



UNIVERSITY OF PARMA, ITALY 1993, 1994, 2000  
Guest lecturer

INSTITUTE OF TECHNOLOGY, TURIN, ITALY 1990  
Guest Professor

UNIVERSITY OF PADUA, ITALY 1988  
Chartered Geologist Certification, Italian Republic

### **HONORS & AWARDS**

ETH Silver Medal for outstanding doctoral research (1991)  
ETH/Tokyo Institute of Technology Award for outstanding young scientist (1992)  
ITALIAN SPACE AGENCY, Space Shuttle Astronaut Selections, Finalist (1993)  
ISU Wakonse Fellow (2015)  
Faculty Recognition Award in All-Greek Academic Recognition Ceremony (2007)  
LAS Master Teacher, ISU (2007-2008)  
2010-2011 Peer Mentor Supervisor Award (2010-2011, 2011-2012, 2014-2015)  
Fulbright Specialist Roster Candidate (2011-2016)  
Fulbright Scholar, University of Genova, Italy (2012)  
Wilbur L. Layton Faculty Appreciation Award from Student Affairs, ISU (2014)  
Outstanding Reviewer Award, Journal of Geoscience Education, NAGT (2014)  
Morrill Professor – Distinguished Teaching Professor, ISU (2014)  
Learning Communities Scholarship Award (2015)  
One of 30 Women in Science and Engineering Champions to honor 30<sup>th</sup> anniversary of WISE, ISU (2016)  
ISU Corly Brooke Learning Community Advocate Award (2017)  
Geological Society of America, Fellow (2017)

### **PROFESSIONAL SOCIETIES**

Geological Society of America, American Geophysical Union, National Association of Geoscience Teachers, National Science Teachers' Association, Sigma Xi, Association for Women Geoscientists

### **TEACHING EXPERIENCE**

#### **Iowa State University**

Geology 100 – The Earth (fall semester, since 2001) – 3 credits  
Meteorology 206 – Introduction to Meteorology (2002-2011) – 3 credits  
Geology/Meteorology 112 and 113 – Orientation to Earth Wind & Fire Learning Community (fall and spring semesters, since 2010) – 1 credit  
Geology/Astronomy 106 and 106L – Earth and Space Science for Elementary Education majors (fall and spring semesters, since 2011) – 3 credits

#### **University of Maine, Orono**

Physical Geology GES 101 – 1997 – 4 credits (lecture, lab and recitation)  
Stratigraphy GES 315 – 1996-1997 – 4 credits  
Isotope Geology GES 527 – 1994-1998 – 3 credits  
Stable isotope applications to carbonate rocks and other environments GES 602-07 – 2 credits - 1995  
Climate and Tectonics GES 602-02 – 1996 – 1 credit  
Recent topics in Sedimentology and Stratigraphy GES 602-04 – 1997 - 1 credit – 6 students

#### **ETH Zurich**

Introduction to Scanning Electron Microscopy, Intensive course (1991-1996)

### **FUNDED RESEARCH**

National Science Foundation - Division of Undergraduate Education - ILI-IP Proposal (6/1997 to 5/1999): 'Capstone Experience for Geoscience students at the University of Maine: Integrating fieldwork, laboratory analysis and multimedia technology in a teamwork environment' (\$75,586 with 50% matching funds).

Swiss National Science Foundation (10/1997 to 9/1999): 'Integrating the *Neptune* database into the MRC in Basel' (Collaboration with M. Knappertsbusch)(Sfr 110,000).

A virtual tornadic thunderstorm to enable student-centered learning about complex storm-scale atmospheric dynamics. National Science Foundation (DUE-CCLI). \$74,949 (CoPI with W.A. Gallus, Jr., and C. Cruz-Neira), Feb 2002 – Jan 2004.

Enhance student learning in a large introductory science class: Establish Calibrated Peer Review™ in Geology 100 and design of an interactive WWW-based exercise to explain fractional crystallization in a magma chamber. Iowa State University, Instructional development Grant, \$2,000, Oct 2001 – Jun 2002.

Human response to global change: using the marine record to establish environmental gradients across the Mediterranean at the time of first emergence of agriculture and ensuing dispersal. University Research Grants (ISU), \$18,000, Jun 2002 – May 2003.

A pilot project to adapt and evaluate the Calibrated Peer Review™ tool for the Earth Sciences, National Science Foundation (DUE-CCLI-EMD), \$13,608 (CoPI with R. Ridky, University of Maryland), Jul 2002-Jun 2003.

Introducing a web-based writing and peer review component into introductory-level Earth science classes: adaptation of the Calibrated Peer Review™ tool successfully used in chemistry. National Science Foundation (DUE-EMD- proof of concept), \$74,844, Jan 2003 – Dec 2004, funded.

Academy of Applied Science, Research and Engineering Apprenticeship Program, summer 2002, \$2,500, funded.

Academy of Applied Science, Research and Engineering Apprenticeship Program, summer 2003, \$2,500, funded.

Collaborative Research: **CHRONOS** Network for Earth System History: development of integrated databases and toolkits accessible through a common Portal. National Science Foundation, EAR, Geology and Paleontology, lead PI in collaboration with 14 institutions, total budget requested: \$10,927,955, ISU portion: \$3,060,221 (awarded \$1,490,000 for 2 years), submitted January 8, 2003, funded.

Collaborative Research: **CHRONOS** Network for Earth System History: development of integrated databases and toolkits accessible through a common Portal. National Science Foundation, EAR, Geology and Paleontology, PI for supplemental fund request, \$82,299, submitted July 24, 2003, funded.

Humanizing science to improve the teaching and learning of science content. ISU Miller grant, \$24,606, coPI with M. Clough, J. Olson, J. Colbert, and D. Wilson, funded.

Academy of Applied Science, Research and Engineering Apprenticeship Program, summer 2004, \$2,500, funded.

Using 3D computer graphics to improve geoscience learning for non-science undergraduate students. ISU Miller grant, \$25,000, CoPI with C. Harding, K. Windom, and J. Pedrick-Dawson.

Academy of Applied Science, Research and Engineering Apprenticeship Program, summer 2005, \$2,600, funded.

The CHRONOS System: geoinformatics for deep-time Earth processes. NSF-EAR, PI with 10 subawards, requested \$10,572,760, funded Aug 1 2005 – Jul 31 2006, \$1,069,333.

Development of cutting-edge geoscience virtual reality applications for classroom instruction and pedagogical evaluation of the impact on learning of VR technology. NSF-DUE-CCLI, CopI with W. Gallus, C. Cruz-Neira, and T. Greenbowe, 07/01/06 to 06/30/09, \$478,244, submitted Jan 24, 2006, funded.

Humanizing science to improve post-secondary science education: pursuing the second-tier. NSF-DUE-CCLI, 06/01/06 to 05/31/08, \$293,718, CoPI with M. Clough, J. Olson, J. Colbert, and M. Stanley, submitted Jan 24, 2006, funded.

ANDRILL data management, subaward from Univ. Nebraska, 2006-2007, \$99,947, funded.

Ocean Drilling Data Discovery, Global Visualization, and Synthesis. NSF-OCE, CoPI with W.B.F. Ryan, Columbia Univ., \$68,325, funded.

ODP: Enabling Query by Age through Web Services, subcontract from JOI/ODP, \$85,000, funded.

Small County: Web-based Instruction in the Geological Characterization of Petroleum Reservoirs. NSF-DUE, Project Consultant, PI: G. Bohling, Univ Kansas, \$10,000.

NSF-IODP: JanusAMP and IODP's IT architecture, contract from IODP-MI, \$94,000, funded.

Undergraduate Science Education 2010, Howard Hughes Medical Institute (HHMI) Core Proposal, CoPI, Lead PI: Craig Ogilvie, \$1,600,000, submitted October 2009, funded.

Development of Online ThinkSpace to Increase Students' Problem-Solving Skills. NSF-DUE-CCLI, senior personnel, Lead PI: Craig Ogilvie, \$250,000, funded.

I-AMASE – an initiative for science education. ISU LAS SRI project, CoPI, Lead PI C. Ogilvie, \$86,530, 2013-2016.

Collaborative Research: Google Earth for Onsite and Distance Education (GEODE), Senior Personnel (PI: Declan DePaor, Old Dominion University), \$4,672,965, NSF-TUES Tier III proposal, submitted January 14, 2013, funded.

Infusing Active Learning and Quantitative Reasoning in STEM education at ISU, Howard Hughes Medical Institute (HHMI) Core Proposal, CoPI, Lead PI: Craig Ogilvie, \$2,500,000 requested, \$1,200,000 funded, Jul 2014-Jun 2019, no indirect, 12 months ½ time RA support.

A Severe WeAther Tool to Expose Students in Science Learning Communities to Authentic Research. Morrill Faculty Award Proposal, CoPI, Lead PI: W. Gallus, \$14,000, 30% effort, submitted Dec 8, 2014.

A STEM Neighborhood: Using service learning to improve students' science and math literacy. Morrill Faculty Award Proposal, CoPI, Lead PI: Heather Bolles, \$11,000, 10% effort, July 1, 2015 – June 30, 2016.

NSF ADVANCE Partnership: Joining Forces - A Midwestern Partnership for STEM Faculty Success. Collaborative project among Iowa State University, North Dakota State University, Michigan Technological University, and Western Michigan University. Lead PI: C. Cervato. Start date: October 1, 2019. Duration: 36 months. Total budget: \$996,486; ISU portion: \$418,802.

E-MISSION: a multiplayer text-based game to increase awareness of lifestyle choices' impact on our planet. CoPIs: S. Briggs, Z. Robinson, J. Pringle, R. Crawford (Keele University), C. Cervato, L. Nadolny (ISU), £5,000, Keele Teaching Innovation Project, Start date: August 1, 2019, 12 months.

## SCHOLARSHIP (\* INDICATES STUDENT AUTHOR)

1. Cervato C., De Vecchi Gp. and Sedeo R. (1985). Secondary dolomitization phenomena in Mesozoic formations in the Eastern Lessini Mounts (NE - Italy). *Boll. Soc. Geol. Ital.*, 104, 289-296.
2. Cervato C. (1990). Tectonically induced hydrothermal dolomitization of Jurassic-Cretaceous limestones in the Central Southern Alps (Italy). *Geology*, 18, 458-461.
3. Spencer-Cervato, C. (1991). Dolomitizzazione idrotermale di calcari pelagici giurassico-cretacici nelle Alpi Meridionali (Italia). *Boll. Soc. Geol. Ital.*, 110, 139-154.
4. Spencer, D.A., Ramsay, J.G., Spencer-Cervato, C., Pognante, U., Ghazanfar, M. and Nawaz Chaudhry, M. (1990). High pressure (eclogite facies) metamorphism in the Indian Plate, NW Himalaya, Pakistan. *Bulletin of the University of Peshawar*, 23, 87-100.
5. Spencer-Cervato, C. and Mullis, J. (1992). Chemical study of tectonically controlled hydrothermal dolomitization: an example from the Lessini Mountains, Italy. *Geologische Rundschau*, 81(2), 347-370.
6. Spencer-Cervato, C., Lazarus, D., Beckmann, J.P., von Salis Perch-Nielsen, K. and Biolzi, M. (1993). New calibration of Neogene radiolarian events in the North Pacific. *Marine Micropaleontology*, 21, 261-293.
7. Spencer-Cervato, C., Thierstein, H.R., Lazarus, D.B. and Beckmann, J.P. (1994). How synchronous are Neogene marine plankton events? *Paleoceanography*, 9, 739-763.
8. Lazarus, D.B., Hilbrecht, H., Spencer-Cervato, C. and Thierstein, H.R. (1995). Sympatric speciation and phyletic change in *Globorotalia truncatulinoides* (planktonic foraminifera). *Paleobiology*, 21, 28-51.
9. Lazarus, D., Spencer-Cervato, C., Pika-Biolzi, M., Beckmann, J.P., von Salis, K., Hilbrecht, H. and Thierstein, H. (1995). Revised chronology of Neogene DSDP Holes from the World Ocean. *Ocean Drilling Program Technical Note No. 24*, pp. 312 (also available on the WWW: <http://www.ngdc.noaa.gov/mgg/geology/lazarus.html>).
10. Spencer-Cervato, C. and Thierstein, H.R. (1997). First appearance of *Globorotalia truncatulinoides*: Cladogenesis and immigration. *Marine Micropaleontology*, 30, 267-291.
11. Spencer-Cervato, C. (1998). Changing depth distribution of hiatuses during the Cenozoic. *Paleoceanography*, 13, 178-182. [Additional data available in the NOAA-WDCA for Paleoclimatology Data Contr. Series #97-030: [ftp://ftp.ngdc.noaa.gov/paleo/paleocean/by\\_contributor/spencer-cervato1998/](ftp://ftp.ngdc.noaa.gov/paleo/paleocean/by_contributor/spencer-cervato1998/)].
12. Spencer-Cervato, C. (1999). The Cenozoic Deep Sea Microfossil Record: Explorations of the DSDP/ODP Sample Set Using the Neptune Database. *Palaeontologia Electronica*, vol. 2, issue 2, art. 4: 268pp., 2.4MB. [http://palaeo-electronica.org/1999\\_2/neptune/issue2\\_99.htm](http://palaeo-electronica.org/1999_2/neptune/issue2_99.htm)
13. Spencer-Cervato, C. and Daly, J.F. (2000). Geologic Time: An interactive, team-oriented Introductory Geology laboratory. *Teaching Earth Sciences*, 25, 19-22.
14. Cervato, C. (2003). Getting help from the Internet to teach a large-enrollment introductory geology class. *Journal of Geoscience Education*, 51, 185-193.
15. Cervato, C. and Burckle, L. (2003). Pattern of first and last appearance in diatoms: Oceanic circulation and the position of the Polar Fronts during the Cenozoic. *Paleoceanography*, 18(2), 1055, doi:10.1029/2002PA000805.
16. Gallus, W., Cervato, C., Cruz-Neira, C., Faidley, G. and Heer, R. (2004). A virtual tornadic thunderstorm enabling students to construct knowledge about storm dynamics through data collection and analysis. Extended abstract, *American Meteorological Society Bulletin*.
17. \*Jach, J.Y., and Cervato, C., 2004. Attitude toward learning science of students in introductory geology courses. *Teaching Earth Sciences*, 29 (2), 28-31.
18. Cervato, C., Goldstein, S., Grossman, E., Lehnert, K., and MacArthur, J.A., 2004. Joint discussion of sedimentary geochemistry data management systems that cross the waterline. *EOS*, 85, 44, 450-452.
19. Klump, J., Huber, R., Cervato, C., and Snyder, W.S., 2005. iGEOINFO.org – International Collaboration in GeoInformatics. *EOS*, 86, 27.
20. Gallus, W.A., Cervato, C., Cruz-Neira, C., \*Faidley, G., and Heer, R. (2005). Learning storm dynamics with a virtual thunderstorm. *Bull. Amer. Met. Society*, Feb 2005, 164-165.

21. Cervato, C., Snyder, W.S., Fils, D., et al. (2005). The CHRONOS System: geoinformatics for sedimentary geology and paleobiology. IEEE Data Interoperability proceedings volume, 182-186, <http://www.soe.ucsc.edu/~elm/msst05/MSST05-Sardinia-Proceedings-2.pdf>.
22. Sikora, P., Ogg, J.G., Gary, A., Cervato, C., Gradstein, F., Huber, B.T., Marshall, C., Stein, J.A., and Wardlaw, B. (2006). An Integrated Chronostratigraphic Data System for the 21<sup>st</sup> Century. Geological Society of America Special Paper 397, 53-61.
23. Gallus, W.A., Cervato, C., Cruz-Neira, C., and \*Faidley, G. (2006). A virtual tornadic thunderstorm enabling students to construct knowledge about storm dynamics through data collection and analysis. *Advances in Geosciences*, 8, 27-32.
24. \*Reed, J.A., Cervato, C., and Fils, D. (2006). PSICAT. *Geospectrum*, 5 (2), 33-34.
25. Cervato, C., Rudd, J. and \*Wang, V.Z. (2007). Diagnostic testing of Introductory Geology students. *Journal of Geoscience Education*, 55 (5), 357-363.
26. Fils, D., Cervato, C., and Diver, P. (2009). CHRONOS Architecture: Experiences with an Open Source Services Oriented Architecture for Geoinformatics. *Computers & Geosciences*, 35, 774-782.
27. Harding, C., Cervato, C., Larson, M., Windom, K., and Dawson, J.P. (2008). Exploring the use of 3D computer graphic for teaching relative geologic time in large introductory geology classes. *Teaching Earth Science*, 33(2), 19-22.
28. Cervato, C., Ridky, R., and \*Jach, J. (2009). News media databases for content selection and relevance in introductory geoscience courses. *Journal of College Science Teaching*, 38(7), 34-37.
29. Sadler, P. and Cervato, C. (2011). Data and Tools for Geologic Timelines and Timescales. In: Keller, G.R. and Baru, C. (Eds.) 'Geoinformatics', Cambridge University Press, 145-165.
30. Cervato, C., Gallus, W., Boysen, P., and Larsen, M. (2009). Today's forecast: higher thinking with a chance of conceptual growth. *EOS*, 90 (20), 175-176.
31. Cervato, C., and Frodeman, R. (2012). The significance of geologic time: cultural, educational, and economic frameworks. In: *Earth and Mind II*, GSA Special Paper 486, Kastens, K. and C. Manduca, eds., 19-27.
32. Rudd, J., \*Wang, V.Z., Cervato, C., and Ridky, R. (2009). Calibrated Peer Review for the geosciences. *Journal of Geoscience Education*, v. 57, 328-334.
33. \*Parham, T., Cervato, C., Gallus, W., Larsen, M., Stelling, P., \*Hobbs, J., Greenbowe, T., \*Gupta, T., Knox, J., Gill, T. (2010). The InVEST Volcanic Concept Survey: Exploring Student Understanding about Volcanoes. *Journal of Geoscience Education*, v. 58, 213-223.
34. Kastens, K., Manduca, C., Cervato, C., Frodeman, R., Goodwin, C., Liben, L., Mogk, D., Spangler, T., Stillings, N., and Titus, S. (2009). How geoscientists think and learn. *EOS*, 90 (31), 265-266.
35. \*Brooks, B. and Cervato, C. (2010). Habitat and tectonic controls of marine biogeography. *Palaeontologia Electronica*, 13/3, [http://palaeo-electronica.org/2010\\_3/209/index.html](http://palaeo-electronica.org/2010_3/209/index.html).
36. Cervato, C., Gallus, W., Boysen, P. and Larsen, M. (2011). Dynamic Weather Forecaster: results of the testing of a collaborative, on-line educational platform for weather forecasting. *Earth Science Informatics*, v. 4 (4), 181-189.
37. \*Bible, P., \*Boudreaux, H., Cruz-Neira, C., \*Parham, T., Cervato, C., Gallus, W., and Stelling P. (2009). Virtual Volcano: addressing student misconceptions in Earth sciences learning through virtual reality simulations. *International Symposium on Visual Computing, Lecture Notes in Computer Science*.
38. \*Parham, T., Cervato, C., Gallus, W., Larsen, M., \*Hobbs, J., and Greenbowe, T. (2011). Are movies and popular media driving students' poor understanding of volcanic processes? *Journal of College Science Teaching*, 41 (1), 14-19.
39. Cervato, C. (2011). Killer waves on the airwaves: new media, traditional media, and students' conceptualization of tsunamis. *GSA Today*, 21 (11), 36-38.
40. \*Suess, E.J., Cervato, C., Gallus, W., and \*Hobbs, J. (2013). Weather Forecasting as a Learning Tool in a Large Service Course: Does Practice Make Perfect? *Weather and Forecasting*, 28 (3), 762-771..

41. Cervato, C., Kerton, C., Hassall, L., \*Peer, A., and Schmidt, A. (2013). The Big Crunch: a hybrid solution to earth & Space science instruction for elementary education majors. *Journal of Geoscience Education*, 61, 173-186.
42. \*Reichert, C., Cervato, C., Larsen, M., and Niederhauser, D. (2014). Students' misconceptions of atmospheric carbon budgets: Undergraduate students' perceptions of mass balance. *Journal of Geoscience Education*, 62, 460-468.
43. Cervato, C. and Kerton, C. (2013). Turning the tables on pre-service teachers who don't like science: a reflective writing assignment. In the Trenches, April issue, 7-9.
44. Kerton, C. and Cervato, C. (2014). Assessment in online learning: It's a matter of time. *Journal of College Science Teaching*, 43 (4), 20-25.
45. Cervato, C., Gallus, W., Slade, M., Kawaler, S., Marengo, M., Woo, K., Krumhart, B., Flory, D., Clough, M., Campbell, A., \*Moss, E., and Acerbo, M. (2015). It takes a village to make a scientist: Reflections of a Faculty Learning Community Charged with Expanding Science Literacy and Opportunity. *Journal of College Science Teaching*, 44 (3), 28-35.
46. Cervato, C. & Bratsch-Prince, D. (2014). Maximizing Institutional Investment in Early Career Faculty: a Mentoring Model from ISU. In Dominguez, N. & Gandert, Y. (Eds.). 7th Annual Mentoring Conference Proceedings: Impact & Effectiveness of Developmental Relationships. Albuquerque, NM: University of New Mexico, 920-922.
47. Cervato, C. and Flory, D. (2015). Earth Wind & Fire: a learning community approach to build ties between degree programs in a geoscience department. *Journal of Geoscience Education*, 63, 41-46.
48. \*Reichert, C., Cervato, C., Niederhauser, D., and Larsen, M. (2015). Understanding atmospheric carbon budgets: teaching students conservation of mass. *Journal of Geoscience Education*, 63, 222-232.
49. \*Moss, E. and Cervato, C. (2016). Quantifying the level of inquiry in a reformed introductory geology lab. *Journal of Geoscience Education*, 64, 125-137.
50. Cervato, C. and Kerton, C. (2017). Improving the science teaching self-efficacy of preservice elementary teachers: a multi-year study of various instructional approaches in a hybrid geoscience course. *Journal of College Science Teaching*, 47, 83-91.
51. \*Moss, E., Cervato, C., Genschel, U., \*Ihrig, L., and Ogilvie, C. (2018). Authentic research in an introductory geology laboratory and student reflections: Impact on nature of science understanding and science self-efficacy. *Journal of Geoscience Education*, 66, 131-146.
52. \*Sage, A., Cervato, C., Genschel, U. and Ogilvie, C. (2018) Combining academics and social engagement: a major-specific early alert method to counter student attrition in STEM. *Journal of College Student Retention*, 1-16, doi/10.1177/1521025118780502.
53. Sandquist, E., Cervato, C. and Ogilvie, C. (2019). Positive Affective and Behavioral Gains of Freshmen in Course-Based Research across Disciplines. *SPUR: Scholarship and Practice of Undergraduate Research*. 2(4), 45-57. DOI: 10.18833/spur/2/4/9
54. Cervato, C. (2019). Web-based student response systems and peer instruction: a review and case study. *Journal of Academic Development & Education*, 11, 50-57, <https://doi.org/10.21252/41wc-kt98>.
55. St. John, K., Bitting, K., Cervato, C., Kastens, K., Macdonald, H., McDaris, J., McNeal, K., Petcovic, H., Pyle, E., Riggs, E., Ryker, K., Semken, S., and Teasdale, R. (2019). An Evolutionary Leap in how we teach geosciences. *EOS*, 100, <https://doi.org/10.1029/2019EO127285>. Published on 08 July 2019.
56. \*Thatcher, D., Cervato, C., Kerton, C., \*Thompson, N. and \*Halligan, T. (2018). Inquiry-Based Learning for Preservice Teacher Education: a mini-lab approach. Submitted to *Journal of Geoscience Education*.

## ABSTRACTS

1. Cervato C. (1988). Hydrothermally induced dolomitization in the Mesozoic pelagic limestones in the Eastern Southern Alps (Italy). 9th IAS Regional Meeting of Sedimentology, Leuven, Belgium, 40-41.
2. Cervato C. (1989). Tectonically induced hydrothermal dolomitization of Jurassic-Cretaceous limestones in the Central Southern Alps (Italy): Petrography and isotope geochemistry. *EUG V*, Strasbourg, France, Terra Abstracts, 1, 345.

3. Cervato C. (1989). New insights in the Tertiary tectonics of the Central Southern Alps (Italy) and its bearing on the movement of hydrothermal fluids. Tectonic Studies Group Meeting, London, England, 39.
4. Hilbrecht, H., Lazarus D.B., Spencer-Cervato C., & Thierstein, H.R. (1990). Morphometrie an planktonischen Foraminiferen: die *Globorotalia crassaformis* - *tosaensis* - *truncatulinoides* - *cavernula* - Reihe (DSDP Sites 587 und 591). Bremen.
5. Spencer-Cervato, C. (1990). Hydrothermal fluid circulation during late stage alpine collision: A new dolomitization model. International Conference on fluids in subduction zones, Paris, France, 102.
6. Spencer-Cervato, C. and Mullis, J. (1990). Application of fluid inclusions for fluid movement reconstruction. International Conference on fluids in subduction zones, Paris, France, 89.
7. Spencer-Cervato, C. (1991). Hydrothermal dolomitization of Jurassic-Cretaceous limestones in the Southern Alps (Italy): Its relationship with tectonics and volcanism. Dissertation Abstracts International, Section C, University Microfilms Inc., Ann Arbor, MI, USA, 52/2, 222.
8. Spencer-Cervato, C., Hilbrecht H., Lazarus D. and Thierstein H.R. (1991). Computerized morphometric analyses of planktonic foraminifera using "Image Analyst". Terra Abstracts, 3, 289.
9. Thierstein H.R. and Spencer-Cervato, C. (1991). Sedimente aus dem Zürichsee. ETH-Department of Earth Sciences Open Day, 26.1.1991. Poster.
10. Thierstein H.R., Spencer-Cervato, C., Hilbrecht H., Hills S.J. and Lazarus, D. (1991). Evolutionary origin and morphological differentiation of the extant planktonic foraminifer *Globorotalia truncatulinoides*. Terra Abstracts, 3, 280.
11. Spencer-Cervato, C. and Spencer, D. A. (1991). Stable isotope analysis of the carbonates in the Higher- and Lesser-Himalaya, north Pakistan. Géologie alpine, Mémoire h.s., No. 16, 87.
12. Spencer-Cervato, C. (1991). Oligocene back-arc extension in the Southern Alps: volcanism and hydrothermal fluid circulation. Swiss Tectonic Studies Group Meeting, Bern, 36.
13. Lazarus, D., Spencer-Cervato, C., Bollmann, J., Biolzi, M., Beckmann, J.P., von Salis Perch-Nielsen, K., Hilbrecht, H. and Thierstein, H.R. (1991). Neogene radiolarian stratigraphy in high latitudes. Radiolarian Conference, 54.
14. Lazarus, D., Spencer-Cervato, C., Bollmann, J., Biolzi, M., Beckmann, J.P., von Salis Perch-Nielsen, K., Hilbrecht, H. and Thierstein, H.R. (1991). The ETH global Neogene plankton project. Radiolarian Conference, 55.
15. Spencer-Cervato, C. (1991). Hydrothermal fluid circulation in brecciated limestones: a new dolomitization model. Dolomieu Conference on Carbonate Platform and Dolomitization, Ortisei, Italy, 259-260.
16. Spencer-Cervato, C. and Mullis J. (1991). Fluid inclusions in dolomite: determination of the composition of the dolomitizing paleo-fluid. Dolomieu Conference on Carbonate Platform and Dolomitization, Ortisei, Italy, 261.
17. Spencer-Cervato, C. and Spencer, D.A. (1992). Stable isotope analysis of Tethyan carbonates in the Higher- and Lesser-Himalaya, north Pakistan. First South Asian Geological Congress, 42.
18. Spencer-Cervato, C., Lazarus, D.B., Beckmann, J.P., von Salis Perch-Nielsen, K., and Biolzi, M. (1992). New calibration of Neogene radiolarian events in the North Pacific. 29th Intern. Geol. Congress, Kyoto, Japan, 252.
19. Spencer-Cervato, C., Beckmann, J.P., Casey, M., Hilbrecht, H., Lazarus, D.B., von Salis Perch-Nielsen, K., Thierstein, H.R., and Biolzi, M. (1992). Revised Neogene plankton biochronology. 29th Intern. Geol. Congress, Kyoto, Japan, 244.
20. Spencer-Cervato, C. and Spencer, D.A. (1992). Cathodoluminescence microscopy of amphibolite/eclogite facies marbles: evidence for minor element distribution. VII Himalayan-Karakorum-Tibet Workshop, Oxford, 86.
21. Spencer, D.A. and Spencer-Cervato, C. (1992). Exhumation and cooling history of eclogite and amphibolite facies rocks in the Upper Kaghan Nappe, NW Himalaya, Pakistan. VII Himalayan-Karakorum-Tibet Workshop, Oxford, 85.
22. Spencer-Cervato, C. and Spencer, D.A. (1992). Petrographic and isotopic study of the marbles from Upper Kaghan, NW-Himalaya, Pakistan. Symposium on Himalayan Geology, Shimane, Japan, 56-58.



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124. Parham, T., Cervato, C., (2012) *Virtual Volcano: Employing simulation-driven inquiry in the geosciences*. (2012) 2<sup>nd</sup> Biennial Conference on Transforming Research in Undergraduate STEM Education, June 3-7, 2012, St. Paul, MN.
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127. Cervato, C. and Kerton, C. (2013). "Why do I need to learn science? A structured e-learning approach using ThinkSpace to address pre-service K-5 teachers' attitudes toward science. *Geological Society of America Abstracts with Programs*, 45, No. 7, 655.
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129. Sandquist, E., Coffman, C., Cervato, C., Essner, J., & Ogilvie, C. (2016). Implementation of the Freshmen Research Initiative at Iowa State University. Poster session presented at the Council for Undergraduate Research Biennial Conference, Tampa, FL, June.
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139. *Halligan, T. \** and Cervato, C. (2018). Assessing science literacy gains in a flipped introductory physical geology course: preliminary results. Geological Society of America Abstracts with Programs. Vol. 50, No. 4, ISSN 0016-7592, doi: 10.1130/abs/2018NC-312593.
140. Cervato, C., *Halligan, T.\**, Kerton, C., Thatcher, D.\*, and Thompson, N.\*(2018). Where does rain go? A multiphase lab exercise on water and soil erosion. Geological Society of America Abstracts with Programs. Vol. 50, No. 4, ISSN 0016-7592, doi: 10.1130/abs/2018NC-312769.
141. Thatcher, D.\*, Cervato, C., *Halligan, T.\**, Harding, C., Kerton, C., and Thompson, N.\* (2018). Atmospheric radiation budgets and climate: an adapted and updated lab activity to teach about climate. Geological Society of America Abstracts with Programs. Vol. 50, No. 4, ISSN 0016-7592, doi: 10.1130/abs/2018NC-312763.
142. Kerton, C., Cervato, C., *Halligan, T.\**, Thatcher, D.\* and Thompson, N.\*(2018). An inquiry-based Earth and space science lab course for elementary education majors. Geological Society of America Abstracts with Programs. Vol. 50, No. 4, ISSN 0016-7592, doi: 10.1130/abs/2018NC-312752.
143. *Halligan, T.\**, Cervato, C., Kerton, C., Thatcher, D.\* and Thompson, N.\* (2018). Playing the dating game in lab: relative and absolute age dating in an Earth and space science lab designed for pre-service elementary teachers. Geological Society of America Abstracts with Programs. Vol. 50, No. 4, ISSN 0016-7592, doi: 10.1130/abs/2018NC-312756.
144. *Halligan, T.\**, Cervato, C., and Genschel, U. (2019). Testing the effectiveness of student-centered pedagogy in a large introductory physical geology course. Earth Educator Rendezvous, poster presentation.

## **SERVICE – SINCE 2001**

### To department:

Graduate Committee (2001-2006; 2009-2013)

Curriculum Committee (2001 - )

Outcome Assessment Committee (2004 – present, chair)

Geology Lecturer Search Committee (2002, chair)

Promotion and Tenure Committee for Dr. German Mora (chair, 2006-2007)

Established Earth, Wind & Fire Learning community and secured funding for peer mentors (Since 2008)

Seminar Series organizer (Fall 2008 and Spring 2009)

Sedimentary geology/stratigraphy faculty search committee (chair, 2008-2009)

Paleoclimate/geochemistry faculty search committee (member, 2008-2009)

Meteorology faculty search committee (member, 2017-2018)

Faculty and chair evaluation committee (chair, 2018)

### To university:

Faculty Advisor - Norwegian Students Association

2003 Science Olympiad

‘Taking the Road less traveled’, presentations to female middle- and high-school students (since 2003)

Advisory Board Member for Center for Excellence in Learning and Teaching – 2006-2009

Sesquicentennial Hubbard Award Evaluation Committee (2006-2007)  
 University Discrimination and Harassment Assistor (2007- )  
 Faculty Panel Member at New Students' Orientation (2007)  
 CELT Senior Teaching Partner (2009-2010; 2010-2011)  
 ISU Sustainability Symposium Planning Committee (2011)  
 Green Team – College of Liberal Arts and Sciences (2009-2015), Chair (2011)  
 Faculty advisor, Leaders for a Sustainable Community Student Club (2011)  
 Preparing Future Faculty, Panelist (Fall 2008, 2009, 2010, 2011, 2015, 2016, 2017)  
 Science Bound – presentation on geologic time to high-school minority students (Oct 29, 2011)  
 NTE Faculty Task Force, Faculty Senate (2016-2017)  
 Student Onboarding Task Force – Transfer Students Sub-committee (2016-2018)  
 Faculty mentor of first year URM graduate student Antionette Fowlkes (MS, Community & Regional Planning)(2016-2018)  
 Inclusion workshop facilitator (BBMB and CBE departments)(2018)

To profession:

Editorial Board of 'Geologia Insubrica' (1999-2002).  
 National Association of Geoscience Teachers, President for Central Section (2005)  
 NAGT, Central Section, State Representative, Iowa (2003- present)  
 NSF Geoscience education panelist (2003)  
 NSF DUE-CCLI panelist (2004)  
 Journal of Geoscience Education, Associate Editor (2001 – 2009)  
 Chronos initiative – a stratigraphic database network Steering Committee Member (Central Hub development and Education and Outreach) and Executive Director (2001- 2008)  
 GeoSphere, Associate Editor (2005 - ).  
 Editorial Board of Journal of Earth Science Informatics (2006 - )  
 External Reviewer of PhD thesis by Mr Naveed Ahsan, "Facies modeling, depositional and diagenetic environments of Kawagarh Formation, Hazara Basin, Pakistan", University of the Punjab, Lahore, July 2007.  
 NSF-OCI – Data Interoperability Networks panelist (2007).  
 Sigma Xi, ISU Chapter, Nominating Committee (2008-2009)  
 Provided evaluation for one promotion with tenure application at Michigan State University (2008).  
 Reviewer for the Netherlands' Organisation for Scientific Research (NWO) – Council for the Earth and Life Sciences (2009)  
 Provided evaluation for one promotion with tenure application at Texas A&M University (2009)  
 Journal of College Science Teaching, Editorial Board (2008-2014)  
 Climate Literacy and Energy Awareness Network (CLEAN) Pathway project consultant (2010-2013)  
 Geological Society of America, Education Committee, Graduate education representative (2010-2014)  
 Geological Society of America Bulletin, Associate Editor (2011-)  
 University of Milan (Italy): external reviewer of Department of Geosciences (2011)  
 Journal of Astronomy & Earth Science Education, Editorial Board of Reviewers (2015 -)  
 Sigma Xi, Executive Committee, ISU Chapter (2016 – 2019; President 2019-2020)

**ADVISING**

Undergraduates:                   Between 10 and 18 geology/Earth science majors each year

Graduate Advisor:               Joan Jach (MS, 2004, Geoscience Education)  
   Camomilia Bright (PhD, Geology)  
   Bjørn Brooks (PhD 2009, Geology)  
   Josh Reed (MS, 2007, HCI)  
   Rachel Banasiak (MS, Geology, withdrawn 2007)  
   Thomas Parham (MS, Geology, 2009; PhD geology)  
   Collin Reichert (MS, Geology, 2011)  
   Elisabeth Boal (MS, Geology, 2012)  
   Joe Kohlhaas (PhD, Geology, withdrawn 2012)  
   Theresa Halligan (MS, Geology, 2019; PhD, Geology)



POS committee member: T.C. Loving (MS 2004, Geology)  
DeAnna Tibben (PhD, Science Education)  
Mark Williams (PhD, 2007, Science Education)  
Alessandro Zanazzi (MS 2004, Geology)  
Henry Huang (MS, 2006, HCI)  
Adam Johanson (MS, 2009, Astrophysics)  
Joshua Bernhard (MS, Statistics, 2011)  
Sung-Ju Kang (PhD, Astronomy, 2016)  
Sarah Willis (PhD, Astronomy, 2014)  
Andrew Sage (MS, Statistics, 2015)  
Travis Yeager (MS, Astrophysics, 2017; PhD, Astrophysics)  
Maddie Mette (PhD, geology, 2017)  
Jack Polifka (PhD, HCI/chemistry)  
Antionette Fowlkes (MS, Community & Regional Planning, 2019)  
Jiwoo An (PhD, chemistry)