

ALUMNI ROUNDTABLE



Two (A&S) alumni, **Erik Sorensen** and **Christopher Barley**, both coincidentally from the class of 1989, have each created their own unique paths bridging their love of science with doing good in the world.

Sorensen, a member of the Onondaga Nation in Upstate New York, is the Arthur Allan Patchett Professor in organic chemistry at Princeton University. His personal mission is to create opportunities for underrepresented minority groups (UMG) in the chemical sciences and STEM fields.

Barley, an internist who practices in New York City, is also president of the nonprofit organization CITTA, which helps third-world countries gain access to better healthcare and education. CITTA opened a hospital in Sindhuli, Nepal, in response to the 2015 Nepal earthquake. It was named in honor of Barley's service in this region.

Interviews were condensed and edited for clarity.

“

What drew you to your major?

ES: I began as a psychology major working to complete my premed prerequisites. I gravitated toward experimental psychology and worked with distinguished teacher Joseph Sturr. He was very active in visual psychophysics research and we were studying how the visual system changes as we age. That was very appealing, and I thought I would become an ophthalmologist one day. He became my undergraduate advisor and he said, “Eric, if you want to go to medical school, you cannot avoid organic chemistry.” I had the same phobia that unfortunately afflicts many students, but I took it and really loved it!

Who were your mentors?

ES: I had several excellent teachers who shaped my formative years. First and foremost, Rojer Hahn [associate professor emeritus of chemistry, who died in August 2018], piqued my interest in organic chemistry. Rojer also gave me an opportunity to work in his laboratory, which I really loved. I took other courses from James Kallmerten, Professor, Chemistry. I got hooked on the aesthetics of organic chemistry and structural transformations in his classes.

CB: I was a biology major, and I had some wonderful professors. One in particular, in the genetics department, really took me on as an advisee and helped me. And on the arts side, too. I had taken a class on Southeast Asian religions, and I got to know the professor well. The faculty and people at Syracuse were so embracing and supportive in a way I've never had before. Flash forward to my work in India and Nepal, and all that knowledge was extremely useful there.

What inspired you?

ES: Synthesis is a beautiful form of hands-off building. When you build a house, a carpenter touches the materials and actively does the assembly. In chemistry, you set the stage for molecules to encounter each other in precise ways. And how they undergo chemical reactions creates synthesis and structural transformations. I just found that to be endlessly creative.

CB: At Syracuse, I volunteered in every department at Crouse and SUNY Upstate. It was wonderful for me to be able to walk over and work in the Burn Unit or ICU. I wanted to be around docs and see all the cases I could see. And from living in a small town, I was always dreaming about bigger and better and what else was out there and seeing the world. I also studied abroad in London sophomore year. That was just the beginning for me. -->



“I felt an increasing need to try to make a positive difference for other people.”

-Erik Sorensen '89



Family Values

Erick Sorensen is not the only one of his family making a difference. Meet his family members who had the greatest influence on his personal mission:



Leo Nolan III '69 was a Syracuse All-American lacrosse player and first member of Erik's family to graduate from college. He now works for the Center for American Indian Health at Johns Hopkins University.



Betty Lyons, Erik's sister, is president and executive director of American Indian Law Alliance.



Sid Hill (Betty's husband) is Tadadaho, spiritual leader of the Haudenosaunee.



Tonya Gonnella Frichner (Erik's aunt), was a lawyer and advocate for indigenous peoples.

What inspired you to use your skills in medicine to help in the third world?

CB: As I was finishing up at Syracuse and going to med school, I started to see what was going on in the world and how bad off many people have it. We didn't have a lot growing up, but my mother was extremely generous and charitable in a very silent way. It was in my principles to give something back, and when I could combine helping people with travel to see the world, it was a great fit for me.

CITTA does more than just build hospitals, right?

CB: In 1997, CITTA built a hospital in a very rural, poor part of India in Juanga, Odisha. The CITTA model is health, education, and economic development. So the campus includes a hospital, school, and women's center. Last year we saw our 250,000th patient! In Nepal, following the 2015 earthquake, they lost everything in this one region. We built a hospital there that's been open two years now. We employ local people, try to build up the community, try to bring in roads and electricity, and whatever we can do to help economically and make the area self-sufficient long term. Also part of what CITTA does is to empower women and young girls. So we're building the first girls' school and women's center in the Jaisalmer, India area. Women's rights are an ongoing struggle, so this is a very exciting project.

What drew you to the issue of increasing underrepresented students in STEM?

ES: I'm one-half Onondaga Indian and lived on the Onondaga reservation until I was seven. My family had a big influence on me, and I was always surrounded by people who were closely connected with our culture. There was always the expectation that I should be doing something on behalf of our people. This inspiration later translated into my role of making the chemical sciences and the STEM fields more appealing to students of color.

What do you hope to achieve?

ES: Be more successful at luring and retaining promising Native American students to the STEM fields. It's becoming increasingly hard to rely on non-US citizens for our science and engineering workforce..

Why is it difficult to attract Native Americans into STEM?

ES: As young Native Americans, you're raised to have a profound respect for the environment and nature. Most native students are deeply connected to their families and cultures and the benefit of long and hard fields of study and an advanced degree is not immediately obvious.

What motivates you?

ES: I felt an increasing need to try to make a positive difference for other people. The commitment to URM and increasing participation in the STEM fields grew with time. I wanted to do something important, beyond organic chemistry. When I retire and look back at my legacy, I want it to be more than just about the papers we publish.

CB: My life has become so enriched and fulfilled by the people in these communities. It has filled parts of my soul in ways I don't think I would ever get just from private practice. I have seen so many beautiful kids grow up. One boy who was in rags 20 years ago, we put him through school, all the way through medical school, and now he's our newest doctor in his village. I can't not help. I wish I had physically more time to spend there. I felt that, one day, when I made it in medicine, I would give back to people who would never be in my life directly, those in the third world.

Describe what you gained from a liberal arts education.

ES: When I went to college, I did not yet truly love to learn. I discovered this love as an undergraduate at Syracuse, at the College of Arts and Sciences. I was never limited at Syracuse and I really grew up there. The place, the setting, and the people had everything to do with that.

CB: I grew up in a small town in upstate N.Y. I wanted a University with an arts and sciences program, with great diversity in students, in education and programs, and teachers. All my family was strongly science oriented, but I had a lot of other interests and felt that Syracuse was really the best for me. Liberal arts made me a well-rounded, better person by far. If I had just gone the science route, part of me would be missing. It opened Pandora's box and piqued my curiosity in everything—travel, culture, religion. Exposure to diverse ideas and diverse people was key to my experience.

Can you describe the value of a liberal arts education in today's world?

ES: We need people who know how to think, perhaps more than we've ever needed them in the past. The students with a broad-based liberal arts education are very comfortable thinking about different points of view and enjoy thinking about difficult issues.

CB: The world is wildly polarized. If all the world could have an education of liberal arts and science, it would be a lot better place. It helps create an interest in the world, in things other than yourself, in different kinds of people, and to find commonalities rather than dislikes.

Are there any lessons you pass along to students to become ethically engaged citizens?

ES: At Princeton, this is a big part of the culture and the expectation is when you leave, you're going to do your part to make the world better. I think students internalize this to varying degrees. Some students become chemists for particular reasons. They know what their career is going to look like. I've been blessed with students who have naturally wanted to go and make a difference..

CB: I believe in the notion that you don't need to be rich or wildly successful to do good in the world. I always felt that if I could leave this earth a little bit cleaner, nicer, more hospitable, kinder I've done something good. When I speak to students, I tell them: find something and do something. Don't wait until you're 50 years old and making a good income and now you're going to help people. Do it at every level of your life in some way. Yes, it's extra work, but what you get back, is 1,000-fold to what you put in.



“You don't need to be rich or wildly successful to do good in the world.”

-Christopher Barley '89



Sorensen Reflects on Diversity in the Sciences

By 2060, our country is projected to be even more diverse, becoming a “minority majority” nation. The fastest-growing population groups in the U.S. are also the most underrepresented in science and technology. UMGs are projected to be 56% of the population. But in the sciences, underrepresented scientists are just a fraction of our workforce.

40% of public school children are students of color, but only 5% of science and engineering doctorates are earned by this group. Half of all students who come for sciences, don't succeed. The more we do for all students of science and engineering, the more we will do for URM students.

R-1 science departments are very homogeneous and lack racial and ethnic diversity. We tend to hire people with the same educational histories, from the same elite institutions.

We need to show students they can do science. I try to recruit students from tribal colleges, students who never considered leaving their land before. It's not easy to get them, but it's possible. It takes a little initiative, that's all. If a student sees that you honestly care, that goes a long way.