

Research Interests	Identifying and following up astrophysical objects of interest in the TESS two-minute pixel data and 30-minute full-frame image data.
Citizenship	USA
Education	Royal Holloway University of London Egham, Surrey, UK Candidate for Master of Philosophy in Physics by Research Oct. 2014-Feb. 2016 <ul style="list-style-type: none">• Advisor: Prof. Jocelyn Monroe Massachusetts Institute of Technology Cambridge, MA Bachelor of Science, Physics June 2014 <ul style="list-style-type: none">• Advisors: Dr. Peter Dourmashkin and Prof. Joseph Formaggio
Research Experience	MIT Kavli Institute for Astrophysics , Cambridge, MA <i>Research associate</i> February 16, 2016 - present <ul style="list-style-type: none">• TESS Objects of Interest Deputy Manager for the NASA TESS (Transiting Exoplanet Satellite Survey) mission, PI Dr. George Ricker• Tested and developed procedures for operator role in the TESS Payload Operations Center• Generated social media content for Twitter account with over 15k followers, coordinated press inquiries, participated in live interviews, and other duties as MIT-TESS communications point-of-contact between MIT, NASA and other stakeholders• Designed workflow, software tools, and staffing plan for vetting team to create TESS Objects of Interest list from simulated data• Designed and operated extended camera testing for TESS flight spare camera.• Measured focus shift and thermal and optical performance of four TESS flight cameras MIT Laboratory for Nuclear Science , Cambridge, MA <i>Graduate research assistant</i> October 5, 2014 - February 15, 2016 <ul style="list-style-type: none">• Research student for Prof. Jocelyn Monroe on 1 m³ prototype of DMTPC (Dark Matter Time Projection Chamber) experiment at MIT• Designed and fabricated a 48" diameter triple-layer mesh charge amplification plane for installation in DMTPC vacuum vessel• Operated 1 m³ detector in R&D mode to acquire CF₄ gas gain data with Fe-55 and Am-241 sources and to measure voltage breakdown threshold in amplification region• Integrated waveform digitizer output of charge amplification into existing data acquisition software for readout of CCD images of amplification plane SNOLAB , Sudbury, Ontario, Canada <i>UROP student</i> January 6, 2014 - January 31, 2014 <ul style="list-style-type: none">• Research student for Dr. Kim Palladino on MiniCLEAN experiment

- Organized all low-background radioisotope assay data for materials in MiniCLEAN inner vessel and prepared samples of remaining materials for future assays in SNOLAB Ge detector.
- Assisted with “first light” operation and data acquisition of MiniCLEAN detector, including installing Ar gas manifold and creating descriptive schematics, debugging noise in DAQ electronics, and inspecting initial PMT events in event viewer
- Created safety and emergency shutdown documentation for MiniCLEAN inner vessel, Ar gas manifold system, and DAQ.

SNOLAB, Sudbury, Ontario, Canada

UROF student

June 10, 2013 - July 16, 2013

- Research student for Dr. Kim Palladino on MiniCLEAN experiment
- Assisted with leak-checking and cleaning MiniCLEAN inner vessel for installation of light guides
- Inventoried light guide parts and cleaned photomultiplier tubes in preparation for light guide assembly and installation
- Assisted with installation of data acquisition hardware and controls

Lowell Observatory, Flagstaff, AZ

Student researcher

January 6 - 26, 2013

- Student researcher for Dr. Amanda Bosh in MIT course 12.411 Astronomy Field Camp
- Reduced spectrograph data of asteroid 24 Themis to extract variations in asteroid spectrum over rotational period
- Operated the 72” Perkins telescope to acquire CCD images of nebulae, galaxies, and star clusters

Massachusetts Institute of Technology, Cambridge, MA

UROF student

September 2012-May 2013

- Research student for Prof. Joseph Formaggio and Dr. Kim Palladino in Neutrino and Dark Matter Group at MIT Laboratory for Nuclear Science
- Oversaw machinist fabrication of neutron source enclosure
- Assisted with testing of neutron calibration system with source installed in enclosure

Massachusetts Institute of Technology, Cambridge, MA

UROF student

June 2012 - August 2012

- Summer research student for Prof. Joseph Formaggio and Dr. Kim Palladino in Neutrino and Dark Matter Group at MIT Laboratory for Nuclear Science
- Designed and drafted CAD drawings for an enclosure for a neutron calibration source to be used in the MiniCLEAN direct dark matter detector

Massachusetts Institute of Technology, Cambridge, MA

UROF student

October 2011-May 2012

- Research student for Prof. Enectali Figueroa-Feliciano at MIT Kavli Institute
- Prepared dilution refrigerator and internal electronics for testing CDMS phonon detectors to be used in Ricochet, a neutrino detection experiment

Computer Skills

Languages: Python, bash, C++, Java, Django, HTML, CSS

Software: Mathematica, MATLAB, AutoCAD, Autodesk Inventor, Photoshop

OS: Linux, Windows, Mac

Awards	American Physical Society Minority Scholarship Recipient, 2012-2013 and 2011-2012
Teaching Experience	<p>Massachusetts Institute of Technology, Cambridge, MA <i>Teacher Assistant</i> February 2013-May 2013</p> <ul style="list-style-type: none"> • Hands-On Astronomy An introduction to the background and techniques of contemporary observational astronomy taught by Dr. Amanda Bosh
Outreach	<p>Cambridge Science Festival, Cambridge, MA April 2018</p> <ul style="list-style-type: none"> • Coordinated TESS outreach at MIT Kavli Institute booth for the Cambridge Science Festival Science Carnival <p>observe@MIT, Cambridge, MA August 2017</p> <ul style="list-style-type: none"> • Astronomy ambassador as part of MIT observing event for the August 21 solar eclipse • Demonstrated how to use eclipse glasses, camera obscura, and solar telescopes to observe the eclipse <p>Gique, Cambridge, MA April 2016 - present</p> <ul style="list-style-type: none"> • Engaged children and parents in STEAM (science, technology, engineering, art, math) through typography at several science community outreach events • Danced STEM concepts as an assistant instructor for the Science Can Dance! program • Guided students through HTML tutorial in a hands-on STEAM Workshop <p>MIT Undergraduate Women in Physics, Cambridge, MA</p> <ul style="list-style-type: none"> • Organized lab tours and guest speakers for PhysEx 2014, a day-long outreach event for high school girls interested in studying physics in university • Participated as a panelist in an undergraduate experience Q&A session at PhysEx 2013 <p>MIT Edgerton Outreach Center, Cambridge, MA</p> <ul style="list-style-type: none"> • Assistant Teacher, September 2010-June 2014 • Taught hands-on lessons in various STEM topics to students grades 4-8
Languages	English: first language, Spanish: can read, write, and speak fluently