

# Message from President Cook

November 13, 2023

Hello everyone. I'm here today with our Interim Dean, Alan Kallmeyer, Interim Dean of the College of Engineering. Allan, tell us a little bit about yourself. How long have you been with NDSU?

Well, thank you, President Cook.

I've been here for quite a while. I've been at NDSU for about 28 years now. I'm a Professor of Mechanical Engineering. I served as the Department Chair of Mechanical Engineering for about 17 years but now I'm just thrilled to be leading the college at this kind of pivotal moment in our history. Yeah, absolutely pivotal moment is right. There's a ton of exciting things happening in engineering at NDSU and you're leading the way and doing a great job.

So, thank you and so one of the things we're very proud about at NDSU is our hands-on experiential learning and we're here in a lab. Tell us about the lab that we're in. This is the advanced flow measurements laboratory in the Mechanical Engineering department. This is a lab with a lot of high-tech equipment. You can see the wind tunnel behind us which is one of those really top-grade research facilities. It's also, this lab is also used a little bit in our teaching side to do demos for our students in our classes. But it is it is really a premier laboratory for fluid diagnostics in this part of the country.

Yeah, so just to reiterate one of the things that we absolutely love about our College of Engineering and what's exciting for perspective students, current students, undergrad and grad is you get to come in here and you get to kind of play around a little bit in labs like this. Get to do a lot of learning, involved with research, and of course, with the recruiting, talk to your faculty. This is the kind of stuff that they love as well. Absolutely. I think that's, you know, from the teaching side that's one of the things that we really hang our hat on. What really sets us apart is that hands-on learning. The opportunities for students to get into the labs, play around with the equipment, see it in action so they're not just learning about the theory but they're actually getting to see how that applies. And we're happy to be able to provide that to those students. So, we love our facilities and they're only going to get better, right?

So, we had a pretty big announcement here about a week or two ago. Tell us a little bit about this Center for Engineering and Computational Sciences facility. Well, this is a really exciting time. This building is really going to transform, I think, how we do education and research here at NDSU. We've been talking about the need for a new facility for quite some time now. And that's really been our biggest challenge is just kind of lack of research space, lack of teaching laboratory space, and as a result we've had to use, kind of double-up our labs for many of them for both teaching and research functions which just is not kind of an efficient way to do things. So, this facility is going to give us a lot more space for both our teaching and our research mission and it costs money, right? And the legislature came through earlier this year, thanks to some great friends in the Fargo area.

Legislators, the governor really supported us and came through with \$59 million for the Center for Engineering and Computational Sciences. But there's a requirement there for a private match so we need to raise about \$30 million on the private side to be able to unlock those state dollars. And we've had just fantastic support in the last few months that we've been raising money. We've been going out meeting with our alumni meeting with companies that hire our graduates and some are really stepping up and coming through. This, over the past couple months we've

had two big major donations. The first is from Mortenson Construction. Mortenson is really one of the largest construction companies in the United States. They're based out of the Twin Cities. They built U.S. Bank Stadium they built, you know, the Fargo Sanford Hospital.

So, they do a lot of local projects here. They hire a lot of our construction engineering, construction management, civil engineering graduates, and they made an investment of \$5 million for this facility which is just phenomenal. We are just so grateful for that investment. And then, of course, Doosan Bobcat came through as well and Bobcat is one of the largest employers of our engineering graduates from NDSU. I think, I think over half of their engineering workforce are NDSU graduates. So basically, this also is a great investment for their future and Bobcat came through with a \$5 million donation as well.

So, all total with those donations and what we've raised from some of our other alumni we're about \$14.5 million now in total fundraising. So, we're about halfway there. Tell us a little bit more about what we're going to do in this new facility. Yeah, well it's starting off with that precision ag piece of it. You know, this is a big part of who we are and what this facility is going to allow us to do is bring the entire Ag and Biosystems Engineering department, all of their faculty and staff are going to move into the building so they'll all be under the same roof with the rest of our engineering programs. That's really going to spur a lot of collaboration and I think some innovation as they start working a little bit more in close proximity with our other engineering faculty.

On the north side of the complex, we're going to have our big precision ag facility. I think the highlight of that is going to be a high-bay laboratory that's going to be large enough where we can drive a tractor into it or bring what other, you know, other farm implements in that we want. We're going to be able to do really the design, the development, the implementation, the testing of sensors and technology for agriculture that's really going to, I think, drive tomorrow's farm of the future.

So, I'm just excited about what we're going to be able to do in that precision ag facility. Yeah, and while we're talking engineering, certainly the future of agriculture which is pretty darn important to NDSU and North Dakota it's going to be about technology innovation in engineering.

So, with this new facility I've heard you talk about this phrase "putting engineering on display". What does that mean? You know, putting engineering on display, we want people to see all the great things that we're doing in this building and because a lot of people don't really know what we do and we kind of do that behind these closed doors.

So, we're going to open this up. We're going to put a lot of windows into the building. We're going to put windows into the labs. So that when people are walking by, whether it's our own students or students from other disciplines or prospective students, visitors to our campus, we want them to be able to see into this facility and see all the great projects that our students are working on. I think the heart and soul of the facility is going to be the collaborative design studio and this is going to be it's like a maker space.

I think it's kind of more of a playground for engineers where they can come together and work on their projects. Especially our senior design students. They all have to do some sort of prototype build and test and right now we just don't have the space to do that. So, this is going to give about 15,000 square feet of space all of the tools and the resources that those students need they're going to be it's going to be an interdisciplinary collaborative space. So, students from all different disciplines are going to be able to come in, work side by side, work on those projects

together. And again, windows into the facility so that people coming by can really see what we're doing. All the great projects that our students are working on. Yeah, love the multi-disciplinary part.

So, you hit on it but you know it's going to be business and entrepreneurship. We talked a little bit of ag obviously, engineering and traditional engineering and kind of where we're where we're moving forward. So, this is also a computational sciences facility. So, we're talking about data and analytics. Talk a little bit about that. Yeah, we've got some new programs that we're kicking off. New programs in data science, cyber security, IT, a new software engineering program. That's where a lot of demand is. There's a lot of workforce demand for people in those fields,

So, we're starting up some new programs. We need space now to be able to teach those classes and really high-tech space and you need a different space. Not just traditional classrooms but you need space that's really dedicated for students to be able to do kind of group collaborative work in those computational fields. And so, this facility will also include some space for those new programs and the faculty to teach classes in those programs. This is exciting for the institution, for engineering but exciting for North Dakota and future workforce. Just a couple things to think about so, as a land grant, you know, it's where you go all the way back to the 1862 land grant, it's going to be about agriculture and the mechanistic arts. Mechanistic arts are engineering. We have just over 100,000 Alum. About a fifth of them are engineers which just blows my mind away. As far as workforce in the state, almost two-thirds of the engineers in North Dakota are Bison. Which is phenomenal.

So, as we're talking to the next generation of students, the next generation of workforce, the next generation of employers, you've touched on this a little bit but just talk a little bit about what that this is going to mean to them. Yeah, I think it's going to be big. You know, there's a critical demand for engineers, and computer scientists in the state still. There's so many open positions. We're not producing enough of those graduates and I get calls every day from companies looking for more graduates. We need to increase that throughput. This facility is really going to help us do that. I think it's going to be a very attractive facility for recruiting students because facilities matter.

We need the space where students can do that work and get that hands-on education. So, I think it's going to help us bring more students into the pipeline which is going to put more students out into the workforce. I think that's very important. But it's also going to just give us a better facility. Not just to produce more students but better-trained students.

We talk a lot about that hands-on learning, that teamwork, that collaborative interdisciplinary teamwork. That's what industry wants because that's what they're going to get when they go out and enter the workforce. So, we want to give them that experience before they graduate and that's what our company CEOs keep telling us. They need more experience in doing that so having this facility will give us the opportunity, give us the resources to be able to educate students in those skills that our industry is demanding. Love it. So, exciting project, exciting things happening at NDSU, period. But certainly, around engineering and computational sciences. Dean Kallmeyer, you're doing an amazing job. Thank you. Thank you, President. And everybody out there, thanks for all of your support.

We really appreciate it. It's going to be an exciting year and we can't wait to see how quickly we wrap this thing up and we get moving forward. So, with that, everybody's got to do it. Go Bison!