Meet the 2024-2025 Physical Sciences Inclusive Excellence fellows

The fellows are championing principles of diversity, equity and inclusion at UC Irvine.

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The new fellows, clockwise from top left: Gulnaz Shalgumbayeva, Tré Willingham, Karl Zieber, Caitlyn Isabelle Cruz, Ashley Hernandez, Grace Peterson, Marissa Corr, Rasmieh Abdelkarim.

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The UC Irvine School of Physical Sciences Office of Access, Outreach and Inclusion is pleased to announce its 2024-2025 cohort of Inclusive Excellence fellows. The fellows, which include undergraduate and graduate students, design and execute service projects that champion the guiding principles of diversity, equity and inclusion.

“It’s wonderful to have our 2024-25 Cohort of Physical Sciences Inclusive Excellence Graduate Fellows and Inaugural Undergraduate Fellows,” said Mu-Chun Chen, Associate Dean of Diversity, Equity and Inclusion. “I’m looking forward to seeing the impacts of the diverse range of projects the fellows are working on.”

Ash Hormaza, Program Coordinator for the Office of Access, Outreach and Inclusion at Physical Sciences, echoed the sentiment: “I’m very proud of all the fellows — their energy, creativity and dedication to making our school a more accepting and inclusive space is what makes this program succeed.”

Rasmieh Abdelkarim

Rasmieh Abdelkarim, an undergraduate double-majoring in astrophysics and Earth system science, plans to research distant exoplanets that may harbor extraterrestrial life. It’s work that requires an interdisciplinary mindset – something she wants bring to her work as an Inclusive Excellence fellow. “As a fellow, I hope to bridge the gap between UCI and local communities by fostering a love of learning and science among youth, especially among those who do not see themselves represented in physical sciences,” said Abdelkarim. “I also hope to increase awareness among UCI students of being intentional in their scientific research, and the potential long-lasting impacts their research and work can have on the world.”

Marissa Corr

In October, Marissa Corr, an undergraduate math and sociology double major, organized a Data Equity Walk for the UC Irvine Department of Mathematics. It was an event aimed at helping Corr understand why certain equity gaps exist in her department. “I’m now adding qualitative data to my research through math major interviews to try to understand why students from marginalized backgrounds leave the math major, and I intend to present my results,” said Corr, who also organizes regular tea gatherings for her department. “Having researched achievement and excellence gaps in UCI’s math department, through my position on the math

department’s Inclusive Excellence Committee and advised by the wonderful Professor Jesse Wolfson, I’m now interested in exploring the intersection of community building and data analytics as an IE fellow. I aim to empower students from marginalized groups by centering their voices and making equitable teaching practices the most convenient option for instructors.”

Caitlyn Isabelle Cruz

Caitlyn Cruz is a Ph.D. student researching air pollution in the lab of Professor Manabu Shiraiwa’s lab in the UC Irvine Department of Chemistry. Cruz wants to see research like hers make positive impacts in the communities around her, which is why, as an IE fellow, she’s organizing a summit to take place at UC Irvine that will enable students to connect to local Orange County community organizations with interests in applying scientific findings to their operations. “It will emphasize the significance of connecting research conducted by students to the communities we belong to, ensuring that we can effectively bring about genuine change through action,” said Cruz, who was inspired by similar community-based science in her native Philippines. “This summit will also allow students to be involved in organizations serving the communities to break away from the robotic nature of STEM research and encourage relationship-building.”

Ashley Hernandez

Ashley Hernandez is a third-year undergraduate in the UC Irvine Department of Earth System Science – a field that captivates her due to its interdisciplinary nature. For her IE fellowship, Hernandez hopes to foster community among Hispanics between the School of Physical Sciences and surrounding communities via K-12 outreach. “Next quarter, winter 2025, I, along with a few more people will be hosting a dinner for Hispanics under the School of Physical Sciences, and throughout the quarter I will continue to host social mixers for that community. I’ll also be aiding in various things like Science Olympiad and LEAPS in the upcoming quarters.”

Grace Peterson

Grace Peterson is a UC Irvine undergraduate majoring in both chemistry and biology – disciplines she’s mastering as she sets her sites on medical school, where she hopes to advance cancer treatment delivery and outcomes. For her IE fellowship, Peterson aims to advance awareness surrounding neurodiversity on campus. “From my own personal experience, I was diagnosed with a learning disability when I was

young and learned how to hide my challenges until I learned about neurodiversity from UCI's NSG (the UCI neurodiversity support group)," said Peterson. "I hope to create video modules that inform faculty and staff at UCI about how to best support neurodiverse students, as I think this will help both neurotypical and neurodiverse graduate and undergraduate students have more support in their studies at UCI."

Gulnaz Shalgumbayeva

Gulnaz Shalgumbayeva is a doctoral student studying climate change using satellite observations in the group of Professor Isabella Velicogna in the UC Irvine Department of Earth System Science. But her path to graduate school wasn't an easy one; as a child growing up in Kazakhstan, Shalgumbayeva had to find ways of supporting her family from a young age. "As an Inclusive Excellence fellow, my goal is to create a supportive community that appreciates the diversity of experiences everyone brings to the table, including those from underprivileged backgrounds," Shalgumbayeva said. "Having started working at age six to support my family, I understand the challenges faced by those from similar backgrounds. This has fueled my commitment to ensure our academic environments are inclusive and supportive."

Tré Willingham

Tré Willingham is a new graduate student in the UC Irvine Department of Physics & Astronomy where he's researching quantum materials in the lab of Professor Javier Sanchez-Yamagishi. Willingham's IE fellowship will draw from his own experience rising through the ranks of academia while coming from a disadvantaged background. "I aim to inspire underrepresented high school and community college students to explore the fields of quantum materials and rocketry," said Willingham. "In the spring, I will lead workshops introducing students to the fundamentals of quantum materials, and I will organize guided tours of the rocket lab to provide hands-on exposure and spark their interest in these exciting areas of science."

Karl Zieber

Ph.D. student Karl Zieber's research lies at the boundary of theoretical physics and pure mathematics in the UC Irvine Department of Mathematics. Alongside Professor Anton Gorodetski, Zieber looks at how disorder influences the behavior of things like subatomic particles and quantum waves. "As an IE fellow, I hope to advance a sense of community and belonging in the School of Physical Sciences," Zieber said. "I have

a two-pronged approach to achieve this: I hold events, both social and professional development, in the school and the mathematics department. I ran an event to match math graduate students with potential advisors and recently hosted a movie night for all of Physical Sciences. I’m also involved with K-12 outreach, particularly the Math CEO program. By connecting students to each other and to community service, I hope to generate a feeling of involvement, belonging, and inclusion across the school.”

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