

CHUNMIAO ZHENG, PH.D.

Eastern Institute of Technology, Ningbo, China;
Southern University of Science and Technology, Shenzhen, China;
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Education

- 1985-1988 Ph.D., Hydrogeology with a minor in Civil and Environmental Engineering, University of Wisconsin-Madison, Wisconsin.
1983-1984 Postgraduate work in Geology and Applied Mathematics, Chengdu University of Technology (formerly Chengdu College of Geology), China.
1979-1983 B.S., Geology (specialized in hydrogeology), Chengdu University of Technology (formerly Chengdu College of Geology), China.

Employment History

- 2022-present Chair Professor and Vice President, Eastern Institute for Advanced Study, Eastern Institute of Technology, Ningbo, China.
2022-present Chair Professor and Director, Shenzhen Institute of Sustainable Development, Southern University of Science and Technology, Shenzhen, China.
2018-2022 Chair Professor and Vice Provost of Global Strategies, Southern University of Science and Technology, Shenzhen, China.
2015-2018 Chair Professor and Founding Dean, School of Environmental Science and Engineering, Southern University of Science and Technology, Shenzhen, China.
2010-2018 Chair Professor and Founding Director, Institute of Water Sciences, Peking University, Beijing, China (*on joint appointment before 2013 and after 2015*).
2010-2018 George Lindahl III Endowed Professor of Hydrogeology, Department of Geological Sciences, University of Alabama (*on leave without pay after 2013*).
2002-2009 Professor, Department of Geological Sciences, University of Alabama.
1997-2002 Associate Professor, Department of Geological Sciences, University of Alabama.
1993-1997 Assistant Professor, Department of Geological Sciences, University of Alabama.
1988-1993 Senior Hydrogeologist, S.S. Papadopoulos & Associates, Inc., Bethesda, Maryland.

Professional Experience

- 2021-present Visiting Chair Professor, Yangtze Institute for Conservation and Development, affiliated with Hohai University, Nanjing, China.
2018-present Lindahl Professor *Emeritus* and Adjunct Professor, Department of Geological Sciences, University of Alabama.
2006-2009 Visiting Professor and Founding Director, Center for Water Research, Peking University, Beijing, China.
2001 Visiting Fellow, University of Sheffield, United Kingdom.
2000 Visiting Associate Professor, Stanford University, Palo Alto, California.
2000 Visiting Scientist, U.S. Geological Survey, Menlo Park, California.
1995 Visiting Fellow, Australian Nuclear Science & Technology Organization, Sydney, Australia.
1991 Assistant Professional Lecturer, George Washington University, Washington, D.C.

Awards and Honors

- 2019 **Fellow**, American Geophysical Union (AGU)
(<https://eos.org/agu-news/2019-class-of-agu-fellows-announced>)

- 2014 **Distinguished Alumni Award**, Department of Geoscience, University of Wisconsin-Madison, Wisconsin.
- 2013 **O.E. Meinzer Award**, Hydrogeology Division, Geological Society of America (<http://www.geosociety.org/awards/13speeches/meinzer.htm>).
- 2013 **M. King Hubbert Award**, National Ground Water Association. (<https://www.ngwa.org/members/awards/m-king-hubbert-award-recipient>)
- 2012 **Distinguished Lecturer for Hydrology Section**, AOGS-AGU (WPGM) Joint Assembly, Singapore.
- 2009 **Birdsall-Dreiss Distinguished Lecturer**, Hydrogeology Division, Geological Society of America (<https://community.geosociety.org/hydrodivision/aboutus/birdsall-lectures/past>).
- 2008 **DuPont Lecturer**, University of Delaware.
- 2005 **Oliver Lectureship in Hydrogeology**, Jackson School of Geosciences, University of Texas-Austin, Texas.
- 1999 **Fellow**, Geological Society of America.
- 1998 **John Hem Excellence in Science and Engineering Award**, National Ground Water Association.

Primary Research Interests

- Impacts of global change and emerging contaminants on groundwater sustainability
- Integrative study of hydrologic and ecological processes at watershed scales
- Field, laboratory, and theoretical studies of the effects of aquifer heterogeneities on contaminant transport and remediation
- Surface water-groundwater interactions and their ecological and environmental effects

Professional Affiliations

- American Geophysical Union (AGU)
- National Ground Water Association (NGWA)
- Geological Society of America (GSA)
- International Association of Hydrologic Sciences (IAHS)
- Chinese Society for Environmental Sciences (CSES)

Major Books and Computer Software

- National Research Council (NRC), 2012, *Challenges and Opportunities in the Hydrologic Sciences*, The National Academies Press, Washington, D.C., 188 pp. (Chunmiao Zheng was a member of the NRC committee that authored this book report, available at <https://www.nap.edu/catalog/13293/challenges-and-opportunities-in-the-hydrologic-sciences>).
- Zheng, C. and G.D. Bennett, 2009, *Applied Contaminant Transport Modeling*, Chinese Edition, Higher Education Press, Beijing, China, in collaboration with John Wiley & Sons, New York, 417 pp.
- Committee on Chinese Groundwater Science, 2009, *Challenges and Opportunities in Chinese Groundwater Science*, Science Press, Beijing, China, 200 pp. (Chunmiao Zheng was chair of the committee that authored this book report.)
- Zheng, C., and G.D. Bennett, 2002, *Applied Contaminant Transport Modeling, Second Edition*, John Wiley & Sons, New York, 621 pp. (<http://www.wiley.com/WileyCDA/WileyTitle/productCd-0471384771.html>).
- Zheng, C., and G.D. Bennett, 1995, *Applied Contaminant Transport Modeling: Theory and Practice*, Van Nostrand Reinhold (now John Wiley & Sons), New York, 440 pp.
- Zheng, C., and P.P. Wang, 1999, *MT3DMS: A Modular 3-D Multi-species Transport Model for Simulation of Advection, Dispersion and Chemical Reactions of Contaminants in Groundwater*

Systems; Documentation and User's Guide, Contract Report SERDP-99-1, U.S. Army Engineer Research and Development Center, Vicksburg, MS, 169 pp. (available at <https://hydro.geo.ua.edu/mt3d/index.htm>).

Zheng, C., 1990, *MT3D: A Modular 3-D Transport Model for Simulation of Advection, Dispersion and Chemical Reactions of Contaminants in Groundwater Systems*, Report to the United States Environmental Protection Agency, 170 pp.

Major Committees and Editorial Boards

2023-present Hydrology Fellow Committee, Hydrology Section, American Geophysical Union
2021-present Co-Editor-in-Chief, *Sustainable Horizons*
2019-present Advisory Panel, Section on Environmental Earth Science, National Natural Science Foundation of China
2016-present Associate Editor, *Vadose Zone Journal*
2015-present Associate Chair, Steering Committee, Major Research Program "Runoff Change in the Headwater Region of China's Southwestern Rivers and Their Adaptive Management", National Natural Science Foundation of China
2013-2018 Deputy Editor-in-Chief, *Acta Geologica Sinica* (English Edition)
2010-2018 Member, Steering Committee, Major Research Program "An Integrated Study of Ecohydrological Processes in the Heihe River Basin", National Natural Science Foundation of China
2010-2015 Associate Editor, *Water Resources Research*
2009-2013 Blue Ribbon Panel on "Challenges and Opportunities in the Hydrologic Sciences", National Research Council, Washington, D.C.
2007-2014 Associate Editor, *Journal of Hydrology*
2007-2013 President-elect and President, International Commission on Groundwater, International Association of Hydrologic Sciences (IAHS)
2005-2015 Standing Committee on Hydrologic Science, National Research Council, Washington, D.C.
2005-2007 Treasurer, Consortium of Universities for the Advancement of Hydrologic Science, Inc. (CUAHSI), Washington, D.C.
2004-2008 Science and Technology Center Site Review Team, National Science Foundation, United States
2003-2007 Associate Editor, *Hydrogeology Journal*, International Association of Hydrogeologists (IAH) and Geological Society of America (GSA)
1998-2010 Associate Editor and Software Column Editor (2002-), *Journal Ground Water*, National Ground Water Association

Selected Professional Activities (since 2000)

2022 Chair, Plenary Keynote Session, 49th IAH Congress, International Association of Hydrogeologists, Wuhan, China, September 19-22, 2022
2022 Distinguished Lecturer, Recent Advances in Groundwater Research and Groundwater Management Challenges under Global Change, Center for International Collaboration, Ministry of Water Resources of China, June 28, 2022
2022 Distinguished Lecturer, Advances in Groundwater Modeling, Technical Center for Soil, Agriculture, and Rural Ecology and Environment, Ministry of Environment and Ecology, June 4, 2022
2022 Distinguished Lecturer, Contaminant transport in heterogeneous aquifers: A critical review of mechanisms and numerical methods of non-Fickian dispersion, Chinese Research Academy of Environmental Science, January 14, 2022

- 2021 Conference Chair, International Conference on Sustainable Technology and Development 2021, Sponsored by Elsevier and Southern University of Science and Technology, Shenzhen, October 31-November 2, 2021.
- 2021 Invited Panelist, Times Higher Education (THE) Asia Summit, Session on “Close integration with industry is essential to problem-solving and producing world-leading research. How is this best achieved?” June 2, 2021
- 2021 Distinguished Lecturer, Challenges and Opportunities for Environmental Water Sciences in China, Yangtze Institute for Conservation and Development, Hohai University, Nanjing, May 14, 2021
- 2020 Invited Panelist, Dialogue with Vice Minister of Science and Technology of China on the trend of international research collaboration, Beijing, December 2, 2020
- 2020 Masters Lecture Series, 50 Years of Contaminant Transport Modeling, Westlake University, Hangzhou, China, October 12, 2020
- 2020 Invited Speaker, Forum on the Future of Sino-US Research Collaboration, National Natural Science Foundation of China, Beijing, September 24-25, 2020
- 2019 Invited Panelist, US-China Environment and Sustainability Forum at the University of Michigan, October 1-2, 2019
- 2019 Co-organizer and Keynote speaker, “MODFLOW and MORE 2019: “Groundwater Modeling and Beyond”, Golden, Colorado, June 2-6, 2019
- 2018-2020 “Paul A. Witherspoon Mid-Career Lecturer in Hydrologic Sciences” Award Committee, American Geophysical Union
- 2018 Planetary Speaker, RISUD Annual International Symposium 2018 (RAIS 2018), Hong Kong Polytechnic University, June 29-30, 2018
- 2018 Keynote Speaker, Computational Methods in Water Resources XXII (CMWR 2018), St. Malo, France, June 3-7, 2018
- 2018 Keynote Speaker, China-US Workshop on Soil Contamination Risk Management and Remediation Technology, University of California, Riverside Palm Desert Center in Palm Desert, California, April 3, 2018
- 2017 Keynote Speaker, Annual Meeting of Chinese Society for Environmental Sciences, Xiamen, China, October 20-22, 2017
- 2017 Organizer, EPRI Workshop on Advanced Hydrogeologic Characterization, Palo Alto, California, August 29, 2017
- 2017 Keynote Speaker, 11th International Symposium on Geochemistry of the Earth Surface, Guiyang, China, June 11-16, 2017
- 2017 Co-organizer and Keynote speaker, “MODFLOW and MORE 2017: Modeling for Sustainability and Adaptation”, Golden, Colorado, May 21-24, 2017
- 2016 Chair, 9th IAHS Groundwater Quality Conference (Groundwater Quality 2016, GQ16), Shenzhen, China
- 2016 Advisory Panel, Research Program “GEOCON”, Demark Technical University, April 25-26, 2016.
- 2016 Review Panelist, Office of Biological & Environmental Research (BER), Department of Energy, Washington DC, April 4-5, 2016
- 2016 Invited Speaker, Joint KAPSARC-NUS Workshop “Emerging Issues Facing the Water-Energy-Food Nexus in the Middle East and Asia”, Singapore, Jan. 22, 2016
- 2016 Invited Panelist, 9th Rosenberg Forum on International Water Policy, Panama City, January 25-28, 2016
- 2015 Scientific Advisory Committee and Keynote Speaker, 42nd Congress of International Association of Hydrogeologists, Rome, Italy, September 13-18, 2015
- 2015 Organizing Committee, International Conference “MODFLOW and MORE 2015: Modeling a Complex Word”, Colorado, May 31-June 3, 2015.

- 2014 Co-chair and host, US-China EcoPartnership Conference “Water-Energy Nexus: Sustainability and Global Challenges”, Beijing, China, April 17, 2014.
- 2014 Invited Speaker, Faculty Summit, Microsoft Research, Redmond, Washington, July 14-15, 2014.
- 2013 Chair, International Workshop “Observation and Modeling of Ecohydrological Processes in Inland River Basins: A Vision for Transformative Science”, Beijing, China, July 5-8, 2013.
- 2013 Keynote Speaker, IAH 2013 - 40th Congress of International Association of Hydrogeologists, Perth, Australia, September 15-20, 2013.
- 2013 Co-chair, “MODFLOW and MORE 2013 – Translating Science into Practice”, Golden, Colorado, June 2-5, 2013.
- 2013 Co-chair, International Workshop “Managing River Basins as Coupled Human-Natural Systems”, sponsored by US NSF and NSFC, Beijing, May 6-7, 2013.
- 2013 Invited Panelist, Rosenberg International Forum on Water Policy 8th Biannual Meeting, Aqaba, Jordan, March 22-25, 2013.
- 2012 Co-organizer, Water Management and Global Challenges: Advances in Technology, Innovation, Health and Policy, Beijing, China, October 15-16, 2012.
- 2012 Keynote Speaker, The 5th International Workshop on Catchment Hydrological Modeling and Data Assimilation (CAHMDA-V), University of Twente, Enschede, the Netherlands, July 9-13, 2012.
- 2012 International Expert on Global Water Crisis, 30th Annual Meeting, The InterAction Council, Tianjin, China, May 10-12, 2012.
- 2011 Organizing Committee, International Conference “MODFLOW and More 2011: Integrated Hydrologic Modeling”, Golden, Colorado, June 6-9, 2011.
- 2011 Chair, Forum on International Water Resources, The 4th World Economic and Environmental Conference, Beijing, China, September 19-21, 2011.
- 2010 Organizing Committee Chair, International Groundwater Forum 2010, Peking University, Beijing, China, July 8-9, 2010.
- 2010 Co-Director, International Summer School on International River Basin Management, Peking University, China.
- 2010 “Humanity 3000” workshop on the world’s water crisis, Foundation for the Future, Seattle, Washington.
- 2009 International Advisory Committee, HydroPredict 2010 International Conference, Prague, Czech Republic.
- 2009 Keynote Speaker, NovCARE International Conference on Aquifer Characterization, Leipzig, Germany.
- 2009 Luncheon Speaker, California Biannual Groundwater Conference, Sacramento, CA.
- 2009 Keynote Speaker, Ground Water Summit, Tucson, Arizona.
- 2009 International Advisory Committee, “Groundwater Quality 2010” International Conference, Zurich, Switzerland.
- 2009 Organizing Committee, “ModelCARE 2009” International Conference, China University of Geosciences-Wuhan, China.
- 2008 Organizing Committee, “MODFLOW and More 2008” International Conference, Golden, Colorado.
- 2008 Invited Speaker, 33rd International Geological Congress, Oslo, Norway.
- 2007 Panel of Experts for *New York Times* on water and environmental issues in China.
- 2007 International Advisory Committee, “ModelCARE 2007”, Copenhagen, Denmark.
- 2007 International Advisory Panel, “Groundwater Quality 2007”, Perth, Australia.
- 2007 International Advisory Committee, “Water Down Under 2008”, Adelaide, Australia.
- 2006 Organizing Committee, International Conference “*MODFLOW and More 2006*,” Colorado School of Mines, Golden, Colorado.

- 2006 Panelist, Research Grant Review Panel for Environmental Remediation Programs, Department of Energy, Washington, D.C.
- 2006 Invited Speaker, Special session on “Innovations in field characterization of physical and chemical heterogeneities,” GSA Annual Meeting, Philadelphia.
- 2006 Invited Seminar Speaker, Department of Hydrology and Water Resources, University of Arizona.
- 2006 Seminar Speaker, University of Tübingen, Germany.
- 2006 Seminar Speaker, University of Sheffield, U.K.
- 2005 Keynote Speaker, 2005 Conference on Ground Water Remediation, National Ground Water Association (NGWA).
- 2005 Panelist, EPRI Arsenic Modeling Workshop, Tampa, Florida.
- 2005 Invited Speaker, Special session on “Field-scale characterization of hydraulic properties,” AGU Fall Meeting, San Francisco.
- 2005 Co-Chair, Working Group on Challenges and Opportunities in Chinese Groundwater Science, National Natural Science Foundation of China.
- 2005 Co-instructor, 1st Geochemical and Reactive Transport Modeling Course, Australia Center for Groundwater Studies, Brisbane, Australia.
- 2005 Invited Lecturer, School of Chemistry, Physics and Earth Sciences, Flinders University of South Australia, Adelaide, Australia.
- 2005 Invited Lecturer, Australia Contaminated Land Consultant Association, Victoria, Australia.
- 2005 Invited Lecturer, Research Center for Deep Geological Environment, AIST, Tsukuba, Japan.
- 2005 Invited Lecturer, Research and Development Center, Nippon-Koei Co., Tokyo.
- 2004 Scientific Advisory Committee, International conference on *Finite-Element Models, MODFLOW, and More 2004*, Karlovy Vary, Czech Republic.
- 2004 Co-instructor, Short course on Groundwater Flow and Contaminant Transport Modeling with Introduction to Data Assessment, Sensitivity Analysis, Model Calibration and Uncertainty Evaluation, Charles University, Czech Republic.
- 2004 Chair, Organizing Committee, International symposium on Earth, Environment, and Human Impacts, IPACES 2004 Annual Meeting and Workshops, Chengdu, China.
- 2004 NSF IGERT Program “GIScience” Advisory Board, SUNY at Buffalo.
- 2003-2004 Chair-elect and Chair, International Professionals for the Advancement of Chinese Earth Sciences (IPACES) .
- 2003 Organizing Committee, International Conference on *MODFLOW and More 2003*, Colorado School of Mines, Golden, Colorado.
- 2003 Invited Seminar Speaker, Department of Earth Sciences, University of Hong Kong.
- 2002 Review Panelist, Global Water Cycle Research Program, US NSF.
- 2002 Invited Speaker, Special session on Use Ground-Water Models to Guide Field Data Collection, AGU 2002 Fall Meeting, San Francisco.
- 2002-2004 Standing Committee on Hydrologic Information Systems, Consortium of Universities for the Advancement of Hydrologic Science, Inc. (CUAHSI).
- 2002 Peer Reviewer, Assessment of Long-Term Sustainability of Monitored Natural Attenuation of Chlorinated Solvents, SERDP Program, DOD/EPA/DOE.
- 2002 Invited Seminar Speaker, Institute of Applied Geology, University of Tübingen.
- 2001-2003 Instructor, Short course on Reactive Transport Modeling, University of Sheffield, U.K.
- 2001 Scientific Advisory Committee and Keynote Speaker, GQ-2001: 3rd International Conference on Groundwater Quality, University of Sheffield, UK.
- 2001 Invited Geology Seminar Speaker, University of Tennessee, Knoxville, TN.
- 2001 Invited Lecturer, Earth Science Symposium, Peking University, China.

- 2001 Organizing Committee and Keynote Speaker, *MODFLOW 2001 and Other Modeling Odysseys*, Colorado School of Mines.
- 2000 Invited Speaker, *International Symposium on Groundwater Contamination*, sponsored by Japanese Association of Groundwater Hydrology, Tokyo, Japan.
- 2000 Lecturer, Short course on Mass Transport in Groundwater, Freiberg University of Mining and Technology, Freiberg, Germany.
- 2000 Invited Speaker, Western Pacific Geophysics Meeting, Tokyo, Japan.
- 2000 Graduate Fellowship Grant Application Review Panel, U.S. EPA, Washington, D.C.

(Continuing to next page for **Publications**)

Publications

Author or co-author of over 400 peer-reviewed journal articles and six books; A total of over 21,771 citations on Google Scholar, <http://scholar.google.com/citations?hl=en&user=g0FPeQsAAAAJ>; accessed July 1, 2023.

(*indicates corresponding author)

- Du, E., F. Wu, H. Jiang, N. Guo, Y. Tian, **C. Zheng***, 2023, Development of an integrated socio-hydrological modeling framework for assessing the impacts of shelter location arrangement and human behaviors on flood evacuation processes, *Hydrology and Earth System Sciences*, 27 (7), 1607-1626.
- Zhang, S., M. Zheng, G. Yang, T. Zhang, J.T. Magnuson, H. Chen, **C. Zheng***, W. Qiu*, 2023, Sunlight-mediated CaO₂ inactivation of pathogen indicator organisms in surface water system: Roles of reactive species, characterization of pathogen inactivation, *Water Research*, 233, 119756.
- Chen, K.*, X. Chen, J.C. Stegen, J.A. Villa, G. Bohrer, X. Song, K.Y. Chang, M. Kaufman, X. Liang, Z. Guo, E.E. Roden*, **C. Zheng***, 2023, Vertical hydrologic exchange flows control methane emissions from riverbed sediments, *Environmental Science & Technology*, 57, 9, 4014-4026.
- Dai, Y., S. Yang, D. Zhao, C. Hu, W. Xu, D.M. Anderson, Y. Li, X. Song, D.G. Boyce, L. Gibson, **C. Zheng**, L. Feng, 2023, Coastal phytoplankton blooms expand and intensify in the 21st century, *Nature*, 615 (7951), 280-284.
- Long, Y., L. Song, Y. Shu, B. Li, W. Peijnenburg, **C. Zheng**, 2023, Evaluating the spatial and temporal distribution of emerging contaminants in the Pearl River Basin for regulating purposes, *Ecotoxicology and Environmental Safety*, 257, 114918.
- Wu, J., Y. Feng, **C. Zheng**, Z. Zeng, 2023, Dense flux observations reveal the incapability of evapotranspiration products to capture the heterogeneity of evapotranspiration, *Journal of Hydrology*, 129743.
- Pan, F., K. Xiao, Y. Cai, H. Li, Z. Guo, X. Wang, Y. Zheng, **C. Zheng**, B.C. Bostick, H.A. Michael, 2023, Integrated effects of bioturbation, warming and sea-level rise on mobility of sulfide and metalloids in sediment porewater of mangrove wetlands, *Water Research*, 233, 119788.
- Tang, L., W. Qiu, S. Zhang, J. Wang, X. Yang, B. Xu, J.T. Magnuson, E.G. Xu, M. Wu, **C. Zheng**, 2023, Poly- and perfluoroalkyl substances induce immunotoxicity via the TLR pathway in zebrafish: Links to carbon chain length, *Environmental Science & Technology*, 57 (15), 6139-6149.
- He, Q., X. Kuang, J. Chen, Y. Hao, Y. Feng, P. Wu, **C. Zheng**, 2023, Glacier retreat and its impact on groundwater system evolution in the Yarlung Zangbo source region, Tibetan Plateau, *Journal of Hydrology: Regional Studies*, 47, 101368.
- Wang, Y., S. Yuan, J. Shi, T. Ma, X. Xie, Y. Deng, Y. Du, Y. Gan, Z. Guo, Y. Dong, **C. Zheng**, G. Jiang, 2023, Groundwater quality and health: Making the invisible visible, *Environmental Science & Technology*, 57 (13), 5125-5136.
- Yu, J., Y. Tian*, H. Jing, T. Sun, X. Wang, C.B. Andrews, **C. Zheng***, 2023, Predicting regional wastewater treatment plant discharges using machine learning and population migration big data, *ACS ES&T Water*, 3 (5), 1314-1328.
- Akbariforouz, M., Q. Zhao, R. Taherdangkoo, A. Baghbanan, C. Butscher, **C. Zheng**, 2023, Prediction of tunnel squeezing in soft sedimentary rocks by geoelectrical data, *Environmental Earth Sciences*, 82 (7), 159.
- Deng, Y., Y. Yao, Y. Zhao, D. Luo, B. Cao, X. Kuang, **C. Zheng**, 2023, Impact of climate change on the long-term water balance in the Yarlung Zangbo Basin, *Frontiers in Earth Science*, 11, 380.

- Xiao, K., F. Pan, Y. Li, Z. Li, H. Li, Z. Guo, X. Wang, C. Zheng, 2023, Coastal aquaculture regulates phosphorus cycling in estuarine wetlands: mobilization, kinetic resupply, and source-sink process, *Water Research*, 234, 119832.
- Liu, S., W. Qiu, R. Li, B. Chen, X. Wu, J.T. Magnuson, B. Xu, S. Luo, E.G. Xu, C. Zheng, 2023, Perfluoronanoic acid induces neurotoxicity via synaptogenesis signaling in zebrafish, *Environmental Science & Technology*, 57 (9), 3783-3793.
- Zhang, Y., H. Zheng, X. Zhang, L.R. Leung, C. Liu, C. Zheng, Y. Guo, F.H.S. Chiew, D. Post, D. Kong, H.E. Beck, C. Li, G. Blöschl, 2023, Future global streamflow declines are probably more severe than previously estimated, *Nature Water*, 1, 261-271. doi: 10.1038/s44221-023-00030-7.
- Scanlon, B.R., S. Fakhreddine, A. Rateb, I. de Graaf, J. Famiglietti, T. Gleeson, R.Q. Grafton, E. Jobbagy, S. Kebede, S.R. Kolusu, L.F. Konikow, D. Long, M. Mekonnen, H.M. Schmied, A. Mukherjee, A. MacDonald, R.C. Reedy, M. Shamsudduha, C.T. Simmons, A. Sun, R.G. Taylor, K.G. Villholth, C.J. Vörösmarty, C. Zheng, 2023, Global water resources and the role of groundwater in a resilient water future, *Nature Reviews Earth & Environment*, 4 (5), 351-351. doi: 10.1038/s43017-022-00378-6.
- Guo, Z., G.E. Fogg*, K. Chen, R. Pauloo, C. Zheng*, 2023, Sustainability of regional groundwater quality in response to managed aquifer recharge, *Water Resour. Res.*, 59(1), e2021WR031459, doi: 10.1029/2021WR031459.
- Kong, L., Q. Wang, Y. Wang, Q. Yan, W. Qiu, C. Zheng*, 2023, Sustainable Cu₂(OH)₂CO₃/g-C₃N₄/cellulose acetate-derived porous composite membrane for Congo red and tetracycline removal with photocatalytic self-cleaning properties under natural solar irradiation, *Sustainable Horizons*, 5, 100047, doi: 10.1016/j.horiz.2023.100047.
- Pang, M., E. Du*, C. Zheng*, 2023, A data-driven approach to exploring the causal relationships between distributed pumping activities and aquifer drawdown, *Sci Total Environ*, 870, 161998, doi: 10.1016/j.scitotenv.2023.161998.
- Xu, R., Z. Zeng, M. Pan, A.D. Ziegler, J. Holden, D.V. Spracklen, L.E. Brown, X. He, D. Chen, B. Ye, H. Xu, S. Jerez, C. Zheng, J. Liu, P. Lin, Y. Yang, J. Zou, D. Wang, M. Gu, Z. Yang, D. Li, J. Huang, V. Lakshmi, E.F. Wood, 2023, A global-scale framework for hydropower development incorporating strict environmental constraints, *Nature Water*, 1, 113-122, doi: 10.1038/s44221-022-00004-1.
- Zhou, H., X. Kuang, Y. Hao, C. Wang, Y. Feng, Y. Zou, M. Zhu, C. Zheng, 2023, Magmatic fluid input controlling the geochemical and isotopic characteristics of geothermal waters along the Yadong-Gulu rift, southern Tibetan Plateau, *Journal of Hydrology*, 619, 129196. doi: 10.1016/j.jhydrol.2023.129196.
- Chen, K., M. Yin, Z. Guo, X. Liang, X. Wei, S. Yang, X. Zhai, C. Zheng*, 2023, Estimating lateral groundwater inflow to rivers using heat as a tracer, *Journal of Hydrology*, 617, 128965.
- Guo, Z., K. Chen, S. Yi, C. Zheng*, 2023, Response of groundwater quality to river-aquifer interactions during managed aquifer recharge: A reactive transport modeling analysis, *Journal of Hydrology*, 616, 128847.
- Jing, H., X. He, Y. Tian, M. Lancia, G. Cao, A. Crivellari, Z. Guo, C. Zheng*, 2023, Comparison and interpretation of data-driven models for simulating site-specific human-impacted groundwater dynamics in the North China Plain, *Journal of Hydrology*, 616, 128751.
- Akbariforouz, M., Q. Zhao, K. Chen, A. Baghbanan, R.N. Dehnavi, C. Zheng, 2023, Statistical study of squeezing for soft rocks based on factor and regression analyses of effective parameters, *International Journal of Rock Mechanics and Mining Sciences*, 163, 105306.
- Yin, M., R. Ma, Y. Zhang, J. Lin, Z. Guo, C. Zheng, 2023, Competitive control of multiscale aquifer heterogeneity on solute transport in an alluvial aquifer, *Journal of Hydrology*, 616, 128819.
- Uchenna, U.P., M. Lancia, S. Viaroli, A.N. Ugbaja, M. Galluzzi, C. Zheng, 2023, Groundwater sustainability in African Metropolises: Case study from Calabar, Nigeria, *Journal of Hydrology: Regional Studies*, 45, 101314 .

- Sun, H., S. Nie, A.I. Packman, Y. Zhang, D. Chen, C. Lu, **C. Zheng**, 2023, Application of Hausdorff fractal derivative to the determination of the vertical sediment concentration distribution, *International Journal of Sediment Research*, 38,12-23.
- Zheng, C.**, 2022, The winding road of a hydrogeologist, *Perspectives of Earth and Space Scientists*, 3, e2020CN000139, doi: 10.1029/2020CN000139.
- Lancia, M., Y. Yao, C.B. Andrews, X. Wang, X. Kuang, J. Ni, S.M. Gorelick, B.R. Scanlon, Y. Wang, **C. Zheng***, 2022, The China groundwater crisis: A mechanistic analysis with implications for global sustainability, *Sustainable Horizons*, 4, 100042, doi: 10.1016/j.horiz.2022.100042.
- Yu, J., Y. Tian*, X. Wang, X. Wang, M. Lancia, H. Li, C.B. Andrews, **C. Zheng***, 2022, A New simulation-optimization framework for estimation of submarine groundwater discharge based on hydrodynamic Modeling and Isotopic Data, *Geophysical Research Letters*, 49, e2022GL098893..
- Xuan, R., W. Qiu, Y. Zhou, J.T. Magnuson, S. Luo, J.B. Greer, B. Xu, J. Liu, E.G. Xu, D. Schlenk, **C. Zheng**, 2022, Parental transfer of an antibiotic mixture induces cardiotoxicity in early life-stage zebrafish: A cross-generational study, *Sci Total Environ*, 849, 157726.
- Xu, S., S. Zheng, Z. Huang, L. Song, Y. Long, X. Zhan, L. Jiang, Y. Wang, Y. Shu, **C. Zheng**, 2022, Assessing progress towards sustainable development in Shenzhen 2005–2019, *Journal of Cleaner Production*, 349, 131496.
- Xiao, K., F. Pan, I.R. Santos, Y. Zheng, **C. Zheng**, N. Chen, Z. Lu, F. Wang, Z. Li, H. Li, 2022, Crab bioturbation drives coupled iron-phosphate-sulfide cycling in mangrove and salt marsh soils, *Geoderma*, 424, 115990.
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Funded Research Projects

1. 3D simulation and early warning system for urban water bodies with joint consideration of soil and groundwater quality control, Ningbo Municipal Government, 2023-2025, PI (through Eastern Institute of Technology, Ningbo).
2. Pollution risk assessment, early warning, and emergency management associated with drinking water source areas, Shenzhen Municipal Government, 2021-2024, PI (through Southern University of Science and Technology).
3. Surface water-groundwater interactions and their ecological and environmental effects, University Discipline Innovation Plan, Ministry of Education and Ministry of Science and Technology, 2020-2024, PI (through Southern University of Science and Technology).
4. Roles of anomalous diffusion in groundwater contaminant source identification, in situ remediation and risk assessment: A theoretical and experimental study, National Natural Science Foundation of China, 2020-2024, PI (through Southern University of Science and Technology).
5. Migration and transformation of nutrients across the land-sea interface in the Guangdong-Hong Kong-Macao Greater Bay Area, National Natural Science Foundation of China, 2019-2023, PI (through Southern University of Science and Technology).
6. INFEWS (U.S.-China): Sustainability in the Food-Energy-Water nexus; integrated hydrologic modeling of tradeoffs between food and hydropower in large scale Chinese and US basins, a joint program of National Natural Science Foundation of China and U.S. National Science Foundation, 2018-2022, PI (through Southern University of Science and Technology).
7. Guangdong Provincial Key Laboratory of Soil and Groundwater Pollution Control and Remediation, Government of Guangdong Province, 2017-2020, PI (through Southern University of Science and Technology).
8. Development and application of integrated technologies for groundwater remediation, Leading Talents Program of Guangdong Province, Government of Guangdong Province, 2017-2021, PI (through Southern University of Science and Technology).
9. Seawater intrusion along the eastern coastlines of China and associated environmental impacts, National Key R&D Program of China, 2016-2020, PI (through Southern University of Science and Technology).
10. Building excellence in the field of environmental protection and efficient resource utilization, University Academic Program Enhancement Scheme, Development and Reform Commission of Shenzhen Municipal Government, 2016-2019, PI (through Southern University of Science and Technology).
11. A Comprehensive approach to pollution control and management of urban watersheds, Shenzhen Municipal Government, 2016-2020, PI (through Southern University of Science and Technology).
12. Key Laboratory for Soil and Groundwater Pollution Control of Shenzhen City, Shenzhen Municipal Government, 2015-2017, PI (through Southern University of Science and Technology).
13. Integrated modeling and prediction of the water-ecosystem-economics system in the Heihe River Basin, National Natural Science Foundation of China, 2015-2018, co-PI (through Peking University).
14. Effects of small-scale preferential flow paths on contaminant transport and remediation, National Natural Science Foundation of China, 2014-2018, PI (through Peking University).
15. System behaviors and regulation of ecohydrological processes in the middle and lower Heihe River Basin, National Natural Science Foundation of China, 2013-2016, PI (through Peking University).

16. Risk assessment of groundwater contamination from a REE mining site in Baotou, Inner Mongolia, China Ministry of Environmental Protection, 2013-2016, PI (through Peking University).
17. Development of technical guidelines for comprehensive assessment of groundwater contamination, China Ministry of Environmental Protection, 2011-2016, PI (through Peking University).
18. Field study of contaminant transport processes and numerical model development, China Geological Survey, 2011-2013, PI (through Peking University).
19. Collaborative Research: High-resolution dynamic characterization of transport pathways: providing new insights into subsurface processes, National Science Foundation, 2008-12, PI (through University of Alabama).
20. Optimal management of coastal aquifers against seawater intrusion, Baldwin County, Alabama, NOAA through the state of Alabama, 2008-2009, PI (through University of Alabama).
21. With John Zachara (PI) and 17 co-PIs, Multi-scale mass transfer processes controlling natural attenuation and engineered remediation: An Integrated Field Challenge (IFC) focused on Hanford's 300 Area uranium plume, Department of Energy, 2007-2012, co-PI (through University of Alabama).
22. Accurate determination of groundwater recharge on the North China Plain through environmental tracers and 3D numerical modeling, Sino-German International Collaborative Research Program, National Natural Science Foundation of China, 2010-2012, PI (through Peking University).
23. A Coupled surface water-groundwater model for understanding hydrologic processes and water quality evolution in the North China Plain (NCP), Ministry of Science and Technology of China, 2007-2011, PI (through Peking University).
24. Spatial distribution of groundwater ages in a large sedimentary basin: Numerical simulation and application, National Natural Science Foundation of China, 2007-2009, PI (through Peking University).
25. Collaborative Research: Solute transport in aquifers containing connected high-conductivity networks: theory founded on laboratory and field data, National Science Foundation, 2006-2009, PI (through University of Alabama).
26. Development of modeling methods and tools for predicting coupled reactive transport processes in porous media at multiple scales, Department of Energy, 2006-2009, PI of subaward to University of Alabama.
27. Discrete fracture network models for risk assessment of carbon sequestration in coal, Department of Energy, 2005-2008, PI of subaward to University of Alabama.
28. Sustainable groundwater management of coastal aquifers in Baldwin County, Alabama, NOAA through the state of Alabama, 2005-2007, PI (through University of Alabama).
29. Reliability considerations in groundwater remediation system and monitoring network design, DuPont Company, 2005-2006, PI (through University of Alabama).
30. Development of information infrastructure for hydrological sciences, National Science Foundation, 2004-2005, PI of subaward to University of Alabama.
31. Groundwater study of Ft. Morgan Peninsula, Baldwin County, NOAA through the state of Alabama, 2004-2005, PI (through University of Alabama).
32. Further development of the MT3DMS contaminant transport model for linkage with the Army Risk Assessment Modeling System, Army Engineer Research and Development Center, 2003-2004, PI (through University of Alabama).
33. Further development of the ModGA code for contaminant source identification, DuPont Company, 2003-2004. PI (through University of Alabama).

34. Acquisition of geophysical field equipment for earth science research and teaching at the University of Alabama, NSF, 2002-2004, Co-PI.
35. With Jimmy Jiao (University of Hong Kong), Modification of regional groundwater regimes by large-scale land reclamation, Research Grants Council of Hong Kong, 2002-2005, Co-PI (through University of Alabama).
36. Collaborative Research: A systematic study of solute transport influenced by preferential flow paths at the decimeter and smaller scales, NSF, 2001-2005, PI (through University of Alabama). Field demonstration of transport optimization modeling for reducing the costs of groundwater pump-and-treat systems, Department of Defense Environmental Security Technology Certification Program (ESTCP), 2000-2003, PI (through University of Alabama).
38. Further development of the ModGA code for monitoring network design optimization, DuPont Company, 2002-2003. PI (through University of Alabama).
39. With Amy Ward (Project Director, University of Alabama) and 17 others at University of Alabama and University of New Mexico, Integrated Graduate Education Research Training (IGERT) Program in Freshwater Sciences, NSF, 1999-2004, co-investigator and leader of the solute transport research theme (through University of Alabama).
40. With Jimmy Jiao (University of Hong Kong), Origin and evolution of abnormal fluid pressures in the Shiwu area in northeastern China, Research Grants Council of Hong Kong, 1999-2002, Co-PI (through University of Alabama).
41. Multi-fractal scaling of hydraulic conductivity distributions and the effect on plume-scale contaminant transport, National Science Foundation, 1997-2000, PI of subaward to University Alabama.
42. Subsurface site characterization via a computer-aided tool, Gulf Coast Hazardous Substance Research Center, US EPA, 1998-2000, Co-PI (through University of Alabama).
43. Development and application of a multicomponent solute transport simulator for the Department of Defense Groundwater Modeling System (GMS), US Army Engineer Research and Development Center, 1996-2000, PI (through University of Alabama).
44. Incorporation of variably saturated flow and contaminant transport in the groundwater flow and transport optimization model ModGA, DuPont Chemical, 1998-1999, PI (through University of Alabama).
45. Modeling biologically reactive contaminant transport and natural attenuation, Pacific Northwest National Laboratory, Department of Energy, 1997-1998, PI (through University of Alabama).
46. A global optimization approach for parameter identification in contaminant transport modeling, U.S. Environmental Protection Agency, 1995-1997, PI (through University of Alabama).
47. Development of a simulation-optimization model for groundwater management and remediation designs, DuPont Company, 1995-1998, PI (through University of Alabama).
48. Parameter identification using genetic algorithms, DuPont Company, 1995-1996, PI.
49. Simulation of reactive tracer transport in a strongly heterogeneous aquifer, Cray Research, Inc., 1995-1996, PI (through University of Alabama).
50. Augmentation of optimal policy selections to groundwater contaminant transport model MT3D (Phases I and II), USGS through Alabama Water Resources Research Institute, 1994-1995, Co-PI (through University of Alabama).
51. Development of an advanced contaminant fate and transport simulator for Cray supercomputers, Cray Research, Inc., 1994-1995, PI (through University of Alabama).
52. An investigation of underpressured geological formations for disposal of hazardous wastes, State of Alabama through UA School of Mines and Energy Development, 1994-95, PI (through University of Alabama).

53. A graduate fellowship to support Ph.D. research in hydrogeology, S.S. Papadopulos & Associates, Inc., 1994-1995, PI (through University of Alabama).