

## FIELD NOTES

School of Civil and Environmental Engineering

Georgia Institute of Technology

Ep 5: Creating the Next – A Conversation with School Chair Donald Webster

<THEME MUSIC>

DONALD WEBSTER: The job of the School Chair is really to facilitate success really within the framework of that: Once we've defined our goals, how do we get there?

JOSHUA STEWART: To kick off a new year of Field Notes, the new chair of the School of Civil and Environmental Engineering takes a deep dive into his vision for our future.

<THEME MUSIC>

STEWART: Welcome to the second season of Field Notes, the podcast of ideas and conversations from the School of Civil and Environmental Engineering at Georgia Tech. I'm Joshua Stewart.

We have lots in store for you in the episodes ahead: Conversations about mentoring, about undergraduate research, and about the unexpected places a civil or environmental engineering degree can take you. So keep an eye out for that.

Today: The new chair of our School — a familiar face, it's safe to say. Donald Webster joined the School's faculty two decades ago and has been helping chart its course almost ever since. He's led the undergraduate and graduate programs, and for the last five years was the No. 2 in the School as associate chair for finance and administration. In May, he moved to the corner office as Karen and John Huff School Chair. He joins me to talk about where we are and where we're going. First off, congratulations on becoming School chair and thank you for making time.

WEBSTER: Great. I really appreciate it. I'm looking forward to working with our faculty staff and students as we move forward.

STEWART: So why did you want the top job in the School?

WEBSTER: I think it's a tremendous opportunity to make an impact. We have such a great foundation to build on; our faculty, students and staff are so engaged in doing amazing things. It's an opportunity to to direct us for the next few years as we go forward, and to really think about how we can have the greatest impact as a School.

STEWART: What have you learned about the School in these first few months as chair?

WEBSTER: I've learned that there's a lot of demands on my time that I didn't fully appreciate.

STEWART: I bet.

WEBSTER: You know, many people are asking for meetings and for engagement with me, and in a lot of ways that's really fun and enjoyable. But as my calendar has filled up, it's gotten more and more constraining.

STEWART: And that's not just in the School, I imagine, either. That's across campus and beyond.

WEBSTER: Yeah that's exactly right. In fact, more so outside the School so far.

STEWART: How does the chair interface a little bit externally? I think that's something people maybe don't think as much about, but it is in many ways an externally focused position.

WEBSTER: Yeah and that's a critical part of the job in my mind. It's very important that the School chair represent the School with the higher administration, both at the dean's office and the provost's office, and other places, such that we get the resources that we need to do the things that we're driven to do. It's also important that we're well represented on seemingly mundane things, like facilities and budgeting and issues like that, where if we represent ourselves well, we all benefit as a School and as a community.

STEWART: I thought we could start at really the 30,000-foot level — and you've sort of articulated a chunk of this already but — what is the role of the School chair? What is the job about?

WEBSTER: Yeah I really look at it as a facilitator of success. You know the faculty, primarily, but other constituents including students and staff, articulate our vision and our goals and our strategic plan. The job of the School chair is really to facilitate success within the framework of that: Once we've defined our goals, how did we get there? What resources do we need? What wheels need to be greased? What kinds of facilities do we need? What kinds of staff do we need in place? How can we best recruit students to achieve those goals? These are all things that the School chair can make a positive impact on.

STEWART: This is a little in the weeds, but we have a strategic plan that is about five years old now. Is that something that we'll be looking at an update to in the near future?

WEBSTER: Yeah absolutely. I'd really like to first, assess where we're at with the existing strategic plan. It's not quite five years old. And I know that we have achieved a good fraction of it. But I think an honest assessment of what's been achieved is warranted at this point. I think we need some input from from all of our constituents about that. Once we get a good lay of what we've achieved to this point with the existing strategic plan, I think the next step is to think about what's next. How do we frame the discussion moving forward.

STEWART: I want to get into some of the specifics, and one of the things you talked about at some length in the in the interview process was about finding ways to innovate the curriculum in civil and environmental engineering. Why is that important? Why was that something you wanted to bring up?

WEBSTER: Well, we're at a critical point in higher education, in general; nationally, there's been a lot of discussion about the value of education, the value of achieving college degrees, and we really need to be cognizant of that and think about, what is the value we're providing to our students? Historically, we've been very strong in things like problem-solving and looking at innovative solutions to civil and environmental applications and those sorts of issues. Right now, in the context of the value of higher education, we have a great opportunity to frame our educational programs in a way that that value is clear to our prospective students. We need to position

ourselves in a way that students are attracted to our major and we're continuing the pipeline to the employers that are seeking out our students. We also are at a point where ABET is changing some of their nuts and bolts of the the description of the civil and environmental engineering programs ...

STEWART: This is the accrediting body, I should say.

WEBSTER: Right. So ABET is the accrediting body. ,They're changing the criteria and some of the descriptions of the accreditation process, and this actually gives us more flexibility. It gives us an opportunity to think about how our curriculum could change in a way that might be more forward-thinking and might be more engaging to our younger students. I'd really like to get our students more engaged in exciting, innovative things within the realm of civil and environmental engineering much earlier in the curriculum than is currently happening. Currently, they really don't get those discipline-specific courses until probably junior year. At that point, they may have changed their interests because they may not know what civil and environmental engineering is all about and they may not have realized what impact they can have within this field and what their opportunities are. So I think there's a real opportunity to think a little bit outside the box.

STEWART: Is part of that a response to a changing field, an industry that's changing a little bit too?

WEBSTER: Yeah, I definitely think so. What we hear from employers has shifted over over the last 10 years, certainly. They're looking for people that have great what I'll call 21st century skills — communication, leadership, management, business savvy — to complement the problem-solving skills that come from a rigorous engineering curriculum. So I think there is an opportunity to blend some of those skill attributes into our educational mission.

STEWART: We have the global engineering leadership minor, which is College of Engineering-wide but is based here in the School. Certainly that sounds like a way to address that, but it also sounds like infusing that even more broadly so if you're not in that minor, you would still get some of those kinds of experiences.

WEBSTER: That's right. In fact, I would say the minor even extends beyond the boundaried of the College of Engineering. But I agree with what you just said: The leadership skills, the perspective on grand challenges, is a very good match to our degree programs. So our students already have a great opportunity to engage in those courses. It's just a really awesome opportunity for them to get some of those skills. Particularly leadership. We have a great example with our communications program that's been in place for over 20 years now where the content is being pushed into specific courses rather than students being pulled out into a course that's specifically focused on that particular skill set. That's been hugely successful and we really see the impact in terms of the skills that students are leaving with today on the communications front as opposed to where we were 20 years ago.

STEWART: Do you hear from, when you talk to industry, when you talk to our alumni, do you hear that they're seeing that that shift a little bit in our students and the kinds of things they're able to do that maybe — either they haven't been able to do in the past or other students aren't aren't able to do?

WEBSTER: Overwhelmingly I would say are alumni, or companies that are seeking our students as employees, what we hear from them is the quality of the students, the ability to problem-solve,

these 21st century skills, their nimbleness and resiliency. Those things are coming through, and our students are highly sought after in terms of job placement.

STEWART: What about the graduate program, and I was thinking specifically about master's students. You've said you want to focus on whole-person education in that program. What is that?

WEBSTER: It speaks to just the same things we were just discussing. Traditionally, the master's program has been very focused on technical content, and that has served us quite well historically. But I think the demand on our master's graduates has shifted a bit in the last couple decades, and employers are looking for people with a broader set of skills — the same things I enumerated a moment ago, in terms of business savvy, communication skills, leadership, entrepreneurial mindsets. Those things are definitely valued among the companies that are looking to employ our graduates. The master's program really is six different master's programs within the School, because it's very focused around the technical affinity areas of the school. I think there could be some value in discussing courses that cut across the technical affinity groups and might create a better synergy or cohort mindset among our students in that they would have some of the same experiences or some of the same coursework in the year, year and a half, two year that they're here working on their master's degree. So I think there is a tremendous opportunity to think about reshaping our master's program into a more broadly focused set of courses and content.

STEWART: Are there are there digital opportunities that come with that, too?

WEBSTER: Yeah that takes form in a number of different ways. Certainly a blend of digital delivery combined with traditional instruction, classroom-style instruction, has a lot of value. Either flipped classroom, blended classrooms, whatever the course content lends itself to. There's also the possibility of continuing education, delivering content online. We've explored that in the past, and that continues to be a significant conversation as the economics constantly change in that arena. So there may be some opportunities to just think more broadly about how we deliver the content.

STEWART: A couple of times entrepreneurship, entrepreneurial skills have already come up in our conversation. Tell me a little bit about how that kind of approach, that kind of mindset fits into the civil and environmental engineering education.

WEBSTER: Historically, our School has been very well positioned. Something in the neighborhood of 10 to 14 percent of our living graduates either own a firm or are the president or CEO of a firm, which is pretty incredible statistic in my mind. It really speaks to, first of all, the nature of the business of civil and environmental engineering and the style of firms that the people are going to work at and the firms that they start. But it also speaks to something about the educational experience that they had here at Georgia Tech and within the School: the leadership skills that they develop, the technical proficiency that they developed, the resiliency, the persistence that they exhibit, all those things seem to serve them very well as they progress through their career. What I'm thinking is perhaps we can more formalize some of those training experiences. And the global engineering leadership minor is a great example of that. We're bringing in training in the leadership area in a real, tangible way and giving students some experience and some skills that otherwise they would just have to pick up from experiential work that they're doing as they're moving through the curriculum.

STEWART: Let's shift for a second and talk a little more about the research endeavor in the School. How do you see that evolving and changing in the years ahead?

WEBSTER: Yeah that's a great question. You know the research endeavors in the School right now are actually really impressive. The breadth of things that our faculty and students are working on is almost overwhelming. I think that really speaks to the nature of civil and environmental engineering and how broad it is, but also the far-reaching directions our faculty are thinking about and the things that get them excited and the opportunities that they see. So it's already an incredible endeavor that's going on in the School. There's a real opportunity to frame some of those things in a more synergistic ways. Things like smart cities give — it's almost become a buzzword already, but it gives a topical area where many people get together and talk about some of the issues that exist in those arenas and think about ways they can partner and collaborate and bring different skill sets from very different perspectives together to address some of the really challenging issues. Things like big data are another example. Again, it's almost like a buzzword, but again gives a point of commonality and a point of connection where people working on seemingly disparate technical challenges can have a common point of discussion and a common point of reference and, again, find places to collaborate and to form larger teams that can go out and seek large center-style proposals and things like that. And so what I hope to see in the next few years is more of those connections and more of the dialogues around some of these big framework pieces that we can define to form those collaborations and partnerships that will really help propel the School forward.

STEWART: That brings another more or less buzzword to mind, which is this idea of interdisciplinary work.

WEBSTER: Yeah. And on that note, people use multidisciplinary, interdisciplinary, transdisciplinary. You know there's all kinds of levels that are being discussed. I think the School is extremely well positioned in all those regards. One of the things I truly love about Georgia Tech is the opportunity to partner with researchers and collaborators outside of our home unit. There are very few barriers to doing that kind of thing. My own research career is a testament to that, and our faculty are already very well positioned in this regard overall.

STEWART: I want to talk about one last thing, and that was diversity and inclusion — again, something you've made a point of bringing up in conversations both in the interview process but subsequently with students, faculty and alumni. Why is that important to you?

WEBSTER: It's very important to have a variety of different perspectives as part of the discussion, certainly on teams when they're doing team projects. The more diversity you have on your team, the more difference of backgrounds and experiences that people bring to the table, the more creativity and the more ideas you're going to have coming forward that are going to really be game-changers. So I think diversity and inclusion are important from that perspective. For us, we have a number of dimensions where this manifests. First of all, when you think about gender balance, we're very well positioned compared to many of our peers. The undergraduate population is very close to being balanced between men and women. We may actually go past 50 percent women students in undergraduate population this year; that's a pretty remarkable ...

STEWART: I think that would surprise a lot of people to hear that.

WEBSTER: It really, in fact I was at the national department heads meeting and mentioned that to a couple of people, and they were very surprised that a public institution of our size had that gender balance profile. And so you're exactly right, it's very surprising because we are a very large program and so that's not what people normally think of.

Our graduate population is not quite there. It's more like 35 percent women. So I think we need to be proactive to provide funding and support for women who are interested in pursuing degrees after graduation. Our population at the faculty ranks, also we're extremely well positioned compared to our peers but I think there's a lot of work to do. We're currently about 25 percent women among our faculty ranks. That doesn't really reflect our undergraduate population very well. As our women undergraduates are looking for mentors and looking for guidance on how their career can move forward, they need women at higher ranks that they can seek out and ask questions about their own experiences and seek their advice and that kind of thing. So we have work to do.

The other dimension has to do with ethnic diversity and people of color. Again, Georgia Tech has a reputation of being very well positioned in this regard, but it takes constant diligence, it takes constant recruitment, and making a community that is inviting and comfortable and show how our programs are well positioned to help them achieve their career goals.

STEWART: You've got a lot of work ahead in the next five years it sounds like.

WEBSTER: Absolutely. It's a labor of love. One of the things I really enjoy about being at Georgia Tech is interacting with our students and faculty and staff. Everybody's so smart, they're so engaged in doing amazing things. It's always a joy to interact with them and hear about what they're trying to think of next.

STEWART: Donald Webster is the new Karen and John Huff Chair of the School of Civil and Environmental Engineering. Thank you for this conversation today.

WEBSTER: It's been a pleasure. Thank you.

STEWART: And that's all for Field Notes. Thanks for taking the time to plug in. You can check out our past episodes at <https://ce.gatech.edu>. And we always welcome your feedback and ideas — email us at [communications@ce.gatech.edu](mailto:communications@ce.gatech.edu). Or find us on Facebook, Twitter and Instagram. We're CEEatGT on all of those. I'm Joshua Stewart. Thank you for listening. We'll see you next time.

<THEME MUSIC SWELLS AND ENDS>