Curriculum Vitae

Xing (Peter) Fang
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Arthur H. Feagin Chair Professor
Department of Civil and Environmental Engineering
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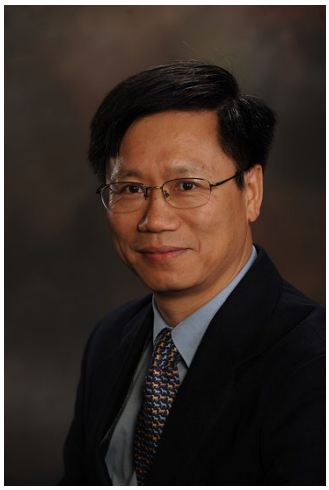

Area of Expertise

- Water quality modeling and monitoring in lakes, reservoirs, and streams
- Hydrological analysis and modeling (Water Resources Engineering)
- Ecological modeling (Fish habitat modeling in aquatic systems)
- Hydraulic analysis and modeling (Computational Fluid Dynamics)
- Lake and reservoir hydrodynamics (Global warming impacts on water quality)

Education

- Ph.D. in Civil Engineering, 1994, University of Minnesota, Minneapolis, MN.
- M.S. in Civil Engineering, 1991, University of Minnesota, Minneapolis, MN.
- B. S. in Hydraulic/Civil Engineering, 1987, Tsinghua University, Beijing, P. R. China.

Positions

- October 2014 – Present
  Arthur H. Feagin Chair Professor of Civil Engineering, Department of Civil Engineering, Auburn University, Auburn, Alabama, 36849.
- August 2013 – September 2014
  Professor, Department of Civil Engineering, Auburn University, Auburn, AL 36849.
- January 2014 – April 2015
  Guest Research Scientist, Beijing Cooperative Innovation Research Center on Architectural Energy Saving and Emission Reduction, Beijing University of Civil Engineering and Architecture, Beijing, China, 100044
- July 2013 – July 2016
  Guest Professor, College of Energy and Environmental Engineering, Key Laboratory of Urban Stormwater System and Water Environment, Beijing University of Civil Engineering and Architecture, Beijing, P. R. China.
- August 2007 – July 2016
  Associate Professor, Department of Civil Engineering, Auburn University, AL 36849
- September 2006 – August 2007
  Professor, Department of Civil Engineering, Lamar University (as Adjunct Professor at Lamar University after August 2007 - August 2010)
- September 2000 – August 2006

Associate Professor, Department of Civil Engineering, Lamar University
- Summer 2003 – Interim Department Chair of Civil Engineering, Lamar University
- September 1995 – August 2000
  Assistant Professor, Department of Civil Engineering, Lamar University
- May 1996 – August 1996 and May 1997, August 1997, May and August 1998
  Visiting Assistant Professor, St. Anthony Falls Laboratory, University of Minnesota
- September 1994 – August 1995
  Postdoctoral Research Associate, St. Anthony Falls Hydraulic Laboratory, University of Minnesota
- December 1991 – August 1994
  Research/Teaching Assistant, St. Anthony Falls Hydraulic Laboratory/Department of Civil Engineering, University of Minnesota
- August 1987 – September 1989
  Assistant Research Engineer, Department of Hydraulic Engineering, Tsinghua University, Beijing, P. R. China.

Research Experience

- Evaluation of ALDOT erosion control practices using rainfall simulation on various soil types and slope gradients
- Evaluation of ALDOT ditch check practices using large-scale testing techniques
- Evaluation of inlet protection practices using large-scale testing techniques
- Assessing the performance of sediment basins at construction sites
- Evaluation of scour potential of cohesive soils
- Physical model investigation on the mixing of oil-dispersed substances in Mobile Bay ship channel
- Identifying cisco (cold-water) refuge lakes under the future climate scenario
- Three-dimensional flow simulation using FLOW-3D
- Estimation of volumetric and rate-based runoff coefficient from observed rainfall and runoff data and development of modified rational unit hydrograph
- Three-dimensional thermal discharge modeling using FEDC (thermal discharge modeling in the reiver-reservoir system, tidal river, and estuary)
- Unit hydrograph development by using linear programming and Gamma function fitting.
- Regional rainfall hyetograph analysis in Texas
- Estimation of timing parameters of direct runoff hydrographs and unit hydrographs.
- Study on sediment transport in gravel-bed rivers, Texas
- Synthesis on storm drainage design and Texas storm statistics
- Travel time estimate in hydrological design for flat terrains
- Developed an integral jet model for plunging flow from an open channel into a shallow lake and reservoir
- Regional characteristics of unit hydrographs and rainfall hyetograph in Texas
- Environmental effects of dredging (predicting the quality of effluent discharged from confined dredged material disposal areas)
- Studied impacts of water withdrawal on water temperature dynamics in Toledo Bend Reservoir, Texas/Louisiana
- Studied the relationship between air temperatures and water temperatures in streams

- Developed the year-round lake water temperature, dissolved oxygen, and ice/snow cover simulation models
- Investigated effects of global climate warming on water quality and fish resources in lakes over the contiguous United States
- Examined the dynamic of heat exchange between sediment and water in lakes and temperature variability in the lake sediments
- Developed the dissolved oxygen model for regional lakes, including model formulation, calibration, validation, and sensitivity analysis to model coefficients in eight Minnesota lakes (both eutrophic and oligotrophic lakes)
- Improved the one-dimensional, deterministic, unsteady lake eutrophication and water quality management model – MINLAKE96, MINLAKE2012, and MINLAKE2020
- Analyzed the interaction between surface gas transfer, epilimnetic diffusion, and photosynthetic productivity in the dissolved oxygen model for lakes
- Developed a relationship between surface wind mixing and vertical diffusion to improve surface mixed layer modeling for stratified lakes

Teaching Experience (15 years of teaching experience at Auburn University (AU), Alabama, and 12 years of teaching experience at Lamar University (LU), Texas)

- Advanced Flow and Water Quality Models (graduate, AU)
- Open Channel Hydraulics (Undergraduate, graduate, AU)
- Hydrological Analysis and Modeling (Undergraduate, graduate, AU)
- Stormwater Management and Modeling (Undergraduate, graduate, AU)
- Hydrologic Modeling (graduate, AU)
- Flow and Water Quality Models (graduate, AU)
- Surface Water Quality Modeling (graduate, AU & LU)
- Hydrology of the Environment (Engineering Hydrology) (undergraduate)
- Hydraulics & Hydraulic Lab (undergraduate, AU & LU)
- Fluid Mechanics (graduate, LU)
- Hydraulic Engineering (Water Resources Engineering) (undergraduate, LU)
- Stormwater Design and Management (graduate, LU)
- Hydraulic Engineering Systems (graduate, LU)
- Drainage System Design (graduate, LU)
- Hydrological Engineering Projects (graduate, LU)
- Coastal and Hydrodynamic Processes (graduate, LU)
- Models of Hydrologic Systems (graduate, LU)
- GIS in Water Resources (graduate, LU)
- Computer-Aided Software Engineering (Arc/Info, ArcView, and ArcGIS) (graduate, LU)
- Computer-Aided Design (AutoCAD, MicroStation) (undergraduate and graduate, LU)
- Lake and Reservoir Hydrodynamics (graduate, LU)
- Surveying (undergraduate, LU)
- Statics (undergraduate, LU)
- FE Review (undergraduate, AU & LU)

Graduate Students

Ph.D. in Civil Engineering (**Auburn University**)
Graduated – 11

1. Nirajan Dhakal (2012, ***Associate Professor*** at Spelman College), 2. Suresh Sharma (co-chair, 2012, ***Associate Professor*** at Youngstown State University, Ohio), 3. Golbahar Mirhosseini (co-chair, 2013), 4. Manoj KC (2014), 5. Janesh Devkota (2014), 6. Gang Chen (2016, ***Associate Professor at Hohai University***, China), 7. Liping Jiang (2016, ***Associate Professor*** at Montana Tech), 8. Xiaoning Li (2019), 9. Zuhier Alakayleh (2019, ***Assistant Professor*** at Mutah University, Jordan), 10. Matthew D. Ricks (Assistant Professor at Georgia Southern University), 11. Bushra Tasnim (December, 2023)

Master of Science (M.S.) or Master of Civil Engineering (M.C.E.) (**Auburn University**)
Graduated – 19

1. Jasmeet Singh Lamba (co-chair, 2009), 2. Nirajan Dhakal (2010), 3. Sushban Shrestha (2011), 4. Liping Jiang (2012), 5. Manoj K. C. (2012), 6. Janesh Devkota (2012), 7. Christopher Logan (2012), 7. Thomas B. Weems (2013), 9. Kyle Lusk (2017), 10. Sagar Kumar Tamang (2017), 11. Sudan Pokharel (2017), 12. Jalil Ahmad Jamily (2018), 13. Xueqian Li (2019), 14. Jie Pu (2019), 15. Bushra Tasnim (2020), 16. Mingzhao Zhou (2020), 17. Nikit Bhattarai (August, 2022), 18. Esthefany Mejia Reyes (December 2023), 19. Susan Poudel (December, 2023).

Currently supervising – 2

Yuting Ji and Dingyu Wang (Co-chair)

Postdoc/Visiting Scholars – 5 (**Auburn University**)

Drs. Gang Chen (Hohai University), Liping Jiang (Montana Tech), Zhongshun Li (Tsinghua University), Prof. Junqi Li (BUCEA), and Prof. Xiaoli Du (BUCEA)

Doctoral of Engineering (D.E.) (**Lamar University**): **Graduated – 5**

Dehui Su, August 2003, "Development and applications of an integration one- and two-dimensional, numerical urban rainfall-flood simulation model."

Shoudong Jiang, May 2007, "Numerical simulations of shallow flow characteristics through curb-opening inlets at various longitudinal and cross slopes."

Pratistha Pradhan, December 2007, "Estimation of rainfall loss and unit hydrograph parameters using non-linear programming."

Jinwei Qiu, August 2008, "Gravel transport estimation and flow simulation over low water stream crossings."

Alam Shoeb, May 2010, "Identification of potential coldwater refuge lakes important for sustaining Cisco habitat under climate warming scenarios in Minnesota."

Master of Engineering Science (with thesis, Lamar University): **Graduated – 8**

Alam Shoeb, May 1999, "Simulation and validation of fish habitat constraints in small U.S. lakes under different climate scenarios."

Nagrani Nitin K., December 2002. "Design of confined placement areas in Sabine-Neches waterway, Texas, for the 50-year dredged material management plan".

Agnihotri Nilesh, August 2003, "Unit hydrograph development for watersheds in Fort Worth."

Gharty Chhetri OM, December 2003. "Synthesis of storm drainage design - current methodologies."

Khanal Prakash; May 2004, "Development of regional synthetic unit hydrograph for Texas watersheds."

Malla Ranjit, December 2004, "Estimating time parameters of direct runoff and unit hydrographs for Texas watersheds."

Gajendra Shrestha, May 2005, "Gravel transport over low-water crossings in Johnson Fork River, Texas."

Rajendra Shrestha, December 2006, "Water temperature simulation in Amistad Reservoir."

Master of Engineering (non-thesis, Lamar University): Supervised numerous graduate projects and served as committee members for **more than 130 students** who completed degrees in Master of Engineering, Master of Environmental Studies, and Master of Environmental Engineering at Lamar University, Beaumont, Texas, from 1995 to 2007.

Professional Activities

- Guest Editor, *Water (Online Open Access)* for the special issue of " Water Quality Monitoring and Modeling II" (2022–2023)
- Guest Editor, *Water (Online Open Access)* for the special issue of " Water Quality Monitoring and Modeling" (2021–2022)
- Editorial Board Member, *Water (Online Open Access)*, (2017–Present)
- Guest Editor, *Water (Online Open Access)* for the special issue of " Water Quality Monitoring and Modeling in Lakes" (2016–2018)
- Guest Editor, *Water (Online Open Access)* for the special issue of "Climate Change Effects on Freshwater Organisms and Ecosystems" (2015–2016)
- Associate Editor, the Hydrological Sciences Journal (HSJ) under the International Association of Hydrological Sciences (IAHS/AISH) (2015–2019)
- Associate Editor and Editorial Board Member for the British Journal of Environment and Climate Change (BJECC) (2012–2018), Now called the International Journal of Environment and Climate Change (IJECC)
- Member of ASCE EWRI TMDL Analysis and Modeling Task Committee (August 2013 – present)
- Involved with meetings for the ASCE EWRI Hydroclimate Technical Committee (2012–2014)
- Involved with meetings for the ASCE EWRI Surface Hydrology Technical Committee (2012–2014)
- Associate Editor for Water Quality Modeling, Journal of the American Water Resources Association (JAWRA), (2012–2013)
- Associate Editor for Surface Water Hydrology, Journal of the American Water Resources Association (JAWRA), (2007–2012)
- Floodplain Management Committee of the American Water Resources Association (2003–2016)
- ASCE Task Committee "Urbanization Effects for Groundwater," Vice Chair, (2008–2010).
- Chinese American Water Resources Association (CAWRA, http://cawra.us/default.htm), Board of Directors, (2007–2011).
- Technical Assistant Panel member of TxDOT Research Management Committee 3 - "ROW, Hydraulics, Environmental Conservation" (1996–2007).

- Served as *proposal reviewer and review panel member* for the **National Science Foundation** (**1997, 2012 CAREER** Program in the Division of Bioengineering & Environmental Systems and the Division of Hydrologic Sciences, and **2003 hydrology program**).
- Served as a *proposal reviewer* for the US Geological Survey and National Institutes for Water Resources, National Competitive Grants Program (reviewed ten proposers for 1998 and 1999 runs).
- Served as a *proposal reviewer* for New York Sea Grant program (2008).
- Served as paper *reviewers* for many journals: *British Journal of Environment and Climate Change, Journal of Ecological Engineering, ASCE Journal of Hydrological Engineering, ASCE, Journal of Hydraulic Engineering, Journal of Civil Engineering and Environmental Systems, Journal of Irrigation and Drainage Engineering, ASCE Journal of Environmental Engineering, AGU Water Resources Research, Climatic Change, Limnology and Oceanography, IAHR Journal of River Basin Management, Transaction of the ASABE, IAHR Journal of Fluid Engineering, Journal of Theoretical Biology, Journal of Applied Remote Sensing, Separation and Purification, Journal of the American Water Resources Association (JAWRA), Lakes & Reservoirs: Research and Management, Environmental Monitoring and Assessment, Ocean Engineering, and Frontiers of Environmental Science and Engineering, Urban Climate*.
- Attended the Lower Neches Valley Authority (LNVA) Steering Committee meetings and provided both oral and written recommendations for its Clean River Program. Reviewed the 1996 Regional Assessment of Water Quality Reports for LNVA (1996).
- Served as *secretary* for the Chinese Association of Southeast Texas (Beaumont, Port Author, and Orange, Texas) for two years (1995–1997).

Members of Professional Societies or Associations

(1) International Association of Hydrological Sciences (IAHS/AISH), member, (2013 – present, member), http://www.iahs.info/.
(2) Environmental & Water Resources Institute (EWRI), the American Society of Civil Engineers (ASCE) (1994–present, Fellow member).
(3) Chi Epsilon Faculty Member (National Civil Engineering Honor Society) (2000–present, member).
(4) International Association for Hydraulic Engineering and Research (IAHR) (1998–2013, member).
(5) American Water Resources Association (AWRA) (1996–present, member).
(6) American Geophysical Union (AGU) (1996–present, member).
(7) American Society of Civil Engineers (ASCE) (1994–present, Fellow member).
(8) American Society of Engineering Education (ASEE) (1995–1997, member).
(9) Minnesota Ground Water Association (1994–1996, member).
(10) Sigma Xi (The Scientific Research Society) (1996–1998, member).
(11) Environmental Engineering Society, University of Minnesota (1993–1994, member).

Honors

- 2019 Auburn University SGA's (Student Government Association) 2018–2019 Faculty Member of the Year–Outstanding Faculty Member in the Graduate School (April 8).

- **Arthur H. Feagin Chair Professor of Civil Engineering** at Auburn University on October 1, 2014
- **F.ASCE** – Fellow of ASCE (American Society of Civil Engineers) elected in February 2014
- **F.EWRI** – Fellow of EWRI (ASCE Environmental & Water Resources Institute) elected in May 2014
- **Diplomate, Water Resources Engineer (D.WRE)**, a credential from the American Academy of Water Resources Engineers (AAWRE), March 2007.
- **"James M. Robbins Excellent-in-Teaching Award,"** 2005, Southwest District of Chi Epsilon – National Civil Engineering Honor Society.
- **"John B. Hawley Award"** in Recognition of Technical Paper of Outstanding Merit**,** 2004, American Society of Civil Engineers, Texas Section.
- "**Release Time Research Award**" April 2003, Lamar University, Beaumont, TX
- "**University Scholar Award**" April 2002, Lamar University, Beaumont, TX
- **"Andrew Green College of Engineering Performance Award**" February 2000, College of Engineering, Lamar University, Beaumont, TX
- "**Who's Who in Science and Engineering**" 5th Edition, 2000/2001, The Marquis Who's Who Publication Board.
- "**University Merit Award**" 1998, Lamar University, Beaumont, TX.
- "**Teaching Bonus Award**" 1998, Lamar University, Beaumont, TX.
- "**Scholarship For Studying In Foreign Countries**" (1990–1991), sponsored by the Ministry of Education of China, Beijing, P. R. China.
- "**Fellowship of Fluid Mechanics**" (1985), sponsored by Professor Allen Chwang of the University of Iowa, Iowa City, Iowa.
- "**Excellent Undergraduate Student**" (1982–1987, five times); "Best Graduating Student" (1987), Tsinghua University, P. R. China.

University Services at Lamar University

- Faculty Advisor for ASCE student chapter (1998–2001)
- University Academic Computing Committee (1998–2003)
- University Graduate Council (2002–2004)
- University Curriculum Council (2003–2005)
- University Research Council (2001–2003)
- University International Student Affairs Committee (1998–2000)
- College Faculty and Student Relations Committee (1995–1998)
- College Graduate Engineering Core Courses Policy Committee
- College of Engineering Promotion and Tenure Committees
- University Search Committee for the Dean of Engineering
- University and College Faculty Merit Award committees

University Services at Auburn University

- University Academic Standards Committee, 2011–2017 (chair in 2013–2015)
- Departmental Graduate Program Committee (2008–, chair starting from June 2014).
- Departmental Program Assessment Committee (2009–2013).

ABET Accreditation Experience

- Prepared course materials and parts of self-study report for and participated in ABET accreditation visits in 2000 and 2006.
- Attended ASCE and ABET online training workshop for CE program evaluators (April 14 and 21, 2006)
- Attended ABET Faculty Workshop on Assessing Program Outcomes on February 24, 2007, in Baltimore, Maryland.

Research Grants and Proposals

At Lamar University (1995–2007)

1. **Received** a *Lamar Research Enhancement grant* (09/01/98 to 08/31/99) to conduct research in "Variation of reservoir water temperatures under inflows."
2. **Received** a *Lamar Research Enhancement grant* (09/01/96 to 08/31/97) to conduct research in "Water temperature dynamics in Toledo Bend Reservoir, TX."
3. **Received** a *US EPA research subcontract* (10/01/96 to 09/30/98) for a one-year study in water quality and fish habitat projections in lakes from the University of Minnesota.
4. **Received** funding from the Texas Higher Education Coordinating Board for a two-year study about "Internet- and component-based modeling system for lake water quality and fish habitat projections" (01/01/2000-12/31/2001).
5. **Received** funding from the Texas Water Development Board for a one-year study on "Nutrient transport and water quality monitoring in Sabine Lake bayous" (09/01/1999-010/31/2000).
6. **Received** funding from the Texas Department of Transportation with Texas Tech University (PI), University of Houston, and USGS for a four-year study, "Regional Characteristics of Storm Hyetographs" (09/01/2000-8/31/2004).
7. **Received** funding from the Texas Department of Transportation with Texas Tech University (PI), University of Houston, and USGS for a five-year study, "Regional Characteristics of Unit Hydrographs" (09/01/2000-8/31/2005).
8. **Received** funding from the U.S. Army Corps of Engineers for "Assistance in the field data collection effort for the Sabine-Neches waterway project" (06/01/2001-09/30/2002).
9. **Received** funding from the Texas Higher Education Coordinating Board for a supplemental High School Teacher Grant for the ATP project "Internet- and component-based modeling system for lake water quality and fish habitat projections" (05/26/2001-8/31/2001, and 05/27/2002-8/31/2002).
10. **Received** funding from the U.S. Army Corps of Engineers for "The Sabine-Neches Waterways Feasibility Study - Pipeline/Facilities Relocation and Removals." (09/01 /2001–8/31/2002) with Dr. Victor Zaloom (PI), and Dr. Mien Jao
11. **Received** funding from Lamar University Research and Graduate Studies as a part of the 2002 **University Scholar Award** for a one-year study, "Development of a 2-dimensional numerical model for flood risk simulation with application to the City of Beaumont."
12. **Received** funding from the Texas Department of Transportation with Texas Tech University (PI) for a one-year study (9/1/2002 – 8/31/2003) about "Synthesis of storm drain design; current methodologies and need for alternatives to the rational method."
13. **Received** funding from the U.S. Army Corps of Engineers for "Design of Confined Placement Areas for the 50-Year Dredged Material Management Plan". (09/01/2002-6/30/2003) with Dr. Victor Zaloom (PI), Dr. Hsing-wei Chu, and Dr. Mien Jao.

14. **Received** funding from the U.S. Army Corps of Engineers for "Field Investigation of Effluent Quality of Placement Areas along Sabine-Neches Waterway." (01/01/2003-8/31/2003) with Dr. Victor Zaloom (PI), Dr. Hsing-wei Chu, Dr. Jerry Lin, and Dr. Mien Jao.
15. **Received** funding from the Pacific International Engineering for "Jefferson County Highway 87 Shore Protection Clay Sediment Characterization" (2/1/2003-8/31/2003) with Dr. Victor Zaloom (PI), Dr. Hsing-wei Chu, Dr. Jerry Lin, and Dr. Mien Jao.
16. **Received** funding from the Texas Department of Transportation with Texas Tech University, University of Houston, and USGS for a two-year study (Lamar is the leading institution, and I am the P.I.) about "Estimating Time Parameters of Direct Runoff and Unit Hydrographs for Texas Watersheds (Project No. 0-4696)" (9/1/2003-8/31/2005).
17. **Received** funding from the Texas Department of Transportation with Texas Tech University (PI), University of Houston, and USGS for a two-year study about Guidance for Design in Areas of Extreme Bed-Load Mobility (Project No. 0-4695)" (9/1/2003-8/31/2007).
18. **Received** a *Lamar Research Enhancement grant* (09/01/04 to 08/31/05) to conduct research in "Simulation of spatially varied flows and performance of inlets in superelevation transitions" in cooperation with Dr. Ken Aung at the Mechanical Engineering Department.
19. **Received** funding from the US Department of Agriculture through the Texas State University System for a study of "Water Quality Simulations from Two- or Three-Dimensional Water Quality Models" in cooperation with Texas State University–San Marcos (7/1/2004-6/30/2006).
20. **Received** funding from the Texas Department of Transportation with the University of Houston, the University of Texas at Arlington for a two-year study (Project 4862) "Correlation of Texas Cone Penetrometer Test Values and Shear Strength of Texas Soils," (9/1/2003-8/31/2005).
21. **Received** funding from the Texas Department of Transportation with Texas Tech University (PI), University of Houston, and USGS for a two-year study (Project 5-4194) "Implementation of Storm Event Statistical Data for Project Planning Purposes," (5/1/2005-8/31/2006).

At Auburn University (2007–present)

22. **Received** funding from the Texas Department of Transportation with the University of Houston (PI), USGS, and Texas Tech University for a three-year study (Project 0-6070), "Development of Guidance for Runoff Coefficient Selection and Examination of Temporal and Rainfall Depth Sensitivity," (9/1/2007-8/31/2010).
23. **Received** funding from the Minnesota Department of Natural Resources through the University of Minnesota (Heinz Stefan) "Identification of potential coldwater refuge lakes important for sustaining cisco habitat under climate warming scenarios in Minnesota" (4/12/2008– 10/31/2010).
24. **Received** funding from the Texas Department of Transportation with the University of Houston (PI, Currently Texas Tech University), USGS, and Texas A&M University for a three-year study (Project 0-63820) "Establish effective lower bounds of watershed slope for traditional hydrologic methods," (9/1/2008-8/31/2011).
25. **Received** funding from Auburn University Competitive Research Grant with Dr. James A. Stoeckel (Co-PI, Department of Fisheries and Aquacultures), "Three-dimensional flow

simulations for determining fertilization efficiency of unionid mussels in river systems," (5/1/2008 – 4/31/2009).

26. **Received** funding from Auburn University Water Resources Center with Drs. Hanqin Tian (PI, Forestry and Wildlife), Latif Kalin, David Laband, Prabhakar Clement, Jack W. Feminella, Kathryn Flynn, Mark Dougherty, Chris Anderson, and Shufen Pan "Impacts of human activities and climate change on water resources and ecosystem health in the Wolf Bay Basin: A Coastal Diagnostic and Forecast System (CDFS) for integrated assessment." (6/1/2008 – 5/30/2011)
27. **Received** funding from Alabama Power Company, "Three-dimensional flow and thermal discharge modeling" (8/10/2010 – 12/31/2010).
28. **Received** funding from Alabama Department of Transportation, "Assessing performance characteristics of sediment basins constructed in Franklin County" (8/10/2010 – 8/31/2012) with Dr. Zech and Dr. Clement.
29. **Received** funding from Alabama Power Company, "Three-dimensional flow and thermal discharge modeling for the Greene County Steam Plant" (3/1/2011 – 12/31/2011).
30. **Received** funding from Alabama's Rapid Response Program for BP-Gulf Research Initiative, "Physical model investigation on the mixing of oil-dispersed substances in Mobile Bay ship channel.", (1/1/2011 – 12/31/2011) with Dr. Vasconcelos (PI).
31. **Received** funding from Alabama Department of Transportation, "Evaluation of scour potential of cohesive soils – Phase 2", (1/27/2011 – 1/31/2013), with Dr. Anderson (PI)
32. **Received** funding from Alabama Power Company, "Three-dimensional flow and thermal discharge modeling: Phase II – Model Improvement" (7/1/2011 – 12/31/2013).
33. **Received** funding from Alabama Department of Transportation, "Evaluation of ALDOT ditch check practices using large-scale testing techniques," (5/1/2012 – 10/31/2013), with Dr. Zech (PI)
34. **Received** funding from Auburn Highway Research Center (HRC), "Testing and Improving Design Configurations of Sediment Basins" (1/1/2013 to 8/31/2014) with Dr. Zech (Co-PI)
35. **Received** funding from Alabama Department of Transportation, "Evaluation of Inlet Protection Practices using Large-Scale Testing Techniques," (5/1/2013 – 4/31/2015), with Dr. Zech (PI)
36. **Received** funding from Alabama Department of Transportation, "Evaluation of high-rate settling technology for sediment control in roadway construction sites," (5/2/2014 – 6/1/2016), with Dr. Vasconcelos (PI) and Dr. Zech (Co-PI)
37. **Received** funding from Auburn Highway Research Center (HRC), "Design and Construction of Rainfall-induced Large-Scale 3:1 Erosion Control Plots at the Auburn University Erosion and Sediment Control Testing Facility (AU-ESCTF)", (1/1/2015 to 6/30/2016) with Dr. Zech (PI) and Dr. Donald (Co-PI)
38. **Participated** in a project funded by the National Natural Science Foundation of China, "Studying on-site infiltration-detention principles and methods to reduce inundation on urban roadway system" (1/1/2015-12/31/2018) with Prof. Junqi Li (PI) and Dr. Gongyong Wei, Beijing University of Civil Engineering and Architecture, P.R. China.
39. **Received** funding from Auburn Highway Research Center (HRC), "Evaluation of EFA testing results for ALDOT's bridge scour calculation." (1/1/2016 to 8/31/2017) with Dr. J Brian Anderson (Co-PI)

40. **Received** funding from Alabama Department of Transportation, "Analysis and potential solutions to sediment deposition in Dean Road Bridge watershed, Midland City, AL," (6/1/2016 – 12/31/2017), with Dr. Vasconcelos (PI) and J Brian Anderson (Co-PI)
41. **Received** funding from Alabama Power Company, "Three-Dimensional Flow and Thermal Discharge Modeling Under Different Operation and Climate Scenarios" (5/1/2016 – 12/31/2018).
42. **Received** funding from City of Orange Beach, Alabama, "Monitoring and Modeling Hydrodynamic and Water Quality Conditions in Cotton Bayou," Joel Hayworth (PI) Prabhakar Clement (Co-PI), (8/1/2016 – 9/15/2018).
43. **Received** funding from Ocean University of China (OUC)–Auburn University Joint Center of Aquaculture and Environmental Sciences, "Forecasting the Ecological Health of Coastal Waters in Alabama and China," Alan E. Wilson (PI), Xing Fang (Co-PI), Joel Hayworth (Co-PI), (1/1/2017 – 12/31/2017) with Dajinag Sun (Co-PI), Yangen Zhou, Kai Yu, and Hongwei Shan at OUC.
44. **Received** funding from Ocean University of China-Auburn University Joint Center of Aquaculture and Environmental Sciences, "Identifying potential bioaccumulation hotspots of heavy metals in dynamic estuarine systems in Alabama, USA and China," Matthew Waters (PI), Joel Hayworth, Xing Fang, Jinfen Pan, and Min Wang, (10/1/2018 – 9/30/2019).
45. **Received** funding from Alabama Department of Transportation, "Evaluation of ALDOT Erosion Control Practices using Rainfall Simulation" (5/1/2018 – 12/15/2020), with Wesley Zech (PI) and Wesley Donald.
46. **Participated** in a project funded by the National Natural Science Foundation of China, "Suitability of Extension Green Roof Construction Based on Climate Characteristics and Effectiveness Controlling of Runoff Quantity and Quality in Beijing" (1/1/2019-12/31/2022) with Dr. Yongwei Gong (PI), Prof. Junqi Li, Beijing University of Civil Engineering and Architecture, P.R. China.
47. **Received** funding from Presidential Awards for Interdisciplinary Research (PAIR), "A prototype framework of climate services for decision making," (7/1/2018–6/30/2020) with Di Tian (PI), Xing Fang, Sanjiv Kumar, Jasmeet Lamba, Bo Liu, Brenda Ortiz, Puneet Srivastava, and Sarah Zohdy.
48. **Received** funding from the NorthWestern Energy, "Studying effects of sub-zero temperatures on the volume of water and discharge in the Missouri River," with Drs. Liping Jiang (PI), Brian Kukay, Xiaobing Zhou, Chip Todd at Montana Technology University (10/1/2019–10/30/2022), and Xing Fang (PI at AU).
49. **Received** funding from the Iowa Department of Transportation, "Evaluation of Sediment Basin Performance using Large-Scale Testing Techniques," (5/1/2020 – 4/30/2022), with Michael A. Perez (PI), Wesley N. Donald, and Xing Fang.
50. **Received** funding from Alabama Department of Transportation, "Best practices for construction site stormwater treatment using flocculants," (5/16/2020 – 5/15/2022), with Michael A. Perez (PI), Wesley N. Donald, Xing Fang, and Joey Shaw.
51. **Received** funding from Alabama Department of Transportation, "Evaluation of ALDOT erosion control practices using rainfall simulation on various soil types and slope gradients," (5/16/2020 – 5/15/2022), with Michael A. Perez (PI), Wesley N. Donald, and Xing Fang.

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53. **Received** funding from Alabama Department of Transportation, "*Determining the Average Available Workdays for ALDOT Construction Projects*," by Xing Fang (PI) and Michael A. Perez, 5/16/2022–9/15/2023.
54. **Received** funding from Alabama Department of Transportation, "*Designing and Evaluating Infiltration Swales for Retaining and Infiltrating Roadway Stormwater Runoff*," by Michael A. Perez (PI), Xing Fang, and Wesley N. Donald.
55. **Received** funding from Auburn Highway Research Center, "*Optimization of Sediment Basin Configurations*", 1/1/2022–9/30/2023, Michael Perez (PI) and Xing Fang.
56. **Received** funding from Auburn Highway Research Center, "*An Excel-based Tool for Improved Hydrological Assessments in Alabama,*" 1/1/2022–12/31/2023, with Jose Vasconcelos (PI) and Xing Fang.
57. **Received** funding from NCHRP, "*Resilient Design with Distributed Rainfall-Runoff Modeling*." NCHRP Synthesis Topic 53-11, 11/1/2021 to 9/30/2022, Jose Vasconcelos (PI), and Xing Fang.
58. **Received** funding from Mississippi-Alabama Sea Grant Consortium, "*Development of an Economic Benefit-Cost Impact GIS Tool to Evaluate the Ability of Natural and Nature-Based Features (NNBFs) to Preserve Coastal Communities and Businesses*," by Jeffrey LaMondia (PI), Xing Fang and Benjamin Bowers, 2/1/2022–1/31/2024.
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Book Chapters

1. Fang, Xing, Peter C. Jacobson, Liping Jiang, William R. Herb, Heinz G. Stefan, Donald L. Pereira, and Lucinda B. Johnson, 2021. "Understanding Effects of Climate Change and Eutrophication on Fish Habitat in Glacial Lakes of the Midwest States and Management Strategies," in Handbook of Climate Change Mitigation and Adaptation, Third edition, Editors-in-Chief: Maximilian Lackner, Baharak Sajjadi, and Wei-Yin Chen, DOI: https://doi.org/10.1007/978-1-4614-6431-0_16-3, Springer, New York, NY.

2. Vamsi K. Sridharan, Steven C. McCutcheon, Nigel W.T. Quinn, Harry X. Zhang, Saurav Kumar, Ebrahim Ahmadisharaf, Xing Fang, and Andrew Parker, 2020. "**Chapter 11** Model Selection and Application for TMDL Development". in "Total Maximum Daily Load Analysis and Modeling" edited by Harry X. Zhang, Nigel W.T. Quinn, Deva K. Borah, and G. Padmanabhan, ASCE TMDL Analysis and Modeling Task Committee under Watershed Management Technical Committee of Watershed Council. ASCE Manuals and Reports on Engineering Practice No. 150.

3. Fang, Xing, Heinz G. Stefan, Liping Jiang, Peter C. Jacobson, and Donald L. Pereira, 2015. "Projected Impacts of Climatic Changes on Cisco Oxythermal Habitat in Minnesota and Management Strategies," in "Handbook of Climate Change Mitigation and Adaptation, Second edition, Volume 1 (part II), pages 657-722" Editors-in-Chief Wei-Yin Chen, John M. Seiner, Toshio Suzuki, and Maximilian Lackner, DOI 10.1007/978-3-319-14409-2, Springer.

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Invited Papers (Entries) for Books and Journals

1. Jay H. Lehr (Chief Editor) and Jack Keeley, 2005 "***Water Encyclopedia***," John Wiley & Sons, Inc., New York. I contributed six entries (1000 to 4000 words for each) under ***Surface and Agricultural Water*** (Volume) in my specialized areas: (1) Culvert design, (2) Hydraulics of pressurized flow, (3) Open channel design, (4) Streamflow, (5) Water turbine, and (6) Storage and detention facilities.
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Invited Lectures and/or Research Seminars

1. Texas State University – San Marcos, Department of Biology and Aquatic Research Station, 1999. "*Simulation and validation of fish thermal DO habitat in north-central U.S. lakes under different climate scenarios.*"
2. The University of Houston, Department of Civil and Environmental Engineering, 2004. "*Flood Risk Simulation for Urban City*"
3. University of Minnesota, Department of Civil Engineering, 2004. "Lake and Reservoir Water Quality Modeling"
4. Korea National Institute of Environmental Research (Seoul, Korea), March 24, 2009. "*Practical Studies, Modeling Tools, and Research Development on TMDL in the USA*"
5. Korea National Institute of Environmental Research (Seoul, Korea), March 25, 2009. "*Effects of Global Climate Warming on Water Quality Characteristics and Fish Habitats in Lakes of the Contiguous USA*" for 2009 International Seminar on Climate Change and Water: Impacts and Response".
6. Northwest A&F University**,** College of Resources and Environmental Sciences, P.R. China. "*Effects of Global Climate Warming on Water Quality Characteristics and Fish Habitats in Lakes of the Contiguous USA,***"** Yangling, Shanxi, China, June 29, 2010.
7. Northwest A&F University**,** College of Water Resources and Architectural Engineering, P.R. China. "*Hydraulic and Hydrologic Analysis and Modeling*,**"** Yangling, Shanxi, China, June 28, 2010.
8. South China Institute of Environmental Sciences, Ministry of Environment Protection, P.R. China. "*Watershed, Lake, Estuarial Water Quality Modeling and Management under Different Climate Scenarios***,"** GuangZhou, China, June 26, 2010.
9. Sun Yat-Sen University, School of Geography Sciences and Planning, "*Effects of Global Climate Warming on Water Quality Characteristics and Fish Habitats in Lakes of the Contiguous USA*," P.R. China. GuangZhou, China, June 25, 2010.
10. Sun Yat-Sen University, School of Geography Sciences and Planning, "*Modeling, Prevention, Engineering and Management Practices to Mitigate the Risk of Flash Floods in Urban Areas*," P.R. China. GuangZhou, China, June 25, 2010.
11. Nanchang University, P.R. China (joint workshop with the University of Virginia funded by the National Science Foundation). "*Watershed and Lake Water Quality Modeling and Management under Different Climate Scenarios***,"** Nanchang, China, June 23, 2010.
12. Alabama Association of Floodplain Managers, the 4th Annual Fall Conference. "Flood Risk Simulation for Urban Cities: 1- and 2-Dimensional Hydraulic Models in Urban Flood Simulations" Auburn, AL, October 18, 2011.
13. Tsinghua University, P.R. China. "Watershed, Lake, Estuarial Water Quality Modeling and Management under Different Climate Scenarios," College of Civil and Hydropower Engineering, July 25, 2013.
14. Beijing University of Civil Engineering and Architecture, P.R. China. "Modeling, Prevention, Engineering and Management Practices to Mitigate the Risk of Flash Floods in Urban Areas," School of Environmental and Energy Engineering, July 26, 2013.
15. University of Central Florida, Department of Civil and Environmental Engineering, "Climate Change Impacts on Water Quality and Fish Habitat in the Contiguous USA" and "Evaluating the Climate Change Impact on Rainfall IDF Curves in Alabama, Using Dynamically Downscaled Precipitation Data," January 30, 2015.

16. China Institute of Water Resources and Hydropower Research (IWHR). "Development, Applications, and Challenges of Hydrodynamic and Water Quality Modeling and Monitoring in the USA," Beijing, March 2, 2015.

17. Beijing University of Civil Engineering and Architecture, P.R. China. "How to Write and Publish Journal Papers in SCI and EI Journals," School of Environmental and Energy Engineering, March 5, 2015.

18. Tsinghua University, P.R. China. "Water Quality and Ecosystem Modeling ─ Updates & Challenges**,"** College of Civil and Hydropower Engineering, March 9, 2015.

19. Peking University, Center of Water Science, P.R. China. "Projections of climate impacts on water quality characteristics and fish habitats in lakes of the contiguous USA**,"** College of Civil and Hydropower Engineering, March 10, 2015.

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21. Chinese Academy of Sciences (CAS). "Watershed and Lake Ecological Modeling and Management under Different Climate Scenarios," Institute of Geosciences and Natural Resources, Beijing, March 13, 2015.

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25 Ocean University of China, Qingdao, P.R. China. "Effects of Climate Warming on Fish Habitats in Lakes of the Contiguous USA," Fishery College, July 1, 2016.

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9. **Fang, X.**, Jianhua Fu, David Thompson, Theodore Cleveland, and William Asquith. "Unit Hydrograph Development for Texas Watershed Using Linear Programming." Proceeding of the ASCE Texas Section Spring Meeting in Corpus Christi, April 2-5, 2003.
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