

José Flores Velazquez | Curriculum Vitae

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Education

Bachelor of Science in Physics — California State Polytechnic University, Pomona CA
Dean's List: 3.56 GPA

Fall 2013 — Spring 2018

Poster and Oral Presentations

The Society for Advancement of Chicanos/Hispanics and Native Americans in Science (SACNAS) Salt Lake City, Utah	October 2017
CAMPARE, Cal-Bridge, & CHAMP Summer Research Symposium — California State Polytechnic University, Pomona CA	August 2017
Galaxy Formation and Evolution in Southern California (Gal FRESKA 2017) — 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 — Chicago, IL	July 2017
Physics and Astronomy Annual Senior Poster Session 2017 — California State Polytechnic University, Pomona CA	June 2017
Society for Industrial and Applied Mathematics (SIAM) Cal Poly Pomona Chapter 3rd Annual Student Research Conference — California State Polytechnic University, Pomona CA	May 2017
5th Annual Research Scholarship, & Creative, Activities (RSCA) Conference — California State Polytechnic University, Pomona CA	March 2017
229th American Astronomical Society (AAS) Meeting — Grapevine, Texas	January 2017
Galaxy Formation and Evolution in Southern California (Gal FRESKA 2016) — California Institute of Technology, Pasadena CA	September 2016
CAMPARE & Cal-Bridge Research Symposium — California State Polytechnic University, Pomona CA	August 2016
Banneker & Aztlán Institute Symposium — 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.

PI: Prof. Claude-André Faucher-Giguère

Observational Astronomy & Data Reduction of W3(OH) Maser Images
Physics 499A on Transcript

Spring 2017

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.

PI: Prof. Matthew Povich

Kinematic Characteristics of Galaxy Mergers using Galaxy Formation Simulations
Simulation: Feedback In Realistic Environments Simulations (FIRE)

Summer 2016

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).

PI: Prof. Jorge Moreno

Awards

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

October 2017

Center for Interdisciplinary Exploration & Research in Astrophysics Research Experience for Undergraduates (CIERA REU) Scholar,
Northwestern University, Evanston IL

June 2017 — August 2017

Cal-Bridge Scholarship, up to \$10,000 per year
California State Polytechnic University, Pomona CA

September 2016 — Present

CAMPARE Scholar, California State Polytechnic University, Pomona CA

March 2016

Computational Skills

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

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

Work Experience

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

September 2016

Physics Learning Assistant (Tutor)
— Department of Physics & Astronomy, California State Polytechnic University, Pomona CA

April 2015 — June 2015

Floor Supervisor, McDonald's Restaurant
— 2303 East Florence Ave, Huntington Park, CA 90255

February 2014 — September 2016

Crew Member, McDonald's Restaurant
— 2303 East Florence Ave, Huntington Park, CA 90255
— 14317 Valley View Ave, Santa Fe Springs, CA 90670

February 2013 — February 2014
August 2012 — February 2013