

# Katy L. Proctor

PHD STUDENT · INTERNATIONAL CENTRE FOR RADIO ASTRONOMY RESEARCH

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## Education

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### PhD (Astrophysics)

UNIVERSITY OF WESTERN AUSTRALIA

- Thesis topic: *The intra-halo light as a probe of galaxy assembly*
- Primary Advisor: Aaron Ludlow, Co-advisors: Claudia Lagos, Aaron Robotham

Perth, Australia  
March 2021 - Dec 2024

### Master of Physics (Astronomy & Astrophysics)

UNIVERSITY OF WESTERN AUSTRALIA

- Thesis topic: *The physical parameter space of galaxy formation*
- Advisors: Claudia Lagos and Aaron Robotham

Perth, Australia  
Feb 2019 - Oct 2020

### Bachelor of Science

UNIVERSITY OF WESTERN AUSTRALIA

- Double major in Physics and Mathematics (Pure & Applied)

Perth, Australia  
Feb 2013 - June 2016

## Professional Experience

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### Consultant Statistician

DATA ANALYSIS AUSTRALIA

- Used machine learning techniques to improve marketing strategies for clients in the retail and energy sectors.
- Responsible for communicating key results to clients through technical reports, dashboards, and presentations.

Perth, Australia  
May 2018 - Feb 2019

### Graduate Statistician

DATA ANALYSIS AUSTRALIA

- Undertook statistical analysis for clients in the energy, transport, and legal sectors.

Perth, Australia  
Sep 2016 - May 2018

## Awards & Grants

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*\*undertaken online due to COVID*

2024	<b>Student Travel Assistance Scheme</b> , Astronomical Society of Australia (ASA)	\$ 1,500
2024	<b>Best Student Talk - 2nd Place</b> , ASA Annual Science Meeting	\$ 150
2024	<b>Graduate Research School Travel Award</b> , UWA	\$ 1,850
2024	<b>Travel Grant</b> , UWA Data Institute	\$ 2,000
2021	<b>Best Student Talk</b> , ICRAR Student Day	
2021-2024	<b>Research Training Program Stipend</b> , Australian Government	
2021	<b>Summer Studentship*</b> , European Southern Observatory	
2015	<b>Summer Researcher</b> , University of Science and Technology China <b>Vacation Scholar</b> , UWA Physics Department	

## Technical Skills

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**Coding Experience:** Python, R, SQL, Mathematica, Bash, Slurm

## Presentations

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\* *online presentation*

### INVITED SEMINARS

2024. *The intra-halo light as a probe of galaxy assembly*. Australian National University, Australia.

2022. *Defining the intra-halo light through unsupervised machine learning*. University of Edinburgh, UK.

### CONTRIBUTED PRESENTATIONS

2024. *Inferring halo dynamical state from the intra-cluster light\**. Bottom of the Iceberg Workshop, Sydney.

2024. *Inferring halo dynamical state from the intra-cluster light\**. 3D View of Galaxies Online Meeting.

2024. *The intra-halo light as a probe of galaxy assembly*. Leiden University, The Netherlands.

2024. *The intra-cluster light as a probe of galaxy assembly*. EAS Annual Meeting, Padova.

2024. *Unveiling the diverse formation histories of disc galaxies with present-day observables*. EAS Annual Meeting, Padova.

2024. *The assembly histories of galaxies and their observable tracers\**. LSST Low Surface Brightness Working Group.

2023. *The intra-halo light as a probe of galaxy assembly*. Astronomical Society of Australia Annual Science Meeting, Sydney.

2023. *The intra-halo light as a probe of galaxy assembly*. ASTRO-3D Annual Science Meeting, Fremantle.

2022. *Defining the intra-halo light through unsupervised machine learning*. Leiden University, The Netherlands.

2022. *The intra-halo light as a probe of galaxy assembly*. Ken Freeman @ 80 Conference, Perth.

2021. *Defining the intra-halo light through unsupervised machine learning\**. Australian National University.

2021. *Characterising the host galaxy interstellar medium of the first quasar with ALMA\**. European Southern Observatory.

2020. *Optimising semi-analytic models of galaxy formation*. Australia-ESO Joint Conference, Perth.

## Teaching & Outreach

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### TEACHING

2020-2022 **Tutor**, Indigenous Tutorial Assistance Scheme (ITAS)

2019-2021 **Teaching Assistant**, MATH1011: Multivariable Calculus, MATH1012: Mathematical Theory

2019-2020 **Lab Demonstrator**, PHYS1001: Physics for Engineers, PHYS1002: Modern Physics

### SERVICE AND OUTREACH

2024 **SWAN Workshop**, Local Organising Committee

2024- **Astronomy and Astrophysics**, Referee

2023- **Monthly Notices of the Royal Astronomical Society**, Referee

2023 **ASTRO-3D Node Meeting**, Meeting Organiser

2023 **ASA Annual Science Meeting**, Session Chair

2022 **Ken Freeman @ 80 Conference**, Session Chair

2022-2023 **ICRAR/UWA**, Student Representative

2021-2023 **astrobites**, Writer and Editor

2021-2022 **ICRAR Computational Theory Group**, Meeting Organiser

2021 **ASTRO-3D Science Meeting**, Scientific Organising Committee

2018 **WA Young Statisticians' Workshop**, Local Organising Committee

Sydney  
Perth