

Dr Hannah Ruth Wakeford

School of Physics, University of Bristol, HH Wills Physics Laboratory,
Tyndall Avenue, Bristol BS8 1TL, UK

✉ stellarplanet@gmail.com • [stellarplanet.org](https://www.stellarplanet.org) • [@stellarplanet](https://twitter.com/stellarplanet)

Research Interests

Exoplanet observations, interpretation, and modelling. Comparative characterisation of exoplanets and their atmospheres from the UV to the IR. Developing innovative observational methods and data analysis techniques. Observation and modelling of exotic exoplanet clouds. The link between planetary atmospheres and planet formation.

Professional Appointments

Lecturer in Astrophysics <i>University of Bristol, School of Physics</i>	Bristol, UK <i>Feb 2020 – Present</i>
Giacconi Fellow <i>Space Telescope Science Institute, Science Mission Office</i>	Baltimore, Maryland, USA <i>Nov 2017 – Jan 2020</i>
Senior Research Fellow <i>University of Exeter, Astrophysics Group</i>	Exeter, Devon, UK <i>July 2017 – Nov 2017</i>
NASA Postdoctoral Research Fellow <i>NASA Goddard Space Flight Center, Planetary Physics Lab</i>	Greenbelt, Maryland, USA <i>Aug 2015 – May 2017</i>

Education

University of Exeter <i>PhD in Physics, Supervisor David K. Sing</i> Dissertation title: “Cloudy with a chance of water: Investigating hot Jupiter exoplanet atmospheres through observation and analysis”	Physics Building, Stocker Rd, Exeter, UK <i>2011–2015</i>
University of Wales: Aberystwyth <i>Combined Bachelors and Masters of Physics</i> Physics with Planetary and Space Physics Dissertation title: “Relating geomagnetic sub-storm observations in the upper polar atmosphere to large scale solar CME events”	Llandinam Building, Aberystwyth, UK <i>2007–2011</i>
University Center in Svalbard (UNIS) <i>Masters program taken as part of 4-year MPhys</i> Radar diagnostics of space plasma and the upper Polar atmosphere	Longyearbyen, Svalbard <i>2011</i>

Honours and Awards

Academic.....

2019: National Academy of Sciences Kavli Fellow

2017: Geological Society of Washington’s Bradley Award
- Best technical paper presented to the society in 2017

2016: NASA Robert H. Goddard Honor Award
- individual recognition award for scientific achievement.

2014/15: UK Women in Astronomy Network Role Model

2014: International Women’s Day Inspirational Women, University of Exeter

2010: RAS student fellowship, University of Wales: Aberystwyth, UK

2007-2010: University of Wales Scholarship, University of Wales: Aberystwyth

Science Communication.....

2016: Winner of the NASA@Work public engagement video competition

2015: X-Media Awards Winner - Best Show for The Science Hour on XpressionFM

- 2015:** X-Media Awards **Winner - Best Innovation** for Top Female Scientists Card Game
- 2015:** **Ogdon Trust Award** to fund the Top Female Scientist Card Game
- 2014:** **National Grand Prize Winner** of the Institute of Physics “3 Minute Wonder”
- 2013:** **Regional Winner** of the Institute of Physics “3 Minute Wonder” competition
- 2013:** **Catalyst Seed Trust Fund** for marketing the XRT-C Exeter Radio Telescope project
- 2013:** **BBC Academy Expert Women**, Selected in the top 3% of all national applicants.

Observational Programs

22 Hubble Space Telescope Programs, 2 JWST programs, 3 Spitzer, 2 CFHT programs, 2 Subaru programs (2012 - present).

P.I. Programs.....

1. *Definitive measurement of WASP-17b's water abundance in preparation for JWST.* **HST** GO-14918, 10 orbits, - funding support for STScI RIA I. Luginja
2. *Measuring the absolute H₂O abundance of WASP-39b's atmosphere.* **HST** GO-14169, 5 orbits, - travel funding and FTE for theoretical modelling
3. *Collecting the Puzzle Pieces: Completing HST's UV+NIR Survey of the TRAPPIST-1 System ahead of JWST.* **Science-PI HST** GO-15304, 114 orbits, - funding supporting JHU graduate student S. Moran for travel and publications, and support for STScI RIA J. Fowler.
4. *Characterizing the atmosphere of the enlarged Neptune-mass planet HAT-P-26b.* **Co-PI HST** GO-14110, 10 orbits
5. *How small and how high? Enabling UV exoplanet cloud and exosphere science with WFC3/UVIS.* **Co-PI HST** GO-15288, 10 orbits
6. *Characterizing the K-band atmospheric transmission of hot Jupiter exoplanets.* **Acting PI CFHT**, 2014A & B, 5 nights
7. **Science-PI, Subaru Telescope** in collaboration with NAOJ, 3 nights - Observation experience Mauna Kea 1 night Subaru 2013.

Selected Co-I and collaborator programs.....

1. *The Panchromatic Comparative Exoplanetary Treasury Program.* **HST** GO-14767, 498 orbits
2. *Exploratory observations of the TRAPPIST-1 system: essential prelude to an immediate JWST follow-up.* **HST** DD GO-14873, 23 orbits
3. *Two Birds One Stone: Simultaneous Atmospheric Pre-Screening of Two Temperate Earth-Sized Exoplanets During Their Double Transit.* **HST** GO-14500, 4 orbits
4. *Transits and Eclipses of the Best of the Best: 23 Hot Jupiters for Atmospheric Characterization by Spitzer, Hubble, and JWST.* **Spitzer** C13, 554 hours
5. *A Metallicity and Cloud Survey of Exo-planetary Atmospheres Prior to JWST.* **Science Collaborator, HST** GO-14260, 111 orbits
6. *An Optical Transmission Spectral Survey of hot-Jupiter Exoplanetary Atmospheres.* **Science Collaborator, HST** GO-12473, 124 orbits

Teaching and Supervising Experience

Supervision and Mentoring.....

- 2018- 2019:** Supervision of I. Luginja, Research and Instrument Analyst, STScI. Developing codes to convert generic Hubble data analysis pipelines into Python as part of HST GO-14918
- 2018-2019:** Supervision of J. Goyal, PhD Student, University of Exeter. Led the supervision of a project to produce Generic ATMO grid ([Goyal, Wakeford et al., 2019](#)). Conducted weekly meetings and working sessions, setting writing and project goals.
- 2017-2018:** Supervision of J. Fowler, Research and Instrument Analyst, STScI. Develop a data analysis extraction routine on HST WFC3 data as part of HST GO-15304.

2017-present: Mentoring of S. Moran, graduate student, JHU. Mentoring on graduate research projects for modelling of the TRAPPIST-1 planets. Providing travel funding and publication funds through HST GO-15304.

2016-2017: Co-supervision of Kyle Sheppard, Graduate student at NASA GSFC/University of Maryland. Code development for HST data analysis pipeline.

Professional Development courses.....

2018: Project Management Essentials for the Unofficial Project Manager, STScl, MD, USA

2014: Learning and Teaching in Higher Education Level 2, University of Exeter, UK

2013: Learning and Teaching in Higher Education Level 1, University of Exeter, UK

2010-preset: BSAC Certified Scuba-diving Theory Instructor

Teaching.....

2018: **Guest Lecturer** Planets, Life, and The Universe, Johns Hopkins University, MD, USA

2017-2018: **Scientific expert** Astronomy for the Non-Astronomer, STScl, MD, USA

2013-2015: **Guest Lecturer** Communicating your Research, University of Exeter, UK

2011-2014: **Laboratory demonstrator**, Physics year 2, University of Exeter, UK

2011-2013: **Mathematics tutor**, Medical Imaging department, University of Exeter, UK

2010-2015: **Scuba-diving Instructor**, theory and practical - Aberystwyth BSAC and Exeter BSAC

Conferences and Professional Talks

Summary: 12 invited conference talks, 16 contributed conference talks, 6 conference posters, 24 invited seminars and colloquia

Invited Conference Talks and Events.....

Jan 2020: Future exploration of the ice giants - **The Exoplanet Perspective**, The Royal Society, London, UK

Oct 2019: Bash Symposium, Austin, TX, USA

Aug 2019: AAS-AGU-Kavli workshop on Accelerating the Future of Exoplanets Research, Reykjavik, Iceland

Aug 2019: **Keynote**, Exoclimates V, University of Oxford, UK

Feb 2019: National Academy of Sciences Kavli Frontiers of Science Symposium, University of California: Irvine, USA

Jan 2019: **NASA Hyperwall**, AAS 233, Seattle, USA

Dec 2018: Hubble Service Mission 1: 25-year celebration, STScl & NASA GSFC, USA

June 2018: Science Mission Directorate Update, NASA Headquarters, Washington DC, USA

Mar 2018: Exoplanets Session, European Week of Astronomy and Space Science, Liverpool, UK

Mar 2018: JWST session, European Week of Astronomy and Space Science, Liverpool, UK

Oct 2017: Brown Dwarf to Exoplanets Conference, University of Delaware, USA

July 2017: Transiting Exoplanet Observations with JWST, MD, USA

Contributed Conference Talks.....

Jan 2020: AAS 235 winter meeting, Honolulu, HI, USA

Apr 2019: UK Exoplanet Meeting, London, UK

Jan 2019: AAS 233 winter meeting, Seattle, USA

May 2018: ChExo Meeting, Washington DC, USA

Mar 2018: UK Exoplanet Meeting, Oxford, UK

Jan 2017: AAS 229 winter meeting, Grape Vine, TX, USA

Oct 2016: AAS DPS 48/EPSC 11, Pasadena, USA

Aug 2016: Exoclimates 2016 Conference, BC, Canada

June 2016: Emerging Research in Exoplanet Science II, Cornell Uni, USA

Nov 2015: Dissertation presentation, AAS DPS 47, National Harbor, MD, USA

- Sep 2015:** Comparative Climate of Terrestrial Planets 2, NASA AMES, USA
June 2015: From super-earths to brown dwarfs, IAP, Paris, France
Mar 2015: UK Exoplanet Meeting, Warwick, UK
June 2014: RAS National Astronomy Meeting, Portsmouth, UK
Apr 2013: Exeter-Oxford Exoplanet Atmospheres Workshop, Switzerland
Mar 2012: STFC Workshop: Exoplanets and their host stars, Oxford, UK
- Contributed Conference Posters.....
- Jan 2019:** Exocast: The Exoplanet Podcast, AAS Winter meeting, Seattle, USA
Dec 2015: AAS Extreme Solar Systems III conference, Hawaii, USA
Nov 2015: JWST: Transiting Exoplanets workshop, STSci, MD, USA
Feb 2014: Exoclimates III conference, Davos, Switzerland
July 2013: RAS National Astronomy Meeting, St Andrews, UK
Mar 2012: RAS National Astronomy Meeting, Manchester, UK
- Invited Seminars and Colloquium.....
- July 2020:** Mullard Space Science Laboratory, UK
Mar 2020: University of Oxford, UK - Physics seminar
Feb 2020: Imperial College London, UK
Feb 2020: University of Bristol, UK - Astrophysics seminar
Apr 2019: American Museum of Natural History, NYC, USA - Astrophysics event
Mar 2019: University of California: Santa Cruz, CA, USA - OWL seminar
Oct 2018: Cornell University, NY, USA - Planetary Lunch Seminar
July 2018: University of Amsterdam, Netherlands - Exoplanet & Disk colloquium
July 2018: University of Leicester, UK - Radio and Space Plasma Physics seminar
June 2018: STScl, MD, USA - HotSci seminar
Feb 2017: University of Arizona, AZ, USA - Origins seminar series
Nov 2016: Pennsylvania State University, PA, USA - CEHW seminar
Nov 2016: NASA GSFC, MD, USA - Solar Systems seminar series
Oct 2016: University of California: Santa Cruz, CA, USA - OWL seminar
Oct 2016: California Institute of Technology, CA, USA - Astrophysics seminar
Oct 2016: Jet Propulsion Laboratory, CA, USA - Exochem seminar
Apr 2016: University of Exeter, UK - Astrophysics seminar
Apr 2016: University of Oxford, UK - Planetary seminar
Apr 2016: University of Cambridge, UK - Astronomy seminar
Apr 2016: University of Surrey, UK - Astrophysics seminar
Mar 2016: University of Delaware, DE, USA - Astronomy seminar
Nov 2015: Harvard/Smithsonian Center for Astrophysics, MA, USA - Astrophysics seminar
Oct 2015: Carnegie DTM, Washington DC, USA - DTM seminar
May 2015: NASA GSFC, MD, USA - Astrophysics seminar

Professional Activity and Service Highlights

- Committees.....
- 2018-present:** *Webb* Science Content Working Group
2017-present: [Space Telescopes Advanced Research Group for the Atmospheres of Exoplanets \(STARGATE\)](#) **Group Lead**
2017-present: JWST DD-ERS Exoplanet Community Project, Transmission Working **Group Lead**
2017-present: [The Exoplanet MAST database \(Exo.MAST\)](#) **Lead Science Consultant**
2016-present: [The Exoplanet Characterization Toolkit \(ExoCTK\)](#) development team

2015-2017: NASA Goddard Space Flight Center Exoplanet Club organiser

2014-2015: University of Exeter, Physics and Astronomy department, Athena Swan Committee

2013-2014: Exeter Radio Telescope at Caradon (XRT-C) Public Engagement officer

Service.....

Proposal Panels:

Opticon external reviewer (2019)

Hubble Support Scientist, Cycle 26 review panel, STScI (2018)

Chair of the exoplanet panel for the NASA Earth and Space Science Fellowship program (2016)

NASA Exoplanet Research Program panel (2015)

Hiring Committees:

Giacconi and Exoplanet Prize Fellowship hiring committee (2019)

Postdoctoral researcher in exoplanets hiring panel (2019)

Conference SOC:

TESS Data Workshop, STScI (2019)

ExoMOS Instrument Science Consortium meeting, Exeter (2014)

Conference LOC:

ChExo Meeting, STScI (2018)

UK Exoplanet meeting, University of Exeter (2016)

Journals Refereed: Nature, Nature Astronomy, ApJ, AJ, MNRAS

Professional Memberships: IOP (2007-), RAS (2011-), AAS (2015-), Division of Planetary Science (2015-)

Science Communication Highlights

Exocast: The Exoplanet Podcast: Monthly podcast on the study of exoplanets, with highlights on the latest news in the field (2016-present). Home of the ExoCup competition.

The Science Hour on XpressionFM: Producer and host of a 1 hour live broadcast. 2013-2015, 32 shows, 2 live 3 hour+ broadcasts and events, 2 awards, 4 nominations.

5+ Documentaries: Highlights include: Exo-earth's with Hubble and Webb, **NHK TV Japan** (2018); Exoplanets with Hubble and Webb, **Discovery Channel** (2018); 30 Years of Hubble, **National Geographic** (2018) **BBC Horizon:** The Wildest Weather in the Universe (2016)

15+ Television Interviews, live and recorded: Highlights include: ESA TV (2018); NHK TV Japan (2018); NASA TV live shots (e.g., ABC, NBC, The Weather Channel) (2017), NASA TV expert guest (2016-2017), BBC Sky At Night (2014), SimonOxPhys YouTube (2018, ~500K views).

10+ Radio interviews: Highlights include: BBC Sky At Night Podcast (2017-2018), NPR (2016-2018), BBC Radio Devon Guest Expert (2013-2015), The NakedScientists podcast (2013)

Print Media: Highlights include: The Planetary Society Magazine, Ice Giants issue (March 2019); BBC Sky At Night Magazine Regular book reviewer (2017-), Astronomy Magazine (2017-2018).

Solar Eclipse Viewing Party: Organiser and host, University of Exeter (March 2015). 1700+ public in attendance, BBC Radio Devon live interviews, ITV news interviews.

Press Releases.....

2018:

[NASA Finds a Large Amount of Water in an Exoplanet's Atmosphere](#)

[Hubble Probes Atmospheres of Exoplanets in TRAPPIST-1 Habitable Zone](#)

2017:

[NASA Study Finds Unexpectedly Primitive Atmosphere Around 'Warm Neptune'](#)

[Hubble Detects Exoplanet with Glowing Water Atmosphere.](#)

2016:

[NASA's Hubble Telescope Makes First Atmospheric Study of Earth-Sized Exoplanets](#)

[NASA Space Telescopes Solve Missing Water Mystery in Comprehensive Survey of Exoplanets](#)

Invited Public Talks.....

May 2020: Pint of Science, Bristol, UK - **Public talk**

- Oct 2019:** Astronomy on Tap: Austin, TX, USA - **Public talk**
Apr 2019: Nerd Night: Baltimore, MD, USA - **Public talk**
Mar 2019: Astronomy on Tap: Baltimore, MD, USA - **Public talk**
Feb 2018: Iowa Science Center, Des Moines, IA, USA - **Public lecture**
Feb 2018: STScl Public Lecture Series, Baltimore, MD, USA - **Public lecture**
June 2017: Awesome Con, Washington DC, USA - **Organiser & Panel Expert** for 'The Total Solar Eclipse from NASA' and 'Alien Climates on Planets Near and Far'
May 2017: Philosophical Society of Washington, Cosmos Club DC - **Public lecture**
May 2017: Geological Society of Washington, Cosmos Club DC - **Public lecture**
April 2017: Taste of Science: DC - **Public lecture**
Mar 2017: The Franklin Institute, Philadelphia, Night Skies in the Observatory - **Public lecture**
June 2016: Awesome Con, Washington DC, USA - **Organiser & Panel Expert** for 'Exoplanets: Stranger than Fiction'
May 2016: Astronomy on Tap: DC - **Public lecture**
Jan 2016: University of Maryland Observatory, MD, USA - **Public open house.**
May 2015: Soapbox Science, Exeter city center, UK - **Public Event**
Jan 2015: Crewkerne Astronomy Society, UK - **Public lecture**
July 2014: Sherbourne Science Cafe, UK - **Public lecture**

Publications

Total of 47 publications (40 peer reviewed [6 Nature, 1 Science, 3 Letters, 1 Thesis], 3 in review, 1 in prep); 12 first author publications, 10+ Co-authored with significant contribution; 12+ independent from PhD supervisor; 10 press releases;

H-index = 22; total citations = 2026.

◇ indicates highlighted publications; ¹Student where I have acted in an advisory role.

1. [ExoTiC-ISM: A Python package for marginalised transit parameters across a grid of systematic instrument models](#), Luginja, I.¹ & **Wakeford, H.R.**, 2020, *JOSS*, in prep.
2. [Unlocking the Hidden Secrets of Hot Jupiter Atmospheres through Near-Ultraviolet Spectroscopy: A Case Study of HAT-P-41b](#)
Lewis, N.K.; **Wakeford, H.R.**; Mishra, I.; Sing, D.K.; et al., 2020, *ApJL*, in prep.
3. [Into the UV: A precise transmission spectrum of HAT-P-41b using Hubble's WFC3/UVIS G280 grism](#)
Wakeford, H.R.; Sing, D.K.; Stevenson, K.B.; Pirzkal, N., 2020, *AJ* in review.
4. [Into the UV: A precise transmission spectrum of HAT-P-41b using Hubble's WFC3/UVIS G280 grism](#)
Wakeford, H.R.; Sing, D.K.; Stevenson, K.B.; Pirzkal, N., 2020, *AJ* in review.
5. [A super-solar metallicity atmosphere for WASP-127b revealed by transmission spectroscopy from HST and Spitzer](#)
Spake, J.J.; Sing, D.K.; **Wakeford, H.R.**; Nikolov, N., 2020, in review, [arXiv:1911.08859](#)
6. [Detection of Na, K and H₂O in the hazy atmosphere of WASP-6b](#)
Carter, A.L.; Nikolov, N.; Sing, D.K.; Alam, M.K.; et al., 2020, in review, [arXiv:1911.12628](#)
7. [Transmission Spectroscopy of WASP-79b from 0.6 to 5.0 \$\mu\$ m](#)
Sotzen, K.S.; Stevenson, K.B.; Sing, D.K.; Kilpatrick, B.M.; et al., 2020, *AJ*, 159
8. [The Exo.MAST Table for JWST Exoplanet Atmosphere Observability](#)
Mullally, S.E.; Rodriguez, D.R.; Stevenson, K.B.; **Wakeford, H.R.**, 2019, *RNAAS*, 193
9. [A Hubble PanCET Study of HAT-P-11b: A Cloudy Neptune with a Low Atmospheric Metallicity](#)
Chachan, Y.; Knutson, H.A.; Gao, P.; Kataria, T.; et al., 2019, *AJ*, 158
10. [WASP-52b. The effect of starspot correction on atmospheric retrievals](#)
Bruno, G.; Lewis, N.K.; Alam, M.K.; López-Morales, M.; et al., 2019, *MNRAS*, 2791

11. [An emission spectrum for WASP-121b measured across the 0.8-1.1 micron wavelength range using the Hubble Space Telescope](#)
Mikal-Evans, T.; Sing, D.K.; Goyal, J.M.; Drummond, B.; et al., 2019, *MNRAS*, **488**
12. [The HST PanCET Program: Exospheric Mg II and Fe II in the Near-UV transmission spectrum of WASP-121b using Jitter Decorrelation](#)
Sing, D.K.; Lavvas, P.; Ballester, G.E.; Lecavelier des Etangs, A.; et al., 2019, *AJ*, **158**
13. [The Hubble PanCET program: an extensive search for metallic ions in the exosphere of GJ 436 b](#)
dos Santos, L.A.; Ehrenreich, D.; Bourrier, V.; Lecavelier des Etangs, A.; et al., 2019, *A&A*, **629**
14. [Exoplanet Atmosphere Forecast: Observers Should Expect Spectroscopic Transmission Features to be Muted to 33%](#)
Wakeford, H.R.; Wilson, T.J.; Stevenson, K.B.; Lewis, N.K, 2019, *RNAAS*, **3, 1**
15. [Disentangling the planet from the star in late type M dwarfs: A case study of TRAPPIST-1g](#),
Wakeford, H.R.; Lewis, N.K.; Fowler, J.¹; et al., 2019, *AJ*, **157, 1**
16. [The HST PanCET Program: Hints of Na I and Evidence of a Cloudy Atmosphere for the Inflated Hot Jupiter WASP-52b](#),
Alam, M.K.; et al., 2019, *AJ*, **156, 298**
17. [Fully scalable forward model grid of exoplanet transmission spectra](#),
Goyal, J.¹; **Wakeford, H.R.**; et al., 2019, *MNRAS*, **482, 4503**.
18. [Hubble PanCET: An extended upper atmosphere of neutral hydrogen around the warm Neptune GJ 3470 b](#),
Bourrier, V.; et al., 2018, *A&A*, **620, 147**
19. [An Optical Transmission Spectrum for the Ultra-hot Jupiter WASP-121b Measured with the Hubble Space Telescope](#),
Evans, T.M.; et al., 2018, *AJ*, **156, 283**
20. [Limits on Clouds and Hazes for the TRAPPIST-1 Planets](#),
Moran, S.E.; Hörst, S.M.; Batalha, N.E.; Lewis, N.K.; and **Wakeford, H.R.**, 2018, *AJ*, **156, 252**
21. [The Transiting Exoplanet Community Early Release Science Program for JWST](#),
Bean, J.L.; Stevenson, K.B.; Batalha, N.M.; et al., 2018, *PASP*, **130, 993**
22. [Starspot Occultations in Infrared Transit Spectroscopy: The Case of WASP-52b](#),
Bruno, G.; et al., 2018, *AJ*, **156, 3, 124**
23. [Community Targets of JWST's Early Release Science Program: Evaluation of WASP-63b](#),
Kilpatrick, B.M.; et al., 2018, *AJ*, **156, 3, 103**
24. [An atmospheric sodium abundance for the hot-Saturn WASP-96b](#),
Nikolov, N.; et al., 2018, *Nature*, **557, 7706**
25. [Helium in the eroding atmosphere of an exoplanet](#),
Spake, J.J.; et al., 2018, *Nature*, **557, 7703**
26. [Atmospheric reconnaissance of the habitable-zone Earth-sized planets orbiting TRAPPIST-1](#),
de Wit, J.; **Wakeford, H.R.**; Lewis, N.K.; et al., 2018, *Nature Astronomy*, **2, 214-219**
◇ *The first atmospheric follow-up of Earth-sized exoplanets in the habitable zone.*
27. [Hubble PanCET: an isothermal day-side atmosphere for the bloated gas-giant HAT-P-32Ab](#),
Nikolov, N.; et al., 2018, *MNRAS*, **474, 2**
28. [A Comparison of Simulated JWST Observations Derived from Equilibrium and Non-equilibrium Chemistry Models of Giant Exoplanets](#),
Blumenthal, S.D.; et al., 2018, *ApJ*, **853, 2**
29. [A Comparative Study of WASP-67 b and HAT-P-38 b from WFC3 Data](#),
Bruno, G.; et al., 2018, *AJ*, **155, 2**
30. [The Complete Transmission Spectrum of WASP-39b with a Precise Water Constraint](#),
Wakeford, H.R.; et al., 2018, *AJ*, **155, 1**
◇ *The most distinct water absorption signature measured for an exoplanet atmosphere to high precision.*

31. *An ultra-hot gas-giant exoplanet with a stratosphere*,
Evans, T.M.; et al., 2017, *Nature*, **548**, 7665, 58-61
32. *Near-UV transit photometry of HAT-P-32 b with the Large Binocular Telescope: Silicate aerosols in the planetary atmosphere*,
Mallonn, M. & Wakeford, H.R., 2017, *AN*, **338**, 7, 773-780
33. *HAT-P-26b: A Neptune-mass exoplanet with a well constrained heavy element abundance*,
Wakeford, H.R.; et al., 2017c, *Science*, **356**, 6338, pp 628-631
34. *High temperature condensate clouds in super-hot Jupiter atmospheres*,
Wakeford, H.R.; et al., 2017b, *MNRAS*, **464**, 4, 4247-4254
35. *HST PanCET program: A Cloudy Atmosphere for the Promising JWST Target WASP-101b*,
Wakeford, H.R.; et al., 2017a, *ApJ Letters*, **835**, L12
36. *Transiting Exoplanet Studies and Community Targets for JWST's Early Release Science Program*,
Stevenson, K.B.; et al., 2016, *PASP*, **128**, 967
37. *A combined transmission spectrum of the Earth-sized exoplanets TRAPPIST-1 b and c*,
de Wit, J.; Wakeford, H.R.; et al., 2016, *Nature*, **537**, 69-72
◇ *The first atmospheric follow-up study of Earth-sized exoplanets.*
38. *Detection of H₂O and Evidence for TiO/VO in an Ultra-hot Exoplanet Atmosphere*,
Evans, T.M.; Sing, D.K.; Wakeford, H.R.; et al., 2016, *ApJ Letters*, **822**, L4
39. *Marginalizing instrument systematics in HST WFC3 transit lightcurves*,
Wakeford, H.R.; et al., 2016, *ApJ*, **819**, 10
40. *A continuum from clear to cloudy hot-Jupiter exoplanets without primordial water depletion*,
Sing, D.K.; Fortney, J.J.; Nikolov, N.; Wakeford, H.R.; et al., 2016, *Nature*, **529**, 59-62
◇ *The first survey of exoplanet transmission spectra, which looked at ten hot Jupiters that span a wide range of temperatures.*
41. *Cloudy with a chance of water: Observations and analysis of hot Jupiter exoplanet atmospheres*,
Wakeford, H.R., 2015, *PhD in Physics, Doctoral Thesis, University of Exeter*
42. *HST hot-Jupiter transmission spectral survey: haze in the atmosphere of WASP-6b*,
Nikolov, N.; et al., 2015, *MNRAS*, **447**, 1, 463-478
43. *HST hot-Jupiter transmission spectral survey: detection of potassium in WASP-31b along with a cloud-deck and Rayleigh scattering*,
Sing, D.K.; Wakeford, H.R.; et al., 2015, *MNRAS*, **446**, 3, 2428-2443
44. *Transmission Spectral Properties of clouds for hot Jupiter Exoplanets*,
Wakeford, H.R. & Sing, D.K., 2015, *A&A*, **573**, A122
◇ *The first predictions of vibrational mode absorption features from cloud species for transiting exoplanet atmospheres.*
45. *Hubble Space Telescope hot Jupiter transmission spectral survey: a detection of Na and strong optical absorption in HAT-P-1b*,
Nikolov, N.; et al., 2014, *MNRAS*, **437**, 46-66
46. *HST hot-Jupiter transmission spectral survey: evidence for aerosols and lack of TiO in the atmosphere of WASP-12b*,
Sing, D.K.; et al., 2013, *MNRAS*, **436**, 2956-2973
47. *HST hot Jupiter transmission spectral survey: detection of water in HAT-P-1b from WFC3 near-IR spatial scan observations*,
Wakeford, H.R.; et al., 2013, *MNRAS*, **435**, 4, 3481-3493