Hello, welcome to Mi Camino, a series where students, faculty, and alumni discuss their paths in UC San Diego through education. My name is Grecia Paola Siono Gutierrez.

And I'm Enrique Siono Gutierrez. We're siblings studying electrical engineering, and we're here today to share about our pathway into UC San Diego. How do you think growing up in Mexicali shaped who we are?

Great question. I think it was one of the best experiences that I've had just because we both share this fronteriza or fronteriza identity, right? Being raised in a border town, seeing the exchanges of both cultures in the US and then in Mexico. I think we both were really lucky to come across great mentors that supported our journey. For example, we both did ENLACE, right? The summer research program with Doctora Olivia Graeve, which is the first engineering Latina faculty at UC San Diego. And even looking back at our journeys, I think that that was a pivotal moment in our careers where we both saw ourselves in engineering and also potentially getting a PhD to empower our community.

Yes.

I think being in Mexicali was really a blessing, just because we were both exposed to scientific exchange, different cultures and really enabled us to dream big and see UC San Diego as actually an obtainable dream, not something that was completely out of reach. Also something that is very beautiful about Mexicali is the people. Everyone's very warm, everyone's very supportive. I think that really helped us in the long run to really be dreamers. Dream big, wanting to get out of that small city and accomplish great things in engineering. Also, something that I really really think is great about being a fronteriza woman is that you get access to mentors like Olivia Graeve, but also remember how we would have scientists and then also engineers come to our campus to give us talks. In my experience, seeing Jose Hernandez come to our high school and give a talk about how he used electrical engineering for the space industry was life changing for me. I really didn't visualize myself being an engineer, but I loved space. I loved space exploration and the different Mars rovers and satellites. Just seeing someone from my community accomplish so much in NASA as an electrical engineer was mind blowing for me. I think we both share this sentiment that Mexicali was really one of our biggest assets to our educational journey and I'm very grateful for that.

Absolutely.

Our parents were really supportive, but they weren't really in STEM. How do you think mom and dad shaped the way we see education, creativity and ambition in our journeys?

I think our parents played a big role in our pathway into UC San Diego, beginning from community college. It began as a dream, but also as a commitment that we fought for. It was you, my mom and I that will get into this small Prius, commuting from Mexicali to Indio every week. We would stay in a bedroom, she would stay in the TV room. And just making these trips every week just for our education. I feel that without our parents, this would not have been possible or at least almost impossible. I think they really shaped our values, our character. Even transferring into UC San Diego, I feel that we still have them very present, we still visit them, and I think we both want to pay back to them after we get our jobs, after we get that future that we want, and really just being grateful for what they have done for us.

I think it's amazing, I don't know if you remember when I first brought the conversation to the table that I wanted to essentially leave everything behind in Mexicali and pursue an education in the US. They never told me that it was impossible, they never told me that I couldn't achieve it. Their answer was just yes, how can we help? How can help both you and your brother to succeed and accomplish your dreams. I told them some wild stuff, I don't know if you remember how I told them that I wanted to study in the US because I wanted to be a NASA scientist.

Yes.

I think, any other parent would be well, maybe that's a little bit too high, but I'm very happy that both mom and dad were, Yes, that is 100% achievable, let's support you so you can accomplish your dreams. Even our journey, I took a gap year in Mexicali so we could both enroll in community college together as a team.

Yes.

I just think I'm very grateful for that experience.

Absolutely.

We were both enrolled or involved in the arts growing up. We continue to pursue that passion as students and adults. How do you think being an artist because you are an artist, and I think that's very cool that you balance electrical engineering and music. How do you think mixing those two things makes you a better electrical engineer?

I feel that electrical engineering can benefit from music and vice versa. There are definitely elements in music that I apply in electrical engineering, like my work habits, my work ethic. With music, the nature of it is that you have to practice almost every day. I started singing five years ago from scratch, and I was aware that coming into UC San Diego, I will have to do a lot of catching up because there are people that have been singing since they're five, since they're four, over 10 years. It's the mindset of not looking at what you don't have, but what you can do. What I was able to do was practice every day to really make an effort that eventually paid off.

I remember hearing you singing your vocal warm ups like every day, and I've seen your progression in your music career, which has really paid off.

Absolutely, also in the electrical engineering major, I worked in a voice to LED project using the four year transform. That was also a great way to use my knowledge for music into electrical engineering to create a circuit that could translate voice inputs into colors. It will really give a shift to how you can learn music or how you can perceive music. Instead of just hearing it, it was an opportunity to visualize it, you see it through colors. That is really my ambition, looking at the intersection of electrical engineering and music and create these kinds of projects.

That's great.

When we first came here, we had a hard time finding community. How did that feel, and how did you overcome it?

I think... We both grew up in Mexico, everyone that we knew was Mexican. We shared the same values, traditions, customs. I think that being in community college was one of the best things that happened to me just because I was exposed to growing and learning more as an engineer, but being exposed to different types of thinking and cultures and stuff like that.

Yes.

At COD or College of the Desert, we were still a Hispanic serving institution. I think you can relate to me that it was quite heartwarming where we would be studying physics, math, and we would switch from Spanish to English, and everyone knew what we were talking about. But I think it was a very low stakes environment where you could really explore your ambition, what you wanted to accomplish with your degree and all of that. But when we transferred to UC San Diego, I think we had this conversation of, which college should I pick for transferring. We were looking at UC Riverside, we were looking at UCLA, we're looking at UC San Diego. We made the decision to come to the San Diego area

because we wanted to be in touch with our Mexican roots, we wanted that community building, that safe space. I've always craved it wherever I go, so I think you can share this experience with me when we first. Remember that we took ECE35, the circuits class?

Yes, I remember.

It was a big auditorium. We walk in together to lecture together, and we look at the lecture hall, and nobody looks like us. Do you remember that moment?

I remember, yes.

I think having the shift from, community college where you feel represented and you feel supported to an environment where you feel isolated was very heartbreaking at first. But I was okay, this is my reality, this is my situation. I know that I'm not represented as a Latina woman in electrical engineering, what are the things that I can do to reclaim that power of, having control of having a good undergrad experience? I came across the Raza Resource Centro, which was life changing for us. I think we would go into the Centro, and we would just hear Cumbias, Banda, music in Spanish and be spending countless hours just, working on problem sets and just hearing Spanish and the music in Spanish and just, people understanding where we're coming from was really nice. I think that was one key component in my wanting that Latino representation. I took it a step further by applying to be a learning specialist at the Centro, which was a great experience for me because I'm able to support students in my role to accomplish, their wildest dreams because I get students every day asking, well, I want to get into an internship, I want to get into research, but I don't think I have the profile to accomplish those things and I love that I'm able to tell them, you know what? I was in your same shoes and I was still able to get an internship, and I still do research. If I can do it, you can do it. I think it's just, so important to have role models that support you. In my case, I was greatly inspired by Jose Hernandez, but now in my role, I'm able to impact other students. Another component where I was able to obtain community was through SHPE. I know you always, hear me talk about SHPE, the Society of Hispanic Professional Engineers. I got involved In my second year as a transfer student as technical chair, and then I was able to transition into a co-president role, which has been absolutely great, amazing. It has enhanced my experience at UC San Diego tremendously, because I go from being in an environment where I don't feel that I belong to being in a space where my fellow Hispanic engineers look up to me and they tell me wow, it's so nice that I was able to see your growth and your passion, and now you're going to, graduate and have a full time job and do a master's. I think I can do it, too, and I think that's what matters, paying it forward, paying it back, giving back to the community, and just overall, seeing how we can be better role models for our community because we need that. I don't think I would have been able to be an electrical engineer if I didn't see other people in my community achieve it.

Absolutely, feeling represented. Which is a component, we really had at community college, and it was such a shocker coming into UC San Diego. How you said that big classroom, not seeing a lot of Hispanic people. I've been in classrooms where I'm the only Hispanic where I can count with my fingers how many there are.

Me too.

I can contrast that with my music experience. I feel that in the music major, there is definitely more variety. There are certain values, certain ways of teaching that I feel that the engineering world could use. That's also one of my goals going into the professional world.

Because I think that engineering should be for all. Science and technology impact everyone in society, medical devices that we use, the technologies that we use on a daily basis, they really are for everyone. Why don't we bring everyone in those design rooms in those labs, in those educational spaces. I think that our path really shaped how we see life. That's why we both want to become PhD

holders that become professors, so we can empower community.

Absolutely.

Which I think is beautiful. I came to UCSD not knowing if I was sure that I wanted to pursue a PhD. But with my experiences, I'm like no, absolutely. Not even a want, but I need to. I feel our community deserves to have professors and faculty that empower them and that keep them in school, and graduate and get those degrees just because, right now, in my lab, I do research in the nanoengineering department with Professor Oscar Vazquez Mena, and he is from Mexico. I remember I came up to him and I told him, hey, I don't have a linear path. I've had many challenges in my career, and, maybe I don't have the perfect GPA, maybe I don't have, the perfect profile, but I'm very eager to learn. I know I'm a hard worker and I want a PhD, and I need the research experience. But it's okay if you don't want to take me because I have these areas of improvement on my resume. I remember he told me, no, it's okay, we're here to support each other. When can you start? That was life changing, I walk into my lab, and it's such a beautiful environment. They approach learning as a learning process, not as a hey, you should be humiliated if you don't know what you're doing, which is essentially beautiful and life changing. I'm just very glad that we were both able to find those safe spaces in a very harsh environment, because electrical engineering, I don't want to discourage anyone watching this that wants to be an electrical engineer. But it is a very difficult career, and unfortunately, the industry it's a man dominated field. We have conversations where you sometimes tell me, it's already hard for me, I cannot imagine how hard it is for you. Many of my classes, I'm the only Latina woman in the room. My classes right now, I'm the only Latina woman in the room.

Yes.

It's just we need to change that, we really need to bring that representation because it's a lie that we are not interested in STEM. It's a lie that we're not passionate enough, driven enough. No, we need to make our spaces more inclusive, more diverse, more welcoming.

Absolutely.

But, people sometimes think that siblings are rivals, that we need to be competing against each other. But that's not really our story, we really are a team. How do we support each other every day in life, educational journeys, our ambitions, our dreams?

I think you can relate to this, we see each other as a team, not as two separate islands individuals. We've been in this together since our whole life, pretty much. Why branch away in this journey. Eventually, yes, we will take our different paths, but we will always stay together, we're siblings. I think we always look for what's best for each other, we always have these raw conversations. I remember I was in the circuit step, you were in the circuit step and we decided that it was best to follow these other branches, in my case, signal and image processing. In your case.

Electronic devices and materials.

I feel that really knowing each other through these years has helped us make the best decisions to follow our paths, follow our career, follow our ambitions, have a great idea of what we want to do into the future. I don't know if you can relate with that, too.

I think something that I always tell my friends that I'm greatly inspired by your work ethic, which is something that I try to incorporate in my life. I think we're both, yes we're siblings, but I think we have different characters in a way. We have different strengths and different ways of perceiving the world. But I'm very grateful that I was able to grow up with you and just, seeing how disciplined you are. You didn't know how to sing at first, and you, really taught yourself from scratch, and I would hear you practice every single day at the same time on the dot. You would even say, I can't go out, I

need to practice. Just like having that in my life, seeing your work ethic, I started incorporating it in my electrical engineering journey, and, oh my gosh, you look at my transcript, upward trend. I'm able to get better results and just, be a better person, a better engineer, so I'm very grateful for that. We really are a team. I don't feel like there's any separation, everything that we do, even though we're pursuing, different depths, different concentrations in electrical engineering, we always have each other in mind. It's just such a beautiful thing. Even many people tell me, I wish I had a sibling to go through a hard program. I don't think I would have been able to accomplish so much in my career if it wasn't for you and my mom. Being there, being supportive, being encouraging, how many times did I wanted to, give up everything and just be, this is too stressful. I don't see the end, I don't see the light at the end of the tunnel. It's very rough, very difficult, but having you in my corner was really life changing. Thank you.

Yes, thank you, too. I think it has also taught us to deal with what's in the real world. You've had these experiences with professors, maybe with certain students that are frustrated and they try to take people down with them. I think there is also value to the struggles and the challenges we've gone through because then when we become professors, when we are in the professional world, we will know how to address those situations, those problems and really make how you set the space more inclusive.

I've been in lecture halls where I hear something, and I immediately go, I'm not saying this to my students. I am not teaching this way, I am not giving feedback in this manner, I think we should definitely humanize electrical engineering a bit more.

Absolutely. If someone from a similar background is watching this and wondering whether they belong at UC San Diego, what would you tell them?

You 100% belong, 100%. I think something that really shaped my journey was that I generally believed in my dreams, no matter how big they were. Once you start seeing life and you start approaching your journey with the mindset of I'm capable of achieving anything that I put my mind into, things change tremendously. A 180 degree change.

Yes.

I think just because you're struggling doesn't mean that you don't belong. Just because you have self doubt doesn't mean that you're incapable of achieving these great things that you want to achieve. Also, I think that it's important to not compare your paths to others, just because only you know what it's like to walk through life in your shoes. Only you know what challenges you need to overcome, what your background is, your preparation before coming to UC San Diego. I think for me, of course, I could have done a thousand things differently before coming to UC San Diego. I could have studied harder, I could have been more involved in, STEM, but we both come from, parents that are not involved in STEM. We come from a country where we don't see a lot of scientists, we come from a place where even leaving the hometown was like this is a very wild dream. No one leaves Mexicali. What do you mean, want to go to California to study an engineering degree? We come from this very I want to say, in a bubble. You live in a bubble where, this is your reality and you need to accept it as only that reality. But you need to branch out. My biggest advice to people watching is be courageous and be daring. It's okay to take on challenges just because I've learned so much by just, exposing myself to new opportunities. I think we talk that I'm a huge space nerd, I love space and NASA, and I want to be an engineer that creates space instrumentation. I remember that people would often tell me that's not possible because you're not prepared. It's not possible because you don't have the background or you're not good enough, I would hear that often, you're not good enough. But my parents believing in me, you believing in me. My mentors believing in me made me think, no, I am capable. Thankfully I was able to apply for a fellowship, the Brooke Owens fellowship, and I got my internship at Blue Origin, working on Lunar Lander Communications. What? If you told me this five

years ago, I would tell you, no, you're lying. That did not happen, you're absolutely lying. I was able to learn from that experience also by being one of the few Latina women in the room. Of, no, we need to keep pushing forward because we need to open more doors for a community. Yes, maybe you're, I don't know, an incoming student that has a certain background that you feel, I'm not good enough or I'm not prepared enough, maybe I shouldn't pursue it. But no, discomfort is good, challenges are good. You learn so much about yourself, you grow so much, you are able to become a better student, a better person, a better engineer. My path has not been linear, I'm not the perfect student. I've gotten bad grades, but, you pick yourself up and you ask yourself, how can I learn from this experience and keep pushing forward? My biggest advice is just to stay true to yourself, listen to what your passions are, and just, work to achieve that goal through exposing yourself to new opportunities. For me for my internship, I'm not going to be doing communications engineering, but I learned because I was able to have experience in that realm. For me in my degree in my journey, yes, I've been able to encounter situations where it makes me think, well, when I'm a professor, I want to be this type of professor, but I'm so grateful that I was able to see these challenges so I can shape and have control of what my future is going to look like.

Yes.

Keep dreaming big. I'm so grateful for, 17-year-old Grecia for dreaming wildly and vividly and so big that, yes, I want to be a NASA engineer, and I want to send stuff to space. I never thought in my career that I would cross off my bucket list, I got to work on a lunar mission, that's absolutely crazy and insane. Dream big and if someone tells you no, that's one person. Ask someone else open another door, go for another opportunity. The amount of times I've been told no, has been many many and I still stay true to my beliefs and what I want to accomplish. Maybe you don't believe in me, but I know someone else will see something in me and will want to open their doors and receive me with open arms so I can become the best engineer that I can.

To add to that, I think it's very important to not stay too attached or put too much attention to the people that are not really helping you achieve your goals. If we would have stayed with the comments we received during some of the classes, with some of the professors, with some of the students, we would not have had the courage, the energy to be where we're at and where we're heading to. I feel that instead of focusing on the negative, we should focus on the positive. The negative doesn't help you at all. We have to stay with the positive and just be surrounded with those people. I feel that really locating those students, those professors, these people that really uplift you, I think that's very important coming into UC San Diego, really finding your community, through the Raza Center, I think that has been a huge part. Most importantly, really cultivating your spirit with the positive.

Also, reflecting on our journeys, we really worked hard to create a village. A village of people that support you, believe in you, and uplift you. I think it's really, at least for me, very wholesome to, look back at how we grew up from, being little kids, seeing you being very good at math and maybe I wasn't good at math, but I still kept pushing forward because I wanted to do STEM and then supporting each other as university students, I think that's absolutely beautiful.

Absolutely.

Thank you so much for having this conversation with me. I think it's crazy how we're able to sit down and reflect back on, our educational journey because it's been so many years. We have worked so hard, we have sacrificed so much, our parents, too, just to get where we are at right now.

Yes.

We don't really have these opportunities to have these deep conversations with one another because you're doing music and electrical engineering. Then I have my electrical engineering degree and also, doing research, being a student leader. My employment at the Raza Resource Centro, so our paths

really don't coincide that much. It's really nice that I was able to sit down with you and just reflect on how great our journey has been at UC San Diego because I'm so grateful for the university, I'm so grateful for the experiences because I generally feel that I'm a better engineer and a better person, thanks to this institution. Hopefully, we'll see if we can come back as professors one day. Have our own labs and circuits, communication systems with more Latino students so we can get more people in this space because they deserve it, our community deserves it.

Yes, and share our journey as a way of proving that it is indeed possible.

Yes, thank you.

Thank you you too.