

# LUCY WRIGHT

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PhD Research Student in Geophysics at the University of Bristol. Remote sensing the atmosphere of Saturn's moon Titan using infrared spectra acquired by NASA/ESA's [Cassini-Huygens](#) mission.

## EDUCATION

### PhD Geophysics

Sept 2021 - present

*University of Bristol | School of Earth Sciences*

- Supervisors: Dr Nick Teanby, Dr Will Seviour, Professor Dann Mitchell.
- Funded by the Science and Technology Facilities Council (STFC).
- Using the [NEMESIS](#) radiative transfer tool to perform atmospheric retrievals of Cassini/CIRS infra-red spectra. Mapping trace species in Titan's stratosphere to investigate dynamics and seasonal evolution. I write Python and BASH for data analysis.

### PGCE Secondary Science (Physics)

Sept 2020 - Jul 2021

*University of Cambridge | Faculty of Education*

- Teaching science to students aged 11 - 18, reviewing science education literature and conducting research.

### MPhys Physics (Second Class, Division One)

Sept 2016 - Jul 2020

*University of Oxford | Department of Physics*

- Masters research project dissertation title: *Exploring the Time Delay Between the Pressure and Seismic Signals Generated by Dust Devils on Mars* (First Class in Masters).
- Masters-level modules: The Physics of Atmospheres and Oceans; Particle Physics.
- Undergraduate-level modules: Classical and Quantum Mechanics, Fluid Dynamics, Thermodynamics, Electromagnetism, Optics, Electronics, Special and General Relativity, Mathematics, and Statistics.

## PEER REVIEWED PUBLICATIONS

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1. **Wright, L.**, Teanby, N. A, Irwin, P. G. J., Nixon, C. A. "Forward modelling low-spectral-resolution Cassini/CIRS observations of Titan", *Exp Astron*, **57**, 15 (2024)

## CONTRIBUTED CONFERENCE POSTERS AND TALKS

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1. **Oct 2023** DPS-EPSC "Seasonal Evolution of Titan's Stratospheric Composition as a Probe of Atmospheric Dynamics at the Equator", **Wright, L.**, et al. ([abstract](#)) (poster)
  2. **Jul 2023** Bristol Earth Sciences Enhancing Research Culture "What's going on at Titan's equator?", **Wright, L.**, et al. (talk)
  3. **Jun 2023** Titan Through Time (TTT) VI "A HCN Gradient at Titan's Stratospheric Equator", **Wright, L.**, et al. (poster)

4. **Mar 2023** PLANET-ESLAB “Evolution of Titan’s Stratospheric HCN in High Spatial Resolution”, **Wright, L.**, et al. ([poster](#))
5. **Sept 2022** EPSC “Stratospheric HCN and Evolution of a Mixing Barrier in Titan’s Equatorial Region from Low-Resolution Cassini/CIRS Spectra”, **Wright, L.**, et al. ([poster](#))
6. **Jun 2022** BPSC “High-Resolution Observations of Titan’s Equatorial Dynamics using Cassini CIRS Spectra”, **Wright, L.**, et al.
7. **Mar 2020** LPSC “Exploring the Miss-Distance as a Possible Cause of Non-Simultaneity in Pressure and Seismic Signals of Martian Dust Devils”, **Wright, L.**, et al. ([abstract](#)) ([poster](#))

## PROFESSIONAL AWARDS

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- **2023** Winner of the Outstanding Poster Contest (Outer Solar System and Comets), DPS-EPSC 2023 “*Seasonal Evolution of Titan’s Stratospheric Composition as a Probe of Atmospheric Dynamics at the Equator*”
- **2023** Best Talk, Bristol Earth Sciences Enhancing Research Culture “*What’s going on at Titan’s equator?*”
- **2022** Winner of the Outstanding Poster Contest (Outer Planet Systems), EPSC “*Stratospheric HCN and Evolution of a Mixing Barrier in Titan’s Equatorial Region from Low-Resolution Cassini/CIRS Spectra*”

## PREVIOUS ACADEMIC PROJECTS

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**Dust Devils on Mars** Oct 2019 - May 2020  
*University of Oxford | Atmospheric, Oceanic and Planetary Physics (AOPP)*

- Investigated martian atmospheric vortices or ‘dust devils’ by analysing (using Python) atmospheric pressure and seismic signals detected by NASA’s [InSight](#) lander.
- Appointed as a science team member of NASA’s InSight mission and presented research to the InSight Atmospheres Working Group.

[cancelled due to COVID-19] **InSight Lander Noise Analysis** Jun - Sept 2020  
*University of Oxford | Atmospheric, Oceanic and Planetary Physics (AOPP)*

- Was offered a research job to model the seismic noise due to wind on InSight’s solar panels.

**Telescope Network Connectivity and Microquasar Spectral Analysis** Jul - Aug 2020  
*University of Oxford | Astrophysics*

- Worked for Professor Katherine Blundell OBE, who has built observatories in schools in India, Chile, South Africa and Australia as part of her [Global Jet Watch](#) Project.
- Took time understanding the network connectivity (Python) to communicate with observatories remotely and investigated dynamics of microquasar SS433 from GJW-acquired spectra.

**Videography and Website Design for Global Jet Watch** Jun - Sept 2018  
*University of Oxford | Astrophysics*

- Designed prototypes of an education website and created the front-end (using html, css).

## TEACHING AND OUTREACH

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**Teaching Support Assistant**

Oct 2021 - present

*University of Bristol | School of Earth Sciences*

Undergraduate courses in: Atmospheric Processes; Global Seismology; Tectonics, Mapping, and Remote Sensing; Numerical Methods and Programming; Computing (**MATLAB**); Physics and Chemistry.

**Fieldwork Teaching Support Assistant**

Mar 2022; Mar 2023

*University of Bristol | School of Earth Sciences*

Environmental Geoscience Fieldwork, 2nd year undergraduate 4-day fieldwork in Wales.

**Designing Tools for Astrophysics Education for Global Jet Watch**

Jun - Sept 2019

*University of Oxford | Astrophysics* Designed infographics to educate the children in schools in India, Chile, South Africa and Australia, particularly girls who might not otherwise be given the opportunity to learn Physics.

**OTHER ROLES**

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Organiser of the School of Earth Sciences PhD student seminar series (2023, University of Bristol).

UK Planetary Forum (UKPF) Member (2023 - present).

Institute of Physics (IOP) Scholar (2020 - 2021).

Royal Astronomical Society (RAS) Fellow (2020 - present).

Women's 1st Team Captain (2017 - 2018, Oxford University Water Polo Club)

Elected member of Vincent's Blues Sports Club (2019 - present).