**TARA S. CARPENTER**

**EDUCATION**

Ph.D., Analytical Chemistry, Duquesne University, 2005

B.A., Chemistry, Thiel College, 1999

**Experience in Higher Education (Teaching)**

2021 – present University of Maryland, Baltimore County, Principal Lecturer, Department of Chemistry and Biochemistry

2011 – 2021 University of Maryland, Baltimore County, Senior Lecturer, Department of Chemistry and Biochemistry

2004 – 2011 University of Maryland, Baltimore County, Lecturer, Department of Chemistry and Biochemistry

2002 – 2003 Duquesne University, Guest instructor, Chemistry

2000 – 2004 Duquesne University, Chromatography Instructor, Chemistry

1999 – 2000 Duquesne University, Teaching Assistant, Chemistry

**Honors and Certificates Received**

2021 UMBC CNMS Excellence in Teaching Award

2020 UMBC CNMS Fellow in Online Instruction

2017 Active Learning, Inquiry Teaching (ALIT) Certificate, UMBC Faculty Development Center

2015 UMBC Alumni Awards, Outstanding Faculty Member

2008 Student Organizational Advisor of the Year, UMBC Black and Gold Awards

2008 Distinguished Member of National Society of Collegiate Scholars, UMBC

2004 Clare Boothe Luce Graduate Fellow, Duquesne University

# Undergraduate Students

2020 Sofia Zarate, CHEM 499 (advisor)

2019 Sofia Zarate, CHEM 399 (advisor)

2017 Miranda Rodriguez, CHEM 499 (advisor)

2015 Margaret LaCourse, CHEM 499 (advisor)

2014 Margaret LaCourse, CHEM 399 (advisor)

2013 Jonah Delshad, CHEM 399 (advisor)

2012 Joyce Yoon, CHEM 499 (advisor)

2011 Courtney Crouse, CHEM 499 (advisor)

2011 Mary Allison Kelly, CHEM 499 (advisor)

**PUBLICATIONS, PRESENTATIONS, AND CREATIVE ACHIEVEMENTS**

**Publications**

Fritz, J., Carpenter, T. S., Penniston, T. (2022). Banking on Adaptive Questions to Nudge

Student Responsibility for Learning in General Chemistry. Book Chapter in *Data Analytics and Adaptive Learning, Research Perspectives,* Accepted

Goolsby-Cole, C., Bass, S. M., Stanwyck, L., Leupen, S., Carpenter, T.S., & Hodges, L.C. (2021). When is the Same Not the Same? Issues of Question Equivalence in Online Exam Pools. *Journal of College Science Teaching*, Accepted

Carpenter, T.S., Beall, L.C., Hodges, L.C. (2020). Using the LMS for exam wrapper feedback to prompt metacognitive awareness in large courses. *Journal of Teaching and Learning with Technology, 9*, 79-91.

Hodges, L.C., Beall, L.C., Anderson, E.C., Carpenter, T.S., Cui, L., Feeser, E.A., Gierasch, T.M., Nanes, K.M., Perks, H. M., & Wagner, C.R. (2020). Effect of exam wrappers on student achievement in multiple large STEM courses. Journal of College Science Teaching, 50, 69-79.

Carpenter, T.S., Bass, S., & Hodges, L.C. (2019). A personalized automated email tool to connect faculty with students in large STEM courses. The Chemical Educator, 24, 183-188.

Ott LE, Carpenter TS, Hamilton DS, LaCourse WR (2018).  Discovery Learning: Development of a Unique Active Learning Environment for Introductory Chemistry.  *Journal of the Scholarship of Teaching and Learning* 18: 161-180

Carpenter, T. S. and Balaa, G. (2018) A day to celebrate chemistry’s favorite unit – the mole. But what’s a mole?. *The Conversation*, https://theconversation.com/a-day-to-celebrate-chemistrys-favorite-unit-the-mole-but-whats-a-mole-104838

Hodges, L.C., Anderson, E.C., Carpenter, T.S., Cui, L., Feeser, E.A., & Gierasch, T.M. (2017). Using clickers for deliberate practice in five large science courses. Journal of College Science Teaching, 47(2), 22-28.

Hodges, L.C., Anderson, E.C., Carpenter, T.S., Cui, L., Gierasch, T.M., Leupen, S., Nanes, K.M., & Wagner, C.R. (2015). Using reading quizzes in STEM classes—the what, why, and how. Journal of College Science Teaching, 45(1), 49-55.

Johnson, Mitchell E., Carpenter, Tara S. (2005). The Use of Solid Phase Supports for Derivatization in Chromatography and Spectroscopy. *Applied Spectroscopy Reviews*, 40, 391-412.

Carpenter, Tara, Poore, Derek D., Gee, Andrew J., Deshpande, Pallavi, Merkler, David J., Johnson, Mitchell E. (2004).Use of reversed phase HP liquid chromatography to assay conversion of N-acylglycines to primary fatty acid amides by peptidylglycine-a-amidating monooxygenase*.* *Journal of Chromatography, B: Analytical Technologies in the Biomedical and Life Sciences*, 809(1), 15-21.

**Presentations**

Tara S. Carpenter, *Do Students Carry “Lessons Learned” from One Course to the Next?*, invited speaker, UMBC, Learning Analytics Community of Practice Workshop, March 10, 2022

Tara S. Carpenter, *Success Strategies in Large Lecture STEM Courses*, invited speaker, The Ohio State University HHMI Driving Change Program, January 28, 2022

Leupen, S., Goolsby-Cole, C., Bass, S. M., Stanwyck, L., Carpenter, T.S., & Hodges, L.C.,*When is the Same Not the Same? Issues of Question Equivalence in Online Exam Pools*, presentation contributor, Experimental Biology Conference, April 2022

Sarah M. Bass, Tara S. Carpenter, John L. Fritz, *Promoting Academic Integrity in Online: “Open Note” Exams without Surveillance Software*, poster presentation, EDUCAUSE Meeting, October 2021

Sarah M. Bass, Tara S. Carpenter, John L. Fritz, *Effective Online Testing Without Surveillance Software*, presenter, Faculty Development Center Workshop, October 2021

Sarah M. Bass, Tara S. Carpenter, John L. Fritz, *Promoting Academic Integrity in Large , “Open Note” Online Exams without Surveillance Software*, oral presenter, ELI Annual Meeting, May 2021.

Tara S. Carpenter, *Exam Wrappers*, Invited Speaker, Virtual, BUILD Learning Community, University of Detroit Mercy, March 2021

Sarah M. Bass, Tara S. Carpenter, John L. Fritz, *Promoting Academic Integrity in Large Online Course Exams without Surveillance Software*, oral presenter, 2021 ICAI Mid-Atlantic Regional Convening, February 2021.

Tara S. Carpenter, *Shifting Super-sized Courses Online*, panelist, DoIT GO Chat Series, UMBC, December 2020

Tara S. Carpenter. *Using email to Foster Faculty-Student Connections in a Large Introductory Course*, poster presenter, 2019 Provost’s Teaching and Learning Symposium, UMBC, September 2019

Tara S. Carpenter, *Connecting with students in a large introductory course*, 47th Mid-Atlantic Regional Meeting, Baltimore, MD, June 2019

Tara S. Carpenter, *Exam wrappers in a large lecture course*, 47th Mid-Atlantic Regional Meeting, Baltimore, MD, June 2019

Tara S. Carpenter. *Using Study Guides and Learning Objectives to Promote Metacognition in CHEM 101*, poster presenter, 2017 Provost’s Teaching and Learning Symposium, UMBC, September 2017

Tara S. Carpenter. *Using learning objectives and study guides to promote metacognition in general chemistry*, 254th ACS National Meeting, Washington, DC, August 2017

Tara S. Carpenter, *Streamline Your Inbox*, oral presenter, 2017 TechFest, UMBC, April 2017

Panel Member, *Scholarship of Teaching and Learning*, 2015 Provost’s Teaching and Learning Symposium, UMBC, September 2015

Tara S. Carpenter. *Improving the Office Hour Experience for General Chemistry Students*, 250th ACS National Meeting, Boston, MA, August 2015

Tara S. Carpenter, *Flipping the Classroom*, TQC Share Our Success Poster Session Guest Speaker, UMBC, March 2015

Tara S. Carpenter, *Virtual Office Hours Lunch and Learn*, UMBC, September 2014

Tara S. Carpenter, Diana Hamilton, William R. LaCourse, Thomas Smith. *Discovery learning integrated into a large lecture course: which comes first?*, 238th ACS National Meeting, Washington, DC, August 2009

Tara S. Carpenter, *Discovery Learning*, University Retreat, UMBC, August 2009

Tara S. Carpenter, *Digital Alternatives to Writing (or Drawing) on a Chalkboard*, Division of Information Technology workshop, Spring 2008

William R. LaCourse, Tara Carpenter, Diana Hamilton, Mark Perks. *Discovery Learning in Large Introductory Chemistry Courses at UMBC*. 234th ACS National Meeting, Boston, MA, August 2007

Tara S. Carpenter, Mitchell E. Johnson. *Online Derivatization of Amines at the Nanomolar Level.* The Pittsburgh Conference, Chicago, IL, March 2004

Tara S. Carpenter, Mitchell E. Johnson. *Online Derivatization Techniques for Small Volume Reactions*. 226th ACS National Meeting, New York, NY, September 2003

Tara S. Carpenter, Mitchell E. Johnson. *Online Derivatization of Primary Amines for Capillary Electrophoresis*. The Pittsburgh Conference, Orlando, FL, March 2003

Tara S. Carpenter, Mitchell E. Johnson. *Designing Dye and Separation Systems Together for Nonaqueous Capillary Electrophoresis*. The 28th Annual Conference of the Federation of Analytical Chemistry and Spectroscopy Societies, Detroit, MI, October 2001

Tara S. Carpenter, Mitchell E. Johnson. *Liquid Chromatography with Mass Spectrometric Detection of Fatty Acid Amides*.The 27th Annual Conference of the Federation of Analytical Chemistry and Spectroscopy Societies, Nashville, TN, September 2000

**Features**

# Nick Anderson, (2020). College students are weary of ‘Zoom U.’ But they’re also trying to make the best of it. *Washington Post*, 26 October 26. <https://www.washingtonpost.com/local/education/umbc-pandemic-remote-learning/2020/10/23/24add5f2-0e24-11eb-b1e8-16b59b92b36d_story.html>

UMBC Instructional Technology, (2020). Promoting Academic Integrity in Online Testing. *myUMBC*, 29 October. https://my3.my.umbc.edu/groups/instructional-technology/posts/97023

**Funded Project Proposals**

2022 – 2023 Data Analytics Mini-grant, UMBC DoIT, The Effects of Modeling Effective Learning Strategies in Prerequisite Courses, $2,000, Principle Investigator

2021 – 2022 Data Analytics Mini-grant, UMBC DoIT, Modeling Effective Learning Strategies in Introductory Chemistry, $2,000, Principle Investigator

2018 CNMS Dean for Proposal to Lower DFW Rates in CHEM 101 and CHEM 102, $20,000, Principle Investigator

2012 Curriculum Innovation Grant, $2,940, Alex. Brown Center for Entrepreneurship, UMBC

2010 – 2011 Teacher Quality in Chemistry, $150,332, Maryland Higher Education Commission, Co-Lead Instructor

2008 – 2010 Teacher Quality in Chemistry, $214,194, Maryland Higher Education Commission, Co-Lead Instructor

2007 – 2008 Teacher Quality in Chemistry, $92,361, Maryland Higher Education Commission, Co-Lead Instructor

**SERVICE TO THE DEPARTMENT, UNIVERSITY, COMMUNITY, AND PROFESSION**

# Service to the Department

2022 Chair, P&T Committee for Dr. Sarah Bass

2020 – 2022 Secondary Advisor, American Chemical Society Student Chapter

2020 Member, Online Assessment Committee

2017 – 2020 Member, Department Outreach Committee

2017 Chair, General Chemistry Lecturer Search Committee

2014 – present Head, Foundation Course Teaching Group Committee

2007 – present Member, Articulation Committee

2007 – 2018 Advisor for American Chemical Society Student Chapter

2007 – 2008 Member, Chemistry Education Major Development Committee

2005 – 2009 Member, Undergraduate Recruiting Committee

2005, 2006, 2007, Judge, Undergraduate Research Symposium

2009

2004 – present Chair, General Chemistry Committee

2004 – present Member, Discovery Learning Committee

2004 – present Member, Undergraduate Curriculum Committee

2004 – present Advisor for Chemistry and Chemistry Education Majors

# Service to the University

2021 Member, Meyerhoff Chemistry Lecture Hall Renovation Planning Committee

2020 – present Advisor, Catholic Retrievers Student Organization

2020 – present Member, Faculty Development Steering Committee

2020 – present Participant, CNMS Lecture Hall Affinity Group for Online Learning

2019 Participant, ACT® Tessera® Project Investigation, DoIT

2018 – present Campus Security Authority

2018 Participant, StudyTree App Investigation, DoIT

2017 – present Advisor, Students for Christ Student Organization

2017 – 2020 Faculty Liaison, CNMS Science Education Research Unit

2015 – 2019 Faculty Support, HERI Survey Completion

2015 – 2018 Faculty Mentor, Residential Life

2013 Member, Assistant Director Faculty Development Center Search Committee

2011 – present Member, College of Natural and Mathematical Sciences Classroom Committee

2008 Member, SCI 100 Lecturer Search Committee

2008 Member, STEM Steering Committee

2005 – present Department Representative, Blackboard Advisory Board

2005, 2007, UMBC Scholar Visit Day Participant

2008, 2018

2004 – 2005 Advisor for Incoming Students, Academic Services Student Advising

# Service to the Community

2007 – 2018 Facilitator, K-12 Outreach, local school and business activities

# Service to the Profession

2000 – present Member, American Chemical Society, Chemical Education Division

2015 Consultant, development of new general chemistry textbook (Wiley)

2014 Reviewer, online homework accuracy for ORION homework system (Wiley)

2014 Reviewer, selected chapters of general chemistry textbook (Wiley)

2013 Reviewer, selected chapters of *Chemistry: Structures and Properties 1e* by Tro (Pearson)

2013 Contributor, end of chapter exercises for general chemistry textbook (Wiley)

2010 Reviewer, instructor materials for *Chemistry* by Hyslop, Brady and Jespersen (Wiley)

2009 Reviewer, *Chemistry: The Molecular Nature of Matter 6e* by Brady and Jespersen (Wiley)

I certify that this document is accurate and true. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_