



Research

- Research led by graduate student Tyler Kelley, professor and chair James Bullock, and colleagues turns a longstanding problem in astrophysics known as the “missing satellites problem” on its head, finding too many satellites around galaxies instead. Details can be found in this [press release](#), and the [publication](#).
- In research led by professor Tim Tait and postdoc Seyda Ipek, the strong force, one of four fundamental forces of nature, may have behaved differently in the very early Universe, resulting in interesting implications for cosmology. Read the publication, [here](#).
- Zuzanna Siwy and her research group, part of a newly funded research [DOE Energy Frontier Research Center - Center for Enhanced Nanofluidic Transport \(CENT\)](#), have discovered that nanopores mimic living tissue, a finding that may help with creating artificial neurons. More information is in this [press release](#), and the [publication](#).

Events

- Graduate students Rachel Lucas and Jake Polster, who work with professor Zuzanna Siwy, attended the [2019 Workshop on Nanomaterials at the water-energy nexus at the Dead Sea in Israel](#) and won a prize.
- Graduate students and postdocs of particle physics, many of which are part of the Women in Physics and Astronomy club at UCI, attended the Beyond the Standard Model Conference at UCLA.
- Professor Aomawa Shields gave a talk on “The Climates of Other Worlds: Exoplanet Climatology as a Pathway to Accurate Assessments of Planetary Habitability” as an invited speaker at the 233rd American Astronomical Society meeting.
- On Sunday, January 20, the Astronomy Outreach Program directed by professor Tammy Smecker-Hane hosted a lunar eclipse viewing at UCI with telescopes to view the moon and other night-sky objects. The event garnered over 1000 people who came to watch the lunar eclipse. Details [here](#).
- Professor Virginia Trimble has been invited to deliver a plenary talk at the March meeting of the High Energy Astrophysics Division of the American Astronomical Society, which will cover the founding of the Division 50 years ago.

Student Spotlight

Rebecca Riley is being recognized for her work in creating the Resonance Mentoring Program. Resonance is a pilot program in the Department of Physics and Astronomy in which small groups of incoming students meet with continuing physics majors who serve as mentors. Alongside Dr. Laura Tucker, Rebecca started the program to build community among physics and applied physics students, build excitement about physics, and help students navigate challenges of the first year. Resonance’s eventual aim is to realize a vertical mentoring system in which everyone in the department - undergraduates, graduate students, postdocs, and faculty alike - all serve as mentors and are mentored themselves. To read the full Student Spotlight article about Rebecca and the Resonance program, click [here](#).



Department News

- Professor Tim Tait and Chanda Prescod-Weinstein of the University of Hampshire wrote a letter on the state of particle physics and the successes of the LHC in response to some negative statements regarding the production of a new collider. Read the letter, [here](#).
- TAE Technologies, a company founded by UCI alumni and with deep connections to UCI, is making great progress with their work on fusion technology. Details [here](#).
- UCI has a new Center for 2D Materials Research. Read about it [here](#).



Left: Graduate students Rachael Lucas and Jake Polster, at the 2019 Workshop on Nanomaterials at the water-energy nexus at the Dead Sea in Israel.

Right: Graduate students and postdocs of particle physics at the Beyond the Standard Model Conference at UCLA.