

BRANDI LEE BALDOCK
CURRICULUM VITAE

Department of Chemistry and Biochemistry
Merrimack College
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EDUCATION

- Ph. D. 2016 University of Oregon, Eugene, OR
Major: Chemistry Advisor: Dr. James E. Hutchison
Dissertation: Impact of Ligand Shell Architecture on Structure and Reactivity of DNA Aptamer-linked Gold Nanoparticle Assemblies
- M.S. 2009 University of Oregon, Eugene, OR
Major: Chemistry
- B.Sc. 2008 Trent University, Peterborough, Ontario, Canada
Major: Chemistry (with Honors)

TEACHING/RESEARCH EXPERIENCE

- 2017-current Assistant Professor of Chemistry & Biochemistry, Merrimack College
- 2016-2017 Post-doctoral Scholar, Greenbowe Research Group, University of Oregon
Director of Learning Chemistry Program, University of Oregon
Instructor for Introduction to Chemical Principles (non-majors) & General Chemistry lecture & laboratory (science majors), University of Oregon
- 2015 Chemistry Faculty and Curriculum Coordinator, University of Oregon
- 2013-2015 Head General Chemistry Teaching Assistant, University of Oregon
- 2008-2015 Chemistry Graduate Teaching Fellow at University of Oregon
- 2011-2012 McNair Scholar Undergraduate Mentor at University of Oregon
- 2006-2007 Undergraduate Teaching Assistant and Tutor at Trent University
- 2000-2007 Swimming and Aquatic Leadership Instructor, Examiner, Canada

PUBLICATIONS

Baldock, B.L.; Hutchison, J.E. "Impact of Polyvalency on Structure and Reactivity of DNA Aptamer-linked Gold Nanoparticle Assemblies." Manuscript in preparation for *ACS Nano*.

Baldock, B.L.; Hutchison, J.E. "UV-Visible Spectroscopy-Based Quantification of Unlabeled DNA Bound to Gold Nanoparticles." *Analytical Chemistry*, **2016**, *88* (24), 12072-12080.

Baldock, B.L.; Exton, D. B.CH 6. "Determination of the Heat Exchanged in Chemical Reactions", *Hayden McNeil LLC*, **2016, 2017**, University of Oregon Department of Chemistry and Biochemistry "Experiments in General Chemistry" p. 39-46

Baldock, B.L.; Exton, D. B. CH 6. "Determination of the Heat Exchanged in Chemical Reactions", *McGraw-Hill Education*, **2014, 2015**, University of Oregon CH 227 General Chemistry Laboratory Manual p. 65-69

PRESENTATIONS

Exton, D. B.; Greenbowe, T. J.; Baldock, B. L.; Sullivan, D.R. "Active and collaborative learning modules for general chemistry". Oral presentation at: ACS Northwest Regional Meeting; 2017 June 25-28; Corvallis, OR.

Baldock, B.L.; Sullivan, D.R. "Promoting Student Success via Supplemental Instruction Facilitated by Near Peers." Oral presentation at: Mobile Summer Institute on Undergraduate Education; 2016 Aug. 8-12; Eugene, OR.

Baldock, B.L.; Exton, D.B.; Greenbowe, T.G.; Sullivan, D.R. "Learning Chemistry: Program to assist students struggling in general chemistry." Paper presented at: Biennial Conference on Chemical Education; 2016 July 31-Aug. 4; Greeley, CO.

Baldock, B.L.; Schabes, B. K.; Exton, D.B.; Greenbowe, T.G.; Sullivan, D.R. "Learning Chemistry: A program to enhance student achievement in general chemistry." Paper presented at: Biennial Conference on Chemical Education; 2016 July 31-Aug. 4; Greeley, CO.

Baldock, B.L.; Haack, J.A. "Green Chemistry Learning Assessments for Your Educational Toolbox." Oral presentation at: Green Chemistry in Education Workshop; 2016 July 17-21; Eugene, OR.

Baldock, B.L. "Intervention Programs to Assist Students Struggling in General Chemistry." Oral presentation at: 3rd Annual Western States Chemical Education Group Conference; 2016 Apr. 15-17; Corvallis, OR.

Baldock, B.L.; Exton, D.B.; Greenbowe, T.G. "Guided inquiry experiment for teaching thermochemical concepts based on green chemistry principles." Paper presented at: Biennial Conference on Chemical Education; 2014 Aug. 3-7, Allendale, MI.

Baldock, B.L.; Hutchison, J.E. "DNA-functionalized Gold Nanoparticles with Mixed Ligand Shells for Biosensing Applications." Poster presented at: Materials Science Institute and Optics Symposium; 2013 Sept. 19-21, Eugene, OR.

AWARDS AND HONORS:

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| 2016-2017 | Scientific Teaching Mentor, Summer Institute on Scientific Teaching for Undergraduate STEM Education, Yale Centre for Teaching and Learning |
| 2016 | Post-doctoral Fellow, "Learning Chemistry", Tom and Carol Williams Foundation for Undergraduate Education |
| 2015-2016 | National Academies Science Education Fellow, Summer Institute on Undergraduate Education, National Academies and Howard Hughes Medical Institution |
| 2015 | Graduate Teaching Initiative-Advanced Teaching Certificate, University of Oregon Teaching Effectiveness Program |
| 2015 | Science Literacy Program Fellow, Howard Hughes Medical Institute, University of Oregon |

- 2014 Graduate Student Award for Excellence in the Teaching of Chemistry
Department of Chemistry and Biochemistry, University of Oregon
- 2014 Graduate Student Travel Award, Department of Chemistry and
Biochemistry
- 2005-2007 Dean's Honour Roll, President's Honour Roll, Millenium Scholarship and Cranston
Scholarship, Trent University, Peterborough, Ontario, Canada

GRANTS

- 2015 **Tom and Carol Williams Foundation for Undergraduate Education**, Learning
Chemistry, Brandi L. Baldock, Deborah Berkshire Exton, Randy Sullivan and Thomas J.
Greenbowe, \$32, 280 awarded.

PROGRAM DEVELOPMENT

- 2015-2017 Learning Chemistry Program Director. Developed and taught supplemental instruction
program designed to intervene and assist students at risk of failing general chemistry.
Acted as leader for a 12-person teaching team consisting of faculty, post-docs, graduate
and undergraduate students.
- 2013 Heat Exchanged During Chemical Reactions Experiment. Developed and co-authored
new green guided inquiry laboratory experiment for teaching thermochemical concepts to
general chemistry students.

SERVICE TO PROFESSIONAL ORGANIZATIONS

- 2016-present American Chemical Society Member
- 2016-2017 Faculty Mentor, Science Literacy Program, University of Oregon
- 2012-2017 Webmaster for Eugene Legal, LLC: Eugene-Legal.com
- 2016 Scientific Teaching Mentor, Summer Institute on Scientific Teaching for Undergraduate
STEM education; Aug. 8-12; Eugene, OR.
- 2016 Facilitator, Green Chemistry in Education Workshop; July 17-21; Eugene, OR
- 2016 Volunteer, 20th Annual Green Chemistry & Engineering Conference;
June 14-16; Portland, OR.
- 2015 Chemistry Consultant, Green Product Design class; Sept. 25-Nov. 12th; Eugene, OR.
- 2013-2014 Executive Board, Webmaster for University of Oregon's Women in Graduate Sciences
club
- 2012, 2013 Graduate Student Organizer of University of Oregon Materials Science Institute and
Oregon Centre for Optics Symposium

PROFESSIONAL DEVELOPMENT

- 2014-present Western States Chemical Education Group
- 2013-present Teaching Science Literacy Journal Club, University of Oregon
- 2015, 2016 National Academies Summer Institute on Undergraduate Education
- 2014, 2016 Biennial Conference on Chemical Education
- 2014 Practicum in College Teaching course, University of Oregon
- 2014 Chemical Pedagogy course, online c.o. Iowa State University