Although born in Brownsville, Texas, Sergio Cantu was raised in Ciudad Victoria, Mexico, a U.S-Mexican border town community. There, his father managed the local postal service and his mother, before marriage and children, was a laboratory technician. Sergio and his siblings were raised to value education, as well as the strength and support of close family relationships.

After high school, Sergio’s aptitude for mathematics and physics led him to return to the U.S. for his undergraduate degree, with its more promising career opportunities. At the University of Texas, Brownsville, his talent was developed through a series of undergraduate research opportunities. These in turn led Sergio to meet the first in a series of academic and research mentors, whose guidance and support helped him to realize his dream of doing physics research at MIT.

Sergio Cantu: The MIT Summer Research Program was the first summer program where I was in a completely new environment with no familiar faces. It pushed me outside of my comfort zone and allowed me to experience what it means to do physics at a top research institution. During the program, I was able to build relationships with graduate students and get a sense of what it would be like to be a graduate student of color at MIT.

Later on, MIT’s Bridge Program reinforced what I’d experienced during my time as a summer intern. It helped me transition from a “sponge,” were I was absorbing knowledge as an undergrad, to being an active component in the creation of knowledge, as a graduate student.

Through my interactions with physics students, professors and staff, I came to understand that MIT’s biggest strength as a research institution is in its diversity and inclusiveness. MIT physics welcomes people from all different backgrounds, across the world, to come and tackle the world’s biggest questions together.
The importance of securing supportive mentors is critical at each stage of an academic career. Can you describe the impact of your relationships with MIT physics professors Nergis Mavalvala, Ed Bertschinger and PhD supervisor Vladan Vuletic?

Sergio: I have been extremely lucky throughout my time working at MIT. The physics department has a support network like no other I have seen, composed of professors, students and staff who care as much about the individual as the science. At every step of the way of my academic and professional development I have never felt without a safety net.

From Prof. Nergis Mavalvala, I saw what it takes to excel; her work ethic and passion for education continue to inspire me. From Prof. John Belcher I learned that discipline is the bridge between planning and success. Professor Ed Bertschinger was the first physics professor I met at MIT, and he has always been there for me as a friend and mentor. Because of him, I was able to take part in the MIT Bridge to PhD program.

During my time working with Prof. Vladan Vuletic, I have learned the value of not being afraid of ideas that seem too big. As an advisor, he is acutely aware of where I am in my professional development.

physics@mit: Since your arrival at MIT Physics, you’ve become a part of, and helped to grow, a community of Mexican-American students who’ve formed an educational non-profit, “Clubes de Ciencia (Science Clubs).” Broadening its impact to include other Latinos in the sciences at leading American universities, the Clubes de Ciencia has applied for 501(3C) status and recently won a 2015 MIT Ideas Challenge Grant. What are the club’s primary purpose and its approach to achieving it?

Sergio: The Science Club’s primary purpose is to help increase the representation of Latinos in the sciences. Our approach is to bring scientists and engineers from all over the world to Mexico for one week where they get to teach a workshop to undergraduate students. These workshops teach research/laboratory techniques that students wouldn’t be able to learn otherwise. So far, Science Club has been able to reach close to 1,000 students, using 75 instructors and holding workshops in four different cities across Mexico. My main role right now is to be on the lookout for funding opportunities at or around MIT.

—Carol Breen, Communications & Pappalardo Fellowships Program Administrator, MIT Physics