UC Irvine Students Named 2025 Barry Goldwater Scholars

Students Luke Xia (Physics and Mathematics) and Amanda Fang (Neurobiology) have been named the 2025 Barry Goldwater Scholars.
Friday, April 25, 2025
DTEI editor
OVPTL



Luke Xia and Amanda Fang.

Picture Credit:
UC Irvine

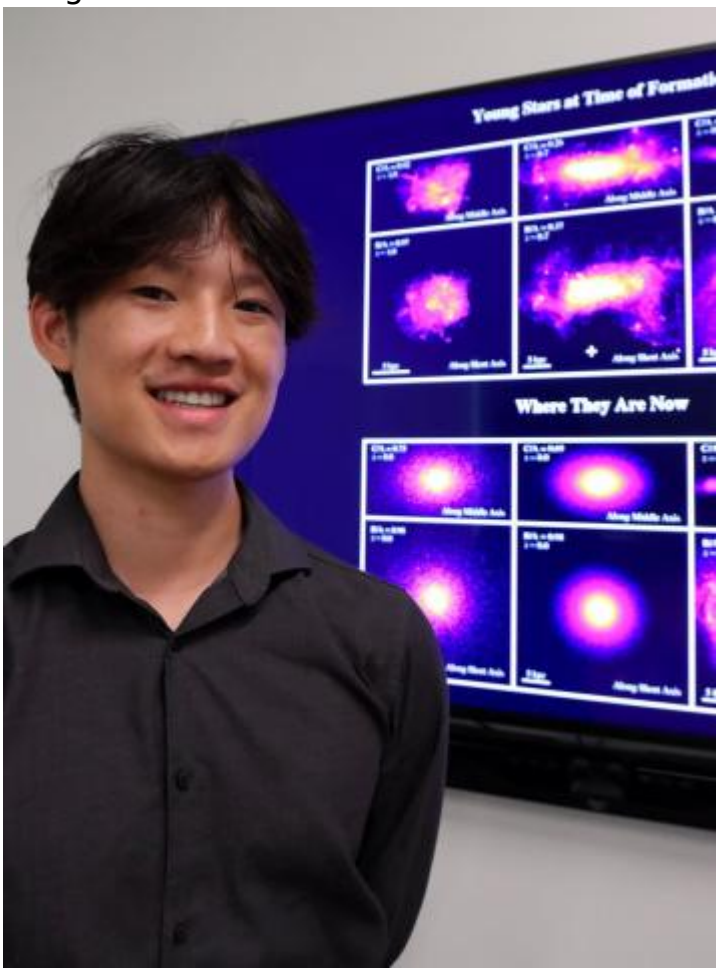
The UC Irvine Office of the Vice Provost for Teaching and Learning, Scholarship Opportunities Program (SOP), School of Physical Sciences, and Charlie Dunlop School of Biological Sciences are thrilled to announce that students Luke Xia (Physics and

Mathematics) and Amanda Fang (Neurobiology) have been named the 2025 Barry Goldwater Scholars.

About Luke Xia, Physics, Mathematics (2026)

Luke, a double-major in physics and mathematics, enjoys researching topics that focus on theory and computation. He has worked in a variety of fields, including magnetic reconnection in plasma physics, self-interacting dark matter in astroparticle physics, galactic astrophysics, and quantum algorithms. His work has been published in journals such as *Physics of Plasmas* and *The Astrophysical Journal*. In the future, Luke hopes to pursue a Ph.D. in either plasma astrophysics or quantum error correction and become a research professor.

Image



Luke Xia. *Lucas Van Wyk Joel*

In addition to academics and research, Luke dedicates himself to building a strong community within the physics department as the president of UC Irvine’s Society of Physics Students and the co-founder/secretary of UC Irvine’s National Society of

Black Physicists. He enjoys organizing weekly meetings and events that build connections among aspiring physicists, and he extends his passion for physics through outreach at high schools.

Explaining what being named a Goldwater Scholar meant to him, Luke said:

“Winning the Goldwater Scholarship is so fulfilling because it feels like I am representing the UC Irvine physics department as a whole. There’s no way I would be where I am without the incredible support of the undergraduate physics community on campus. I think this is the first physics Goldwater scholarship from UC Irvine in 15 years, so I hope it inspires others to go for it as well!

There are many people I’d like to thank for supporting my journey. First, my research advisors: Professor Simona Murgia, Dr. Marc Swisdak, Dr. Courtney Klein, Professor Sandy Irani, and Professor and Dean James Bullock. All these people took a chance on me when I expressed interest in researching with them, and they gave me the most stellar mentorship. It has been so enjoyable tackling problems, discussing potential solutions, and learning lore from them. I’d also like to thank Professor Nathan Kaplan for being the most excellent teacher.

Next, I am incredibly grateful to the physics community, especially the Society of Physics Students at UC Irvine. The support from other undergraduates has been phenomenal in driving my curiosity and love for physics. Some of the specific individuals I’d like to highlight are Emmeline Kim, Vincent Caudillo, Bryan Nnadi, James Buda, Marco Cheng, Merrick Hua, Eli Griffiths, Ariel Nicastro, and Sanya Gupta.

I’d also like to give a shoutout to Nisreen Ahmad from the SOP. I had zero knowledge about scholarships in general, but she took me in and patiently walked me through the whole process.

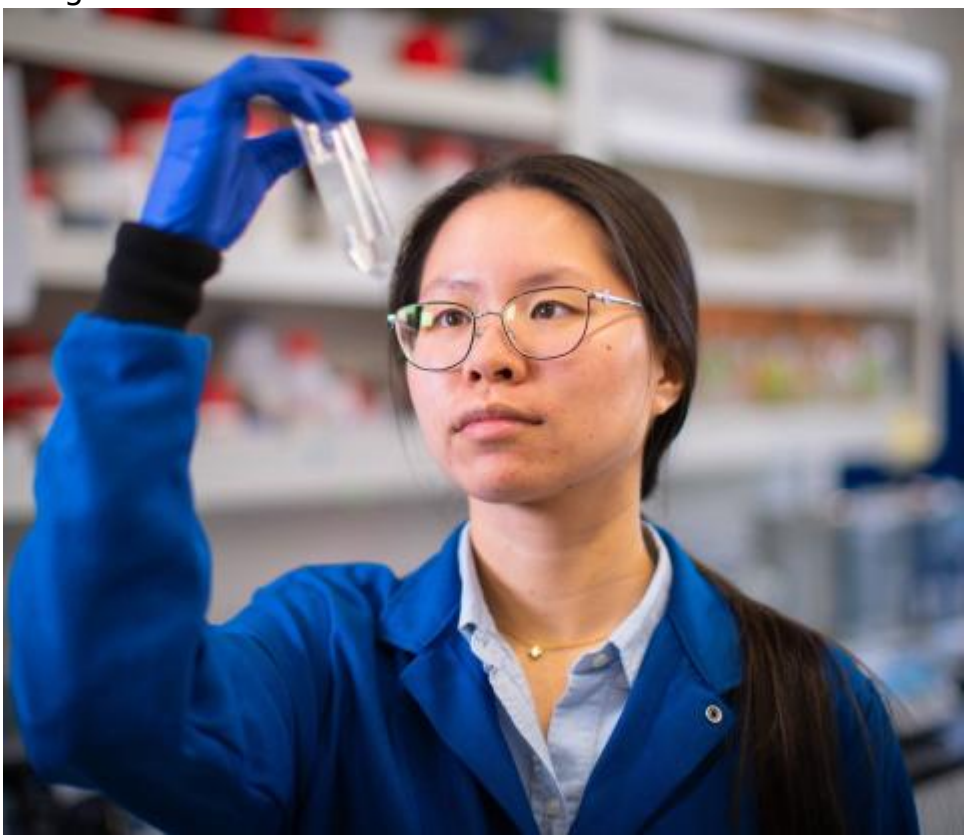
Of course, I’d like to thank my family as well. I was trained to be a curious thinker, and that’s what I’ve been able to maintain through research, so thank you, Mom, Dad, Jake, and Kyle!

Finally, even though he doesn’t know his impact on me, I’d like to thank LeBron James. He has the best work ethic I’ve ever seen, and he stays happy through all his work. That is a quality I strive to maintain whenever I’m working on my research or struggling through problem sets.”

About Amanda Fang, Neurobiology (2026)

Amanda is a third-year student majoring in Neurobiology with a minor in Medical Anthropology. She currently works in a neural circuits lab focused on mood disorders and addiction. She is also involved in clinical research with traumatic brain injury patients and with patients in the emergency department.

Image



Amanda Fang. *Natalie Paredes*

Passionate about research mentorship and health accessibility, Amanda also serves as the president of Research Outreach at UCI and Student Healthcare in Practice. Amanda’s experience in benchwork and clinical work has driven her to pursue a Medical Scientist Training Program (MSTP) in neuroscience to become a voice that bridges the disconnect between research and medical practice. She hopes to become a physician-scientist who researches therapeutic targets for neurological and neuropsychiatric disorders while continuing to provide research mentorship, improve access to healthcare, and care for the most vulnerable.

When asked what receiving a Goldwater Scholarship meant to her, Amanda explained:

“Receiving a Goldwater Scholarship means more than I can put into words. It’s been a combination of shock and excitement. I was very surprised when I first learned of my acceptance. Research is hard, and I wasn’t sure that my experiences would be enough to show the committee my dedication to research. So, receiving the Goldwater Scholarship positively reaffirmed my research journey, alleviating some of my concerns and making me more confident in my ability to pursue a future career in research. It’s also been exciting to get to know other Goldwater scholars across the nation and join the Goldwater Scholar Committee to help future scholars! The Goldwater Scholarship not only provides financial support for my senior year at UC Irvine but also opens the door to a larger community of researchers who are all committed to advancing the work done in their respective fields.

There are many people I’d like to thank for helping me along my journey. I would first like to dedicate my thanks to my parents for their unwavering support and patience in all of my endeavors. They’re always there for me, even when we don’t agree, and I know that I can always lean on them when I need them most.

I would also like to thank my research mentors: Dr. Kevin Beier for giving me the opportunity to join his lab as an eager first-year and to participate in a range of projects; Dr. Guilian Tian for always being there, from answering my late-night questions to believing in my ability to take on new things; and Dr. Patrick Chen for supporting my ideas and my growth as a clinical researcher.

To add on, I can’t speak about my research journey without mentioning Research Outreach at UCI, one of the first student organizations I joined on campus. I’m thankful for the organization and its mission to connect students to research, as it was there that I met some of my closest mentors who helped me navigate the research process and who continue to believe in me. Lastly, I would like to give a big thank you to David Skelton (Scholarship Advisor & Writing Specialist) and the SOP office for their continued guidance and patience during the process; I couldn’t have done it without them!”

About the Barry Goldwater Scholarship

The Goldwater Scholarship Program is one of the country’s oldest and most prestigious scholarships. Geared towards students in the natural sciences, engineering, and mathematics, the Goldwater Scholarship awards college sophomores and juniors who demonstrate a strong commitment to pursuing

research careers, intellectual intensity, and the potential to make significant contributions in their chosen fields. Accredited academic institutions that have a Foundation-identified Goldwater Campus Representative may nominate four to five students annually for award consideration. All nominated students must receive official endorsement from their institution to qualify. Nominees will be assessed based on their academic background (a minimum GPA of 3.7 is considered competitive), research essays, and letters of recommendation.

The Goldwater Scholarship awards a maximum of $7,500 per full academic year to offset the cost of tuition, books, and other expenses. This year, 441 Goldwater Scholarships were awarded from the pool of 1,350 nominees.

Words of Congratulation

Many across campus were eager to celebrate Luke's and Amanda's accomplishments and recent Goldwater awards. Luke's mentor, James Bullock (Dean of the School of Physical Sciences and Professor of Physics & Astronomy), said:

"Congratulations to Luke on this well-deserved award. As an undergraduate researcher in my research group, Luke has demonstrated enthusiasm and a remarkable aptitude for conducting rigorous, high-level research. I believe this recognition marks the beginning of many accolades to come throughout his career."

Amanda's mentor, Kevin Beier (Associate Professor of Physiology & Biophysics, said:

"Congratulations to Amanda for a well-earned reward! Amanda has been a reliable and driven student in the lab since her freshman year, and this is just one of many activities in which she participates and ultimately leads. I hope this award serves as a validation of her accomplishments and future potential and accelerates her career development."

Finally, Rose Jones (Director of the SOP), applauded both students, saying:

"We offer our congratulations to our newest Goldwater Scholars—Luke Xia and Amanda Fang—who continue the Scholarship Opportunities Program tradition of demonstrated excellence in undergraduate research in STEM. Their scholarship and research journeys inspire fellow Anteaters to reach for the stars, and we couldn't be more proud of their accomplishments, courage, and perseverance."

Interested in applying for the Goldwater or other prestigious scholarships? The SOP can help! Visit the SOP website to learn more about resources and services. You can also connect with the SOP on Facebook, Instagram, X, and LinkedIn.

OVPTL
Feature Stories
Physics & Astronomy
Awards
The Future of Fundamental Science
View PDF