

Constructioneer

Women in Construction

Breaking ground in the industry





CAREER EXPO

In 2016, the School of Construction hosted two successful Career Expos with enthusiastic industry participation. The event was held both in the spring and fall, and brought together leading companies and students looking for internships and jobs. The next Career Expo will be held on October 18th, 2017. To register, or for further information, please contact Tiffany Dutes at **305-348-3537** or **cmevents@fiu.edu**

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On the Cover: Assistant Professor Lu Zhang (left) with Sasha Seco (right) of Moss Construction in front of FIU's new Wellness and Recreation Center currently under construction

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Welcome to the *Constructioneer*, the annual newsletter for FIU's School of Construction.

2016 was another successful year for the school. I would like to highlight just a few of our accomplishments.

Our undergraduate team won big again this year at the Associated Builders and Contractors (ABC) annual Construction Management Competition (student chapter) during the 2016 ABC convention in Dallas, Texas. The school competed against 22 other teams representing top construction management programs throughout the country, and won second in the overall competition, first in Estimating, first in Safety, and placed third in Project Management. The FIU team was also a champion in 2006, 2012 and 2014, and runners-up in 2013 (twice, as there were two competitions in 2013).

Our M.S. in Construction Management Online program ranked 41st in the nation by *U.S. News and World Report* in 2015. Only one state university in Florida (USF) was ranked higher than FIU. This stand-alone program at FIU has been offered since 2004.

Dr. Lu Zhang joined the School of Construction in fall 2016 after earning her Ph.D. in civil engineering with a specialization in construction management from the University of Illinois at Urbana-Champaign. She was attracted to Miami because FIU's College of Engineering and Computing has a reputable School of Construction, and research and teaching are both valued here. In addition to human-building interaction and building and civil information modeling, her areas of specialization include semantic information modeling, data analytics, value analysis, smart building and infrastructure and sustainable construction. Please see page 4 for a feature article on Dr. Zhang.

Dr. Youngjib Ham, assistant professor, has been implementing his research on construction and building performance monitoring and control. He mainly focuses on advanced sensing and analytics, Information & Communication Technology (ICT), Unmanned Aerial Vehicles (UAVs), and Building Information

Director's Corner

Modeling (BIM), especially collecting and analyzing Big Visual Data (e.g., images or videos) from construction and building environments. His research is expected to benefit our society as it will enhance current windstorm preparedness and mitigation plans, which ultimately promote public safety, property loss reduction, insurance cost reduction, and raise awareness of disaster preparedness. This research is supported by a three-year, NSF-sponsored research grant that began in January 2017. Read more about Dr. Ham's research on page 10.

Natasha Wedderburn, academic advisor, was awarded an Excellence in Career Advising award at the FIU Fall Advisors' Forum in October, 2016, organized by the Council for Undergraduate Academic Advising. The School of Construction is proud of Natasha's achievement and her commitment to supporting student success. Read about her on page 6.

An important part of our mission is to provide enlightened leadership to the construction industry through our graduates. Our graduates are highly sought after in the industry. Notably, most of FIU's Master of Science in Construction students are already employed in the industry. Several of our alumni currently hold executive positions across South Florida's construction industry. This underscores the fact that FIU School of Construction has a strong Industry Advisory Council.

I take this opportunity to thank our students and alumni for choosing the FIU School of Construction to advance their careers. We are grateful to our industry partners - members of our Industry Advisory Council - for supporting the School in realizing its vision - being known in the world as the center for excellence in construction education. This issue of the *Constructioneer* features Sasha Seco, an alumna of both our B.S. and M.S. programs. We are proud of Sasha, now also a member of our advisory council. She is making great contributions towards advancing the FIU School of Construction as one of the best in the country. As the School plays a significant role in preparing future generations of industry leaders, it is vital that the industry is supportive of the school.

Irtishad Ahmad, Ph.D., P.E., F. ASCE
Director, School of Construction

Finding synergy between human values and built environments

Millie Acebal



Lu Zhang brings the human touch to construction.

As the newest hire in the School of Construction, and its only female faculty member, Zhang’s research focuses on human-building interactions, specifically on what humans value in buildings (e.g., health and comfort, safety, energy conservation), how such human values affect the value of buildings, and how the value of buildings affects decision making during building planning and design.

Through the use of mathematical modeling, the assistant professor quantifies values to determine the impact of alternative planning and design decisions on the environmental, social and economic value of building systems. She developed a building information modeling (BIM)-integrated, value-sensitive decision support prototype system that aims to predict and analyze the value of a building system to its stakeholders. The system gathers data from BIM on items such as daylight and views, acoustics, indoor quality, energy, safety, and then produces a value analysis report to the stakeholders. The system is useful to stakeholders interested in the building value to them, from developers, owners, contractors and construction companies to the building’s end-users.

Zhang’s research facilitates value-sensitive decision making towards better synergy between human values and the built environment. Her research experience is diverse and multidisciplinary;

part of her graduate work investigated the safety and health issues of construction workers and information retrieval in sustainable construction.

Originally from China, Zhang attended Tongji University. She joined the construction management program there, housed under the university’s business school, but admits she didn’t know much about construction at the time. “I initially wanted to be a successful business woman, and go to Wall Street,” she explained. “Construction management was the best major – it was a joint program with civil engineering and architecture, and had the best professors.”

After her first internship at a real estate development company, she started learning to love construction. The company was involved in a luxury hotel project, which later became a landmark project in her hometown of Dalian, China.

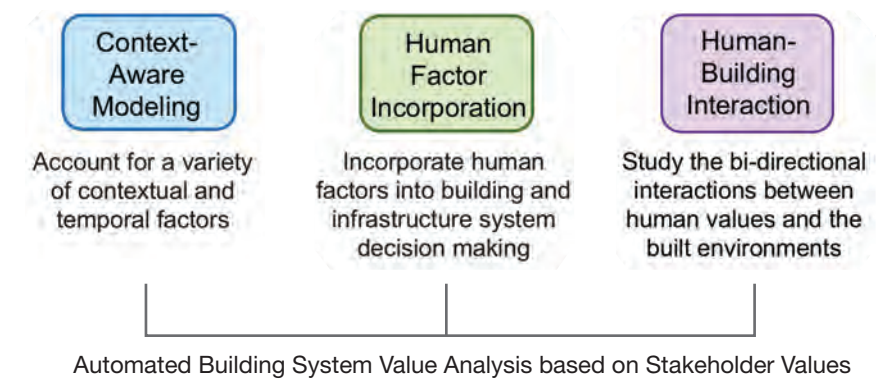
“I was involved in the pre-planning process,” she said. “After the hotel was constructed, I took my friends to my

hometown and showed them around the project. I felt proud of that accomplishment.”

When the time came to pursue graduate studies, she felt she stood a better chance in the U.S. to make it. “The U.S. has the best civil engineering and construction programs. Here, you have a chance to reach your full potential, and to be as good as everyone.”

Zhang joined the College of Engineering and Computing after recently earning her Ph.D. in civil engineering with a specialization in construction management from the University of Illinois at Urbana-Champaign. She was attracted to Miami because FIU’s College of Engineering and Computing had a good School of Construction, and research and teaching are both valued here. In addition to human-building interaction and building and civil information modeling, her areas of specialization include semantic information modeling, data analytics, value analysis, smart building and infrastructure and sustainable construction.

Human-Centered, Smart and Sustainable Building and Infrastructure System



Natasha Wedderburn:

Helping Students BUILD Dreams

Millie Acebal



Natasha Wedderburn advises construction management students on academics. She was recently recognized with an Excellence in Career Advising Award from the Council for Undergraduate Academic Advising office for her exemplary work. She talks to the Constructioneer on what drives her, and her passion for helping students.

What is your role with the School of Construction?

I currently serve as the academic advisor for the School of Construction advising students studying construction management within the College of Engineering. At the core of my advising values and passion is helping students discover that they have what it takes to be successful in college by applying themselves to their studies and getting and staying connected to all the university has to offer.

Early on, I knew there would be many challenges advising students in a major that I had not studied. Instead of allowing this to be a barrier, I used this as an opportunity to immerse myself in opportunities that my academic unit held, such as job-visits, attending weekly lectures in the Intro to Construction management class, and additional department opportunities that would help me provide better academic and career guidance to students.

What is the BUILT Program?

The **Building Up & Influencing Learning Together (BUILT) Program** was designed to help first-time college students develop a solid foundation within the university and School of Construction community so that they are able to thrive in their transition to FIU. Additionally, the program supplements classroom, orientation and academic advising information with practical experiences. By matching mentees with peer mentors, and a faculty mentor, the hope is to develop well-rounded individuals and outstanding student leaders.

During peer meetups, students discuss various topics as it relates to their interests in construction management. One of the key aspects of the peer mentor component is that upperclassmen are able to provide insight to the freshmen students on managing their time in school, classes they have taken in the program, and also encourage their involvement in department and campus organizations.

How did you come up with the idea to create this program?

The idea to create this mentoring program came about from my passion to see students succeed. In past semesters, during meetings with freshmen students at the end of their first term in the program, many of them had not connected with other construction management students, and because of this, I wanted to create BUILT as a way to connect students to the department early on to ensure their success and most importantly, their retention during their first year here at FIU.

Likewise, this aligns with the FIU Beyond Possible 2020 metric of a first time in college (FTIC) 2-year retention with GPA above 2.0. Currently, 100% of the FTIC construction management students, will be returning to the program.

How are the students selected?

Students who are identified as first-time college students are matched before the fall term with a current upper-classmen peer mentor who is studying construction management.

Where do you see the future for the BUILT Program?

Many of the freshmen students involved in BUILT have expressed their interest in being more involved on campus specifically with department organizations as a result of discussions with their faculty and peer mentor.

The growth of BUILT will be determined based on all participants involved, from the peer-to-peer mentoring relationship to the faculty-to-peer mentoring aspect, keeping the core focus of building a smaller community within the much larger FIU community. Likewise, having students who were involved in the program, primarily the freshmen students come back and say how their mentoring relationships made their transition to FIU less challenging, will make the program all the more meaningful.

Building Up & Influencing Learning Together

Students Speak

ANDRES CABELLO

How has the BUILT Program helped you?

The BUILT Program has helped me, a first-time college student, become more acquainted with the College of Engineering and Computing's faculty and students in a way that would have taken me longer to do on my own. I have been able to identify career opportunities from talking to professors and students who have already gone through what I am experiencing as a freshman.

Describe your most rewarding BUILT experience.

My most rewarding experience thus far is the faculty mentor meeting. We had a pleasant conversation about the different career paths within the construction industry. After the meeting was over, I was left thinking about different career paths I could undertake in the construction industry. Thanks to this mentor meeting, I have become aware of various opportunities in the construction industry.

MARIO CARRANZA

How has the BUILT Program helped you?

The BUILT program has enabled me to be more involved in construction management. I met new students who are also as passionate as I am about this career. It also taught me the importance of guidance and support towards newcomers into the program.

Describe your most rewarding BUILT experience.

The most rewarding experience was during the kickoff barbecue for construction management where my mentees were introduced to the program and interacted with other students. By doing so, I observed how others in the program were friendly and open towards helping. I was satisfied, and realized that BUILT plays an important role in making the construction management career pleasant and exciting.



PAVING THE WAY FOR WOMEN IN CONSTRUCTION

Millie Acebal

Alumna Sasha Seco started working in the construction industry after high school while attending FIU's School of Construction. Today, she works for one of the Southeast's most prominent construction firms.

If the name Moss sounds familiar, it's probably because you've seen their company signs and banners throughout South Florida and various jobsites at the Modesto A. Maidique Campus (MMC). The company built Parkview Hall, and is now hard at work on the university's new Wellness and Recreation Center.

While studying for both her undergraduate ('05) and master's ('10) degrees in Construction Management, Seco never imagined she would end up working for the firm that would manage multiple projects at her alma mater.

Seco, who started a local chapter of the National Association of Women in Construction (NAWIC) while a student at FIU, first met Chad Moss during the School of Construction Career Expo. At the time, she was working for her father's company, which specialized in shell construction, and was not looking for a job. Ironically,

Seco was aware of Moss because her father's company had turned down a building project they were involved with.

After some prodding, the dynamic Seco decided to interview with the firm. She was offered a job, which, after much contemplation, she decided to accept. As luck would have it, she then ended up working on the very same project she had initially turned down, and was involved with it for three years.

She first joined the company in May 2005, right after graduation, as a project engineer working on document and quality control. She quickly moved up to assistant project manager, and then project manager where she worked on construction jobs such as Plaza San Remo – a \$30 million 500,000 square foot medical office building in Coral Gables, the Airport/Seaport, Everglades, and Hazmat Fire Rescue Stations totaling \$27 million worth of work in place.

During the construction downturn in 2008, Moss decided to use that time to migrate its software systems into a fully-integrated, web-based solution, and Seco was tapped to help lead the project. She managed the process and eventually returned to being a project manager, to work on projects such as the Seminole Casino Coconut Creek – a \$100 million project with a nine-month delivery time and a dormitory renovation – a \$5 million project with a three-month delivery time. But when the staff needed support understanding the system, she was brought back into the role. Today, Seco is the director of business applications for Moss, which means she manages the construction technologies that support the business.

Seco says that FEEDS helped her obtain her degree. FEEDS offers online and distance learning courses in support of degree programs available through the College of Engineering and Computing. She explained that when you work in construction, you may be pouring concrete three days in a row, and on weekends, and being able to follow the coursework and watch the lectures online was invaluable.

The future of construction, according to Seco, is technology, and her advice for women hoping to get into the industry is to go in with confidence and know what you are doing. She also warns to be prepared to wear many hats, and interact with many types of people, from the workers on the job site to a developer who may have an Ivy League degree.

The ability to remain flexible, and be open to different opportunities, as well as her steadfast determination, has allowed Seco to excel in the competitive industry of construction, and inspire other women to do the same.

Alumnus of the Year:

Chad Moss



The FIU Alumni Association is honoring Chad Moss, senior vice president of Moss & Associates as the Alumnus of the Year at the 16th Annual Torch Awards. This award is presented to outstanding alumni who have been a dedicated contributor to their field, alma mater, and community.

Moss earned a bachelor of science in construction management from Florida International University in 1994, and has since been a strong supporter of its School of Construction. He has made major strides in the construction industry with his company's public and private infrastructure projects receiving countless awards and recognition.

The 16th Annual Torch Awards is scheduled for Saturday, April 1st, 2017 at the JW Marriot Marquis Miami. The event aims to set a record in funds raised for the First Generation Scholarship Fund and Alumni Center Building Fund. For more information on the Torch Awards, visit torchawards.fiu.edu

Please join us in congratulating Chad Moss, FIU Alumnus of the Year.

Construction gets a “close-up”

Millie Acebal



Take a job site, and at any moment, there will be photos and other images available from the work zone documenting its progress. One researcher is using this visual information to improve construction projects.

Assistant Professor Youngjib Ham, who teaches the class, Construction Information Systems, analyzes the data collected through visual sensors and applies analytics to identify potential hazards, enhance building environments, and promote sustainability. Visual sensors consist of spatially distributed smart camera devices that can process and fuse images of a particular area from a variety of viewpoints. The collection of images provides a broader perspective than an individual image ever could.

Ham’s research focuses primarily on disaster management, and evaluating various structures on construction sites. Using computer vision and machine learning, he can predict the potential risk to a construction project and neighboring community, and even how it may affect transportation. That information is used to inform the stakeholders on

what challenges they may face so that they can prepare the job site and avoid construction delays and extra costs, as well as improve their disaster mitigation and preparedness plans for natural disasters such as hurricanes.

To apply his research to the real world, Ham collaborated with FIU’s Wall of Wind researchers to categorize wind effects on various construction resources. They created a small-scale job site to determine at what wind speeds specific objects may be displaced.

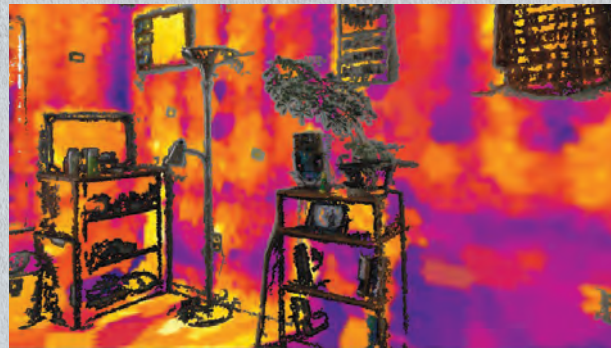
Ham is involved with a second project that may eliminate the need for taking thermal images, which can be very costly. He has created and validated a system which takes existing images from built environments and then localizes them into 3D spatial thermal models. Using this technology, researchers can look for problems such as cracks, and also identify performance gaps.

For example, on a residential project, unnecessary heat flow through building envelopes can increase operational frequency, meaning more money is needed for heating and cooling. By identifying this potential problem, it can be addressed, in turn, saving consumers on electricity costs.

Ham earned his Ph.D. in civil engineering (concentration: construction management) from the University of Illinois at Urbana-Champaign.



Unstructured construction site from aerial perspective



A 3D thermal map of a residential building for energy diagnostics

School of Construction students excel at national competition

Tiffany Dutes

Students from the School of Construction headed to Dallas for the 2016 Associated Builders and Contractors (ABC) Construction Management Competition and returned with four awards. The school competed with 22 other teams representing top construction management programs throughout the country, and won second in the overall competition, first in Estimating, first in Safety, and placed third in Project Management.

ABC’s Construction Management Competition is the hallmark competition that promotes careers in construction management. The competition is sponsored in part by the Trimmer Construction Education Foundation and ABC members.

The FIU team were also champions in 2006, 2012 and 2014, and runners-up in 2013 (twice, as there were two competitions in 2013). Based on the accolades accomplished at the national competition, FIU can lay claim to having one of the top construction programs in the country.



(L-R): Jonathan Lee, Jose Faria Jr., Manuel Zamora, Dr. Ayman Morad (faculty advisor/coach), Laritza Ortega, Melissa Arcila, and Alexandra Riviere

Congratulations to the student team members (pictured above) and their faculty advisor, Dr. Ayman Morad.

Scholarships: Build the Leaders of Tomorrow

The School of Construction sincerely appreciates the scholarship support provided by the following companies and industry associations to FIU students. Scholarship support is a critical need and of profound importance to the university. By providing deserving students with the opportunity to flourish in their chosen field of endeavor, these companies and associations are helping to ***build the leaders of tomorrow.***

2016 SCHOLARSHIP RECIPIENTS

- American Society of Professional Estimators Scholarship – ***Tiffany Sawyer***
- Balfour Beatty Construction Scholarship – ***Anouk do Pico Sforza***
- Construction Association of South Florida Scholarship – ***Joshua Farr***
- Condotte America, Inc. Endowed Scholarship – ***Anthony Bonet***
- Kelly Foundation Construction and Engineering Endowed Scholarship – ***Alfredo Falcon***

For more information about providing scholarships to promising students, on an annual or endowed basis, please contact Tiffany Dutes, Assistant Director – Industry Liaison at 305-348-3537 or tdutes@fiu.edu.

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