

Jon M. Rees

Curriculum Vitae

Department of Astronomy
New Mexico State University
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Professional Experience

- May 2019–Present **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 and spectrographs, 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.
Observing Proposals	Co-I on three observing proposals, on which I wrote a large amount of the technical case and contributed heavily to the science case.
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

2 nights	<i>10-m Keck</i> : NIRSPEC
2 nights	<i>5-m Palomar Hale</i> : Triplespec
7 nights	<i>3.0-m Shane</i> : KAST
1 nights	<i>3-m IRTF</i> : iSHELL
8 nights	<i>1.8-m VATT</i> : VATTSpec
3 nights	<i>4-m Blanco Telescope</i> : DECam
5 nights	<i>4.2-m William Herschel Telescope</i> : AF2/WYFFOS
16 nights	<i>2.5-m Isaac Newton Telescope</i> : Wide Field Camera

Teaching Experience

2019 – Present	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

- 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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- **Prof. Tim Naylor**
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