

# CURRICULUM VITAE

**NAME:** Mark L. Wolfenden

**DATE:** 01/2020

**RANK OR TITLE:** Assistant Research Professor

**DEPARTMENT:** Natural Resources and Society

**OFFICE LOCATION AND CAMPUS ZIP:**

McCall Outdoor Science School, 1800 University Lane, McCall, ID 83638

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**EDUCATION BEYOND HIGH SCHOOL:**

2003-2009     **PhD:** Organic Chemistry, Department of Chemistry, Montana State University  
                  **Advisor:** Dr. Mary Cloninger  
                  **Foci:** Multivalent protein carbohydrate interactions, synthetic organic chemistry, assay development  
                  **Dissertation:** Using PAMAM Dendrimer Frameworks to Investigate Multivalent Binding in Protein:Carbohydrate Interactions

1993-1997     **BSc:** Chemistry with Marine Sciences, North Carolina State University  
                  **Advisor:** Dr. Neal Blair  
                  **Foci:** Marine Chemistry

**EXPERIENCE:**

2014-            Research Assistant Professor, Department of Natural Resources and Society, University of Idaho, Moscow, Idaho

2012-2014        Research Scientist, Imaging and Chemical Analysis Laboratory, Department of Physics, Montana State University, Bozeman, MT

2009-2012        Postdoctoral Research Associate, Bioscience Division, Los Alamos National Laboratory, Los Alamos, NM

2003-2009        Research and Teaching Assistant (PhD), Department of Chemistry, Montana State University, Bozeman, MT

**TEACHING AND ADVISING:**

**Areas of Specialization:**

Education, Organic Chemistry, Materials Science, Natural Products Chemistry, Chemical Ecology and Volatile Organic Compounds, Ethochemistry.

**Students Advised:***Undergraduate Students:*

Coleman Vick, B.Sc. student,	Montana State University, 2012-2014
Kilean Lucas, B. Sc. student,	Montana State University, 2012-2014
Nursah Kokbudak, B.Sc. student,	Montana State University, 2013-2014

*Graduate Students:*

Joshua Martin, M.Sc,	Montana State University, 2012-2014
Andrew Trogstaad Isaacson, M.S.	University of Idaho, 2015
Erica Guralnick, M.S.	University of Idaho, 2015
Allyson Schaeffer, M.S.	University of Idaho, 2015
Laura Waksman, M.S.	University of Idaho, 2016
John Daniels, M.S.	University of Idaho, 2016
Catherine Hughes, M.S.	University of Idaho, 2016
Peter Morrone, M.S.	University of Idaho, 2016
Laura Flanagan, M.S.	University of Idaho, 2017
Augusto Gabrielli, M.S.	University of Idaho, 2017
Kristina Anderson, M.S.	University of Idaho, 2017
Annalee Cameron, MNR	University of Idaho, 2018
Zachary Moss, MNR	University of Idaho, 2018
Breanna Anderson, MNR	University of Idaho, 2018
Samantha Westerdorf, MNR	University of Idaho, 2018
Clayton Farrow, MNR	University of Idaho, 2018
Travis Bitters, MNR	University of Idaho, 2019
Megan Chandler, MNR	University of Idaho, 2019
Leoncia Cruz, MNR	University of Idaho, 2019
Michaela Petrini, MNR	University of Idaho, 2019
Eric Savadow, MNR	University of Idaho, exp 2020
Hannah Wilson, MNR	University of Idaho, exp 2020
Daniel Irwin, MNR	University of Idaho, exp 2020
David White, MNR	University of Idaho, exp 2020
Emily Branigan, MNR	University of Idaho, exp 2020

Amy Thorson, M.Sc. Thesis Title: Collecting Baseline Plant Community Attributes Along Environmental Gradients in two Critical Landscapes. University of Idaho, Fall 2019.

**Courses Developed:**

CHEM 101 and 101L Introduction to Chemistry, Summer 2017, Summer 2018 Field Oriented General Chemistry  
 CHEM 275/6 Carbon Compounds, Summer 2016, Field Oriented Organic Chemistry  
 NRS 504 Integrated Approaches to SES Issues, Fall 2017, Spring 2018, Fall 2018  
 NRS 566 Place Based Ecology II, Spring 2017, Spring 2018, Spring 2019, Spring 2020  
 NRS 501 SES: An Integrated Approach, Fall 2019, spring 2020

**SCHOLARSHIP ACCOMPLISHMENTS:**

### Refereed Publications

**Wolfenden, M.L.**, Cousin, J., Nangia-Makker, P., Raz, A., Baum, L., Cloninger, M.J. Glycodendrimers and modified ELISAs: tools to elucidate multivalent interactions of galectins 1 and 3, *Molecules*, 2015, 20, 4, 7059-96.

Avcı, R., Davis, B.H., **Wolfenden, M.L.**, Kellerman, L., Lucas, K., Martin, J., Deliorman, M. A practical method for determining pit depth using attenuation in EDX spectra, *Corrosion Science*, 2015, 93, 9-18.

Goodman, C.K., **Wolfenden, M.L.**, Nangia-Makker, P., Michel, A.K., Raz, A., Cloninger, M.J. Multivalent scaffolds induce galectin-3 aggregation into nanoparticles, *Beilstein Journal of Organic Chemistry*, 2014, 10, 1570-77.

Deliorman, M., **Wolfenden, M.L.**, Suo, Z., Beech, I.B., Yang, X., Avcı, R., Immobilization and trapping living bacteria and applications, *The Green Book, Biocorrosion Methods*, 2014.

Avcı, R., Davis, B.A., **Wolfenden, M.L.**, Beech, I.B., Lucas, K., Paul, D. In carbon steel, pits are initiated in the immediate surroundings of MnS inclusions. *Corrosion Science*, 2013, 76, 267-274.

Groenewold, G.S., Cannon, W.R., Lessing, P.A., Avcı, R., Deliorman, M., **Wolfenden, M.L.**, Akers, D.W., Jewell, K., Zuck L.D. Characterization of polymeric films subjected to lithium ion beam irradiation. *Nuclear Instruments and Methods in Physics Research B*. 2013, 296, 41-49

**Wolfenden, M.L.**, Dhar, R.K., Fronczek, F.R., Watkins, S.F., 2-[3-(Naphthalen-2-yl)phen-yl]naphthal-ene. *Acta. Cryst.*, 2013, 69, 2, 308.

**Wolfenden, M.L.**, Sakamuri, R.M., Anderson, A.S., Prasad, L., Schmidt, J. S., Mukundan, H. E. Coli viability determination through surface bound siderophore bacterial capture. *Advances in Biological Chemistry*, 2012, 2, 396-402.

Cloninger, M.J., Bilgicer, B., Li, L., Mangold, S., Philips, S.T., **Wolfenden, M.L.** Multivalency, Supramolecular Chemistry: From Molecules to Nanomaterials. Gale, P. A., Steedman, J. W. Wiley. John Wiley & Sons, Inc., 2012.

**Wolfenden, M.L.**, Cloninger, M.J., Carbohydrates and Multivalency, Carbohydrate Recognition: Biological problems, methods and application. Wang, B., Boons, G-J. John Wiley & Sons, Inc. 2011.

Kussrow, A., Kaltgrad, E., **Wolfenden, M.L.**, Cloninger, M.J., Finn, M.G., Bornhop, D.J., Measurement of mono- and polyvalent carbohydrate-lectin binding by back-scattering interferometry. *Anal. Chem*, 2009, 81, 12 4889-4897.

**Wolfenden, M.L.**, Cloninger, M.J., Carbohydrate functionalized dendrimers to investigate the predictable tunability of multivalent interactions. *Bioconj. Chem.* 2006, 17, 958-966.

**Wolfenden, M.L.**, Cloninger, M.J., Mannose/Glucose-functionalized dendrimers to investigate the predictable tunability of multivalent interactions, *J. Am. Chem. Soc.* 2005, 127, 35-6 12168-

12169.

**Peer Reviewed/Evaluated:**

Sakamuri, R.M., **Wolfenden, M.L.**, Anderson, A.S., Swanson, B.I., Schmidt, J.S., Mukundan, H. Novel optical strategies for biodetection, Proc. SPIE 8812, Biosensing and Nanomedicine VI, 881209 September, 2013.

**Publications in Preparation**

**Thorson, A., Wolfenden, M.L.**, Assessing Plant Community Dynamics Along an Elevation Gradient in the Frank Church Wilderness. Intended for Western North American Naturalist. 2020.

**Professional Meetings:**

Western Native Plants Conference, Invited Lecture, December 2016

Research Presentation, ONR MURI panel review, Norman, OK. June 2014

Research Presentation, ONR MURI panel review, Alexandria, VA. December 2013

Research Presentation, International Symposium on Stability, Handling and Use of Liquid Fuels, Rhodes, Greece. October 2013.

Research Presentation, ONR MURI panel review, Alexandria, VA. April 2013

Poster Presentation, Chemical and Biological Defense Science and Technology (CBD S&T) Conference, Las Vegas, NV. November 2011.

Accepted Poster, Carbohydrate Gordon Conference, Waterville ME. June 2011. (unable to attend due to family emergency)

Poster Presentation, Tuberculosis Global Surveillance workshop, Santa Fe, December 2010.

Invited Talk, TMT, Chemical and Biological Defense Science and Technology (CBD S&T) Conference, Orlando, FL. November 2010.

Poster Presentation, Chemical and Biological Defense Science and Technology (CBD S&T) Conference, Orlando, FL. November 2010.

Poster Presentation, LANL C-Division capability review. Los Alamos, NM. April 2010.

Student Facilitator, National Institute of General Medicinal Sciences (NIGMS) Workshop: Future Directions of Multivalent Agents in Therapeutic Development. Bethesda, MD. May 2008.

Poster Presentation, American Chemical Society, National meeting, San Francisco, CA. October 2006.

Research Presentation, ACS NORM regional meeting, Butte, MT. April 2006.

Poster presentation, National Organic Symposium, Salt Lake City, UT. June 2005.

**Patents:**

Infection detection methods and systems and related compounds and compositions, Schmidt, J; **Wolfenden, M.L.**; Anderson, A; Harris, J; US Patent Application number 14/092,609.

**Grants and Contracts Awarded:**

Co-PI: Murdock Charitable Trust: Auger Nanoprobe, \$454,000, Montana State University, Awarded September 2013. PI: Recep Avci.

PI: UI ORED SEED grant: Connecting Plant Pheromones to Fluorescence Based Remote Sensing, \$12,000, Awarded May 2016.

PI: UI Stillinger Herbarium Expedition Funds: Assessing Plants on an Elevational Gradient in The Frank Church Wilderness, \$11,619, Awarded January 2017, Student co-PI Amy Thorson.

PI: UI Stillinger Herbarium Expedition Funds: Assessing Community Assemblages and Plant-Pollinator Interactions Along an Elevation Gradient, \$10,972, Awarded February 2018, Student co-PI Amy Thorson

Co-PI: UI ORED Building STEM Identity through use of science tools. \$14,009

**Grants Under Review:**

Senior Personnel: NSF EFRI E3P Plastic Waste Valorization to Composite Materials for Structure Applications. \$1,999,934. PI – Armando McDonald.

Co-PI: EPA MOSS LEADS. \$99,828. PI- Karla Eitel

**Grants in Preparation:**

PI: NSF S-STEM Academic Success for Idaho's Low-Income Student Through Cohort Building and Place Based Curriculum. \$999,050.

**SERVICE:**

**Major Committee Assignments:**

College of Natural Resources Awards Committee  
NRS Faculty search hiring committee

**Professional and Scholarly Organizations**

2006-2012	American Chemical Society
2011-2013	Royal Society of Chemistry

**Outreach Service:**

McCall Donnelly Middle School 2017. Solar Power in McCall.

McCall Donnelly Middle School 2016. Teaching plants and chemistry: how plants communicate.

Creation of Wildhorse Park in the City of McCall. Collaborated with Catherine Hughes and McCall Parks and Recreation to build an informational park in McCall city limits.

Assisting organizing fundraising events with Payette Land Trust