CURRICULUM VITAE

Christina Chant, Ph.D.

EDUCATION

2008 **Teacher Apprenticeship Program (Middle-Level Science Endorsement)**
Chittenden Central Supervisory Union, Essex High School, Essex, VT

- Mentor: Perry Nunn, 6th grade science teacher, Colchester Middle School, Colchester, VT
- Level I license (expired) in the state of Vermont (middle level Science grades 5-9)

2002 **Ph.D., Chemistry (Biophysical Chemistry)**
The Pennsylvania State University, University Park, PA

- Research Title: Computational design and experimental verification of protein domains
- Graduate advisors: John Desjarlais, Ph.D. and Juliette Lecomte, Ph.D.

1996 **B.S., Chemistry and Environmental Chemistry**
State University of New York, College at Plattsburgh, Plattsburgh, NY

- Dual major in Chemistry (ACS-certified) and Environmental Chemistry
- First research project: Gas-phase NMR of butane
- Second research project: Dechlorination of chlorinated hydrocarbons using zero-valent metals
- Advisor: Gerald Kokoszka, Ph.D. (both projects)

ACADEMIC AND SCIENTIFIC APPOINTMENTS

2011-present **Assistant Professor, Chemistry**
Department of Chemistry, St. Michael's College (SMC)

2009-2011 **Assistant Professor, Chemistry**
Department of Arts and Sciences, Clarion University – Venango Campus, Oil City, PA

2008-2009 **Visiting Assistant Professor, Chemistry**
Department of Chemistry and Physics, SMC

2005-2007 **Clinical Research Supervisor**
Department of Radiology, University of Vermont

2002-2005 **Postdoctoral Research Associate**
Department of Microbiology and Molecular Genetics, University of Vermont

1997-2002 **Graduate Research Assistant/Teaching Assistant**
Department of Chemistry, The Pennsylvania State University, University Park, PA

OUTREACH ACTIVITIES

2016 **Invited reviewer, selected chapters of a new edition of a General Chemistry textbook (edited by W.W. Norton & Co.)**

2012-present **Member, Scientific Review Committee of the Vermont State Science and Mathematics Fair**

2012-2015 **Special judge (Vermont Next Generation Scholarship) for annual Vermont State Science and Math Fairs,** Norwich University, VT

2014 **Performed chemistry Magic Show to the 4-H Prancing Ponies club**

2013 **Performed chemistry Magic Show to Shelburne Community School students**, Shelburne, VT

2013 **Invited participant, Vermont Enthusiasm for Science, Technology, Entrepreneurship, Engineering, and Math (VT ESTEEM) Network,** Montpelier, VT

PROFESSIONAL ORGANIZATIONS AND AFFILIATIONS

2011-present **American Chemical Society**

2012-present **Sigma Xi, The Scientific Research Society (Vermont Chapter)**

2012-present **Board of Trustees, Vermont Academy of Arts and Sciences (VAAS)**

2010-2012 **Biophysical Society**

PROFESSIONAL SERVICE

2017-present **Treasurer of the Green Mountain Section of the American Chemical Society**

2014-present **President, Vermont Chapter of Sigma Xi**

2017-present **Treasurer of the VAAS**

2014-present **Editor, VAAS newsletter**

2013-2014 **Vice President, Vermont Chapter of Sigma Xi**

2011 **Member, Professional Commission on LGBT Concerns,** Clarion University

2009-2011 **Reviewer for the Keystone Journal of Undergraduate Research** ***(Chemistry),*** Pennsylvania State System of Higher Education system-wide publication

COLLEGE/UNIVERSITY SERVICE

2016-present **Member, Biochemistry Steering Committee**

2016-present **Participant, First Faculty Initiative**

2016-present **Co-coordinator, St. Michael's College Scientific Imaging Facility**

2014-present **SMC Institutional Review Board**

2012-present **Directed efforts of the Chemistry faculty in updating the SMC Chemistry webpage**

2012-present **Chemistry representative in Open House and Accepted Student functions,** SMC

2016 **Reviewer, Vice President of Academic Affairs summer undergraduate research grants**

2016 **Reviewer, NASA-VT for Space Grant Undergraduate Research at SMC**

2016 **Co-organized the SMC Chemistry and Biology day of activities for summer research students**

2015-2016 **Integrated new hyperchromicity lab, with Alayne Schroll, into the Biochemistry I lab curriculum**

2014-2016 **Summer advisor for incoming and transfer students**

2012-2015 **Member, Spirituality and Intellectual Life Committee**

2012-2015 **Volunteer advisor for incoming and first-year Business students**

2012-2014 **SMC Institutional Review Board**

2012-2014 **Member, SMC Institutional Animal Care and Use Committee**

2014 **Organized and coordinated the Spring 2014 Chemistry and Physics Departmental Seminar series**

2014 **Judge, Physical Chemistry posters presented at the SMC Research Symposium**

2012 **Served on search committee for visiting assistant professor position in Chemistry,** SMC (resulted in hiring of Dr. Nisa Satumtira)

2009-2014 **Violist in various string and ensemble groups,** SMC, Green Mountain Mahler Festival, Amateur Musician's Orchestra, Venango Chamber Orchestra, Clarion University Orchestra

2010-11 **Chair, Departmental Evaluation Committee for the Venango Arts and Sciences Department**

2010-11 **Chair, Departmental Search Committee for the Venango Arts and Sciences Department; conducted multiple part-time temporary summer searches and two full-time tenure-track searches** (all positions successfully filled)

2010-11 **Co-advisor, ALLIES – Venango Campus**

2009-11 **Secretary, Venango Arts and Sciences Department**

2009-11 **Venango Campus Committee**

2009-11 **Honors Committee (Venango Campus)**

2009-10 **Moderated the 2009 and 2010 Honors Program Night of Excellence**

2010 **Served on the Middle States Task Force 5: Faculty**

PRESENTATIONS/POSTERS OF ORIGINAL WORK BY MENTORED STUDENTS

The asterisk indicates an SMC student. The main presenter is underlined. National and international meetings are in bold italics.

C. Toomey*, D. Weiss*, A. Chant, D. Bourne*, C. Ricciardi* and **C.M. Chant**, "Development and Applications of a Calmodulin-Based Fusion Protein System for the Expression and Purification of WW and Zinc Finger Modules", poster to be presented at the ***253rd American Chemical Society National Meeting, San Francisco, California,*** March 2017. It will also be presented at the SMC Academic Symposium, April 2017, and at the Sigma Xi Induction Dinner, April 2017.

M. Ackerman*, C. Ricciardi*, D. Weiss*, A. Chant and **C.M. Chant**, "Analyzing Exonuclease-Induced Hyperchromicity by UV Spectroscopy – An Undergraduate Biochemistry Laboratory", poster presented at the ***251st American Chemical Society National Meeting, San Diego, California***, March 2016. Poster also presented at the SMC Academic Symposium, April 2016 and the Sigma Xi Induction Dinner, April 2016.

D. Weiss*, A. Chant, D. Bourne*, C. Ricciardi* and **C.M. Chant**, "Development and Analysis of a Novel Protein Fusion System for Expression and Purification of Proteins", poster presented at the ***249th American Chemical Society National Meeting, Denver, Colorado***, March 2015. Poster also presented at the SMC Academic Symposium, April 2015; the Sigma Xi Induction Dinner, April 2015; and the Dean's Reception, April 2015.

C. Ricciardi*, D. Weiss*, A. Chant and **C.M. Chant**, "Analyzing Exonuclease-Induced Hyperchromicity by UV Spectroscopy – An Undergraduate Biochemistry Laboratory", poster presented at the ***249th American Chemical Society National Meeting, Denver, Colorado***, March 2015. Poster also presented at the SMC Academic Symposium, April 2015 and the Sigma Xi Induction Dinner, April 2015.

D. Bourne*, M. Smith* and **C.M. Chant**, "Development and Analysis of a Novel Protein Fusion System for the Expression and Purification of Proteins," poster presented at the ***247th American Chemical Society National Meeting, Dallas, Texas***, March 2014. Poster also presented at the SMC Academic Symposium, April 2014; the Sigma Xi Induction Dinner, April 2014; and the Dean's Reception, April 2014.

PRESENTATIONS/POSTERS

C.M. Chant, "Analyzing Exonuclease-Induced Hyperchromicity by UV Spectroscopy – An Undergraduate Biochemistry Laboratory," oral presentation abstract accepted for presentation at the Biennial Conference on Chemical Education (BCCE Biochemistry Laboratory Symposium), University of Northern Colorado, Colorado, August 2016.

D.S. Heroux and **C.M. Chant**, co-presenters, "A Multi-Year Study on Using First-Day Assessments to Determine Math Readiness for General Chemistry," poster presentation at the 251st American Chemical Society National Meeting, San Diego, California, March 2016.

C.M. Chant, Sigma Xi Vermont Chapter Induction Dinner welcome speech, March 2015.

C.M. Chant and D.S. Heroux, co-presenters, "Using First-Day Assessments to Determine Math Readiness for General Chemistry," poster presentation at the 249th American Chemical Society national meeting, Denver, Colorado, March 2015.

C.M. Chant, "On the Interface of Inorganic and Biochemistry: Using a Metal Ion Complex to Study Ribozymes", Larson Science Lecture Series talk, Norwich University, Northfield, Vermont, September 2014. (Invited speaker)

C.M. Chant and D.S. Heroux, co-presenters, "Perspectives on Assessing Math Readiness for General Chemistry at Three Institutions," oral presentation at the Biennial Conference on Chemical Education (Mathematics; Its Role in Teaching and Learning Chemistry, Part II), Grand Rapids, Michigan, August 2014.

C.M. Chant, S. Lamos, and M. Moffett, Graduate School Discussion Forum hosted by the ACS Student Chapter, SMC, December 2013. (Invited speaker)

C.M. Chant, presenter on undergraduate research and education, Tri-Beta Induction Ceremony, SMC, April 2013. (Invited speaker)

C.M. Chant, "Protein-Based Therapeutics for the Treatment and Prevention of Prostate Cancer," presented at a Chemistry and Physics Department seminar, SMC, November 2012. (Invited speaker)

C.M. Chant, "Unlocking the Mysteries of Protein Structure and Stability Using Protein Design," sponsored by Northern New York ACS section and SUNY Plattsburgh, Chemistry Department, presented at State University of New York at Plattsburgh, March 2009. (Invited speaker)

C.M. Pecore, J. Heckman and J. Burke, "Probing the Metal Ion Specificity of the Folding and Activity of the Hairpin Ribozyme," poster presented at the RiboClub Opening Session, Orford, Québec, September 2004.

C.M. Pecore, D. Lambert, J. Heckman and J. Burke, "pH Dependence of Photochemical Crosslinking in the Hairpin Ribozyme Mediated by Cobalt Hexaammine," poster presented at the Nucleic Acids Gordon Research Conference, Salve Regina, Rhode Island, June 2003 and at the RiboClub Opening Session, Orford, Québec, September 2003.

C.M. Pecore, J. Heckman and J. Burke, "Elucidating the pH Dependence of the Cleavage Kinetics of a Hammerhead Ribozyme Variant," poster presented at the Johns Hopkins Folding Meeting, Berkeley Springs, West Virginia, March 2003.

C.M. Kraemer-Pecore and J. Desjarlais, "Redesigning the WW Domain," poster presented at the 15th Symposium of the Protein Society, Philadelphia, Pennsylvania, July 2001.

C.M. Kraemer-Pecore and J. Desjarlais, "Redesigning the WW Domain," poster presented at the Johns Hopkins Folding Meeting, Berkeley Springs, West Virginia, March 2001.

C.M. Kraemer-Pecore and J. Desjarlais, "Sequence Diversity and Structural Specificity in Protein Design," poster presented at the 19th Summer Symposium in Molecular Biology, University Park, Pennsylvania, August 2000.

CONFERENCES/WORKSHOPS

2015 **Vermont Genetics Network and VT EPSCoR Grant Writing Workshop,** Burlington, VT

2016 **251st American Chemical Society National Meeting**, San Diego, CA

2015 **19th annual AGTC Core Facilities Open House and Talks**, UVM, Burlington, VT

2015 **249th American Chemical Society National Meeting**, Denver, CO

2014 **Vermont Genetics Network and VT EPSCoR Grant Writing Workshop,** Burlington, VT

2014 **Vermont Genetics Network Annual Retreat,** Burlington, VT

2014 **Biennial Conference on Chemical Education,** Grand Valley State University, Grand Rapids, MI

2014 **Academic Planning and the Financial Health of the College Symposium, Curricular Design and Teaching Personnel Workshops**, SMC

2014 **247th American Chemical Society National Meeting,** Dallas, TX

2013 **114th Annual Sigma Xi Assembly of Delegates,** meeting held online

2012 **First Aid and CPR for the Workplace training session,** SMC

2012 **Vermont Genetics Network Annual Professional Development Workshop – "Professional Development Towards Promotion and Tenure",** Norwich University, VT

2011 **55th Annual Biophysical Society Meeting,** Baltimore, MD

2010 **Safe Zone/Safe Spaces Train-the-Trainer Workshop**, Harrisburg, PA

2010 **Grant Writing Workshop,** Clarion University, PA

2010 **Academic Advising Workshop,** Clarion University, PA

2010 **Completed online Desire2Learn training course,** Clarion University, PA

2009 **Pearson's "Strategies for (Teaching) Success"**, California University of Pennsylvania, California, PA

2004 **The Dawn of the New Enzymology Kinetics Workshop**, Austin, TX

2003 **Microbiology and Molecular Genetics Annual Retreat**, Ascutney, VT

2002 **Ribozyme & RNA Catalysis: International Workshop**, Dundee, Scotland

PUBLICATIONS

The asterisk after a name indicates an SMC student.

Toomey, Christopher G.*, David Weiss*, Alan Chant, Megan Ackerman*, Bethany A. Ahlers, Ying-Wai Lam, Christopher Ricciardi*, Dana Bourne*, and **Christina M. Kraemer-Chant**, "Development and Applications of a Calmodulin-Based Fusion Protein System for the Expression and Purification of WW and Zinc Finger Modules", *Advances in Biological Chemistry*, 2017, 7.02:89-106.

M. Ackerman*, C. Ricciardi*, D. Weiss*, A. Chant and **C.M. Kraemer-Chant**, "Analyzing Exonuclease-Induced Hyperchromicity by UV Spectroscopy: An Undergraduate Biochemistry Laboratory Experiment", *Journal of Chemical Education*, 2016, **DOI:** 10.1021/acs.jchemed.6b00095.

C.M. Kraemer-Chant and A.L. Schroll, "Analysis of an Alpha Amino Acid by Fourier Transform Nuclear Magnetic Resonance Spectrometry: Identification and Titration", *Chemical Educator*, 2015, 20:285-288.

C.M. Kraemer-Chant, J. Heckman, D. Lambert and J. Burke, "Cobalt(III)hexaammine-dependent photocrosslinks in the hairpin ribozyme," *Journal of Inorganic Biochemistry*, 2014, 131:87-98.

A. Thittai, J-M. Yamal, L.M. Mobbs, **C.M. Kraemer-Chant** *et al*, "Axial-Shear Strain Elastography for Breast Lesion Classification: Further Results from *In Vivo* Data," *Ultrasound in Medicine and Biology*, 2011, 37 (2):189-197.

C.M. Chant, "Birth," Opium Magazine, 23 February, 2009, n. pag., 14 September 2010.
A. Thittai-Kumar, L.M. Mobbs, **C.M. Kraemer-Chant**, B.S. Garra and J. Ophir, "Breast tumor classification using axial shear strain elastography: a feasibility study," *Physics in Medicine and Biology*, 2008, 53:4809-4823.

R. Righetti, B.S. Garra, L.M. Mobbs, **C.M. Kraemer-Chant**, J. Ophir and T.A. Krouskop, "The feasibility of using poroelastographic techniques for distinguishing between normal and lymphedematous tissues *in vivo*," *Physics in Medicine and Biology*, 2007, 52:6525-6541.

A. Chant and **C.M. Kraemer-Pecore** (joint first authors), R. Watkin and G. Kneale, "Attachment of a histidine tag to the minimal zinc finger protein of the *Aspergillus nidulans* gene regulatory protein AreA causes a conformational change at the DNA binding site," *Protein Expression and Purification*, 2004, 39:152-159.

J.A. Knappenberger, **C.M. Kraemer-Pecore** and J.T.J. Lecomte, "Insertion of the cytochrome b5 heme-binding loop into an SH3 domain. Effects on structure and stability, and clues about the cytochrome's architecture," *Protein Science*, 2004, 13:2899-2908.

C.M. Kraemer-Pecore, J.T.J. Lecomte and J. Desjarlais, "A *de novo* Redesign of the WW Domain," *Protein Science*, 2003, 12:2194-2205.

C.M. Kraemer-Pecore, A.M. Wollacott and J. Desjarlais, "Computational Protein Design," *Current Opinion in Chemical Biology*, 2001, 5(6):690-695.

PUBLICATIONS IN SUBMISSION OR PREPARATION

A. Chant, D. Heroux and **C.M. Kraemer-Chant**, "Integrating Scientific Communication into the Liberal Arts Science Classroom Using Multiple Learning Strategies", manuscript in preparation. Estimated date of submission: Spring 2017.

AWARDS

2007	**Earned two ETS Recognitions of Excellence in the General Science and Chemistry PRAXIS II exams**
2001	**Miller Graduate Student Research Award, Graduate Student Travel Award,** The Pennsylvania State University
1997-9	**Roberts Graduate Fellowship,** The Pennsylvania State University
1999	**Nominated for the Dan Waugh Teaching Award,** The Pennsylvania State University
1996	**American Institute of Chemists Foundation Award, E. Yale Clarke Endowment Fund Award,** State University of New York at Plattsburgh