Student Spotlight

Haytham Effarah is a first-year graduate student who is completing the MD/PhD Medical Scientist Training Program at UCI. Notably, he is the first person in over 15 years to pursue a physics PhD in his program. One of his biggest research interests is developing and implementing medical diagnostic techniques. Haytham is currently working under Prof. Chris PJ Barty, the senior faculty hire for the Convergence in Optical Sciences Initiative (COSI) studying the generation of monochromatic x-rays through Compton scattering and the medical applications of those x-rays. With higher resolution imaging they can more accurately identify problems like tumors or cysts; and by lowering the radiation dose they can do diagnostic imaging with less risk to patients. As Haytham progresses through his PhD, he hopes to have experience working with ultrafast lasers, Compton scattering, x-ray/tissue interactions, and medical applications of monochromatic x-rays. After medical school he plans to spend at least four years in a residency program before looking for a faculty position at a research university. Read more here.

Research

• In August, graduate student Yvonne Ng presented a poster at the Dark Matter @ LHC (Large Hadron Collider) 2019 Conference at the University of Washington in Seattle. Yvonne won the Best Poster Award for her research on searching for dark matter with low mass dijet resonances using data from the ATLAS experiment at CERN (European Organization for Nuclear Research). You can read the abstract, here. Yvonne also gave a seminar at UC Riverside on October 5, 2019, speaking about “Weird resonance searches at the LHC.” Pictured is Yvonne presenting at both the conference and at UC Riverside.

• Professor Tim Tait, postdoc Seyda Ipek, graduate student Jessica Howard, and colleague Djuna Croon from TRIUMF submitted a paper on a model for early universe QCD confinement. Read more here.

• Professor Tim Tait, Professor Arvind Rajaraman, and graduate student Jason Arakawa published a paper in Physical Review Letters about a model for dark matter which also solves the strong CP problem. Read more here.

• Members from Bill Heidbrink’s group travelled to Shizuoka, Japan this past September to present talks and posters at the 16th International Atomic Energy Agency Technical Meeting on Energetic Particles in Magnetic Confinement Systems—Theory of Plasma Instabilities. Pictured are Professor Heidbrink’s students Alvin Garcia, Daniel Lin, and Genevieve DeGrandchamp at a banquet. Also pictured is Alvin Garcia presenting at the conference.
Upcoming Events

- UCI is hosting the Conference for Undergraduate Women in Physics (CUWiP) January 17-19, 2020. The APS CUWiP are three-day regional conferences for undergraduate physics majors. The primary goal of the CUWiP conference is to help undergraduate women continue in physics by providing them with the opportunity to experience a professional conference, information about graduate school and professions in physics, and access to other women in physics of all ages with whom they can share experiences, advice, and ideas. The 2019 program at UCI will include research talks, panel discussions about graduate school and careers in physics, workshops and discussions about women in physics, student research talks and poster session, and laboratory tours. You can find more information, including registration, here.
- Make sure to RSVP for the department's holiday party at 3:30 pm on December 12th! RSVP via the email sent last week!
- The Hanukkah Party and Potluck will be held December 7th, at the PV Community Room at 6 PM. Keep an eye out for the potluck form/spreadsheet if you are planning to attend. Anyone is welcome!

Department News

- As part of UCI's Brilliant Future campaign UCI hosted donors on. This event included presentations from graduate students and professors, including graduate student Igor Palubski, Professor Aomawa Shields, and Professor Jonathan Feng about research being done in the department.
- Professor Daniel Whiteson and PhD Comic's Jorge Cham collaborated on new PBS kids show Elinor Wonders Why which recently aired. This show will also be part of a study conducted by UCI education professors. They will use machine learning algorithms to allow children to interact directly with the story and see if this increases engagement.
- Check out graduate student Jack Lubin's latest blog post on a recent paper by UCI Professor Paul Robertson and collaborators on a highly eccentric exoplanet!
- Professor Virginia Trimble delivered her Gemant Award Lecture at Caltech on October 3rd, where she spoke about the effects of World War I on the sciences.
- Graduate students participated in the Physical Sciences machine learning nexus workshop on October 17th-19th to learn about machine learning applications in the physical sciences.
- Check out graduate student Mackenzie Turvey's latest blog post on recent work by UCI professors and graduate students on surface state oscillators!

Resources

- New APS forum on Diversity and Inclusion formed. All APS members are welcome to join.
- Looking for sources of funding? Consider these internal fellowships! To be funded for Spring 2020 these applications are due Dec. 3rd by 5pm. For the Otto W. Shaler fellowship, the department may submit only two applications so submit your application to My Banh (mbanh@uci.edu) no later than Dec. 2nd at 2pm.
- If you are interested in sharpening your mentoring skills consider taking the Graduate Resource Center’s Mentoring Excellence certificate program in Winter or Spring quarter. Submit your interest here.
- Want the chance to share your research? Interested in improving your public speaking skills? Then think about applying to this year’s Grad Slam competition! You could win up to $5,000 in prizes!

1st, 2nd, and 3rd year students got together on November 1st for PGC’s Super Smash Bros tournament and game night.