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INTERVIEW WITH CHRISTINA R. SCHERRER

CONDUCTED, EDITED, AND INDEXED BY THOMAS A. SCOTT

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Interview with Christina R. Scherrer  
Conducted, edited, and indexed by Thomas A. Scott  
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TS: The interview today is with Christina Scherrer, who was one of three that received an Outstanding Research and Creative Activity Award in 2017. Why don't we start with your background and particularly your educational background? I know you spent ten years at Georgia Tech.

CS: I did, a long time there.

TS: That is actually lightning speed to get through a PhD program from scratch in ten years, I think. You might start by talking about why you went to Georgia Tech and how you got interested in industrial engineering.

CS: Okay. It is actually interesting. I knew that I was interested in a career that used math and science, but was not quite sure what that was going to be, especially since my dad is a civil engineer. I knew I did not want to do what he did, so I thought I did not want to be an engineer. But I went to a summer program. I think these summer programs are great that work with women and students in general.

TS: What kind of program was it?

CS: It was at RIT, Rochester Institute of Technology. It was meant to recruit women and minorities to STEM fields. This would have been back in the summer of 1993, I think. I went mostly to learn about math careers.

TS: So you were still in high school?

CS: In high school, yes, the summer, I think, after my sophomore year. It might have been the summer after my junior year. I had signed up for a particular session, and it was full, so I got put in one about industrial engineering. This is strange, but as I sat there, and as they were talking about what industrial engineering was, I was so excited. I left that session like, "This is what I want to do with my life. I want to make things more efficiently, I want to make processes run more smoothly, and I want to optimize." I was positive that I wanted to be an industrial engineer. So then I started looking at industrial engineering programs. I was thinking that I was going to stay in New York. I had some scholarships in New York.

TS: Oh, you were in New York?

CS: I lived in upstate New York. So I was looking at a lot of the state schools up there.

TS: Some good engineering schools in New York?

CS: Some good engineering schools, right. But then I was recruited to Georgia Tech for the President's Scholarship Program, which made my education just about free if I went to Georgia Tech. So I came down to visit.

TS: That's great if it covers out-of-state tuition.

CS: Right, right. It covered all of the tuition, pretty much. I just had to pay fees and a little bit of the tuition. So I came down to visit the campus on the Scholarship Weekend, where they interview the finalists. I loved the Atlanta weather ... from New York in April. I remember it was April 1.

TS: I know we've recruited a lot of people to Kennesaw State because they came down in February or whatever and flowers were blooming.

CS: Oh, my goodness. It was beautiful! It was awful at home. It was that muddy snow-melting time of the year. Down here it was beautiful. There was a consolation prize in terms of a reduction in cost if I didn't win the scholarship, if I was just a finalist. I had decided whether I got the scholarship or not I was going to come down to Georgia Tech.

TS: How about that!

CS: Then I did end up getting the scholarship, and it ended up being a really great opportunity for me.

TS: Everybody at that time was excited about the [1996] Olympics coming to Atlanta.

CS: Right. I was there for the summer of the Olympics. That was the summer after my first year of college. I wasn't there early enough to really get involved with volunteering and to be part of the Olympics, but I was co-oping for Delta Airlines during the Olympics.

TS: I know our campus closed down for two weeks, and they used our parking lots for people going to the Olympics. Same thing at Lockheed—that big parking lot on South Cobb Drive was for the Olympics.

CS: They kicked us off campus for I think six weeks over that summer, because they were housing athletes. It might have been eight weeks. They did a shortened summer.

TS: Oh, that's right.

CS: I was co-oping the whole summer, but I lived on campus right after the Olympics were over.

- TS: So, weather and the scholarship got you to Georgia Tech.
- CS: Exactly—and the fact that it was the number one program [in industrial engineering] in the country didn't hurt either.
- TS: Probably not. Well, I know you did a paper not too long ago on women and minorities being attracted to engineering fields. [Christina R. Scherrer, "Outreach Emphasis on the Human Impact Potential of Engineering Improves Perceptions of Underrepresented Groups," *Journal of Women and Minorities in Science and Engineering* (2013) Vol. 19 (1), pp. 37-45].
- CS: Yes. I read the ASEE [American Society for Engineering Education] magazine pretty consistently. I had seen some threads along the lines of women and minorities being more drawn to engineering if they felt that they could do good in the world. Making money is great, but that does not tend to attract women and minorities the same way that it does others. So I started looking into that some more. I applied for a research grant that had a recruiting minorities component in addition to the primary industrial engineering component. It was a National Science Foundation grant that I received. Because of that, I continued working in the area. It rang true to me. My research has, for the most part, been tied to helping society in public health. I'm much more interested in that than saving companies money. Not that that's not good as well, but with students that I've talked to it has also anecdotally rang true. So I wanted to do some research in it to see if it seemed to be true broadly.
- TS: It seems like industrial engineering is particularly relevant to doing projects in the community. All the work that you are doing is really with the community.
- CS: Right, but there are tie-ins for most of the different areas. This is a great research area to work with undergraduates. We don't have PhD students here, and our master's students for the most part are working full time and are not interested in doing research. So this was a good project to work on with undergraduates, where they could learn how to do research and create and analyze a survey. Survey research is easier than mathematical modeling kinds of research. The students had a lot of ideas about ways to tie in doing good in the world with engineering. They went around to high schools and presented it. It was really great!
- TS: Well, fantastic. It seems like just in the last decade or so there has been a lot more focus on undergraduate research than there used to be.
- CS: I think we are good at that here. We've had a lot of practice with it.
- TS: There is a conference this week down in Macon for undergraduate research in history.
- CS: Oh, yes? That's good.

- TS: I guess all the disciplines are doing things similar to that nowadays.
- CS: Getting students involved earlier is a good way to help them to then earn a PhD.
- TS: Yes, absolutely. Okay, so you started in 1995, and got through in four years it appears—four years and a summer maybe.
- CS: Yes, that is correct. I graduated early considering that I co-oped for six terms during that four plus years. But I knew by that point I was going to go right into the PhD program. So I finished up and then started my PhD right away.
- TS: How does a co-op work nowadays? It used to be in the old days when we were under the quarter system that people would go to class fall and spring, and in the winter and summer they would co-op. Now with the semester system it must be more difficult.
- CS: Right. I graduated under quarters.
- TS: Oh. It was still quarters?
- CS: It was still quarters when I finished my undergraduate degree and at the start of my PhD.
- TS: That's right! Georgia Tech had an extra year on the quarter system beyond everybody else [in the University System of Georgia]. But I would think that co-oping would be a little more complicated now.
- CS: Right. I think they do four semesters, maybe a fall semester to co-op, then a summer, then a spring, and then a summer. But I'm not positive.
- TS: It takes longer to get through I would think. Okay, so you got through in four years. Why did you stay at Georgia Tech?
- CS: I was looking at a couple different PhD programs, actually. Georgia Tech's program is so large. It was about four times the size of Northwestern University's, which was the other one that I was looking at most seriously, probably. I just realized there were more people that I still wanted to work with at Georgia Tech that I had not had the opportunity to study with. At that time, a lot of their strongest, most famous, faculty didn't teach the undergraduate classes. So the people that I worked with in my PhD program were not the same people that I had classes from as an undergrad. So I decided to stay in Atlanta. There were people I wanted to do research with.
- TS: It seems at Kennesaw now in programs like the DBA [Doctorate in Business Administration] a lot of faculty members don't seem to teach many undergraduates anymore.
- CS: Right. It tends to splinter there.

TS: I guess that goes with the territory when you've got doctoral programs.

CS: The faculty at Georgia Tech that bring in a lot of research money often only teach one class a semester. If they are teaching two classes a year, you have them teaching the PhD classes, where you are trying to recruit PhD students that will get to learn from this big name in optimization.

TS: What about mentors as you go through your program? Did you get a standard master's, or did they just give it to you while you were in your PhD program?

CS: I started the PhD program, and I had to complete the coursework for the master's to be able to get the master's degree.

TS: So they just gave it to you then?

CS: I earned it. I was missing one class after the first year ...

TS: But you didn't do a master's thesis?

CS: No master's thesis. Just the regular course work for the master's. There was not a thesis option in the MSISyE program at Georgia Tech – perhaps because they had so many PhD students that it would have been difficult to get master's thesis advisors.

TS: So what about mentors?

CS: There were some really great faculty members to work with there. George [L.] Nemhauser was my first adviser. He's one of the big names in optimization. I did my first research projects under him. He was one of the people that recruited me to Georgia Tech, and he taught me a lot about optimization and about figuring out how to do a research project. And Donna [Crystal] Llewellyn was a woman at the university [Associate Chair of ISyE, 1994-1999; director of the Center for the Enhancement of Teaching and Learning, 1999-2012; associate vice provost for learning excellence, 2012-2015; now Executive Director of the Institute for STEM and Diversity Initiatives at Boise State University] that taught me a lot about education and how important it is to be a good educator. I'm not sure that I realized until after the fact what an impact she had.

TS: Talk a bit more about how they helped you.

CS: She was really big into teaching. Georgia Tech at the time taught its PhD students how to do research. It didn't teach the PhD students how to teach.

TS: Yes.

CS: She was a big champion for teaching, so I learned a lot from her in that area. She was a good resource to me afterward getting me connected with SOTL (Scholarship of Teaching and Learning) research. When I came to work here at a teaching university, she was a good connection to teach me about teaching and make sure I was doing a good job here.

TS: Yes.

CS: Paul [M.] Griffin was my dissertation advisor. He is just an amazing man and taught me a whole bunch! He got me interested in doing medical public health research and gave me a lot of contacts in that area. His wife, Susan Griffin, is at the CDC [Centers for Disease Control in Atlanta], and she has introduced me to people there as well. She was on my research committee and introduced me to a number of people that I've been able to do research with at the CDC.

T: So she was on the committee as an outside expert?

CS: Correct. She has a PhD in economics, so she was helping with that side of things.

TS: Why don't you talk about your dissertation? Its title is "The Allocation of Scarce Resources in Public Health" [Georgia Institute of Technology, August 2005].

CS: Right, I actually took a break for a year from my PhD program. I taught high school math, and it was good because it gave me some background in teaching.

TS: And it sounded like a neat school, the Fulton County Charter School for Math and Science.

CS: For Math and Science. It was a quirky school, but it was great.

TS: Quirky?

CS: Because it was a charter school. It was early for charter schools in Georgia. Now there are a ton of them, but this was when there were fewer home zone schools that were charter. This was one that drew from other places in the county. There was no transportation for students that came. So it was an interesting mix. They had one bus that ran from the south of the county to try to [service] some poor-performing schools. I'm not quite sure how it all worked out. What was the demise of this school was that they couldn't get enough students. The year I taught there was the last year, and they were only open for three years.

TS: Well, I imagine these were very good students.

CS: It was a mix. That is what was so quirky about it. About a third of the students or so were students that were interested in math and science and were really strong math and

science students. Then about a third were students who were being bused from poor-performing schools, so they had a really weak background. Then there were a number of students that had had discipline issues in other schools and for whatever reason had been sent to our school. So I was teaching a calculus class to juniors, and then I was teaching an Algebra 1 class where the students were struggling because they could not do basic arithmetic. It was an interesting mix, but it taught me a lot about teaching, which was great. I ultimately decided to go back, restart my research with Paul Griffin, and work on this topic of public health. That was when I realized I wanted to work on something that interested society rather than the pricing things that I had been working on before.

TS: Right. You worked at Delta for a while too.

CS: That was my co-op employment.

TS: I would think that having the opportunity to work on operational reliability and pricing [at Delta] was right down your alley.

CS: Yes. I was very fortunate during my time at Delta. The first group that I was in, the vice president in charge of that group really took me under his wing and gave me some really cool projects to work on. I was able to get the basic work that the co-op was supposed to do done quickly. Then the rest of the time, he would just give me these grand plans to work on. So I got to work on some really great projects related to reliability and could look at some modeling of what made their flights late. Then he ended up placing me in a pricing group when someone was going to be out for a whole semester. So I got to do an actual pricing analyst job for a semester, which was really fun.

TS: What they charge customers to fly on Delta?

CS: Yes. I was the one changing the price of flights from the Northwest to the Northeast, based on various things going on. That was when we were competing with AirTran [Airways] that had come on the market. I got to work again with the extra time. They gave me a little project to try to [determine] what would I do to try to compete with AirTran in terms of prices and so on. It was a great opportunity.

TS: Hard to compete with AirTran on prices.

CS: It was! It was.

TS: Safety might be another story.

CS: Yes.

TS: Well, great. Did you do any teaching at Georgia Tech?

- CS: When I was in the PhD program, they let me teach one class. That is the model. They wanted us mostly to be working on research, but if we wanted to go to a school where teaching was important, then they would let us teach one class. So I taught a supply chain class.
- TS: So they were basically turning out doctoral students for R1s?
- CS: That is correct. That is what I thought I was going to do. When I was working on my PhD, my thought was that I would end up at an R1. That is really what the model is. It is unusual for students to leave their PhD program and go to a teaching university. Thankfully, my dissertation advisor was very supportive of that. During the time I was finishing my PhD, I realized I wanted to be in a university that would be more family-friendly. I have great respect for the women that were teaching at Georgia Tech that had families, but as I watched the choices that they had to make to be able to get tenure at Georgia Tech—they made the choices they wanted to make, but I realized they were not the choices that I wanted to make. I wanted to be home more with my children, even though that meant sacrificing more interesting research opportunities. So because of that, I started looking for a job that was at a more teaching-focused school where I could keep my workload to fifty hours a week instead of ninety hours a week.
- TS: We've had a number of Georgia Tech graduates that taught at Kennesaw and Southern Poly over the years precisely for the reason that they wanted to be at a teaching institution.
- CS: Right.
- TS: It was not that they didn't care about research. It was just that they did not want to make research the central focus of their careers.
- CS: Right. A lot of it is department-based at Georgia Tech as well. The industrial engineering program has been ranked number one in the country for I don't remember how many years now—twenty or so. So they were really turning out R1 graduates. I had colleagues in other departments where there was not that pressure to get an R1 job.
- TS: Yes. Well, talk about your dissertation. What did you find?
- CS: Right. So one of the topics was dental sealants, and that is one that I continued on for a while.
- TS: What exactly is a dental sealant program?
- CS: A dental sealant is something that is painted on a child's teeth to protect them from cavities. Most kids now have them. I did not when I was a kid. But over the years ...
- TS: I never heard of them.

CS: I would say middle class 20-year-olds and younger now, for the most part, have these sealants. They are painted on the tops of the teeth, the molars, so that when candy and things like that get stuck in those teeth, there is a protective barrier for the tooth from that candy or whatever else it is that you are eating that could cause decay. As long as they stay in place, they are very effective at preventing cavities, so most parents now that are sending their children to a dentist have those sealants put on. The problem is that a lot of kids don't get to a dentist, especially from less affluent families. So what I was looking at in my dissertation was these school-based sealant programs, where a not-for-profit or a Medicaid-type group will go into a school and provide these sealants free of charge to the children. They will target schools where there are a lot of low income families, typically measured by the number of children on free or reduced lunches, and they will go in and offer the sealants for free to any parent who will sign a consent form for the child to have the sealants done.

They are very effective. These are the kids who do not tend to see a dentist. They may not have the best dental hygiene. We tend to see correlation in lesser affluent groups that children are more likely to have juice and soda at an earlier age. It is really detrimental to the teeth. Or they might not be as good at getting their teeth brushed. So these are kids that have a lot of decay. By putting the sealants on their teeth, it dramatically reduces the decay. What I was looking at specifically—because I'm not the dental expert, I was working with some people involved in sealant programs. I was working with people at the CDC that do oral health, and I did the simulation and the economic modeling of what is it worth if the government pays through Medicaid for sealants to be put on these kids' teeth? What will it save in future restoration—fillings—that the government was paying?

TS: It would save a ton, I would think.

CS: Yes, but you need to build a math model to show what percentage of these kids are likely to have a filling that will be filled by a Medicaid claim.

TS: One hundred percent?

CS: No, because a lot of them do not get it filled. Some of the kids that get the sealants won't be Medicaid eligible, but you are still paying for the sealants for them because you can't go in and make it be Medicaid [only]. Some of the kids will end up not getting the filling. It may actually end up being a tooth pulled way down the road from significant decay. So you have to look at certain assumptions based on what we know from the health databases out there and look at how cost effective it is to do a sealant in a school sealant program.

Then what I was also looking at coming from the typical industrial engineering manufacturing environment was to look at how many workspaces do I need and how do I increase process flow through workstations? Well, these sealant stations are workstations. Public health people don't think of it that way. They say, "There are

chairs, and we're serving someone"; but they don't think [the way an industrial engineer does]. As they explain the process of what they do, a dentist comes in and inspects the kids' teeth, and then the stations need to be cleaned between children, and then a child comes in and gets the sealants put on, and then a more thorough cleaning is even required then. The sealants are done by a hygienist and a dental assistant, but you can't really both clean the station together. There is only so much to do. So I was like, "What if we have an extra station? What would it save us if, instead of having, say, four stations, we had a fifth station that just had an assistant, which is a low-cost resource that would be cleaning, and then the hygienist would go to the next open station? So I built a simulation model based on how many students you expect in the program and various data that we had on how long things would take.

TS: So you've got a mini assembly line.

CS: Right, what the optimal assembly line would be. So if you are going to a program that is going to serve this many students, bring three chairs but two hygienists. If you are going to this size program, do this, and try to help them think about it as a workflow. Actually, I've heard back that programs have used it ...

TS: I was going to ask if you have had anybody that has used it.

CS: Yes. We were working with people in Wisconsin. They are really active in public health for dentistry, so they have shared it widely. Just a couple years ago, someone called and asked me to do a lunch-and-learn for dental directors throughout the state, so I continue to share this information.

TS: So you flew out to Wisconsin?

CS: No, it was on the phone. It was a webinar. I don't remember how many dental directors were on the phone, but I talked to them about thinking through some of these things and how you can be more efficient and think like an industrial engineer when you are building your school sealant program.

TS: I guess they had never thought about that before.

CS: It's just a different way of getting to use these tools that we use all the time as industrial engineers and with the help of the subject matter expertise that the dental directors can give us, helping them make their programs run more smoothly with just the low hanging fruit that's easy to grab.

TS: I know you've done several papers and presentations on dental sealants since then. Apparently, there are some other people in the field because some of those publications had multi authors.

- CS: Yes, that is true. That was the preliminary work. One of the other issues in dental public health is whether a dentist has to do the work or not. This is sort of a lobbying thing.
- TS: The dental associations want to make sure a dentist does it.
- CS: Exactly. At the time I was working on this, we were starting to see that dentists were not holding quite so tight to public health issues because they were not going to get much reimbursement from Medicaid.
- TS: So they didn't care if somebody else did the work?
- CS: That was the hope, and we've been successful in that. In the public health sector in every state now, [hygienists] can do dental sealants without a dentist present, and that wasn't the case back in 2005 when I was doing [the dissertation]. We made the economic case for how much it was going to save Medicaid if a dentist didn't need to do it. You'll see a dentist look in the mouth and say, "Oh, yep, you can put sealants on." And the hygienist can look and see [whether sealants will help]. You can't put a sealant on if there is significant cavitation already. You shouldn't put it on if sealants are already there. But, really, there is not significant harm done if you put it over a cavity. It is more the case that it is just worthless. And there is not significant harm done if you put it over another sealant. So ignoring the argument that a hygienist is perfectly capable of looking at a tooth and figuring out whether it needs it or not, it is not going to hurt if they put it on. So my research was used to inform policy in a number of states throughout the country to allow hygienists to do this and to save Medicaid money.
- TS: Fantastic!
- CS: That is probably the thing I am proudest of in my research.
- TS: I guess so. I imagine there are some dentists that volunteer their time to do these public-service projects.
- CS: Oh, definitely, yes, there are, and there are dentists that take a percentage of Medicaid patients. Just, in general, Medicaid does not reimburse as well as private insurance. So it is hard for a child on Medicaid to see a dentist. It's very hard.
- TS: Oh, I see. Many dentists won't take Medicaid patients?
- CS: Correct. I don't blame the dentists either. I mean, they have to make a living as well. So most Medicaid patients are at dentists that focus specifically on Medicaid patients and churn them through very quickly—long waits in the waiting room and that kind of thing.
- TS: I had never thought about it from this angle, but I guess the extension of Medicaid in some states has allowed children to get more dental care.

- CS: Yes. Over the last ten years many more children have Medicaid for dentistry, but they are still having a terrible time getting dentists to take them. So there are a lot of children that are not able to get dental assistance, and that actually ties into what I am working on right now.
- TS: Well, your dissertation had several chapters on different topics. I guess the next chapter was Community Health Centers [CHCs], and you were doing some research to see where they ought to be located and things of that sort?
- CS: Yes. Community health centers are locations where anyone can get served, whether they have insurance or not for medical needs. So if a person comes in with private insurance, the private insurance is billed. If they come in with Medicare or Medicaid, that is billed. But if they don't have insurance, they are still served, and they are supposed to pay as they are able.
- TS: Right.
- CS: This has been a debate in the public health system for the last more than ten years. When we take people that do not have insurance, do we give them insurance to help them get healthcare or do we provide access to healthcare that doesn't require insurance? The debate is couched as access v. insurance, where insurance is increasing Medicaid and access is increasing the number of community health centers. So we were looking at [the question]: when we are designing a network, where do we need community health centers? We built a facility location model.
- TS: That's what I did not quite understand from your dissertation because it would seem to me that where you would want to put them is where the poor people are. I was thinking you were saying something about not putting them in rural areas.
- CS: There is a trade-off. This is a problem in public sector optimization research in general. Another area this came up is with food. I worked with the Atlanta [Community] Food Bank to figure out how they could best distribute foods. If you think about it, there is a ton of hungry people, unfortunately, in Georgia. There is not enough food to give out to feed all of the hungry people in Georgia. You can give it out more cheaply in metro areas where people are tightly clustered together because the transportation cost is lower. So you can serve more people by only giving it out in the cities, and you still would not serve all the need. If we ignore the rural parts of Georgia and just give food in the metro areas, we could still only use that food to feed hungry people, but it would cost less, and we would reach more people than spreading it across the state.
- TS: I see.
- CS: But then that's not fair, right?
- TS: No, it isn't fair.

CS: So then there is this concept of equity when you are talking about public sector [issues].

TS: Right, right. I am amazed at how much the Atlanta Community Food Bank accomplishes. The church I go to is barely inside Cherokee County, and it operates a mobile food pantry once a month ...

CS: Yep.

TS: People just drive through, and Atlanta Community Food Bank provides most of the food, I think.

CS: Right, yes.

TS: I guess the food bank gets the food from Kroger, and Publix and wherever when they have day old food.

CS: The Atlanta Community Food Bank is the primary receiver of state funds for food scarcity in the State of Georgia, so it is their responsibility to try to get food throughout the state. Even though the Atlanta Community Food Bank receives food from a lot of different places by the truckload and tries to get it out throughout the state.

TS: Yes, it is amazing.

CS: Yes, it is.

TS: And so what would you say your main conclusions were from that chapter?

CS: Looking at that imbalance in getting [assistance] into rural areas or not, we came across an awful lot of need. You could serve a lot of people with community health centers before you would lose economies of scale on it. There is really a lot of need throughout the country.

TS: Yes. Then you had a chapter on Markovian modeling of chronic disease. I don't know what that means.

CS: Right. It is a completely different turn. A Markov model simply is this type of a model where you assume that as you go from one state or situation to another, that there is no record of what happened previously. I've done some Markovian modeling of teeth. If you talk about switching between states every six months, maybe when you go to visit a dentist and the dentist does a check of what your teeth look like, you could move from a healthy tooth, to a tooth with a cavity, to a tooth with a filling, to a tooth that's been pulled. All these different states are possible.

TS: Right.

- CS: But if you assume that if you are in a state, say, called decay, that you have a cavity, that there is no memory of how long you have been there, or that your probability of leaving that state is not dependent upon what has happened in the past, that kind of model has certain math properties that make it easier to solve. In certain cases you can reasonably have that assumption—that for someone who is being checked those probabilities might not change. We were trying to play with some literature that was out there in the medical field where there were some errors that were being made in the medical literature by not taking into account the mathematical properties of certain diseases. We were looking at applying what we know about Markov models to be able to better predict how likely it is that a person will have a certain disease.
- TS: Okay. Any conclusions?
- CS: I am trying to remember exactly what we did. It was ten years ago. We were dealing with lung cancer, I think. I don't remember what the final conclusion was, to be honest.
- TS: Okay, so you got your dissertation done in 2005, and you went straight to Southern Poly, I guess.
- CS: I did, weeks later.
- TS: Yes, I saw that. You graduated in August, and ...
- CS: Started teaching in August.
- TS: You have explained why you wanted to go to a teaching institution for family considerations. Why Southern Poly in particular?
- CS: I feel like it was a huge blessing that Southern Poly was looking for a faculty member at that time. My husband and I definitely preferred to stay in Atlanta. He was happy with his job, and we were settled and happy with the area. When I saw that Southern Poly had a position open, it really seemed perfect. There are not a lot of industrial engineering programs at teaching colleges. So it was just amazing that it worked out. That particular year they had a position available, but they had an adjunct instructor that had been teaching for a while there. This is a funny story, actually. I had taken a position with Kennesaw to teach just one class in the fall because the position had not been opened at Southern Poly yet.
- TS: Was that in the Coles College [of Business]?
- CS: In the Coles College, right—to teach an operations management class for them. Then the position got posted at Southern Poly, so I applied for it. I told them at the time that I had committed to teaching a class at Kennesaw, so I needed to teach one class at Kennesaw to honor that commitment. They interviewed me but ended up offering the position to the

adjunct that had been teaching there. They offered me a lecturer position [instead] but at the same time told me that I wasn't allowed to teach at Kennesaw. Board of Regents requirements were that I couldn't be full-time at one university and part-time somewhere else. So I said that I was very interested in the job, but that I didn't feel comfortable going back on [my promise to] Kennesaw ...

TS: At the last minute ...

CS: Right. If it was a tenure track position [at SPSU], I felt like they would understand, but [not for a non-tenure-track lecturer position]. They really wanted me to come [to SPSU] and talked to the dean at the time, who gave them another line. So they offered me a tenure track position.

TS: How about that?

CS: The Coles College was probably going to be hiring a full-time person, possibly in January, so I wanted to remain eligible for that if I wasn't going to have [a tenure track position at SPSU]. So it just all worked out, and now I'm at Kennesaw anyways, which is kind of funny. But the business school at Kennesaw was very understanding that I had received a tenure track position somewhere else and was very kind about it. And then I ended up at Kennesaw.

TS: Let's see in 2005, Tim Mescon [Timothy S. Mescon] was the dean of the Coles College.

CS: I think I must have been dealing with a department chair or associate dean.

TS: Okay, so you came here in 2005. What was your impression of Southern Poly when you got here in 2005?

CS: Oh, wow, that's an interesting question. What was my impression? I don't know.

TS: Well, it was obviously not an R1 like Georgia Tech. Were you aware that Southern Poly was part of Georgia Tech up until 1980?

CS: Yes, I heard the story about all that. I really enjoyed my first year here. It was really very, very busy and hectic, especially with a young one at home. It was interesting. My first couple of classes, I taught a night class, like a 5:00 o'clock at night class, in statistics to primarily non-industrial engineers, and I definitely was younger than the average age in that class. There were very few women in the classroom—a lot of construction management students were in that particular class.

TS: So you were teaching a bunch of old men!

CS: Just older than I was! Then I taught a graduate class where I was the youngest person in the room. It was interesting.

- TS: You must have been still in your 20s at that time.
- CS: Yes, I would have been 28, I guess. The department was really great to me. I had some really good mentors that helped me figure out how to work things out. I was very interested in doing research, and no one in the department really was doing research at the time. But given that, I would say that I had some pretty decent support from my department chairs for the fact that I was trying to do some research.
- TS: How many doctorates were there in your department in 2005? Was it typical for that time or still unusual?
- CS: No, we were trying to get more employees with doctorates because of the master's program that we had started. So we had Mary McShane-Vaughn, who was the coordinator of the quality assurance program, and she had a doctorate. Ken Jackson [Kenneth W. Jackson] was the person that was hired that same year as me that had been an adjunct. He had a PhD [in mechanical engineering from Georgia Tech]. He had been in industry for a long time at AT&T [fifteen years as a consultant and distinguished member of the technical staff at Bell Telephone Laboratories and fifteen years as a senior engineer at Western Electric Company]. Then Russ Hunt [Ruston M. Hunt] had a PhD. He had been hired the previous year.
- TS: Okay, so a lot of the PhDs were the newest members.
- CS: Yes, those two were brand new. Mary had been there for a handful of years, I think. I'm trying to think if there were any others. Pat Carden [Patricia D. Carden] was the department chair when I got hired, but then retired, so she was like part-time. She had a PhD [from the University of Toledo]. But the department chair when I started, David Caudill, did not have a PhD. He went on to be interim dean, actually.
- TS: Without a PhD?
- CS: Crazy, huh?
- TS: Yes.
- CS: It is possible I am forgetting someone ... oh, Walter Thomas, who just retired, had a PhD, but he was mostly in the textile program. So I would say it was just under half at the time.
- TS: Okay, a fair number of doctorates, but not too much research taking place?
- CS: No, none of those people were doing any research beyond the occasional conference presentation at the American Society for Engineering Education, like maybe a survey of how a particular teaching method was going, but no discipline studies.

- TS: Scholarship of teaching and learning?
- CS: Right, and that very minimal as well. Not in journals. When my first publication came out in a journal shortly after I started, I got a thank you note from the dean. It was unusual for there to be something to be published in a journal from our college, and it was not even a very good journal.
- TS: Can't complain about where it was published.
- CS: Oh, my goodness. So, yes, it was an interesting environment to start [a career], coming from Georgia Tech to a place where...
- TS: Where the focus was teaching and service?
- CS: Absolutely. There was definitely the feeling that research was coming out of my own hide.
- TS: What about the Coles College at that time? Of course, you were going to be there as an adjunct, so I guess they were only concerned about whether you could teach the course.
- CS: Right. The thought was I was going to teach that one course, and that would increase the chances that I could get hired there full-time in the spring. They were doing definitely more research. They did end up hiring for that position. But I liked Southern Poly, so I did not end up applying for the Kennesaw position that next year. I was very happy at Southern Poly.
- TS: So you were very happy because of the teaching focus?
- CS: I liked the students. I liked the people I was working with. I felt that the department was going to be supportive of my research and work around class scheduling so that I could be home with my kids a couple of afternoons a week.
- TS: I know that Southern Polytechnic was overwhelming male, but you had Lisa [A.] Rossbacher as president. How was that? Did she encourage the women on the faculty?
- CS: I wouldn't say that I ever felt out of place... my PhD program was mostly male as well. I have never felt at Southern Poly like I was being treated differently because I was a female in any sort of negative way. Occasionally, I would have a student who would call the male professors "Dr. So and So" and try to call me "Christina," but that would always be a student and not a co-worker. But one thing was strange. When I was ready to take my first maternity leave with my second child—my first child here—they didn't know what to do. There had not been a faculty member that had taken a maternity leave.
- TS: You're kidding?

- CS: There were women at the university, but not that many were teaching on the academic calendar full time. Many of the women that were here were maybe second career. They might have children at home, but they didn't come before they had their children. The university was willing to work with me, but it was awkward because they didn't know what to do.
- TS: Didn't have a policy?
- CS: Right.
- TS: So you helped them develop their policy.
- CS: Yes, and then we had some more women that had babies afterwards, and I had a second one here, third one overall. But, no, I think it has been a very female-friendly place to work.
- TS: You mentioned that they just started a master's program when you came?
- CS: The master's in quality assurance had started a few years prior. I'm not sure exactly how many. It was an on-campus program, so it may have been a while. The semester that I started it had just started being an online program. Then we were just starting a systems engineering program in our department. That was more of the impetus, I think, for getting some more PhDs. [Editor's note: The quality assurance program first appears in the SPSU 1992-1993 catalog as a concentration of the engineering technology program and then appears as a separate master of science in quality assurance in the 1995-1996 catalog, with concentrations in engineering & technology and in quality systems].
- TS: I guess just last year the MS in engineering management came back to replace Southern Polytechnic's MBA because of consolidation.
- CS: Right.
- TS: I guess that didn't affect you much did it?
- CS: We partnered a lot with the MBA program here at Southern Poly. We shared some classes. A lot of our students took electives over there, and their students took some classes with us. So it was good for us to share that way. Our program did not line up as well with the Coles MBA. They have some more stringent requirements on prerequisites and things like that. So adding the engineering management master's made sense, I think. We have some students who are interested in that area, and we had enough expertise in the department to be able to offer some classes and then to partner with the Coles College to offer us a couple of online options as well. So I think it has been good. I don't think it has caused any harm to the Coles College, and I think it has helped us.

TS: The Board of Regents approved Southern Polytechnic's degrees in in civil, electrical, and mechanical engineering in August 2009, supplementing the older programs in engineering technology.

CS: The master's in systems engineering [established November 2002] was the first engineering degree that we had. So that was the first entrance into engineering, as opposed to engineering technology. Then we got the mechatronics engineering [in October 2006].

TS: Oh, that's right.

CS: [The board approved mechatronics engineering] with the thought that it was not an engineering degree that any of the other universities in the state had. Then we transitioned to asking for the civil, mechanical and electrical, but we called them night programs, and we didn't offer any of those classes until 3:00 o'clock in the afternoon or later to not compete with other places in the state.

TS: Like Georgia Tech?

CS: Yes. So that was all going on, trying to figure out how we would differentiate between engineering and engineering technology. Both are being offered at the same university, same faculty, and things like that. Big debate.

TS: Right, and I think Southern Poly made the case that the kinds of students that were coming here were not necessarily the type that were going to Georgia Tech.

CS: I think so.

TS: More nontraditional students.

CS: Definitely.

TS: And people that were working and coming back to school—which makes sense if you are doing an evening program.

CS: Right, that was the thought behind all that.

TS: You've taught a lot of statistics classes along the way, Statistics for Quality Assurance [QA 6610] this semester. Has that been your bread and butter course over the years?

CS: I would say that and the logistics courses probably. We revamped the way that we were teaching statistics to our master's students online. I just love teaching that class and helping make sure that our master's students get a good background in statistics before they go on to the rest of that quality assurance program. So I have been fortunate to teach that one a lot of times to our master's students. Then I created our logistics classes and

coordinate those and teach about half of them. Other than that I just taught what I was needed for, but those are my main ones that I like to teach.

TS: Would you say something about your philosophy of teaching? I looked at what you had online for your syllabi for some of those classes. You do a lot of discussion work with students both online and maybe in the classroom. You also are very structured with quizzes every week and what have you. So could you just talk about your philosophy of teaching?

CS: It is a little bit different when I'm teaching online versus on campus. I think online it is really important to have accountability points to keep students from letting that online class slip out of their attention and then come back in their attention when there is an exam. The way that I teach a class that is online is weekly accountability points. With the graduate students it's a discussion posting to say, "By Sunday night tell me what you didn't understand about the chapter, so that Monday we can talk about the right things in class." Honestly, I don't need to know what they don't understand. I've been teaching that class so many times I know what they don't understand about the chapters. But that gives them an accountability point to say that, "By Sunday night I need to check in online and tell my instructor what I'm having trouble with."

I do read those and I reply to them. When I give the lecture, I say, "Like Jim said in the discussion post last night" ... So they know it is being read, but it's really more for them to make sure that they don't show up [unprepared] for the lecture. We do a lot of problems. We do active learning in the classroom, so that when I pop a question up there with multiple choice, they are not staring at it like, "I haven't read the chapter. I have no idea how to do this." But they've read it, and they know what's going on.

With the undergrads, with the logistics class, it would be a little quiz each week to make sure they did the reading because, if they don't do it, then they don't know what we're talking about when they get to class. If it's an on campus class where we don't have an online component, I don't think that's quite as important because the accountability comes when I'm looking at them in the eye in class. I make sure to learn their names and to check in with them if they haven't been there for a couple days and keep things going that way.

TS: It looks like you make a research project a big part of the grade in the class, don't you?

CS: In the Advanced Logistics elective that I teach [IET 3320] we try to have that course also be part of the student's communication skills that they learn while they're here. We've heard from our advisory board that some of our students are not very good at presenting or could use extra practice in their technical writing as engineers. For that reason we have them learn how to write a research paper in there—not an academic research paper, but to find out about some area of logistics they're interested in and then present it to their peers. The students love to hear what their peers are saying because they come up

with different topics, from logistics of chocolate to whatever it might be. For that class that's a big component of it.

TS: I know from looking at your dissertation that you write very well, so you must put a focus on being able to write better than the stereotype of the average engineer.

CS: With the students I mostly want them to learn to write well enough to be professional. I'm not grading them for perfect writing, but a lot of students now don't understand that it's important to use correct capitalization and punctuation, that you can't write an e-mail to your professor like a text, and that if you send a note to somebody you want a job from in that form, it's not going to go over very well.

TS: Of the students that graduate from here, how many of them go to graduate school, and how many of them go straight into the workforce and stay there forever?

CS: Most of them go right into the workforce. I've had several students that have asked me to write recommendations for other graduate schools, and we're seeing more and more students going to our master's programs. It's not very common to head out into a major graduate program from here. There are exceptions. One of my students that I mentored is now working on her PhD at the University of Michigan. We are super proud of her. That's unusual to go right from our program here into the PhD program there. She was heavily recruited, and we got her set up to do well with that. Most of our students don't. The degrees here are not very theoretical. They're more lined up with going out to work, and then maybe getting an MBA or getting a master's after you've worked for a couple of years.

TS: Right. Do we have a doctoral program in the works in engineering?

CS: I don't think so. The topic comes up every now and then. I think that there is a thought that down the road we may have a [DEng—Doctor of Engineering], not a PhD, that is less theoretical and is more for the working person PhD, similar to the [DBA] in the business school. But even that, I think, is down the road a little bit. It will be exciting to be part of that if we decide to go down that road, but we do have to be careful. Adding doctoral degrees means that we are competing with different universities when our faculty are looking for research funding. The NSF [National Science Foundation] grant that I got I would not have received if I were at a university that had PhDs, most likely. That said, it would have been great to have doctoral students to collaborate with on research for all these years. There are trade offs associated with the decision.

TS: Well, talk about some of the articles that you've written and have either ready for publication or published since you got here. I know some of it is a continuation of what you did in your dissertation, but some of it is not, like work on childhood obesity interventions. That seems to be beyond what you were doing on your dissertation.

CS: Most of my work that is related to industrial engineering, as opposed to education, has to do with optimization of some sort in the public sector. I have some contacts at the Georgia Health Policy Center [Andrew Young School of Policy Studies, Georgia State University] and at the Centers for Disease Control and Prevention, and often someone from there will call me. They will say, “I’ve got this interesting problem. What do you think?” That’s how the obesity project worked out. Someone called me that I worked with on [researching] the location of domestic abuse shelter facilities, which was a spin off of the community health center facility project. She asked if I would be interested in doing some economic modeling of childhood obesity.

We got a grant from the state to look at the costs associated with various programs that you could do to try to reduce childhood obesity and the savings that you might see. [“Using System Dynamics and Cost Effectiveness Modeling to Improve State Policies on Childhood Obesity,” Principal Investigator: Karen J. Minyard, Georgia Health Policy Center, Georgia State University, July 2010, \$10,000.00 grant]. Our focus with this in phase one was on trying to communicate [our findings] to policy makers. We put a dashboard together that they could see a simulation running in the background that I had coded, and they would be able to see that if you increase this, what the cost is going to be. There was a little toggle that they could slide on and see how that would impact what the costs were and everything. That was that project.

TS: You mentioned education research. I know a little about what you have been doing there. Can you talk about that?

CS: Sure. I started education research when I started teaching here. We were teaching classes online. I had some reservations about it, actually. The department was great and let me teach two sections of the same course of statistics, one online and one on campus. I surveyed and collected data on the students. That ended up in a publication in an industrial engineering journal about online learning and the similarities and differences [with classroom teaching]. That’s been referenced in a lot of other later studies. It was one of the earlier studies on online education. [Christina R. Scherrer, “Comparison of an Introductory Level Undergraduate Statistics Course Taught with Traditional, Hybrid, and Online Delivery Methods,” *INFORMS Transactions on Education*, Vol. 11, May 2011, pp. 106-110].

In that we found that for some students online education works very well. Some of my highest grades were online students. But some students just hope that it will fall from the computer into their head, and they don’t do anything. They do poorly in their classes. We found the standard deviation of the grades tended to be higher in an online class, but the average tended to be pretty similar. The research since then has pretty much backed that up as well. There are a number of our students that are so hardworking, and they are able to get a degree because of the online option. Then there are a number of our students who live in a dorm here and don’t want to get out of their room and come to the classroom. They don’t put the time in on the computer either, and they fail. It has been interesting.

TS: I used to teach the methodology class in history. It was interesting how as long as the class was structured you had people that were just doing fabulous work. Then when they had to go out and do the paper by themselves, some people just couldn't exercise sufficient self-discipline. They had a test in another class coming up tomorrow or some other excuse. So they put it off and put it off.

CS: Yes, exactly. Right. That's the reason for those accountability points that I have in my online classes. One thing that has been helpful with education research is it has been a way for me to mentor other faculty because it's a good way to get into doing research. For faculty in my department that have only been working on their teaching, I can show them how it could turn into a research paper and how they could publish it and be successful in pursuing tenure.

We're also working with faculty in other departments that have larger sample sizes. I work with the math department a lot because they have big classes or a large numbers of classes. They have great data. They are interested in improving their teaching, and they are interested in publishing in math education journals, but maybe they don't have the statistical knowledge to be able to write a good paper about it. Right now I'm working with a couple of faculty members in the math department as they are looking at the impacts of a remediation program that they are doing.

TS: A remediation program here in math?

CS: A remediation program for students in Calculus I [MATH 1190]. When students show up for Calc I, they take a pretest based on their prerequisite knowledge. If they don't know the prerequisite knowledge, the study is how you can remediate them over two to three weeks so they can still be successful in the course. They are trying to dig into all the data they've got on how much of the prerequisite knowledge a student needs to know to do well in the class. I get to work with them on that fun data, just doing some statistical analysis that they're not necessarily familiar with.

TS: Great. Anything else on research that you're doing?

CS: Right now I'm looking at [issues] similar to the dental sealant programs. I was fortunate to be able to work with a group with the community guide, which advises Medicaid policy, to look at solidifying the Medicaid spending money on school-based sealants as a good idea. That was last year, and it got a good bit of press. [Susan Griffin, Shillpa Naavaal, Christina Scherrer, Paul M. Griffin, Kate Harris, and Sajal Chattopadhyay, "School-Based Dental Sealant Programs Prevent Cavities and Are Cost-Effective," *Health Affairs*, Vol. 35, December 2016, pp. 2233-2240].

Now I'm interested in looking at care even earlier, with children before they're old enough for sealants. They can get fluoride varnish. We all have fluoride in our water now, and fluoride is one of the best public health things that has come down the pike in

terms of cost effectiveness—very, very cheap and a big savings. For children who are especially prone to decay, more fluoride is better. So there is this stuff called fluoride varnish that really a parent could put on a child. They're not allowed to, but unless the kid drank the bottle of it, you can't really put too much on.

In the last couple of years, doctor's offices are now allowed to put this on. So looking at modeling of a pediatrician's office—a pediatrician's office can bill Medicaid for putting on this fluoride varnish, but a lot of pediatrician's offices are hesitant to do it. So we are trying to do some work measurement analysis of the process and how they can fit it into their already busy time in the pediatrician's office and get that varnish put on the kids' teeth in a cost effective way, so they can get the reimbursements, and we can get more children, hopefully, that will have varnish on their primary teeth to protect them from decay.

TS: It seems to me that your career naturally integrates teaching, scholarship, and service.

CS: It has, yes. It's been good.

TS: With regard to community service, other than the things that you've talked about, is there anything else that is job related, in terms of community service, that you've been doing?

CS: I do, of course, refereeing of journal articles. At the university I lately have been focusing on mentoring other faculty. I've also been very involved with curriculum.

TS: Have you been doing this on your own or is it orchestrated by deans and what have you?

CS: I wouldn't say that it's orchestrated. I think just as the university is moving more toward doing research and the college is moving more toward doing research, there were not that many faculty that were doing research. There are now more, thankfully. So if a department chair would hear that so-and-so is interested in doing research, they would say, "Go see Christina" (laughs). We have some great resources at the university as well. And now we've got some junior faculty members that are doing amazing research—very interesting things. So it has been great to be able to be a part of that. That's been good.

TS: Did you come in as an associate professor?

CS: No, I came in as an assistant professor.

TS: Well, you've moved up pretty rapidly in ten or twelve years.

CS: I did. I went up early for associate professor based on the research and grants and whatnot that I had done. Then I got full professor a year ago.

- TS: Well, you are the 2017 recipient of the Outstanding Research and Creative Activity Award: any reactions to winning the award?
- CS: It was so exciting (laughs)! It has been interesting to be at Southern Poly and Kennesaw during this time period, showing up as someone who was told that research was not important, but being given solid support from all the department chairs that I've had. Within the constraints that they had, they really tried to show me support for doing this research that was really not given much value by the university at the time. It has been exciting to begin to mentor faculty and to now being at a place where there are faculty that are doing research and where we are trying to hire faculty that will be doing research. To have the opportunity to apply for this award was to say, "Look what I've done over this ten or twelve year time period." Now it is a different place, but you can't change things. I can't go back ten years and be hired to where it is right now. It would have been nice to be able to come in and be at a university like we are now or like we will be in five years and have other people doing research that I could do research with. This award made me feel good about having helped be part of getting us to where we are now. Maybe it's not the easiest road or the road that I would have chosen, but it has been a good road, and I got rewarded for it. So it was very exciting.
- TS: I've wanted to ask you some questions about the consolidation. We were already talking about it a little, but I like to ask everybody down here, when did you first hear that the Board of Regents planned to consolidate KSU and SPSU?
- CS: I think it was the day the news came out, that it was going to be in the news. Lisa [Rossbacher] emailed us maybe right beforehand.
- TS: Sent an email to the faculty?
- CS: I'm not positive, but I seem to remember that an email came out saying it was going to be in the news tonight. I'm not positive, but that's my recollection. It was a shock. We had no thought that Kennesaw and Southern Poly would be targeted for consolidation.
- TS: It was a well-kept secret.
- CS: Yes. I'm not aware of anybody that knew ahead of time. I'm sure that people did know, but I don't have anyone in my inner circle that had a clue.
- TS: Dr. Rossbacher says she found out ten or twelve days ahead of time in a meeting with the chancellor. Then she was going out of town to a conference, and they delayed the announcement until she got back.
- CS: Crazy.
- TS: Actually, it was November 1, 2013, exactly four years ago today.

CS: Oh, it is. That's funny.

TS: [President Daniel S.] Dan Papp claims he found out the day before, although some have questioned whether his memory is accurate.

CS: Interesting.

TS: Others have said they had hints that it was coming, but everyone on the Marietta campus, including [former vice president for academic affairs] Zvi Szafran claim that the announcement caught them by surprise. So you say it was a shock?

CS: Yes.

TS: Different people had different reactions to it. Some people felt very threatened, I know, when it happened. What about you?

CS: I think there was a lot of uncertainty about what was going to happen. I think being a faculty member in the engineering college, there wasn't any concern that engineering was going to go away.

TS: Right.

CS: There was no direct parallel on the Kennesaw campus. So, I think, in that sense we had it easy. I was not in administration. I had no interest in being administration. There was some concern among my peers that there was going to be more pressure to do research as we have seen, but that was not a concern of mine because I was okay.

TS: Not your concern because you were already doing a lot of research.

CS: Right. But I have colleagues in the math department, and knowing there was also a math department on the Kennesaw campus [raised concerns about] how was that going to play out. We didn't really have that [problem] in the engineering school.

TS: So since we didn't have engineering on the Kennesaw campus, no competition ...

CS: Right. Right. Right.

TS: At least you didn't have to blend two programs together.

CS: Sure.

TS: Were you on any of the Operational Working Groups during consolidation?

CS: I was not, no, thankfully.

- TS: How did you stay off (laughs)?
- CS: Actually, at the time of consolidation, I was not full time. After I had my third child, I had received tenure and requested to go two-thirds time or three-fourths time, whatever qualified for benefits, for a couple of years to try to manage the family/work load kind of thing.
- TS: So you didn't have to be on any OWGs?
- CS: I didn't, which is good because I had enough to do.
- TS: I know a lot of the Southern Poly people got overworked because there was supposed to be half and half on those committees, but we had three times as many faculty from which to choose on the Kennesaw campus.
- CS: During that time, even not being on those committees, the amount of extra work that I had that was not related to my normal research, teaching, and normal university service was overwhelming at times. Just the amount of extra meetings we had, extra training we had, extra, just extra (laughs).
- TS: Extra everything?
- CS: So many meetings and things that had to be filled out and figured out and debated. Yes, it was definitely overwhelming at times. I would say that the extra work was for me, personally, the hardest part of all this—the extra work and the feeling that a lot of that extra work was for nothing. It seemed as though the Southern Poly campus had to come to some sort of agreement on this or that, but then it was going to be overridden by the Kennesaw campus anyway. So all these hours and meetings didn't matter.
- TS: That was the way you all felt?
- CS: For me that was the primary drawback of it was a lot of time wasted doing stuff that was not going to be of any value. And I don't like to be inefficient (laughs). That's why I'm an engineer. I was very frustrated at times due to that.
- TS: I know that a lot of the students were very angry about it at the time and thought it was going to diminish the value of their degrees.
- CS: Yes.
- TS: How long did that last? Because I know that enrollment in the engineering programs has grown significantly since consolidation. Practically, all the growth at KSU has been down on this campus.

- CS: Yes, I understood where our alumni and some of our students were coming from—that Southern Poly has a name in the region as an engineering school—but I felt like at the time that Kennesaw also had a strong name. I was very happy when we kept the Southern Polytechnic College [of Engineering and Engineering Technology] as part of our name. I think that was very smart to hold on to that heritage. Students can put on their resume that they're from that college. I think that was the best of both worlds. I volunteer as a youth leader and have for twenty years. In the last three or four years I have seen an awful lot more Kennesaw State sweatshirts. I don't know if it is the football team or because of consolidation, but I think that Kennesaw ...
- TS: You found that out in the community?
- CS: Out in the community, going to high school retreats and ...
- TS: Because you live in Dunwoody, don't you?
- CS: Yes, right, I'm in Dunwoody. But when we go to retreats that pull from the state, you'll just see a decent number of high schoolers that are wearing Kennesaw stuff. I would never see someone [in the past] wearing Kennesaw or Southern Poly gear, for that matter. You just didn't really see it very often. So I think [consolidation] has been really great for our students.
- TS: Having a football team has changed things.
- CS: That's exciting.
- TS: Sweatshirts and what-have-you.
- CS: Yes, it is hard to know how much of that is because of football, but I think our students here on this campus have had to give up a little bit in terms of we were a smaller university that students could more easily get to whom they needed, but now there is a little bit more red tape. But I think that what they have lost in that, they've gained in access to more opportunities that they didn't have before. So throughout I have said that our students are probably getting a good deal by this consolidation.
- TS: And I guess those who are coming in now hardly even remember that it was a separate school.
- CS: Right, right. It amazes me how many take classes on both campuses. I mean, whether it is because of the gender imbalance, or whatever it is (laughs).
- TS: Well, yes, I see people getting on and off the BOB buses [Big Owl Buses].

- CS: Right, students will head up to the northern campus because there is a professor teaching up there or down to the south campus because there is a professor teaching down here, just wanting to take an elective or something that fits in their schedule.
- TS: What about campus culture? Is it different down here than it is on the Kennesaw campus? Has it changed any with consolidation?
- CS: Like among faculty or among students?
- TS: I was thinking faculty, but students too.
- CS: Among faculty, we were a smaller university, so there was a lot more shared governance in the sense that everybody was at the faculty meeting and someone from every department was at the curriculum committee meetings. There was a lot more sense that everybody knew what was going on in every area. That is not here anymore. Whether that's good or bad is, I think, up for debate. There is more bureaucracy for faculty as well. We used to know more easily who to call for whatever, and things could be done [easier]. You know, "We can just fix that." Now you can't just fix that because you have to go through the channels. But there are good things that come with it too. I don't know. It was a decision that was made, and we have to make the most of it. There's only so much that you can do.
- TS: Well, what about support for research? If the demand has increased for research, are faculty members being supported in doing it? It takes time to do research, and it has to come from somewhere.
- CS: I think that in some ways we are, in terms of support staff that is available. My feeling is that the best way to get research going in an area is to hire some senior faculty that can mentor and lead research programs from R1 type universities. I don't think we are willing to do that, and it makes it very hard. We just hired two new faculty members that are excited about doing research and interested in doing research. I am trying to help them as best I can, but I am not really the right person for that. I mean, I got a NSF grant a while back, and I work in a particular area where most of my work comes through the Centers for Disease Control. I wish that we had a department chair or senior faculty in endowed chairs, or things like that that could help get research going because I think that is really the way to do it—for someone like that to be applying for research funding where the junior faculty can be co-PIs [co-principal investigators] and get things going. But that is expensive.
- TS: What about in other ways? I know that part of the reason for separating from Georgia Tech [in 1980] was that faculty and staff down here felt like they were treated like the stepchildren and couldn't go straight to the Board of Regents and say we need money for particular projects, but instead had to go through Georgia Tech. They felt like they weren't getting their share. I know that those concerns were there in 2013 when they announced consolidation.

CS: Sure.

TS: I guess my question is, has the Marietta campus received its fair share?

CS: I think that Kennesaw has tried to do a good job of trying to stem that concern and doing things like with the research award, giving it by college. Honestly, I don't know that I would have applied for it if it was university-wide because there is definitely a feeling here that [the awards] committee is going to be two-thirds people from the Kennesaw campus that don't know who we are.

A number of things ... a colleague was wanting to be on a subcommittee of the senate and said, "Well, I am trying to be on it, but there are a lot more people from the Kennesaw campus that are voting than from the Marietta campus." So that's hard to overcome. It is the same way that when we used to be just us, and someone from a larger department would try to get something. They were more likely to get it than someone from a smaller department because they had more votes or had more people on the committee that was choosing.

So that exists, but I appreciate that Kennesaw has tried to offer things on both campuses. Not everything; some things have to be in the Convocation Center [on the Kennesaw campus]; but there are a lot of times they will do things on both campuses or they will split it: "We need this many representatives from both campuses." I think that helps. There are always little things. I mean, the parking issue and salary equity; these things need to be worked through. But I try not to put a lot of energy into it because there is not much I can do. I think the administrators are doing a decent job trying to incorporate the two campuses.

TS: I always ask people about the intellectual atmosphere at KSU. Maybe talk particularly about the Marietta campus. You have been talking about more focus on research as time has gone on. Anything else that you would add in terms of how collegial things are? I guess you are implying that maybe things are not as collegial as they used to be because of the bigness now.

CS: Yes, I used to know everybody in engineering and a lot of the people throughout the campus. We have gotten bigger even just on our own campus. But our department [the Department of Systems and Industrial Engineering] is very friendly with each other. I feel like it is a very friendly place to work. I just don't know as high a percentage of the faculty as I used to.

TS: Yes, so things have changed since 2005?

CS: Yes, definitely. But Southern Poly was getting big enough that we really needed to start thinking about, should we all sit in a faculty meeting and hash something out or should we push more things through the senate? We were getting to the point that when our

college would have a meeting, you couldn't necessarily know all of the names in the room because the number of people in the room had doubled. So we can't blame it all on consolidation.

TS: No, I remember when the whole faculty used to go to faculty meetings and commencement exercises on the Kennesaw campus. That stopped a long time ago. It's hard to get people to come to anything now. They have too many other things to do.

CS: Right.

TS: I know you have been busy off campus. You mentioned church work for many years.

CS: Yes, off and on, I guess for about twenty years.

TS: And you mentioned travel on your campus website. Do you do a lot of traveling also?

CS: I love to travel. Now our kids are getting old enough that we can take them to visit some national parks, and it's really great.

TS: You have a picture on your website of you as a runner.

CS: I didn't used to exercise at all, but I actually had a friend whose daughter got diagnosed with cancer. I got involved with the Leukemia & Lymphoma Society and started running. I ran a half marathon. Now I do it just to keep in shape.

TS: Great. What have we not talked about that should have gone into this interview?

CS: You really dug through and found everything, I think. I can't think of anything else.

TS: I think this is the first time that I have interviewed somebody other than administrators that had an engineering degree.

CS: Oh, funny.

TS: I am just delighted that I actually understood what you were talking about.

CS: Funny.

TS: It's amazing what all you've accomplished. I think it's fabulous.

CS: I've been fortunate to get to work on some cool things.

TS: Well, thank you very much.

CS: Thank you! Interesting.

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