

SHISHIR DHOLAKIA

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EDUCATION

University of California Berkeley

BA. ASTROPHYSICS

Research Focus: Exoplanet Detection and Characterization

Berkeley, CA | Aug. 2022

University of Southern Queensland

PHD - IN PROGRESS (EXP. AUG 2025)

Research Focus: Exoplanet Detection and Characterization

Toowoomba, Australia | Oct 2022 - Present

RESEARCH PUBLICATIONS

Gliese 12 b, A Temperate Earth-sized Planet at 12 Parsecs Discovered with TESS and CHEOPS [↗](#)

CO-LEAD AUTHOR | MAY 2024

Monthly Notices of the Royal Astronomical Society, Volume 531, Issue 1

A Catalog of Binary Stars from Phase Modulation in the First Four Years of TESS Mission Photometry [↗](#)

LEAD AUTHOR | OCTOBER 2024

Monthly Notices of the Royal Astronomical Society

A General, Differentiable Transit Model for Ellipsoidal Occulters: Derivation, Application, and Forecast of Planetary Oblateness and Obliquity Constraints with JWST [↗](#)

SECOND AUTHOR | OCT 2024

Submitted to The Astrophysical Journal

Constraining Orbital Periods from Nonconsecutive Observations: Period Estimates for Long-Period Planets in Six Systems Observed by K2 During Multiple Campaigns [↗](#)

CO-LEAD AUTHOR | MARCH 2020

The Astronomical Journal, Volume 159, Issue 3

A Substellar Companion to a Hot Star in K2's Campaign 0 Field [↗](#)

CO-LEAD AUTHOR | OCTOBER 2019

Publications of the Astronomical Society of the Pacific, Volume 131, Number 1005

Gaussian Processes and Nested Sampling Applied to Kepler Small Long-period Exoplanet Candidates [↗](#)

CONTRIBUTING AUTHOR | FEB 2024

The Astronomical Journal, Volume 167, Number 2

Efficient and precise transit light curves for rapidly-rotating, oblate stars [↗](#)

CONTRIBUTING AUTHOR | FEB 2022

The Astrophysical Journal, Volume 925, Number 2

RESEARCH TALKS AND POSTERS

Contributed Talk, TESS SciCon 3 [↗](#)

AUGUST 2024

Topic: Catalog of Stellar Companions from Pulsation Timing in first four years of TESS

Contributed Talk, Australian Exoplanets and Stars Workshop [↗](#)

NOVEMBER 2024

Topic: Catalog of Stellar Companions from Pulsation Timing in first four years of TESS

Invited Talk, NASA Ames Research Center [↗](#)

JULY 2015

Topic: A Search for Exoplanets in the Open Cluster Messier 35 and Kaposov 62 Using a Novel Large-Scale Photometric Algorithm for the K2 Mission

Invited Talk , Lick Observatory VAN Talks [↗](#)

OCTOBER 2015

Topic: A Search for Exoplanets in the Open Cluster Messier 35 and Kaposov 62 Using a Novel Large-Scale Photometric Algorithm for the K2 Mission

Berkeley CIPS Seminar Talk [↗](#)

FEB 2018

Topic: A Substellar Companion to a Hot Star in K2's CO M35 Field.

NASA Ames Bay Area Exoplanet Meeting [↗](#)

SEPTEMBER 2019

Topic: Period Constraints for Long Period Planets in Overlapping Fields with K2

Berkeley SPS Undergraduate Seminar Talk [↗](#)

FEBRUARY 2019

Topic: Long Period Planets and Planetary Formation

Extreme Solar Systems Poster [↗](#)

MARCH 2024

Poster Title: Gliese 12 b: A Earth-sized Temperate Planet Discovered with TESS and CHEOPS

Cool Stars Conference [↗](#)

JULY 2024

Poster Title: Gliese 12 b: A Earth-sized Temperate Planet Discovered with TESS and CHEOPS

Kepler/K2 Science Conference Poster [↗](#)

SEPTEMBER 2019

Poster Title: Mind the Gap 2: Period Constraints for Long-Period Planets in Overlapping Fields

American Astronomical Society Meeting Poster [↗](#)

JAN 2017

Poster Title: A Search and Exploration of Multi-Exoplanet Systems Via Transit Timing Variation (TTV) Algorithms for the K2 Mission

AWARDS

UniSQ RTP Stipend Scholarship and International Fees Research Scholarship: \$123,780 AUD [↗](#)

2022

David Malin Awards, Animated Sequences Highly Commended [↗](#)

2023

First Place (Physics) Intel International Science and Engineering Fair [↗](#)

2015

California State Science Fair Project of the Year [↗](#)

2015

Pricilla and Bart Bok Award 1st place, Intel International Science and Engineering Fair [↗](#)

2015 AND 2016

Young Astronomy Photographer of the Year, Royal Observatory Greenwich [↗](#)

2014

PROPOSALS AWARDED

Co-I: HST Cycle 31 (2023 Mid-cycle) [↗](#)

PI- SHREYAS VISSAPRAGADA, 10 ORBITS

Title: The Exosphere of an Venus-Like Exoplanet

Co-I: CHEOPS (2022) [↗](#)

PI: ALEXANDER VENNER, FIVE TRANSITS

Title: Characterising the nearest known temperate Earth-sized exoplanet with CHEOPS

Co-I: Gran Telescopio Canarias (2019B) [↗](#)

PI: ENRIC PALLE, 2 NIGHTS

Program: Doppler tomography of 2MASS J06101557+2436535 b

Co-I: Gemini/GRACES (2018B) [↗](#)

PI: MARSHALL JOHNSON, 10 HOURS

Program: Doppler tomography of 2MASS J06101557+2436535 b

OUTREACH

Cofounder, Beginner's Guide to the Universe Decal [↗](#)

2018- 2021

- Co-founded, facilitated, and instructed a semester class as part of the Democratic Education at CAL Program
- Taught physics and astronomy aimed at students outside the physics/astronomy major
- Devised a new curriculum focused on explaining modern/current physics and astronomy topics to target audience with no mathematical prerequisites
- Taught over 200 students over 4 semesters

SPLASH Course "The Wonderful World of Exoplanets" [↗](#)

2018- 2021

- Taught single-day classes to Berkeley high school students
- Devised comprehensive curriculum covering exoplanet astronomy
- Designed to teach methods of science and scientific process to high school students through the exoplanet field

Outreach Talks and Panels [↗](#)

2014- PRESENT

Given numerous invited public outreach talks including:

1. AAVSO Talk - "Mapping Wide Binaries using Pulsation Timing Variations"
2. Australian Astronomy and Space Festival 2024: "The Discovery of a New Planet" and Q&A Panel
3. UC Berkeley Astronomy Night - "Comets: A Tail of Citizen Science and Research Astronomy"
4. San Jose Astronomical Association: "Citizen Science and Photometry on Exoplanets"
5. SETI Live - "Gliese 12 b: A Promising Earth-to-Venus-Sized Exoplanet"

Berkeley Astronomy Night [↗](#)

2018- 2022

- Explained physics and astronomy concepts to public in monthly astronomy nights
- Operated portable telescopes and 17" observatory for public viewings

San Jose Astronomy Association Starry Nights [↗](#)

2014- 2022

- Led Starry Nights outreach program for SJAA
- Operated portable telescopes to show public objects in the night sky and physics/astronomy concepts