

## Carlo Salvinelli, Ph.D.

### CONTACT INFORMATION

University of Colorado Boulder  
Department of Civil, Environmental and Architectural Engineering  
Mortenson Center in Global Engineering  
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### EDUCATION

- PhD 2016 Geological Engineering, Missouri University of Science and Technology, Rolla, MO, USA  
Dissertation: *Lifetime and effectiveness evaluation of ceramic pot filters.*
- MS 2012 Engineering Management, University of Brescia, Italy  
Thesis: *Technical, economic, and organizational evaluation of the development of a fish processing cooperative enterprise: the case CENTROMAR.*
- BS 2007 Industrial Engineering, University of Brescia, Italy and Technical University of Madrid, Spain (Erasmus Grant Program, Sept 05-Dec 06)  
Thesis: *Quality certifications for the exportation of agricultural and food products in the European community: the case Nicaraocoop*

### APPOINTMENTS

- 2017-present Associate Teaching Professor (2023-present), Assistant Teaching Professor (2017-2023) - Department of Civil, Environmental and Architectural Engineering, Mortenson Center in Global Engineering and Resilience, University of Colorado Boulder - Boulder, CO, USA.  
Curriculum development, course design, teaching, and research in the area of Global Engineering.  
  
Teaching topics: Humanitarian Response and Disaster Management, Methods for Global Engineers, International Development Project Management, Engineering Design, Global Engineering.  
  
Research interests: monitoring and impact evaluation of water service delivery solutions, engineering education, coherence between humanitarian and development efforts in response to forced displacement related crises, and disaster risk reduction.
- 2013-2017 Graduate Teaching/Research Assistant - Geological Engineering Program / Material Research Center, Missouri University of Science and Technology, Rolla, MO, USA.  
  
Laboratory and field research related to household water treatment systems for underserved communities. Instructor of record for the senior design course sequence: "International Engineering and Design." (Two semesters including a three-week field trip to Guatemala).
- 2010-2012 Project Manager - Italian Agency for Development Cooperation / INGO International Committee for the Development of People - Guatemala, Belize, Honduras, CA.  
  
Design and implementation of international development projects with focus on rural livelihood, water and sanitation access, rural electrification, disaster risk reduction, and

- natural resources management; coordination of emergency response efforts; facilitation of international policy dialogues.
- 2007-2010 Responsible for technological solutions - UNESCO Chair on Touristic Planning and Sustainable Development - University of Las Palmas de Gran Canaria, Las Palmas, Spain. Feasibility studies, proposal development and implementation of international development projects with technological content with focus on rural livelihood, water and sanitation access, and rural electrification.
- 2007-2009 Teacher – Istituto Istruzione Superiore Carlo Beretta (High School), Brescia, Italy. Subjects: Mechanical technology, machines, hydraulics, industrial technical drawing, industrial organization.

## COURSE DEVELOPMENT AND TEACHING

Data for Development	CU Boulder	2022
Introduction to Humanitarian Aid	CU Boulder	2020-2023
Disaster Risk Reduction	CU Boulder	2020-2022
Refugees and Displacement	CU Boulder	2020-2022
Community Appraisal	CU Boulder	2020-2024
Study Design and Impact Evaluation	CU Boulder	2020-2024
Data Collection and Analysis Tools	CU Boulder	2020, 2021
Program and Project Management	CU Boulder	2020-2024
Solution Identification & Proposal Development	CU Boulder	2020-2024
Introduction to Global Engineering	CU Boulder	2020-2022
First Year Engineering Project	CU Boulder	2017-2019, 2024
Fieldwork Methods for Development Engineers	CU Boulder	2017-2019
Sustainable Community Development 2	CU Boulder	2017-2019
Humanitarian Response and Disaster Management	CU Boulder	2017-2019
International Engineering Design	Missouri S&T	2013-2016

## PUBLICATIONS

1. Falcone, M., **Salvinelli, C.**, Sharpe, T., Kamara, A., Thomas, E., in review. Assessing the Functionality of a Water-Vending Kiosk Network with High-Frequency Instrumentation in Freetown, Sierra Leone. *Environ. Sci. Technol.*, submitted on May 16, 2023.
2. Falcone, M., **Salvinelli, C.**, Bah, M., Thomas, E., 2023. Effectiveness of a Water-Vending Kiosk Intervention Toward Household Water Quality and Surveyed Water Security in Freetown, Sierra Leone. *Sci. Total Environ.*, 875, p.162447. DOI: <https://doi.org/10.1016/j.scitotenv.2023.162447>.
3. Tisdale, J., Bielefeldt, A., MacDonald, L. and **Salvinelli, C.**, 2022. Sustainability Inclusion Efforts in Three Unique First-Year Engineering Courses. 2022 ASEE Annual Conference & Exposition, Excellence Through Diversity, Minneapolis, MN, June 26-28.

4. Siller, T.J., Marti, E.J., Budischak, C., Gordon, M. and **Salvinelli, C.**, 2022. An International Design Project for First Year Engineering Students at Multiple US Institutions. 2022 First-Year Engineering Experience, ASEE, East Lansing, MI, July 31-August 2.
5. MacDonald, L., Thomas, E., Javernick-Will, A., Austin-Breneman, J., Aranda, I., **Salvinelli, C.**, et al., 2022. Aligning learning objectives and approaches in global engineering graduate programs: Review and recommendations by an interdisciplinary working group. *Development Engineering*, p.100095. DOI: <https://doi.org/10.1016/j.deveng.2022.100095>
6. Thomas, E., **Salvinelli, C.**, Harper, J., MacDonald, L., Klees, R., Platais, G., Javernick-Will, A. and Linden, K., 2021. A Body of Knowledge and Pedagogy for Global Engineering. *International Journal for Service Learning in Engineering, Humanitarian Engineering and Social Entrepreneurship*, 16(1), pp 37-57. DOI: <https://doi.org/10.24908/ijlse.v16i1.14483>
7. Obrist-Farner, J., Brenner, M., Curtis, J. H., Kenney, W. F., **Salvinelli, C.**, 2019. Recent onset of eutrophication in Lake Izabal, the largest water body in Guatemala. *J Paleolimnol*, pp 1-14. DOI:10.1007/s10933-019-00091-3
8. Mutungwa, W., Pieper, Z., Macharia, S., **Salvinelli, C.**, 2019. Rainwater Catchment Systems to Increase Water Access in the Rural Area of Northern Province, Rwanda. World Environmental and Water Resources Congress, ASCE, Pittsburgh, PA, May 19-23. DOI: 10.1061/9780784482322.016
9. **Salvinelli, C.**, Merfeld-Langston, A., Elmore, A.C. 2018. Comparison of Field-Measured Ceramic Pot Filter Performance and Users' Perception of Performance in Coastal Guatemala. World Environmental and Water Resources Congress, ASCE, Minneapolis, MN, June 3-7. DOI: 10.1061/9780784481394.020
10. Dobias, J., **Salvinelli, C.** 2018. Linear Regression Analysis and Statistical Models Using Oceanic and Atmospheric Variables for Streamflow Forecasting in Chixoy River, Guatemala. World Environmental and Water Resources Congress, ASCE, Minneapolis, MN, June 3-7. DOI: 10.1061/9780784481417.028
11. Goodwin, J., Elmore, A.C., **Salvinelli, C.**, Reidmeyer, M.R. 2017. An optical method for characterizing carbon content in ceramic pot filters. *J Water Health*, 15(4). DOI: 10.2166/wh.2017.049
12. **Salvinelli, C.**, Elmore, A.C., García Hernandez, B.R., Drake, K.D. 2017. Ceramic Pot Filters Lifetime Study in Coastal Guatemala. *J. Water Health*, 15(1) 145-154. DOI: 10.2166/wh.2016.082
13. **Salvinelli, C.**, Elmore, A.C., Reidmeyer, M.R., Drake, K.D., Ahmad, K.I. 2016. Characterization of the relationship between ceramic pot filter water production and turbidity in source water. *Water Research*, 104, 28-33. DOI: 10.1016/j.watres.2016.07.076
14. **Salvinelli, C.**, Elmore, A.C. 2015. Assessment of the impact of water parameters on the flowrate of ceramic pot filters in a long-term experiment. *Water Sci. Technol. Water Supply*, 15(6), 1425-1432. DOI: 10.2166/ws.2015.107
15. White, E. P., Langenfeld, J. K., Bradford, E. L., Haywood, H. G., **Salvinelli, C.**, and Elmore, A.C. 2015. Assessment of Flow Rate as a Quality Control Test for Ceramic Pot Filters. World Environmental and Water Resources Congress, ASCE, Austin, TX, May 17-21. DOI: 10.1061/9780784479162.136

## **AWARDS**

2013            CeTAmb - University of Brescia, Italy - Distinguished thesis award: appropriate technologies for environmental management in developing countries. M.Sc. Thesis.

## **PROFESSIONAL SERVICE**

2021-Present    Member of the Online Executive Committee - College of Engineering and Applied Science, CU Boulder.

2017-Present    Mentor of the Guatemala, Rwanda and Nepal teams of the Engineers Without Borders-USA chapter at CU Boulder.

2014-2022       Member of the American Society of Civil Engineers (ASCE) and of the Environmental and Water Resources Institute (EWRI):  
- Vice-Chair of the Visiting International Fellowship Committee,  
- Member of the Students & Education Council and the Sustainability Committee.

2015-Present    Member of Amici di Ariwara ONLUS, and founding member of Ass. Cantieri Innovazione, Italy. Design and implementation of international development projects focused on energy and WASH solutions for underserved communities.

2006-2015       Member of SIPEC Foundation. Design and implementation of international development projects with technological content in Latin America and Africa.