CURRICULUM VITAE Farshad Amini, Ph.D., P.E. Professor & Founding Chair Fellow, American Society of Civil Engineers (ASCE)

ADDRESS

Farshad Amini, Ph.D., P.E., F. ASCE Professor and Founding Chair Department of Civil & Environmental Engineering, Industrial Systems & Technology Jackson State University P.O. Box 17068 Jackson, MS 39217-0168 Phone: 601-979-3913 Fax: 601-979-3238 Email: famini@jsums.edu

I. AREAS OF PRIOR RESEARCH GRANTS

Innovative Levee Strengthening and Coastal Infrastructure Protection Soil Dynamics and Earthquake Engineering Pavement Rehabilitation Infrastructure Materials Structural Dynamics and Earthquake Engineering Engineering Education Multidisciplinary Research

II. <u>TEACHING INTERESTS</u>

• Teach practice-oriented and innovative design courses involving real-life problems.

III. EDUCATION

Ph.D.	Civil Engineering, 1986 University of Maryland, College Park, MD
M.S.	Civil Engineering, 1983 University of Kansas, Lawrence, KS
BS	Civil Engineering 1981

B.S. Civil Engineering, 1981 University of Kansas, Lawrence, KS

V. PROFESSIONAL LICENSE

Licensed Engineer (P.E.), State of Mississippi, No. 15287

IV. SPECIAL WORKSHOPS (Partial List)

- "Chairing Academic Departments," Workshop for Academic Chairs and Deans, American Council on Education, San Antonio, Texas, November 2002.
- Certificate for Participation in "Geosynthetic Applications" Workshop, Auburn University, July 1995 (one week).
- Completed "Outcome Assessment for Academic Programs" Workshop, Jackson, MS, June 2001.

VI. ABET ACCREDITATION AND ASSESSMENT EXPERIENCE (Partial List)

- <u>Senior ABET Evaluator</u>, Member of ABET Visitation Team-Engineering Accreditation Commission (EAC) (2002-2012).
- Prepared three ABET reports and coordinated the visit for the Civil Engineering Program.
- Developed a new civil engineering curriculum under ABET 2000 criteria.
- Prepared accreditation reports for both the Department of Civil Engineering and the School of Engineering at Jackson State University to meet the SACS (Accreditation body) requirements.
- Published a paper in the area of outcome assessment (A Systematic and Structured Outcome Assessment Plan for a New Engineering Program, *Inter. J. of Eng. Education*, January 2008)
- Completed "Outcome Assessment for Academic Programs" Workshop, Jackson, MS, 2001.

VII. PROFESSIONAL EXPERIENCE

A. <u>Academic Experience</u>

9/00 - Present

Founding Chairman and Professor (Tenured) (9/00 to 8/02 Assoc. Prof., and 8/02 to Present Professor)

Department of Civil & Environmental Engineering

Jackson State University (Carnegie Designation: Research University – High Research Activity)

Responsibilities and Accomplishments (Partial List):

- As founding chairman of the new Civil Engineering Department, which offers quality ABET-accredited undergraduate and graduate programs (M.S. and Ph.D.), provides leadership both within and externally. Articulates a vision and mission for faculty, staff, and students. Instills a sense of enthusiasm and a confident climate of innovation. Stimulates all to contribute their best. Developed and led new undergraduate and graduate programs.
- Led fundraising efforts. Obtained substantial external funding (e.g., proposals to foundations)

- Guided and led the new Department to become a very productive Civil Engineering Department nationwide in the area of externally funded research grants.
- The enrollment increased from 15 in 2001 to 211 in 2017. Enrollment increased by 257% from 2007 to 2017, the fastest increase at JSU.
- Prepared self-study reports and coordinated the ABET activities for the new program.
- Developed new research initiatives by initiating cooperative research agreements.
- Developed industry-government-university solid relationships. Prepared Strategic Plan, Business Plan, and Vision for the new Department.
- Developed over 12 new teaching and two new research laboratories (scanning microscope core, and nano laboratories, funded by NSF and DOD).
- Initiated faculty, staff, and student recruitment. Recruited seven faculty, one laboratory coordinator, one secretary, and several post-doctoral research staff.
- Assisted and developed a new civil engineering curriculum with input from the Department Advisory Board, employers, and other constituencies, and worked closely with the University Curriculum Committee during the new program and curriculum approval process.
- Developed several new graduate programs, including admission requirements, degree requirements, and course syllabi.
- Developed and initiated the Ph.D. in Engineering Program (in 2014), with a concentration in Civil Engineering, Environmental Engineering, and Geological Engineering. Another concentration, including Coastal Engineering, was later added. Developed concentration in Construction Engineering and Management in 2022.
- Performed substantial fundraising efforts.
- Prepared detailed course syllabi for more than 60 new courses incorporating the Systems Approach (course syllabi are available upon request.) The syllabi contained several issues, including a survey of innovative approaches and best practices, ABET 2000 criteria, student learning outcomes and assessment, critical thinking, research integration, communication skills, and multidisciplinary integration aspects of the curriculum. Each syllabus includes detailed course references, student learning outcomes and assessments, grading scales, and topics by week.
- Identified space and infrastructure needs, laboratory utility requirements, equipment and software needs, and classroom and office requirements for both the temporary and permanent facilities. Prepared a detailed plan for ten new laboratories and worked closely with the Architect to design the new Engineering Building.
- Prepared agreements for an endowed chair position in Civil Engineering.
- Taught engineering mechanics courses incorporating the systems approach, and conducted Research. Received several major research grants. Published and presented numerous papers and received favorable teaching evaluations.

July 2017 - Present

• Manages both "Civil & Environmental Engineering" and "Industrial Systems & Technology" Programs

2014-Present

Founding Director of the Ph.D. in Engineering Program

2007-Present

Co-Director, Electron Microscope Lab, College Core Lab 8/89 - 9/00Associate Professor of Civil Engineering (8/94 to 9/00) Assistant Prof. from 8/89 to 8/94 and Associate Prof. from 8/94 to 9/00. Served as coordinator of the Civil Engineering Program (1/97 - 5/99) University of the District of Columbia

Washington, D.C. 20008

Responsibilities and Accomplishments:

- <u>Teaching:</u> Taught engineering mechanics, soil mechanics Lec. and Lab., foundation engineering, advanced geotechnical design, and practical problems in the metropolitan Washington area. Developed a new course for senior students. Emphasized practical aspects of civil engineering. Developed new testing equipment for the soil mechanics laboratory. Used several computer software packages (e.g., settlement analysis, slope stability analysis, direct shear, and consolidation). Designed new experiments and emphasized the curriculum's multidisciplinary, practice-oriented, integrative, critical thinking, communication skills, and research integration aspects.
- <u>Research:</u> conducted significant amounts of externally funded Research in geotechnical, structural, and geoenvironmental engineering. Submitted research proposals. Obtained and completed many major research grants. Published and presented numerous research papers and participated in various national committees.
- <u>Administrative:</u> Served as the coordinator of the CE program (1/97 to 5/99). Prepared ABET accreditation reports. Identified equipment and software needs for the civil engineering program. Performed leadership responsibilities in the Civil Engineering Program. Established Industry-Government-Alumni Advisory Board for the program. Performed significant recruitment activities. Served as the ASCE faculty adviser for two years. Complete teaching, Research, and service portfolios are available upon request.

8/86 - 12/86 Visiting Assistant Professor Mechanical Engineering Department University of Maryland, College Park, MD 20742 Responsibilities:

• Taught basic undergraduate courses in the application of numerical methods and computer programming in engineering.

8/85 - 6/86 Instructor Mechanical Engineering Department University of Maryland College Park, MD 20742

B. <u>Industrial Experience</u>

10/86 - 8/89

Senior & Chief Geotechnical Engineer (full-time position)

Soil Consultant, Inc., Chantilly, VA 22021

Responsibilities: Reviewing and preparing subsurface investigation and geotechnical and geoenvironmental engineering reports for special projects. Reviewed more than 1000 reports and prepared more than 300 reports. Typical projects included design recommendations for landfill design, environmental assessment studies, expansive soils, slope stability analysis, lime stabilization, soil dynamics, liquefaction, pavement failure analysis, reinforced earth retaining walls, shallow and deep foundations and retaining walls, geoenvironmental applications, design specifications for dynamic compaction, and stone columns. Conducted Research in the area of foundations on expansive soils. Involved with commercial and residential projects, wa

ter towers, antennas, etc. Reviewed reports prepared by project engineers. Prepared proposals for new and special projects. Worked on special projects involving groundwater problems and slope stability analysis of marine clays. Sample projects are available upon request.

6/83 - 6/85

Construction Engineer (35 hrs/week)

The Driggs Corporation (largest earthwork-related construction company in the Washington D.C. area), 8700 Ashwood Dr., Capitol Heights, MD 20743.

Responsibilities: Performed project management, soil specification analysis, quantity take-off, and cost estimating of earthwork and highway-related projects. The duties also included analyzing construction contracts.

8/89 - 12/93

Senior Geotechnical Consultant (part-time position)

Soil Consultants Inc., Chantilly, VA 22021

Responsibilities: In charge of reviewing geotechnical and construction monitoring (soil, steel, and concrete) reports, as well as supervising technicians and project engineers during inspection, construction monitoring, and material testing. See also above.

C. <u>Forensic Studies Experience</u>

I have directed many major forensic studies. Several journal papers have also been published (see publications 11, 15, and 129 for example). A partial list is shown below.

1. High-Speed Sled Track, The longest (more than 10 miles long) high-speed sled track in the world. The civil engineering problems included the concrete girder's settlement, the girder's rise in other locations, and the deterioration of the girder.

2. 1220 13th Street, N.W., Washington, DC. 13,000 ft² two-story office building. The structural failure of the various elements, including concrete beams, girders, and roofs, possibly due to overload, was analyzed. (Structural and Failure, Expert Witness)

- 3. Old Post Office Foundation Failure Investigation, VA
- 4. Aston Park Appartements Pavement Failure Investigation, VA
- 5. Residential Building Foundation Failure Investigation, VA

D. <u>Consulting Experience</u>

12/93 to 2000 (part-time)

Prepared subsurface investigation and geotechnical engineering reports (e.g., Fairfax County Public Schools system, commercial and public buildings). Performed liquefaction and permafrost studies for several sites in Alaska. Served as an expert witness on several projects (See also "Forensic Studies Experience").

VII. ADVANCED LABORATORY EXPERIENCE

Serves as co-faculty manager for the Scanning Microscope Laboratory (one of the College's Shared Core laboratories) funded by NSF-MRI. Developed Civil Engineering Nano Lab (funded by ERDC). Developed several new research laboratories, including Civil Engineering Nano and Earthquake Engineering Laboratories. Supervised active control experiments of a 3-story scale model structure on a shake table. Developed a new soil dynamics research laboratory at UDC. Acquired new equipment, including Drnevich resonant column apparatus, automated triaxial test device, FFT analyzer, and workstations. Set up a sand filter water quality apparatus and conducted experiments.

IX. <u>GRADUATE AND UNDERGRADUATE STUDENT ADVISING</u>

Initiated and developed the new Ph.D. Program at Jackson State University. Developed a cooperative Ph.D. program with the Department of Civil Engineering of the University of Maryland at College Park. Served as a graduate faculty, graduate council, and graduate curriculum committee member at Jackson State University. Hired and supervised many undergraduates, M.S. and Ph.D. students, and post-doctoral associates. Post-doctoral associates: 13; Ph.D. students: 6; MS. students:8; Undergraduate students: 66.

X. HONORS AND AWARDS (Partial List)

- <u>ASCE Fellow</u>, American Society of Civil Engineers (ASCE) A prestigious designation indicating significant contributions to the field. Only a tiny percentage of the ASCE members have been elected to the Fellow. 2008 – Present
- <u>Faculty Productivity Award</u>, In Recognition of Outstanding Research in the Field of Engineering, Office of Research and Federal Relations, Jackson State University Division of Research, Training and International Programs, Jackson State University August 2006

- <u>Outstanding Research Award</u>, In Recognition of Outstanding Research in the Field of Engineering, Division of Research, Training and International Programs, University of the District of Columbia, August 1994.
- <u>Engineering Excellence Awards Juror</u>, State-Wide Award Sponsored by the Consulting Engineers Council of Mississippi, Awarded by the Governor of Mississippi, Feb. 2001.
- <u>Outstanding Service Award</u>, Jackson State University ASCE Student Chapter; in Recognition of Outstanding Activities in Support of the JSU ASCE Student Chapter, 2008

XI. Fundraising Activities (Partial List)

- Yates Construction 2016-present
- Severn Trent Services 2009
- Lamar Endowment 2008
- Neal Schafer Scholarships 2001

XII. Noteworthy Research

- Innovative Levee Strengthening under Hurricane Conditions (Full-Scale Testing, Numerical Modeling, Slope Stability Analysis). Included one book and 24 refereed journals
- Liquefaction of Layered Soils
- Effect of Random Loading on Soil Behavior

XIV. FUNDED RESEARCH GRANTS

FUNDED RESEARCH GRANTS (PARTIAL LIST)

Principal or co-principal investigator of more than 40 major research grants from various funding agencies such as NSF, DHS, ARO, Navy, AFOSR, USGS, MDOT, ERDC, CARUP, D.C. Government, and other agencies. This information is summarized below.

Funding Agency	No. of	Remarks
	Grants	
NSF	11	6 Research Grants; 2 Research Equipment;
		3 Research/Education
Army Research	4	3 Research Grants; one
Office		Research/Education, one Equipment
Air Force Office of	1	Research
Scientific Research		
ERDC	11	8 Research, three Education
ARA/ERDC	1	Research
Navy	1	Research
DHS	2	Research
DOD	3	2 Research, one Education
U.S.G.S.	5	Research
MDOT	14	8 Research, one Equipment, 5 Education
D.C. Government	1	Research
Army Corps. of	2	Research
Engineers		
CARUP	2	Research
BCD	1	Research
UDC	2	Research
U.S. DOT	4	Two Research, two Education
NASA	1	Research
MS Licensing Board	5	Equipment
Total No. of Grants	71	

FUNDED NSF Grants

1. Title: Targeted Infusion Project: Earlier Access to Cutting-Edge Research Experiences for Undergraduate STEM Education at Jackson State University PI: K. Wen; Co-PI: F. Amini; Y. Yin Funding Agency: National Science Foundation Amount 400,000.00 Dates: 9/1/2021 – 9/1/204

- Title: Development of Augmented Learning-Facilitated Teaching Model to Enhance
 STEM Education
 PI: F. Amini, Co-PI: L. Li, Y. Li; J. Yin, W. Walters
 Funding Agency: National Science Foundation
 Amount: \$350,000 (FUNDED)
 Dates: 2018-2022
- Title: Investigating the Effect of Active-Flipped Learning in STEM Education PI: F. Amini; Co-PI, L. Li; J. Yin, T. Kewmbe Funded by National Science Foundation, Amount: \$350,000 Dates: 2016-2021
- 4. Title: Collaborative Research: Mixed Reality Transformation of Engineering Education
 PI: F. Amini at JSU; PI at RPI: T. Abdoun (Lead University)
 Funding Agency: National Science Foundation
 Amount: \$1.2M (JSU Share: 25K over four years) (FUNDED)
 Supported by: National Science Foundation,
 Dates: 1/1/2020-1/1/2024
- Title: MRI: Acquisition of a Multi-Beam SEM/FIB for Multidisciplinary Materials Study and Training PI: L. Li, Co-PI: F. Amini, W. Walters, A. Hamme Funding Agency: National Science Foundation, Amount: \$559,660.00 (FUNDED) Supported by: National Science Foundation, Dates: October 2015-September 2018
- Title: CSEM Enhancement Program PI: F. Amini; Co-PI: Loretta Moore Total Amount: \$ 343,700.00 (FUNDED) Supported by: National Science Foundation Dates: 2001-2007
- Title: ESEM for Soil Liquefaction Research PI: F. Amini Total Amount: \$ 192,900.00 (FUNDED) Supported by: National Science Foundation

Dates: 2002-2004

- Title: Behavior of Stratified Sand-Gravel Composites under Seismic Liquefaction Conditions
 PI: F. Amini
 Total Amount: \$ 157,723.00 (FUNDED)
 Supported by: National Science Foundation (NSF)
 Dates: 1996 to 1999
- 9. Title: Research Equipment for Soil Dynamics Testing and Study of the Effect of Time on Dynamic Soil Properties. This grant provided both salary (about 60K) and equipment funds (60K) (Indirect cost: 22K)
 PI: F. Amini
 Total Amount: \$ 120,000.00 (FUNDED)
 Supported by: National Science Foundation (NSF)
 Dates: 1992 to 1995
- Title: Active Control of Structures Instrumented with Optical Fiber Sensors under Earthquake Loading. (Simulation Studies as well as Experiments on Shake Table, Neural Networks Application in Identification and Control) PI: J. C. S. Yang, G. Z. Qi, F. Amini, and J. Sirkus Total Amount: \$ 229,425.00 (FUNDED) Supported by: National Science Foundation (NSF) Dates: 1992-1995
- 11. Title: Identification and Active Control of Structures under Earthquake Loading (Neural Networks Application in Identification and Control)
 PI: J. C. S. Yang, G. Z. Qi, and F. Amini Total Amount: \$ 50,000.00 (FUNDED)
 Supported by: National Science Foundation (NSF)
 Dates: 1991-1992

Other Grants (Partial List)

- 12. Title: Improved Penetration Methodology Testing PI: S. Khan; Co-PI: F. Amini Total Amount: 6.4M (1.6M/year) Supported by: ARA/ERDC Dates: 2023-2027
- 13. Title: Enhancement of Surveying Engineering Laboratory to Support ABET-EAC Accredited Civil Engineering Program at Jackson State University
- 14. PI: K. Wen; Co-PI: F. Amini Total Amount: 33.5K

Supported by: MS Board for Licensure for Professional Engineers & Surveyors Dates: 2023

- 15. Title: Innovative Soil Improvement through Bio-Cementitious Materials to Mitigate Bridge Scour PI: K. Wen and Co-PI: F. Amini Total Amount: \$ 200,000.00 (FUNDED) Supported by: Mississippi Department of Transportation (MDOT) Dates: 7/12022- 6/30/2025
- 16. Title: Advanced Landslide Investigation Protocol Using Geophysical Testing PI: S. Khan; Co-PI: F. Amini Total Amount: \$ 300,000.00 (FUNDED) Supported by: Mississippi Department of Transportation (MDOT) Dates: 7/12020- 6/30/2023
- 17. Title: Performance Evaluation of Highway Slopes on Yazoo Clay PI: S. Khan and F. Amini Total Amount: \$ 196,500.00 (FUNDED) Supported by: Mississippi Department of Transportation (MDOT) Dates: 2018- 2020
- 18. Title: Airborn Survey System for Enhancement of Surveying Engineering Laboratory to Support ABET Accredited Civil Engineering Program at Jackson State University
 PI: S. Khan; Co-PI: F. Amini Total Amount: \$ 31,600.00.00 (FUNDED)
 Supported by: MS Board for Licensure for Professional Engineers & Surveyors Dates: 2018-2019
- Title: Enhancement of Environmental Engineering Laboratory to Support ABET Accredited Civil Engineering Program at Jackson State University PI: Danuta Leszczynska and Co-PI: F. Amini Total Amount: \$ 22,000.00 (FUNDED) Supported by: MS Board for Licensure for Professional Engineers & Surveyors Dates: 20018- 2020
- 20. Title: Summer Transportation Institute
 PI: L. Li; Co-PI: F. Amini
 Total Amount: \$ 62,000.00 (FUNDED)
 Supported by: Mississippi Department of Transportation (MDOT)
 Dates: 2018
- 21. Title: Numerical Water Quality and Contaminant Modeling PI: F. Amini

Total Amount: \$ 280,000.00 (FUNDED) Supported by: DOD Dates: October 1, 2014-November 30, 2016

- 22. Title: Update and Documentation of MDOT Warranty Process and Distress Thresholds
 PI: F. Wang; Co-PI: F. Amini Total Amount: \$ 198,992.00 (FUNDED)
 Supported by: Mississippi Department of Transportation (MDOT)
 Dates: 10/1/2016- 6/30/2019
- 23. Title: JSU-ERDC Education and Research Programs PI: Y. Li, Co-PI: PI: F. Amini Total Amount: \$ 1,600,000.00 (FUNDED) Supported by: DOD/ERDC Dates: 2017-2022
- 24. Title: Enhancement of Surveying Engineering Laboratory to Support ABET-EAC Accredited Civil Engineering Program at Jackson State University PI: F. Amini Total Amount: \$ 25,000.00 Supported by: MS Board for Licensure for Professional Engineers & Surveyors Dates: 2016
- 25. Title: Enhancement of Hydraulics Engineering Laboratory to Support ABET-EAC Accredited Civil Engineering Program at Jackson State University PI: H. Das and Co-PI: F. Amini Total Amount: \$ 27,168.00 Supported by: MS Board for Licensure for Professional Engineers & Surveyors Dates: 2016
- 26. Title: Innovative Levee Strengthening and Testing under Full-Scale Overtopping Conditions
 PI: F. Amini; Co-PI: Dr. Lin Li
 Total Amount: \$ 1,000,000.00.00 (FUNDED)
 Supported by: Department of Homeland Security (DHS)
 Dates: 2009-2012
- 27. Title: High-Performance Turf Reinforcement Mat Strengthened Levee under Combined Wave and Storm Surge Turbulent Overtopping Conditions PI: F. Amini; Co-PI: Dr. Lin Li Total Amount: \$ 450,000.00 (FUNDED) Supported by: Department of Homeland Security (DHS) Dates: 2011-2012

- 28. Title: Summer Transportation Institute
 PI: L. Li; Co-PI: F. Amini
 Total Amount: \$ 58,000.00 (FUNDED)
 Supported by: Mississippi Department of Transportation (MDOT)
 Dates: 2016
- 29. Title: Summer Transportation Institute
 PI: L. Li; Co-PI: F. Amini
 Total Amount: \$ 62,000.00 (FUNDED)
 Supported by: Mississippi Department of Transportation (MDOT)
 Dates: 2017
- 30. Title: Summer Transportation Institute
 PI: L. Li; Co-PI: F. Amini
 Total Amount: \$ 58,000.00 (FUNDED)
 Supported by: Mississippi Department of Transportation (MDOT)
 Dates: 2015
- 31. Title: Long-Term Field Studies and Monitoring of Paving Fabric Systems to Reduce Reflective Cracking PI: F. Amini Total Amount: \$ 218,000.00 (FUNDED) Supported by: Mississippi Department of Transportation (MDOT) Dates: 2005- 2016
- 32. Title: Summer Transportation Institute
 PI: L. Li; Co-PI: F. Amini
 Total Amount: \$ 58,000.00 (FUNDED)
 Supported by: Mississippi Department of Transportation (MDOT)
 Dates: 2014
- 33. Title: Numerical Water Quality and Contaminant Modeling (L-9) PI: F. Amini Total Amount: \$ 63,000.00 (FUNDED) Supported by: DOD Dates: 2013-2014
- 34. Title: Hyper-Velocity Impact Resistant and Self-Healing Nano Materials in Space Applications
 PI: F. Amini (Peter Sukanek; Al-Ostaz, & F. Amini, et al.) Total Amount: \$ 20,000.00 (FUNDED)
 Supported by: NASA Dates: 2013-2016
- 35. Title: Numerical Water Quality and Contaminant Modeling

PI: F. Amini Total Amount: \$ 120,000.00 (FUNDED) Supported by: DOD Dates: 2012-2014

- 36. Title: Summer Transportation Institute
 PI: L. Li; Co-PI: F. Amini
 Total Amount: \$ 58,000.00 (FUNDED)
 Supported by: Mississippi Department of Transportation (MDOT)
 Dates: 2013
- 37. Title: Assessment of Pavement Infrastructure PI: F. Wang; Co-PI: F. Amini; L. Li Total Amount: \$ 712,000.00 (FUNDED) Supported by: US Department of Transportation Dates: 2010-2012
- Title: Summer Internship Program PI: Y. Li, Co-PI: PI: F. Amini Total Amount: \$ 2,000,000.00 (FUNDED) Supported by: DOD/ERDC Dates: 2012-2017
- 39. Title: Cost-Effectiveness Study of the Pavement Warranty Program in Mississippi PI: Qi, Y., Co-PI: F. Wang & F. Amini Total Amount: \$ 130,000.00 (FUNDED) Supported by: Mississippi Department of Transportation (MDOT) Dates: 2011-2013
- 40. Title: Evaluation of MDOT's Distress Thresholds for Maintained Pavement Projects
 PI: F. Wang; Co-PI: F. Amini Total Amount: \$ 120,000.00 (FUNDED)
 Supported by: Mississippi Department of Transportation (MDOT)
 Dates: 2009-2011
- 41. Title: Comparative Slope Stability Analysis for Hurricane Protection Systems Using the Method of Planes and the Method of Slices PI: F. Amini Total Amount: \$ 119,119.00 (FUNDED) Supported by: Burns Cooley Dennis Inc. Dates: 2007-2008
- 42. Title: Lake Chicot Display Center PI: F. Amini; Co-PI: L. Li

Total Amount: \$ 12,425.00 (FUNDED) Supported by: U.S. Army Corps. of Engineers – Vicksburg District Dates: 2007-2008

- 43. Title: Protective Technology Research Principal Investigator: F. Amini Supported by: U.S. Army Engineering, Research, and Development Center (ERDC) Total Amount: \$463,000.00 (FUNDED) Dates: 2003-2006
- 44. Title: Scientific Visualization of Soil Liquefaction for the Design and Maintenance of Seismic Dams
 PI: F. Amini; Co-PI: S. Rahman
 Supported by: Engineering, Research, and Development Center (ERDC)
 Total Amount: \$ 39,700.00 (FUNDED)
 Dates: 2003-2004
- 45. Title: Research on Potential Applications of the Static and Dynamic Cone Penetrometers in MDOT Pavement Design and Construction PI: F. Amini Total Amount: \$ 35,700.00 (FUNDED) Supported by: Mississippi Department of Transportation (MDOT) Dates: 2002-2003
- 46. Title: Research on Applications of Paving Fabrics to Reduce Reflective Cracking PI: F. Amini Total Amount: \$ 37,000.00 (FUNDED) Supported by: Mississippi Department of Transportation (MDOT) Dates: 2003-2004
- 47. Title: Acquisition of Superpave for CE Program Enhancement at JSU PI: F. Amini Total Amount: \$ 125,000.00 (FUNDED) Supported by: Mississippi Department of Transportation (MDOT) Dates: 2002-2003
- 48. Title: Computer-Based Unix Laboratory PI: M. Manzoul, Co-PI: F. Amini, and S. White Total Amount: \$ 138,000.00 (FUNDED) Supported by: Army Research Office (ARO) Dates: 2002-2003
- 49. Title: Liquefaction at Depth PI: F. Amini

Supported by: Stennis Space Center, DOD-Navy Total Amount: \$100,000.00 (FUNDED) Dates: 2001-2002

- 50. Title: Microstructure Features of Particulate Materials Using ESEM PI: F. Amini Supported by: Army Research Office (ARO) Total Amount: \$237,000.00 (FUNDED) Dates: 1998 to 2000
- 51. Title: Microstructure Features and Dynamic Macro-Behavior of Particulate Materials
 PI: F. Amini Supported by: Air Force Office of Scientific Research Total Amount: \$ 49,570.00 (FUNDED) Date: 1997
- 52. Title: Behavior of Stratified Undrained Contractive Silty Sands Under Seismic Liquefaction Conditions
 PI: F. Amini
 Total Amount: \$ 120,000.00 (FUNDED)
 Supported by: Army Research Office (ARO)
 Dates: 1993 to 1995
- 53. Title: Liquefaction of Layered Silty Sands PI: F. Amini Total Amount: \$ 28,698.00 (FUNDED) Supported by: Army Research Office; Dates: 1994-1995
- 54. Title: Performance Tests for Model Sand Filters PI: F. Amini and F. F. M. Chang Total Amount: \$ 10,000.00 (FUNDED) Supported by: D.C. Government Date: 1993
- 55. Title: An Experimental Study of the Optimal Thickness of Sand Layer in a Sand Filter Water Quality Structure
 PI: F. Amini and F. F. M. Chang
 Total Amount: \$ 31,733.00 (FUNDED)
 Supported by: U.S. Geological Survey, Dept. of Interior
 Dates: 1993-1994
- 56. Title: Definition of Groundwater Flow in the Water Table Aquifer of the Downtown Washington D.C. Area PI: F. Amini & G. Matheson

Total Amount: \$ 42,185.00 (FUNDED) Supported by: U.S. Geological Survey, Dept. of Interior Dates: 1994-1995

- 57. Title: Definition of Groundwater Flow and Water Quality in the Water Table Aquifer of the Southern Anacostia River Basin
 PI: F. Amini & G. Matheson
 Total Amount: \$ 20,526.00 (FUNDED)
 Supported by: U.S. Geological Survey, Dept. of Interior
 Dates: 1993-1994
- 58. Title: Definition of Groundwater Flow and Water Quality in the Water Table Aquifer of the Southern Anacostia River Basin PI: F. Amini; Total Amount: \$ 20,526.00 (FUNDED) Supported by: U.S. Geological Survey, Dept. of Interior; Dates: 1993-1994
- 59. Title: A New Procedure for Estimation of Soil Parameters for Use in Slope Stability Analysis in Northern Virginia PI: F. Amini Total Amount: \$ 5,120.00 (FUNDED) Supported by: Center for Applied Research and Urban Policy (CARUP), Date: 1990
- 60. Title: Dynamic Soil Behavior under Impulse Loading Conditions Considering Nonlinear Effects
 PI: F. Amini Total Amount: \$ 4,495.00 (FUNDED)
 Supported by: Academic Affairs, Peer-Reviewed Faculty Senate Research, UDC, Date: 1991
- 61. Title: Dynamic Soil Behavior under Impulse Loading Conditions PI: F. Amini Total Amount: \$ 5,000.00 (FUNDED) Supported by: Academic Affairs, Peer-Reviewed Faculty Senate Research, UDC Date: 1990
- 62. Title: Transportation Research and Education Enhancement Program through Graduate Students Support at JSU PI: F. Amini Total Amount: \$ 16,348.00 (FUNDED) Supported by: FTA Dates: 2007-2008

- 63. Title: Enhancement of JSU Transportation Engineering through Financial Assistance to Students PI: F. Amini Total Amount: \$ 25,800.00 (FUNDED) Supported by: FTA Dates: 2007-2008
- 64. Title: Enhanced K-12 Outreach for Metropolitan Transportation Education PI: L. Li; Co-PI: F. Amini Total Amount: \$ 10,159.00 (FUNDED) Supported by: FTA Dates: 2007-2008
- 65. Title: Summer Transportation Institute
 PI: I. Simone; Co-PI: F. Wang & F. Amini
 Total Amount: \$ 10,000.00 (FUNDED)
 Supported by: Mississippi Department of Transportation (MDOT)
 Dates: Summer 2011

XV. SELECTED PUBLICATIONS (Partial List)

Author or co-author of more than 200 published research articles, with the many in top engineering journals. A partial list is shown below.

A1. <u>Books</u>

1. Li, L., Amini, F., Pan, Y, Yuan, S, and Cetin, B., (2021). *Hydraulics of Levee Overtopping*, CRC Press, Francis & Taylor, ISBN 978-0-367-27727-7.

A2. <u>Refereed Chapters in Books</u>

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- 230. Li, L., Forster, P., and Amini, F., (2011). Mississippi Greenway Rating System: Moving the Concept of Sustainability Forward, Institute for Multimodal Transportation, Jackson State University, September 14, 2011.
- 231. Amini, F. and Wen, K. (2016). "Long-Term Field Monitoring of Paving Fabric Interlayer Systems to Reduce Reflective Cracking," Applications of Paving Fabrics to Reduce Reflective Cracking," Report No. FHWA/MDOT-RD-19-184, Report prepared for the Mississippi Department of Transportation (MDOT).
- 232. Wang, F., Amini, F., Luo, X., and Tao, J. (2019). "Update and Documentation of MDOT Warranty Process and Distress Thresholds," FHWA/MDOT-RD-19-273, Report prepared for the Mississippi Department of Transportation (MDOT).
- 233. Khan, S., Amini, F. & Nobahar, M. (2020). "Performance Evaluation of Highway Slopes for Yazoo Clay," Report No. FHWA/MDOT-RD-20-286, Prepared for the Mississippi Department of Transportation (MDOT). Pp 251.
- 234. Khan, S., Amini, F., Salunke, R., Nobahar, M. (2023). "Development of Advanced Landslide Investigation Protocol Using Geophysical Methods for Mississippi" Report No. FHWA/MDOT-RD-23-316, Prepared for the Mississippi Department of Transportation (MDOT).

XVI. <u>T.V/Radio Appearance and Invited Presentations</u>

A. T.V./Radio Appearances (Partial List)

- 1. Amini, F. "Oil Spills Impact, Mississippi Universities Respond," MPB News, June 2, 2010, 4:40 P.M.
- 2. Amini, F., "Collapse of Minnesota Bridge-One Year Later," Fox News, August 1, 2009, 5:0 P.M.
- 3. Amini, F., "New Nissan Plant in Mississippi," CBS Evening News, November 9, 2000, 6:0 P.M.
- 4. Amini, F., "The 1994 Northridge, CA Earthquake," Cross Talk Show, Jazz 90.1 FM, Washington, D.C., February 2, 1994, 12:30 to 1:00 P.M.

B. Invited Presentations (Partial List)

B1. <u>Keynote Speaker</u>

1. Second International Conference in Concrete Design (1992)

B2. Other Invited Presentations (Partial List)

Have made more than 150 invited presentations. A partial list is shown below.

- "Performance of Three Innovative Systems under Full-scale Overtopping Conditions," Paper Presented at US Army Corps of Engineers, New Orleans District, September 12, 2013 (Invited Presentation)
- "Performance of Three Innovative Systems under Full-scale Overtopping Conditions," Paper Presented at the University of Shanghai for Science & Technology, Shanghai, China, June 3, 2013 (Invited Presentation)
- "Performance of Three Innovative Systems under Full-scale Testing and Design Guidelines," Paper Presented at Tongi University Shanghai, China, June 4, 2013 (Invited Presentation)
- "Overtopping Hydraulics and Erosion of Three Systems under Full Scale Overtopping Conditions," Paper Presented at Hohai University, Nanji, China, June 5, 2013 (Invited Presentation)
- "Design Guidelines for Innovative Levee Strengthening Systems under Full-scale Overtopping Conditions," Paper Presented at Donghua University, Shanghai, China, June 6, 2013 (Invited Presentation)
- Dams Sector R&D Workshop, (2012). Vicksburg, MS (Invited) "Innovative Levee Strengthening under Full Scale Overtopping Conditions
- Indian Institute of Technology, New Delhi, Delhi (2010)
- "B+30 Model Law", Mississippi Engineering Society (2009) (Invited Presentation)
- George Mason University (2009)
- West Virginia University (2008)
- University of Nevada (2003)
- University of Louisville (2002)
- Western Michigan University (2000 & 2001)
- University of North Florida (2000)
- University of Utah (1999)
- University of Texas (1999)
- North Carolina A & T State University (1999 & 2001)
- Columbia University (1998)
- Utah State University (1998)

- Rutgers University (1998)
- Rowan University (1997) "Future of Undergraduate Engineering Education"
- California State University, Los Angeles (1997)
- Boise State University (1996)
- San Jose State University (1995)
- Southern Georgia U. (1995)
- Polytechnic University (1998)
- The University of Texas at Arlington (1989)

XVII. PROFESSIONAL SERVICES

A. National Scientific Committees (Partial List)

- 1. Member of Editorial Board, *Journal of Geotechnical and Geoenvironmental Engineering, ASCE* (the most respected journal in my field). Reviewed and coordinated over 100 journal papers for the *Journal of Geotechnical and Geoenvironmental Engineering, ASCE* (1990-2002).
- Member of Several NSF Review Panels, e.g., National Science Foundation (NSF), Frontiers in Engineering (April 2022), Geoenvironmental Engineering, and Mitigation Hazards Division. (March 2003); NSF's Major Research Instrumentation (MRI), (May 2005).
- 3. Research Proposals Panel Review University of Nebraska Lincoln (2022)
- 4. Member of the Review Panel, Environmental Protection Agency (EPA). (Sept. 2001, Sept. 2003, and Sept. 2004, and March 2010).
- 5. Reviewer for several journals, including J. of Geotechnical & Geoenvironmental Engineering, ASCE, ASTM Geotechnical Testing Journal, J. of Structural Engineering & Mechanics, International Journal of Engineering Education, etc.
- 6. Member of Advisory Committee, *The First International Conference on Composites in Infrastructure (ICCI' 96)*, Sponsored By NSF and U. of Arizona, Tucson, Arizona, January 15-17, 1996. (Reviewed research papers and participated in the planning process for the conference.)
- 7. Member of *the IASTED Technical Committee* on "Neural Networks," 2001-2007.
- 8. Session Moderator, *International Conference on Pavement Recycling*, Sao Paulo, Brazil, 2005.
- 9. Member of Scientific Committees for more than ten conferences

B. <u>University Committees (Partial List)</u>

Jackson State University (2000-present)

- 1. Member of University-Wide Graduate Faculty Status, Graduate Council, and Graduate Curriculum Committee
- 2. Member of University-Wide Extra Compensation Committee
- 3. Member of College-Wide Graduate Curriculum Committee
- 4. Member of College-Wide Tenure & Promotion Supplemental Criteria Committee
- 5. Faculty Handbook Committee, Member, University-wide

Contributed to a significant portion of the new faculty handbook DMU on Post Tenure Process, Member, University Wide Distinguished Professor Guidelines, Chairman, University-wide DMU on Tenure and Promotion Process, Member, University-wide.

- 6. Advisory Research Council, Member, University-wide
- 7. Associate Dean Search Committee, School of Engineering, Member
- 8. Committee on Committees, Member, University-wide
- 9. Multi-Cultural Education Committee, Member, University-wide
- 10. Scholarship Committee, Member, University-wide
- 11. Faculty and Staff Welfare Committee, Member, University-wide
- 12. University Press Committee, Member, University-wide

University of the District of Columbia (1989-2000)

- 1. Indirect Cost Recovery Distribution Committee, University-wide, Chairman Developed a logarithmic formula for the distribution of indirect costs from grants among administrators, faculty, and PIs
- 2. Research Council, Member, University-wide
- 3. Research Committee, Chairman, College-wide
- 4. Research Committee, Chairman, Department-wide
- 5. ABET Report Committee, Member and chairman, Department-wide
- 6. Evaluation Committee, Chairman, Department-wide

C. Community Service (Partial List)

Served as judge for projects sponsored by Consulting Engineers Council of Mississippi Provided free consulting services to the Howard County Department of Public Works, Meyers Consulting Engineers, and other government agencies and private companies, a complete list along with documents are available. Performed significant student recruitment activities.