



ANKITHA PRAKASH ARVAN



Geotechnical Engineering R&D Lead

10+ Years of Experience

Email: ankitha@tsfgeo.com; ankitha10july@gmail.com || Ph: +1(561)-563-3534

Website: <https://www.linkedin.com/in/arvan-ankitha-prakash/>

<https://ankithaprakasharvan.substack.com/>

WORK PROFILE SUMMARY

Geotechnical Engineering R&D Lead – Tierra South Florida Inc.	<i>November 2025 - Present</i>
Director of Research – Smart Infrastructure Group of Companies	<i>July 2025 – November 2025</i>
Co-Director, Advanced Research and Tech Ops. (Research Project Manager) – Florida International University	<i>July 2024 – July 2025</i>
Research Assistant Professor – Florida International University	<i>May 2023 – July 2024</i>
Research Associate – Florida International University	<i>May 2022 – May 2023</i>
Graduate Research Assistant – Florida Department of Transportation	<i>May 2020 – May 2022</i>
Graduate Teaching Assistant – Florida Atlantic University	<i>January 2019 – May 2022</i>
Visiting Scholar – Florida Atlantic University	<i>January 2018 – June 2018</i>
Graduate Assistant – University of Bologna	<i>September 2015 – June 2018</i>
Undergraduate Intern – Precast Buildcon Pvt. Ltd.	<i>July 2013 – August 2013</i>
Undergraduate Intern – Kirby Building Systems	<i>June 2013 – July 2013</i>
Undergraduate Intern – UR Ground Engineering	<i>May 2013 – June 2013</i>
Government Affairs Liaison	<i>July 2010 – August 2014</i>
Leadership and Events – Traditions Event Management and Marketing Pvt. Ltd.	<i>July 2008 – August 2015</i>

PORTFOLIO

Ankitha Prakash Arvan, Ph.D. is currently serving as Geotechnical R&D Lead, Tierra South Florida Inc., and her expertise lies in the area of Structural/Geotechnical Engineering. She was formerly serving as a Director for Research, Smart Infrastructure Group and Co-Director, Advanced Research and Technical Activities at the FIU's University Transportation Center, IBT/ABC-UTC. She is an active Associate Member of the American Society for Civil Engineers (ASCE), active member of the ASCE Geo-Institute, Deep Foundations Institute (DFI), Florida Structural Engineers Association (FSEA) and National Academy of Engineering (NAE). Her work spans major projects with several DOTs, USDOT, USACE, FHWA and NCHRP, where she has contributed to innovative infrastructure and geotechnical solutions. Her extensive experience has enabled her to effectively oversee research initiatives from conception to completion ensuring efficient and high-quality outcomes.

Her Doctoral Dissertation work includes working with Artificial Intelligence techniques and the development of a standalone software, GEOS[®] Version 1.0. Her published work has been widely appreciated, especially for overcoming the scarcity and developing a user-friendly geotechnical software in understanding complex soil-pile models which will be of benefit to the researchers, practicing geotechnical professionals and for academia purposes.

Ankitha has demonstrated exceptional skills and expertise in the field of Civil Engineering, which has been evident by her work for ASCE and has been constantly producing outstanding work that has earned her a great reputation in the community. Ankitha is a strategic research and advancement professional with over a decade of experience leading high-impact initiatives across higher education and government sectors. Her expertise includes research design, project management, data analytics, digital transformation, and stakeholder engagement. She excels in managing complex research and advancement projects from conception through execution, consistently delivering timely and high-quality outcomes. Ankitha is skilled at aligning data-driven strategies with institutional goals, fostering cross-functional collaboration, and driving operational excellence to support fundraising and organizational growth.

She has been honored with the **2022 3MT Thesis Scholarship Award** for her exceptional ability to condense her PhD research into a captivating three-minute presentation for a broad general audience. Her published work has been awarded with the **2023 ASCE State-of-the-Art of Civil Engineering Award** and her work has been added to the ASCE's Special Collection for United Nations Sustainable Development Goals (UN SDG): SDG 7: Affordable and Clean Energy; SDG 9: Industry, Innovation, and Infrastructure; SDG 13: Climate Action; SDG 14: Life Below Water; and SDG 8: Decent Work and Economic Growth, which informs Civil Engineers and help them develop sustainable practices. Additionally, her work has also been featured on ASCE Kudos for contributing to the UN SDG.

Ankitha has been selected as one of the five recipients in the United States for the **2024 Women in Deep Foundations (WiDF) Professional Development Grant** from the Deep Foundations Institute (DFI). The DFI Educational Trust and the WiDF Committee are proud to provide professional development grant opportunities to women involved in design and construction of deep foundations. The goal of DFI's WiDF Committee is to increase networking opportunities and improve retention of female professionals in the deep foundations industry. The future of the industry depends upon diversity, which can be influenced by encouraging promising female professionals to remain in deep foundations careers. Recently, she has been awarded the **2025 Top 50 Women Leaders of Florida and Florida's Most Influential Women** by the professional Organization Women We Admire.

EDUCATION

 <p style="text-align: center;">2018 – 2023</p>	<p>Florida Atlantic University, Florida, USA Ph.D., Civil, Environmental and Geomatics Engineering GPA: 3.8/4 Dissertation: Analysis of Bridge-Pile Foundation System in Multi-layered Soil Strata Advisor – <u>Dr. Madasamy Arockiasamy</u> Committee Chair – Dr. Evangelos Kaisar Committee Members –Dr. Sudhagar Nagarajan and Dr. Hassan Mahfuz, Dr. Khaled Sobhan</p>
 <p style="text-align: center;">2015 – 2018</p>	<p>University of Bologna, Bologna, Italy MS. in Civil Engineering First Class with Distinction Grade: 104/110 (or) GPA: 4/4 Thesis: <u>Part 1:</u> Wave propagation in tensegrity structures Advisor – <u>Dr. Alessandro Marzani</u> <u>Part 2:</u> Rigorous and naïve implementation of the Galerkin approach for Stepped beams Advisors – <u>Dr. Alessandro Marzani</u> and <u>Dr. Isaac Elishakoff</u></p>
 <p style="text-align: center;">2011 – 2014</p>	<p>Jawaharlal Nehru Technological University (JNTU), Telangana, India B.S. in Civil Engineering GPA: 9.9/10 Thesis: Design of An Administration Building Advisor – Mr. Lakshmipati Dasika</p>
 <p style="text-align: center;">2008 – 2011</p>	<p>Jawaharlal Nehru Government Polytechnic (JNGP), Telangana, India Diploma in Civil Engineering GPA: 10/10</p>

LEADERSHIP EXPERIENCE

Miscellaneous

July 2008 – Present

Strategic civil engineering professional with over 10⁺ years of experience in academic research, project management, teaching, and government and private sector collaborations. Skilled in leading federally funded transportation infrastructure projects, coordinating with federal agencies and industry partners, and ensuring regulatory compliance. Experienced in research proposal development, workforce and technology transfer, data analysis, and stakeholder engagement. Proven ability to mentor students/staff, manage complex projects, and drive innovation at the intersection of research and real-world applications. Known for independent decision-making, operational excellence, and high-level public relations in fast-paced academic and policy-driven environments. Passionate about bridging research, education, and real-world applications to advance infrastructure innovation and public benefit.

Research Associate – Florida International University

May 2022 - May 2023

Research Assistant Professor – Florida International University

May 2023 - July 2024

Research Project Manager – Florida International University

July 2024 – July 2025

The job assignment consists of working with the Director of Innovative Bridge Technology/Accelerated Bridge Construction University Transportation Center (IBT/ABC-UTC) to carry out various Center tasks that include administrative and research technical support. Assists the Director of IBT/ABC-UTC with communicating with all faculty and other parties involved with the ABC-UTC at FIU along with its partner universities to facilitate smooth operation of the Center. Ensures that the tasks are completed in a professional and timely manner. Provides technical expertise on projects, reviews the progress reports submitted by various faculties for technical accuracy and ensures that the project's objectives and goals are being met.

- Manages the day-to-day operations of the ABC-UTC activities related to workforce development (WD), technology transfer (TT) and research, including supporting specific research activities and providing technical expertise in civil engineering.
- Maintains the centers schedule of events and important deadlines, including project management of center activities and sponsored projects.
- Assists with developing proposals and seek funding opportunities for the Center.
- Coordinates with the Office of Research and Development (ORED) to ensure that all essential documents are within the appropriate files and work with various university personnel to communicate on a variety of logistical matters and resolving problems when it pertains to students and the program. Ensures compliance with College, University, State, Federal and other agency rules and regulations.
- Responsible for generating weekly reports of center activities to communicate with the Director of the ABC-UTC.
- Assists project's Principal Investigator (PI) of the ABC-UTC projects and ABC-UTC supported graduate students for procurement of supplies and other necessities for projects, and project budget related issues.
- Manages the Center's branding and marketing initiatives including maintaining the ABC-UTC website and social media presence to increase visibility and awareness to the community and ensure content is current. Works with the Directors of WD, TT, and Research as needed.

- Generates and submits semi-annual reports required by the US Department of Transportation (DOT). Prepares and submits information related to Date Management, per US DOT format and maintains them per instructions provided by US DOT, Co- Directors and by the partner universities. Coordinates and compiles needed information for reporting with Co- Directors at partner universities.
- Coordinates with the Director of TT in generating annual highlights reports summarizing the year's activities of the ABC-UTC.
- Anticipates and prepares a wide variety of materials and technical reports needed for meetings, workshops, and recruitment events including making all travel arrangements as needed using discretion for time availability for the Director of the ABC-UTC.
- Exercises independent thought, initiative, and judgment in the implementation of programmatic activities.
- Serves as a liaison, maintaining a high level of public relations and interaction with various senior university administration, staff, and faculty. Provides confidential assistance in the receipt and handling of information.
- Manages financial data and information for ABC-UTC and all projects for the Center in accordance with FIU and sponsor guidelines. Assists in budget development and provides projections and recommendations.
- Prepares reports and analysis to include financial reports, setting forth progress, adverse trends, and appropriate recommendations or conclusions.
- Responsible for recruiting, on-boarding and training student research assistants, federal work study students, and/or OPS employees for the project(s). Responsible for reviewing and approving timesheets.
- Perform other related duties as assigned by the Director of ABC-UTC.

Graduate Research Assistant – Florida Department of Transportation, Florida Atlantic University

May 2020 – May 2022

- Contributed to the successful execution of a \$450,000 FDOT-funded project on double composite steel box girder bridge systems.
- Led coordination between research teams, faculty, and FDOT officials, ensuring alignment on deliverables and milestones.
- Took initiative in leading technical discussions, preparing progress reports, and mentoring junior team members.
- Demonstrated leadership in managing simulation workflows and guiding students in using ANSYS for finite element analysis.

Graduate Student/Teaching Assistant – Florida Atlantic University

January

2019 – May 2022

- Provided academic support for undergraduate and graduate engineering courses.
- Led lab sessions and mentored students in structural and geotechnical engineering practices.
- Trained and supervised students in lab safety protocols, equipment use, and data collection methods.

- Demonstrated leadership by developing training materials and fostering a collaborative learning environment.
- Assisted faculty in preparing research and educational proposals for internal funding and external grant opportunities.

Visiting Scholar – Florida Atlantic University

January 2018 – June 2018

- Conducted independent research on structural behavior of stepped beams using the Galerkin method.
- Took a leadership role in planning and executing analytical and numerical studies.
- Collaborated with faculty mentors to design the research framework and present findings.
- Initiated academic discussions that shaped the direction of follow-up research efforts.

Government Affairs Liaison

July 2010 – August 2014

- Served as a key liaison between government stakeholders, local communities, and party leadership to support policy awareness and civic engagement.
- Demonstrated leadership by coordinating grassroots outreach initiatives and managing stakeholder communications across multiple constituencies.
- Led strategic planning and execution of public events, political campaigns, and press engagements in collaboration with party officials.
- Facilitated interdepartmental collaboration and public policy briefings, building strong relationships with local authorities and civic leaders.

Leadership and Events – Traditions Event Management and Marketing Pvt. Ltd.
2008 – August 2015

July

- Held a leadership role in planning, organizing, and executing large-scale corporate, cultural, and government events.
- Managed cross-functional teams, including vendors, designers, and logistics personnel, to ensure seamless event delivery.
- Oversaw client engagement, budget planning, and on-site coordination, consistently delivering high-quality outcomes.
- Directed promotional campaigns and event branding strategies, enhancing company visibility and client satisfaction.
- Mentored junior staff and interns, fostering a collaborative and high-performing work environment.

RESEARCH EXPERIENCE

Miscellaneous

May 2013 - Present

With over 10⁺ years of expertise in managing and conducting research, Ankitha has developed a comprehensive skill set encompassing research design, project management, data analysis, and results dissemination. Her extensive experience has enabled me to effectively oversee research initiatives from conception to completion, ensuring timely, efficient, and high-quality outcomes. Ankitha has direct experience working with key federal agencies such as the U.S. Department of Transportation (USDOT), Florida Department of Transportation (FDOT), Federal Highway Administration (FHWA), US Army Corps of Engineers (USACE) and the National Cooperative Highway Research Program (NCHRP), as well as major private sector firms including WSP, HDR, and Structural Technologies—demonstrating her ability to bridge research, policy, and practice across diverse stakeholder environments.

Research Activities: Accelerated Bridge Construction and Innovations to Bridge Infrastructure - Florida International University

May 2022 – July 2025

(<https://abc-utc.fiu.edu/research-projects/fiu-research-projects/>)

Actively engaged in the investigation and development of innovative materials and solutions to enhance the efficiency, sustainability, and resilience of bridge infrastructure through Accelerated Bridge Construction (ABC) techniques and cutting-edge technologies. Key research areas included:

- Novel materials and structural systems
- Advanced design methodologies and construction techniques
- Integration of emerging technologies, such as artificial intelligence, Internet of Things (IoT), and Building Information Modelling (BIM)

These research endeavors aimed to reduce construction time, minimize environmental impact, and improve the overall performance and durability of bridge infrastructure.

Analysis of Bridge-Pile Foundation System in Multi-layered Soil Strata Incorporating Artificial Intelligence Techniques - PhD Candidate at Florida Atlantic University *August 2018 – April 2023*

Developed user-friendly standalone software for an analytical approach to study the pile-displacement response of vertically loaded, laterally loaded and combined loaded single pile foundation system embedded in multi-layered non-linear elastic soil.

- o Reviewed published literature for the design and analysis of pile-to-pile cap connections to: (i) Determine the required pile embedment to achieve a fully fixed or pinned moment connection; (ii) Estimate the level of partial fixity for embedment lengths between a pinned and fully fixed embedment length; and (iii) Develop reinforcement details which decrease the required embedment length to develop fixity with a plain pile
- o Conducted Finite Element Analyses to understand the effect of plain embedment length on the pile-to-pile cap connections.
- o Application of Artificial Intelligence (Artificial Neural Network) Techniques concerning the Pile Foundation system.

Florida Department of Transportation Grant: *Strength and Constructability of a Double Composite Steel Box Girder*, DOT-RFP-20-9069- CA; Total cost: \$450,000; Duration: 3 years

Research Assistant at Florida Atlantic University *May 2020 – May 2022*

PI: Dr. Nakin Suksawang (Associate Professor - Florida Institute of Technology)

Co-PI: Dr. Madasamy Arockiasamy (Professor - Florida Atlantic University)

- Conducted extensive literature review to understand the design and analysis of a Double composite steel box girder bridge.
- Performed the Finite Element Analysis of a Double composite steel box girder bridge using the software ANSYS.

Rigorous versus naïve implementation of the Galerkin approach for stepped beams

Graduate Research Intern at FAU

January 2018-May 2018

Master's thesis (part 2) at Florida Atlantic University

- Investigated the application of Galerkin's method to evaluate the deflection of stepped beams.

Wave propagation in tensegrity structures

Master's thesis (part 1) at University of Bologna

Sept. 2015 – Dec. 2017

Formulated MATLAB codes for the analysis of wave propagations in tensegrity structures.

Design of an administrative building

Bachelor's thesis at Guru Nanak Institutions, Telangana, India

June 2011 - July 2014

- Performed the design of an administrative building.
- Created a model of the design to test for its strength and durability based on the calculations of the design.

Study of precast concrete structures

Undergraduate Intern at Precast Buildcon Pvt. Ltd., Telangana, India

July 2013 – August 2013

- Carried out a study of the precast concrete structures at the manufacturing unit to check for the strength of the steel structures.

Case study of a Pre-engineered building

Undergraduate Intern at Kirby Building Systems-India Ltd., Telangana, India

June 2013 – July 2013

- Carried-out an extensive design and analysis of a pre-engineered building and the failure criteria.

Soil Investigation

Undergraduate Intern at UR Ground Engineering, Telangana, India

May 2013 – June 2013

- Carried-out field soil investigation to understand the soil parameters.\

ACADEMIC TEACHING EXPERIENCE

Teaching Assistant (TA) for the following courses

January 2019 – Present

Responsibilities as a TA included conducting laboratory sessions and grading homeworks, quizzes and conducting office hours to clarify students' doubts on the subject.

Term	Course No./Course Name	Instructor	No. of Students enrolled
Spring 2019	SUR3106 Geomatics	Ms. Olfat Zadeh	34
	CWR 3201C-001, CWR 3201C-002: Applied Hydraulics	Dr. Dan Meerof Dr. Pete Scarlatos	25
Summer 2019	SUR3106 Geomatics	Dr. Yan Yong	21
	ENV3001C 001 10798: Environmental Science and Engineering	Dr. Dan Meeroff Dr. Fred Bloetscher Dr. Peng Yi	53
Fall 2019	EGN1002 001 11732: Fundamentals of Engineering	Dr. Doleres de Groff	62
	CEG 3011C 001 10352: Soil Mechanics	Dr. Khaled Sobhan	37
Spring 2020	EGN1002 001 11732: Fundamentals of Engineering	Dr. Doleres de Groff	78
	CEG 3011C 001 10352: Soil Mechanics	Dr. Khaled Sobhan	30
Summer 2020	CWR 3201C-001, CWR 3201C-002: Applied Hydraulics	Dr. Fred Bloetscher	65
Fall 2020	CEG 4012-001, CEG 6105-002, CEG 6105-001, CEG 6105-900: Foundation Engineering	Dr. Khaled Sobhan	59
	CEG 3011C 001 10352: Soil Mechanics	Dr. Khaled Sobhan	32
Spring 2021	CEG 3011C-001, CEG 3011C-002: Soil Mechanics	Dr. Khaled Sobhan	25
	CWR 3201C-002, CWR 3201C-003: Applied Hydraulics	Dr. James VanZwieten	50
Summer 2021	CEG 3011C-003, CEG 3011C-004: Soil Mechanics	Dr. Khaled Sobhan	20
	EGN 3331-001, EGN 3331-002: Strength of Materials	Dr. Khaled Sobhan	66
Fall 2021	CEG 3011C-001: Soil Mechanics	Dr. Khaled Sobhan	34
	SUR 4463-001, SUR 3463L-001, SUR 4463-002: Subdivision Design	Sandra Bowling	54
Spring 2022	CWR 3201C-001: Applied Hydraulics	Dr. James VanZwieten	46
Fall 2023	CES 5325: Design of Highway Bridges	Dr. Atorod Azizinamini	6
Fall 2024	CES 5325: Design of Highway Bridges	Dr. Atorod Azizinamini	7

PROFESSIONAL CONTRIBUTIONS

Florida International University

May 2022 – July 2025

Research

- Investigation of emerging trends and technologies - Conducted research on innovative materials and concepts, exploring their potential applications and implications for the transportation sector.
- Development of novel research methodologies - Actively engaged in design and applied innovative research methods, to investigate complex transportation problems.
- Utilized the project management software Monday.com to streamline the dissemination of research proposals and effectively manage over 100+ projects. Leveraging its collaborative tools and customizable workflows, enhanced team coordination, improved project tracking, and ensure timely submission and follow-up of proposals. This approach not only increased transparency across teams but also significantly boosted overall efficiency and productivity in managing complex, multi-phase research initiatives ([https://abc- utc.fiu.edu/research-projects/progress-reporting-system/](https://abc-utc.fiu.edu/research-projects/progress-reporting-system/)).
- Published research findings – Served as a Principal Investigator or Co-Principal Investigator and authored close to 5 peer-reviewed articles and final reports, disseminating research results to the transportation community and contributing to the advancement of knowledge in the field (<https://abc-utc.fiu.edu/research-projects/>).

Workforce Development Activities

- Proposed and developed the Campaign PantherX, a comprehensive initiative aimed at a collaborative traineeship program between Industry and Government Partners and Florida International University to equip students with industry-relevant skills in emerging technologies through tech presentations, tech showcases, live demonstrations, interactive fun activities, consultations, and open discussions (<https://abc-utc.fiu.edu/education-2/>) (<https://lsc-pagepro.mydigitalpublication.com/publication/?i=838807&p=36&view=issueViewer>).
- Successfully secured partnerships with around 10 industry sponsors/collaborators, organized three impactful events (Fall 2024 and Spring 2025) attended by 60 to 100 students each, and facilitated the hiring of 8 students—demonstrating the initiative’s effectiveness in bridging academia and industry.
- Mentored students using engineering software tools such as ANSYS and MATLAB for project work and research applications.

- Established a mentorship program with students or early-career professionals, promoting knowledge transfer and career development (<https://abc-utc.fiu.edu/research-projects/2023-2029-ibt-abc-utc-internship-opportunities/>).

Technology Transfer Initiatives

- Actively promoted technology transfer initiatives through a structured system, facilitating the dissemination of innovative research and best practices to industry stakeholders. Successfully organized and publicized webinars and seminars, leveraging the system to maximize outreach and engagement (<https://abc-utc.fiu.edu/webinars/>).
- Designed and implemented a set of metrics to evaluate the effectiveness of technology transfer initiatives, enabling data-driven decision-making.
- Actively engaged in hosting workshops and conferences, fostering collaborative exchange and knowledge sharing among industry experts, researchers, and stakeholders (<https://abc-utc.fiu.edu/conference/>).

Florida Atlantic University

January 2018 – May 2023

Research

Analysis of pile foundation systems in multi-layered soil strata incorporating artificial intelligence techniques

- Developed a standalone software tool using an analytical approach to model the displacement response of single piles under vertical, lateral, and combined loads in complex, multi-layered non-linear elastic soil strata.
- Integrated Artificial Neural Networks (ANNs) to improve prediction of pile behavior based on soil properties and loading conditions. Conducted Finite Element Analyses (FEA) to study the effect of embedment length on pile-to-pile cap moment connections and optimize reinforcement details for reduced embedment requirements.

FDOT-Funded Project: Double Composite Steel Box Girder Bridge

- Participated in a Florida Department of Transportation (FDOT) research grant as a graduate assistant focused on evaluating the strength and constructability of a double composite steel box girder bridge system. Performed comprehensive literature reviews and developed advanced finite element models using ANSYS to simulate structural behavior and validate design assumptions. Collaborated with multidisciplinary teams under the guidance of PI Dr. Nakin Suksawang and Co-PI Dr. Madasamy Arockiasamy.

Application of Galerkin Method for Stepped Beams

- Conducted graduate research on the deflection analysis of stepped beams using Galerkin's method.

- Compared rigorous versus naïve implementations to evaluate their accuracy and computational efficiency in solving structural problems involving discontinuities in geometry.
- Completed as part of a Master's thesis (Part 2) and Graduate Research Internship at FAU (Jan 2018 – May 2018).

Workforce Development

- Actively contributed to the academic development of undergraduate and graduate students by serving as a Student Assistant, providing tutoring and hands-on training in structural engineering laboratory activities.
- Facilitated lab sessions focused on materials testing, structural analysis, and geotechnical instrumentation, helping students build practical skills aligned with course objectives.

Technology Transfer

- Successfully disseminated research findings through peer-reviewed journal publications, conference presentations, and technical reports, contributing to the advancement of knowledge in bridge engineering and foundation systems.
- Delivered multiple presentations at national and international engineering conferences, engaging both academic and industry audiences.
- Actively participated in the technology transfer process by generating provisional patents based on research outcomes related to pile foundation systems and composite bridge technologies.

CONTRIBUTION TO PROPOSAL EFFORT

Assisted in Technical Grant Writing:

- **USDOT UTC Tier 1 GRANT** - Improving the Durability and Extending the Life of Transportation Infrastructure, Total Cost: \$10 Million; Duration: 5 years

Status – Awarded

- **NCHRP 22-56 GRANT** - Development of Non-proprietary Prefabricated Solutions for Concrete Barrier Systems for Accelerated Bridge Construction, Total Cost: \$900,000; Duration: 3 years

Status – Awarded

- **USACE ERDC CERL GRANT** - Research Title: Ultra-high Performance Concrete For Additive Construction (Cerl-15); Proposal Title: Basic Solutions For Use Of Ultra-high Performance Concrete (UHPC) In Additive Construction (3D Printing)

ERDC-BAA No W912HZ-21-BAA-01; Total Cost: \$3.8 Million; Duration: 3 years

Status – Awarded

- **NASA Grant:** *NASA MAIANSE CONNECTING Scheme for Promoting Indigenous Culture and Ethics among Students with STEM*, Total cost: \$450,000; Duration: 3 years

Status – Awarded

- **FDOT Grant:** *Strength and Constructability of a Double Composite Steel Box Girder*, DOT-RFP-20-9069- CA; Total cost: \$450,000; Duration: 3 years

Status – Awarded

- **NASA Grant:** *NASA MAIANSE CONNECTING Scheme for Promoting Indigenous Culture and Ethics among Students with STEM*, Total cost: \$500,000; Duration: 3 years

Status – Awarded

- **AAR/TTCI Grant:** *In-Motion Full Rail Section using Non-Destructive Evaluation Methods*; Total cost: \$1,080,000; Duration: 3 years

Status – Not Awarded

- **FDOT Grant:** *Design and Detailing of Anchorages for Externally Bonded CFRP*, DOT-RFP-21-9033-CA; Total cost: \$96,347.17; Duration: 11 months

Status – Not Awarded

- **FDOT Grant:** *Evaluation of Concrete Pile to Footing or Cap Connections*, RFP-19-001; Total cost: \$286,453; Duration: 3 years

Status – Not Awarded

RESEARCH PUBLICATIONS

Peer-reviewed Journal Articles:

- Isaac Elishakoff, Arvan Prakash Ankitha and Alessandro Marzani. 2019. “*Rigorous versus naïve implementation of the Galerkin method for stepped beams*”. Acta Mechanica, Springer.
Status: *Published*

DOI: <https://link.springer.com/article/10.1007/s00707-019-02393-z>

- Isaac Elishakoff, Marco Amato, Arvan Prakash Ankitha and Alessandro Marzani. 2021. “*Rigorous implementation of the Galerkin method for stepped structures needs generalized functions*”. Journal of Sound and Vibration, Elsevier.
Status: *Published*

Note: The research work has been recognized by Wikipedia under the title “*Galerkin method for stepped structures*” and can be viewed at https://en.wikipedia.org/wiki/Galerkin_method.

DOI: <https://www.sciencedirect.com/science/article/pii/S0022460X20305381>

- Madasamy Arockiasamy and Arvan Prakash Ankitha. 2021. “*Behavior, Performance and Evaluation of Prestressed Concrete/steel Pipe/Steel H-Pile to Pile Cap Connections: State-of-the-Art Review*”. Practice Periodical on Structural Design and Construction, American Society of Civil Engineers (ASCE).
Status: *Published*

Note: Paper selected for the *ASCE State-of-the-Art of Civil Engineering Award*.

DOI: <https://ascelibrary.org/doi/10.1061/%28ASCE%29SC.1943-5576.0000671>.

- Arvan Prakash Ankitha and Madasamy Arockiasamy. 2021. “*Energy-based Approach – Analysis of a Vertically Loaded Pile in Multi-layered Non-linear Soil Strata*”. Geotechnics Journal, MDPI.
Status: *Published*
- Arvan Prakash Ankitha and Madasamy Arockiasamy. 2022. “*Energy-based Approach – Analysis of a Laterally Loaded Pile in Multi-layered Non-linear Soil Strata*”. Geotechnics Journal, MDPI.
Status: *Published*
- Arvan Prakash Ankitha and Madasamy Arockiasamy. 2023. “*Analysis Methods for Understanding the Effect of Embedment Depth concerning Pile-to-Pile Cap Connections*”. Practice Periodical on Structural Design and Construction, ASCE.
Status: *Published*
- Arvan Prakash Ankitha, Rahul Dev Raju and Madasamy Arockiasamy. 2023. “*Offshore Wind Turbine (OWT)-Monopile Foundation Systems in Multi-layered Soil Strata under Aerodynamic and Hydrodynamic Loads: State-of-the-Art Review*”. Practice Periodical on Structural Design and Construction, ASCE.
Status: *Published*

Prospective Journal Articles:

- Arvan Prakash Ankitha and Madasamy Arockiasamy. 2025. “*Digging Deeper with AI: Revolutionizing Deep Foundation Design and Analysis*”. Journal of Structural Design and Construction, ASCE.
Status: *Submission in Progress*

Peer-reviewed Final Reports:

- M Dickinson, A Arvan, I Mantawy. 2024. “*Optimization of Advanced Cementitious Material Overlays and Upgrades, Including Shotcrete*”

[Transport Research International Documentation \(TRID\)](#)

Status: *Published*

- CS Cardenas, A Arvan, A Azizinamini. 2025. “*Rapid Repair and Retrofit of Timber Piles Using UHPC*”

[Transport Research International Documentation \(TRID\)](#)

Status: *Published*

- H Farghal, A Arvan, A Azizinamini. 2025. “*Use of All Lightweight Concrete in Conjunction with UHPC Connection for Prefabricated Barrier System*”

[Transport Research International Documentation \(TRID\)](#)

Status: *Published*

- A Javed, A Arvan, A Azizinamini. 2025. “*Robotic Bridge Construction: Experimental Phase I*”

[Transport Research International Documentation \(TRID\)](#)

Status: *Published*

- Atorod Azizinamini, Bijan Khaleghi, Mary Lou Ralls Newman, Kingsley Lau, Ali Ebrahimian, Aaron Yakel, Anil Misra, Islam Mantawy, Ankitha Arvan, Mark Finlayson. 2025. “*Development of Accelerated Bridge Construction Handbook (ABC Handbook)*”

[Transport Research International Documentation \(TRID\)](#)

Status: *Published*

Referred Conference Presentations/Papers:

- Arvan Prakash Ankitha and Madasamy Arockiasamy. 2022. “*Analysis of Bridge-Pile Foundation System in Multi-layered Non-Linear Soil Strata Using Energy-Based Method*”. 7th Annual UTC Conference for the Southeastern Region, Freight Mobility Research Institute (FMRI).
Podium Presentation
- Carlos Sosa Cardenas, Arvan Prakash Ankitha and Atorod Azizinamini. 2024. “*Retrofitting Timber Piles using UHPC*”. World Bridge Engineering Conference, Innovative Bridge Technologies/Accelerated Bridge Construction-University Transportation Center (IBT/ABC-UTC).
Podium Presentation
- Bijan Khaleghi, Husam Farghal, Arvan Prakash Ankitha and Atorod Azizinamini. 2024. “*Improving Seismic Resiliency with Super-Elastic Materials in Bridge Columns*”. World Bridge Engineering Conference, Innovative Bridge Technologies/Accelerated Bridge Construction-University Transportation Center (IBT/ABC-UTC).
Podium Presentation

PATENTS

Ankitha, Arvan Prakash, Madasamy Arockiasamy, and Marco Amato. "*Analysis of bridge- pile foundation system in multi-layered non-linear soil strata using energy-based method.*"

U.S. Patent Application 18/204,677, filed December 7, 2023.

VOLUNTEER EXPERIENCE

Journal Reviewer Experience

- Journal on Structural Design and Construction (ASCE) (*Jan 2020 to Present*)
- Sustainability (MDPI) (*December 2022 to Present*)
- Applied Sciences (MDPI) (*December 2022 to Present*)
- ASCE Journal of Computing in Civil Engineering (ASCE) (*January 2024 to Present*)
- Journal of Marine Science and Engineering (MDPI) (*January 2023 to Present*)
- Journal of Bridge Engineering (ASCE) (*January 2025 to Present*)

Committee Membership Experience

- Corresponding Member, Executive Committee, Committee on Student Conferences and Competitions, American Society of Civil Engineers (*October 2024 to Present*)
- Corresponding Member, Executive Committee, Committee on Younger Members, American Society of Civil Engineers (*October 2024 to Present*)
- Member, Seismic and Lateral Loads Committee, Deep Foundations Institute (*October 2024 to Present*)
- Member, Foundation Reuse, Deep Foundations Institute (*October 2024 to Present*)
- Member, Women in Deep Foundations Institute (WiDF), Deep Foundations Institute (*October 2024 to Present*)

Panel Member Experience

- Panel Member, Transportation Research Board Executive Committee, Transit Cooperative Research Program, National Academies of Sciences, Engineering and Medicine (*April 2025 to Present*)

TECHNICAL AND LANGUAGE SKILLS

Technical/software Skills

- MS Office (MS Word, MS Excel, MS Power-point)
- Structural Analysis: Autodesk AutoCAD, SAP 2000, ETABS, STAAD Pro.
- Finite Element Modeling and Analysis: ANSYS, ABAQUS.
- Coding with MATLAB

Language Skills

- English – Professional fluency
- Italian – Professional fluency
- Spanish – Beginner Level
- Telugu – Native fluency; Hindi – Professional fluency; Sanskrit – Beginner level

SCHOLARSHIPS, AWARDS AND HONORS

2025 Top 50 Women Leaders of Florida and **Florida's Most Influential Women** from Women We Admire (July/September 2025)

2024 Women in Deep Foundations (WiDF) Professional Development Grant from the Deep Foundations Institute – DFI (May 2024)

2023 State-of-the-Art of Civil Engineering Award from American Society of Civil Engineers – ASCE (April 2023)

2022 3MT Thesis Scholarship Award from Florida Atlantic University (May 2022)

Presidential Fellowship Award from Florida Atlantic University (August 2018-May 2022)

Gangals Student Scholarship from Gangals Non-Profit Foundation Inc (August 2021-May 2022)

Florida Structural Engineers Association (FSEA) Educational Merit Scholarship Award (2019)

ER. GO (Regional Authority for the Right to Higher Education) Merit Scholarship Award (2015-2018)

Best Outgoing Student Award for Best Outgoing Student of Civil Engineering department, Guru Nanak Institutions, Telangana, India (June 2015)

FEATURES

- 2022 Three Minute Thesis (3MT®) Competition Winner

<https://mailchi.mp/graduate.fau.edu/fau-three-minute-thesis-3mt-2022-championship-winners-2d?fbclid=PAY2xjawJzQ4pleHRuA2FlbQIxMQABpwdFzpSrX-NRLoopxdqNQyalejfDPtDgcztgeiAZxYC->

[oTYP3jB74wFFpzJ0_aem_AGlOqCWyh9IK5Xjmbigubg](https://mailchi.mp/graduate.fau.edu/fau-three-minute-thesis-3mt-2022-championship-winners-2d?fbclid=PAY2xjawJzQ4pleHRuA2FlbQIxMQABpwdFzpSrX-NRLoopxdqNQyalejfDPtDgcztgeiAZxYC-oTYP3jB74wFFpzJ0_aem_AGlOqCWyh9IK5Xjmbigubg)

<https://youtu.be/a7jKRzGWotk?si=QD70gWTGFsVtAuOI>

- 2023 ASCE State-of-the-Art of Civil Engineering Award

<https://regions.asce.org/region5/awards>

<https://www.asce.org/career-growth/awards-and-honors/asce-state-of-the-art-of-civil-engineering-award/asce-state-of-the-art-of-civil-engineering-award-past-award-winners>

- Journal Publication featured on ASCE Kudos for research contributions to the following Sustainable Development Goals: SDG 7: Affordable and Clean Energy; SDG 9: Industry, Innovation, and Infrastructure; SDG 13: Climate Action; SDG 14: Life Below Water; and SDG 8: Decent Work and Economic Growth

<https://www.growkudos.com/publications/10.1061%252Fppscfx.sceng-1198/reader>

- 2024 DFI Educational Trust Awards Women in Deep Foundations Professional Development Grants

<https://dfi.org/news/dfi-educational-trust-awards-women-in-deep-foundations-professional-development-grants-3/>

https://www.linkedin.com/posts/arvan-ankitha-prakash_womenempowerment-dfi-fiu-activity-7296736529056497664-

[uKsz?utm_source=share&utm_medium=member_desktop&rcm=ACoAABOzfJwBteNwMqlQt7_eUPChlmCQHZTGBMI0](https://www.linkedin.com/posts/arvan-ankitha-prakash_womenempowerment-dfi-fiu-activity-7296736529056497664-uKsz?utm_source=share&utm_medium=member_desktop&rcm=ACoAABOzfJwBteNwMqlQt7_eUPChlmCQHZTGBMI0)

- Presentation to University of Miami CAE

Seminar Series

<https://youtu.be/eswyZTpjrZQ?si=UeFZs3kYFw69GmR>

[o](#)

- ASCE FIU feature for International Day of Women & Girls in Science

https://www.linkedin.com/posts/fiuasce_fiu-ascefiu-asce-ugcPost-7295275833437401088-

[ZmDa?utm_source=share&utm_medium=member_desktop&rcm=ACoAABOzfJwBteNwMqlQt_7eUPChlmCQHZTGBMI0](https://www.linkedin.com/posts/fiuasce_fiu-ascefiu-asce-ugcPost-7295275833437401088-ZmDa?utm_source=share&utm_medium=member_desktop&rcm=ACoAABOzfJwBteNwMqlQt_7eUPChlmCQHZTGBMI0)

- 2025 Top 50 Women Leaders of Florida

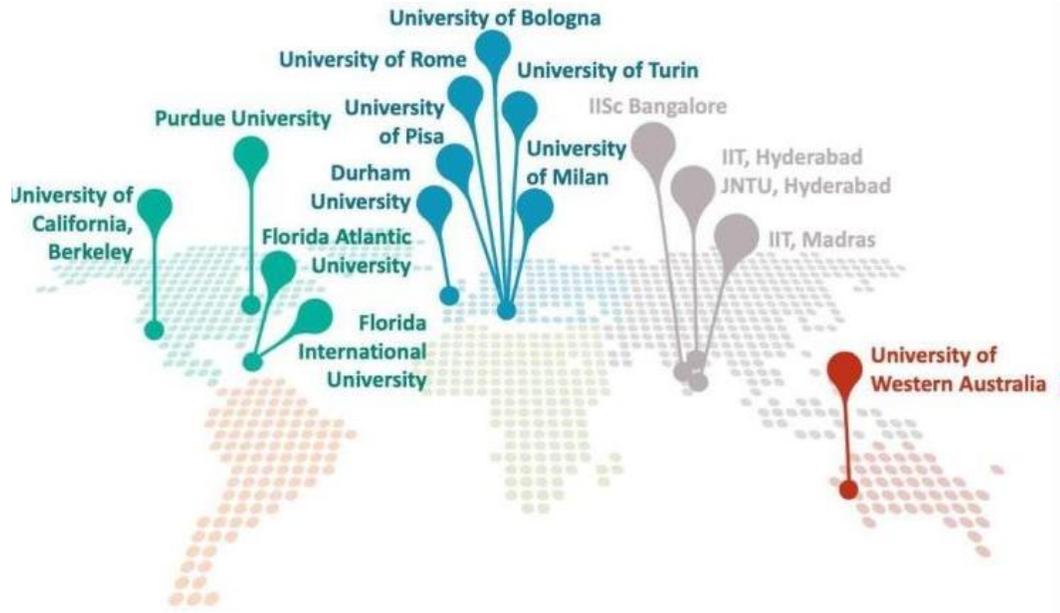
[The Top 50 Women Leaders of Florida for 2025 – Women We Admire](#)

[CEGE Alumnus Selected as Finalist for The Top 50 Women Leaders of Florida for 2025](#)

- 2025 Florida's Most Influential Women

[Florida's Influential Women: Navigating Growth, Diversity, and Opportunity – Women We Admire](#)

COLLABORATION AND STRATEGIC PARTNERSHIP



PROFESSIONAL MEMBERSHIPS

Active member of American Society of Civil Engineers (ASCE) and ASCE Geo-Institute, Florida Structural Engineers Association (FSEA), Deep Foundations Institute (DFI) and National Academies of Sciences, Engineering and Medicine's (NASEM) Transit Cooperative Research Program (TCRP).



RESEARCH CONNECTIONS PLATFORM



My research papers from my M.Sc. and Ph.D. are published on my **Research Gate**.

<https://www.researchgate.net/profile/Arvan-Ankitha-Prakash>



All my journal and conference publications can be also found on my **Google Scholar**.

<https://scholar.google.com/citations?user=IXugRVYAAAAJ&hl=en>



All my journal publications can be also found on my **ORCID**.

<https://orcid.org/my-orcid?orcid=0000-0002-8573-2061>

REFERENCES

Dr. Isaac Elishakoff

Distinguished Research Professor
Department of Ocean and Mechanical Engineering
Florida Atlantic University
777 Glades Road, EW 106
Boca Raton, FL 33431-0991
p: 561.297.2729
elishako@fau.edu

Dr. Alessandro Marzani

Full Professor
Department of Civil, Chemical, Environmental, and Materials Engineering
University of Bologna
Viale del Risorgimento 2, Bologna
p: +39 051 20 9 3510
alessandro.marzani@unibo.it

Dr. Madasamy Arockisamy (PhD Thesis Advisor)

Professor
Department of Civil, Environmental and Geomatics Engineering
Florida Atlantic University
777 Glades Road, EW 215
Boca Raton, FL 33431-0991
p: 561.297.3434
arockias@fau.edu

Dr. Evangelos Kaisar (PhD Committee Chair)

Professor, Department Chair and Executive Director of FMRI & MITSL
Department of Civil, Environmental and Geomatics Engineering
Florida Atlantic University
777 Glades Road, EW 204
Boca Raton, FL 33431-0991

p: 561.297.4084
ekaisar@fau.edu

Dr. Sudhagar Nagarajan (PhD Committee Member)

Associate Professor and Associate Chair
Department of Civil, Environmental and Geomatics Engineering
Florida Atlantic University
777 Glades Road, EW 222
Boca Raton, FL 33431-0991
p: 561.297.3104
snagarajan@fau.edu

Dr. Ines Triay

Interim Dean, College of Engineering and Computing, Executive Director, Applied Research Center,
Florida International University
10555 W Flagler St,
Miami, FL 33174
triayin@fiu.edu

Edda Juarez

Director, Miami Dade College – Student Financial Services
Former Program Director, Florida International University
eddavjinfante@gmail.com
p. 305.726.5662

Gladys Gonzalez

Former Program Director, Florida International University
glagonza@gmail.com
p. 305.519.5936

Ashley Loyola

Director of Strategic Business Development, Terra Geosynthetics
Former Technical Manager, Florida International University
aloyola@fiu.edu
p. 978.987.8697