CHUNMIAO ZHENG, PH.D.

Southern University of Science and Technology, Shenzhen 518055, 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

2018-present Chair Professor of Hydrological and Environmental Science, 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-present Chair Professor and Founding Director, Institute of Water Sciences, Peking University, Beijing, China (*on a joint appointment since 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. Papadopulos & Associates, Inc., Bethesda, Maryland.

Professional Experience

2018-present 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.
2000 Visiting Scientist, U.S. Geological Survey, Menlo Park, California.
1995 Visiting Fellow, Australian Nuclear Science & Technology Organization.
1991 Assistant Professional Lecturer, George Washington University.

Awards and Honors

2019 **Fellow**, American Geophysical Union (AGU) (https://eos.org/agu-news/2019-class-of-agu-fellows-announced)
2017 **Honorary Citizen of Shenzhen City,** Municipal Government of Shenzhen, China.
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.
2012 **Distinguished Lecturer for Hydrology Section**, AOGS-AGU (WPGM) Joint Assembly, Singapore, 13-17 August, 2012.

2009 **Birdsall-Dreiss Distinguished Lecturer**, Hydrogeology Division, Geological Society of America.
2008 **DuPont Lecturer**, University of Delaware
2005 **Oliver Lectureship in Hydrogeology**, Jackson School of Geosciences, University of Texas-Austin.
1999 **Fellow**, Geological Society of America.
1998 **John Hem Excellence in Science and Engineering Award**, National Ground Water Association.

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.

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 and preferential flow paths on contaminant transport processes
- Coupling of physical transport processes with biological and geochemical reactions for modeling of contaminant transport and remediation

Major Committees and Editorial Boards

2018-present Paul Witherspoon Mid-Career Lecturer in Hydrologic Sciences Award Committee, American Geophysical Union
2016-present Associate Editor, *Vadose Zone Journal*
2016 Chair, 9th IAHS Groundwater Quality Conference (Groundwater Quality 2016, GQ16), Shenzhen, China

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-present	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-present	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
2003-2007	Associate Editor, *Hydrogeology Journal*, International Association of Hydrogeologists (IAH) and Geological Society of America (GSA)
2003-2004	Chair-elect and Chair, International Professionals for the Advancement of Chinese Earth Sciences (IPACES)
1998-2010	Associate Editor and Software Column Editor (2002-), Journal *Ground Water*, National Ground Water Association

Selected Professional Activities

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	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	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, Sino-US 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 an 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.
2009-2018	Steering Committee, Major National Research Programme "An Integrative Study of Hydrology and Ecology in the Heihe River Basin", National Natural Science Foundation of China.
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 Tubingen, 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.
2004	Visiting Research Professor, Chinese Academy of Sciences.
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, The Strategic Environmental Research and Development Program (SERDP), DOD/EPA/DOE.
2002	Invited Seminar Speaker, Institute of Applied Geology, University of Tübingen.
2001-2003	Instructor, Short course on *Reactive Transport Modeling*, Univ. 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 Seminar Speaker, Department of Geological Sciences, 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.
1999-2000	Graduate Fellowship Grant Application Review Panel, U.S. EPA, Washington, D.C.
1999	Invited Seminar Speaker, Department of Geological and Environmental Sciences, Stanford University.
1999	Invited Seminar Speaker, Institute of Hydromechanics and Water Resources Management, Swiss Federal Institute of Technology, Zurich, Switzerland.
1999	Invited Speaker, American Geophysical Union (AGU) 1999 Spring Meeting, Boston.
1998	Colloquium Speaker, Department of Geology and Geophysics, Texas A&M Univ.
1998	Pump-and-Treat System Optimization Initiative Review Panel, U.S. Environmental Protection Agency, Washington, DC.
1998	Co-chairman and keynote speaker, *MODFLOW'98 – An International Conference on Groundwater Modeling*, Colorado School of Mines, Colorado.
1998-2000	Co-instructor, Short course on *Computer Modeling of Natural Attenuation and Bioremediation Systems*, sponsored by National Ground Water Association.
1998	Guest Lecturer, Short course on *Groundwater Flow Modeling*, U. of Hong Kong.
1998-2001	Visiting Professor, Chengdu University of Technology, Sichuan, China.
1998	Co-convener, Special session on *Groundwater Modeling: How much Complexity is Warranted?* American Geophysical Union (AGU) Spring Meeting, Boston.
1997	Invited Speaker, *Reactive Transport Modeling Workshop*, Pacific Northwest National Laboratory, Richland, Washington.
1997	Invited Speaker, International conference on *Advances in Ground-Water Hydrology – A Decade of Progress*, American Institute of Hydrology, Tampa, Florida.
1997	Co-instructor, Workshop on *Coupling of Contaminant Transport with Geochemistry*, University of Technology, Sydney, Australia.
1996-2005	Groundwater Committee, American Geophysical Union (AGU).

Professional Affiliations

American Geophysical Union since 1985
National Ground Water Association since 1988
Geological Society of America since 1991
International Association of Hydrologic Sciences (IAHS)

Publications

Author or co-author of over 280 articles and 5 books; A total of 9948 citations on Google Scholar, http://scholar.google.com/citations?hl=en&user=g0FPeQsAAAAJ; accessed 10/3/2019.

(*indicates corresponding author)

Zhang, T., L. Cai, B. Xu, X. Li, W. Qiu*, C. Fu, **C. Zheng***, 2019, Sulfadiazine biodegradation by Phanerochaete chrysosporium: Mechanism and degradation product identification, *Chemosphere*, 237, 124418, DOI: 10.1016/j.chemosphere.2019.124418

Huang, J., S. Yi, **C. Zheng**, I.M.C. Lo, 2019, Persulfate activation by natural zeolite supported nanoscale zero-valent iron for trichloroethylene degradation in groundwater, *Science of The Total Environment*, 684, 351-359

Mao, G., J. Liu, F. Han, Y. Meng, Y. Tian, Y. Zheng, **C. Zheng**, 2019, Assessing the interlinkage of green and blue water in an arid catchment in Northwest China, *Environmental Geochemistry and Health*, 1-21, DOI: 10.1007/s10653-019-00406-3

Wang, Y., Z. Zhang, X. Xu, C. Chen, J. Xu, L. Kong, P. Xie, **C. Zheng,** N. Ren, D. Lee, 2019, Effective removal of methyl siloxane from water by sewage activated sludge microbes: biodegradation behavior and characteristics of microbial community, *Bioresource Technology Reports,* 7, 100209, DOI: 10.1016/j.biteb.2019.100209

Lancia, M., **C. Zheng***, X. He, D.N. Lerner, C. Andrews, 2019, Groundwater complexity in urban catchments: Shenzhen, southern China, *Groundwater,* DOI: 10.1111/gwat.12935

Chen, C., Y. Tian, Y.K. Zhang, X. He, X. Yang, X. Liang, Y. Zheng, F. Han, **C. Zheng**, C. Yang, 2019, Effects of agricultural activities on the temporal variations of streamflow: trends and long memory, *Stoch Environ Res Risk Assess*, 33(8-9), 1553-1564, DOI: 10.1007/s00477-019-01714

Puckett, M.H., Y. Zhang, B. Lu, Y.H. Lu, H.G. Sun, **C. Zheng**, W. Wei, 2019, Application of fractional differential equation to interpret the dynamics of dissolved heavy-metal uptake in streams at a wide range of scales, *The European Physical Journal Plus*, 134 (8), 377

Qu, W., H. Li, C. Wang, **C. Zheng,** X. Wang, Y. Zhang, 2019, Numerical Simulations of Seasonally Oscillated Groundwater Dynamics in Coastal Confined Aquifers, *Groundwater*, DOI: 10.1111/gwat.12926

Jia, X., D. O'Connor, D. Hou, Y. Jin, G. Li, **C. Zheng**, Y.S. Ok, D.C.W. Tsang, J. Luo, 2019, Groundwater depletion and contamination: Spatial distribution of groundwater resources sustainability in China, *Science of The Total Environment*, 672, 551-562

Qiu, W., S. Liu, F. Yang, P. Dong, M. Yang, M. Wong, **C. Zheng***, 2019, Metabolism disruption analysis of zebrafish larvae in response to BPA and BPA analogs based on RNA-Seq technique, *Ecotoxicology and Environmental Safety*, 174, 181-188

Lin, S., Y.B. Man, K.L. Chow, **C. Zheng**, M.H. Wong, 2019, Impacts of the influx of e-waste into Hong Kong after China has tightened up entry regulations, *Critical Reviews in Environmental Science and Technology*, DOI: 10.1080/10643389.2019.1619377

Tang, L., Z. Lv, Y. Xue, L. Xu, W. Qiu, **C. Zheng**, W. Chen, M. Wu, 2019, MIL-53 (Fe) incorporated in the lamellar BiOBr: promoting the visible-light catalytic capability on the degradation of rhodamine B and carbamazepine, *Chemical Engineering Journal*, 374, 975-982

Miraji, M., J. Liu, **C. Zheng**, 2019, The Impacts of Water Demand and Its Implications for Future Surface Water Resource Management: The Case of Tanzania's Wami Ruvu Basin (WRB), *Water*, 11 (6), 1280

Yao, Y., C. Andrews, Y. Zheng, X. He, V. Babovic, **C. Zheng***, 2019, Development of fresh groundwater lens in coastal reclaimed islands, *Journal of Hydrology*, 573, 365-375

Zhang, Y., X. Yu, X. Li, J.F. Kelly, H.G. Sun, **C. Zheng**, 2019, Impact of absorbing and reflective boundaries on fractional derivative models: Quantification, evaluation and application, *Advances in Water Resources,* 128, 129-144

Qiu, W., H. Zhan, J. Hu, T. Zhang, H. Xu, M. Wong, B. Xu, **C. Zheng***, 2019, The occurrence, potential toxicity, and toxicity mechanism of bisphenol S, a substitute of bisphenol A: A critical review of recent progress, *Ecotoxicology and Environmental Safety*, 173, 192-202

Zhao, S., M. Golestani, A. Penesyan, B. Deng, **C. Zheng**, V. Strezov, 2019, Antibiotic enhanced dopamine polymerization for engineering antifouling and antimicrobial membranes, *Chinese Chemical Letters*, DOI: 10.1016/j.cclet.2019.05.057

Liu, J., X. Li, H. Yang, G. Han, J. Liu, **C. Zheng,** Y. Zheng, 2019, The Water–Energy Nexus of Megacities Extends Beyond Geographic Boundaries: A Case of Beijing, *Environmental Engineering Science*, 36, 7, 778-788

Qiu, W. M. Fang, J. Liu, C. Fu, **C. Zheng**, B. Chen, K.J. Wang, 2019, In vivo actions of Bisphenol F on the reproductive neuroendocrine system after long-term exposure in zebrafish, *Science of The Total Environment*, 665, 995-1002

Tang, S., N. Shao, **C. Zheng**, F. Yan, Z. Zhang, 2019, Amino-functionalized sewage sludge-derived biochar as sustainable efficient adsorbent for Cu (II) removal, *Waste Management*, 90, 17-28

He, X., D. Lucatero, M.E. Ridler, H. Madsen, J. Kidmose, Ø. Hole, C. Petersen, **C. Zheng**, J.C. Refsgaard, 2019, Real-time simulation of surface water and groundwater with data assimilation, *Advances in Water Resources,* 127, 13-25

Liang, X., Y.K. Zhang, J. Liu, E. Ma, **C. Zheng**, 2019, Solute transport with linear reactions in porous media with layered structure: A semi‐analytical model, *Water Resources Research*, DOI: 10.1029/2019WR024778

Dawley, S., Y. Zhang, X. Liu, P. Jiang, G.R. Tick, H.G. Sun, **C. Zheng**, L. Chen, 2019, Statistical Analysis of Extreme Events in Precipitation, Stream Discharge, and Groundwater Head Fluctuation: Distribution, Memory, and Correlation, *Water,* 11 (4), 707

Chang, A., H. G. Sun, Y. Zhang, **C. Zheng**, F. Min, 2019, Spatial fractional Darcy's law to quantify fluid flow in natural reservoirs, *Physica A: Statistical Mechanics and its Applications,* 519, 119-126.

Tang, S., **C. Zheng**, Z. Zhang, 2019, Facile synthesis of promising phosphorus fertilizer from sewage sludge through calcium oxide enhanced pyrolysis, ABSTRACTS OF PAPERS OF THE AMERICAN CHEMICAL SOCIETY 257

Song, Z., H. Li, Q. Ma, **C. Zheng**, J.J. Jiao, S. Li, 2019, Analytical Solution of Tidal Loading Effect in a Submarine Leaky Confined Aquifer System, *Geofluids*, DOI: 10.1155/2019/8017164

Miraji, M., X. Li, J. Liu, **C. Zheng**, 2019, Evaluation of Water and Energy Nexus in Wami Ruvu River Basin, Tanzania, *Sustainability*, 11 (11), 3109

Qiu, W., J. Sun, M. Fang, S. Luo, Y. Tian, P. Dong, B. Xu*, **C. Zheng***, 2019, Occurrence of antibiotics in the main rivers of Shenzhen, China: Association with antibiotic resistance genes and microbial community, *Science of The Total Environment*, 653, 334-341, doi: 10.1016/j.scitotenv.2018.10.398.

Li, X., P. Gentine, C. Lin, S. Zhou, Z. Sun, Y. Zheng, J. Liu, **C. Zheng**, 2019, A simple and objective method to partition evapotranspiration into transpiration and evaporation at eddy-covariance sites, *Agricultural and Forest Meteorology*, 265, 171-182.

Qiu, W., M. Zheng, J. Sun, Y. Tian, M. Fang, Y. Zheng, T. Zhang, **C. Zheng***, 2019, Photolysis of enrofloxacin, pefloxacin and sulfaquinoxaline in aqueous solution by UV/H2O2, UV/Fe (II), and UV/H2O2/Fe (II) and the toxicity of the final reaction solutions on zebrafish embryos, *Science of The Total Environment*, 651: 1457-1468, DOI: 10.1016/j.scitotenv.2018.09.315.

Zhou, W.H., F. Liu, S. Yi, Y. Z. Chen, X. Geng, **C. Zheng**, 2019, Simultaneous stabilization of Pb and improvement of soil strength using nZVI, *Science of The Total Environment*, 651(1): 877-884.

Qiu, W., M. Yang, J. Liu, H. Xu, S. Luo, M. Wong, **C. Zheng***, 2018, Bisphenol S-induced chronic inflammatory stress in liver via peroxisome proliferator-activated receptor γ using fish in vivo and in vitro models, *Environmental Pollution,*246, 963-971, doi: 10.1016/j.envpol.2018.11.039.

Yao, Y., **C. Zheng***, C. Andrews, X. He, A. Zhang, J. Liu, 2019, Integration of groundwater into China's south-north water transfer strategy, *Science of The Total Environment,* 658, 550-557.
Yang, F., W. Qiu*, R. Li, J. Hu, S. Luo, T. Zhang, X. He, **C. Zheng***, 2018, Genome-wide identification of the interactions between key genes and pathways provide new insights into the toxicity of bisphenol F and S during early development in zebrafish, *Chemosphere*, 213: 559-567.
Tang, S., Y. Tang, **C. Zheng**, Z. Zhang, 2018, Alkali metal-driven release behaviors of volatiles during sewage sludge pyrolysis, *Journal of Cleaner Production*, 203: 860-872.
Ben, Y., C. Fu, M. Hu, L. Liu, M. H. Wong, **C. Zheng***, 2019, Human health risk assessment of antibiotic resistance associated with antibiotic residues in the environment: A review, *Environmental Research*, 169, 483-493.
Cudennec, C., J. Liu, J. Qi, H. Yang, **C. Zheng**, A. K. Gain, R. Lawford, L. de Strasser, P. T. Yillia, 2018, Epistemological dimensions of the water–energy–food nexus approach: reply to discussions of "Challenges in operationalizing the water–energy–food nexus", *Hydrological Sciences Journal,* doi: 10.1080/02626667.2018.1545097.
Joo, J., Y Tian, **C Zheng**, Y Zheng, Z Sun, A Zhang, H Chang, 2018, An Integrated Modeling Approach to Study the Surface Water-Groundwater Interactions and Influence of Temporal Damping Effects on the Hydrological Cycle in the Miho Catchment in South Korea, *Water,* 10 (11): 1529.
Sun, Z., Y. Zheng, X. Li, Y. Tian, F. Han, Y. Zhong, J. Liu, **C. Zheng**, 2018, The Nexus of water, ecosystems and agriculture in endorheic river asins: A System Analysis Based on Integrated Ecohydrological Modeling, *Water Resources Research*, doi: 10.1029/2018WR023364.
Yu, X., Y. Zhang, H. G. Sun, **C. Zheng**, 2018, Time fractional derivative model with Mittag-Leffler function kernel for describing anomalous diffusion: Analytical solution in bounded-domain and model comparison, *Chaos, Solitons & Fractals*, 115, 306-312.
Tang, S., **C. Zheng**, Z. Zhang, 2018, Effect of inherent minerals on sewage sludge pyrolysis: Product characteristics, kinetics and thermodynamics, *Waste Management*, 80: 175-185.
Lancia, M., **C. Zheng***, S. Yi, D. N. Lerner, C. Andrews, 2018, Analysis of groundwater resources in densely populated urban watersheds with a complex tectonic setting: Shenzhen, southern China, *Hydrogeology Journal*, 1-12, doi: 10.1007/s1004.
Zhang, Y., H. G. Sun, R. M. Neupauer, P. Straka, J. F. Kelly, B. Lu, **C. Zheng**, 2018, Identification of pollutant source for super‐diffusion in aquifers and rivers with bounded domains, *Water Resources Research*, doi: 10.1029/2018WR023011.
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Funded Research Projects

(unless noted, projects prior to 2010 were funded through the University of Alabama)

1. 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).
2. 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).
3. 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).
4. 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).
5. 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).
6. 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).
7. 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).
8. A Comprehensive approach to pollution control and management of urban watersheds, Shenzhen Municipal Government, 2016-2020, PI (through Southern University of Science and Technology).
9. Key Laboratory for Soil and Groundwater Pollution Control of Shenzhen City, Shenzhen Municipal Government, 2015-2017, PI (through Southern University of Science and Technology).
10. 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).
11. Effects of small-scale preferential flow paths on contaminant transport and remediation, National Natural Science Foundation of China, 2014-2018, PI (through Peking University).
12. 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).
13. Risk assessment of groundwater contamination from a REE mining site in Baotou, Inner Mongolia, China Ministry of Environmental Protection, 2013-1016, PI (through Peking University).
14. Development of technical guidelines for comprehensive assessment of groundwater contamination, China Ministry of Environmental Protection, 2011-2016, PI (through Peking University).
15. Field study of contaminant transport processes and numerical model development, China Geological Survey, 2011-2013, PI (through Peking University).

16. 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).
17. Optimal management of coastal aquifers against seawater intrusion, Baldwin County, Alabama, NOAA through the state of Alabama, 2008-2009, PI (through University of Alabama).
18. 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).
19. 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).
20. 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).
21. 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).
22. Collaborative Research: Solute transport in aquifers containing connected high-conductivity networks: theory founded on laboratory and field data, National Science Foundation, 2006-2009, PI.
23. 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 Alabama.
24. Discrete fracture network models for risk assessment of carbon sequestration in coal, Department of Energy, 2005-2008, PI of subaward to Alabama.
25. Sustainable groundwater management of coastal aquifers in Baldwin County, Alabama, NOAA through the state of Alabama, 2005-2007, PI.
26. Reliability considerations in groundwater remediation system and monitoring network design, DuPont Company, 2005-2006, PI.
27. Development of information infrastructure for hydrological sciences, National Science Foundation, 2004-2005, PI of subaward to Alabama.
28. Groundwater study of Ft. Morgan Peninsula, Baldwin County, NOAA through the state of Alabama, 2004-2005, PI.
29. 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.
30. Further development of the ModGA code for contaminant source identification, DuPont Company, 2003-2004. PI.
31. Acquisition of geophysical field equipment for earth science research and teaching at the University of Alabama, NSF, 2002-2004, Co-PI.
32. 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.
33. Collaborative Research: A systematic study of solute transport influenced by preferential flow paths at the decimeter and smaller scales, NSF, 2001-2005, PI. 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.

35. Further development of the ModGA code for monitoring network design optimization, DuPont Company, 2002-2003. PI.
36. 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.
37. 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.
38. Multi-fractal scaling of hydraulic conductivity distributions and the effect on plume-scale contaminant transport, National Science Foundation, 1997-2000, PI of subaward to Alabama.
39. Subsurface site characterization via a computer-aided tool, Gulf Coast Hazardous Substance Research Center, US EPA, 1998-2000, Co-PI.
40. 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.
41. Incorporation of variably saturated flow and contaminant transport in the groundwater flow and transport optimization model ModGA, DuPont Chemical, 1998-1999, PI.
42. Modeling biologically reactive contaminant transport and natural attenuation, Pacific Northwest National Laboratory, Department of Energy, 1997-1998, PI.
43. A global optimization approach for parameter identification in contaminant transport modeling, U.S. Environmental Protection Agency, 1995-1997, PI.
44. Development of a simulation-optimization model for groundwater management and remediation designs, DuPont Company, 1995-1998, PI.
45. Parameter identification using genetic algorithms, DuPont Company, 1995-1996, PI.
46. Simulation of reactive tracer transport in a strongly heterogeneous aquifer, Cray Research, Inc., 1995-1996, PI.
47. 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.
48. Development of an advanced contaminant fate and transport simulator for Cray supercomputers, Cray Research, Inc., 1994-1995, PI.
49. 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.
50. A graduate fellowship to support Ph.D. research in hydrogeology, S.S. Papadopulos & Associates, Inc., 1994-1995, PI.