MESSAGE FROM THE DIRECTOR AND VISION FOR THE FUTURE

THE FUTURE OF CONSTRUCTION MANAGEMENT. WHAT DO WE NEED TO GET THERE?

The construction industry has traditionally lagged on the adoption of new technologies. However, we see that the need for increased productivity while maintaining a high safety record is pushing the industry to adopt and embrace technological advancements. The push for a better, cleaner future is driving efforts to improve environmentally friendly projects. The lack of workforce availability to fill the ever-increasing new job demands requires a conscious effort to create a well-prepared workforce.

As one of the premier construction management programs in the nation, the Florida International University's Moss School of Construction, Infrastructure and Sustainability and its Moss Department of Construction Management are uniquely positioned to influence and shape this future. Here's a comprehensive look at what lies ahead:

TECHNOLOGICAL ADVANCEMENTS

1. **Building Information Modeling (BIM):** BIM continues to revolutionize the construction industry by enabling detailed 3D modeling and real-time collaboration among stakeholders. Its adoption is expected to grow, making project planning, execution, and management more efficient and error-free. The Department, thanks to the generous support of Chad Moss, the Moss Family, and the Moss Foundation, has created a BIM lab where students and faculty can engage in meaningful discussions over the many aspects of a construction project. We expect to increase our capabilities by adding more state-of-the-art software and hardware that expands our Virtual Reality (VR) and Augmented Reality (AR). We will be looking to provide hands-on experience to students in the use of headsets, tracking systems, gloves with haptic feedback, lidar sensors, and 3D laser scanners.
2. **Artificial Intelligence (AI) and Machine Learning:** AI is set to enhance predictive analytics, risk management, and decision-making processes. Machine learning algorithms can analyze vast amounts of data to predict project outcomes, optimize resource allocation, and improve safety protocols. Our curriculum includes courses in AI in construction, both for the undergraduate and graduate programs. We have the capabilities to teach our students these concepts, and we will be looking to hire more faculty that are savvy with AI and technology as they will help shape the future of the industry.
3. **Robotics and Automation:** The use of robotics in construction is increasing, from bricklaying robots to autonomous vehicles for material transport. Automation will reduce labor costs, increase precision, and speed up project timelines. Our curriculum also includes courses in robotics in construction, both for the undergraduate and graduate programs. We will be looking to purchase robotic arms and concrete 3D printing equipment that would allow students and faculty to create innovative solutions for the industry using the most advanced technology available.
4. **Drones and Augmented Reality (AR):** Drones are becoming essential for site surveys, inspections, and progress monitoring. AR, on the other hand, allows for immersive visualization of projects, aiding in design validation and on-site problem-solving.
5. **Sustainable Materials and Practices:** The future of construction management will see a greater emphasis on sustainability. This includes the use of eco-friendly materials, energy-efficient building designs, and waste reduction practices. We have courses in sustainability and may launch a track that focuses on the areas of sustainability, net-zero buildings, and circular economies that reduce the negative impact of construction projects on the environment.

We are driven to provide the industry with the best educated personnel in construction at all levels. Given the increased demand for well-rounded professionals, we need to hire more faculty who can support the delivery of our curriculum to the three higher education programs. We are well known for our Bachelor's in Construction Management, our Master's in Construction Management, and our doctoral programs in many different fields but with major focus on construction management.

We have also seen a great demand for skilled laborers who understand the trades. Our efforts have paid off over the last six years as we have launched the FIU Construction Trades program, providing participants with national certifications in different trades and evolving the program into one with pre-apprenticeship and apprenticeship programs that provide the industry with a workforce in critical construction trades. We are planning to grow our solar panel installation apprenticeship program as we see an increased demand in this area. Our solar program has successfully trained over 26 individuals, and two of them went to work for Moss. Overall, our program has trained over 2,600 individuals in Miami-Dade and Broward, and we are looking to expand our regional coverage to other major cities in South Florida.

CONCLUSION

We expect to have a bright future, producing highly trained individuals equipped with the technology and the concepts they need to successfully raise the construction industry to the next level. By staying informed of and adaptive to these emerging trends, construction managers can lead the industry towards a more efficient, sustainable, and inclusive future. We need to invest in resources and people who will dominate the technology and can help to produce more outstanding graduates to drive our industry to levels never seen before. We have never experienced such a fast-paced growth in technology, and we can expect that it will accelerate even more.

Jose A. Faria, Ph.D.
Endowed Chair, Moss Department of Construction Management

FIU, THANKS TO PARTNERS LIKE YOU, CONTINUES TO RISE.

READ ALL ABOUT OUR RANKINGS

FIU is a Top 50 public university – and a **Top 100 university – nationwide** (*U.S. News & World Report*).

FIU is among the **top 20 universities** in the nation in *Washington Monthly*'s annual College Guide and Rankings.

FIU is the highest ranked among all universities–public or private–in Florida in *The Wall Street Journal*'s America's Best Colleges 2025 rankings, coming in at **No. 31 in the United States among public universities and 77 among all universities.**

FIU is No. 1 in Top Performers on Social Mobility and **No. 33 in Most Innovative Schools** (*U.S. News & World Report*).

The Carnegie Classification of Institutions of Higher Education has ranked **FIU R1: Doctoral Universities – Very High Research Activity**, since 2015.

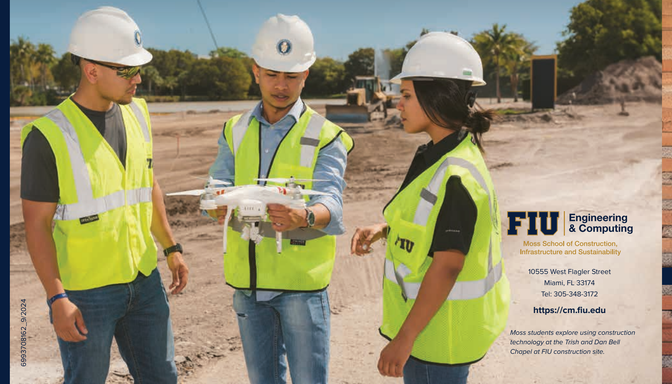
The Florida Board of Governors designated FIU a **Preeminent State Research University** in recognition of achievements in metrics related to student success, research, and top national rankings.

FIU is ranked among the **top 25 U.S. public universities (No. 23)** and **58th among all universities in the world** for patent production (2023).

QS World University Rankings 2024 places FIU at **No. 39 (public/US) for Engineering and Technology.**

FIU ranks **No. 2 in the U.S.** and **No. 13 in the world** for impact in the *2024 Times Higher Education Impact Rankings*.

Times Higher Education places FIU at **No. 41 (public/US) for Engineering.**



Moss students explore using construction technology at the Trish and Dan Bell Chapel at FIU construction site.

FIU Engineering & Computing
Moss School of Construction, Infrastructure and Sustainability

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THE MOSS SCHOOL OF CONSTRUCTION, INFRASTRUCTURE AND SUSTAINABILITY

A REPORT OF IMPACT AND ACHIEVEMENTS 2024

FIU Engineering & Computing
Moss School of Construction, Infrastructure and Sustainability

Since Mr. Chad Moss '94 announced, at the 2017 Alumni Torch Awards, his intention to gift $10M to form the Moss School of Construction, Infrastructure and Sustainability at his alma mater—within its College of Engineering & Computing—and to support students in need, our Moss School has grown by leaps and bounds. We are now pleased to present the updated numbers and success stories in this report, showing positive impact on FIU, the community, in preparing experts for the industry (some employed at Moss Construction Company), in supporting deserving students through scholarships, research, supporting construction management faculty, increasing alumni employment, and in uplifting construction management overall.

Chad, as our most generous alumnus, your deep, continued engagement is invaluable. Thank you, and thanks to the Moss Foundation.

STUDENTS—THE LIFEBLOOD OF THE MOSS SCHOOL

Our students are the reason we strive for excellence and innovation at the Moss School. Enrollment generally reflects the interest and prestige the School—and the College of Engineering & Computing—have garnered in a few short years.

The 532 total construction management students as of fall 2024 represent a 50 percent increase from the enrollment of 355 in fall 2017. The number of students seeking a master's degree in construction management has nearly doubled in the same period.

Currently, 158 construction management undergraduates, out of a total of 395, are first-generation students, or 40 percent.

In 2021, 21 percent of Moss School students were female. As of fall 2023 (the most recent and complete count), the population is 25 percent female students.

Our four-year graduation rate has soared from 46 percent in 2017-2018 to 75 percent for the 2020-2021 cohort.

Since the Moss School welcomed its first students in 2018, 672 students have graduated with the unique qualifications and experience to enter the construction management workforce. Of these alumni, 451 earned a Bachelor of Science in Construction Management and 221 earned a Master of Science in Construction Management.

UPLIFTING THE COLLEGE, UNIVERSITY, AND INDUSTRY

The Moss School, the first to be named at the College of Engineering & Computing, has attracted investment, increased faculty productivity, raised four-year graduation rates, and brought positive attention to the College and to FIU.

Our faculty has increased the level of publications and research grants to outstanding levels.

The annual number of grants awarded to faculty has gone from 19 in 2019 to 31 in 2024, amounting to a total of over $40.5 million.

We have engaged in a partnership with Trimble, a global billion-dollar company that produces software and hardware for construction, logistics, and agriculture. Through this partnership, the Moss School has brought to the College and to FIU the Trimble Technology Lab, where students have access to free licenses to Trimble brand products. The gift came with hardware in the form of a Hololens, Total Stations, and a laser scanner that elevates the teaching and research capabilities of the School.

The Lennar Foundation also continues to place their trust in our faculty and staff to offer the Construction Trades Program, a community-oriented program that provides individuals in the community with the technical skills necessary to enter the construction workforce. The program is set to expand soon to more municipalities in southern Florida.

SCHOLARSHIPS MADE POSSIBLE BY MOSS

Scholarship are very often the make or break difference for students at FIU, as many come from low-income households. We share the belief of the Moss Foundation of fostering growth through education, and, like the Moss Foundation, we take action to make a tangible difference where it counts.

Thanks to your investment, these are the students who have benefitted from your desire to see others improve their lives and pursue their dreams through access to higher education.

> ***Talk is cheap.*** *We don't just say that we care about communities, we go out and become part of them. We don't just build extraordinary buildings, shape city skylines, and create new landmarks. We improve lives and build the future of every community we are involved in.*
>
> —*Moss.com on "Community Engagement"*

My path at Florida International University began with the Master of Science in Construction Management program, where I took a course (Interdisciplinary Aspects of Housing) with Dr. Mohamed ElZomor. In that course, I rediscovered my passion for research and education through a personal project on temporary emergency housing for low-income communities. This experience reignited my interest not only in research but also in addressing social problems through innovative engineering solutions, leading me to pursue a Ph.D. in civil engineering. The Moss School has provided me with the ideal platform to pursue innovative solutions to global challenges.

—Claudia Calle Müller
Ph.D. student at the College of Engineering & Computing

MOSS FOUNDATION SCHOLARSHIPS

Laura Arias*
Maria Capela
Christopher Comas
Mike Fenelon*
Julian Folgueira
Cheyla Guay
Jonpaul Lafayette
Nikolas Prieto
Gabriel Rondon Gonzalez*
Jithu Sabu Daniel
Anthony Williamson

MOSS OPERATING SCHOLARSHIPS

Allyson Almendarez
Devan Blackman
McKenzie Brown
Elhadj Dial
Rita La Rosa
Kyla Messam

MOSS FOUNDATION FIRST-GENERATION SCHOLARSHIPS

Approximately 40 percent of students enrolled at the Moss School are the first generation in their family to pursue a college degree. Scholarships for these students may be the deciding factor in staying in school or not, as this is a vulnerable population. Moss Foundation First-Generation Scholarships have made positive impact for 90 students and counting.

Allyson Almendarez*
Alix Altidor*
Jose Alvarez*
Jessica Alvarez*
Bryan Alvarez
Anthony Amador*
Jesus Anaya*
Andres Aponte*
Laura Arias*
Ivan Avila*
Danny Becerra*
Arturo Cantu*
Paola Carmenate*
Ana Castillo Burgos*
Leonel Chacon*
David Crain*
Oswaldo Cruz*
Ziani Deliz
Joseph Diaz
Brandon Dominguez*
Lorviguens Emile*
Joseph Eniola
Alan Espinoza
Marco Estigarribia
Ezekiel Figueroa
Francisco Gonzalez*
Mauro Gonzalez
Giovanni Gonzalez-Herrera*
Jeremy Gough*
Mercedes Gregorio*
Aiden Guerrero*
Fabricia Guirand
Carlos Hermida*
Daniel Hill*
Sebastian Hirschfeld*
Jennifer Hulse*
Alexander Iturrey*
Alvaro Izquierdo*
Baxter Johnson*
Lian Juelle*
Hevert Lagunas*
Missalaine Laurent*
Kelvin Lin*
Mario Lira-Avila*
Javier Llambias
Sebastian Loor*
Bradley Marston*
Frantzdo Medor*
Anthony Mendez*
Cristian Mendoza*
Javier Molina*
Claudio Monier*
Erick Morales*
Christopher Nazien*
Leonela Nunez*
Ryan Oreth-Leal*
Jessenia Osorio-Marichal*
Rafael Palma-D'Souza
Andrea Pena*
Jose Perez*
Roddy Perez Pizarro
Sedrick Petit Frere*
Marchenay Pierre*
Brandon Platt
Nicolas Posada*
Daniel Pubien*
Marcos Ramirez*
Pedro Reyes*
Arald Robert*
Christian Rodriguez*
Derlin Rodriguez
Michael Rodriguez*
Miguel Rodriguez*
Osdarbys Rodriguez*
Leandro Rojas
Zacarias Romero*
Cristian Rubio*
Frantz Robert Saintilien*
Andy Salcedo*
Rayka Salguero*
Anthony Simon*
Luis Torres*
Jason Valdovinos
Giovanna Valencia Morrison*
Jennifer Vazquez
Bryan Vega*
Alberto Villafana*
Kowyen Ye*
William Zepka*

"Received awards over two or more semesters

OUR FACULTY

The Moss School's instructors include eleven full-time faculty members, 18 adjunct faculty, and four emeritus faculty. Our full-time faculty includes:

Jose Faria, Ph.D., PMP
Moss Endowed Chair

Larry Casey
Assistant Teaching Professor and FIU Director of Industry Relations

Mohamed ElZomor, Ph.D.
Associate Professor and Graduate Program Director

Leonel E. Lagos, Ph.D., PMP
Associate Professor

Ayman Morad, Ph.D.
Associate Teaching Professor

Walied Orabi, Ph.D.
Associate Professor and Undergraduate Program Director

Nipesh Pradhananga, Ph.D., P.E.
Associate Professor and Associate Chair

David Ramsey, Ph.D.
Assistant Teaching Professor

Mahya Sam, Ph.D.
Assistant Teaching Professor

Sudip Subedi, Ph.D.
Visiting Assistant Teaching Professor

Lufan Wang, Ph.D.
Assistant Teaching Professor

ADJUNCT FACULTY: Gregory Burdine-Coakley | Nestor Bustamante | Daniela Cadena | Claudia Calle-Müller | Jose Cortes | Lincoln Forbes | Danny Garcia | Robert Hacker | Brent Huffman | Eugenio Jaramillo | Ilya Liberman | Alejandro Motta | Anaxor Padron | Alfredo Ravinet | Reza Sheykhi, Ph.D. | Lili Steiner | Frank Suarez | Timothy Wensing

EMERITUS FACULTY: Iritshad Ahmad, Ph.D. | Ronald A. Baier, P.E. | Eugene D. Farmer | Jose D. Mitrani, P.E.

AI

KEEPING UP WITH AI IN THE CLASSROOM AND CONSTRUCTION SITE

Artificial Intelligence (AI) is quickly finding practical applications in our lives. To keep up with this trend, Assistant Teaching Professor Dr. Lufan Wang of the Moss School recently introduced AI to her construction management students. Over a semester, they learned AI's applications in construction, and how to code to better understand and get the most from AI when on the job. The Department is now making a program-wide effort to include AI in the most relevant courses of the program.

FACULTY ENRICHMENT THROUGH INTERNSHIPS

We have implemented a summer internship for faculty. Faculty may spend their summer working for a construction company, which pays their salary. The company gains by having a highly qualified individual working with them, faculty receive additional compensation and gain experience by participating in relevant industry projects, and students ultimately benefit from fresh input their instructor can bring into the classroom.

Moss was the first company to adopt the faculty internship, creating a precedent that quickly expanded throughout the industry. We went from one faculty placed in 2023 to five in 2024.

SCHOLARLY PUBLICATIONS AND CREATIVE ACTIVITIES

Moss School faculty have published their research extensively, with approximately 380 publications in journals, conference proceedings, book chapters, and presentations from 2017-2018 to the present. Many of these publications fulfill the United Nations Sustainable Development Goals, enhancing FIU's standing in the Times Higher Education IMPACT rankings.

EXPANDING OUR CAPABILITIES—THE BUILDING INFORMATION MODELING (BIM) LAB

We look forward to the expanded learning and development that will be made possible by the new BIM Lab at the Engineering Center. With two powerful computers, the BIM Lab is a high-tech construction lab in a flexible space featuring two mirrored walls, each with eight screens, and two touch screen TVs.

VIEW DETAILS OF SCHOLARLY AND CREATIVE WORKS FROM MOSS FACULTY.

I am truly proud to be a part of the Moss School. The Moss School has been committed to cutting-edge research and integrating real-world applications and advanced technologies into the curriculum. It bridges academia and industry, and our students benefit immensely from the hands-on approach of teaching.

The School is a supportive and dynamic environment that encourages me to continuously learn and grow, both as an educator and a researcher.

—Dr. Lufan Wang
Assistant Teaching Professor
Moss School of Construction, Infrastructure and Sustainability

#11
Best Construction Management M.S. program in the nation for 2024.
Ranked by Intelligent

#21
Best in the nation for 2024.
Ranked by Best Construction College

FROM MOSS SCHOLAR TO MOSS SOLAR ENGINEER

As a construction management senior and Moss Scholar, **Nikolas Prieto** said "I cannot wait to complete my education … to join the Moss family." Today he is senior project engineer/RFP coordinator in the solar division of Moss construction. Prieto says "I have nothing but admiration, appreciation, and positivity for this company. I am forever grateful that I was provided the Moss scholarship during my time at FIU and also provided the opportunity to continue my career with Moss. Throughout my time here, I have met with some of the kindest people, people you can connect with, people you want to collaborate with. The people at Moss truly care about your career growth."

#5
Among the Best 15 Masters in Construction Management for 2024.
Ranked by Best Value Schools

We faculty cannot thank the Moss Foundation enough for the support we receive. It has not only fostered a sense of pride among faculty but has also motivated them to push boundaries in innovation.

It has also improved our ability to attract top-tier educators and researchers to the Department since the support is very visible.

We have ambitious plans for the new BIM lab and will begin using it in our classes starting fall of 2024.

Our goal is to use the lab as the hub that connects students directly to the industry and real construction projects through virtual means.

—Dr. Nipesh Pradhananga, PE
Associate Professor and Associate Chair
Moss Department of Construction Management

THE MOSS ENDOWED CHAIR OF THE MOSS DEPARTMENT OF CONSTRUCTION MANAGEMENT

Some accomplishments of the Moss Endowed Chair and Moss School Director, Dr. Jose Faria, include:

In 2022, Dr. Jose Faria was awarded with the President's Council Real Triumphs Faculty Award in recognition of his outstanding efforts in teaching, research, and service. This is one of the highest forms of recognition a faculty member can receive.

- Engaging a full-time marketing staff member to promote all activities in social and professional media
- Sponsoring and hosting conferences, including department representation at ABC-FIU Technology Conference 2022, 2023; Trimble Technology Conference 2023; ASCE Earth and Space Conference 2024
- Increasing School rankings
- Growing grant application success from $144,000 in awards in 2018 to over $4M in 2022
- Increasing focus on technology and its applications in construction
- Successfully entering into an agreement with Trimble to establish the Trimble Technology Lab at FIU in 2020 followed by a grand opening in 2021
- Implementing the use of OnScreen Takeoff and RSMeans in estimating courses
- Implementing the use of PROCORE in the Management of Construction Project courses
- Growing undergraduate enrollment by 50 percent and nearly doubling the number of master's students
- Hosting the She Builds summer program for girls in 2019, 2021, 2022, 2023, and 2024
- Hosting the Trimble Boot camp in 2021, 2022, 2023, and 2024
- Securing support from the Lennar Foundation for the Construction Trades Program
- As of fall 2024, we are seeking to hire an Associate Director of Development dedicated solely to fundraising and relationship building for the Moss School

FROM UNDERGRAD TO DONOR: A FULL-CIRCLE SUCCESS STORY

Moss School alumnus **Oscar Morejon '13** has gone full circle. As a construction management student, he earned an internship with Suffolk Construction through the Moss Department's Construction Management Career Expo. "The lessons I learned with this team are still the way I run the projects of my own company," he says of his internship experience.

Since founding his own construction firm, John Bell Construction Inc., Morejon is now an employer and has been inspired to give back to those who gave him his start. A university donor and member of the College of Engineering & Computing's Dean's Leadership Council, he most recently pledged $25,000 to form the John Bell Construction Scholarship Fund for construction management students at the Moss School.

Morejon previously launched an internship program and along with a state match formed a $15,000 scholarship fund for first-generation construction management students at FIU.

OUTREACH AND SHAPING FUTURE GENERATIONS

THE TRIMBLE TECHNOLOGY LAB CONFERENCE

Shaping the Future of Construction Management

June 2023 saw 80 attendees from 16 universities worldwide taking part in the Trimble Technology Lab Conference. Industry and academia came together to share knowledge and delve into the transformative capabilities of Trimble hardware and software.

READ MORE ABOUT THE CONFERENCE.

EARTH & SPACE

In conjunction with the American Society of Civil Engineers, the Moss School held the Earth & Space 19th Biennial International Conference in April 2024. Dr. Nipesh Pradhanaga was the faculty lead.

LEARN MORE ABOUT IT.

CONSTRUCTION MANAGEMENT CAREER EXPO

The Expo is a professional networking event for students and alumni to meet the top leaders and employers in the construction industry.

The fall 2023 Expo attracted 70 different employers and 215 students/alumni. And in spring 2024, the Expo hosted 59 employers and 150 students/alumni.

THE NEXT EXPO IS SCHEDULED FOR OCTOBER 8, 2024.

EMPLOYMENT OF CONSTRUCTION MANAGERS IS PROJECTED TO **GROW 5 PERCENT FROM 2022 TO 2032, FASTER THAN THE AVERAGE FOR ALL OCCUPATIONS**

(U.S. Bureau of Labor Statistics, Occupational Outlook Handbook, 2024).

TRIMBLE BOOT CAMP

Starting in 2021, we have hosted high school students in grades ten through twelve at the Trimble Boot camp. They focus on using high-tech tools and getting hands-on experience in construction and construction management with a variety of Trimble tools at FIU's Trimble Technology Lab at the Moss School.

The Trimble Boot camp supports 40 students free of charge.

SEE MORE ABOUT THE TRIMBLE BOOT CAMP.

SHE BUILDS SUMMER PROGRAM

Since 2019, every summer for one week (excluding 2020), the Moss Department sponsors and hosts the STEM-focused She Builds summer program to introduce girls in grades 10-12 to construction and construction management as a career option.

The students learn hands-on construction concepts, visit an active jobsite, hear from women in the industry, and are shown that construction management may offer them the perfect combination of skillsets for a satisfying college major and future career path. It is free for these girls to attend.

Thanks to the popularity of She Builds, sponsorships allowed the camp to go from three days to five days in 2023 and 2024 while hosting 40 students.

SEE MORE DETAILS ABOUT THE 2023 SHE BUILDS SUMMER PROGRAM.