

Jon M. Rees

Curriculum Vitae

UCO/Lick Observatory
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Professional Experience

- May 2020–Present **Support Astronomer**, *Lick Observatory*.
- May 2019–May 2020 **Astronomy Lab & Observatory Manager**, *New Mexico State University*.
- 2018–May 2019 **Postdoctoral Researcher**, *University of California, San Diego*.
- 2016–2018 **Postdoctoral Researcher**, *University of Arizona*.

Education

- 2012–2016 **Ph.D.**, Astrophysics,, University of Exeter.
Thesis "Long-lived discs in T associations: Pre-main-sequence ages for low-mass stars".
Advisor Prof. Tim Naylor.
- 2008–2012 **MPhys**, Astrophysics,, Cardiff University,, 1st Class Hons..
Dissertation "Dusty Galaxies in the Herschel ATLAS".
Advisor Prof. Haley Gomez.
- 2010 **CUROP summer research student**, Cardiff University.
Advisor Prof. D. Ward-Thompson/Dr E. Gomez.

Technical Skills

- Astronomical Observing Used a number of instruments at different observatories, including wide-field imagers, spectrographs, and adaptive optics instruments, both as telescope operator and observer including lone working. Written and edited observing scripts. Experience in troubleshooting issues that appear during observing nights.
- Telescope Characterisation Constructed models to describe the observing system throughputs (telescope + instrument + filters) for several telescopes, essential for use in constructing accurate isochrones in the observational plane. Used DECals data to validate CTIO 4m throughputs.

Data Reduction Reduced a large amount of wide-field optical photometric data. Skilled in the use of optimal photometry. Written complete data reduction pipeline for photometric datasets for CTIO 4m telescope. Experience with spectroscopic reduction for both single slit and multi-object spectrographs. Multi-order echelle reduction for near-IR spectra. Spectral typing of near-IR spectra.

Statistical analysis Developed a Bayesian method of extinction fitting. Experience using τ^2 fitting of stellar parameters.

Languages Fortran, C-shell scripting, Python, HTML

Programs CLUSTER (photometric reduction), IRAF, Spextool (multi-order spectroscopic reduction), Starlink, TOPCAT/STILTS, ATLAS/SYNTH (stellar atmospheric models), MESA (stellar evolutionary models), LaTeX, XGRID (distributed computing)

Operating Systems Mac OSX, UNIX/Linux, Microsoft Windows

Computing Provided computing support to department. Maintained ~ 30 desktop machines and several servers (CentOS). Responsible for updates and troubleshooting, including diagnosing and repairing hardware issues.

Observing Experience

Multiple nights , *3-m Shane, 2.5-m APF, 1-m Nickel, 0.6-m CAT*: Kast, Hamilton, ShaneAO, Levy, CCD2.

2 nights , *10-m Keck*: NIRSPEC.

2 nights , *5-m Palomar Hale*: Triplespec.

4 nights , *3.5-m APO* : Triplespec, DIS, ARCTIC, ARCES .

1 nights , *3-m IRTF*: iSHELL.

8 nights , *1.8-m VATT*: VATTSpec.

3 nights , *4-m Blanco Telescope*: DECam.

5 nights , *4.2-m William Herschel Telescope*: AF2/WYFFOS.

16 nights , *2.5-m Isaac Newton Telescope*: Wide Field Camera.

Teaching Experience

2020 – Support Astronomer.

Present Responsible for training new observers to use the Lick Observatory telescopes. Participated in annual graduate student workshops, teaching UC graduate students the principles of CCD operation, observing planning, and data reduction.

2019 – 2020 Lab/Observatory Manager.
Responsible for training graduate students to run undergraduate astronomy labs and observing nights. Ensured students had necessary knowledge equipment to carry out the labs. Trained students to use the on-campus observatory for both lab-related observing and for public evening events. Provided students/staff training on the use of remote/robotic observatory.

- 2012 – 2016 Observing Supervisor.
Taught students observing techniques. Supervised groups of undergraduate students during observing nights. Assisted in obtaining photometric/spectroscopic data. Assisted in observatory maintenance/troubleshooting. Took part in commissioning of robotic observatory.
- 2012 – 2016 Demonstrator for second-year undergraduate astronomy lab.
Duties included: Supervising undergraduate students in the astronomy labs.
Teaching students to use IRAF for photometric/spectroscopic data reduction.
Marking student work and providing feedback.

Outreach

- 2020 – Present Provided observatory tours for members of the public. Public talks at a variety of organisations. Ran public observing nights with historic Lick Observatory telescopes.
- 2019 – 2020 Ran observing nights with community college classes using NMSU's Tortugas Observatory.
- 2017 Point of contact for undergraduate journalism students to interact with the research group.
- 2015 Assisted in set-up and engaged with members of the public at the opening reception for the new university observatory.
- 2015 Observing support for high school pre-university physics course.
- 2015 Part of organising and set-up of Exeter University solar eclipse event.
- 2014-2016 Assisted in running Exeter Astro stall at Big Bang Fair South West.
- 2013 Supervised groups of A-Level students in experiments as part of National Science Week.
- 2010-2012 Provided observatory tours for members of the public, including university alumni and donors.

References

- **Prof. Jon Holtzman**
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