

Yuderka Trinidad Gonzalez, Ph.D. Candidate, on a Dynamic Path

Yuderka Trinidad Gonzalez is a Fulbright Scholar working on a Ph.D. in geotechnical engineering at Iowa State University under the tutelage and guidance of Vern Schaefer, Ph.D., a name familiar to DFI members and throughout the geoprofession. This first member profile of a student reflects a snapshot of her life. It falls far short from telling the story of this remarkable young native of the Dominican Republic whose career is replete with prestigious awards, scholarships, original research and published papers.

Through the process of getting to know Trinidad Gonzalez a little better, I have marveled at the depth and breadth of her experience, her level of motivation, and her fascination with the subjects she has studied and continues to pursue.

Perhaps most importantly, I have enjoyed getting to know her underlying sense of proportion and joy.

Life Before Iowa State

The title of the dissertation Trinidad Gonzalez is “in process” on is Statistical Assessment of Mobilized Shear Strength in Stiff Fissured Clays. How she has gotten to this point in her career is a delightful and inspiring story of intellect, hard work and the inspiration of her mother, Nancy Gonzalez, who was a school teacher for 15 years before her retirement due to health-related issues. As Trinidad Gonzalez recounts, “Being the daughter of a teacher, I always wanted to strive for excellence, to bring something home for her to be proud of.” It was not easy for her mom being a

single mother of four. She adds, “My mother taught me to work hard for the things I wanted to accomplish in life. ‘Once you set your mind to a goal, you go for it,’ she said.” Setting her mind to things and fulfilling goals is exactly what Trinidad Gonzalez is about.

In addition to Schaefer, other important influences in her life have included her undergraduate professor, Omar Segura, under whom she studied foundation engineering at the Universidad Autónoma de Santo Domingo in the Dominican Republic. She completed an undergraduate degree in civil engineering, cum laude, in 2009. In 2015, she began her master’s degree at Iowa State, graduating with a 3.94 GPA in 2017.

Working in the Profession

So where was she between 2009 and 2015? Prior to going on with advanced academic pursuits, Gonzalez more than dipped-her-toe into the waters of private sector engineering. From 2008 to 2010, she worked with Guillen Rosa y Asociados in Santo Domingo. Her areas of responsibility included conducting geotechnical analyses for foundation construction, computer modelling of civil structures and developing budgets for project proposals. The next step in her career was with Odebrecht in La Romana, Santiago province, and in Baní, also in the Dominican Republic. While at Odebrecht until 2015, she took on multiple assignments in design and construction. Her experience included everything from conducting sophisticated design analyses to being an on-site project supervisor. Those experiences provided her with a bird’s-eye view of everything that goes into developing a successful civil works project.

Following her work in the Dominican Republic, she spent 2018 and 2019 in an internship with the law firm of Thompson Coburn in St. Louis, Missouri, and in



“I hope that my participation helps encourage more students, and specifically women, to join DFI.”

Ames, Iowa. The internship offered her an opportunity to apply her civil engineering knowledge to business tasks that were part of legal actions surrounding structural failures. Among other duties, she was tasked with evaluating the application of best practices to problem cases. These diverse experiences provided her a well-rounded understanding of geotechnical engineering practices.

When asked about what influenced her to ultimately return to her academic pursuits, she says, "I was intrigued by what I consider is a 'holistic learning approach.' That is, how to build what we conceive in design and how to design constructible projects." In this regard she is in excellent company with Karl Terzaghi, who famously said, "Don't design on paper what you have to wish into the ground." Trinidad Gonzales concludes, "What finally caused me to return to school was my actual experience at work. I thought that there were many knowledge holes in the way we were doing things. The need for more trained geotechnical engineers in my country was very evident. I took a leap of faith, as it was very difficult to leave work to become a student again after seven years. However, I was ready to restart my academic journey."

The Journey Continues

Now that she has returned to that journey, she credits Schaefer as providing her with invaluable advice on technical, professional and personal issues. As she puts it, "His guidance has helped me so much that I decided to complete what I call my 'crazy academic adventure' by pursuing my Ph.D." As to the many mentors she has encountered during her journey, she reflects, "Seeing how all these very knowledgeable people care about helping others to succeed is the biggest encouragement I received throughout different stages of my life."

This is a two-way street in that Schaefer says of Trinidad Gonzalez, "I have greatly enjoyed working with Yuderka. She is extremely bright, detail oriented and meticulous in her work. Most importantly, she loves to learn. More times than I care to count she has stumped me with a question about why we do things one way and not another. She then sets out to find a better way. She always has a big smile and brings joy to all around her." Schaefer's perception of Trinidad Gonzalez is shared by close friend and classmate Kanika Lamba, who says, "She is smart and always has standout engineering solutions for any given project. She is a calming influence on others, even in the most chaotic times, such as when a tornado passed right beside us. Along with a good sense of humor, being a terrific teacher, and devoted to the students she teaches, she is a child at heart." One cannot say more than that.

A few years ago, Schaefer introduced Trinidad Gonzalez to DFI. Her involvement began with serving as a research assistant on a DFI committee-supported project on slope stability. This led to her presenting her findings at DFI conferences. She also became involved with the DFI's Women in Deep Foundations Committee. Trinidad Gonzalez feels that meeting women involved in deep foundations has caused her to hope that it is possible to have a bright career in the geotechnical field without being wary of encountering glass ceilings, which she feels have been common in the profession. She adds, "I hope that my participation helps encourage more students, and specifically women, to join DFI."

Sharing Her Perspective

Having had many diverse experiences, Trinidad Gonzalez also is pleased to share her viewpoint with young engineers. She feels that the learning process never stops. In her words, "We can learn from each other in different ways." She notes that for her and for others, having a degree should not be considered the ultimate goal, as technical skills and academic knowledge go hand-in-hand. Moreover, she says there is a great deal to learn that is not found in textbooks.

Based on her own experiences, she adds that it is never too late to achieve one's ultimate goals. In her case, "I tried to go back to school multiple times, but I kept thinking that maybe it was too late, which lasted right up until I made the decision." She believes that although not everyone a person deals with may be totally supportive, aspiring young engineers should believe in themselves and not shy away from chasing after their ultimate goals.

While diligently working toward achieving her ultimate goals, she manages to throw in a dollop of travel, hiking, photography, cooking, strength training and running, playing the piano, online math tutoring for engineering students in the Dominican Republic, and volunteering at local food pantries. She even finds time to pursue a favorite pastime: playing board games.

Her approach can be defined as having an ability to be patient and humble throughout a career. And, not unlike her mother and those that have motivated her along her path, she relishes the opportunity to inspire others as they travel along theirs.

QSP Packers, LLC

Quality - Service - Price

Serving Your Complete Packer Needs

- ◆ **INFLATABLE PACKERS**
Pressure Grout, Wireline,
Environmental, Water Well.
Custom Sizes & Fabrication Available.
- ◆ **MECHANICAL PACKERS**
Freeze Plugs, Custom Applications

Call QSP with all your Packer questions!!



**Continuing to provide ...
Quality, Service & Price!**

**Call:
Mark or Ron
253-770-0315**

www.QSPPackers.com