

José A. Flores Velázquez | Curriculum Vitae

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Education

University of California, Irvine Graduate Student, Physics and Astronomy	Fall 2018 — Present
California State Polytechnic University, Pomona B.S. Physics, Cum Laude, GPA: 3.55	Fall 2013 — Spring 2018

Poster and Oral Presentations

Undergraduate Senior Seminar (Oral) — SFR Indicators in the FIRE Galaxy Formation Simulations Proposal, — California State Polytechnic University, Pomona CA	May 2018
22nd Annual Posters on the Hill Conference (Poster) — SFR Indicators in the FIRE Galaxy Formation Simulations, Capitol Hill Washington, DC	April 2018
Bringing the Universe into LA Districts (BUILD) Event (Oral) — General Astronomy Talk in English & Spanish at Sierra Vista High School, Baldwin Park, CA	March 2018
Bringing the Universe into LA Districts (BUILD) Event (Oral) — General Astronomy Talk in English & Spanish at Holland Middle School, Baldwin Park, CA	February 2018
231st American Astronomical Society (AAS) Meeting (Poster) — Washington, DC	January 2018
Southern California Conferences for Undergraduate Research (SCCUR) (Oral) — California State Polytechnic University, Pomona CA	November 2017
The Society for Advancement of Chicanos/Hispanics and Native Americans in Science (SACNAS) (Poster) Salt Lake City, Utah	October 2017
CAMPARE, Cal-Bridge, & CHAMP Summer Research Symposium (Oral) — California State Polytechnic University, Pomona CA	August 2017
Galaxy Formation and Evolution in Southern California (Gal FRESCA 2017) (Oral) — California Institute of Technology, Pasadena CA	August 2017
Adler Planetarium CIERA REU Poster Presentation — Adler Planetarium, Chicago IL	August 2017
Center for Interdisciplinary Exploration & Research in Astrophysics Research Experience for Undergraduates (CIERA REU) Poster Presentation — Department of Physics & Astronomy and CIERA, Northwestern University, Evanston IL	August 2017
Northwestern University Galaxy Formation Group + University of Chicago Galaxy Formation Group Joint Meeting (Oral) — Chicago, IL	July 2017
Physics and Astronomy Annual Senior Poster Session 2017 (Poster) — California State Polytechnic University, Pomona CA	June 2017
Society for Industrial and Applied Mathematics (SIAM) Cal Poly Pomona Chapter 3rd Annual Student Research Conference (Oral) — California State Polytechnic University, Pomona CA	May 2017
5th Annual Research Scholarship, & Creative, Activities (RSCA) Conference (Oral) — California State Polytechnic University, Pomona CA	March 2017

229th American Astronomical Society (AAS) Meeting (Poster) — Grapevine, Texas	January 2017
Galaxy Formation and Evolution in Southern California (Gal FRESKA 2016) (Oral) — California Institute of Technology, Pasadena CA	September 2016
CAMPARE & Cal-Bridge Research Symposium (Oral) — California State Polytechnic University, Pomona CA	August 2016
Banneker & Aztlán Institute Symposium (Oral) — Harvard-Smithsonian Center for Astrophysics, Cambridge MA	August 2016

Research Experience

Star Formation Rate Indicators in Galaxy Formation Simulations Simulation: Feedback In Realistic Environments Simulation (FIRE)	Summer 2017
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We use the self-consistent star formation histories realized in the FIRE simulation to quantify differences between observationally-inferred star formation rates (SFRs). We use different indicators and true SFRs, as a function of galaxy mass and redshift to also predict time scales that specific SFR indicators are averaged over.

Supervisor: Prof. Claude-André Faucher-Giguère

Observational Astronomy & Data Reduction of W3(OH) Maser Images Physics 499A on Transcript	Spring 2017
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We carried data reduction procedures, astrometry and photometry calibrations for the W3(OH) cluster. The images were taken using the WIYN High-resolution InfraRed Camera (WHIRC) with broadband filters: J, H, and K_s. We removed the sky noise, visual artifacts and aligned the dither patterns of our observations performing a variety of arithmetic functions on PYRAF and IDL. Astrometric and photometric calibrations were performed by comparing the stars in our WHIRC images to the 2 Micron All Sky Survey (2MASS) point-source catalogue.

Supervisor: Prof. Matthew Povich

Kinematic Characteristics of Galaxy Mergers using Galaxy Formation Simulations Simulation: Feedback In Realistic Environments Simulations (FIRE)	Summer 2016
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Using a suite of galaxy merger simulations with FIRE to analyze the effect of interactions on galactic kinematics. This includes kinematic decoupling of the stellar and gas components, kinematically decoupled cores, and other features. Importance of this work is highlighted by recent observations by the CALIFA (Barrera-Ballesteros et al. 2015) and SAMI surveys (Bloom et al. 2016).

Supervisor: Prof. Jorge Moreno

Accomplishments

Regents' Fellowship Selection is based on a comprehensive review of the admissions application, including, but not limited to test scores and grades. — University of California, Irvine	September 2018 - Present
NSF Graduate Research Fellowship National Science Foundation Fellowship. Awarded to high potential early scientist to support their graduate research for three years.	September 2018 - Present
Competitive Edge Research Program Program designed to support entering graduate students from diverse backgrounds who plan to pursue a doctoral or M.F.A. degree and prepare for an academic career. — University of California, Irvine	June 2018 – August 2018
Poly Cup Award given to the top 3 graduating physics seniors who present an original research proposal. California State Polytechnic University, Pomona CA	May 2018

22nd Annual Posters on the Hill Conference Presenter

April 2018

Organized by the Council of Undergraduate Research. A competitive event where only 60 out of 400 undergraduates has the honor to present their research.
Capitol Hill Washington, DC

Best Poster Presentation Award

October 2017

The Society for Advancement of Chicanos/Hispanics and Native Americans in Science (SACNAS)
Salt Lake City, Utah

Center for Interdisciplinary Exploration & Research in Astrophysics Research Experience for Undergraduates (CIERA REU) Scholar

June 2017 — August 2017

Competitive REU program who selected 7 out of 470 applicants to conduct astronomical research.
Northwestern University, Evanston IL

Cal-Bridge Scholarship,

September 2016 — Present

Competitive California Scholarship which funds up to \$10,000 per year
California State Polytechnic University, Pomona CA

CAMPARE Scholar

March 2016

Competitive Program which aligns undergraduate students in a summer REU.
California State Polytechnic University, Pomona CA

President's List

Spring 2014

Students who take part on the Dean's List for 3 out 4 academic quarters.

Dean's List

Students who have at least 12 units in the quarter and have a GPA of 3.5 or higher.
Fall 2013, 2014, 2015, 2017, *Winter* 2014, *Spring* 2014, 2016, 2017

Computational Skills

Languages — Python, C++, HTML, IDL, PYRAF

Supercomputers Used in Research— Harvard's Odyssey supercomputer, University of Texas STAMPEDE Supercomputer

In image reduction I have also used the SAOImage DS9 software.

Work Experience

Student Grader

January 2018 — June 2018
September 2016 — January 2017

— Department of Physics & Astronomy, California State Polytechnic University, Pomona CA

Physics Learning Assistant (Tutor)

April 2015 — June 2015

— Department of Physics & Astronomy, California State Polytechnic University, Pomona CA

Floor Supervisor, McDonald's Restaurant

February 2014 — September 2016

— 2303 East Florence Ave, Huntington Park, CA 90255

Crew Member, McDonald's Restaurant

February 2013 — February 2014
August 2012 — February 2013

— 2303 East Florence Ave, Huntington Park, CA 90255

— 14317 Valley View Ave, Santa Fe Springs, CA 90670