

Corinne I. Wong
Assistant Professor
Earth and Environmental Sciences

Boston College
140 Commonwealth Avenue
Chestnut Hill, MA 02467

617-552-1817
corinne.wong@bc.edu
www.corinneiwong.com

Appointments

Assistant Professor, Earth and Environmental Sci., Boston College	2015-current
President's Postdoctoral Fellow, University of California, Davis	2013 - 2014

Education

Ph.D. Geological Sciences, The University of Texas at Austin	2013
M.S. Geological Sciences, The University of Texas at Austin	2008
B.S./B.A. Geological Sciences/Environmental Studies, University of the Pacific	2004

Research interests

Paleoclimate: Reconstruction of past hydroclimate from speleothems, paleoclimate-model-data comparisons, proxy system modeling, modern proxy assessment, cave monitoring

Aqueous geochemistry: delineating controls on surface and groundwater geochemistry using environmental isotope geochemistry, focus on cave and urban environments

Grants

NSF AGS 1602962, "Collaborative Research: Assessing climate-biosphere linkages using Late Holocene records of climate variability and vegetation dynamics from the Brazilian Amazon and Savanna." Start date Sept 1, 2016. PI: Wong, co-PI: Silva; \$476,217 (\$383,822 to Wong at Boston College)

NSF PLR 1607816 "Collaborative Research: Speleothem records of permafrost thaw and paleoclimate in the North American Arctic." Start date Sept 1, 2016. PI: Shakun, co-PI: McGee, Wong; \$226,292 (\$117,761 to Shakun & Wong at Boston College)

NSF EAR 1535824, "Early Career: Upgrade of Isotope Ratio Mass Spectrometer at Boston College." Start date Mar 1, 2016, PI: Wong, coPI: Shakun; \$162,557

Awards and Honors

NSF EAR Postdoctoral Fellow – declined award	2013
Environmental Protection Agency STAR Graduate Fellowship (PhD)	2010-2013
Barton Springs Edwards Aquifer Conservation District Groundwater Stewardship Award	2013
Philanthropic Educational Organization Scholar Award	2012
Environmental Protection Agency STAR Graduate Fellowship (MS)	2007-2008
National Science Foundation GK12 Graduate Student Fellow	2007
Geological Society of America Graduate Research Grant	2010

Geological Society of America Graduate Research Grant & Honorable Mention 2007
Texas Water Resource Institute Graduate Research Grant 2007

Peer reviewed manuscripts (*Graduate student advisee)

- Wortham, B.E.*, **Wong, C.I.**, McGee, D., Rasbury, E.T., Silva, L.C.R., Montanez, I.P., Cooper, K., Sharp, W.D., Glessner, J.G., Santos, C.V. Assessing response of local moisture conditions in central Brazil to variability in regional monsoon intensity using speleothem $^{87}\text{Sr}/^{86}\text{Sr}$ values. *In Press*, Earth and Planetary Science Letters.
- Wong, C.I., Potter, G.L., Montanez, I.P., Otto-Bliesner, B.L., 2016. Evolution of moisture transport to the western US during the last deglaciation. *Geophysical Research Letters*, 43, 3468-3477.
- Oster, J., Santare, L.R., Montanez, I.P., Sharp, W.D., **Wong, C.I.**, Cooper, K.M., 2015, Stalagmite records of hydroclimate in central California during Termination 1. *Quaternary Science Reviews*, 127, 199-214, doi:10.1016/j.quascirev.2015.07.027.
- Wong, C.I. and Breecker, D.O. Advancements in the use of speleothems as climate archives. 2015, *Quaternary Science Reviews*, 127, 1-18 (Special Issue: Novel approaches to and new insights from speleothem-based climate reconstructions), doi:10.1016/j.quascirev.2015.06.023
- Wong, C.I. and Banner, J.L. 2015, Holocene climate variability in Texas, USA: An integration of existing paleoclimate data and modeling with a new, high-resolution speleothem record. *Quaternary Science Reviews*, 127, 1-18 (Special Issue: Novel approaches to and new insights from speleothem-based climate reconstructions), doi:10.1016/j.quascirev.2015.07.019
- Wong, C.I., Kromann, J.S., Hunt, B.B., Smith, B.A., and Banner, J.L., 2014. Investigation of flow between Trinity and Edwards aquifers (central Texas) using physical and geochemical monitoring in multiport wells, *Groundwater*, 52, 624-639. DOI: 10.1111/gwat.12106.
- Wong, C.I., Sharp, J.M., Hauwert, N., Landrum, J., and White, K.M., 2012, Impact of urban development on hydrology and geochemistry, *Elements*, 8, 429-434 (Invited contribution to topical issue on Urban Geochemistry).
- Wong, C.I., Mahler, B.J. Musgrove, M., and Banner, J.L., 2012, Changes in sources and storage in a karst aquifer during a transition from drought to wet conditions, *Journal of Hydrology*, 468, 159-172, <http://dx.doi.org/10.1016/j.jhydrol.2012.08.030>.
- Wong, C.I., Banner, J. L., Musgrove, M., 2011, Seasonal dripwater Mg/Ca and Sr/Ca variations driven by cave ventilation: Implications for and modeling of speleothem paleoclimate records, *Geochimica et Cosmochimica Acta*, 75, 3514-3529, doi:10.1016/j.gca.2011.03.025.
- Wong, C. and Banner, J.L., 2010, Response of cave-air CO₂ and drip-water to brush clearing in central Texas: Implications for recharge and soil CO₂ dynamics, *Journal of Geophysical Research: Biogeosciences*, 115, G04018, doi:10.1029/2010JG001301.
- Smyth, R.C., Hovorka, S.D., Lu, J., Romanak, K.D., Partin, J.W., Wong, C., and Yang, C., 2009, Assessing risk to fresh water resources from long term CO₂ injection – laboratory and field studies, *Energy Procedia*, 1, 1957-1964, doi:10.1016/j.egypro.2009.01.255.

Invited Presentations

- 2016-2017 Advancing Research and Scholarship at Boston College, Panel Discussion: Environmental Justice
- 2016 Fall American Geophysical Union Meeting in San Francisco session, “Characterization, modeling, and remediation of fissured, carbonate, and karst groundwater systems”
- 2016 Boston University Howard Hughes Medical Institute Seminar on Climate Science in partnership with Boston University Research Education Communication Science Program (November)
- 2016 Annual Geological Society of America Meeting in Denver, CO session, “Water Quality and Aqueous Contaminants”
- 2016 Goldschmidt Meeting (Yokohama, Japan) session “Recent Advances in Paleoclimate Studies Using Marine Carbonates and Speleothems”
- 2016 South American Symposium on Isotope Geology in Puerto Vallarta, Mexico keynote for session, “Isotope applications in paleoclimatology”
- 2016 Geoseminar at Colby College in Waterville, ME (April)
- 2016 Chemical Oceanography and Geology Seminar at MIT Cambridge, MA (February)
- 2015 Fall American Geophysical Union Meeting in San Francisco session, “Hydroclimate and Atmospheric Circulation Patterns on Multidecadal to Millennial Timescales”
- 2015 Fall American Geophysical Union Meeting in San Francisco session, “Karst Record in Water Limited Environments”
- 2015 Biogeosciences Seminar at Boston University, Boston, MA (November)
- 2015 Annual Geological Society of America Meeting in Baltimore, MD session, “Effects of Urbanization on Hydrological and Geochemical Cycling in Surface and Ground Waters”
- 2015 Annual Geological Society of America Meeting in Baltimore, MD session, “Karst Processes and Speleogenesis: Advances in Monitoring, Modeling, and Measurements”
- 2014 Annual Society of American Archaeology Meeting in Austin, TX
- 2013 Geological Sciences Seminar, University of the Pacific in Stockton, CA (October)
- 2011 Karst Waters Institute Meeting in Billings, MT keynote presentation

Synergistic Professional Activities

- Organizing Committee for the 2017 Karst Records Meeting (Austin, Texas) (2016-2017)
- Guest editor for a speleothem-focused issue of Quaternary Science Reviews titled “Novel approaches to and new insights from speleothem-based climate reconstructions” (2014-2015).
- Review panelist for: NSF-Coupled Human and Natural Systems (2017); NSF-EAR Instrumentation and Facilities (2016), NSF-Graduate Research Fellowship Program (2016)
- Webmaster for the Paleoceanography and Paleoclimatology focus group of the American Geophysical Union (2015-present)

- Advisor to Women in STEM seminar series organized by women-graduate students within the Earth and Environmental Science Department at Boston College. (2015-present)
- Co-convener for sessions at AGU (2011-2014), GSA (2011-2012), and Goldschmidt (2014) meetings.
- Reviewer of proposals for: NSF-EAR Hydrological Sciences, NSF-AGS Paleo Perspectives on Climate Change, NSF-EAR Instrumentation and Facilities
- Reviewer of manuscripts for: Journal of Geophysical Research, Geology, Nature Scientific Reports, GSA Bulletin, Geochimica et Cosmochimica Acta, Journal of Hydrology, Quaternary Science Reviews, G-Cubed, Hydrology Research, Environmental Earth Science, Ecohydrology, International Journal of Speleology, NIMB Proceedings, Contaminant Hydrology, Applied Geochemistry, Hydrology and Earth System Science

Courses Taught

Boston College - Science and Ethics of Climate Change, Human Footprint, Environmental Isotope Geochemistry, Biogeochemical Cycles, Paleoclimate: Proxies

Univ. of Texas at Austin - Field Seminar in Environmental Science and Sustainability

Student Research Advised

Masters

Brittany Ward, Boston College M.S. candidate 2016-
 Celeste Gambino, Boston College M.S. candidate 2016-
 Alana Spaetzle, Boston College M.S. candidate 2015-
 Barbara Wortham, Boston College M.S. 2014-2016

Undergraduate

Mary Stack, Boston College 2016-
 Luke O-Brian, Boston College 2016-
 Shawn Nelson, Boston College 2015-2016
 Collin Roland, University of Texas at Austin, 2013-2014
 Emma Heitmann, University of Texas at Austin, 2012-2013

Professional Engagements

William Mitchel College of Law Expert Witness Training Academy	2015
Isomass MS-IRMS Training	2015
Past Global Changes Holocene Workshop	2014
NCAR Community Earth System Model Tutorial	2014
On the Cutting Edge Early Career Faculty Workshop	2014
Watershed Studies Graduate Portfolio Program	2013
Earth Science Women's Network 2013 Workshop on Leadership and Management	2013
On the Cutting Edge Preparing for an Academic Career Workshop	2011
Program Coordinator for the GK12 Program at UT-Austin	2009
UTeach teacher certification program	2008
Geological Society of America GeoCorps America Summer Internship	2006

Advisors

Graduate: Jay L. Banner

Postdoctoral: Isabel P. Montanez

Professional association memberships

American Geophysical Union

Geological Society of America

Earth Science Women's Network

Service to Boston College

Departmental Faculty Search Committee	2016-2017
Departmental Graduate Program Development Sub-Committee	2016-2017
Faculty advisor to Graduate Student Network for Women in Sciences	2015-current
Departmental Graduate Student Committee	2015-current

Outreach activities

Public lecture "Investigating past climate using cave mineral formations," 2016 Howard Hughes Medical Institute Science Education Program at Boston University, Nov, 2016, Boston, MA.

Public lecture "A Caver Perspective on Water and Climate Change," 2015 Pint of Science Annual Festival in Boston/Cambridge, May, 2015, Boston, MA

Public lecture "Reconstructing past climate-biosphere links," Jan 2015, Weston Observatory, Wellesley, MA.

Abstracts from the last three years (*Graduate student **Undergraduate student)

Wong, C.I., Harman, C.J., Banner, J.L., 2016, Assessing a novel approach to proxy system modeling of speleothem $\delta^{18}\text{O}$ values. 2016 Fall American Geophysical Union Meeting. Invited presentation.

Wong, C.I., Nusbaumer, J.M., Banner, J.L., 2016, Investigating the link between variability in precipitation source, amount, and $\delta^{18}\text{O}$ variability in the southwest US using an isotope enabled model that uses water tags. 2016 Fall American Geophysical Union Meeting. Oral presentation.

*Wortham, B.E., Wong, C.I., McGee, D., Rasbury, T., Silva, L.C.R., Montanez, I.P., Cooper, K.M., Sharp, W.D., 2016, Potential decoupling between the regional monsoon intensity and local moisture conditions during the last millennium in central Brazil. 2016 Fall American Geophysical Union Meeting. Oral presentation.

Wong, C.I., Mahler, B.J., Musgrove, M., Banner, J.L., Barnes, J.D., **Heitman, E.O., **Roland, C.J., 2016, Delineating controls on water-quality of urban streams in Austin, Texas using geochemical and isotopic approaches. 2016 Annual Geological Society of America Meeting in Denver, CO. Invited presentation.

Wong, C.I., *Wortham, B., McGee, D., Silva, L., Montanez, I., Investigating past climate-biosphere links: speleothem-based climate reconstructions to constrain controls on late Holocene forest expansion in South America, 2016 Goldschmidt meeting, Yokohama, Japan. Invited presentation.

- Wong, C.I., *Wortham, B., McGee, D., Silva, L., Montanez, I., Investigating past climate-biosphere links: speleothem-based climate reconstructions to constrain controls on late Holocene forest expansion in South America, 2016 South America Symposium on Isotope Geology, Puerto Vallarta, Mexico. Keynote presentation.
- *Wortham, B.E., Wong, C.I., Montanez, I.P., Rasbury, T., Silva, L., 2015, Comparison of laser-ablation and solution-mode ICP-MS techniques for measuring speleothem $^{87}\text{Sr}/^{86}\text{Sr}$ values. 2015 Fall American Geophysical Union Meeting. Poster presentation.
- Wong, C.I., Banner, J.L., Nusbaumer, J., 2015, Reconstructing climate processes driving variability in precipitation sources from mid to late Holocene speleothem $\delta^{18}\text{O}$ records from the Southwest US, 2015 Fall American Geophysical Union Meeting, Invited presentation.
- Wong, C.I., Nusbaumer, J., Banner, J.L., 2015, Quantification of modern moisture source variability to southwest US, 2015 Fall American Geophysical Union Meeting. Invited presentation.
- Wong, C.I., **Roland, C.J., Barnes, J.D., Banner, J.L., 2015, Tracing chloride sources in urban waterways in Austin, Texas using stable chlorine isotopes, 2015 Annual Geological Society of America Meeting in Baltimore, MD. Invited presentation.
- Wong, C.I., Banner, J.L., 2015, Transformation of rainfall $\delta^{18}\text{O}$ variability by the cave and karst environment: results from long-term cave monitoring in central Texas, 2015 Annual Geological Society of America Meeting in Baltimore, MD. Invited presentation.
- Wong, C.I., *Wortham, B.E., McGee, D., Cruz, F.W., 2015, Reconstructing last millennium variability in the South American Monsoon using speleothem $\delta^{18}\text{O}$ values from the Amazon Basin, 2015 Annual Geological Society of America Meeting in Baltimore, MD. Oral presentation.
- James, E.W., **Wong, C.I.**, **Silver, M.M., Banner, J.L., Musgrove, M., 2014, 1,500 year periodicity in central Texas moisture source variability reconstructed from speleothems. 2014 Fall American Geophysical Union. Poster presentation.
- Wong, C.I., Potter, G.L., Montanez, I.P., Otto-Bliesner, B.L., Behline, P., Oster, J.L., 2014, Why were Past North Atlantic Warming Conditions Associated with Drier Climate in the Western United States? 2014 Fall American Geophysical Union. Oral presentation.
- Wong, C.I., Banner, J.L., Musgrove, M., James, E.J., 2014, Decoupling between rainfall source and amount reconstructed from Texas speleothems. Past Global Climate Changes Holocene Workshop, Portland, Oregon, October, 2014. Oral presentation.
- Wong, C.I., Silva, L.C.R., Montanez, I.P., Cooper, K.M., Horwath, W.R., 2014, Speleothem reconstruction of last 1,500 years of Brazilian climate. 2014 Goldschmidt Meeting in Sacramento, CA. Poster Presentation.
- Montanez, I.P., Oster, J.L., **Wong, C.I.**, Santare, L.R., Cooper, K.M., Sharp, W.D., Potter, G.L., 2014, Multi-cave stalagmite records of deglacial climate in California. 2014 Goldschmidt Meeting in Sacramento, CA. Oral Presentation.
- Wong, C.I., Potter, G.L., Montanez, I.P., Otto-Bliesner, B.L., 2014, Are past warm intervals in the western United States associated with drier conditions? A paleo-model-data comparison. CESM

Climate Variability and Paleoclimate Working Groups meeting, March 10th, 2014 in Boulder, CO.
Oral presentation.

Other manuscripts

Mahler, B.J., Musgrove, M., Sample, T.L., **Wong, C.I.**, 2011, Recent (2008–10) Water quality in the Barton Springs segment of the Edwards aquifer with emphasis on factors affecting nutrients and bacteria. U.S. Geological Survey Scientific Investigation Report 2011-5139.