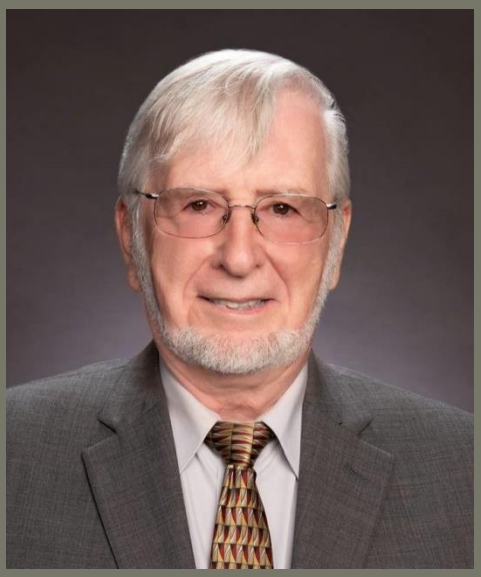
ALEX MCCORQUODALE Ph.D.

THE WATER INSTITUTE OF THE GULF



Company Role
Senior Technical Advisor

Expertise
- Physical and numerical modeling
- Riverine and coastal flows
- Water and waste water treatment systems
- Transient flows in pipelines and water distributions systems
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Education
- Ph.D. – Hydraulics, University of Windsor- 1972
- M.Sc. – Fluid Mechanics, University of Glasgow - 1964
- B.E.Sc. – Civil Engineering, University of Western Ontario – 1962

Registration / Certification
- PE Louisiana #27982 in Civil Engineering
- P.Eng. Province of Ontario, Canada #30100010

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

Experience Profile
For more than 50 years, Dr. Alex McCorquodale P.E., P.Eng., has brought his vast experience in hydraulics and hydrology to solving challenges in rivers, lakes, and the Gulf of Mexico. Starting this week, he is lending that experience to the 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 McCorquodale 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, McCorquodale 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

The Water Institute of the Gulf
- *Senior Technical Advisor* 2019-Present

University of New Orleans
- *Professor Emeritus, Department of Civil and Environmental Engineering* 2017-Present

University of New Orleans
- *FMI Chair for Environmental Modeling* 1996-2017

University of Windsor, ON
- *Professor of Civil Engineering* 1977-1996
- *Associate Professor of Civil Engineering* 1972-1977
- *Assistant Professor of Civil Engineering* 1968-1972
- *Lecturer, Department of Civil Engineering* 1966-1968

H.G. Acres Consulting Engineers, Niagara Falls, ON
- *Hydraulic Engineer* 1964-1966

British Council, United Kingdom
- *Athlone Fellow* 1962-1964

Selected projects

Operational strategies for Mississippi River Diversions (2015-2019)

In his role as a hydraulic engineer, Dr. McCorquodale 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 (ongoing)

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 (2016)

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 (2016)

Advised the State Contractor BCG in developing a small-scale model of the lower Mississippi River.

MRGO Closure and Violet Diversion (2009)

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 Study (2009-2016)

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; doi:10.3390/w9060368, 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. doi: 10.2166/wst.2016.177.
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: DOI:10.1080/14498596.2014.879746

Selected Conference Proceedings and Presentations

1. Griborio, Q. and McCorquodale, A. (2016) Lessons Learned from 10 Years of CFD Clarifier modeling – the 2Dc Experience, Water Environment Federation, Proceedings WEFTEC'2016, September, New Orleans, LA.
2. J. Alex McCorquodale (2016) RIVER MORPHOLOGY, State of the Coast, Presentation and Refereed Abstract, New Orleans, June 1-3.
3. Alex McCorquodale (2016) Response of the Lower Mississippi River and Its Delta to Sediment Diversions. Presentation at CERF (Coastal Education and Research Foundation) Conference, Portland, OR. 10 November 2015: Peer Reviewed Abstract.
4. Griborio, Alonso; McCorquodale, J. Alex; Rodriguez, Jenny A. (2014) "CFD Modeling of Primary Clarifiers: The State-of-the-Art", Proceedings of the Water Environment Federation, WEFTEC 2014: Session 510 through Session 518, pp. 1926-1949(24)