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Education

- 1995-97 Ph.D., Civil Engineering, The University of Texas at Austin, May 1997
Dissertation: "A Screening Model to Investigate DNAPL Contamination of Porous Media"
Dissertation Supervisor: Randall J. Charbeneau, Ph.D., P.E.
- 1992-94 M.S., Environmental Health Engineering, The University of Texas at Austin
Masters Supervisor: Edward R. Holley, Ph.D., P.E.
Master's Report: "Mixing in Lakes and Reservoirs: A Literature Review"
- 1981-85 B.S., with Honors, Aerospace Engineering, The Pennsylvania State University

Academic & Research Experience

- 2015 - Faculty-in-Residence, East Campus, Louisiana State University, Baton Rouge, LA
- 2015 - Director, LSU Center for River Studies, Louisiana State University, Baton Rouge, LA
- 2013-15 Director, Engineering Design and Innovation, The Water Institute of the Gulf, Baton Rouge, LA
- 2013- Fellow, Coastal Studies Institute, Louisiana State University
- 2012 - Professor, Department of Civil and Environmental Engineering, Louisiana State University, Baton Rouge, LA
- 2007 Visiting Professor, Laboratory for Soil and Environmental Physics, Ecole Polytechnique Federale de Lausanne, Lausanne, Switzerland
- 2005- Associate Professor, Department of Civil and Environmental Engineering, Louisiana State University, Baton Rouge, LA
- 1998- Assistant Professor, Department of Civil and Environmental Engineering, Louisiana State University, Baton Rouge, LA
- 1996-98 Postdoctoral Research Associate, The University of North Carolina at Chapel Hill
Dept. of Environmental Science and Engineering, The Center for Multiphase Research. Supervisor: Dr. Cass T. Miller
- 1994-96 Graduate Research Assistant, The University of Texas at Austin
Supervisor: Dr. Randall J. Charbeneau
- 1994-96 Teaching Assistant, Continuing Engineering Courses, The University of Texas at Austin. Courses: HEC-1, HEC-2, and HEC-RAS continuing engineering courses.
- 1995 Visiting Graduate Research Assistant, The University of Colorado at Boulder
Supervisor: Dr. Tissa H. Illangasekare
- 1992-93 Teaching Assistant, Introduction to Fluid Mechanics, The University of Texas at Austin
- 1992 Graduate Research Assistant, The University of Texas at Austin
Supervisor: Dr. Edward R. Holley

Journal Articles (peer-reviewed)

1. Rutherford, J., J. Day, C. D'Elia, A. Wiegman, C.S. Willson, R. Caffey, G. Shaffer, R. Lane, and D. Batker, 2018, Evaluating trade-offs of a large, infrequent sediment diversion for restoration of a forested wetland in the Mississippi delta, in press to *Estuarine, Coastal and Shelf Science*.
2. Richards, D., K. Konsoer, C. Turnipseed, and C.S. Willson, 2018, Characterizing three-dimensional flow through neck cutoffs with complex planform geometry, in press *Sedimentology*.
3. Sanematsu, P., K.E. Thompson and C.S. Willson, 2018, Pore-scale modeling of nanoparticle transport and retention in real porous materials, accepted (pending revisions) to *Computers & Geosciences*.
4. Molnar, I.L., P. Sanematsu, J.I. Gerhard, C.S. Willson, and D.M. O'Carroll, 2016, Quantified Pore-Scale Nanoparticle Transport in Porous Media and the Implications for Colloid Filtration Theory, *Langmuir*, 32 (31), 7841-7853.
5. Twilley, R.R., S.J. Bentley, Q. J. Chen, D.A. Edmonds, S.C. Hagen, N. Lam, C.S. Willson, K. Xu, D. Braud, and H. Peele, 2016, Co-evolution of wetland landscapes, flooding and human settlement in the Mississippi River Deltaic Plan. *Sustainability Science* 11,711–731.
6. Molnar, I., J. Gerhard, C.S. Willson, C.S., and D. O'Carroll, D, 2015, The impact of immobile zones on the transport and retention of nanoparticles in porous media, *Water Resources Research*, 51 (11), 8973-8994.
7. Molnar, I.L., W.P. Johnson, J.I. Gerhard, C.S. Willson, and D.M. O'Carroll, 2015, Predicting colloid transport through saturated porous media: A critical review. *Water Resources Research*, 51, 6804-6845.
8. Sanematsu, P., Y. Shen, K. Thompson, T. Yu, Y. Wang, D-L. Chang, B. Alrahamhi, A. akbiri-Borujeni, M. Tyagi, and C.S. Willson, 2015, Image-based Stokes Flow Modeling in Bulk Proppant Packs and Propped Fractures Under High Loading Stresses. *Journal of Petroleum Science and Engineering*, 135, 391-402.
9. Molnar, I., C.S. Willson, D. O'Carroll, M. Rivers, and J. Gerhard, 2014, A Method for Obtaining Silver Nanoparticle Concentrations Within a Porous Media via Synchrotron X-Ray Computed Microtomography, *Environmental Science and Technology*, (48) 1114-1122.
10. Willson, C.S., N. Lu, and W.J. Likos, 2012, Quantification of Grain, Pore, and Fluid Microstructure of Unsaturated Sand from X-ray Computed Tomography Images, *ASTM Geotechnical Testing Journal*, 35(6), 911-923.
11. Yalcinkaya, T., M. Radonjic, R.G. Hughes, C.S. Willson, K. Ham, 2011, The Effect of CO₂-Saturated Brine on the Conductivity of Wellbore-Cement Fractures, *SPE Drilling and Completion* 26(3), 332-340.
12. Bhattad, P., C.S. Willson, and K.E. Thompson, 2011, Effect of network structure on characterization and flow modeling using X-ray micro-tomography images of granular and fibrous porous media, *Transport in Porous Media* 90(2), 363-391.
13. Danchuk, S. and C.S. Willson, 2011, Influence of Seasonal Variability of River Discharge, Temperature, and Suspended Sediments on Oil- Mineral Aggregate Formation, *Water Environment Research* 83(7), 579-587.
14. Lu, N., B.D. Ziedman, M.T. Lusk, C.S. Willson, and D.T. Wu, 2010, A Monte Carlo Paradigm for Capillarity in Porous Media, *Geophys. Res. Lett.*, 37, L23402.

15. Reed, A.H., K.E. Thompson, K. Briggs, and C.S. Willson, 2010, Physical Pore Properties and Grain Interactions of SAX04 Sands, *IEEE – Journal of Oceanic Engineering*, 35 (4), 488-501.
16. DiCarlo, D, D. Seale, K. Ham, and C.S. Willson, 2010, Tomographic Measurements of Pore Filling at Infiltration Fronts, *Adv. in Water Resour.* 33(4), 485-492.
17. Danchuk, S. and C.S. Willson, 2010, Effects of Shoreline Sensitivity on Oil Spill Trajectory Modeling of the Lower Mississippi River, *Environ Sci and Pollut Res.* 17(2), 331-340.
18. Rahman, A., F.T-C. Tsai, C.D. White, and C.S. Willson, 2008, Coupled Semivariogram Uncertainty of Hydrogeological and Geophysical Data on Capture Zone Uncertainty Analysis, *J. Hydrologic Eng.*, 13(10) 915-925.
19. Thompson, K.E., C.S. Willson, C.D. White, S. Nyman, J.P. Bhattacharya, and A.H. Reed, 2008, Application of a new grain-based algorithm to microtomography images for quantitative characterization and flow modeling, *J. Soc. Petroleum Eng.* 13(2) 164-176.
20. Rahman, A., F. T-C. Tsai, C.D. White, D.A. Carlson, and C.S. Willson, 2008, Geophysical data integration, stochastic simulation and significance analysis of groundwater responses using ANOVA in the Chicot Aquifer system, Louisiana, USA, *Hydrogeology Journal* 16(4) 749-764.
21. Yuan, Q.Z., K.T. Valsaraj, D.D. Reible, and C.S. Willson, 2007, A Laboratory Study of Sediment and Contaminant Release During Gas Ebullition. *J. Air Waste Management Assoc.*, 57(9), 1103-1111.
22. Thompson, K.E., C.S. Willson and W. Zhang, 2006, Quantitative computer reconstruction of particulate materials from microtomography images, *Powder Technology* 163(3) 169-182.
23. Han, J., Jin, Y, and C.S. Willson, 2006, Virus Retention and Transport in Variably Saturated Heterogeneous Porous Media, *Environmental Science and Technology* 40(5) 1547-1555.
24. Willson, C.S., J.W. Weaver, and R.J. Charbeneau, 2006, A Screening Model for Simulating DNAPL Flow and Transport in Porous Media: Theoretical Development, *Environmental Modelling and Software* 21(1) 16-32.
25. Al-Raoush, R.I., Willson, C.S., 2005, A Pore-scale Investigation of a Multiphase Porous Media System, *J. Contam. Hydrology.* 77 (1-2), 67-89
26. Al-Raoush, R.I., and C.S. Willson, 2005, Extraction of Physically-Representative Pore Network from Unconsolidated Porous Media Systems Using Synchrotron Microtomography, *J. Hydrology* 300 (1-4), 44-64.
27. Ham, K. Hua, J., Al-Raoush, R.I., Xie, X, Willson, C.S., Byerly, G.R., Simeral, L.S., Rivers, M.L., Kurtz, R.L., Butler, L.G., 2004, Three-Dimensional Chemical Analysis with Synchrotron Tomography at Multiple X-ray Energies: Brominated Aromatic Flame Retardant and Antimony Oxide in Polystyrene, *J. Chemistry Materials* 16 (21), 4032-4042.
28. Richardson, S., C.S. Willson, and K. Rusch, 2004, Use of Rhodamine Water Tracer in the Marshland Upwelling System, *Ground Water* 42(5), 678-688.
29. Al-Raoush, R., K. Thompson, and C.S. Willson, 2003, Comparison of Network Generation Techniques for Unconsolidated Porous Media, *Soil Sci. Soc. Am. J.* 67, 1687-1700.
30. Willson, C.S., O. Pau, J.A. Pedit, and C.T. Miller, 2000, Mass transfer rate limitation effects on partitioning tracer tests, *J. of Contam. Hydrology* 45(1/2), 79-97.

31. Vidrine, W.K., C.S. Willson, and K.T. Valsaraj, 2000, Emulsions in Porous Media, 1. Transport and Stability of Polyaphrons in Sand Packs, *Colloids and Surfaces A: Physicochemical and Engineering Aspects*, 175(3), 277-289.
32. Willson, C.S., J.L. Hall, P.T. Imhoff, and C.T. Miller, 1999, Factors Affecting Bank Formation During Surfactant-Enhanced Mobilization of Residual NAPL, *Environmental Science and Technology*, 33, 2440-2446.

Monographs, Book Chapters

1. Kemp, G.K., C.S. Willson, J.D. Rogers, K.A. Westphal, S.A. Binsalem, 2014, Adapting to Change in the Lowermost Mississippi River: Implications for Navigation, Flood Control and Restoration of the Delta Ecosystem, in The Once and Future Delta, ed. J. Day, G.P. Kemp, A. Freeman, and D. Muth, Springer (SBN 978-94-017-8732-1), 490 pp.
2. Bentley, S.J, C.S. Willson, A.M. Freeman, L. Giosan, and J. Cable, 2014, Using What We Have: Optimizing Sediment Management in Mississippi River Delta Restoration to Improve the Economic Viability of the Nation, in The Once and Future Delta, ed. J. Day, G.P. Kemp, A. Freeman, and D. Muth, Springer (SBN 978-94-017-8732-1), 490 pp.
3. Helweg, O. Z. Samani, J. Garcia, R. Govindaraju, D. Katti, and C.S. Willson, Chapter 3: Design of Water Wells in Hydraulics of Wells: Design, Construction, Testing, and Maintenance of Water Well Systems, MOP 127, ed. N. Ahmed, S. Taylor and Z. Sheng, published by the American Society of Civil Engineers (ISBN (print): 978-0-7844-1273-2), 498 pp.
4. Cazaillet, O., S. Alam and C.S. Willson, 2012, Physical Modeling of Hydraulics and Sediment Transport, Handbook of Environmental Fluid Dynamics, ed. H.S.J. Fernando, CRC Press, ISBN 9781466556034
5. Bentley, S.J., Freeman, Giosan, L., Willson, C.S., and Cable, J., 2012, The usefulness of diversions in delta restoration. In Day, J., et al., eds., Answering Ten Fundamental Questions About the Mississippi River Delta, p. 8-12, special report commissioned by the National Audubon Society, Environmental Defense Fund, and National Wildlife Federation.
<http://www.mississippiriverdelta.org/files/2012/04/MississippiRiverDeltaReport.pdf>
6. Brown, G.E., Sutton, S.R., Bargar, J.R., Shuh, D.K., Bassett, W.A., Bertsch, P.M., Bisognano, J., Bleam, W.F., Clark, D.L., De Stasio, P., Fendorf, S.E., Fenter, P.A., Fontes, E., Hormes, J., Kemner, K.M., Myneni, S.C.B., O'Day., P.A., Pecher, K.H., Reeder, R.J., Roy, A., Traina, S.J., Willson, C.S., and J.M. Zachara, 2003, Molecular Environmental Science: An Assessment of Research Accomplishments and Needs, *EnviroSync Molecular Environmental Science White Paper*, SLAC-R-704, Stanford University, Stanford, CA 94309, 66pp.

Proceedings (peer-reviewed)

1. Yalcinkaya, T., M. Radonjic, C.S. Willson, S. Bachu, 2011, Experimental Study on a Single Cement-Fracture Using CO₂ Rich Brine, *Energy Procedia* 4, 5335–5342
2. Karadogan, E. and Willson, C.S., 2011. Sediment Transport Modeling in the Lower Mississippi River Delta, The Proceedings of the Coastal Sediments 2011 Conference, held in Miami, FL, May 2-6, 2011. Rosati, Wang and Roberts (eds), World Scientific Publishing, ISBN 9814355526.
3. Karadogan, E. and Willson, C. S. 2010. Simulating the impact of medium and large diversions on the hydrodynamics in the lower Mississippi River Delta, Proceedings of the River Flow 2010 Conference held in Braunschweig, Germany. Dittrich, Koll, Aberle and Geisenheiner (eds) ISBN 978-3-939230-00-7 Vol. 2, pp. 1581-1588

4. Bhattad, P., Willson, C.S., and K.E. Thompson, 2010, Segmentation of low-contrast three-phase X-Ray Computed Tomography images of porous media, Proceedings of the GeoX 2010: 3rd International Workshop on X-ray CT for Geomaterials in New Orleans, LA, March 1-3, 2010, edited by K. Alshibli and A.H. Reed, pp. 254-261.
5. Abu-Salem, Z. and C.S. Willson, 2008, Experimental Investigation of Drainage in Fractionally-wet Sands in mm- and cm-scale Columns, Characterization, Monitoring and Modeling of GeoSystems, Proceedings of Selected Sessions of the GeoCongress 2008: The Challenge of Sustainability in the Geoenvironment, GSP NO. 179, edited by Alshawabley, Reddy and Khire, 292-299.
6. Ham, K., H.A. Barnett, T. Ogunbakin, D.G. Homberger, H.H. Bragulla, K.L. Matthews II, C.S. Willson and L. G. Butler, 2006, Imaging tissue structures: assessment of absorption and phase-contrast x-ray tomography imaging at 2nd and 3rd generation synchrotrons, *Proc. SPIE* 6318, Developments in X-Ray Tomography V, 631822 (September 07, 2006); doi:10.1117/12.681202.
7. Willson, C.S. and K. Ham, 2005, The Application of Monochromatic Energies to Investigate Multiphase Porous Media Systems using Synchrotron X-ray Tomography, 2005 ASCE Geo-Frontiers Conference, held January 24-26, 2005 Austin, TX.
8. Rahman, A., Hartono, S., Carlson, D., and Willson, C, 2003, Incorporating Uncertainty into High-Resolution Groundwater Supply Models, *Proceedings of the Probabilistic Approaches & Groundwater Modeling Symposium held during the World Water and Environmental Resources Congress in Philadelphia, Pennsylvania, June 24-26, 2003*, edited by Srikanta Mishra, ASCE Pub.
9. Miller, C.T., C.S. Willson, S.N. Gleyzer, M.W. Farthing, and J.F. McBride, 1998, NAPL-Aqueous phase mass transfer in heterogeneous porous media, presented at International Conference and Special Workshops on Groundwater Quality: Remediation and Protection, GQ98, International Association of Hydrological Sciences, Tubingen, Germany, September, 1998, IAHS Publication no. 250, 141-148.
10. Willson, C. S., J. W. Weaver, T. H. Illangasekare, and R. J. Charbeneau, 1996, Framework for a Screening Model for DNAPL Contamination of Porous Media, *Non-Aqueous Phase Liquids (NAPLs) in the Subsurface Environment: Assessment and Remediation*, edited by L.N. Reddi, pp 407-418

Proceedings

1. Park, D.S., S. King, K.E. Thompson, C.S. Willson and D. Nikitopoulos, 2011, Flow Visualization in Artificial Porous Media from Microfluidic PMMA Devices, Proceedings of ASME-IMECE 2011 International Mechanical Engineering Congress & Expo November 11-17, 2011, Denver, CO, IMECE2011-65266.
 - Note that this paper was awarded the Best Paper Award in the Fluids Engineering in Micro- and Nanosystems Symposium at the ASME- IMECE 2011.
2. Russo, E.J., C.S. Willson and H.D. Smith, 2011, Incipient Motion Response Detection of Articulated Coastal Revetment Under Wave Loading, Proceedings of The International Conference On Coastal Engineering, No. 32(2010), Shanghai, China. Paper #: Structures.14. Available at: <https://journals.tdl.org/ICCE/article/view/1321>
3. Yalcinkaya, T., M. Radonjic, R.G. Hughes, C.S. Willson, K. Ham, 2010, The Effect of CO₂-Saturated Brine on the Conductivity of Wellbore-Cement Fractures, submitted to the SPE International Conference on CO₂ Capture, Storage, and Utilization held in New Orleans, Louisiana, USA, 10–12 November 2010
4. Radonjic, M., T. Yalcinkaya, and C.S. Willson, 2010, Conductivity of fractures in oil well cement upon contact with rock- formation waters and dissolved CO₂, Proceedings of the

- Third International Conference on Porous Media and its Applications in Science, Engineering and Industry, June 20 - 25, 2010 Montecatini Terme, Italy.
5. Karadogan, E., C.S. Willson, and C.R Berger, 2009, Numerical Modeling of the Lower Mississippi River—Influence of Forcings on Flow Distribution and Impact of Sea Level Rise on the System, Proceedings of the OCEANS 2009 MTS/IEEE Conference, Biloxi, Mississippi, USA October 26-29, 2009
 6. Ham, K., Barnett, H.A., Butler, L.G., Willson, C.S., Morris, K.J., Tittsworth, R.C., and J.D. Scott, A new tomography beamline at a wiggler port at the Center for Advanced Microstructures and Devices (CAMD) storage ring, Proceedings of the 2007 Synchrotron Radiation Instrumentation Conference, Baton Rouge, LA
 7. Willson, C.S., N. Dill, S. Danchuk, W. Barlett, and R. Waldron, 2007, Physical and Numerical Modeling of River and Sediment Diversions, Proceedings of the Sixth International Symposium on Coastal Engineering and Science of Coastal Sediment Processes, May 13-17, 2007, New Orleans, LA. Ed. N.C. Kraus and J.D. Rosati, pp. 749-761.
 8. Reed, A.H., K.E. Thompson, W. Zhang, C.S. Willson, and K.B. Briggs, 2006, Quantifying consolidation and reordering in natural granular media from computed tomography images, Proceedings of the 2006 GeoX Conference, Advances in X-ray Tomography for Geomaterials, edited by J. Desrues, G. Viggiani, and P. Besuelle, pp 263-268
 9. Ham, K. H.A. Barnett, T. Ogungankin, D. Homberger, H.H. Bragulla, K.L. Matthews, C.S. Willson, and L.G. Butler, Imaging Issue Structures: Assessment of Absorption and Phase-Contrast X-ray Tomography Imaging at 2nd and 3rd Generation Synchrotrons, *Proceedings of the SPIE*, 2006, 6318, 631822
 10. Rahman A., F. T-C. Tsai, C. D. White, D. A. Carlson, and C. S. Willson, Geophysical Data Integration and Conditional Uncertainty Analysis on Hydraulic Conductivity Estimation, Proceedings of the 2006 World Environmental and Water Resources Congress edited by Randall Graham, May 21-25, 2006, Omaha, Nebraska.
 11. Thompson, K.E., C.S. Willson, C.D. White, S. Nyman, J. Bhattacharya, and A.H. Reed, 2005, Application of a New Grain-Based Reconstruction Algorithm to Microtomography Images for Quantitative Characterization and Flow Modeling, paper SPE 95887 presented at the 2005 SPE Annual Technical Conference and Exhibition held in Dallas, Texas, U.S.A., 9 – 12 October 2005.
 12. Reed, A. H., K. E. Thompson, C. S. Willson, K. B. Briggs, M. D. Richardson, and B. T. Hefner, 2005, Quantification Of Sediment Properties From Pore Structure And Grain Contacts: A Microcomputed Tomography Analysis Of Sax04 Sands, in Boundary Influences in High Frequency, Shallow Water Acoustics, N. G. Pace and P. Blondel (eds), pp. 83-90.
 13. Willson, C.S., R.A. Stacey, K. Ham, and K.E. Thompson, 2004, Investigating the correlation of nonwetting phase liquids and pore scale geometry and topology using synchrotron X-ray tomography, Proceedings of 2004 49th Annual Conference, Vol. 5535, Developments in X-Ray Tomography IV, ed. Ulrich Bonse, 101-111.
 14. Ham, K., C.S. Willson, M.L. Rivers, R.L. Kurtz, and L.G. Butler, 2004, Algorithms for Three-Dimensional Chemical Analysis with Multi-Energy Tomographic Data, Proceedings of 2004 49th Annual Conference, Vol. 5535, Developments in X-Ray Tomography IV, ed. Ulrich Bonse, 286-292.
 15. Al-Raoush, R.I., Z. Abu-Salem, C.S. Willson, Characterization of Non-wetting Phase Fluids in Porous Media Systems Using High-resolution, Three-dimensional, Synchrotron X-ray Microtomography, Proceedings of the 2003 American Chemical Society 225th ACS National Meeting, New Orleans, LA, March 23-27, 2003.

16. Willson, C.S., The Use of Synchrotron Radiation in Environmental Science and Engineering: X-Ray Microtomography and X-Ray Absorption Spectroscopy, Proceedings of the 2002 Association of Environmental Engineering and Science Professors Meeting, August 9-11, 2002, Toronto, CA.
17. Willson, C.S. and S.A. Capps, 2002, Modeling of a Mississippi River Diversion in Maurepas Swamp, Proceedings of the 2002 American Water Resources Association Spring Specialty Conference, Coastal Water Resources, May 13-15, 2002, New Orleans, LA, pp 189-194.
18. Willson, C.S. and R.I. Al-Raoush, 2001, The use of synchrotron microtomography for three-dimensional statistical characterization of non-aqueous phase liquids (NAPL) in porous media systems, presented at the 2001 International Symposium on Environmental Hydraulics, Tempe, AZ, December 5-8, 2001.
19. Crannell, B.S., T.T. Eighmy, L. Butler, F.K. Cartledge, E. Emery, C.S. Willson, D.D. Reible, and M. Yin, 2001 Reactive Barriers for Containment of Metals-Contaminated Dredged Materials: Diffusion Studies, Proceedings of the Beneficial Use of Recycled Materials in Transportation Applications Conference, Arlington, VA, November 13-15-2001
20. Illangasekare, T.I., S. Saenton, T. Saba, and C.S. Willson, 2000, Up-scaling of NAPL Dissolution from Entrapped Sources: Implications on End-points for Risk Assessment, presented at the 2000 Contaminated Site Remediation Conference, Melbourne, 4-8 December, 2000.
21. Simpson, M.M., C.S. Willson, J.W. Weaver, and R.J. Charbeneau, 1997, Experimental Investigation of LNAPL Flow in the Vadose Zone: Comparison with the Hydrocarbon Spill Screening Model, 1997 Petroleum Hydrocarbons and Organic Chemicals in Ground Water: Prevention, Detection, and Remediation Conference and Exposition, Houston, TX, November 12-14, 1997.

Reports

1. Gilbert, R.B., W.H. Espey, J.T. Kirby, S.K. Knight and C.S. Willson, 2014, Expert Review Panel on Greater New Orleans Hurricane and Storm Damage Risk Reduction System Design Guidelines: Final Report, submitted to the Louisiana Coastal Protection and Restoration Authority, May 2014.
2. Willson, C.S., J.D. Goss-Custard, E. Foelmer, and R. Morris, 2011, Mid-Term Review of the Autonomous Downward Trend (ANT) Studies of Eastern Scheldt (Oosterscheldt), The Netherlands, Report submitted to the Directorate-General for Public Works and Water Management, Rijkswaterstaat, June 2011.
3. Rivera-Monroy, V.H., Meselhe, E.A., Tsai, C., Twilley, R.R., and C.S. Willson, 2008, Assessing nutrient retention in the Taylor River region using hydrodynamic and mangrove models, Report submitted to the South Florida Water Management District, January 2008.
4. Crannell, B.S., T.T. Eighmy, C.S. Willson, D.D. Reible, and M. Yin, 2004. Pilot-Scale Reactive Barrier Technologies for Containment of Metal-Contaminated Sediments and Dredged Materials. A Final Report Submitted to: The NOAA/UNH Cooperative Institute for Coastal and Estuarine Environmental Technology (CICEET), November 2004.
5. McCorquodale, A., H. Mashriqui, J. Day, J. Foret, G.P. Kemp, I. Georgiou, E. Meselhe, D.J. Reed, E. Reyes, G. Steyers, V. Stutts, E. Swenson, J. Visser, and C. S. Willson, 2004, Task 11: Effects of River Diversion Projects using a "Pulsing" Scenario of Proposed Alternatives based on both Simulation and Box Modeling Approaches, Coastal Louisiana Ecosystem Assessment and Restoration (CLEAR) Project.

6. Kemp, G.P., D.J. Reed, H. Mashriqui, W. McAnnally, E. Reyes, C. Sasser, J. Suhayda, J. Visser, J. Wells, and C. S. Willson, 2004, Task 13 Predicting Land Building in the Mississippi Delta Plain: Knowledge and Uncertainty, Coastal Louisiana Ecosystem Assessment and Restoration (CLEAR) Project.
7. Alam, S., C. Soileau, and C.S. Willson, 2004, Report on Feasibility of Small Scale Physical Model of the Lower Mississippi River Delta for Testing Water and Sediment Diversion Projects, Final Report, LA Department of Natural Resources.
8. Hanson, B. C. Willson, R. Milner, D. Carlson, A. Rahman, and S. Hartano, 2003. Annual Report, Evaluation of Aquifer Capacity to Sustain Short-, Long-Term Ground Water Withdrawal From Point Sources in the Chicot Aquifer for Southwest Louisiana. Submitted to Water Resources Division, Louisiana Department of Transportation and Development, June 2003.
9. Willson, C.S., Synchrotron Microtomography, Chapter in the 2002 CAMD Summer Workshop Handbook, Applications of Synchrotron Radiation in Environmental Sciences.
10. Hanson, B., R. Milner, A. Rahman, C. Willson, and R. Paulsell, 2001. Evaluation of Aquifer Capacity to Sustain Long Term Ground Water Withdrawal from Point Sources: A Pilot Study, Final Report submitted to the Louisiana Department of Natural Resources.
11. Crannell, B.S., T.T. Eighmy, L. Butler, F.K. Cartledge, E. Emery, C.S. Willson, D.D. Reible, and M. Yin, 2001, Phosphate-Based Heavy Metal Stabilization and Reactive Barrier Technologies for Contaminated Sediments and Dredged Materials. Final Report submitted to the NOAA/UNH Cooperative Institute for Coastal and Estuarine Environmental Technology (CICEET) October 31, 2001, 177 pp.
12. Willson, C.S. and C.E. Kees, 2001, An Investigation of Three-Phase Flow, Center for the Advanced Study of the Environment News, Winter 2001.
13. Hall, J.L., P.T. Imhoff, C.S. Willson, and C.T. Miller, 1997, Surfactant-enhanced mobilization of dense nonaqueous phase liquids in groundwater remediation, Center for Multiphase Research News, 3(1), Fall/Winter 1997.

Presentations (international, national and local)

1. Richards, D., K.M. Konsoer, C. Turnipseed, and C.S. Willson, 2017, Characteristics of Helical Flow Through Neck Cutoffs, EP-41A-1824, presented at the 2017 Fall Meeting, AGU, New Orleans, LA, December 11-15, 2017.
2. Konsoer, K., D. Richards, C. Turnipseed, C.S. Willson, 2017, Dynamics of neck cutoff processes on meander bends with “complex” planform geometries, presented at the American Association of Geographers 2017 Annual Meeting, Boston MA.
3. Willson, C.S., I. Molnar, D.M. O’Carroll, and J.I. Gerhard, 2016, Pore-scale structure of a NAPL front during invasion into strongly and weakly water-wetting sands, H51B-1442, presented at the 2016 Fall Meeting, AGU, San Francisco, CA, December 12-16, 2016.
4. Christensen, A. R.R. Twilley, C.S. Willson, E. Meselhe, L. Larsen, Ed Castaneda-Moya, and G. Snedden, 2016, Patterns and Interactions Between Hydrodynamics and the Fate of Nitrate in Newly Emergent Coastal Deltaic Floodplains, B33B-0597, presented at the 2016 Fall Meeting, AGU, San Francisco, CA, December 12-16, 2016.
5. Collins, J.H., C. Sasser and C.S. Willson, 2016, Quantifying Thin Mat Floating Marsh Strength and Interaction with Hydrodynamic Conditions, EP53D-1011, presented at the 2016 Fall Meeting, AGU, San Francisco, CA, December 12-16, 2016.
6. Turnipseed, C., C.S. Willson, K. Konsoer, and D. Richards, 2016, Three-dimensional hydrodynamic modeling of a neck cutoff on an elongated meander loop, EP51A-0884, presented at the 2016 Fall Meeting, AGU, San Francisco, CA, December 12-16, 2016.

7. Richards, D., K. Konsoer, C. Turnipseed and C.S. Willson, 2016, Investigation of the spatial patterns of velocity and bed morphology within actively evolving neck cutoffs on a highly sinuous river, EP51A-0864, presented at the 2016 Fall Meeting, AGU, San Francisco, CA, December 12-16, 2016.
8. Willson, C.S., 2016, Vision for Floodplain & Mitigation thru Regional Water Management, presented at the Louisiana Symposium on Recovery and Resilience, Lafayette, LA, December 8, 2016.
9. Willson, C.S., 2016, The New (and Improved) Mississippi River Model Lab @ The Center for River Studies, presented to the LSU Science Club, September 13, 2016.
10. Heidarihzaleh, A, J. Puls, and C.S. Willson, 2016, Expanded Small-scale Physical Model Quantitative Assessment #2: Numerical Investigation of the Impact of Distortion on the Hydrodynamics and Sediment Transport in the Vicinity of Spillways and Diversions, presented at the 2016 State of the Coast Conference, held in New Orleans, LA, June 1-3, 2016.
11. Hooper, M., A. New, R. Rodi, C. Turnipseed, and C.S. Willson, 2016, Expanded Small-scale Physical Model Quantitative Assessment #4: Experimental Investigation of the Model Sediment Properties, presented at the 2016 State of the Coast Conference, held in New Orleans, LA, June 1-3, 2016.
12. Collins, J.H, C. Sasser and C.S. Willson, 2016, Quantifying Thin Mat Floating Marsh Strength and Interaction with Hydrodynamic Conditions, presented at the 2016 State of the Coast Conference, held in New Orleans, LA, June 1-3, 2016.
13. Willson, C.S., 2016 Need for balance between navigation, flood protection and coastal restoration pressures on the Mississippi River, presented to the LA Master Naturalist Society, February 13, 2016.
14. Willson, C.S., 2016, Physical Modeling of Sedimentary Processes, Guest Lecture (remote) for the Harvard Graduate School of Design Landscape Architecture IV: Cyborg Coasts & Responsive Hydrologies. February 10, 2016.
15. Mills, G., and C.S. Willson, 2015, Local X-ray Computed Tomography Imaging for Mineralogical and Pore Characterization, Abstract H23D-1608 presented at the 2015 Fall Meeting, AGU, San Francisco, CA, 14-18 Dec.
16. Molnar, I., C.S. Willson, J. Gerhard, D. O'Carroll, 2015, Silver Nanoparticle Transport Through Soil: Illuminating the Pore-Scale Processes, Abstract H13P-08, presented at the 2015 Fall Meeting, AGU, San Francisco, CA, 14-18 Dec.
17. Christensen, A., R.R. Twilley, C.S. Willson, E. Meselhe, and E. Castenada-Moya, 2015, Testing the capability of Delft-3D Water Quality to model nitrogen processes in a deltaic floodplain, presented at the 2015 Coastal and Estuarine Research Federation (CERF) Conference, Portland, OR, 8-12 November.
18. Willson, C.S., P. Sanematsu, Y. Shen and K.E. Thompson, 2015, Image-based modeling of flow through propped fractures under variable stress, presented at the 2015 Engineering Mechanics Institute Conference, Stanford, CA, 16-19 June.
19. Willson, C.S., 2015, Physical Modeling of Sedimentary Processes, 2015. Guest Lecture (remote) for the Harvard Graduate School of Design Landscape Architecture IV: Cyborg Coasts & Responsive Hydrologies. February 11, 2015.
20. Willson, C.S. 2015, The New and Improved Mississippi River Model Lab, presented to the ASCE Baton Rouge Branch, January 15, 2015.
21. Molnar, I., D.M. O'Carroll, J. Gerhard and C.S. Willson, 2014, From Pore to Core: Do Engineered Nanoparticles Violate Upscaling Assumptions? A Microtomographic Investigation, Abstract H53A-0837 presented at the 2014 Fall Meeting, AGU, San Francisco, Calif., 15-19 Dec.

22. Willson, C.S., R. Simoneaux, G. Agegnehu, and B. Hartman, 2014, What to Expect from the New and Expanded Small Scale Physical Model of the Lower Mississippi River, presented at the ASCE Louisiana Section 2014 Annual Spring Conference, Lafayette, LA, 24-25 April.
23. Willson, C.S., R. Simoneaux, G. Agegnehu and B. Hartman, 2014, The Expanded Small Scale Physical Model of the Lower Mississippi River, presented at the Eighth Annual Louisiana Groundwater and Water Resources Symposia, Baton Rouge, LA, 18 April.
24. Willson, C.S., 2014, Changing Course: Navigating the Future of the Lower Mississippi River Delta, presented at the 2014 State of the Coast Conference, New Orleans, LA, 18-20 March.
25. Willson, C.S., G. Agegnehu, G. Basyal, A. Bennett, B. Hartman, A. New and J. Puls, 2014, The Impact of Vertical Distortion on the Hydrodynamics and Sediment Transport in the Expanded Small-scale Physical Model, presented at the 2014 State of the Coast Conference, New Orleans, LA, 18-20 March.
26. Karadogan, E., G. Basyal, A. New and C.S. Willson, 2014, A Quantitative Comparison of Modeling Approaches for Simulating Land Building Processes from River and Sediment Diversions, presented at the 2014 State of the Coast Conference, New Orleans, LA, 18-20 March.
27. Simoneaux, R. D. Dodgen and C.S. Willson, 2014, The Expanded Small Scale Physical Model, presented at the 2014 State of the Coast Conference, New Orleans, LA, 18-20 March.
28. Willson, C.S., 2014. Physical Modeling of Sedimentary Processes, presented at the Dredgefest Louisiana, New Orleans, LA, 11-12 January.
29. Mills, G., C. S. Willson, K.E. Thompson, and M. Rivers, 2013, Assessment of Image Processing and Resolution on Permeability and Drainage Simulations Through 3D Pore-networks Obtained Using X-ray Computed Tomography, Abstract H34E-01 presented at the 2013 Fall Meeting, AGU, San Francisco, Calif., 9-13 Dec.
30. Sanematsu, P., C. S. Willson, and K.E. Thompson, 2013, Image-based modeling of the flow transition from a Berea rock matrix to a propped fracture, Abstract H34E-04 presented at the 2013 Fall Meeting, AGU, San Francisco, Calif., 9-13 Dec.
31. Molnar, I., D.M. O'Carroll, C.S. Willson and J. Gerhard, 2013, The Influence of Pore Network Geometry on Silver Nanoparticle Transport through Soil, Abstract H33C-1368 presented at the 2013 Fall Meeting, AGU, San Francisco, Calif., 9-13 Dec.
32. Mills, G., C.S Willson, and K.E. Thompson, 2012, Assessment of Image Processing and Resolution on Permeability and Drainage Simulations Through 3D Pore-networks Obtained Using X-ray Computed Tomography, presented at 54th SPWLA International Technical Symposium, New Orleans, LA., 22-26 June.
33. Sanematsu, P., Y. Shen, C.S. Willson, K.E. Thompson, 2013, Understanding rock-proppant-fracture systems using x-ray computed tomography image-based network and finite element modeling, presented at 54th SPWLA International Technical Symposium, New Orleans, LA, 22-26 June.
34. Molnar, I.L., J.I. Gerhard, D.M. O'Carroll, and C.S. Willson, 2012, Imaging the Transport of Silver Nanoparticles Through Soil with Synchrotron X-ray Computed Microtomography, Abstract EP41E-04 presented at 2012 Fall Meeting, AGU, San Francisco, Calif., 3-7 Dec.
35. Y. Shen, P. Sanematsu, S. Bradley, C.S. Willson, A. Borujeni, K.E. Thompson, and M. Tyagi, 2012, Insights from image-based modeling of fluid flow in bulk proppant packs and propped fractures under varying confining stress, 2012 Annual meeting of American Institute of Chemical Engineers (AIChE) Pittsburgh, PA, 28 Oct – 2 Nov.

Note: This presentation received the Best Presentation in the session “Advanced Simulations in Fluid Flow in Porous Media”*

36. R.W. Jacobsen, and C.S. Willson, 2012, Measurements of Dynamic Resistance in Low Turbulence in Open Channel Flow, presented at the 2012 ASCE Conference on Environmental Measurements and Experimental Methods, St. Lake City, UT, 12-15 August.
37. Molnar, I.L., D.M. O’Carroll, J.I. Gerhard, and C.S. Willson, 2012, Investigating Silver Nanoparticle Transport in Soil via Synchrotron X-Ray Microtomography, presented at the 22nd V.M. Goldschmidt Conference, Montreal, Canada, 24-29 June.
38. Willson, C.S., 2012, The Lowermost Mississippi River: A Patient on Life Support? Invited seminar for the Ven Te Chow Hydrosystems Lab Seminar Series, University of Illinois @ Urbana/Champaign, 13 April.
39. Willson, C.S., S. Bradley, and K.E. Thompson, 2011, Grain- and Pore-level Analysis of Drainage in Fractionally-wet Granular Media using Synchrotron X-ray Computed Microtomography (*Invited Talk*). Abstract H34B-06 presented at 2011 Fall Meeting, AGU, San Francisco, Calif., 5-9 Dec.
40. Willson, C.S., 2011, A Small-scale Physical Model of the Lower Mississippi River for Studying the Potential of Medium- and Large-scale Diversions. Abstract EP41E-04 presented at 2011 Fall Meeting, AGU, San Francisco, Calif., 5-9 Dec.
41. Karadogan, E. and C.S. Willson, 2011, Response of the Lowermost Mississippi River to Relative Sea Level Rise and Upstream River and Sediment Diversions Abstract EP44A-08 presented at 2011 Fall Meeting, AGU, San Francisco, Calif., 5-9 Dec.
42. Molnar, I.L., D.M. O’Carroll, C.S. Willson and J. Gerhard, 2011, Exploring the use of synchrotron radiation to image silver nanoparticles in a porous media Abstract H53B-1418 presented at 2011 Fall Meeting, AGU, San Francisco, Calif., 5-9 Dec.
43. Willson, C.S., 2011, Augmentation of Synchrotron X-ray Tomography Images with Petrophysical and Petrographic Data: Moving Toward Implementation of Dual-porosity Network Models, presented at Utrecht University Environmental Hydrogeology Colloquium Series, 20 June 2011.
44. Willson, C.S. and E. Karadogan, 2011, Response of the Lower Mississippi River to Medium- and Large-scale Diversions and Sea Level Rise, presented at the 2011 AWRA Spring Specialty Conference, Managing Climate Change: Impacts on Water Resources: Adaption Issues, Options, and Strategies, April 18-20, 2011, Baltimore, MD.
45. Willson, C.S., and J. Carney, 2011, Working Toward a Sustainable Louisiana Coast by Reconnecting the Mississippi River to the Coastal Wetlands, presented at the 2011 AWRA Spring Specialty Conference, Managing Climate Change: Impacts on Water Resources: Adaption Issues, Options, and Strategies, April 18-20, 2011, Baltimore, MD.
46. Thompson, K.E., C.S. Willson, N. Lane, and T. Narayana, 2010, Image-Based Modeling of Nanoparticle Transport in Porous Media, Abstract H42C-01, presented at the 2010 Fall Meeting, AGU, San Francisco, Calif., 13-17 Dec.
47. Molnar, I., D.M. O’Carroll, J. Gerhard, and C.S. Willson, 2010, Impact of mineral isoelectric point on subsurface/NAPL wettability, Abstract H53C-1054, presented at the 2010 Fall Meeting, AGU, San Francisco, Calif., 13-17 Dec.
48. Willson, C.S., 2010, Panel Member, *Managing Water in its Hydrologic Context: Platitude or Essential Premise*, 2010 American Water Resources Association Annual Conference, held in Philadelphia, PA November 1-3, 2010.
49. Best, S., S. O. Sears, and C.S. Willson, 2010, Integration of Imaging Techniques over Multiple Scales, presented at the 2010 AAPG International Conference and Exhibition, Calgary, Canada, 12-15 September.

50. Nordenson, G., C. Seavitt, Architecture Research Office, LSU Coastal Sustainability Studio, and A. Fontenot, 2010, *Workshopping: An American Model of Architectural Practice*, US Pavilion at the 12th Venice Architecture Biennale. Venice, Italy, August 29-November 21, 2010.
51. Russo, E.J., C.S. Willson, and H.D. Smith, 2010, Incipient Motion Response Detection of Articulated Block Revetment under Wave Loading, Coastal, Shore and Estuarine Structures Subject Category, presented at the ICCE 2010 Conference held in Shanghai, China, June 30-July 5, 2010.
52. Zhao, H., Q. Chen, J. Pardue, and C.S. Willson, 2010, Simulation of Sediment Dynamics during Hurricane Katrina in Breton Sound, Louisiana, presented at the ICCE 2010 Conference to be held in Shanghai, China, June 30-July 5, 2010.
53. Radonjic, M., T. Yalcinkaya, and C.S. Willson, 2010, Conductivity of fractures in oil well cement upon contact with rock- formation waters and dissolved CO₂, presented at the Third International Conference on Porous Media and its Applications in Science, Engineering and Industry, June 20 - 25, 2010 Montecatini Terme, Italy
54. Willson, C.S., and S. Bradley, 2010, High-resolution X-ray tomography of fractionally-wet media: Drainage experiments, presented at the 2010 Goldschmidt Conference, *Geochemica et Cosmochimica Acta*, 74(12), Supplement 1, A1135-A1135
55. Karadogan, E. and C.S. Willson, 2010, Simulating the Change in the Sediment Carrying Capacity of a Hypothetical Diversion Under Projected Future Sea Level Rise Using ADH, to be presented at the 2010 State of the Coast, Implementing a Sustainable Coast for Louisiana, Baton Rouge, LA, June 8-10, 2010.
56. Twilley, R. J. Carney, L. Carter, J. Erdman, E. Mossop, A. Owens, and C.S. Willson, 2010, Coastal Sustainability Studio, to be presented at the 2010 State of the Coast, Implementing a Sustainable Coast for Louisiana, Baton Rouge, LA, June 8-10, 2010
57. Willson, C.S., 2010, Extraction of pore-level properties from high-resolution X-ray CT images of multiphase porous media systems, invited seminar, Northwestern University, April 9, 2010.
58. Karadogan, E. and C.S. Willson, 2010, Numerical Modeling of the Lower Mississippi River, presented at the 2010 USACE ADH User's Workshop, Baton Rouge, LA, January 12-13, 2010.
59. Willson, C.S., and E. Karadogan, 2009, Future Management and Control of the Lower Mississippi River, *Eos*, Vol. 90, Number 52, 29 December 2009, Fall Meet. Suppl., Abstract H23C-0967.
60. Bhattad, P., C.S. Willson, and K.E. Thompson, 2009, Effect of Network Structure on Image-based Network Modeling of Real Materials, *Eos*, Vol. 90, Number 52, 29 December 2009, Fall Meet. Suppl., Abstract H13C-0989
61. Karadogan, E. and C.S. Willson, 2009, Numerical Modeling of the Lower Mississippi River - Impact of Sea Level Rise and Diversions on the System, presented at the 2009 Student Wetlands Symposium, November 14, 2009, Baton Rouge, LA.
62. Hoffmann, J., E. Karadogan, P. Leonard, B. McMann, A. Elmer, and C.S. Willson, 2009, Use of a Small-Scale Physical Model of the Lower Mississippi River to Investigate River Flow and Sediment Diversions, presented at the 2009 Student Wetlands Symposium, November 14, 2009, Baton Rouge, LA
63. Willson, C.S., 2009, High-resolution Imaging: Grain/Pore-Level Characterization and Multiphase Flow, invited seminar at the University of Western Ontario, August 6, 2009.
64. Willson, C.S., 2009, The Current and Future State of the Lower Mississippi River and its Role in Coastal Restoration Efforts, invited seminar at the Colorado School of Mines, May 27, 2009.

65. Willson, C.S., 2009, Water Flow and Transport in Fractionally-wet Systems, invited seminar at the Colorado School of Mines, May 26, 2009.
66. Willson, C.S. and N. Lu, Use of High-resolution X-ray Computed Tomography for Unsaturated Fine Granular Materials. *Eos Trans. AGU*, 90(22), Jt. Assem. Suppl., Abstract V74A-06.
67. Willson, C.S., "Large-scale River and Sediment Diversions in the Lower Mississippi River", invited seminar at Pennsylvania State University, Feb. 20, 2009.
68. Roberts, K.L., C.S. Willson, K.E. Thompson, W.M. Moe, 2008, Pore-scale Analysis of Equilibrium and Non-equilibrium DNAPL Mass Transfer, *Eos Trans. AGU*, 89(53), Fall Meet. Suppl., Abstract H33J-06.
69. Mason, J. and C.S. Willson, 2008, Incorporating Coastal Storm Processes in Southern Louisiana Parish FIRMS, presented at the 2008 AWRA Annual Water Resources Conference, November 17-20, 2008, New Orleans, LA
70. Karadogan, E., Berger, C. R., Brown, G. L., Willson, C. S. 2008, An Adaptive Hydrodynamic and Sediment Transport Model for Freshwater Diversions, presented at the 2008 AWRA Annual Water Resources Conference, November 17-20, 2008, New Orleans, LA
71. Braud, J. and C.S. Willson, 2008, Impact of Stream Network Detail on Automated Water Delineation and Hydrologic Process Modeling, presented at the 2008 AWRA Annual Water Resources Conference, November 17-20, 2008, New Orleans, LA.
72. Danchuk, S., C.S. Willson, 2008, Fate and Transport of Petroleum Hydrocarbons Released in the Lower Mississippi River, presented at the 2008 Clean Gulf Conference. October 28-30, 2008. San Antonio, TX
73. Willson, C.S., 2008, The Mississippi River: Its Role in Restoration Efforts and Potential Effects of Climate Change, presented at the 2008 Severe Storm Prediction and Global Climate Impact in the Gulf Coast Conference, Oct. 29-31, 2008, Rice University, Houston, TX.
74. Willson, C.S., Modeling in the Lower Mississippi River, invited seminar for the LSU School of the Coast and the Environment, Sept. 26, 2008, Baton Rouge, LA
75. Bhattad, P., K.E. Thompson and C.S. Willson, "Accurate calculation of fluid-fluid interfaces from x-ray tomography images," paper 269c presented at the AIChE Annual Meeting, Philadelphia, PA, Nov. 16-21, 2008.
76. Bhattad, P., K.E. Thompson and C.S. Willson, "Capturing transient interface behavior in porous materials using 3D imaging techniques," paper 562c presented at the AIChE Annual Meeting, Philadelphia, PA, Nov. 16-21, 2008.
77. Lane, N., P. Bhattad, K.E. Thompson and C.S. Willson, "High-resolution modeling of flow in packed beds and fibrous materials from CT images," paper 748h presented at the AIChE Annual Meeting, Philadelphia, PA, Nov. 16-21, 2008.
78. Tsai, C-F., R.R. Twilley, C.S. Willson, V.H. Rivera-Monroy, 2008, Application of HYMAN Model to Evaluate Water and Salt Budgets in Shark River Estuary, presented at the 2008 Greater Everglades Ecosystem Restoration (GEER) Meeting held in Naples, FL, July 28-August 1, 2008.
79. Karadogan, E., C. Berger, C.S. Willson, 2008, Hydrodynamic and Sediment Transport Modeling in the Lower Mississippi River Delta, presented at the 2008 American Academy of Mechanics Conference held in New Orleans, LA, June 18-20, 2008.
80. Hilpert, M., E. Liu, K.E. Thompson, C.S. Willson, and A.H. Reed, 2008, Pore-scale Modeling of Drainage in Marine Sands, presented at the 2008 ASLO Summer Meeting held in St. John's, Newfoundland & Labrador, June 8-13, 2008.

81. Reed, A.H., K.E. Thompson, and C.S. Willson, 2008, Quantifying Consolidation and Granular Interactions in Marine Sands From X-ray Microfocus Computed Tomography Images, presented at the 2008 ASLO Summer Meeting held in St. John's, Newfoundland & Labrador, June 8-13, 2008.
82. Willson, C.S., 2008, The Role of the Lower Mississippi River in Coastal Restoration, invited talk presented at the 2008 Coastal Engineering Workshop held in Baton Rouge, LA, May 29-30, 2008.
83. Danchuk, S., Willson, C.S., 2008, Numerical Modeling of Oil Spills in the Inland Waterways of the Lower Mississippi River Delta, presented at the 2008 International Oil Spill Conference held in Savannah, GA, May 4-8, 2008.
84. Lehmann, P., Willson, C.; Shokri, N., Stampanoni, M., Or, D., 2008, Synchrotron based X-ray imaging of thick liquid films controlling evaporation from porous media, EGU General Assembly, Vienna, Austria, 13 – 18 April 2008, Abstract EGU2008-A-0979314.
85. Braud, J., J.I. Mason, G. Cavell, R. Dokka, and C.S. Willson, 2008, Application of Accurate Vertical Controls to LiDAR DEMs and the Impact on Hydrologic Modeling in Flat Landscapes, presented at the 2008 Spring American Water Resources Association Spring Specialty Conference – GIS and Water Resources V, held in San Matteo, CA, March 17-19, 2008.
86. Willson, C.S., Impact of Fractional Wettability on Water Flow and Transport Processes, invited seminar for the University of Texas Petroleum and Geosystems Engineering Seminar Series, February 11, 2008.
87. Shokri, N., Lehmann, P., Willson, C., Vontobel, P. and D. Or, 2007, Neutron Radiography Measurements Of Phase Distributions And Transport Mechanisms During Drying Of Hydrophobic And Hydrophilic Coarse Porous Media, Eos Trans. AGU, 88 (52), Fall Meet. Suppl. Abstract H21D-0748.
88. Karadogan, E., S. Danchuk, C. Berger, G. Brown, C. Willson, 2007, High-resolution Hydrodynamic Modeling in the Lower Mississippi River Delta, Eos Trans. AGU, 88 (52), Fall Meet. Suppl. Abstract H41B-0501.
89. DiCarlo, D.A., L.D. Seale, C.S. Willson, and K. Ham, 2007, Tomographic Measurements of Pore Filling at Infiltration Fronts_{SEP}, Eos Trans. AGU, 88 (52), Fall Meet. Suppl. Abstract H42C-03.
90. Lehmann, P., C. S. Willson, N. Shokri, M. Stamponini, and D. Or, 2007, TI: Quantifying thick liquid films and their role in evaporative drying of porous media, Eos Trans. AGU, 88 (52), Fall Meet. Suppl. Abstract H53E-1464.
91. Willson, C.S., Use of High-resolution Tomography To Investigate Water-phase Connectivity During Evaporation & Drainage, presented at the Copenhagen University, November 30, 2007.
92. Willson, C.S., N. Dill, S. Danchuk, W. Barlett, and R. Waldron, 2007, Physical and Numerical Modeling of River and Sediment Diversions, presented at the ASCE Coastal Sediments 07, May 14-16, 2007, New Orleans, LA.
93. Reed, A.H., K.E. Thompson, W. Zhang, C.S. Willson, and K.B. Briggs, 2006, Quantifying consolidation and reordering in natural granular media from computed tomography images, presented at the 2006 GeoX 2nd International Workshop on X-Ray CT for GEOMATERIALS held in Grenoble, France, October 4-7, 2006.
94. Ham, K. H.A. Barnett, T. Ogungankin, D. Homberger, H.H. Bragulla, K.L. Matthews, C.S. Willson, and L.G. Butler, Imaging Issue Structures: Assessment of Absorption and Phase-Contrast X-ray Tomography Imaging at 2nd and 3rd Generation Synchrotrons, presented at the SPIE Medical Imaging Conference held in San Diego, CA February 11-16, 2006

95. Rahman A., F. T-C. Tsai, C. D. White, D. A. Carlson, and C. S. Willson, Geophysical Data Integration and Conditional Uncertainty Analysis on Hydraulic Conductivity Estimation, presented at the 2006 World Environmental and Water Resources Congress held in Omaha, Nebraska, May 21-25, 2006, Omaha, Nebraska.
96. Willson, C.S., "Small-scale Physical Modeling of River and Sediment Diversions in the Lower Mississippi River Delta", presented at the Spring 2006 Louisiana Section ASCE Meeting, Baton Rouge, LA, March 30, 2006
97. Yuan, Q.Z., K.T. Valsaraj, C.S. Willson, D. D. Reible, "Sediment and contaminant release by gas ebullition", Poster presented at the SETAC annual meeting, Baltimore, Maryland, November 14-18, 2005.
98. Yuan, Q.Z., K.T. Valsaraj, C.S. Willson, D. D. Reible, "Sediment and contaminant release by gas ebullition", Poster presented at the AIChE National meeting, Cincinnati, OH, October 31- November 4, 2005.
99. Thompson, K.E., C.S. Willson, C.D. White, S. Nyman, J. Bhattacharya, and A.H. Reed, 2005, Application of a New Grain-Based Reconstruction Algorithm to Microtomography Images for Quantitative Characterization and Flow Modeling, 2005 SPE Annual Technical Conference and Exhibition held in Dallas, Texas, U.S.A., 9 – 12 October 2005.
100. Willson, C.S. and K. Ham, 2005, The Application of Monochromatic Energies to Investigate Multiphase Porous Media Systems using Synchrotron X-ray Tomography, presented at the 2005 ASCE Geo-Frontiers Conference, held January 24-26, 2005 Austin, TX.
101. Willson, C.S., K.E. Thompson, and K. Ham, 2004, High-resolution Imaging of Multiphase Porous Media: Impact of Pore-scale Geometry and Topology and Fractional Wettability, presented at the 2004 American Geophysical Union Fall Meeting, December 13-17, 2004, San Francisco, CA.
102. Thompson, K.E., C.S. Willson, and A.H. Reed, 2004, A Grain-Based Algorithm for Constructing Physically Representative Network Mappings of Porous Media, presented at the 2004 American Geophysical Union Fall Meeting, December 13-17, 2004, San Francisco, CA.
103. Yin, M., C.S. Willson, and D.D. Reible, 2004, Investigation of Heavy Metal Migration from Contaminated Sediment to Capping material using XRF, presented at the 2004 AIChE Annual Meeting, November 7-12, 2004, Austin, TX.
104. Willson, C.S., R.A. Stacey, K. Ham, and K.E. Thompson, 2004, Investigating the correlation of nonwetting phase liquids and pore scale geometry and topology using synchrotron X-ray tomography, presented at the 2004 SPIE 49th Annual Conference, held August 2 – 6, 2004, Denver, CO.
105. Ham, K., C.S. Willson, M.L. Rivers, R.L. Kurtz, and L.G. Butler, 2004, Algorithms for Three-Dimensional Chemical Analysis with Multi-Energy Tomographic Data, presented at the 2004 SPIE 49th Annual Conference, held August 2 – 6, 2004, Denver, CO.
106. Reed, A.H., K. Thompson, and C.S. Willson, Volumetric Imaging to Drainage Predictions for Model and Marine Sand, All in a Days Work, presented at the ASLO 2004 Summer Meeting, June 13-18, 2004, Savannah, GA.
107. Hartono, S., and C.S. Willson, The Use of Geographic Information System (GIS) Technologies in a Groundwater Model of the Chicot Aquifer System, presented at the 2003 American Geophysical Union Fall Meeting, December 8-12, 2003, San Francisco, CA.
108. Rahman, A., C.D. White, and C.S. Willson, Improvements in Groundwater Flow Modeling Through the Integration of Resistivity Logs and Hydraulic Conductivity,

- presented at the 2003 American Geophysical Union Fall Meeting, December 8-12, 2003, San Francisco, CA.
109. A. Rahman, S. Hartono, and C.S. Willson, Regional and Local Scale Groundwater Modeling of the Chicot Aquifer System, presented at the 2003 GCAGS Meeting, Baton Rouge, LA, October 22-24, 2003.
 110. Li, L., C.S. Willson, and P.T. Imhoff, Evaluation of Air/Water Interfacial Area in Porous Media by Gas Tracer Tests and Synchrotron X-ray Tomographic Imaging, presented at the 2003 ASA-CSSA-SSSA Annual Meetings, Denver, Colorado, November 2-6, 2003
 111. Al-Raoush, R.I., Z. Abu-Salem, C.S. Willson, Characterization of Non-wetting Phase Fluids in Porous Media Systems Using High-resolution, Three-dimensional, Synchrotron X-ray Microtomography, presented at the 2003 American Chemical Society 225th ACS National Meeting, New Orleans, LA, March 23-27, 2003.
 112. Al-Raoush, R.I., K. Thompson, and C.S. Willson, The Impact of Network Structure on Pore-scale Simulation of Fluid Transport, presented at the 2002 American Geophysical Union Fall Meeting, December 6-10, 2002, San Francisco, CA.
 113. Reed, A.H., R.I. Al-Raoush, C.S. Willson, and J.E. Cable, Influence of Image Resolution on Pore Size Distributions and Permeability Predictions in Marine Sand, presented at the 2002 American Geophysical Union Fall Meeting, December 6-10, 2002, San Francisco, CA.
 114. Willson, C.S., The Use of Synchrotron Radiation in Environmental Science and Engineering: X-Ray Microtomography and X-Ray Absorption Spectroscopy, presented at the 2002 Association of Environmental Engineering and Science Professors Meeting, August 9-11, 2002, Toronto, CA.
 115. Reible, D.D., K. Roberts, C. Willson and W.D. Constant, "Field Demonstration of Active Caps for Containment and Treatment of Contaminated Sediments", presentation at the NSF Pan American Advanced Study Institute, Rio de Janeiro, Brazil, July 22 - August 3, 2002.
 116. Reed, A.H., Al-Raoush, R., Willson, C.S., and Cable, J.E., Comparative Differences of Pore Geometry from Planar and Volumetric Computer Tomography Images of Marine Sands, presented at the 2002 American Geophysical Union Spring Meeting, May 27-30, 2002, Washington D.C.
 117. Willson, C.S. and S.A. Capps, 2002, Modeling of a Mississippi River Diversion in Maurepas Swamp, to be presented at the 2002 American Water Resources Association Spring Specialty Conference, May 13-15, 2002, New Orleans, LA.
 118. Willson, C.S., Walking Through a Maze: The Use of Synchrotron Microtomography to Investigate Porous Media Systems, presented at the LSU Environmental Cooperative Seminar, May 6, 2002.
 119. Al-Raoush, R.I., Thompson, K.E., and C.S. Willson, 2001, Comparison of Approaches for Obtaining Pore Network Structures, presented at the 2001 American Geophysical Union Fall Meeting, December 10-14, 2001, San Francisco, CA.
 120. Rahman, A., R. Milner, B. Hanson, and C.S. Willson, 2001, Linking Local- and Aquifer-scale Groundwater Models Using Telescopic Mesh Refinement, presented at the 2001 American Geophysical Union Fall Meeting, December 10-14, 2001.
 121. Willson, C.S., 2001, Groundwater Issues in Louisiana, presented to the Baton Rouge Leadership Program, November 13, 2001.
 122. Willson, C.S., 2001, Groundwater Modeling of the Chicot Aquifer Underlying Acadia Parish, presented to the Baton Rouge Geological Society, November 8, 2001.

123. Capps, S.A., and C.S. Willson, 2001, Modeling of a Mississippi River Diversion into a Louisiana Wetland, to be presented at the 2001 Environmental State of the State VI Conference, October 26, 2001.
124. Willson, C.S., 2001, Groundwater Modeling of the Chicot Aquifer Underlying Acadia Parish, presented to the Capital Area Groundwater Conservation Commission Technical Meeting, September 11, 2001.
125. Hanson, B. and C. Willson, 2001, Chicot Aquifer Characterization - Parameter of Study, presented at the Orientation for the Louisiana Ground Water Management Commission and Advisory Task Force, August 6-7, 2001, Baton Rouge, LA.
126. Willson, C.S., 2001, The use of microtomography to investigate porous media systems, presented to the Geosystems Group, Naval Research Laboratory, July 12, 2001, Stennis, MS.
127. Al-Raoush, R.I., and C.S. Willson, 2001, Statistical characterization of three-dimensional porous media systems using synchrotron microtomography, presented at the 2001 American Geophysical Union Spring Meeting, H41C-04, May 29 - June 2, 2001.
128. Willson, C.S., R. Al-Raoush, 2000, The Use of Synchrotron Microtomography for Investigating Multiphase Porous Media Systems, presented at the 2000 Geological Society of America Annual Meeting, Reno, NV, November 9-18, 2000.
129. Willson, C.S., R. Al-Raoush, A. Rahman, 2000, Groundwater Research in Civil and Environmental Engineering, presented at the 2000 Environmental State of the State Conference, Baton Rouge, LA.
130. Willson, C. S., C. E. Kees, and C. T. Miller, 1998, Investigation of Three-Fluid-Phase Flow in Porous Media, *EOS Transactions*, 79(45) F368, Presented at the American Geophysical Union Fall Meeting, San Francisco, CA, December 6-10, 1998.
131. Willson, C.S., O. Pau, and C.T. Miller, 1997, An Analysis of Mass Transfer Limitations for Estimating NAPL Saturations Using Partitioning Tracers, *EOS Transactions*, 78(46) F311, Presented at the American Geophysical Union Fall Meeting, San Francisco, CA, December 8-12, 1997.
132. Hall, J.L., P.T. Imhoff, C.S. Willson, and C.T. Miller, 1997, Surfactant-Enhanced Mobilization of Dense Nonaqueous Phase Liquids in Porous Media, A Decade of Improving Health Through Multi-Disciplinary Research, sponsored by the National Institute of Environmental Health Sciences, Chapel Hill, NC, February 24-26, 1997.
133. Willson, C. S., J. W. Weaver, and R. J. Charbeneau, 1996, A Screening Model for Investigating DNAPL Contamination of Porous Media, *EOS Transactions*, Presented at the American Geophysical Union Spring Meeting, Baltimore, MD, May 20-24, 1996.

Current Research Funding

- Integrated Hydrologic & Hydraulic Conceptual Design and Planning for Tangipahoa Parish, Tangipahoa Parish Government (PI, 01/18 – 12/18, \$47,654)
- Operation of the LSU Center for River Studies, Louisiana Coastal Protection and Restoration Authority (PI, 08-14-07/23, \$3.321M)
- Inland from the Coast: A Multi-Scalar Approach to Regional Climate Change Responses (co-PI, 7/17 – 6/20, \$2.94M)
- Louisiana Delta Research Minor, The Keck Foundation (co-PI, 7/15 – 5/18, \$250,000)
- Coastal SEES Collaborative Research: Sustainability of Deltaic Coasts – The Trillion Dollar Problem, National Science Foundation (Senior Investigator, 09/14 – 08/18)

Previous Research Funding Sources

- Advanced Energy Consortium - co-PI

- Louisiana Coastal Protection and Restoration Authority – PI
- Louisiana Water Resources Research Institute - PI
- National Science Foundation, Hydrological Sciences Program – PI, Research and SGER Grants
- National Science Foundation, PI, REU Site Program
- National Science Foundation, PI, Instrumentation for Material Research (IMR) Program
- American Chemical Society, PI, Petroleum Research Fund
- Cooperative Institute for Coastal and Estuarine Environmental Technologies (CICEET; joint project with the University of New Hampshire)
- Coastal Research and Enhancement through Science and Technology Program (CREST)
- LA Board of Regents, Research Competitiveness Subprogram
- LA Board of Regents, LEQSF Enhancement Program
- LA Board of Regents, Pilot Funding Program
- LA Department of Transportation and Development
- LA Department of Natural Resources, Coastal Engineering Division
- LA Department of Natural Resources, Office of the Secretary
- Louisiana Water Resources Research Institute
- ExxonMobil
- CITGO
- LSU Council on Research: Faculty Research Grant Award Program
- Lake Pontchartrain Basin Foundation

Courses Taught

- CE 2200 (Fluid Mechanics), CE 2250 (Fluid Mechanics Laboratory), CE 3200 (Hydraulics), CE 4250 (Groundwater Hydraulics), CE 4320 (Introduction to Coastal Engineering), CE 4260 (Hydrologic Design), CE 7700/01 (Groundwater Pollution and Contaminant Transport), CE 7701 (River Engineering), CE 7265 (Groundwater Modeling), CE 7275 (Advanced Groundwater Hydraulics), EVEG 3100 (Water Distribution, Wastewater Collection), EVEG 4780 (Environmental Modeling for Design), EVEG 4125 (Environmental Transport Processes)
- Course Evaluations - Overall Effectiveness of **3.66/4.0** in undergraduate courses, **3.88/4.0** in graduate courses

Graduate Students (graduated)

- Christopher Turnipseed, M.S. candidate, graduation August 2017 (currently PhD student)
- J. Haydel Collins, M.S., graduation August 2017 (currently with USACE)
- Ron Rodi, M.S. candidate, graduation May 2017 (currently PhD student)
- Godfrey Mills, Ph.D. August 2016 (currently Research Associate, LSU)
- Linsey Olivier, M.S. graduation May 2017 (degree only for Spring 2017)
- Alex Christensen, M.S., graduation May 2017 (degree only for Spring 2017) (PhD student, LSU Department of Oceanography and Coastal Sciences)
- Paula Sanematsu, Ph.D., December 2015 (Postdoctoral Research Associate, LSU Craft Department of Petroleum Engineering)
- Ben Hartman, M.S., December 2016 (LA Coastal Protection and Restoration Authority)
- Getnet Agegnehu, Ph.D., August 2015 (CD-apapco, Houston, TX)
- Corey Klibert, M.S. candidate, May 2015 (CH2MHill, Redding, CA)
- Gyan Basyal, M.S. August 2014 (WEST Consultants, Tempe, AZ)

- Brett Borne, M.S., December 2013 (CB&I/Coastal Planning and Engineering, Baton Rouge, LA)
- Josef Hoffmann, M.S., August 2011 (Royal Engineering, Lafayette, LA)
- Jessica Mason, M.S. May 2011 (EMAC, Birmingham, AL).
- Praddep Bhattad, Ph.D. December 2010, co-adviser with K. Thompson (DigitalCore, Canberra, Australia)
- Mary Friedmann, M.S., May 2010 (co-advised with Dr. Jaye Cable) (LA Department of Natural Resources)
- Edmond Russo, Ph.D., December 2009 (Deputy District Engineer, Programs and Project Development, USACE, Galveston District)
- Samantha Danchuk, Ph.D., May 2009 (Broward County Env Planning & Community Resilience Division, Miami, FL)
- Keegan Roberts, Ph.D., May 2009 (CDM Smith, Denver, CO)
- Jason Braud, M.S., May 2009 (U.S. Marine Corps)
- Cheng-feng Tsai, M.S., August 2008 (co-advised with Dr. Robert Twilley) (Moffat and Nichols, San Francisco, CA)
- Ryan Waldron, M.S., May 2008 (Engineer, URS Corporation, Metairie, LA)
- Nathan Dill, M.S., August 2007 (Engineer, Woods Hole Group, Massachusetts)
- Zaydoun Abu-Salem, Ph.D., August 2007 (Faculty, Al Zaytoonah University of Jordan)
- Will Barlett, M.S., May 2007 (Engineer, Trinity Consultants)
- Ming Yin, Ph.D., May 2007, LSU Department of Chemical Engineering, co-adviser with D. Reible (Engineer, Innovative Steel Detailing)
- Asheka Rahman, Ph.D. December 2005, M.S. May 2001 (Research Scientist, Louisiana Geological Survey)
- Sherly Hartono, Ph.D. December 2005 (Engineer, Montgomery Watson Harza, Sacramento, CA)
- Allen H. Reed, Ph.D., May 2004, LSU Dept. of Oceanography and Coastal Studies (co-supervisor) (Research Scientist, Naval Research Laboratory)
- Riyadh Al-Raoush, Ph.D., December 2002 (Faculty, Qatar University, Qatar)
- Keegan Roberts, M.S., August 2004 (LSU Ph.D. program)
- Stephan A. Capps, M.S., May 2003 (recently retired LTC, U.S. Army; now with Bonneville Power, Portland, OR)
- Asheka Rahman, M.S., August 2001 (LSU PhD program)
- Ajit Desphande, M.S., August 2000 (Water Resources consulting)

Graduate Students (current)

- Seth Bradley, M.S. candidate,
- Mario Durbic, MS candidate,
- Ron Rodi, PhD candidate,
- Jonathan Puls, M.S. candidate,
- Jarret Bauer, M.S. candidate,
- Kathleen Eubanks, MS candidate,
- Patrick Scott, MS candidate,
- Christopher Turnipseed, PhD candidate,
- Ali Heidarizhaleh, PhD candidate,
- Mauricio Hooper, PhD candidate (Fulbright Scholar),
- David May, M.S. candidate, (USACE ERDC),

- Denton Graham, MS candidate,
- Ian Floyd, Ph.D. candidate, (USACE ERDC),
- Tate McAlpin, Ph.D. candidate (USACE ERDC),

University Service

- Member, LSU Wellness Committee 2018 -
- Member, LSU University Planning Council, 2017 –
- LSU Ogden Honors College Academic Advisory Board, 2017 –
- Member, LSU PS-36 Revisions Committee, 2016-17
- Member, LSU strategic planning subcommittee, "Protecting the Natural Environment/Environmental Stewardship", 2016-
- Member, LSU Coastal Research Council, 2016-
- Member, LSU Office of Academic Affairs PS-36 Revision Committee, 2016 -
- LSU Faculty-in-Residence, East Campus, 2015-
- Member, Parking and Transportation Services Advisory Committee, 2015 - 16
- Member, Steering Committee, Coastal Sustainability and Environment Initiative, 2011-
- Member, University Advisory Board, Coastal Sustainability Studio, 2009-
- Member, LSU Council on Research Faculty Awards Ad-hoc Committee, 2008
- Member, LSU Service Learning Advisory Council, 2007- 2010
- Shell Coastal Environmental Modeling Laboratory (CEML) Management Committee, 2004 -
- Faculty Adviser, LSU Lacrosse Club, 2002-

College of Engineering Service

- Strategic Planning Council, 2009 - 2010
- Departmental Representative, College Policy Committee, 2003 – 2005
- Research and Development Group, College of Engineering, 2000-
- Faculty Adviser, Tau Beta Pi, 2001 – 2008
- Distance Learning Committee, College of Engineering

Civil and Environmental Engineering Departmental Service

- Member, Department Awards Committee, 2014-
- Coordinator, Civil Engineering Graduate Program, 2010-2013
- Chair, Coastal and Ecological Engineering Faculty Search Committee, 2009
- Coordinator, Water Resources Group, Department of Civil and Environmental Engineering, 2007-
- Chair, Laboratory and Facilities Committee, Department of Civil and Environmental Engineering, 2005-2010
- Faculty Adviser, Chi Epsilon, 2003 – 2008
- Graduate Programs Committee, Department of Civil and Environmental Engineering, 1998-2004
- Undergraduate Curriculum Committee, Department of Civil and Environmental Engineering, 2000-2004
- Faculty Adviser, LSU Student Chapter of the American Society of Civil Engineers, 1999-2000

Honors/Awards

- 2016 Longwell Fund College of Engineering Instructor of Excellence Award
- 2015 James M. Todd Technological Medal, Louisiana Engineering Society
- 2012-2013 Association of Collegiate Schools of Architecture (ACSA) Collaborative Practice Award for the LSU Coastal Sustainability Studio.
- Faculty Fellow, SECAC Academic Leadership Development Program, 2012-2013
- Paper, “Flow Visualization in Artificial Porous Media from Microfluidic PMMA Devices” has been awarded the Best Paper Award in the Fluids Engineering in Micro- and Nanosystems Symposium at the ASME- IMECE 2011.
- 2011 Louisiana Engineering Foundation Engineering Faculty Professionalism Award
- 2010 CEE Departmental Service Award
- 2006 CEE Departmental Achievement Award
- 1999-2000 Tiger Athletic Foundation Award for Excellence in Teaching
- 2000 LSU Student Chapter ASCE Outstanding Faculty Member
- Louisiana State University Council on Research Summer Stipend Award, 2000
- Walter L. and Reta Mae Moore Graduate Fellowship in Water Resources Engineering, 1996, The University of Texas at Austin
- The Trigg and Fannie Twichell Centennial Endowed Presidential Fellowship, 1995-1996, The University of Texas at Austin
- Walter L. and Reta Mae Moore Graduate Fellowship in Water Resources Engineering, 1992-1993, The University of Texas at Austin
- Engineering Foundation Fellowship, 1991-1992, The University of Texas at Austin
- Joint Staff Commendation Medal, 1991, Defense Information Systems Agency
- Navy Achievement Medal, 1990, The United States Marine Corps
- Naval R.O.T.C. Scholarship, 1983-1985, Pennsylvania State University
- Sigma Gamma Tau, 1983-1985, Pennsylvania State University
- Tau Beta Pi, 1983-1985, Pennsylvania State University
- University Scholar, 1982-1984, Pennsylvania State University

Professional Organizations

- American Society of Civil Engineers
- Association of Environmental Engineering and Science Professors
- American Geophysical Union
- National Ground Water Association

Professional Service

- Member, Local Organizing Committee, 10th Interpore Conference, to be held in New Orleans, LA, May 2018
- Program Committee, 2018 State of the Coast Conference, held in New Orleans, LA, June 2018.
- Co-chair, 2016 & 2017 Amite River Basin Flood Event Workshop, co-sponsored with the Amite River Basin Commission, held at Louisiana Transportation Research Center, October 5, 2016 and at LSU on October 19, 2017.
- Chair, DataFlow 2016 Conference, held at Louisiana State University, May 2016.
- Member, Louisiana Center of Excellence Technical Working Group, organized by The Water Institute of the Gulf, 2016.
- Steering Committee, 2016 State of the Coast Conference, held New Orleans, LA, June 2016.
- Member, CoastLab 2016 Scientific Committee, held in Ottawa, CA, May 10-13, 2016.

- Member, Leadership Team and Chair, Technical Team, Changing Course Design Competition (changingcourse.us), 2013-
- Steering Committee, 2014 State of the Coast Conference, to be held in New Orleans, LA, March 2014.
- Steering Committee, 2012 State of the Coast Conference, held in New Orleans, LA, June 2012.
- Chair, Review Team, Mid-term Review of Autonomous Downward Trend in Eastern Scheldt Study, Rijkswaterstaat, Delft, Netherlands, June 21-23, 2011.
- Member, Organizing Committee, GeoX 2010: 3rd International Workshop on X-ray CT for Geomaterials in New Orleans, LA, March 1-3, 2010.
- Member, Awards Committee, Geo-Institute Geoenvironmental Engineering Committee, American Society of Civil Engineers, 2009
- Board Member, Baton Rouge Chapter of the American Society of Civil Engineers, 2005-13
 - President (2011-12), President-Elect, 2010-11, Vice President, 2009-10, Secretary/Treasurer, 2008-09
- Member, Technical Committee, Amite River Basin Commission, 2008-
- Member, Organizing Committee, American Society of Civil Engineers, GeoCongress 2008: The Challenge of Sustainability in the Geoenvironment, March 9-12, 2008, New Orleans, LA.
- Member, Conference Planning Committee, American Institute of Hydrology, 25th Anniversary Meeting & International Conference on Challenges In Coastal Hydrology and Water Quality, May 21-24, 2006. Baton Rouge, LA.
- Member, East Baton Rouge Parish Brownfields Steering Committee
- Member, Geo-Institute Geoenvironmental Engineering Committee, American Society of Civil Engineers
- Member, Ground Water Hydrology Committee, Environmental and Water Resources Institute, American Society of Civil Engineers
- Session Chair
 - 2005 ASCE Geo-Frontiers Conference to be held in Austin, TX, January 2005.
 - Geological Society of America, 2000 Annual Meeting.
 - American Geophysical Union Fall 1998 Meeting.
- Member, Student Paper Award Committee, American Geophysical Union, Hydrology Section
- Manuscript Reviewer
 - Advances in Water Resources
 - Water Resources Research
 - Hydrological Processes
 - Computers and Geosciences
 - Journal of Hydraulic Engineering
 - Journal of Environmental Engineering and Science
 - Journal of Geomechanics
 - Journal of Sustainable Energy
 - Soil Science of America Journal
 - Vadose Zone Journal
 - Geophysical Review Letters
 - Ground Water
 - Environmental Modeling and Software

- ASCE Journal of Irrigation and Drainage
- Colloids and Surfaces A
- Geological Society of America
- Proposal Reviewer
 - National Science Foundation
 - Department of Energy Environmental Science and Management Program
 - Petroleum Research Fund, American Chemical Society
 - Army Research Office
 - U.S. Geological Survey, Water Research National Competitive Grants Program
- Evaluator, Promotion and Tenure for Department of Civil, Construction and Environmental Engineering, University of Alabama-Birmingham, 2011
- LA Board of Regents, Speaking of Science Program, 2002 -

Professional Registration

Registered Engineer #31567 (Louisiana)

Professional Experience

- **Instructor**
 - N.C. State Industrial Extension Service, P.E. Review Course, Hydraulics for Sanitary Engineering
 - LSU P.E. Review Course, Hydraulics and Hydrology
 - LSU F.E. Review Course, Fluid Mechanics
 - “Topics in Hydrologic Engineering” seminar, Half Moon, LLC
- **Engineering Consulting**
 - Self Employed, Baton Rouge, LA, April 1999-present
 - Groundwater flow and transport
 - Hydrologic Analysis
 - Hazardous Waste Site assessment
 - Siltation Problems with Hydroelectric Plants
 - University of North Carolina, Chapel Hill, 1996-1997
 - Consultant to the university for management of the university's hazardous waste sites (1995-1996).
 - Self Employed, Austin, TX, September 1994-1996
 - performed dye tracer tests for water quality studies
 - performed hydrologic, flood plain and drainage design analysis
- **Officer, U.S. Marine Corps**