Qizhong (George) Guo, Ph.D., P.E., BC.WRE, Professor

Rutgers University-New Brunswick
School of Engineering, Department of Civil and Environmental Engineering
500 Bartholomew Road, Piscataway, NJ 08854
Phone: 848-445-2983; Fax: 732-445-0577; E-mail: Qguo@rutgers.edu
https://cee.rutgers.edu/qizhong-george-guo

I. EDUCATION

Ph.D., Civil Engineering (Water Resources), University of Minnesota, Minneapolis, Minnesota, Sept. 1991
M.S., Civil Engineering (Water Resources), University of Minnesota, Minneapolis, Minnesota, Feb. 1987
B.E., Civil Engineering (Hydraulic & Hydropower), Tianjin University, Tianjin, China, July 1982

II. PROFESSIONAL REGISTRATION AND CERTIFICATION

Board-Certified Water Resources Engineer (BC.WRE), American Academy of Water Resources Engineers, May 2010-Present
Professional Engineer (P.E.), Civil Engineering, State of Minnesota, July 1992 - Present

III. EMPLOYMENT HISTORY

Rutgers, The State University of New Jersey-New Brunswick, Piscataway, New Jersey
Assistant Professor, Associate Professor, Professor, September 1992-Present, Department of Civil and Environmental Engineering
Lemna Corporation, St. Paul, Minnesota
Research and Development Engineer, April-August 1992
University of Minnesota, Minneapolis, Minnesota
Teaching Assistant, Research Assistant, Research Associate, September 1985-April 1992; St. Anthony Falls Hydraulic Laboratory, Department of Civil Engineering

IV. AREAS OF RESEARCH, TEACHING AND SERVICE

Urban Stormwater and Flood Management. Inland and Coastal Water Environment Restoration. Green and Sustainable Water Infrastructure. Hydraulics and Hydrology. Water Resources and Environmental Engineering.

V. PUBLICATIONS

Published 204 books, journal articles, conference proceedings, technical reports, and other written works.

Books (selected):

1. Guo, Q., Editor (2017). *Guidelines for Certification of Stormwater Manufactured Treatment Devices*. American Society of Civil Engineers, ISBN: 9780784414798.
2. Guo, Q. (2013). *Automatic Vacuum Flushing Technology for Combined Sewer Solids*, IWA Publishing, ISBN: 9781780400471.
3. Horikawa, K. and Guo, Q., Editors (2009). Civil Engineering (Vols. 1-2), *Encyclopedia of Life Support Systems*, UNESCO, Eolss Publishers, Oxford. ISBN: 978-1-84826-973-6, 978-1-84826-974-3.

Refereed Journal Articles (selected):

1. Lin, Z., Meneses, D. M., Guo, Q. (2025). "Impacts of Reflective Heat Gain on Substrate Temperatures and Plant Growth Heterogeneity of a Constructed Green Roof." *Journal of Sustainable Water in the Built Environment*, ASCE, 11(2), May, https://doi.org/10.1061/JSWBAY.SWENG-578
2. Meneses, D. M., Zheng, L., Guo, Q. (2024). "Stormwater-Retaining Ground Surface Depressions of Solar Photovoltaic Farms." *Journal of Sustainable Water in the Built Environment*, ASCE, 10(1),

Published online: Sep 28, 2023, https://doi.org/10.1061/JSWBAY.SWENG-525Guo, Q. (2023). "Strategies for a resilient, sustainable, and equitable Mississippi River basin." *River*, 2(3), 336-349. https://doi.org/10.1002/rvr2.60

3. Zhou, Z., Guo, Q. (2022). "Drainage Alternatives for Rain Gardens on Subsoil of Low Permeability: Balance among Ponding Time, Soil Moisture, and Runoff Reduction." *Journal of Sustainable Water in the Built Environment*, ASCE 8(3): 05022002, https://doi.org/10.1061/JSWBAY.0000988
4. Byrne, B. A., Guo, Q. (2021). "Removal of Salt Marsh-Impairing Tidal Flow Restrictions: Impact on Upstream Flooding under the Combined Influence of Rainfall and Tide." *Journal of Hydrologic Engineering*, ASCE, 26(7): 05021017, https://doi.org/10.1061/(ASCE)HE.1943-5584.0002108
5. Zhou, Z., Meneses, D. M., Yu, Y., Gong, J., Guo, Q. (2021). "Delineation of Small Flat Watershed with High-Resolution DEM from Terrestrial Laser Scanning." *Journal of Hydrologic Engineering*, ASCE, 26(7): 04021021, https://doi.org/10.1061/(ASCE)HE.1943-5584.0002096
6. Weinstein, M. P., Guo, Q. and Santasieri, C. (2021). "Protecting People and Property While Restoring Coastal Wetland Habitats." *Estuaries and Coasts*, CERF, Published online on January 29, https://doi.org/10.1007/s12237-021-00900-x
7. Li, X., Guo, Q., Wang, Y., Xu, J., Wei, Q., Chen, L. and Liao, L. (2020). "Enhancing Nitrogen and Phosphorus Removal by Applying Effective Microorganisms to Constructed Wetlands." *Water*, 12(9), 2443, https://doi.org/10.3390/w12092443
8. Guo, X., Guo, Q., Zhou, Z., Du, P. and Zhao, D. (2019). "Degrees of hydrologic restoration by low impact development practices under different runoff volume capture goals." *Journal of Hydrology,* 578, 124069, https://doi.org/10.1016/j.jhydrol.2019.124069
9. Zhang, D., Wang, Z. Guo, Q., Lian, J. and Chen, L. (2019). "Increase and Spatial Variation in Soil Infiltration Rates Associated with Fibrous and Tap Tree Roots." *Water*, 11, 1700; https://doi.org/10.3390/w11081700
10. Gharieh, K., Jafari, M. A., and Guo, Q. (2015). "Investment in Hydrogen Tri-generation for Wastewater Treatment Plants under Uncertainties." *Journal of Power Sources*, Vol., 297, pp. 302-314. https://doi.org/10.1016/j.jpowsour.2015.07.093
11. Walsh, S. P., Rowe, A., and Guo, Q. (2014). "Laboratory Scale Study to Quantify the Effect of Sediment Accumulation on the Hydraulic Conductivity of Pervious Concrete." *Journal of Irrigation and Drainage Engineering*, https://doi.org/10.1061/(ASCE)IR.1943-4774.0000733
12. Li, Y. and Guo, Q. (2012). "Angular Velocity Formula for Turbulent Vortex Chamber Flows." Journal of Hydraulic Engineering, ASCE, Vol. 138, No. 5, pp. 467–470, https://doi.org/10.1061/(asce)hy.1943-7900.0000547
13. Roseen, R. M., Ballestero, T. P., Fowler, G. D., Guo, Q., and Houle, J. (2011). "Sediment Monitoring Bias by Autosampler in Comparison with Whole Volume Sampling for Parking Lot Runoff." *Journal of Irrigation and Drainage Engineering*, ASCE, Vol. 137, No. 4, pp. 251-257 https://doi.org/10.1061/(asce)ir.1943-4774.0000168
14. Sankararamakrishnan, N. and Guo, Q. (2005). "Chemical Tracers as Indicators of Human Fecal Coliforms at Storm Water Outfalls." *Environment International*, Vol. 31, No. 8, pp. 1133-1140, https://doi.org/10.1016/j.envint.2005.04.002
15. Guo, Q., Fan, C-Y., Raghavan, R., and Field, R. (2004). "Gate and Vacuum Flushing of Sewer Sediment: Laboratory Testing." *Journal of Hydraulic Engineering*, ASCE, Vol.130, No. 5, pp. 463-466, https://doi.org/10.1061/(asce)0733-9429(2004)130:5(463)
16. Guo, Q. and Lordi, P. (2000). "Method for Quantifying Freshwater Input and Flushing Time in Estuaries." *Journal of Environmental Engineering*, ASCE, Vol. 126, No. 7, pp. 675-683.
17. Suk, N. S., Guo, Q., and Psuty, N. P. (1999). "Suspended Solids Flux at Estuary-Marsh Boundary: A Long-Term Continuous Measurement." *Estuarine, Coastal, and Shelf Science*, Vol. 49, pp. 61-81, https://doi.org/10.1006/ecss.1999.0486

18. Guo, Q. (1997). "Increases of Lead and Chromium in Drinking Water from Using Cement-Mortar Lined Pipes: Initial Modeling and Assessment." *Journal of Hazardous Materials*, Vol. 56, pp. 181-213, https://doi.org/10.1016/s0304-3894(97)00052-6
19. Guo, Q. (1997). "Sediment and Heavy Metal Accumulation in Dry Stormwater Detention Basin." *Journal of Water Resources Planning and Management*, ASCE, Vol. 123, No. 5, pp. 295-301. https://doi.org/10.1061/(ASCE)0733-9496(1997)123:5(295)
20. Guo, Q. and Song, C. C. S. (1990). "Surging in urban storm drainage systems." Journal of Hydraulic Engineering, ASCE, Vol. 116, No. 12, pp. 1523-1537, https://doi.org/10.1061/(asce)0733-9429(1990)116:12(1523)

VI. PRESENTATIONS (selected)

1. "Weathering the Storm: Lessons from Hurricane Ida's 2021 Impact on Coastal Defense and Urban Flooding in the United States." *The 6th International Forum on Urban Flood Control and Drainage Capacity*, Wuhan, China, October 16-18, 2023 (Plenary address).
2. "Flood Mitigation and Ecosystem Enhancement through Green Stormwater Infrastructure and Blue Acres Floodplain Restoration in City of Linden, New Jersey." *Environmental and Water Resources Engineering Seminar*, University at Buffalo - The State University of New York, September 24, 2021 (invited).
3. "Mitigating Combined Sewer Overflow (CSO) and Restoring Urban Water Environment." *Sustainable Cities: The iSEE Congress 2018*, University of Illinois at Urbana-Champaign, October 5, 2018 (Plenary address).

VII. PROFESSIONAL ACTIVITIES (selected)

1. Principal Investigator: Implemented/constructed six rain gardens, two porous parking lots, and three "Blue Acres" of floodplain restoration as a result of the coastal community resilience grant ($2.7 million) awarded by the National Fish and Wildlife Foundation.
2. Principal Investigator: Led multi-disciplinary, multi-institution team on flood risk reduction strategy study ($530K) for the State of New Jersey Governor's Office of Recovery and Rebuilding in the aftermath of Hurricane/Superstorm Sandy.
3. Chair, Task Committee on Guidelines for Certification of Stormwater Manufactured Treatment Devices, American Society of Civil Engineers.
4. Media Expert: Gothamist, Science Channel, Fox 5, Asbury Park Press, North Jersey Record, The Star-Ledger, Atlantic City Press, MSNBC, etc.
5. Technical Advisor, Wet Weather Flow Treatment and Disinfection Demonstration Project, Bayonne Municipal Utilities Authority & NJ Department of Environmental Protection & U.S. Environmental Protection Agency.

VIII. TEACHING

Courses taught:

1. 14:180:331 Elements of Environmental Engineering (3 credits)
2. 14:180:387 Fluid Mechanics (3 credits)
3. 14:180:431 Design of Environmental Engineering Facilities (4 credits)
4. 16:180:563 Advanced Hydrology (3 credits)
5. 16:180:566 Sediment Transport (3 credits)
6. 16:180:567 Analysis of Receiving Water Quality (3 credits)
7. 16:180:568 Thermal Effects on Receiving Waters (3 credits)
8. 16:180:590 Coastal Engineering (3 credits)
9. 16:180:592 Green Infrastructure for Water Management (3 credits)

Research advising and mentoring: Supervised 84 master's students, doctoral students, and postdoctoral scholars.