RUOYAN WANG

Email: rw318@leicester.ac.uk ◇ Web: https://rywjhzd.github.io ◇ Linkedin: ruoyan-wang-0a55b9191
Office F71, Radio and Space Plasma Physics Group, School of Physics & Astronomy
University of Leicester, University Rd, Leicester, LE1 7RH, UK

EDUCATION

PhD Physics - University of Leicester 2020 - 2024
Doctoral thesis: Jupiter's Auroral Ionosphere and Thermosphere
Advisor(s): Thomas Stallard and Darren Wright

MSc Astronomy - Leiden University 2018 - 2020
Master thesis: Cataloging and Visualizing Cradles of Planet Formation
Advisor: Matthew Kenworthy

First thesis: Detection of Transiting Exoplanets on the Bright End with MASCARA/TESS
Advisor: Ignas Snellen

BSc Physics (Astrophysics) - University of California, Santa Cruz 2013 - 2017
Senior thesis: Atmospheric Models of Brown Dwarfs
Advisor: Jonathan Fortney

ACADEMIC EXPERIENCE

Graduate Student Researcher - Leiden University 2018 - 2020

Cataloging and visualizing circumstellar disks
•Built an online web database to assemble a complete catalog of all observational and published results of scattered light imaging, with an interface for easy access and basic statistical analysis.
•Designed a 3D reconstruction of circumstellar disks from 2D data, which brings insight in the surface brightness and hence optical properties of dust grains.

Detecting transiting exoplanets near bright stars with MASCARA and TESS
•Data-mined TESS archive for candidates that MASCARA could capture, and analyzed the corresponding light curves for long-term variability and long-period planets.
•Modified data reduction method to eliminate the effects of local sidereal time and lunar saturation.
•Performed signal recovery tests to characterize data calibration and performance of MASCARA.

Undergraduate Student Researcher - University of California, Santa Cruz 2016 - 2018

Modeling atmospheres of brown dwarfs
•Ran models of brown dwarf atmospheres spanning a wide range of atmospheric metallicity, C/O ratios, and cloud properties, encompassing atmospheres of effective temperature and gravity.
•Analyzed expected temperature-pressure profiles and emergent spectra from an atmosphere in radiative-convective equilibrium.

MSI Tutor for Introductory Physics III Sep 2016 - Dec 2016
University of California, Santa Cruz

•Held sessions for students to work with their peers and practice material from the course.
•Reviewed assignment problems and helped students to tackle them with effective learning strategies.

Astronomical Observer May 2017
Lick Observatory

•Observed with the Nickel 1m telescope to measure Pluto's proper motion and parallax, along with its angular separation to Charon, to calculate its various physical properties (distance, mass, radius, density), with supplemental data acquired from Hubble and New Horizons.
•Observed with the Shane 3m Kast double spectrograph to measure the rotation curve of UGC-08787 to determine if dark matter exists in the galaxy.

PRESENTATIONS

Annual Physical and Biological Science Summer Research Symposium Aug 2016 & 2017
University of California, Santa Cruz

231th Meeting of the American Astronomical Society Jan 2018
Washington, D.C., USA

INTERNSHIP/INDUSTRIAL TRAINING

China National Petroleum Corporation (CNPC) Jun 2014 - Aug 2014
Xining, China

•Learned about various equipment related to the automation process of the oil refinery.
•Involved in a geophysical survey for petroleum and natural gas exploitation and extraction.
•Processed and analyzed data acquired from artificial seismic waves for oil prospecting.

OUTREACH SERVICE

Gapper International Volunteering Aug 2015
Galle, Sri Lanka

•Learned about the ecosystem of sea turtles and the balance between wildlife and human activities.
•Helped design a passive sonar to listen to and record sea turtles during mating seasons, and also to observe their reactions to different melodies.

SCHOLARSHIP/HONOR/AWARD

Leiden University Excellence Scholarship (LExS) - Leiden University 2018
Granted a tuition waiver till statutory tuition fee for outstanding academic merit as a non-EU/EEA international student.

Undergraduate Dean's Honors - University of California, Santa Cruz 2013, 2015

Regents Scholarship - University of California, Santa Cruz 2013
The Regents Scholarship carries the highest honor awarded by the University of California, Santa Cruz to entering undergraduates. Awarded in recognition of outstanding academic achievements.

TECHNICAL SKILLS

Programming Languages
Python, JavaScript

Tools & Technologies
LaTex, Linux, Microsoft Office, Git, Django, Three.js, Bootstrap, Plotly, Markdown, HTML