Akhavian will work on improving construction worker safety and focus on soil and vegetation analysis after wildfires. He will also work on developing more sustainable buildings. Akhavian is given to promising early career researchers to further develop a drone that can perform complex calculations which enable our faculty and students to collaborate on cutting-edge research and innovative education and outreach activities, such as summer camps and virtual lab modules. We have so many exciting examples of faculty-facilitated research benefiting our students and, by extension, communities beyond our campus. People want to have meaningful experiences and careers that make a tangible and positive difference in the lives of people. That is the bedrock principle of engineering and what we do at SDSU: create solutions and developments that improve the quality of life.

As job markets and economies evolve around the world, how are you training your students to be ready to enter the job market? What impact do your alumni have in the industry?

We offer a strong level of support and opportunities for our students to see the direct impact of their work before graduating. For example, in 2020, the college’s Rocket Project achieved an altitude world record for a student-designed dual cryogenic liquid bipropellant rocket. Our strong industry partnerships also allow our students to get research-building experience with summer internships and research exposure. This leads to excellent job placement. In fact, the American Society of Engineering Education (ASEE) ranks SDSU College of Engineering programs among the top 25 engineering departments in the U.S. in terms of contribution to the engineering workforce. SDSU engineering alumni work with major local, national and international organizations and corporations, including Raytheon, the Northrop Grumman Corporation, SDG&E, Qualcomm, Boeing, Solar Turbines, Clark Construction Group, and NASA Jet Propulsion Laboratory (JPL). A moment of tremendous pride came on Feb. 18 when the Perseverance rover landed successfully on Mars. SDSU alumna Anuchinta Na Morino (’17), a JPL system engineer, was on console at mission control making sure the spacecraft was ready for the Entry, Descent, and Landing (EDL) team, as well as in the control room until touchdown was confirmed. Two battery research, Research fellow Sarah Lipton has tripled over the last 10 years, and nearly all College of Engineering faculty have a research focus.

What are your plans for attracting, engaging and retaining students and faculty who are women and those from diverse backgrounds?

SDSU now exceeds national averages for women in graduate engineering programs and Latinx engineers, according to the American Society of Engineering Education. About 30% of our graduate students are women, and 20% are Latinx. We have quadrupled the number of women faculty over the past seven years. Our three newest faculty who joined the college last fall are women with strong research backgrounds. We also have strong programs in place to support underrepresented high school students and offer them exposure to careers in STEM. Through the Connect Program, our women students offer mentoring and project-based learning opportunities for female middle school students. We are one of only three universities with this program that supports a future pipeline of women engineers. Our Troops to Engineers program supports military veterans with scholarships, mentoring and industry internships and has seen 100% graduation and job placement success. Recruitment alone is never enough, however. Within the field of engineering, we need to create a conducive environment in which individuals are able to see themselves reflected and where their contributions are deemed valuable and meaningful. In 2019, the ASEE recognized our college for its excellence in diversity and inclusion. We remain dedicated to this work.

How has the college evolved over time, and what are your goals going forward?

When our college was founded 60 years ago, in 1961, it was a different era with different priorities. We have evolved over time, and especially in recent years, into a top choice for engineering students and researchers nationally and from other parts of the world given our broad-spectrum engineering education, which prioritizes practical experience and focuses on research. Our college has about 4,000 students, double the number from 10 years ago. Today, our college is strongly focused on improved student support and enhancing our research and philanthropy. Research productivity among College of Engineering facultyhas more than tripled during the last eight years, and much of this growth can be attributed to many of our junior faculty members. We are also fortunate to have strong donor support and are prioritizing the growth and development of our endowment funds, which directly support our students and faculty. Ultimately, our achievements have a meaningful and positive impact on our students and graduates. They are making meaningful, positive industry and organizational impacts, and giving back to our college and university in ways that strongly contribute to student and faculty achievement. The most important outcome of all this work is to ensure that our graduates are well trained and hold a strong and lasting commitment to inventing a better future and more sustainable solutions for communities around the world. SDSU plans to develop cross-border collaborations and capitalize on our position as a border university. We will continue to strive towards inclusive academic excellence, meaningful experiences and careers that make a tangible and positive difference in the lives of people. That is the bedrock principle of engineering and what we do at SDSU: create solutions and developments that improve the quality of life.