. Richards, Scott A. Petrich, and Jacqueline Bennett “Activities of the Drury University student affiliate chapter” **Poster** Presentation, American Chemical Society Conference, San Diego, CA

- 2005** Virginia Cordova, Matifadza Hlatshwayo, and Jacqueline Bennett “Formative assessment in undergraduate general chemistry” **Poster** Presentation, American Chemical Society Conference, San Diego, CA
- 2004** Kristen Meldi, Heather Craig, and Jacqueline Bennett “Adaptation of asymmetric two- and three-component Mannich reactions for organic chemistry laboratory” **Poster** Presentation, American Chemical Society Conference, Anaheim, CA
- 2004** Rhizza Renfro, Brad Thuro, and Jacqueline Bennett “Coumarin derivatization of tyrosine by the Pechmann condensation” **Poster** Presentation, American Chemical Society Conference, Anaheim, CA
- 2004** Chris Knudsen, Emily Musselman, S. A. Petrich, and Jacqueline Bennett “Activities of the Drury University student affiliate chapter” **Poster** Presentation, American Chemical Society Conference, Anaheim, CA
- 2003** Zehra Ishaq, Mati Hlatshwayo, Bethany Kent, Carrie Nelson, Everett Stone, and Jacqueline Bennett “Development of a ‘green’ aldol condensation project for organic chemistry laboratory” **Poster** Presentation, American Chemical Society Conference, New Orleans, LA
- 2003** Leah Gaddis, Rhizza Renfro, Cara Haymaker, Mary Owen, Lindsey Obradovich, and Jacqueline Bennett “Protein modification by the Pechmann condensation in diabetes” **Poster** Presentation, American Chemical Society Conference, New Orleans, LA
- 2003** Matifadza Hlatshwayo, Thomas Hellman Morton, and Jacqueline Bennett “Evidence of a homoserine ester as a by-product of protein cleavage by cyanogen bromide” **Poster** Presentation, American Chemical Society Conference, New Orleans, LA
- 2002** Matifadza Hlatshwayo and Jacqueline Bennett “Evidence of a homoserine ester as a by-product of protein cleavage by cyanogen bromide” **Oral** Presentation, Missouri Academy of Science Conference, Springfield, MO
- 2002** Bethany Kent, Everett Stone, Carrie Wright, and Jacqueline Bennett “Development of a green aldol condensation project for organic chemistry laboratory” **Oral** Presentation, Missouri Academy of Science Conference, Springfield, MO
- 1996** Jacqueline Bennett and Tom Morton “Olfactory Receptors. A Study of Schiff Base-Forming Protein Systems” **Oral** Presentation, University of California, Riverside Biochemistry Conference
- 1996** Jacqueline Bennett, Viet Nguyen, and Tom Morton “Bridging versus Hydride Shift in Gaseous Cations. Hydroxy as a Vicinal Substituent” **Poster** Presentation. American Society for Mass Spectrometry Conference, Portland, OR
- 1996** Jacqueline Bennett, Viet Nguyen, and Tom Morton “Bridging versus Hydride Shift in Gaseous Cations. Hydroxy as a Vicinal Substituent” **Poster** Presentation. Ion Chemistry Conference, Lake Arrowhead, CA

Grants and Fellowships (years in bold print indicate awarded grants)

- 2010-2015 Jacqueline Bennett. National Science Foundation, *CAREER: ECOISM - Exploration of Conditions to Obtain Imines in Sustainable Media*. **\$500,914**. Pending.
- 2010-2012** Jacqueline Bennett, Kelly Gallagher, and Trudy Thomas-Smith. National Science Foundation Course, Curriculum, and Laboratory Improvement. *PREDICT: Predicting Results and Evaluating Data using Insights from Computational Techniques*. **\$164,753**.
- 2009-2012 Jacqueline Bennett. American Chemical Society Petroleum Research Fund – Undergraduate Research. *Synthesis of ketimines using sustainable solvents*. Declined.
- 2009-2011 Jacqueline Bennett and Kelly Gallagher. National Science Foundation Course, Curriculum, and Laboratory Improvement. *PREDICT: Predicting Results and Evaluating Data using Insights from Computational Techniques*. Declined.
- 2009** Jacqueline Bennett. Faculty Research Grant. SUNY Oneonta. *Green synthesis of medicinally important chalcones*. **\$2,000**.
- 2009 Jacqueline Bennett. Faculty Creative Activity Grant. SUNY Oneonta. *LIMERICK: Limericks as an Imparting Medium to Engage Residents and Improve their Chemical Knowledge*. Declined.
- 2008-2009** Jacqueline Bennett. Camille and Henry Dreyfus Foundation Special Grant Program in the Chemical Sciences. *Integrating green photochemistry into the undergraduate chemistry curriculum*. **\$29,928**.
- 2008** Jacqueline Bennett. TLTC Fellowship. SUNY Oneonta. *Modernizing the organic chemistry experience at SUNY Oneonta*. **\$5,240**.
- 2008** Jacqueline Bennett. Faculty Research Grant. SUNY Oneonta. *Green synthesis of imines and their use in Mannich reactions*. **\$2,500**.
- 2007** Jacqueline Bennett. Special Projects Grant. SUCO Milne Library. **\$1,944**.
- 2007** Jacqueline Bennett. SUNY Oneonta Individual Development Awards Program. *Introduction to Teaching in Higher Education: Transforming Teaching, Learning and Self*. **\$300**.
- 2007 Jacqueline Bennett. SUNY Oneonta Individual Development Awards Program. *Preparation of manuscript*. Declined.
- 2007 Jacqueline Bennett. Faculty Research Grant. SUNY Oneonta. *Almond to mint: a household chemistry project*. Declined.
- 2006** Jacqueline Bennett. Special Projects Grant. SUNY Oneonta Milne Library. **\$5,344**.
- 2005 Brant Hinrichs, Scott Petrich, Jacqueline Bennett, and Ioana Popescu. National Science Foundation, *Developing a Comprehensive Introductory Interdisciplinary Science Course for Undergraduate Majors with a Focus on Interactive Inquiry-Based Pedagogies*. Declined.

Jacqueline Bennett – Vita

- 2002** Thomas Hellman Morton and Jacqueline Bennett. National Science Foundation. *Neutral Products from Ionic Reactions in the Gas Phase*. Proposal Number 0213545 supplement request. **\$8,000**.
- 1993-1996** Jacqueline Bennett. Office of Naval Research Student Training Grant (AASERT) *Chemical modification of olfactory receptors in vitro and in vivo*, **\$90,000**.
- 1992-1993** Jacqueline Bennett. Chemistry Department Fellowship. University of California, Riverside. **\$20,000**.

Grants through SUNY Oneonta Student Grant Program for Research and Creative Activity

- 2009** Matthew Miner and Kaitlyn Charles. “Green photochemical dimerization of dibenzylideneacetone” **\$1500**
- 2009** Caitlin Heuberger and Elijah Spina. “Photochemical [2+2] cyclizations to produce analogs to β -lactam antibiotics” **\$1500**
- 2007** Matthew Miner and Sandra Martin. “Development and application of an efficient, home-based essential oil apparatus” **\$800**
- 2007** Caitlin Heuberger, Amanda Minnock, and Arthur Sy. “Almond to mint in two easy steps” **\$500**

Patents

Case No 1717-220. *Ethyl lactate as a tunable solvent for the green synthesis of imines*. Application filed Summer 2009.

Invention No. 1617-220. *Development and application of an efficient, home-based essential oil apparatus*. Application filed Spring 2007. Pending.

Service Activities

2009 (Summer): Faculty Cadre
2009 (June 1-September 1): Interim Department Chairperson
2009-present: Faculty Senate Committee on Research (elected position)
2009-present: Curriculum Committee
2008-2009: Senior Grantswriter Search Committee
2008-present: PKAL Committee
2008-present: Faculty Convivium Committee
2008-present: Campus Radiation Safety Officer
2008-present: Celebration of Teaching Organizational Committee, webmaster
2008: Educational Technology Committee (as stand-in for Bill Vining)
2007-present: Green Team/Sustainability Task Force: Chair, Curriculum and Research subcommittee
2007-2008: Chair, Lecturer Search Committee, Department of Chemistry and Biochemistry
2007-present: Co-advisor SUNY Oneonta Chemistry Club
2007-2008: Assistant Professor Search Committee, Department of Chemistry and Biochemistry
2006-2007: SUNY Oneonta College Senate
2006-2008: Library Committee; allocations subcommittee
2006-2007: Assistant Professor Search Committee, Department of Chemistry and Biochemistry
2005-present: reviewer for Journal of College Science Teaching
2005-present: reviewer for American Journal of Undergraduate Research
2004-2005: National Chemistry Week Coordinator – Ozark Section
2004-2006: Secretary for the Ozark Section of the American Chemical Society
2003-present: reviewer for Journal of Chemical Education
2002-2006 Student Affiliate-American Chemical Society co-advisor (Drury University)
2003-2005: Academic Affairs Committee, Drury University
2003-2006: Writing Proficiency Committee, Drury University
2003-2004: Faculty Secretary, Drury University