

Curriculum Vitae
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Dr. Michael Giamellaro

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EDUCATION

Ph.D. Educational Leadership & Innovation: Science Education, University of Colorado, Denver

Dissertation: *Deep Immersion Academic Learning: An Analysis of Science Learning in Context*, 2012. <http://digital.auraria.edu/AA00000087/00001>

M.A. Science Curriculum and Instruction, University of Colorado, Denver. 2004.

B.S. Wildlife and Fisheries Biology, University of Wyoming, Laramie. 1997.

TEACHING & PROFESSIONAL EXPERIENCE

2020 - present **Associate Professor of Science Education (tenured)** College of Education, Oregon State University/OSU-Cascades

Teach four to six graduate courses per year. Maintain a research program in contextualized science learning environments. Advise MAT and PhD students. Provide program support including curriculum oversight, admissions reviews, etc. Provide service to OSU, regional educational organizations, and professional organizations.

Courses taught:

ED 531: Science Methods I: Inquiry & the Nature of Science
ED 532: Science Methods II: Teaching for Conceptual Change
ED 533: Science Methods III: Science for all Learners
ED 550: Effective Teaching Cycle I: Foundations & Planning

2013 – 2020 **Assistant Professor of Science and Mathematics Education**
College of Education, Oregon State University/OSU-Cascades

Courses taught:

ED 515: Learning Environments III: Cultures and Communities
ED 531: Science Methods I: Inquiry & the Nature of Science
ED 532: Science Methods II: Teaching for Conceptual Change
ED 550: Effective Teaching Cycle I: Foundations & Planning
ED 808: Teaching for Data Literacy I, II, and III
SED 407: Intro to Science Education and Outreach
SED 413/513/514: Inquiry in Science and Mathematics Education
SED 511: Analysis of Classrooms I
SED 515: Analysis of Classrooms II
SED 553: Science Methods: Practicum I

SED 573: Science Pedagogy & Technology I
SED 577: Science Pedagogy & Technology II
SED 599: Developing STEM Content into Project-Based Curricula
SED 605: Conference and Reading: Mixed Methods Research

2012 - **Full Time Instructor** College of Education, Oregon State
2013 University/OSU-Cascades

2010 - **Research Assistant** LEARN Lab,
2012 University of Colorado Denver

Under the direction of Dr. Maria Ruiz-Primo, The NSF funded DEISA project developed and evaluated instructionally sensitive assessments in elementary science curricula.

2009 - **Adjunct Instructor** School of Education and Human
2011 Development, University of Colorado Denver

Taught *Grand Canyon Science*, an experiential, graduate teacher education field class in which pre-service and practicing teachers learned pedagogical content knowledge related to the geology and ecology of the Grand Canyon while rafting the Colorado River. Participants also received training in experiential, place-based education.

2007 - **Lead Educator** The Watershed School,
2010 (HS science teacher) Boulder, CO.

2006 - **7th and 8th grade science** Packer Collegiate Institute,
2007 **teacher** New York City

2005 - **Interim 8th & 12th grade biology** Friends Seminary,
2006 **teacher** New York City

2003 - **MS and HS math/science** Center for Discovery Learning,
2005 **teacher & advisor** Lakewood, CO

2002- **Teacher Intern** Jefferson County Open School, Lakewood,
2003 CO

1997 - **Biologist** U.S. Fish and Wildlife Service,
2002 Sybille Canyon, WY

GRADUATE STUDENTS

Master's Degree Student advisor/chair (2012-present, n=48)

Master's Degree committee member (2012-present, n=17)

Doctoral Student Advisor (chair)

Benjamin Ewing, STEM Education PhD (Co-Chair with Dr. SueAnne Bottoms),
Oregon State University, current.

Doctoral committee member

Talal Alajmi, STEM Education PhD, Oregon State University, current.

PEER REVIEWED JOURNAL PUBLICATIONS

(* = students)

Giamellaro, M., O'Connell, K.B., Riedinger, K. (*in press*). Achieving desired student outcomes in virtual field experiences through attention to design considerations: A Delphi study. Accepted for publication in the *Journal of College Science Teaching*, 12/21.

Potvin, P., Ayotte-Beaudet, J-P., Hasni, A., Smith, J., **Giamellaro, M.**, Lin, T-J., Tsai, C-C. (2022). Development and validation of a questionnaire to assess situational interest in a science period: A study in three cultural/linguistic contexts. *Research in Science Education*. Published online 2/7/22. <https://doi.org/10.1007/s11165-022-10050-0>.

O'Connell, K.B., Hoke, K.L., **Giamellaro, M.**, Berkowitz, A.R., Branchaw, J. (2021). A tool for designing and studying student-centered undergraduate field experiences: The UFERN model. *Bioscience*. Published online 12/8/21. <https://doi.org/10.1093/biosci/biab112>

Siegel, D. & **Giamellaro, M.** (2021). Non-STEM teachers finding their place in STEM. *Journal of Science Teacher Education*. Published online 9/17/21. <https://doi.org/10.1080/1046560X.2021.1968992>.

Levenhagen, M., Miller, Z., Petrelli, A., Ferguson, L., Shr, Y-H (J), B., Taff, D., Frstrup, K., McClure, C., Burson, S., **Giamellaro, M.**, Newman, P., Francis, C., Barber, J. (2021) Does experimentally quieting traffic noise benefit people and birds? *Ecology and Society* 26(2): 32. <https://doi.org/10.5751/ES-12277-260232>.

Ayotte-Beaudet, J-P., Chastenay, P., Beaudry*, M-C., L'Heureux, K.*, **Giamellaro, M.**, Smith, J., Desjarlais, E., Gignac, A., Paquette, A. (2021). Exploring the impacts of contextualised outdoor science education on learning: The case of primary school students learning about ecosystem relationships. Accepted for publication in the *Journal of Biological Education*. DOI: <https://doi.org/10.1080/00219266.2021.1909634>.

Morales, N., O'Connell, K.B., McNulty, S., Berkowitz, A., Bowser, G., **Giamellaro, M.**, Miriti, M. (2020). Promoting inclusion in ecological field experiences: Examining and overcoming barriers to a professional rite of passage. *Bulletin of the Ecological Society of America*. 101(4), 1-10. DOI: <https://doi.org/10.1002/bes2.1742>.

- Giamellaro, M.**, O'Connell, K., & Knapp, M. (2020). Teachers as participant-narrators in authentic data stories. *International Journal of Science Education* 42(3), 406-425. DOI: [10.1080/09500693.2020.1714093](https://doi.org/10.1080/09500693.2020.1714093).
- Siegel, D. & **Giamellaro, M.** (2020). Defining STEM in a rural school district: A co-constructed and evolving process. *Cultural Studies of Science Education*. 15, 739-773. DOI: [10.1007/s11422-019-09959-2](https://doi.org/10.1007/s11422-019-09959-2).
- Giamellaro, M.**, Blackburn*, J., Honea*, M., & LaPlante, J. (2019). A web of ideas: Fostering scientific discourse with spider web discussions. *The Science Teacher*, 86:8. [Link](#).
- Giamellaro, M.** & Siegel, D. (2018). Coaching teachers to implement innovations in STEM. *Teaching and Teacher Education*. 26, 25-38. <https://doi.org/10.1016/j.tate.2018.08.002>.
- Giamellaro, M.** & O'Connell, K. (2018). Numbers in nature, math on the mountain: A teacher-scientist partnership to tell stories of place through data. *Connected Science Learning*. 6:1. [Link](#).
- Francis, C.D., Newman, P., Taff, B.D., White, C., Monz, C.A., Levenhagen, M., Petrelli, A.R., Abbott, L.C., Newton, J., Burson, S., Cooper, C.B., Fristrup, K.M., McClure, C.J.W., Mennitt, D., **Giamellaro, M.**, & Barber, J.R. (2017). Acoustic environments matter: Synergistic benefits to humans and ecological communities. *Journal of Environmental Management*. 203:1, 245-254. <http://dx.doi.org/10.1016/j.jenvman.2017.07.041>
- Giamellaro, M.**, Lan, M.-C., Ruiz-Primo, M.A., Li, M., & Tasker, T. (2017). Curriculum mapping as a strategy for supporting teachers in the articulation of learning goals. *Journal of Science Teacher Education*. 28:4, 347-366. <http://dx.doi.org/10.1080/1046560X.2017.1343603>.
- Giamellaro, M.** (2017). Dewey's yardstick: Contextualization as a crosscutting measure of experience in learning and education. *SAGE Open*, 7:1, 1-11. <https://doi.org/10.1177/2158244017700463>
- Giamellaro, M.** (2014). Primary contextualization of science learning through immersion in content-rich settings. *International Journal of Science Education*, 36:17, 2848-2871. DOI: [10.1080/09500693.2014.937787](https://doi.org/10.1080/09500693.2014.937787)
- Ruiz-Primo, M.A., Li, M., Wills, K., **Giamellaro, M.**, Lan, M-C., Mason, H., Feehan, J., Orgeron, M., & Sands, D. (2012). An approach for developing and evaluating instructionally sensitive assessments in science. *Journal of Research in Science Teaching*, 49:6, 691-712. DOI: [10.1002/tea.21030](https://doi.org/10.1002/tea.21030)

PEER REVIEWED BOOK CHAPTERS

(* = students)

- Giamellaro, M.**, Buxton, C., L'Hereaux, K.*, Beaudry, M-C*, Ayotte-Beudet, J-P., Alajmi, T.* (in Press). Teaching science from a contextualized stance. Luft, J. & Jones, G. (eds). *Handbook of Research on Science Teacher Education*. Routledge.

Giamellaro, M. & Knapp, M. (2021). Using a STEM camp for rural middle school students to launch ambitious teaching practices with pre-service teachers. In *Research anthology on service learning and community engagement teaching practices*. Ch. 22, Pp. 389-407. IGI-Global. DOI: [10.4018/978-1-6684-3877-0](https://doi.org/10.4018/978-1-6684-3877-0). (reprinted from 2018 chapter).

Giamellaro, M. & Knapp, M. (2018). Using a STEM camp for rural middle school students to launch ambitious teaching practices with pre-service teachers. In Meidl, T.D. and Sulentic Dowell, M-M., eds. *Handbook of research on service-learning initiatives in teacher education programs*. Ch. 9, Pp. 163-181. IGI-Global. DOI: [10.4018/978-1-5225-4041-0](https://doi.org/10.4018/978-1-5225-4041-0).

PEER REVIEWED PROCEEDINGS

Giamellaro, M. (2017). Crossing the river: Supporting pre-service science teachers across two cultures. In D. Stroupe and H. Kang (Eds.), *Proceedings of the Science Education at the Crossroads Conference*. San Antonio, TX. <http://www.sciedxroads.org/Proceedings2017.html>.

Giamellaro, M. (2015). Pathfinder: Measuring experiential learning through network modeling. *Proceedings of the 2015 Symposium on Experiential Education Research (SEER)*, Portland, OR. <http://www.aee.org/seer>.

Giamellaro, M. (2014) Measuring situated learning. In J. Settlage & A. Johnston (Eds.), *Proceedings of the Science Education at the Crossroads Conference* (pp. 36-37). Portland, OR. <http://www.sciedxroads.org/2014/2014Proceedings.pdf>.

GRANTS AND EXTERNAL FUNDING ACTIVITY

Funded (total: \$2,395,750; \$1,288,227 as PI)

Federal Grants

Luke, C. (Sonoma State U.), Swain, H.M. (Archbold Biological Station), O'Connell, K. (Oregon State U.). **Giamellaro, M.** is Senior Personnel. (2020, May). *RAPID: The Virtual Field: Mitigation for the Covid Pandemic*. Funded by the National Science Foundation's DBI - ICB: Infrastructure Capacity program. **Funded for 2020-2021: \$199,030.**

Giamellaro, M. (2019, July). *Building quantitative capacity in contextualized STEM education research*. Funded by the National Science Foundation's "Building Capacity in Science Education Research" (EHR:BCSER) program. **Funded for 2019-2022: \$275,291.**

Giamellaro, M. (2018, February). Collaborative grant with Jaffe, D. & Thorton, J.A. (U. Washington); & Zhang, Q. (UC Davis). *Collaborative research: Aerosols, nitrogen oxides, and ozone from wildfires and global pollution at the Mt. Bachelor Observatory*. Funded by the National Science Foundation's AGS-GEO/ATM unit. Funded for 2018-2022: **Funded for 2018-2021: \$9,360.** Full collaborative grant awarded at \$972,758.

Giamellaro, M., O'Connell, K. (OSU), & Knapp, M. (OSU), (2018, February). *Numbers in nature Phase 3: A teacher-scientist partnership to contextualize STEM instruction*. Funded by the Oregon University-School Partnership Program, A U.S. Dept. of Education grant via The Teaching and Research Institute at Western Oregon University. **Funded for 2018: \$11,349.**

Giamellaro, M., O'Connell, K. (OSU), Knapp, M. (OSU), Kudlac, B. (Culver Schools) & other partners (2017, June). *Numbers in nature, math on the mountain: A teacher-scientist partnership to contextualize STEM instruction: Extension funds*. Funded by the Oregon University-School Partnership Program, A U.S. Dept. of Education grant via The Teaching and Research Institute at Western Oregon University. **Funded for 2017: \$4,336.**

Giamellaro, M., O'Connell, K. (OSU), Knapp, M. (OSU), Kudlac, B. (Culver Schools) & other partners (2016, January). *Numbers in nature, math on the mountain: A teacher-scientist partnership to contextualize STEM instruction*. Funded by the Oregon University-School Partnership Program, A U.S. Dept. of Education grant via The Teaching and Research Institute at Western Oregon University. **Funded for 2016-2017: \$164,777.**

Giamellaro, M. (PI), Gess-Newsome, J. (OSU), Dollar, N. (OSU), Garber, S. (Culver Schools), & Kudlac, B. (Culver). (2013, December). *Cultivating a STEM learning community in rural Oregon: A K-12/ university partnership*. Oregon University/School Partnership program supported by the U.S. Dept. of Education (Title II-a). **Funded for 2014-15: \$240,000.**

State Grants

Central Oregon STEM Hub (**Giamellaro** supporting contributor). (2016, February) *Regional STEM Hub – Programmatic Grant*. Funded through the Oregon Department of Education. **Funded for 2016-2017: \$195,000.**

Central Oregon STEM Hub (**Giamellaro** supporting contributor). (2015, November) *Regional STEM Hub – Continuation Backbone Grant*. Funded through the Oregon Department of Education. **Funded for 2015-2017: \$165,000.**

Giamellaro, M., Kudlac, B. (Culver School District), Gess-Newsome, J. (OSU), & Dollar, N. (OSU). (2014, January). *The Cascades STEM Lab School Cooperative*. (2014, January). Oregon Department of Education STEM Lab School Grant. **Funded for 2014-15: \$475,964.**

Whitelaw, D. (High Desert Museum), **Giamellaro, M.**, Bermudez, L. (Bend Science Station), & Wopschall, K. (High Desert Museum). (2014, January). *Central Oregon STEM Hub*. Oregon Department of Education STEM hub initiative. **Funded for 2014-15: \$123,843.**

Foundation Grants

Giamellaro, M. (2016-2020). *Roundhouse Foundation Faculty Scholar of Science Education*. Funded faculty chair to advance innovative approaches to science education in the region, state, and beyond. **Funded for 2019-2020: \$29,650. Funded for 2016-2019: \$75,000.**

Internal University Grants

Platt, C., **Giamellaro, M.**, & Schuetz, R. (2018, December). Diversifying the teacher work force in Central Oregon. Funded by the OSU internal *Laurel's Block Diversity Scholars Grant* program. **Funded for 2019-20: \$25,000.**

Platt, C., **Giamellaro, M.**, & Schuetz, R. (2017, December). Diversifying the teacher work force in Central Oregon. Funded by the OSU internal *Laurel's Block Diversity Scholars Grant* program. **Funded for 2018-19: \$37,000.**

Platt, C. & **Giamellaro, M.** *Supporting 21st century teachers at OSU-Cascades.* (2014, November) Funded through the internal OSU Learning Innovation Grant. Funded for 2015: **\$10,000.**

Platt, C. & **Giamellaro, M.** *Supporting 21st century teachers at OSU-Cascades.* (2013, February). Funded through the internal OSU Technology Resources Fund (TRF). Funded for 2013: **\$24,075.**

Giamellaro, M. (2013, March). Internal OSU internationalization grant funded travel to Cyprus for ESERA conference and collaboration. Funded for 2013: **\$2500.**

Other Grants

Hasni, A. (2021, August). **Giamellaro, M.** is Collaborating Researcher. The multidimensionality of scientific training: epistemic and cognitive issues; social and citizenship issues; promotion issues (translated from French: La multidimensionnalité de la formation scientifique: enjeux épistémiques et cognitifs; enjeux sociaux et de citoyenneté; enjeux de promotion). Funded by the Fonds de recherche du Québec - société et la culture for 2021-2025: \$327,575 (CA).

PEER REVIEWED NATIONAL/INTERNATIONAL CONFERENCE PRESENTATIONS

(* = students)

Giamellaro, M., Taylor, J., L'Heureux*, K., Beaudry*, M-C., Buxton, C., Ayotte-Beaudet, J-P., (2022, April). Bibliometric network analysis in systematic landscape studies: Defining concentrations of ideas within the landscape. Paper presented at the Annual Meeting of the American Educational Research Association (AERA), San Diego, CA.

O'Connell, K., Hoke, K., **Giamellaro, M.**, Berkowitz, A.R., Branchaw, J (2021, October). Designing and studying holistic field learning experiences: The UFERN model. Presentation at Geological Society of America Connects Conference, Portland, OR.

Beaudry*, M-C., **Giamellaro, M.**, L'Heureux*, K., Ayotte-Beaudet, J-P., Buxton, C., Alajmi*, T. (2021, May). *Learning to contextualize science teaching: portrait of research on the training and practices of teachers* (translated from French). Presentation at the annual ACFAS Congress (online due to pandemic).

- Ayotte-Beaudet, J-P., L'Heureux*, K., Beaudry*, M-C., Chastenay, P., Paquette, A., Smith, J., **Giamellaro, M.**, Desjarlais, E. (2021, May). *Learning about living organisms through immersion in the context of the phenomena being studied in elementary school students* (translated from French). Presentation at the annual ACFAS Congress (online due to pandemic).
- L'Heureux*, K., **Giamellaro, M.**, Beaudry*, M-C., Buxton, C., Ayotte-Beaudet, J-P., Alajmi*, T. (2021, April). *Preparing science educators for contextualized instruction*. Paper Presented at the 2021 NARST Annual International Meeting, Orlando, FL (online due to pandemic).
- Ayotte-Beaudet, J-P., Chastenay, P., Paquette, A., **Giamellaro, M.**, Beaudry*, M-C., L'Heureux*, K., Desjarlais*, E. (2021, April). Impacts of contextualized outdoor education on what and how elementary students learn about ecosystem relationships. Paper presented at the 2021 NARST Annual International Meeting, Orlando, FL (online due to pandemic).
- O'Connell, K., Hoke, K., **Giamellaro, M.** (2020, September). *Undergraduate Field Experiences Research Network (UFERN) Framework to Improve Field Program Design and Evaluation*. Workshop accepted for presentation at the 2020 Organization of Biological Field Stations (OBFS) Annual Meeting, Flathead Lake Biological Station (online due to pandemic).
- O'Connell, K.B., Hoke, K.L., **Giamellaro, M.**, Berkowitz, A.R., Middendorf, G. (2020, August). *Using the Undergraduate Field Learning Experiences Research Network (UFERN) Framework to Improve Field Program Design and Evaluation*. Workshop accepted for presentation at the Ecological Society of America Annual Meeting, Salt Lake City, UT. (online due to pandemic).
- O'Connell, K., Hoke, K., **Giamellaro, M.**, Berkowitz, A. (2020, July). *The nature of undergraduate field learning experiences: A framework to guide program design and research*. Poster presented at the 2020 Earth Educators' Rendezvous, Palo Alto, CA (online due to pandemic).
- Giamellaro, M.**, Ewing*, B., & Siegel, D. (2020, April). *Affordances and constraints to implementing project-based STEM: A case study of systemic school change*. Paper asynchronously presented at the 2020 American Educational Research Association annual meeting, San Francisco (conference canceled due to pandemic).
- Ayotte-Beaudet, J-P., Chastenay, P., Paquette, A., **Giamellaro, M.**, Bousadra, F., Beaudry, M-C., L'Heureux*, K., Desjarlais*, E., Perron*, S. (2020, March). *Added value of contextualizing learning about living organisms in schools' immediate surroundings*. Paper accepted for presentation at the 2020 NARST Annual International Meeting, Portland, OR (conference canceled due to pandemic).
- Giamellaro, M.**, Siegel, D., & Ewing*, B. (2020, March). *Rattlesnakes with vision: Teacher perspectives of administrative affordances and constraints to district-wide STEM*. Paper accepted for presentation at the 2020 NARST Annual International Meeting, Portland, OR (conference canceled due to pandemic).
- Ewing*, B., **Giamellaro, M.**, & Siegel, D. (2020, January). *Using the stages of concern questionnaire to understand educators' perspectives during STEM implementation*. Poster presented at the 2020 Annual International Meeting of the Association for Science Teacher Educators. San Antonio, TX.

- Giamellaro, M.** (2019, August). *Interactions of knowledge across field and classroom settings*. Paper presented at the European Science Education Research Association Conference, Bologna Italy.
- Giamellaro, M.** (2019, July). *The nature of Experience in the Field*. Presentation at the ESA Inspire session titled: *Field Work: Inspiration or barrier to becoming an ecologist?* The Ecological Society of America Annual Meeting, Louisville, KY.
- O'Connell, K.B., Hoke, K.L., Berkowitz, A.R., & **Giamellaro, M.** (2019, July). *The nature of undergraduate field experiences: A framework to guide program design and research*. Poster presented at the Ecological Society of America Annual Meeting, Louisville, KY.
- Giamellaro, M.**, O'Connell, K., & Knapp, M. (2019, April). *Teachers becoming actors in authentic data stories*. Paper presented at the American Educational Research Association annual meeting, Toronto, ON, Canada.
- Giamellaro, M.** & Kneece*, K. (2019, April). *Sources and types of knowledge used by students in classroom, lab, and field settings*. Paper presented at the NARST Annual International Conference, Baltimore, MD.
- Giamellaro, M.**, O'Connell, K., Knapp, M., & Jaffe, D. (2018, December). *Supporting teachers to identify natural phenomena through the storylines embedded in online Earth Science datasets*. Paper presented at the American Geophysical Union Fall Meeting, Washington, D.C. Abstract ID: 420717.
- O'Connell, K., **Giamellaro, M.**, & Knapp, M. (2017, August). *Numbers in nature, math on the mountain: Engaging teachers and students in understanding natural phenomenon using authentic ecological data*. Poster presented at the Annual Meeting of the Ecological Society of America, Portland, OR.
- Giamellaro M.**, Siegel, D., & Lopez*, A. (2017, April). *STEM coach as facilitator of connectivity in and beyond a school district*. Paper presented at the NARST Annual International Conference, San Antonio, TX.
- Siegel, D. & **Giamellaro, M.** (2017, April). *Defining STEM in a rural school district: A co-constructed and co-evolving process*. Paper presented at the NARST Annual International Conference, San Antonio, TX.
- Giamellaro M.**, Siegel, D., & Lopez*, A. (2017, May). *Impacts of a K-12 STEM coach from multiple perspectives*. Paper presented at the American Educational Research Association annual meeting, San Antonio, TX.
- Giamellaro M.**, Siegel, D., & Prevenas, P. (2016, January). *Teacher's reactions to and utilization of a STEM coach*. Paper presented at the Annual International Meeting of the Association for Science Teacher Educators, Reno, NV.
- Prevenas, P., **Giamellaro, M.** (2015, May) *The Engineering Design Process for K-3*. Presentation & Workshop at the NSTA STEM Symposium and Conference, Minneapolis, MN.
- Prevenas, P., VanAstlyne, H., **Giamellaro, M.** (2015, May). *English Language Learners: Integrating STEM and the novel "Freak The Mighty"*. Presentation & Workshop at the NSTA STEM Symposium and Conference, Minneapolis, MN, May 2015.

- Giamellaro, M.**, Siegel D., Prevenas, P., Gess-Newsome, J., Garber, S., Fields, T., Kudlac, B., Baxter, J., Cloud, G., Dove, M., Goad, D., Danos, K., Little, N. (2015, January). *Implementing Inclusive STEM across a Rural K-12 District*. Experiential session that included other researchers and teachers involved in the project. Presented at the Annual International Meeting of the Association for Science Teacher Educators. Portland, OR.
- Giamellaro, M.** (April, 2014). *Science learning and levels of contextualization*. Paper presented at the National Association for Research in Science Teaching annual international conference, Pittsburgh, PA.
- Giamellaro, M.** (2013, Sept.) *Student use of facilitated versus peripheral learning opportunities to develop conceptual science knowledge in contextualized, outdoor settings*. Paper presented at the European Science Education Research Association conference, Nicosia, Cyprus.
- Giamellaro, M.** (2013, April). *The role of the physical environment in contextualizing science learning*. Paper presented at the National Association for Research in Science Teaching annual international conference, Rio Grande, Puerto Rico.
- Ruiz-Primo, M.A., Li, M., Birby, E., Edwards, A., Wang, T., Zhao, D.Y., & **Giamellaro, M.** (2013, April). *Looking at quality of instruction and students' performance: Where do the teachers' questions come from?* Paper presented at the National Association for Research in Science Teaching annual international conference, Rio Grande, Puerto Rico.
- Li, M., Ruiz-Primo, M.A. Wang, T., **Giamellaro, M.**, Wills, K., & Zhao, D.Y. (2013, April). *Comparing item formats of instructionally sensitive assessments*. Paper presented at the National Association for Research in Science Teaching annual international conference, Rio Grande, Puerto Rico.
- Giamellaro, M.** (2012, April) *Using pathfinder networks to model conceptual change of students participating in field science classes*. Poster presented at the Symposium on Network Science in Biological, Social, and Geographic Systems. University of Wyoming, Laramie.
- Giamellaro, M.**, Ruiz-Primo, M. A., & Li, M. (2012, March) *Quality elementary science teaching as reflected in productive failure*. Paper presented at the National Association for Research in Science Teaching annual international conference, Indianapolis.
- Giamellaro, M.**, Sands, D., Wills, K., Ruiz-Primo, M. A., & Li, M. (2012, April). *Is this testing what was taught? Teachers' and students' perceptions of instructionally sensitive assessments*. Paper presented at the American Educational Research Association annual meeting, Vancouver, B.C.
- Lan, M-C., Li, M., Ruiz-Primo, M.A., Wang, T., **Giamellaro, M.**, & Mason, H. (2012, April). *Linking quality of instruction to instructionally sensitive assessments*. Paper presented at the American Educational Research Association annual meeting, Vancouver, B.C.
- Li, M., Lan, M-C., Ruiz-Primo, M.A., **Giamellaro, M.**, & Wang, T. (2012, March). *Supporting students to make conceptual connections*. Paper presented at the National Association for Research in Science Teaching annual international conference, Indianapolis.
- Li, M., Ruiz-Primo, M.A., **Giamellaro, M.**, & Wills, K. (2012, April). *Instructionally sensitive assessments across three science units*. Paper presented at the American Educational Research Association annual meeting, Vancouver, B.C.

- Li, M., Ruiz-Primo, M.A., **Giamellaro, M.**, Wills, K., Mason, H., & Feehan, J. (2012, April). *Sensitivity and transfer of learning at different distances: Close, proximal and distal assessment items*. Paper presented at the American Educational Research Association annual meeting, Vancouver, B.C.
- Mason, H., Ruiz-Primo, M.A., **Giamellaro, M.**, & Li, M. (2012, March) *What do students' science notebooks reflect about the quality of teaching students received?* Paper presented at the National Association for Research in Science Teaching, annual international conference, Indianapolis.
- Ruiz-Primo, M. A., Li, M., **Giamellaro, M.**, Wills, K., Mason, H., Lan, M-C, & Sands, D. (2012, April) *Instructionally sensitive assessments and curricula characteristics: Learning goals, opportunities to achieve them, and opportunities to transfer them*. Paper presented at the American Educational Research Association, annual meeting, Vancouver, B.C.
- Ruiz-Primo, M.A., Li, M, **Giamellaro, M.**, & Wills, K. (2012, April). *An approach to develop and evaluate assessments at different distances to a curriculum*. Paper presented at the annual meeting of the National Council on Measurement in Education, Vancouver, B.C.
- Wang, T., Lan, M-C., **Giamellaro, M.**, Zhao, D.Y., Birkby, D., Ruiz-Primo, M.A., & Li, M. (2012, March). *Knowledge of learning goals as a navigation tool in curriculum implementation*. Paper presented at the National Association for Research in Science Teaching annual international conference, Indianapolis.
- Giamellaro, M.**, Lan, M-C, Ruiz-Primo, M. A., & Li, M., Tasker, T. (2011, April). *Mapping science curricula: A method for supporting teachers in the articulation of learning goals*. Paper presented at the American Educational Research Association annual meeting, New Orleans.
- Giamellaro, M.**, Lan, M-C, Ruiz-Primo, M. A., & Li, M. (2011, April). *Addressing elementary teacher misconceptions in science and supporting peer learning through curriculum mapping*. Paper presented at the National Association for Research in Science Teaching annual international conference, Orlando, FL.
- Ruiz-Primo, M.A., Li, M., Sands, D., Wills, K., **Giamellaro, M.**, & Jones, A. (2011, April) *Developing instructionally sensitive assessments: Lessons learned about the manipulation of close and proximal item characteristics*. Paper presented at the National Association for Research in Science Teaching annual international conference, Orlando, FL.
- Luce, A., **Giamellaro, M.**, Calcote, M., Marlow, M. (2007, October) *iPods in education: A reflective tool for experiential education*. Paper presented at the annual meeting of the Northern Rocky Mountain Educational Research Association, Jackson Hole, WY.

INVITED PRESENTATIONS

- Giamellaro, M.** (2022, April). *Designing a Summer Institute for Teachers: Building a Theory of Change*. Presentation at Stanford University, Graduate School of Education, Dr. Maria Ruiz-Primo's Issues in Program Evaluation course.

- O'Connell, K., Hoke, K., **Giamellaro, M.** (2019, October). *The Nature of the Undergraduate Field Experience: A framework to guide program design and research*. Presentation at the Undergraduate Field Experience Research Network (UFERN) Meeting II, HJ Andrews Experimental Forest, OR.
- Giamellaro, M.** (2019, June). *Designing Experiences as Targeted Learning Tools*. Presentation and workshop presented at the Traverse Experiential Education Conference, Boulder, CO.
- O'Connell, K., Hoke, K., & **Giamellaro, M.** (2019, April). *A Framework for Undergraduate Field Experiences*. Webinar presented to the Undergraduate Field Experience Research Network (UFERN).
- Giamellaro, M.** (2019, April). *Using "Dewey's Yardstick": Contextualization as a Measure of Experience in Learning*. Lecture and Seminar at the Université du Québec à Montréal, Quebec, Canada.
- Giamellaro, M.** (2019, April). *Contextualization in Science: From Theoretical Foundations to Operational Constraints*. Lecture and Seminar at the Université du Sherbrooke, Quebec, Canada. <https://www.youtube.com/watch?v=47pNcvUfY9U&feature=youtu.be>.
- Giamellaro, M.** (2017, February). *Contextualizing Data through a Collaborative Scientist-Teacher-Student Partnership*. Presentation to the Teacher-Scientist Partnership sub-meeting at the American Association for the Advancement of Science (AAAS) Annual Meeting, Boston, MA.

REGIONAL AND LOCAL PRESENTATIONS (*= students)

- Giamellaro, M. (2020, March). *STEM in the classroom*. Symposium presented at the Academy At Sisters, Bend, OR.
- Giamellaro, M. (2018, November). *Addressing the needs of first-generation college students with a cultural approach*. Presentation and workshop presented to the faculty of the OSU-Cascades campus.
- Giamellaro, M. (2018, February). *Making your career in teaching or education research*. Guest lecturer in SSCI 201 Career Development for Social Sciences, Professor Natalie Dollar, OSU-Cascades campus.
- Giamellaro, M. (2017, August). *Eclipses and crescents: Modelling moon shapes to understand the Earth-Sun system*. Public lecture at the OSU-Cascades Eclipse Festival, Bend, OR.
- O'Connell, K., Knapp, M., Gillespie*, H., & Giamellaro, M. (2017, May) *Numbers in Nature, Math on the Mountain: Telling stories of place through contextualized data*. An "Ignite Presentation" at the OSU Vice Provost's Outreach and Engagement Awards Ceremony, Corvallis, OR.
- Bottoms, SA, Ciechanowski, K., Giamellaro, M. & Thompson, K. (2017, March). College of Education Research Symposia: Panel on Engaged Scholarship. Oregon State University, Corvallis, OR.

- Lopez*, A., Giamellaro, M., & Siegel, D. (2016, May). *The evolution of a STEM coach's role in a school change initiative*. Poster presented at the OSU-Cascades Student Research Symposium, Bend, OR.
- Schenkelberg*, R., Siegel, D., & Giamellaro, M. (2016, May). *STEM to TEAMS: The evolution of an identity*. Poster presented at the OSU-Cascades Student Research Symposium, Bend, OR.
- Finney, C., Harper, A., Giamellaro, M., Parks, E., Peterson, A., Santasiero, E., Taylor, A., & Thompson, S. (2016, March). *How much is our personality, history, culture, and even desire embedded in the way we do research?* Panel Discussion For OSU-Cascades faculty salon series, Bend, OR.
- Giamellaro, M., Siegel, D., & Prevenas, P. (2015, October) *District-wide inclusive STEM*. Presentation at the Oregon Science Teachers Association (OSTA), Bend, OR.
- Prevenas P. & Giamellaro, M. (2015, October) *C4K: Coding for kinders*. Presentation at the Oregon Science Teachers Association (OSTA), Bend, OR.
- Prevenas, P., VanAstlyne, H., & Giamellaro, M. (2015, April). *Rigorous and relevant: Supporting English language learners through STEM*. Presentation at the annual conference of the Oregon Association for Career and Technical Education (OACTE), Sunriver, OR.
- Platt, C., Giamellaro, M. (2015, March). *The EdTPA experience: Lessons from an early adopter*. Presentation at the annual conference of the Oregon Association of Teacher Educators (ORATE), Portland, OR.
- Prevenas, P., VanAstlyne, H., & Giamellaro, M. (2015, March). *STEM + ESL = learning*. Presentation at the annual English Learner's Alliance Conference of the Confederation of Oregon School Administrators. Eugene, OR.
- Giamellaro, M. (2013, April). *Science: Out of the classroom and into the real world*. Public Lecture presented at Oregon State University- Cascades' "It's in the Bag Lunchtime Lecture Series." Bend, OR.
- Giamellaro, M. (2012, June). *Science immersion experiences: Contextualized learning and Its impact on conceptual understanding in high school students*. Seminar presented to the Science and Math Education Department, Oregon State University, Corvallis, OR.

PROVIDING K-12 OUTREACH & TEACHER PROFESSIONAL DEVELOPMENT

- Giamellaro, M., Poyner, B., Stark, G., & other partners (Each Summer, 2016-2020). *Regional STEM Camps*. Facilitated, funded, and organize free, 2-day STEM Camps for Middle School students in underserved communities: La Pine, Warm Springs, Sisters, Bend, Prineville. Taught by Dr. Giamellaro's past and current MAT students. Collaboration between OSU, LaPine Middle School, Central Oregon STEM Hub, Sisters Parks and Recreation, Warm Springs K-8 Academy, Latino Community Association, Crook County Schools, Bend Science Station, Bend Parks and Recreation, and the Roundhouse Foundation.

- Giamellaro, M. (2019, January). *Teaching as a career and designing science curricula for elementary students*. Workshop presented to high school students from Redmond Proficiency Academy, Bend Science Station, Bend, OR.
- Giamellaro, M., Elliott, R., O'Connell, K., & Knapp, M., (2018, December). *Instructional Routines for Modeling Activities (IRMA) development retreat*. Led a two-day teacher-scientist partnership retreat working with math teachers to advance instructional routines using geographically contextualized data in high school math settings. HJ Andrews Experimental Forest, Blue River, OR.
- Elliott, R., Aaron, W., Giamellaro, M., & Knapp, M. (2018, October). One day workshop for high school teachers on Mathematical Modeling Instructional Routines. Bend, OR.
- Giamellaro, M., O'Connell, K., Knapp, M., Elliott, R., & Aaron, W. (2018, July). *Numbers in Nature, spring retreat*. Led a two-day teacher-scientist partnership retreat to support 8 math teachers to develop instructional routines using geographically contextualized data in high school math settings. HJ Andrews Experimental Forest, Blue River, OR.
- Giamellaro, M., O'Connell, K., Knapp, M. (2017, September). *Numbers in Nature, Math on the Mountain fall retreat*. Led a Two-day teacher-scientist partnership retreat at the HJ Andrews Experimental Forest to support 20 teachers in using geographically contextualized data with math and science in grades 4-12.
- Giamellaro, M., O'Connell, K., & Knapp, M. (Fall 2016 - Fall 2017). *Numbers in Nature, Math on the Mountain* coursework and coaching. Led four courses (ED 808) for 40 teachers to continue data literacy work as teacher-scientist partnership and provided *in situ* teacher coaching. Bend, OR.
- Giamellaro, M., O'Connell, K., & Knapp, M. (2017, February). *Numbers in Nature, Math on the Mountain winter retreat*. Led a Two-day teacher-scientist partnership retreat at Mt. Bachelor and OSU-Cascades to support 30 teachers in using geographically contextualized data with math and science in grades 4-12.
- Giamellaro, M. (2017, January). *Using the NGSS to increase the impact of free choice learning experiences*. Presentation to the affiliated partners of the Children's Forest of Central Oregon. Bend, OR.
- Giamellaro, M. (2016, December). *Why the NGSS? Understanding the philosophy behind the new standards*. Presentation to the science curriculum representatives of the Bend-La Pine School District. Bend, OR.
- Giamellaro, M., O'Connell, K., & Knapp, M. (2016, July). *Numbers in Nature, Math on the Mountain summer retreat*. Led a four-day teacher-scientist partnership retreat at the HJ Andrews Experimental Forest to support 30 teachers in using geographically contextualized data with math and science in grades 4-12.
- Giamellaro, M. (2015, November). *Data and directions forward II: The state of the Culver/OSU STEM project*. Presentation to the Culver School District, Culver, OR.
- Prevenas P., Giamellaro, M., Bezdek, K., Rico, P., Wagner, C., & Nanez, S. (2015, August) *STEM Summer Institute*. Organized a week-long summer institute for K-12 teachers to support them in the development of STEM-focused, Project-Based Learning curriculum units that vertically align to NGSS across the K-12 Spectrum. Participants earned graduate professional development credits.

- Giamellaro, M. (July 2014 & 2015). *Camp Tamarack STEM Experience*. Facilitated and organized free, 2-day STEM Camps taught by Dr. Giamellaro's MAT students for upper elementary and middle school students. Collaboration with Camp Tamarack.
- Giamellaro, M. & Daily, Q. (Spring, 2015). Co-taught 3-credit SED 599 course, *Developing STEM content into project-based curricula, part 2* for in-service teacher development: Culver, Black Butte, and Redmond Schools.
- Giamellaro, M. (2014, December). *Data and directions forward: The state of the Culver/OSU STEM project*. Presentation to the Culver School District, Culver, OR. February 2015.
- Giamellaro, M. (2014, December). *Teaching for contextualization*. Lecture presented to Black Butte School Board and Curriculum Committee, Camp Sherman, OR.
- Giamellaro, M. & Prevenas P. (2014, August) *STEM Summer Institute*. Organized and led a week-long summer institute for K-12 teachers to support them in the development of STEM-focused, Project-Based Learning curriculum units.
- Giamellaro, M. & Daily, Q. (Spring, 2014). Taught 3-credit SED 599 course, *Developing STEM content into project-based curricula, part 1* for in-service teacher development with Culver Schools.
- Giamellaro, M. (2014, February) *Aligning integrated curricula to the Next Generation Science Standards*. Workshop presented to the staff of Culver School District, Culver OR.
- Giamellaro, M. (2013, October). *Using lesson study to build professional learning communities for curriculum reform*. Workshop presented to the staff of Culver School District, Culver OR.
- Giamellaro, M. & Dollar, N. (2013, August). *Integrating curricula with a STEM approach*. Workshop presented to the staff of Culver School District. Bend, OR.
- Giamellaro, M. (2013, April) *What exactly is inquiry?* Workshop presented to staff of Bear Creek Elementary School, Bend, OR.

AWARDS AND HONORS

- 2019 Director's Coin: Awarded by OSU Vice Provost for University Outreach and Engagement. "The Director's Coin signifies the respect and admiration of the institution shown to those who step up in support of our critical role of a 'People's University'"
- 2017 OSU Vice Provost Award of Excellence: Outreach and Engagement (awarded to the *Numbers in Nature* project; (Giamellaro was PI)
- 2016 OSU-Cascades Scholarship and Creative Activity Award. One award across the campus each year.
- 2015 Fred Fox Distinguished Service to Science Education Award. Oregon Science Teachers Association (OSTA)
- 2004 Outstanding Graduate Award, University of Colorado Denver

RESEARCH GROUPS

CREAS- Centre de recherche sur l'enseignement et l'apprentissage des sciences
(Center for Research in Youth, Science Teaching and Learning): Associate
Research Member. 2020-present

UFERN- Undergraduate Field Experience Research Network, contributing researcher.
2019-present

PROFESSIONAL AFFILIATIONS

AACTE, American Association of Colleges for Teacher Education (Member)

AERA, American Educational Research Association (Member)

ASTE, Association for Science Teacher Education (Member)

ESERA, European Science Education Research Association (Member)

NARST, National Association for Research in Science Teaching (Member)

NSTA, National Science Teachers Association (Member)

OSTA, Oregon Science Teachers Association (Member)

SERVICE (to the profession)

Editorial Review Boards

Journal of Research in Science Teaching, Editorial Review Board: 2020-23

Journal of Science Teacher Education, Editorial Review Board: 2018-23

Peer Reviewer for:

National Science Foundation DRK-12 Grant Program (2022)

Science Education (journal)

Teaching and Teacher Education (journal)

Connected Science Learning (journal)

Book chapters: Meidl, T.D. and Sulentic Dowell, M-M., eds. (2018). *Handbook of research on service-learning initiatives in teacher education programs*. Hershey, PA: IGI-Global. DOI:10.4018/978-1-5225-4041-0.

Professional conference proposal reviews:

NARST (2012, 2013, 2014, 2016, 2019)

AERA (2013, 2017, 2019, 2020)

ASTE (2015, 2016)

ESERA (2019)

Professional conference session presider or chair:

ASTE (2016)
NARST (2014, 2017)
AERA (2014)
ESERA (2014)

Advisory Boards

Central Oregon STEM Hub (2014-present). Co-founder, Executive Council member, and Advisory Board Member. Also work with the hub and approved partners to facilitate OSU teacher professional develop credits through partnerships.

Ayotte-Beaudet, J-P.; Chastenay, P. (2019-2021). Formal advisor to grant-funded project: Le transfert des apprentissages contextualisés en sciences au primaire: développement méthodologique. (The transfer of contextualized learning in science to elementary school: methodological development). \$51,998 CAD awarded by the Social Sciences and Humanities Research Council of Canada.

Oregon Department of Education, State Science Advisory Panel (2014-2019)

Mentor for NARST 2020 Graduate Student Research Symposium

SERVICE (to the university & campus)

Search Committees

- Chair: Associate Dean of Cascades Campus Search Committee (2022)
- Three Program Directors (division leaders below Dean) OSU-Cascades Campus (2020).
- Associate Dean of Cascades Campus Search Committee (2017-2018)
- Dean of the College of Education Search Committee (2016-2017)

College of Education Representative to the OSU Faculty Senate Research Council (2022)

Carnegie Community Engagement Classification Committee (2018-2019).

OSU-Cascades Campus Committees:

Teaching Excellence Committee (2020)
K-12 Outreach Task Force (2020)

Peer Review of Teaching (PROT) committees (2013, 2014, 2017-Chair, 2018-Chair (2), 2019 (3), 2020 (3, Chair on 1))
Layman Fellows selection committee chair (2017-2019, Member in 2020)
Art on Campus Committee (2018-2019)
Research Excellence Committee (2016-present)
Undergraduate Research & Experiential Learning Committee (2016-present).
Campus Culture Committee (2014-2016)
New campus committees (technology, architecture, lab spaces, 2013-2015)
Library technology committee (2012-2013)
Office and space use committee (2014-2015)
Faculty professional development in the use of R statistical software (2020). Organized and acquired funding for a 2-term, campus-wide, extended PD cohort.
Mentor two undergraduate first year students per year (2017-present)
Grant and expertise support to American Association for University Women STEM Project (funded) and STEM Hub/ regional school district consortium *Math in Real Life* grant (funded). (2016).
OSU SMILE (Science & Math Investigative Learning Experiences) campus facilitator (2015)

SERVICE (to the College of Education)

Member Committee & Outreach Committee (2020)
Co-Chair OSU College of Education Teaching and Learning Governance Committee (2018-2019)
Member OSU College of Education Teaching and Learning Governance Committee (2018-2020)
Chair OSU College of Education Curriculum Subcommittee (2018-2019)
OSU College of Education Curriculum Committee (2017-2018)
OSU College of Education Strategic Planning Committee member (2016-2017).
OSU College of Education Search Committees:
Assistant Dean of Education Licensure and Accreditation (2020)
Secondary Full Time Instructor in MAT Program (2017)
Secondary Full Time Instructor in MAT Program (2016)
Elementary and Secondary Full Time Instructors in MAT Program (2014-15)
HR administrator (2013)
Primary role in complete redesign of the OSU-Cascades MAT curriculum and program 2014-2015.

SERVICE (to the community)

Organized and led several online discussion seminars for local science teachers responding to remote teaching during the Covid-19 pandemic (2020)

Consultation and Support to School Districts:

Culver School District conversion to STEM curriculum, (2013-2019)

Black Butte School District: Curriculum design and structure (2014-2017)

Consult on the Pine Meadows Ranch Science Center planning effort (2017-2019)

Arranged and hosted: *Cadavers and Cupcakes, A Conversation for Educators with Author Mary Roach. January, 2018.*

Designed, obtained IRB approval, and conducted survey for Deschutes Children's Forest (~2000 teacher recipients) 2014, 2015.

See additional service to the community in "K-12 Outreach and Professional Development" above.