



## *Curriculum Vitae*

**JAMES J. CONNORS, PH.D., P.G.**

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### **EDUCATION**

- Ph.D., Marine Sciences, University of South Alabama, 2007
- M.S., Geology, University of Alabama, 1990
- B.S., Geology, University of South Alabama, 1983

### **LICENSURE & CERTIFICATIONS**

- Professional Geologist, State of Alabama, No. 1468
- Stormwater, Erosion, and Sedimentation Control Inspector, Florida Department of Environmental Protection, No. 40130
- Professional Geoscientist, State of Louisiana, No. 80
- Registered Professional Geologist, State of Mississippi, No. 941
- Professional Geologist, State of New York, No. 311
- Professional Geoscientist, State of Texas, No. 4065

### **PROFESSIONAL MEMBERSHIPS**

- American Geophysical Union (Member)
- Geological Society of America (Member)
- International Association of Hydrogeologists (Member)
- Sigma Gamma Epsilon National Honor Society for the Earth Sciences (Life Member)

### **AWARDS & HONORS**

- Named one of the *50 Outstanding Faculty Members, 1963-2013*, University of South Alabama, 2013
- *Chang Endowed Award for Humanitarian Service*, University of South Alabama, 2013
- *Principal Emeritus*, Eco-Systems, Inc., 2013
- *Three Mortar Board "Top Prof" Awards*, University of South Alabama Chapter, 2011 and 2012
- *President, Sigma Xi Scientific Research Honor Society*, University of South Alabama Chapter, 2011-13
- *Outstanding Service Award*, University of South Alabama College of Arts & Sciences, 2011
- *Faculty Member of the Year*, University of South Alabama Student Government Association, 2010
- *Faculty Senate President*, University of South Alabama, 2010-11
- *Faculty Member of the Year*, University of South Alabama Student Government Association, 2009
- *Sigma Xi Scientific Research Honor Society*, 2009-2019
- *President, Southwest Alabama Geological Society*, 2007-09
- *Teaching Excellence Award*, University of South Alabama College of Arts & Sciences, 2007
- *Most Outstanding Young Professional Award*, Woodward-Clyde Consultants, 1992
- *Sigma Gamma Epsilon National Honor Society for the Earth Sciences*, 1983-present



## **PRIVATE-SECTOR EXPERIENCE**

James J. Connors & Associates, LLC, Fairhope, AL, 2013-present

- *President/Senior Principal Scientist (2/13-Present)*

Eco-Systems, Inc. (now Allen Engineering and Science), Jackson, MS, and Fairhope, AL, 1993-2013

- *Principal Emeritus (2/13-present)*
- *Co-founder/Senior Principal (2/93-2/13)*

Exsorbet Industries, Inc., Little Rock, AR, and Jackson, MS, 1995-1999

- *President/Chief Executive Officer/Chairman, Board of Directors (2/97-2/99)*
- *Chief Operations Officer (1/97-2/97)*
- *Interim President, Emergency Response/Industrial Services Subsidiary, (9/96-1/97)*
- *Executive Vice President for Sales and Business Development (4/96-1/98)*
- *Senior Principal Hydrogeologist (12/95-4/96)*

Woodward-Clyde Consultants, Jackson, MS, 1989-1993

- *Vice President (8/91-5/93)*
- *Operating Unit Manager (8/90-8/91)*
- *Office Manager/Senior Project Scientist (5/89-8/90)*

Geraghty & Miller, Inc., Tampa, FL, and Baton Rouge, LA, 1986-1989

- *Senior Scientist/Division Manager for Hydrocarbon Services (5/88-5/89)*
- *Staff Scientist (5/87-5/88)*
- *Scientist (6/86-5/87)*

P.E. LaMoreaux & Associates, Inc., Tuscaloosa, AL, and Lakeland, FL, 1985-1986

- *Hydrogeologist/Computer Modeler (2/85-6/86)*

## **ACADEMIC EXPERIENCE**

University of South Alabama, Mobile, AL, 2003-2016

### *Faculty Positions*

- *Associate Professor, Department of Interdisciplinary Studies (1/15-1/16)*
- *Assistant Professor, Department of Interdisciplinary Studies (8/12-12/13)*
- *Assistant Professor, Department of Earth Sciences (1/08-3/12)*
- *Instructor, Department of Earth Sciences (1/05-1/08)*
- *Part-time Instructor, Department of Earth Sciences (1/03-1/05)*

### *Administrative Positions*

- *Interim Dean, School of Continuing Education & Special Programs (1/15-1/16)*
- *Special Assistant to the Vice President for Research & Economic Development (12/13-1/15)*
- *Associate Dean, School of Continuing Education & Special Programs (3/12-12/13)*
- *Interim Director of International Education (2/13-11/13)*
- *Interim Chair, Department of Developmental Studies (8/12-12/13)*
- *Interim Vice President for Research (3/12-8/12)*



## **SELECTED PROJECT EXAMPLES**

- Expert witness for defense in a United States district court case in Mississippi involving alleged large-scale sediment erosion and transport from a construction project via stormwater, and deposition in an extensive Mississippi estuary. Reviewed file and associated literature, read opposing expert's report and supplement, reviewed current and historical maps, rainfall data, and soil data. Conducted site inspections, produced Daubert-related affidavits challenging opposing expert's methods, prepared an expert report, and gave a deposition.
- Expert witness for defense in a circuit court case involving an alleged raw sewage and chemical release into a river located in the Upper Peninsula of Michigan. Reviewed file documents (photos, depositions, produced documents, etc.), researched current and historical maps, photos, and rainfall and wind data. Conducted a site inspection. Produced an expert report.
- Expert for plaintiff in an Alabama circuit court case involving significant amounts of sedimentation in an Alabama coastal estuary near a private residence. Conducted site inspections and GPS mapping of sediment and associated transport routes, collected and analyzed grain-size samples, reviewed file and site-specific (current and historical) hydrological data/maps/aerial photos, as well as case-related drawings and plans. Participated in mediation meetings and, at the direction of the client, worked with opposing experts to find a mutually agreeable resolution.
- Expert witness for plaintiff in a United States district court case in northern Illinois that involved alleged trespass in a watercourse. Documents, maps, photos, and videos were reviewed and an expert report was produced.
- Expert witness for defense in a United States district court case in Mississippi involving an unintended expansion of coastal wetland due to stormwater inflow and associated sediment, organic material erosion/transport/deposition over time. Reviewed multiple deposition transcripts, soils data, aerial and site-specific photos, and opposing expert reports. Conducted multiple site inspections and mapped local stormwater flow. Supported attorneys with the depositions of opposing experts. Prepared an expert report.
- Expert witness for plaintiffs in an Alabama circuit court case involving severe stormwater-related flooding of a residential property in a coastal city. Reviewed documents produced by defendants, researched hydrology of the area, utilized historical aerial photos and rainfall data, assisted attorney with deposition preparation, reviewed depositions, conducted site inspections, mapped local stormwater flow, and produced expert report.
- Expert witness for defense in an Indiana circuit court case involving the alleged involvement of construction site stormwater runoff and associated sediment erosion/transport onto a highway, resulting in a fatal accident. Reviewed file and site literature/data, including opposing experts' reports, depositions, construction specifications, topographical maps, accident-scene video and photos, historical remote-sensing and rainfall data. Conducted site inspection and infiltration tests. Produced an expert report.
- Expert witness for plaintiffs in arbitration regarding the fate, transport, and timing of subsurface free-phased and dissolved chemicals at a refinery on the Ohio River. Reviewed file documents, produced expert and rebuttal reports, gave testimony during the arbitration hearing, produced computer models of site groundwater flow, met with regulatory agency personnel, performed a site inspection, and provided technical assistance to attorneys.



- Expert witness for plaintiffs in a United States district court case in Alabama involving extent and environmental impacts from a large, 1970s (4+ million gallon) petroleum residuum spill in a coastal wetland. Work involved site inspections, sample collection, document review, and production of an expert report.
- Expert witness for defense in an Alabama circuit court case involving alleged stormwater-related flooding of a commercial property. Reviewed documents, researched local hydrology, utilized historical aerial photos and rainfall data, assisted attorney with deposition preparation, reviewed depositions, conducted site inspections and drone reconnaissance, calculated local stormwater flow, produced expert opinions, and gave a deposition.
- Consultant for defense in an Alabama circuit court case involving alleged damage to a pond and dam due to a vehicle accident. Reviewed file and performed a site inspection. Provided technical advice to attorneys.
- Consultant for defense in an Alabama circuit court case involving alleged flooding of a residential property by stormwater draining from a housing development. Conducted site inspections, reviewed current and historical aerial photos, videos, plans and specifications, and rainfall data. Reviewed proposed remedy and assisted attorney with technical details in proposed settlement documents.
- Expert witness for plaintiffs in an Alabama circuit court case involving residential flooding associated with groundwater springs. Data and reports were reviewed, technical support was provided to attorneys during the deposition of opposing expert, a deposition was given, and court testimony was provided.
- Expert witness for plaintiffs in a Mississippi circuit court case involving large-scale subsurface gasoline contamination from a fuel pipeline leak that occurred approximately 30 years earlier. Reviewed data and case-related documents, produced an expert report, gave a deposition, and testified in court.
- Expert witness for defense in a United States district court case in Mississippi involving alleged hydrocarbon and brine contamination associated with a pipeline break in an oil field. Work involved a file review, production of an expert report, a deposition, peer review of opposing the expert's work, and assisting attorneys with opposing expert deposition preparation and the production of a Daubert motion.
- Expert witness for plaintiffs in a Mississippi circuit court case involving long-term environmental impacts associated with crude oil and brine from a pipeline release on private property. Reviewed case data and documents, sampled soil and groundwater, produced an expert report, and gave a deposition.
- Expert witness for defense in several related Mississippi circuit court cases involving alleged oilfield brine contamination of groundwater aquifers. Files were reviewed, a literature review was performed, and several expert reports produced.
- Expert witness for defense in a United States district court case in Mississippi involving potential contamination of surrounding properties from a closed coastal construction-debris landfill. Case documents were reviewed, an expert report was produced, research was performed to rebut opposing expert's opinions, a deposition given, and consulting was provided for the cross-examination of the plaintiff's expert.
- Contracted expert to research potential ecological impacts of a commercial fishing ban and provide testimony at a regional fishery management board meeting in New Hampshire.



- Expert witness testimony for defendant in a Mississippi circuit court case settlement hearing that involved the assessment and remediation of sediment-transported PCBs in a contaminated wetland area in northeastern Mississippi. Reviewed remedial investigation data and details of the proposed remedy, gave courtroom testimony as to the technical adequacy of the work.
- Hydrological consultant on a stream restoration and conservation project in an urbanized Mississippi coastal stream. Work included site inspections, public meeting participation, and consultation with engineering firm to help them determine needed restoration actions.
- Groundwater computer modeling for litigation in Florida involving potential regional drawdown from a proposed large water-supply wellfield in a karst aquifer system. Reviewed regional hydrogeological data, prepared input files, ran numerous MODFLOW simulations, calibrated and verified models, and prepared courtroom graphics to demonstrate the results.
- Hydrological evaluation of recharge rates of a naturally occurring karst spring used for bottled water production. Site was in the Appalachian fold-and-thrust belt in central Alabama. Work involved file and geological review, pumping (time/drawdown) testing, specific capacity testing, recharge testing. A report and list of recommendations were produced.
- Statewide screening of historical groundwater information for an international corporation to produce detailed maps and tables showing the potential locations of groundwater with specific temperature, salinity, production, and depth characteristics for a special industrial use in Louisiana. Once screening was completed, shortlisted properties were evaluated in greater hydrological detail and ranked for potential acquisition.
- Planned and managed a regional environmental audit program (for detection of regulatory compliance issues) for a large oilfield and industrial services company in Mississippi and Louisiana. Included working with client personnel to set goals and develop a standardized evaluation rubric, site visits and file reviews, targeted environmental sampling at several large facilities in U.S. Gulf Coast region.
- Compliance and property transfer environmental investigations for a major oil company involved with the divestiture of hundreds of gasoline retail outlets in the Florida Panhandle and southern Alabama. Work involved the development and implementation of phased site audits, file reviews, and targeted subsurface investigations.
- Site audits and property transfer environmental investigations for numerous properties targeted for acquisition by a large gaming/casino company in Mississippi. Work involved regulatory and site investigations, and additional intrusive investigations and remediation when contaminated sites were detected.
- Developed mutually agreed to baseline environmental/health & safety (EHS) standards in a Southeast Asian country for a major U.S. oil company. Work involved researching and negotiating standards, writing the regulatory document, arranging for official acceptance/signing, implemented/training personnel onsite, and auditing/accessing implementation.
- Multi-phased contamination assessment/remedial action at an oil and gas field in southern Mississippi. Located abandoned waste drums using ground-penetrating radar data and borings; sampling drums; site characterization; and quantifying releases. Contaminants were TPH, chlorides, and oil field wastes. Impacted media: soils and groundwater.



- Contracted by a major oil company to implement a pre-transfer environmental/regulatory audit and investigation of a large onshore oil and gas field in southern Mississippi. Work involved file reviews, visits to wells and process areas, interviews with company employees, and sampling of suspected contaminants and wastes. Remediation was implemented, where appropriate.
- Performed numerous site environmental/health & safety (EHS) audits at facilities operated by a U.S. Government scientific agency along the Gulf Coast. Work involved general research of the facilities, site visits, employee and management interviews, onsite file reviews, and final report preparation.
- Pre-acquisition audit and investigation of a large rice processing facility in Mississippi. The scope of work included reviews of all regulatory files, onsite file reviews and former employee interviews, visual evaluation of the property, and targeted sampling of suspected contamination sites.
- Consultant on a large-scale National Institutes of Health (NIH) project investigating health impacts of the Deepwater Horizon oil spill in eastern Gulf Coast communities. Collected creel survey data from subsistence fishers and catch biota samples for contamination analysis.
- Watershed-wide contamination assessment and long-term monitoring of a large oil producing area in central Mississippi. Work involved a largescale field reconnaissance, the assessment of chloride impact on surface waters through a review of LANDSAT images, and quarterly monitoring (for five years) of 25 miles of streams and tributaries in a mature oil field.
- Hydrogeological evaluation, monitoring system design and installation - municipal solid waste landfill in Mississippi. Analyzed regional and local hydrogeological data to decipher local hydrogeology, installed pilot borings to confirm interpretations, performed EM and gamma ray geophysical logging of boreholes and monitoring well installations, designed a multi-aquifer monitoring system, and carried out an aquifer testing program at a Subtitle D landfill.
- RCRA Subtitle D landfill monitoring system design/installation/testing. Project involved review of existing geological and hydrological data associated to resolve the local hydrogeology and design a statistically effective groundwater monitoring system in coastal Mississippi. Work included drilling and lithological logging of numerous pilot borings to confirm hydrogeological interpretations, monitoring well installations, and aquifer testing.
- Hydrological consulting on a project involving the characterization and remediation of acid- and ammonia-contaminated groundwater at a coastal Mississippi fertilizer plant.
- Assessment, monitoring, and in-situ/active risk-based remediation of sediment- and groundwater-transported contaminants at over 40 natural gas compressor stations from Mississippi to New York. Delineated horizontal/vertical extent of contamination, monitored sites long-term, remediated soils by excavation and using in-situ injection of chemicals.
- Used groundwater computer modeling to quantify drawdown, dewatering, and settlement under a proposed Mississippi coast casino dry-dock. The proposed design required no long-term settlement potential beneath the facility, despite the occurrence of highly compressible subsoils in the area and huge anticipated structural loads. The model showed that groundwater below the facility could be depressed through a system of peripheral shallow



and deep wells, so that the soil could be pre-settled, preventing future movement. The overall project won an ENR “Project of the Year” award.

- Water-quality/aquifer testing and modeling project. Performed pumping tests and real-time water-quality monitoring on an aquifer in northwest Florida to collect input data for a computer model that would predict the proper pumping rates for a shallow, seaside wellfield that was experiencing saltwater intrusion. Data were used to calibrate and run a hydrological computer model that predicted saltwater intrusion dynamics.
- Hydrogeological study/modeling, Mississippi solid waste landfill. Work involved the correlation and review of existing regional and local hydrogeological data, as well as *new* data gathered from an onsite boring/down-hole geophysics program. Objective was to decipher local hydrogeology and determine if an alternative (natural clay) landfill liner was scientifically sound. Project also involved use of hydrogeological computer models to demonstrate viability of an alternative liner design and modified groundwater monitoring system. Work included map and cross-section generation, pilot borings to confirm interpretations, geophysical logging of boreholes, monitoring well installations, and aquifer testing.
- Performed hydrogeological/environmental baseline studies for a National Estuarine Research Reserve administered by NOAA at a coastal Alabama site. The work evaluated (1) the environmental impact of past agricultural land uses in a 63-acre wetland that had suffered from hydrological alterations, invasive species, and a heavy fuel load, and (2) an abandoned mobile home park slated for restoration to its natural state.
- Conducted a beach erosion study in coastal Alabama to test the effectiveness of a large-scale beach sediment nourishment project along the northern Gulf of Mexico. Set up multiple baseline transects in both nourished and natural beach areas. Collected samples for grain-size analysis at standard key geomorphological features along each transect.
- Feasibility study/design of beneficial use of dredge spoils in coastal Mississippi. Work included grain-size analysis of lagoon sediments near a proposed casino resort of a pilot-scale coastal erosion protection structure constructed using dredge spoils. Work compared native grain sizes to those in spoils material to determine the long-term viability of the project and establish a baseline for post-construction monitoring.
- Reverse-osmosis water-supply well testing/replacement in central Florida. Evaluation and testing of a deep, large-scale withdrawal water well that was being used to supply drinking water to a municipality via a low-pressure reverse-osmosis plant.
- Baseline aquifer characteristic study of a proposed phosphate mining site in central Florida. Soil borings and test wells were drilled at a large property slated to become a large phosphate mining operation so that a post-mining reclamation plan could be developed.
- Regional ambient water-quality study in northern Florida. Hundreds of water wells from various aquifers were identified and sampled for a broad list of parameters to get a baseline snapshot of groundwater quality.
- Municipal water-supply wellfield design, installation, and testing in central Florida. Project involved the design of a large-scale withdrawal water-supply wellfield for the Tampa, Florida metropolitan area. The target aquifer and production zones were selected. Test borings were drilled and logged. Several water wells and associated monitoring wells were drilled to depths of over 2,000 feet. These wells were also pump tested and water-quality tested.



- Water-quality investigation at a beverage production facility in central Florida. Project involved the drill-stem testing of a water-supply well to determine the source and character of microbial contamination in the aquifer. Zones within the well were isolated using inflatable down-hole packers, sanitized, then tested to determine the exact source and nature of the contamination.
- Aquifer testing, large Defense Department contractor's testing facility. Executed pumping tests and slug tests on several monitoring wells at a large DoD contractor testing facility in central Florida. Analyzed data using computer software to determine a wide range of aquifer characteristics.
- Water-supply alternatives study. The scientific literature and regional well logs were reviewed and water-quality data was collected over a large part of east-central Florida to develop water-supply alternatives for a growing area of the state that was experiencing saltwater intrusion in its water-supply source.
- Regional water-supply assessment/development project. Project included assessment of water supply and water-quality potential of brackish groundwater resources of a populous county in west central Florida. The purpose of this study was to determine the feasibility of developing several low-pressure reverse-osmosis wellfields as a supplemental source of county water supply.
- Performed wetland delineation for oil exploration properties that were located near marsh areas in Mississippi. Work involved site visits, delineation of wetland areas based on flora and soil conditions, and generation of site-specific reports
- Multi-phased, multi-year, remedial investigations at ten natural gas compressor stations in Mississippi. Included work plan and report preparation; regulatory interaction and negotiation; and soil, sediment, and groundwater characterization. The contaminants were PCBs and TCL/TAL compounds.
- Contamination assessment/risk-based remedial design for waste-oil dump sites. Work involved delineation of soil, groundwater, and sludge impacts at three abandoned waste-oil dump sites, development of risk-based clean-up goals, and remedial design. A site-specific risk assessment was prepared to support a target TPH clean-up level.
- Remedial investigations, multiple wood-treatment sites. Work involved assessment of extent of wood-treatment waste (PCP) impact in soil and groundwater in several areas at a large lumber treatment facility. Contaminant included dissolved and free-phased product. Included groundwater modeling and use of surface geophysics (EM).
- Senior oversight for a multi-facility chromate contamination investigation at several natural gas compressor stations in west Texas. Project included evaluation of hydrogeological conditions that would affect potential chromate fate and transport (redox geochemistry, flow gradients, hydraulic characteristics, etc.), implementation of a detailed assessment plan involving soil borings/sampling, monitoring well installation and groundwater sampling, aquifer testing, and horizontal drilling techniques.
- Groundwater and soil contamination investigations at 35 natural gas compressor stations located in Texas, Louisiana, Mississippi, Alabama, Tennessee, Kentucky, Ohio, Pennsylvania, and New York. Project included program development; preparation of work plans and reports; regulatory interaction and negotiation; and implementation of field activities. Contaminants included PCBs, VOCs, semi-volatiles, and various metals.
- RCRA facility contamination assessment/remediation. Work involved a large-scale remedial investigation at a RCRA facility in a highly faulted area of Alabama.





Contaminants were pesticides and related compounds that had been released into the subsurface. Included groundwater sampling and monitoring/recovery well installation.

- Remedial investigations at two U.S. Air Force bases. Work involved several multi-phased field events which included soil-gas surveys, installation of soil borings and groundwater monitoring wells, groundwater/soil sampling, and surface geophysical surveys. Contaminants included DDT, nerve agents, and explosive compounds.
- Site characterization at 16 natural gas compressor stations in several states. Project included implementation of phased contamination assessment activities, screening of sites for surface and subsurface PCB contamination, and report preparation.
- Assessment monitoring, solid waste landfill. Project involved planning and implementation of a gas and groundwater investigation at a Subtitle D landfill that was triggered by detection monitoring results. Included soil-gas surveys, onsite laboratory analysis, soil sample screening, and monitoring well installation and sampling.
- Mercury investigations and remedial actions at more than 300 natural gas pipeline metering stations. Project included planning and implementing a series of rapid, coordinated, and cost-effective site characterization and remediation activities at sites located in several states.
- Delineation of contamination associated with buried waste pits at a planned industrial park. Work involved the use of remote-sensing images, field reconnaissance, and soil/groundwater sampling to locate oil waste-filled pits and determine the impact of pits on human health and the environment. Contaminants included semi-volatiles and acids.
- Contamination assessment/remedial action planning - Mississippi rail yard. Delineated extent of diesel fuel contamination in the subsurface. Work involved the drilling/sampling of soil borings and installation/sampling of several temporary and permanent groundwater monitoring wells.
- Remedial investigation, petroleum bulk storage terminal. Involved assessment of soils and groundwater. Work performed included installation of groundwater monitoring wells, groundwater sampling, free-product gasoline finger printing, and remedial planning.
- Contamination assessments/remediation at six large petroleum storage terminals in Florida and Alabama. Work involved field contamination screening with a mobile laboratory, soil-gas surveys, installation of soil borings and groundwater monitoring wells, groundwater/soil sampling, free-product gasoline finger printing, remedial planning, and remediation system installation/operation and maintenance.
- Contamination assessments and remedial actions at over 30 leaking underground storage tank sites in Florida, Alabama, Mississippi, Louisiana, Arkansas, and Texas. Work included installation of soil borings and monitoring wells, groundwater/soil sampling, free-product gasoline finger printing, remedial planning, and remediation system installation/operation and maintenance.
- Contamination assessment at a natural gas transmission facility in central Alabama. Acquisition of soil samples using direct-push method to delineate the horizontal and vertical extent of soil contamination (PCBs, volatile organic compounds, and polycyclic aromatic hydrocarbons).
- Leaking underground storage tank site investigation/remediation. Work involved subsurface investigation and removal of free-phased hydrocarbons from groundwater using Mobile Enhanced Multi Phase Extraction at a gasoline retail outlet in southern Alabama.



- Contamination investigation for a large UST facility in Mobile, Alabama. Supervised field activities including soil borings, collection of soil samples for petroleum hydrocarbons analysis, monitoring well installation, site survey, and sensitive receptor survey. An investigation report was prepared under regulatory guidelines.
- Leaking underground storage tank site investigation. Acquisition of soil and groundwater samples using direct push method and completion of Risk-Based Corrective Action report for state regulators including risk calculations for a leaking underground storage tank facility in Mobile, Alabama.
- Assessment of chlorinated solvents in soil and groundwater at a metal stamping facility in Alabama. Work included characterization of surface conditions; delineation of the horizontal and vertical extent of DNAPL contamination using hydraulically-driven probes and bedrock monitoring well; and use of pumping/slug tests.
- Groundwater assessment, long-term monitoring, and remediation at a natural gas compressor station in Alabama. Performed a subsurface investigation of the horizontal and vertical extent of chlorinated solvents contamination; conducted a sensitive receptor survey; installed and monitored onsite and offsite monitoring wells; used in-situ chemical remediation to abate contamination.
- Groundwater assessment, monitoring, and in-situ chemical remediation at a natural gas compressor station near Houston, Texas. Involved delineation of the horizontal and vertical extent of subsurface contamination; long-term monitoring; and in-situ chemical remediation of chlorinated solvents.
- In-situ chemical remediation of hydrocarbon contamination. Work involved the injection of Oxygen Release Compound (ORC) into the subsurface at a leaking UST facility remediation site in Alabama. Purpose was to affect in-situ remediation of released petroleum hydrocarbons by altering redox chemistry of the local aquifer and vadose zone.
- Site investigation, remediation, and post-remediation groundwater monitoring. Performed at a natural gas compressor station facility in New York. Hydrogen Release Compound (HRC) injected to induce reducing conditions in the local aquifer and promote in-situ biochemical remediation of chlorinated solvents.
- Assessment, monitoring, and in-situ remediation of groundwater at a natural gas compressor station in central Kentucky. Delineation horizontal/vertical extent of contamination, monitored long-term, and remediated chlorinated solvents using in-situ injection of chemicals use of ambient down-gradient reducing conditions. Long-term post-remediation groundwater monitoring was also performed.
- Remedial construction oversight. Performed in association with the excavation and disposal of 169 tons of PCB and petroleum hydrocarbon contaminated soils. Area was back-filled and restored.
- Hydrogeological evaluation of several industrial and solid waste landfills. Used new and previously collected geological data to support several industrial and solid waste landfill expansions along the Mississippi coast, including public-hearing support.
- Landfill monitoring system design/installation/testing, solid waste landfill. Project involved design of an effective groundwater monitoring system to satisfy permit requirements and RCRA Subtitle D requirements.



## **TEACHING & STUDENT MENTORSHIP**

### *College Courses and Seminars Taught - University of South Alabama*

- Hydrology (Graduate and undergraduate levels)
- Contaminant Hydrology/Hydrogeology (Graduate and undergraduate levels)
- Water-Supply Hydrogeology (Graduate- and undergraduate-level seminars)
- Geophysics (Undergraduate level - team taught)
- Groundwater Modeling (Graduate- and undergraduate-level seminars)
- Interdisciplinary Research Methods (Undergraduate level)
- Geology Field School (Undergraduate level - team taught)
- Earth History and Lab (Undergraduate level)
- Physical Geology and Lab (Undergraduate level)

### *Students Mentored - University of South Alabama*

- *Environmental Toxicology Graduate Students (as Thesis Committee Chair): 7*
- *Environmental Toxicology Graduate Students (as Thesis Committee Member): 6*
- *Biology Graduate Students (as Thesis Committee Member): 2*
- *Civil Engineering Graduate Students (as Thesis Committee Member): 1*
- *Marine Sciences Graduate Students (as Thesis Committee Member): 1*
- *Undergraduate Honors Students (as Thesis Committee Chair): 1*
- *Undergraduate Interdisciplinary Studies B.S. Theses (as Thesis Committee Chair): 2*
- *University Committee on Undergraduate Research Students (as Mentor): 4*
- *Undergraduate Directed Research Students (as Advisor): 42*

## **PUBLISHED ABSTRACTS**

- Connors, J. J.; Jackson, J. L.; Engle, R. A.; Connors, J. L.; 2017. Prediction of hydrocarbon surface seepage potential using infiltrometer data. Fall Meeting American Geophysical Union Fall Meeting, New Orleans, LA, 12 December 2017
- Powers, S.; Stokes, S.; Chronister, L.; and Connors, J. J.; 2014. The University of South Alabama Center for Environmental Resiliency: Developing multidisciplinary, research-based environmental solutions. Bays & Bayous 2014: The Building Blocks of Coastal Resilience, Proceedings, p. 93
- Connors, J. J., 2014. Subsurface occurrence, fate, and transport factors associated with arsenic in shallow groundwater at several rural locations in the southeastern U.S. Geological Society of America Southeastern Section Abstracts with Programs, v. 46, no. 3, p. 11
- Connors, J. J., 2012. Groundwater discharge and associated nitrogen transport in a northern Gulf Coast Estuary. Transactions: Gulf Coast Association of Geological Societies and the Gulf Coast Section of the Society of Economic Paleontologists and Mineralogists, v. 62, p. 691
- Connors, J. J., 2012. Using easily accessible subsurface data to teach crucial geological skills. Transactions: Gulf Coast Association of Geological Societies and the Gulf Coast Section of the Society of Economic Paleontologists and Mineralogists, v. 62, p. 693
- Connors, J. J., 2012. Interdisciplinary study of the headwaters of an impaired urban watershed. Geological Society of America Abstracts with Programs, v. 44, no. 7, p. 447



- Connors, J. J., 2011. Use of readily available on-campus subsurface data to teach geological concepts and skills. Geological Society of America South-Central Section Meeting Abstracts with Programs, v. 43, no. 3, p. 41
- Connors, J. J., 2010. Natural attenuation of dissolved chlorinated solvents along a flow path from an oxidized karstic aquifer to an anaerobic hyporheic discharge zone. Geological Society of America Abstracts with Programs, v. 42, no. 5, p. 591
- McCullough, K., and Connors, J. J., 2010. Baseline data collection for a restoration design at a coastal river property. Geological Society of America Abstracts with Programs, v. 42, no. 5, p. 119
- Connors, J. J., 2010. Natural attenuation of dissolved chlorinated solvents along a flow path from an oxidized karstic aquifer to an anaerobic hyporheic discharge zone. Geological Society of America Abstracts with Programs, v. 42, no. 5, p. 591
- Warner, D., and Connors, J. J., 2010. Use of long-term monitoring data sets to characterize storm surge impacts on shallow groundwater. Geological Society of America Southeastern Section Meeting Abstracts with Programs, v. 42, no. 1, p. 117
- Hall, C.; Crumpton, C.; and Connors, J. J.; 2010. Use of shallow sediment grain-size analysis data to aid in future land development and stormwater management practices. Geological Society of America Southeastern Section Meeting Abstracts with Programs, v. 42, no. 1, p. 111
- Connors, J. J., 2009. Storm-surge induced water-quality changes in an unconfined coastal aquifer system. Geological Society of America Southeastern Section Meeting Abstracts with Programs, v. 41, no. 1, p. 18
- Connors, J. J., 2008. Fate & transport of inorganic nitrogen along groundwater flow paths in a coastal aquifer system. Geological Society of America Southeastern Section Meeting Abstracts with Programs, v. 40, no. 6

### **SESSIONS CHAIRED/CO-CHAIR**

- Connors, J. J.; Beckingham, B. A.; Vulava, V. M.; Callahan T. J.; and DeVoe, R.; 2019. Applications of hydrology and biogeochemistry to stormwater management. 68<sup>th</sup> Annual Meeting of the Geological Society of America Southeastern Section. Charleston, South Carolina, March 28 and 29, 2019 (Geological Society of America Southeastern Section Meeting Abstracts with Programs, v. 51, no. 3, p. 24)

### **INVITED PRESENTATIONS**

- Hydrological uniformitarianism. Mobile Rock and Gem Society meeting. Mobile, Alabama, June 12, 2018
- Lead contamination in our water supply. Gulf Region Health Outreach Program Emerging Scholars Health Sciences Academy Workshop. Mobile, Alabama, March 24, 2017
- Emerging environmental contaminants: New threats, new approaches, new practices. Gulf Region Health Outreach Program Emerging Scholars Health Sciences Academy Workshop. Mobile, Alabama, March 21, 2016
- International education and research collaboration in the U.S. - Panel discussion. 2<sup>nd</sup> International Conference on Advances in Electrical Engineering. Dhaka, Bangladesh, December 19, 2013



- Geological resources, reserves, and valuations along the northern Gulf Coast. Understanding the Financial Advantages of Land Conservation Advanced Seminar on Conservation Easements. Mobile, Alabama, August 22, 2013
- Bridging the gap between sponsored programs and principal investigators. Society of Research Administrators, Alabama Chapter Annual Meeting. Daphne, Alabama, August 23, 2013
- Research into storm-surge remobilization of subsurface contamination. Fuzhou University Zhicheng College, Fuzhou, China, March 11, 2013
- Quantifying environmental impacts of the Deepwater Horizon oil spill. Nurses & Environmental Health: Health Consequences of the Gulf Oil Spill Conference. Mobile, Alabama, November 19, 2010
- Occurrence of oil and gas in the Gulf of Mexico. Keynote Speaker, NOAA Lessons from the Deep: Exploring the Gulf of Mexico's Deep-Sea Ecosystems. October 11, 2010
- Oil and gas in the Gulf of Mexico - A primer. Gulf of Mexico Alliance Governors' Action Plan II (All Hands) Meeting. Biloxi, Mississippi, August 3, 2010
- Designing effective construction sediment and erosion plans. Weeks Bay Reserve Nonpoint Source Pollution and Stormwater Workshop. Fairhope, Alabama, July 19, 2006
- The geology of erosion. Soils, Stormwater, and Watershed Protection: Tools for Managing Erosion Workshop. Mobile, Alabama, December 7, 2006
- Welcome to the Ice Age - Geological evidence for climate change over time. 1<sup>st</sup> Southeastern Coastal and Atmospheric Processes Symposium. Mobile, Alabama, March 31, 2007
- Geological constraints on stormwater runoff in the Mobile Bay area. NOAA Community Leader Stormwater Training Workshop for Coastal Alabama. Mobile, Alabama, December 15, 2005
- Nitrate fate and transport in groundwater, Weeks Bay, Alabama. Weeks Bay Reserve Research Symposium: 20-year Designation Anniversary: History of research within the Reserve boundary. Fairhope, Alabama, April 22, 2005
- Groundwater monitoring at RCRA Subtitle D landfills. Solid Waste Association of North America Mississippi Chapter Symposium. Biloxi, Mississippi, April 8, 1993
- Groundwater contamination assessment. Mississippi Environment 1990. Jackson, Mississippi, March 22, 1990

## **SERVICE ACTIVITIES**

### *Community/Professional Activities*

- *Judge, Conrad Foundation Spirit of Innovation Challenge, 2016-present*
- *Mentor, John Mann Mentors in Applied Hydrogeology Program, 68<sup>th</sup> Annual Meeting of the Geological Society of America Southeastern Section. Charleston, South Carolina, 2019*
- *Judge, Edward K. Aldag, Jr. Business Plan Competition, Alabama Entrepreneurship Institute, University of Alabama, 2018*
- *Member, Advisory Board, University of Alabama Department of Geological Sciences, 2017-2019*
- *Judge, Hydrology Section, Outstanding Student Paper Awards, American Geophysical Union Fall Meeting, 2017*
- *Judge, Australian Conrad Spirit of Innovation Challenge, 2017-18*



- *Member, Board of Directors, Mobile (Alabama) Symphony Orchestra, 2014-16*
- *Member, Advisory Board, Three Mile Creek Restoration Plan, 2013-14*
- *Member, Steering Committee, Gulf Coast Technology Council, 2012*
- *Member, Advisory Board, Weeks Bay Foundation Habitat Restoration & Management, 2010-11*
- *Advisor, Governor's Coastal Recovery Commission Higher Education Subcommittee, 2010*
- *Science Advisor, NASA Develop Program, 2009-11*
- *Member, Southwest Alabama Geological Society, 2009-11 (President, 2009-11)*
- *Instructor, Twenty-first Century Community Learning School Summer Science Camp, 2007*
- *Instructor, World Wildlife Fund Allianz Southeast Climate Camp, 2008*
- *Geology Belt Loop Instructor, Cub Scouts, 2007-15*
- *Member, Board of Directors, Smart Coast, 2007-11 (Secretary, 2009-11)*
- *Director, Mobile Regional Science and Engineering Fair, 2005-14*
- *Member, Science Textbook Committee, Mobile County Public School System, 2005-06*

*Academic Service (University of South Alabama)*

- *Council of Academic Deans, 2015-16*
- *University Academic Success and Retention Committee, 2015-16*
- *Global Engagement Committee - Research Subcommittee Chair, 2014-15*
- *University Committee on Undergraduate Research, 2014-15*
- *Curriculum Development Committee, School of Continuing Education & Special Programs Chair, 2012-13*
- *Grant Development/Research Committee, School of Continuing Education & Special Programs Chair, 2012-13*
- *Strategic Planning Committee, School of Continuing Education & Special Programs Chair, 2012-13*
- *University of South Alabama National Alumni Association Board of Directors, 2011-16*
- *Faculty Advisor, Society of American Military Engineers Student Chapter, 2011-12*
- *University Sustainability Committee, 2011-12*
- *University Environmental and Safety Committee, 2010-13*
- *Environmental Toxicology Graduate Program Advisory Board, 2010-12*
- *Southern Association of Colleges and Schools Commission on Colleges (SACSCOC) Reaccreditation Leadership Team, 2010-11*
- *Commencement Speaker Advisory Committee, 2010-12*
- *University Budget Council, 2010-12*
- *Council on International Education and Scholarship Chair, 2013*
- *University Athletics Council, 2010-11*
- *University Committee on Electronic Learning, 2010-11*
- *Advisory Committee on Diversity, 2009-12*
- *Academic Affairs Policy Committee, 2009-12 (Chair, 2010-11)*
- *University Long-range Planning Committee, 2009-12*
- *Faculty Advisor, Student Sustainability Council, 2008-12*
- *Conflict of Commitment and Financial Interest Committee, 2008-12 (Chair, 2012)*
- *Faculty Awards Committee, College of Arts and Sciences, 2008-10*
- *Field Trip Safety Committee, Department of Earth Sciences Chair, 2006-10*



- *Geology Program Assessment Committee Chair, 2007-12*
- *Scholarship Committee, College of Arts and Sciences, 2005-06*
- *Search Committees:*
  - *Associate Dean, College of Education Chair, 2013*
  - *Instructor, English as a Second Language Chair, 2013*
  - *Director, International Education Programs Chair, 2013*
  - *Associate Dean, College of Art and Sciences, 2011*
  - *Assistant Dean, College of Art and Sciences, 2011*
  - *Dean, School of Continuing Education, 2010*
  - *Dean, College of Arts and Sciences, 2009*
  - *Chair, Department of Earth Sciences, 2006*

## **MEDIA APPEARANCES**

### *Television*

- *“East Meets West, a report on Huawei Corporation” by Madeleine Hackett, WTVY News, July 28, 2015 (<http://www.wtv.com/home/headlines/East-Meets-West-Pt-2-319091641.html>)*
- *“International agreement between the University of South Alabama and the International University of Business, Agriculture, and Technology (Bangladesh)” ATN Bangla, December 18, 2013 (<https://www.facebook.com/video.php?v=10153833614975001&l=8361544652552957113>)*
- *“Reality Check: Cancer Cluster Study” Fox 10 News, November 11, 2013 (<http://www.local15tv.com/news/features/reality-check/stories/reality-check-cancer-cluster-study-52.shtml>)*
- *Live interview on the Deepwater Horizon blowout. WKRG News 5, April 30, 2010*

### *Print*

- *“SoZo encourages 'Innovative Disruptions' at leadership meeting” by Ebony Davis, The Dothan Eagle, September 9, 2015 ([http://www.dothaneagle.com/news/business/sozo-encourages-innovative-disruptions-at-leadership-meeting/article\\_325893e0-576d-11e5-b1bc-8bd9da36e60f.html](http://www.dothaneagle.com/news/business/sozo-encourages-innovative-disruptions-at-leadership-meeting/article_325893e0-576d-11e5-b1bc-8bd9da36e60f.html))*
- *“South Alabama expanding offerings at Gulf Shores campus” by John Mullen, Gulf Coast News Today, July 24, 2015([http://www.gulfcoastnewstoday.com/area\\_news/article\\_5efc9cf0-317c-11e5-90a2-1b0d06b40ca5.html](http://www.gulfcoastnewstoday.com/area_news/article_5efc9cf0-317c-11e5-90a2-1b0d06b40ca5.html))*
- *“International University of Business, Agriculture, and Technology in Bangladesh and the University of South Alabama in educational exchange agreements” by Zakir Hossain, Barta 24, December 18, 2013 (<http://barta24.com.bd/details.php?id=5964>)*
- *“Water worries building in Baldwin County” by Ben Raines, Mobile Press-Register, October 23, 2011 ([http://blog.al.com/live/2011/10/water\\_worries\\_building\\_in\\_bald.html](http://blog.al.com/live/2011/10/water_worries_building_in_bald.html))*
- *“USA scientists want to set up real-time air monitoring system for Mobile and Baldwin Counties” by Russ Henderson, Mobile Press-Register, July 3, 2010*
- *“Weeks Bay harmful blooms” by Ryan Dezember, Mobile Press-Register, February 17, 2008*

### *Radio*

- *Live interview on the Birmingham, Alabama earthquake. FM Talk 106.5 Morning Show,*



*September 14, 2011*

- *Live interview on the Great Japanese Earthquake. FM Talk 106.5 Morning Show, March 11, 2011*
- *Live interview on the Gulf Shores, Alabama earthquake. FM Talk 106.5 Morning Show, February 21, 2011*
- *Live interview on methane in the water column during the BP Deepwater Horizon oil spill. FM Talk 106.5 Morning Show, July 20, 2010*
- *Interview on the Deepwater Horizon oil spill; its potential solution and impacts. Mobile Matters Radio Program, WHIL, June 26, 2010*

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