**Meena M. Balgopal**

Department of Biology (1878)

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**EDUCATION**

 2007 Ph.D. Biological Sciences (Zoology), North Dakota State University

 2007 North Dakota Teaching License (grades 7-12), Biology and Chemistry

 1994 M.S. Entomology, University of Wisconsin-Madison

 1991 B.S. Honors, Animal Sciences, University of Illinois: Urbana-Champaign

**ACADEMIC POSITIONS**

2015-present Associate Professor, Science Education, Department of Biology, CSU

2014-2015 Associate Professor, Science Education, School of Education, CSU

2013-present Affiliate Faculty, Graduate Degree Program in Ecology, CSU

2008-2014 Assistant Professor, Science Education, Colorado State University

2006-08 Assistant Professor, Biosciences, Minnesota State University Moorhead

**HONORS AND AWARDS (selected)**

2019 Jack E. Cermak Advising Award, Colorado State University

2018-19 William Fulbright Scholarship Award (Dakshin Foundation, India)

2017 Honors Professor Award nomination, Colorado State University

2014 School of Education Distinguished Scholar Award, Colorado State University

2010-13 Teacher-Research Partner Scholarship; NARST

2011 Tenure-Track Faculty Teaching Excellence Award, College of Applied Human Sciences, CSU

2006 Equity & Ethics Scholarship, National Association of Researchers in Science Teaching (NARST)

**PUBLICATIONS**

\*students **†**corresponding author

Peth, J.A. \*, Melby, C., & **Balgopal, M.M**. Predictors of student performance in advanced courses in nutrient metabolism. *Journal of Nutrition Education and Behavior* (in review)

Casper, A.M.A.\* & **Balgopal, M.M.** How guest experts frame and tell stories about environmental SSIs during undergraduate lectures. *International Journal of Science Education* (in review)

Casper, A.M.A.\*, Fernandez-Gimenez, M., **Balgopal, M.M.** Measuring ecological literacy: Coupled human-ecosystem interactions. *Human Ecology* (in review).

Bloodhart, B., **Balgopal, M.M.†,** Casper, A.M.A., Sample McMeeking, L.B., & Fischer, E.F. Outperforming but undervalued: women undergraduate STEM students. *PLoS One* (In review).

**Balgopal, M.M**.**†** Gerardo, N.M., Topden, J., & Gyatso, K. Moving past postcolonial hybrid spaces: How Buddhist monks make meaning of biology. *Science Education* (in revision)

**Balgopal, M.M.**STEM teachers as innovators: motivations for curricular changes. *Science Education* (In revision)

Laybourn, P.J., Brisch, E., Wallace, A.M., & **Balgopal, M.M.** (2019). Modifying writing assignments about socio-scientific issues for large-enrollment introductory cell biology courses. *American Biology Teacher* (In press)

Wright, D.S. \*, **Balgopal, M.M. †,** Weinberg, A.E., & Sample McMeeking, L.B. (2019). Developing resilient K-12 STEM teachers. *Advances in Development of Human Resources*, *21*(1), 16-34.

Flugh, Melissa P., Lohse, B., **Balgopal, M.M.** Smith, S.\*, D’Andrea, R.A.\*, & Cunningham-Sabo, L. (2018). Teacher Well-being attributes are positively associated with teacher perceptions of Fuel for Fun tasting lessons. *Topics in Clinical Nutrition*, 33(4), 272-280.

**Balgopal, M.M**.**†**, Casper, A.M.A\*., Wallace, A.M., Laybourn, P.J., & Brisch, E. (2018). Writing matters: Writing-to-learn activities increase undergraduate performance in cell biology. *Bioscience,* 68(6), 445-454.

Harvey, J.A., van den Berg, D., Ellers, J., Kampen, R., Crowther, T., Roessignh, P., Verheggen, B., Nuigten, R.J.M., Post, E., Lewandowsky, S., Stirling, I., **Balgopal, M.M.**, Amstrup, S.C., & Mann, M.E. Internet blogs, polar bears, and climate change denial by proxy. *Bioscience, 68*(4), 281-287.

Casper, A.M.A.\* & **Balgopal, M.M.** (2018) Conceptual change in natural resource management students’ ecological literacy. *Environmental Education Research 24* (8), 1159-1176.

Rambo-Hernandez, K., Atadero, R., & **Balgopal, M.M**. (2017). The impact of project-based learning in engineering on achievement goal orientations and academic outcomes. *Educational Psychology* *37*(10), 1242-1258.

**Balgopal, M.M.†**, Casper, A.M.A.\*, Atadero, R.A. & Rambo-Hernandez, K.E. (2017) Responses to different types of inquiry prompts: College students’ discourse, performance, and perceptions of group work in an engineering class. *International Journal of Science Education, 39*(12)*,*1625-1637.

Cunningham-Sabo, L. **Balgopal, M.M.**,Seedig, N.\*, & McGuin, M.\* (2017). Colorado educators need quality curricula and instructional resources, time, and professional development to teach nutrition education. *Health Behavior & Policy Review*, *4*(2), 161-172

**Balgopal, M.M. †**,Wallace, A.M., & Dahlberg, S. (2017). Writing from different cultural contexts: How college students frame an environmental SSI through written arguments. *Journal of Research in Science Teaching*, 54(2), 195-218**.**

Graves, L.A.\*,Hughes, H.,& **Balgopal, M.M. †** (2016). Teaching STEM through agriculture: Implementation of an edible plant curriculum at an elementary school. *Journal of Agriculture Education*, 57(3), 192-207.

Cunningham-Sabo, L., Lohse, B., Smith, S.\*, Browning, R., Strutz, E.\*, Nigg, C., **Balgopal, M.M.**, Kelly, & K., Ruder, E. (2016) Fuel for fun: A cluster-randomized controlled study of cooking skills, eating behaviors, and physical activity of 4th graders and their families. *BMC Public Health*, 16, 444.

McMeeking, L.B.S., Weinberg, A.E., Boyd, K.J.\*, & **Balgopal, M.M.** (2016). Student perceptions of interest, learning and engagement from an informal traveling science museum**,** *School Sci & Math*, *116*(5), 253-264.

Jessup, J.\*,Ode, P.J., & **Balgopal, M.M. †** (2016). Competition for limiting resources: Quantitative reasoning in evolutionary ecology. *The American Biology Teacher, 78*(4), 300-309.

Casper, A.M.A\*., **Balgopal, M.M.,** Fernandez-Gimenez, M.(2016).Natural resource management students’ perceptions of conceptual change in a capstone course. *Natural Science Education*, 45, 1-10**.**

Olssen, K.\*, **Balgopal, M.M.,** Levinger, N.E. (2015). How did we get here? Teaching chemistry from a historical perspective. *Journal of Chemical Education, 92*(11), 1773-1776.

Atadero, R., Rambo-Hernandez, K., & **Balgopal, M.M.** (2015). Assessing the impact of project-based learning in engineering statics on student outcomes using social cognitive career theory*. Journal of Engineering Education*, 104(1), 55-73.

**Balgopal, M.M. †,** Klein, J.A., Morgan, J.A., Brown, C.S., Frasier, W.M., & Sample McMeeking, L.B. (2014). Linking biophysical, socio-economic, and political effects of climate change on agro-ecosystems. *Journal of Geoscience Education*, 62(3), 343-352.

**Balgopal, M.M.** (2014). Learning and intending to teach evolution: Concerns of pre-service biology teachers. *Research in Science Education*, *44*, 27-52.

**Balgopal, M.M. †** & Wallace, A.M. (2013). Writing-to-learn, writing-to-communicate, & scientific literacy. *The American Biology Teacher, 75*(3), 170-175.

**Balgopal, M.M. †**, Wallace, A.M., & Dahlberg, S. (2012). Writing to learn ecology: A study of three populations of college students. *Environmental Educational Research, 18*(1), 67-90. (Impact Factor: 1.71)

Feild-Berner, N.\* & **Balgopal, M.M.**† (2011). Knowledge is power: Educating children about Type II diabetes. *Science & Children, 49*(3), 32-36.

**Balgopal, M.M. †** & Bondy, C. (2011) Antigenic shift and drift: Modeling the evolution of the influenza virus. *The Science Teacher,* 78(2), 34-38.

**Balgopal, M.M. †** & Montplaisir, L.M. (2011). Meaning making: What reflective essays reveal about biology students’ ideas about natural selection *Instructional Science: An International Journal of the Learning Sciences*, *39*(2), 137-169.

Gilbert, L., Breitbarth, P., Brungardt, M., Dorr, C., & **Balgopal, M.M**.† (2010). The view at the zoo: Using a photographic scavenger hunt as the basis for an interdisciplinary field trip. *Science Scope, 33(6)* 52-55.

**Balgopal, M.M**. (2010) Trailmix genetics: Protein synthesis in two acts. *Science Activities, 4* (1), *22-28*.

**Balgopal, M.M. †**, Cornwall, S., Gill-Robertson, H., & Reinhart, D.\* (2009). Solving the mystery of mock mummies: Using scientific inquiry skills in an integrated lesson*. Science Scope, 33*(3), 14-21.

**Balgopal, M.M.**† & Ode, P.J. (2009). Quantitative ecology: Constructing life history tables. *The American Biology Teacher, 71*(5), 295-299.

**Balgopal, M.M. †** & Wallace, A.M. (2009). Dilemmas and decisions: The use of guided writing to increase ecological literacy of elementary education majors. *Journal of Environmental Education, 40*(3), 13-26.

**Balgopal, M.M.**, Dover, B.A., Goodman, W.G., & Strand, M.R. (1996). The effects of parasitism by *Microplitis demolitor* on the juvenile hormone titers of *Pseudoplusia includens. Journal of Insect Physiology*. *42*(4), 337-345.

**GRANTS & CONTRACTS**

2017-2020 NSF Noyce, Phase II, Track 4, Florida State University Subaward, PI

2016-2018 Colorado Department of Education, Math-Science Partnership with Poudre School District, coPI

2016-2020 NSF Robert Noyce Program, Phase II. Empowering STEM Teachers, PI

2013-2016 NSF TUES, Cell biology literacy through writing-to-learn, PI

2014-2017 NSF Environmental Engineering. Biomarkers from microbial communities. Senior Personnel

2014-2016 Colorado Department of Education, Literacy Design Initiative, coPI

2014-2015 USDA HEC Building a better capstone in natural resource education, coPI

2014 Poudre School District, Nutrition education for elementary teachers, PI

2013 Poudre School District, Evaluating the STEM Institute, PI

2012-2016 USDA AFRI Prevention of Childhood Obesity, co-investigator

2012-2015 USDA HEC Soil Science, Land Use, and Climate Change Curriculum, coPI

2012 Colorado Department of Education, School Nutrition Education Program, coPI

2011-2013 NSF RIGEE. Research Initiation into Engineering Education Research, coPI

2008-2011 NSF-CCLI, Increasing Ecological Literacy through Writing-to-learn, PI

2008 NASA Cloud Sat E/O Program Evaluation, coPI

**TEACHING**

Colorado State University (2008-present)

BZ 670 (Teaching Scientific Reasoning and Argumentation)

BZ 220 (Introduction to Evolution)

ECOL 592 (Teaching Ecology)

EDUC 460 (Science Teaching Methods)

EDUC 526 (Interdisciplinary Teaching Methods)

Minnesota State University Moorhead (2006-2008)

Comparative Physiology

Exploring Biology (for elementary education majors)

Organismal Biology labs

Cell Biology labs

Genetics labs

**PRESENTATIONS (invited)**

2018 “Writing in the sciences: Knowing what you know by seeing what you know.” Department of Psychology, CSU

2017 “Science pedagogy and communication” (2-day workshop), Centre for Ecological Sciences, Indian Institute of Science, Bangalore, India

2017 “Writing matters: Supporting student learning in biology classes.” Emory University, Atlanta Georgia

2016 “Writing matters: Making thinking visible” Department of Human Dimensions of Natural Resources, CSU

2016 “Conducting writing-to-learn research” Department of Biology, North Dakota State University

2016 “Evaluating teaching effectiveness” College of Agriculture Master Teaching Initiative workshop, CSU

2015 **“**Writing to learn: The intersection of biology and literacy.” Department of Biology Teaching and Learning, University of Minnesota: Minneapolis-St. Paul.

2015 **“**Effective strategies interdisciplinary science education.” Invited symposium speaker, Annual Conference of the Society of Range Management, Sacramento, CA.

2014 “How do non-scientists make meaning of science?” Geospatial Sciences Center of Excellence, South Dakota State University

2011, “Integrating writing-to-learn instruction into undergraduate biology course.” Department of Biology, University of Northern Colorado, Greeley

2010, “Decisions and dilemmas: Ecological literacy of college students.” Science Education Interdisciplinary Group, University of Colorado Denver

2006 “Undergraduate understanding of evolution and natural selection” Spelman College, Atlanta

**SERVICE (selected)**

CSU Task Force for Inclusive Pedagogy, 2018-current

Biology Department Undergraduate Committee, 2016-current

Regional Western Center Education Committee, 2017-current

Biology Department Executive Committee, 2016-2018

CSU Provost’s Council for Public Engagement, 2016-current

CSU Task Force for Measuring Teaching Effectiveness, led by UDTS committee, 2015-current

CSU Task Force for Students Success, Science of Learning, and Pedagogy 2014-current

Emory-Tibet Science Initiative, Biology Instructor Tibetan Buddhist Monasteries, Karnataka, India 2017-current

Board of Directors, Pretty Brainy (non-profit organization to recruit girls into STEM through art and design), 2014-current.

Professional Development workshops for K-12 teachers (~20 from 2010-2018)

Science outreach and engagement with K-12 classrooms (reaching ~6,000 students from 2008-2018).