



## **Interview with Christine Grant**

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Edited transcript

### **About Christine Grant:**

Christine Grant is Professor of Chemical and Biomolecular Engineering and Associate Dean of Faculty Development and Special Initiatives in the College of Engineering at North Carolina State University. In 2015, she was one of four U.S. African-American female full chemical engineering professors. Her research focuses on surface and interfacial phenomena in the areas of electronic materials, polymers, and biomedical systems. Grant's company, CoolSci Productions LLC, coaches and empowers individuals at all academic levels. Her workshops on science, technology, engineering, and math (STEM) mentoring and academic career development for the National Science Foundation's ADVANCE programs promote empowerment while providing diverse role models. She is also Founding Director of the Promoting Underrepresented Presence on Science and Engineering Faculties (PURPOSE) Institute. Grant has mentored hundreds of faculty, students and postdocs. She earned her BS in chemical engineering at Brown University, and her MS and PhD in chemical engineering at Georgia Institute of Technology.

*The following interview was conducted by Gordon Ellis, AICHE Communications. Video extracts from this interview are available in the Minority Affairs Committee's archives.*

GE — This interview is with Dr. Christine Grant, who is a professor and the Associate Dean of Engineering at North Carolina State University. She is also an AICHE Fellow, a past member of AICHE's Board of Directors, and she's an honoree at this year's Minority Affairs Committee celebration, and one of the recipients of the Pioneers of Diversity Awards. Thank you for speaking with us, Dr. Grant.

**GRANT** — Thank you for having me.

GE — Maybe you can start by telling me how you selected chemical engineering as a career path.

**GRANT** — Well, I was born in upstate New York, where my father was a music teacher and my mother was a science teacher — so I always knew that I wanted to do something having to do with science, based on my experiences as a young child doing experiments in the back yard, and doing science experiments with my mother. She was a stay-at-home mom at that time. That was in the 1960s, and a number of women stayed at home — even after they got their degrees, although some of them went to work. My mother eventually worked part-time as a science/social studies teacher.

I was in a program at General Electric in Schenectady, New York, called the Program to Increase Minority Engineering Graduates ( PIMEG). It was a program for middle school students and high school students to teach them about technology and careers in engineering. And we went on field trips — to UMass Amherst, Cornell University, Brown University, and Rensselaer Polytechnic Institute. Students from RPI who were minority engineering students actually came out and tutored us high school students, I think it was at the Urban League in Albany, New York. So, I was exposed to engineering as a potential college major through that early interaction with the college students.

So, I knew I wanted to do science, and I was in the academically talented track. The whole idea of doing engineering came through this program to increase minority engineering graduates. That was in the mid to late 1970s, and I think that was not too long after the National Society of Black Engineers came into being. Of course, as a young high school student, I didn't know that. I just knew that we were getting this literature in the mail that had pictures of minority engineering students and minority engineers. And then of course there were minority engineers at General Electric that were actually part of this pre-college program promoting engineering.

GE — So, you did your chemical engineering undergraduate studies at Brown University, and then you went on to Georgia Tech. What was the climate like for a young minority engineering student in the 1980s?

**GRANT** — Well, I really enjoyed my time at Georgia Tech. I enjoyed my time at Brown, too, but for a different reason. When I was at Brown University I was president of the National Society of Black Engineers, and we had a lot of activities that we did to support other students. Brown was a really challenging environment. Then, when I went down to Georgia Tech, what I found is that they had a really strong community of minority students. It was a technical school of students who were doing technical work. We had that at Brown, too, but I would say that Georgia Tech had a stronger and larger community of diverse students pursuing STEM careers. There were a number of us who had GEM Fellowships — which was the National Consortium for Graduate Degrees for Minorities in Engineering — and General Electric was my sponsor company. So when I went down to Georgia Tech they had a group of students that were GEM Fellows. They had a lot of different professional development initiatives going on that were supportive of students of color when I was at Georgia Tech so that was a very welcoming environment. And I enjoyed being in Atlanta as well. Being at Georgia Tech and being in Atlanta, which was very culturally diverse, was also very exciting to me.

GE — That's where you got your PhD. Were there mentors at Georgia Tech who made a connection between you and AIChE, or did that come about in some other way?

**GRANT** — Well, when I was at Brown, we were the second class of chemical engineers to graduate from Brown. Brown University had just started a chemical engineering program when I arrived on campus in 1980. The first class graduated in 1983, and then my class was 1984. And there were only five of us. Not five minorities. Five chemical engineering students total. And so, going from that program — which I later learned was really focused on engineering science — to a program at Georgia Tech which was focused on becoming a robust engineer working in a plant, and having a unit operations laboratory, was very new to me. Georgia Tech had a very strong undergraduate student AIChE chapter, and there were a lot of activities, so we were really steeped in a department that had a number of faculty, lots of undergrads, and a lot of graduate students. One of my mentors there was Ron Rousseau, who became department head; his former institution was NC State! Before him it was Gary Poehlein who was the department head. The two of them

played a key role coaching and mentoring me to go on to get a PhD. And so, it was a very supportive environment there at Georgia Tech.

GE — And when did you first become involved in AIChE?

**GRANT** — I think that, as a graduate student, I probably went to some events as a graduate student — but those events were focused on undergraduates, because the student chapter was focused on undergraduates. But it was there that I learned that there was a community of chemical engineers working toward their own personal professional development, and that there was a network of folks — not just within Georgia Tech — but also across the country. I believe that my first conference ever, as a graduate student, was actually the National Organization of Black Chemists and Chemical Engineers (NOBCChE). I found myself looking for chemists and chemical engineers at those meeting.

At NOBCChE I would meet people who were chemical engineers. Henry Brown, from Polaroid was a chemical engineer. Who was very involved with NOBCChE. There were a few others that I knew from the NOBCChE conferences, and they started to talk to us about AIChE and the Minority Affairs Committee.

However, my first active AIChE national involvement was not the Minority Affairs Committee. I was very active in the Environmental Division.

When I became an academic, there was an expectation that you were going to go to the national meeting as an academic. That was the place-to-be every fall. You really had to be seen and active in order to move forward in your academic career; there was that expectation. And my colleague, Michael Overcash, actually got me involved in AIChE by pulling me into the Environmental Division. I had an opportunity to lead a number of sessions — which was unheard of because I was a new faculty member. Soon I started leading the development of whole sections of the Environmental Division programming — that's when AIChE had Environmental Division programming in the summer and at the Annual Meeting. And so, that's actually how I got to know a lot of the folks outside the Minority Affairs Committee, and they took me under their wing and I started working with them, and so that was very important as well.

GE — And did Henry Brown bring you into the Minority Affairs Committee on the AIChE side?

**GRANT** — Yes, he did. The man with the bow tie had a way of find all the minority engineers, African American, in my case — who were at conference, and would say, “Hey, my name is Henry Brown. There's a Minority Affairs Committee. There is a meeting. You need to be there!” I said to myself, this man looked like he was in charge and really cared about my professional development. So, I said, okay, I'll go. And that's where it all started. At that meeting, I saw some people who were from the NOBCChE community, which I was familiar with; then it started to feel like home.

GE You became an officer of MAC at one point. Is that correct?

**GRANT** — Yes, I was the chair of the Minority Affairs Committee in 2003. I had been on the committee for a long time, and they were trying to get me to be the chair. I kept saying no. Eventually, I was elected to be the chair — and I actually deferred because of my professional obligations. Emmanuel Dada, who is a wonderful individual, said, “Okay, Christine. I'll take your term for this time, but next year you're on.” They were a very cooperative group, very helpful and

supportive. I was going through the tenure process, and moving forward in my career, which was pretty intense. I worked with them.

GE — Do you recall any of the initiatives that MAC focused on when you were most active? This was prior to your being on AIChE's Board (2004–2006), correct?

**GRANT** — Yes. The activity that stands out most for me, for the Minority Affairs Committee, is the outreach that they did to the local schools. I did not participate in any of those, because it was so important for me to actually stay on site at the meetings, so I wasn't able to go off site and participate in those activities. But that was something that was important. The MAC receptions were important; there were some initiatives that we were able to initiate as a part of MAC.

So, in AIChE, there are the industrial folks, and then the academic folks. And while there are similarities — and we're still trying to broaden participation in chemical engineering — there are some unique differences and opportunities. At the Annual Meeting, we used to get together right after the main welcome reception on Sunday evening. I would get the minority (primarily African American) faculty together and say, come on, let's get together and go out to eat. And every year we would see each other, and would say, "Are you still there?" "Yeah, I'm still here. Let's go out to eat." So, we started doing that, and our group started getting so big that we started doing lunches and different informal meetings. We figured, well, maybe we should form something. That's when the Minority Faculty Forum — which is a group within the Minority Affairs Committee — was formed.

The Minority Faculty Forum was formed out of a need that the faculty had — and it started with those "survival" dinners that we used to have. We also sought to connect with grad students that we were hoping would become faculty. The Chemical engineering academics typically go to AIChE's fall meeting — all the academics go, unlike IEEE or some of the other organizations that have lots of mini conferences and a number of sectional conferences. For AIChE, all the academics are there every year. So, our community of minority faculty scholars would grow and because we would see each other each year, we formed a community. And I found that, in other organizations, other engineering faculty, they don't have that professional home that they come home to every year at the Annual Meeting.

So, the Minority Faculty Forum started, and I led an effort to get a proposal funded at the National Science Foundation with my colleagues at the Minority Faculty Forum (led by Lance Collins), and we had a large workshop for minority engineering faculty sponsored by NSF. That was our first big activity. And that activity has since gone on — in some of the national meetings that you see now — to support minority faculty development. That was actually birthed within some of the meetings that we had during that time period.

And so, while I was not an official leader in the Minority Faculty Forum, I kept on working in the Minority Affairs Committee.

GE — Looking back over the past 15 or 20 years since you first became involved with MAC and with AIChE, what changes have you seen?

**GRANT** — When we first started, they weren't called the Board of Directors, they were called — Council. Council was this intimidating-sounding entity. "Council says...." I think, changing the name to the Board of Directors was probably a very good thing. It didn't seem to be so mysterious. In addition, because AIChE's structure started to change, with the operating councils, you had groups like the Women's Initiatives Committee, the Minority Affairs Committee, and

some others that started coming together under SIOC. Now they were really working with some of the same communities — they were working on different issues, but they could collaborate under SIOC's guidance. So I think that was probably one of the important things that happened during the transition. There was a reduction in duplication of programming in AIChE; it also fostered a collaborative environment

GE — What do you think an organization such as MAC or AIChE could be doing in the future? We've gone through 25 years of the Minority Affairs Committee — Where do you think more progress is needed to make the Institute and the profession more inclusive?

**GRANT** — I think that anything having to do with diversifying the profession has to be everyone's responsibility. It cannot just be relegated to the Minority Affairs Committee. The Minority Affairs Committee has minorities on it who are very passionate about this whole endeavor. Then there are folks who are not minorities but who come to the group as allies and advocates and supporters. I believe that the message of what we (MAC) are trying to accomplish and what actions need to happen has to become everybody's — I don't want to say challenge — everybody's issue. Everyone has to embrace the importance of diversity to our global profession. It can't just be minorities helping, inspiring, coaching and mentoring other minorities. There's just not enough of us to do mentoring; and there is a richness that will come from professional mentoring across cultures, genders, and background overall.

Actually, in my role as Associate Dean of Faculty Advancement in a college of engineering I've led a number of initiatives for minority and women faculty development. I'm also starting to believe that senior minorities should mentor white males. You know, it doesn't just have to be us mentoring us. I mean, we have insights to offer the profession that can help folks who don't look like us. I think that having that paradigm shift in terms of how we should be thinking about who is doing the mentoring and who is doing the advocating, and who-is-mentoring-who, is really important.

A lot of minority faculty are doing very well and are coming together as a group to interact with each other. However, I also see them being better integrated into the AIChE academic community because, not only are there more of them, I think there are a number of us who have done well in that community — and of course my community is the academic community — so I believe there's more self confidence. In addition, there's not the expectation that we won't do well (*e.g.*, fit in, thrive), because there have been so many diverse chemical engineers who HAVE done well. So, we've proven and demonstrated that we're here to stay. I think some of the folks who are coming behind us, who are still having some challenges getting established and connected professionally, may be not as many because they are now being taken on by our mentors and coaches in AIChE. Or, we can take them on ourselves. So, it has to be everybody's issue.

GE — Before we wrap-up, you had mentioned mentorship. You are involved with an organization called Leveraged Empowerment? Is that a mentorship type organization? Maybe you can say a little bit about that.

**GRANT** — I have my own consulting organization. Leveraged Empowerment, a unit of CoolSci Productions LLC is my company ([www.drchristinegrant.com](http://www.drchristinegrant.com)). I do workshops and seminars and keynotes around the country about leveraged empowerment and academic resilience. Since we're talking about this, we just had a book come out this summer called "Success Strategies from Women in STEM: A Portable Mentor," and I co-edited the book with Peggy Pritchard from the University of Guelph in Canada. It's a second edition published by Academic Press. The

contributors are a group of women that came together —some in the National Academy, others are leaders in industry from Canada and the United States and Australia — and wrote this book about success strategies. I wrote the chapter on mentoring. There are chapters in it on leadership and negotiating with emotional intelligence, climbing the ladder, and time stress. And, the reason I made that statement earlier about folks mentoring folks who don't look like them is because the original book was called "Success Strategies *for* Women in Science," and we changed it to Success Strategies *from* Women in STEM, because, what we heard was that, the men were reading the book as well, gleaning from the book, and they were using it to mentor other women or to help their own careers.

So that's my consulting practice. I was doing some of it as part of my academic career, and then I found out that there was a greater need for mentoring and coaching and things like that, in addition to understanding the journey and what we had to contribute. This entrepreneurial venture is a great companion that I've been doing in addition to my day job.

GE — Glad to hear about it. As we wrap up — do you have any advice or mentoring for the new era of MAC leaders who will be coming in and moving that organization along?

**GRANT** — I would say that one of the most important things that they could do is to maintain a connection with the more senior people who have come before them. They should also utilize technology more efficiently to connect the groups — people can't always come to meetings, so use that technology — but then, partner with senior leadership in the organization — the Pete Ledermans, and Ron Rousseaus, and Dianne Dorlands, and the folks who may not be at the meetings, but who were advocates in minority affairs issues within AIChE. You might not see their face in the place, but reach out to them and find out where they are, even if they're retired. They may have some things that they can do to help, even if they're not at the meetings. So, those are the things I would say.

GE — Dr. Grant, thanks so much for joining us today. Congratulations on the MAC honor, and we hope to see you in Salt Lake City.

**GRANT** — Thank you.

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