

COMPANY ROLE
Senior Technical Advisor

PROJECT ROLE / FOCUS AREAS
Physical and numerical modeling

Riverine and coastal flows

Water and wastewater treatment systems

Transient flows in pipelines and water distributions systems

EDUCATION
Ph.D. Hydraulics, University of Windsor, 1972

MSc Fluid Mechanics, University of Glasgow, 1964

BESc Civil Engineering, University of Western Ontario, 1962

PROFESSIONAL MEMBERSHIP
American Society of Civil Engineers (ASCE), Life Member

Canadian Society for Civil Engineering (Fellow CSCE)

Water Environment Federation (WEF)

Engineering Institute of Canada (Fellow EIC)

Louisiana Engineering Society

ALEX MCCORQUODALE, PH.D.

Senior Technical Advisor

For more than 50 years, Dr. Alex McCorquodale has brought his vast experience in hydraulics and hydrology to solving challenges in rivers, lakes, and the Gulf of Mexico. He is now lending that experience to The Water Institute part-time in order to mentor young researchers and advise on various projects.

After 30 years of teaching at the University of Windsor in Canada, the University of New Orleans recruited Alex to bring his expertise to New Orleans in 1996. Since then, he not only taught new generations of scientists as a professor until his retirement in 2017, but he's worked on some of the most foundational coastal projects and programs in Louisiana's coastal efforts.

In addition to working on the 2012 and 2017 Louisiana Coastal Master Plan, Alex also worked on the Mississippi River Hydrodynamic and Delta Management (MRHDM) Study as part of the Louisiana Coastal Area program, hydrodynamic study of the Lake Pontchartrain basin and will be involved in the upcoming development of the Coastal Master Plan for 2023.

His first project upon arriving in Louisiana was to participate in a study on the feasibility of building diversions from the Mississippi River for the purpose of coastal restoration.

PROFESSIONAL EXPERIENCE

2019–Present: Senior Technical Advisor, The Water Institute

2017–Present: Professor Emeritus, Department of Civil and Environmental Engineering, University of New Orleans

1996–2017: FMI Chair for Environmental Modeling, University of New Orleans

1977–1996: Professor of Civil Engineering, University of Windsor, ON

1972–1977: Associate Professor of Civil Engineering, University of Windsor, ON

1968–1972: Assistant Professor of Civil Engineering, University of Windsor, ON

1966–1968: Lecturer, Department of Civil Engineering, University of Windsor, ON

1964–1966: Hydraulic Engineer, H.G. Acres Consulting Engineers, Niagara Falls, ON

1962–1964: Athlone Fellow, British Council, United Kingdom

SELECTED PROJECTS

Operational strategies for Mississippi River Diversions. *Company. (2015–2019). Hydraulic Engineer.* Alex worked with a Task Force support by the Environmental Defense Fund on developing optimal strategies for the operations of Mississippi River diversions.

Modeling task member of the Louisiana Coastal Master Plan 2023. *CPRA. (Ongoing) Task Force Member.* Continues work as a valued member of the modeling task force member for the Louisiana Coastal Master Plan for restoration and protection.

Modeling task member of the Mississippi River Model Study. *Organization. (2016). Project role.* Development and application of a Regional 3D Model for the Lower Most Mississippi River in support of the Delta Management Plan for restoration and protection

Advisor on Small Scale Physical Model of Mississippi River. *Organization. (2016). Project Role.* Advised the State Contractor BCG in developing a small-scale model of the lower Mississippi River.

MRGO Closure and Violet Diversion. *Organization. (2009). Project Role.* Conducted a study for the U.S. Army Corps of Engineers to assess the impact of closing the MRGO and introducing additional freshwater to the Central Wetlands and Biloxi Marsh areas. A compartmental model was developed and applied.

Basin Wide Model Development for the Louisiana Coastal Area Mississippi River Hydrodynamic and Delta Management Stud. *Organization. (2009–2016). Project Role.* Worked on the Mississippi River Modelling team through the University of New Orleans.

SELECTED PUBLICATIONS

1. Daigger, G.T., Siczka, J.S., Smith, T.F., Frank, D.A., McCorquodale, J. Alex. (2017) “Marrying Step Feed with Secondary Clarifier Improvements to Significantly Increase Peak Wet Weather Treatment Capacity: An Integrated Methodology,” Journal of Water Environ Res. 2017; 89(8):724–731 (ISSN: 1061-4303), Water Environment Federation, Washington, DC.
2. Natalie S. Peyronnin, Rex H. Caffey, James H. Cowan Jr., Dubravko Justic, Alexander S. Kolker, Shirley B. Laska, Alex McCorquodale, Earl Melancon Jr., John A. Nyman, Robert R. Twilley, Jenneke M. Visser, John R. White and James G. Wilkins. (2017) “Optimizing Sediment Diversion Operations: Working Group Recommendations for Integrating Complex Ecological and Social Landscape Interactions”, Water 2017, 9, 368; pp 20.
3. Daigger, G.T., Siczka, J.S., Smith, T.F., Frank, D.A., McCorquodale, J. Alex. (2016) “Characterizing shallow secondary clarifier performance where conventional flux theory over-estimates allowable solids loading rate.” Journal of Water Science and Technology, 2016;74(2):324–32.
4. Twilley, R.R., S. Brandt, D. Breaux, J. Cartwright, J. Chen, G. Easson, P. Fitzpatrick, K. Fridley, S. Graves, S. Harper, C. Kaiser, A. Maestre, M. Maskey, W. McAnally, J. McCorquodale, E. Meselhe, T. Miller-Way, K. Park, J. Pereira, T. Richardson, J. Tao, A. Ward, J. Wiggert and D. Williamson. 2014. Simulation Management Systems developed by the Northern Gulf Coastal Hazards Collaboratory (NG-CHC): An overview of cyberinfrastructure to support the coastal modeling community in the Gulf of Mexico. Advances in Coastal and Marine Resources: Remote Sensing and Modeling edited by Charles W. Finkl, Antonio H.F. Klein, and Christopher Makowski. Coastal Research Library (CRL) series. ISBN 978-3-319-06326-3. 460 pages
5. K. El Kheiashy, J.A. McCorquodale, I. Georgiou & E. Meselhe (2014) Bed forms resistance dependency on numerical model grid size spatial resolution, Journal of Spatial Science, Volume 59, Issue 2, 2014, pages 363–372.