

Research

• Physics and Astronomy Professor Huolin Xin and his collaborators use state-of-art multi-modal/ dimensional microscopy, spectroscopy and computational tools to study a promising high-energy-density lithium-rich 3d-4d transition-metal layered compound used in lithium-ion batteries. They surprisingly found the segregation of metallic nanoclusters is due to its thermodynamic insolubility in the oxygen deprived rock salt surface which subsequently disrupts the reconstructed passivation film. They used this finding as a new theoretical constraint and found a handful of new surface-stabilizing dopants for commercial layered cathode materials that power our battery electric vehicles. Read more in their [Nature article](#).

Student Spotlight

Katy Rodriguez Wimberly is a 3rd year graduate student studying astrophysics who started the Physics and Astronomy Community Excellence (PACE) program. Katy started the PACE program – along with fellow student Arianna Brown – as a response to the concerns of graduate students who wished to see more mentorship within the department. She hopes that PACE will create a vertical mentoring ladder within the department where everyone has a network of mentors and peer mentors to feel fully supported. PACE focuses on peer mentoring amongst graduate students, and grad-undergrad mentoring. Katy wants the PACE program to help every student feel like they are a part of an inclusive and diverse community who cares holistically about their success in the department and feels fully supported from the moment they begin their career at UCI. Read the full article [here](#).



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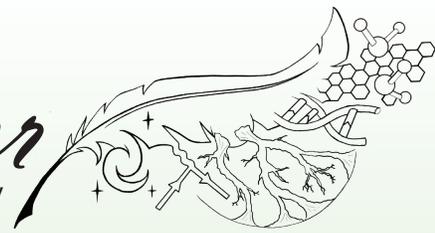
Congratulations to Dr. Ben Lillard who successfully defended his thesis in particle theory. Dr. Lillard worked with prof. Tim Tait as his advisor for his PhD.

Events

- Curious about research being done at UCI? Hear graduate students from across the campus talk about their research at this year's [AGS Research Symposium](#) on April 26th! Speakers include UCI Physics and Astronomy's own Chris Karwin, Sunny Yu, and Milad Pourrahmani.
- Thursday, April 25, is the department colloquium where Professor Jonathan Feng will be talking about [FASER](#).



UCI Blog Team members and a new friend (from left: Dianna Cowern, aka "Physics Girl", Sophia Nasr, Astrid Anker, and Jessica Howard) at the annual Science Talk '19. Thanks to Prof. Daniel Whiteson for helping fund our attendance.



Resources

- The registration for [Microscopy and Microanalysis 2019](#), the annual meeting for the Microscopy Society of America, is now open.
- Missed the workshop on how to fill out the new student evaluation form? No worries! The recorded presentation can be found [here](#).
- Funding and fellowships: [Pivot](#) and [Pathways to Science](#). Both are free to use (for Pivot you need to be on campus or use a VPN).

UCI Professor Clare Yu, a leading expert in biophysics and quantum computing has been elected a fellow by the American Academy of Arts & Sciences.



UCI's Physics and Astronomy NSF GRFP awardees. From left: Kyle Kabasares, Jessica Howard, Dillon Berger, and Rebecca Riley.



Professor Toshiki Tajima at the APS Denver meeting where he was awarded the APS R. Wilson Prize.



Katy Rodriguez Wimberly and Arianna Brown after they received the Tom Angell Fellowship.



Department News

- Congratulations to Professor Clare Yu on her election to the American Academy of Arts & Sciences, a prestigious honorary society. More information on her research can be found in the [campus press release](#).
- Congratulations to all first-year graduate students for completing the qualifying exam! Whether or not you passed this time around, getting through this exam is a milestone that should be celebrated!
- UCI Physics and Astronomy made a banner showing in this year's [NSF GRFP](#) competition. Graduate student Kyle Kabasares received an honorable mention in Astronomy and Astrophysics And, of the 18 awards offered in Particle Physics nationwide, graduate students Dillon Berger, Jessica Howard, and Rebecca Riley each received one, causing UCI Physics and Astronomy to **tie with Harvard and beat MIT** for most number of Particle Physics awards in a given department for this cycle.
- Blog Team members Astrid Anker, Jessica Howard, and Sophia Nasr represented UCI Physics and Astronomy at the annual science communication conference [Science Talk '19](#). Huge thanks to Professor Daniel Whiteson for helping fund our attendance!
- Graduate Students Arianna Brown and Katy Rodriguez Wimberly were jointly awarded the Tom Angell fellowship for their excellent work creating the [PACE](#) mentorship program.
- Congratulations to Professor Toshiki Tajima for receiving the APS 2019 Robert R. Wilson Prize for Achievement in the Physics of Particle Accelerators!