



Music and math run in this family

February 4, 2021

Joel Vargas Jr. of the Laboratory's Institutional Systems Services group sits in his recording studio, a music keyboard at the ready. In front of Joel are a computer and several high-fidelity speakers. Behind him stands his sister Candace Vargas of the Lab's Performance Assurance group. Although both have been creating, recording and producing music from young ages, the siblings for the first time are intimately collaborating on a new music project that mines the past while pushing the boundaries of the future

"We've sung and worked together before, but not like this," Joel says. "This new side project with my sister will showcase both our talents. It's an opportunity to craft a new, more progressive and electronic sound, one that will separate us from the pack."

"We've been trying different styles to incorporate my experience with Spanish and Tejano music with his electronic and more experimental music," Candace adds. "I'm helping him with lyrics and vocals."

Careers in math and computers

With the Vargas family intimately involved with music, it comes as no surprise that mathematics and computing also run in this family. Candace's interest has been in mathematics and statistics (having received a bachelor's in applied mathematics from Northern New Mexico College), whereas Joel is currently working on a master's degree in software-driven systems and design at New Mexico Highlands University.

"I use math and statistics to assess issues management and risk assessment," Candace explains. "My group helps Laboratory management set priorities, identify and mitigate risks and issues, monitor performance, and identify and act on lessons learned. I feel like I make a difference, not only in my group but for the Lab in general. I'm very proud of what I do."

"I've always been fascinated by what computers are capable of," Joel says. "The skills I have in programmatic languages and hardware really help with my job at the Laboratory. I provide technical support for Weapons Facilities Operations and the Los Alamos Neutron Science Center (LANSCE) — and now I also provide support to LANSCE Facility Operations. My role is to ensure that Lab standards are met by empowering my customers with the knowledge needed to work in a secure environment."

A love of music

Both Joel and Candace attribute their love of creating music to their parents. Their father, Joel Vargas Sr., for many years has played rhythm guitar and tackled lead vocals for the band NortherN 505. Based in Española, New Mexico, the band plays a variety of music, from New Mexican rancheras and cumbias to American country and classic rock and roll. Their mother, Ruth Ann Vargas, manages the band.

Of the two siblings, Candace took to her father's love of traditional Spanish music. "When I was 3 years old, I was listening to my dad practicing a song on his guitar," Candace says. "Out of nowhere, I just started singing. My dad noticed that I had a little vibrato in my voice, and he said, 'Hey, we can do something with this.'"

Candace started recording music at 9 years old and has since released nine full-length studio albums, the latest of which is titled "A Mi Modo" (My Way). Candace has received 22 Hispano Music Awards and a Quince Grandes Award for her music. Her principal genres are rooted in Tex-Mex and American country music.

An accomplished vocalist himself, Joel started to explore electronic music when he was in college. "What got me started was me analyzing my favorite songs and asking how certain parts of the song were made," Joel explains. "I am inspired by artists like Hans Zimmer and Danny Elfman—they both create very cinematic music."

Joel and Candace Vargas perform at the Tejano Music Awards Fan Fair in San Antonio, Texas.

Music is math, and math is music

Both Candace and Joel believe that music contributes to every facet of their lives, including how well they execute their work at the Laboratory. "Music is intertwined in my being — I'm always listening to music," Joel says. "Music keeps me creative, and I feel that being creative in a technical position at the Laboratory gives me an edge when it comes to the problem solving and troubleshooting that my day-to-day job requires."

"I found that my experience in performing in front of different audiences has really helped me do my job," Candace says. "I am equally at home presenting a training session to a Laboratory audience and performing on stage for cheering fans of my style of music."

Los Alamos National Laboratory

www.lanl.gov

(505) 667-7000

Los Alamos, NM

Managed by Triad National Security, LLC for the U.S Department of Energy's NNSA

