

Nathan Mayne

Curriculum Vitae

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Academic Appointments

Current Position: Professor (Personal Chair)	University of Exeter	Aug. 2021–Present
UKRI Future Leaders Fellow		2021–Present
UKRI/STFC Astronomy Advisory Panel		2024–Present
Met Office Academic Partnership (MOAP) Research Advisory Panel (RAP)		2024–Present
Royal Astronomical Society (RAS) Committee for Diversity in Astrophysics & Geophysics (CDAG)		2024–Present

To: Additional & Previous Appointments

Publications

NASA ADS (as of 23rd October, 2024): 4548 citations, **h-index: 42**

Google Scholar (as of 23rd October, 2024): 5605 citations, **h-index: 46**

To: Publication List

Resource Awards

Current Direct Funding (PI/Host):

2024	UKSA Studentships: Mars Exploration Science [Awarded: awaiting budget]	~£100 000
2024	STFC Small Award: Dynamic Gas Giants [submitted]	~£600 000
2024	STFC Astronomy Large Award: BOWIE+ (Exeter Portion) [submitted]	~£900 000
2024	UKRI FLF Renewal, Exascale Exoplanet Modelling	~£700 000
2024	China Scholarship Council, Visiting Scholar (Dr. Haitao Li, Chinese Academy of Sciences)	~£100 000
2024	Met Office NG-ARCH project (Exeter Portion, Co-PI E. Hone)	~£400 000
2023	MIT Seed Fund, Venus Climate (with Prof. S. Seager)	~£25 000
2024	DiRaC: Research Software Engineer Support	~£45 000
2023	Royal Society: International Exchanges (with Prof. N. Cowan, Montréal)	~£12 000
2023	University of Exeter PhD Scholarships for Black British Researchers (Sophia Adams)	~£70 000
2021	Institute of Physics: Bell–Burnell PhD Scholarship (Mei Ting Mak)	~£77 000
2021	UKRI: Future Leaders Fellowship	~£1 600 000

Current Direct Funding (CO-I):

2024	STFC Astronomy Large Award: BOWIE+ (PI. P. Wheatley, Warwick)[submitted]	~£5 000 000
2024	Met Office NG-ARCH project (PI. M. Weiland, Edinburgh)	~£3 000 000
2024	FLF Development Plus Fund (PI. Dr. Z. Mildon, Plymouth)	~£25 000
2023	STFC: Small Award (PI: Dr. E. Hébrard)	~£550 000
2021	Leverhulme: Research Project Grant (PI: M. Green, Bangor)	~£250 000

To: Additional & Previous Resource Awards

Impact, Knowledge Exchange & Engagement

Highlight Outputs:

UKRI/STFC Impact Video	2023
Lead author of Research Excellence Framework (REF) 2021 Impact Case Study (ICS)	2021
Created Cinematic Exoplanet Video (360°)	2021
Adaptation of journal article for children: How can dust make planets more suitable for life? The first Physical Sciences and Astrophysics article to be adapted in this way.	2020
Contributor to Univ. Exeter Knowledge Exchange Framework (KEF) submission	2020
Created Exoplanet Mini-documentary (360°)	2017
Finalist for a VR Education and Training Award, 2019	
Winner of: Bronze and People's choice Awards, Lovie Awards, 2018	
Featured in We The Curious Autumn Planetarium Show	

To: Additional & Previous Impact, Knowledge Exchange & Engagement

Postgraduate Research

Current Postdoctoral Supervision:

Dr M. Zamyatina	with Dr. E. Hébrard	Sep. 2019–Jul. 2025
Dr D. Sergeev	with Prof. F. H. Lambert	Sep. 2018–Jan. 2025
Dr K. Kohary (Research IT)		Feb. 2021–Jul. 2025
Dr D. Leggat (RSE)	with Dr. D. Sergeev & Dr. M. Zamyatina	Apr. 2024–Apr. 2025
Dr L Berrisford (RSE)	with Dr. R. Olivier	Apr. 2024–Jul. 2025
Dr S. Cook (RSE)	with Dr. R. Olivier	Apr. 2024–Jul. 2025
Dr F. Wobus (RSE)	with Dr. R. Olivier	Apr. 2024–Jul. 2025
Dr R. Olivier (Senior RSE)		Apr. 2024–Jul. 2025

Current PhD Supervision:

A. Taylor	with Prof. M. Green (Bangor), Dr S. Thomson (Exeter)	Sep. 2021–Mar. 2025
H. Baskett	with Dr. E. Hébrard	Oct. 2024–Jun. 2028
M. Mak	with Dr. D. Sergeev & Dr. E Hébrard	Sep. 2021–Sep. 2025
S. Adams	with Dr. E Hébrard & Dr. J. Manners	Sep. 2023–Jun. 2027

PhD Examination:

K. Jones	Prof. B-O. Demory, Univ. Bern	2024
Dr E. MacDonald	Prof. K. Menou, Univ. Toronto	2024
Dr B. Lakeland	Prof. T. Naylor, Univ. Exeter	2024
Dr H Innes	Prof. R. Pierrehumbert, Univ. Oxford	2023
Dr G. Chaverot	Dr. E. Bolmont & Dr M. Turbet, Univ. Geneva	2023
Dr A. Piette	Prof. N. Madhusudhan, Cambridge University	2021
Dr T. Bell	Prof. N. Cowan, McGill Space Institute	2021
Dr A. Finley	Prof. S. Matt, Univ. Exeter	2020
Dr M. Hammond	Prof. R. Pierrehumbert, Univ. Oxford	2019

To: Previous Postgraduate Research

Communication

Recent Invited Talks/Seminars:

Origins Federation Conference, Univ. Cambridge	Sep. 2024
School of Physics & Astronomy, University of Birmingham	May, 2024
Department of Astronomy & Astrophysics, Exoplanets Reading Group, Univ. of Chicago	Apr. 2024
Department of Earth, Atmosphere, and Planetary Sciences (EAPS) at Purdue Univ	Apr. 2024
iREx Café, Université de Montréal	Aug. 2023
NASA GISS/Univ. Columbia, New York, USA	Aug. 2023
Carnegie Science, Washington DC, USA	Jul. 2023
Planetary Astronomy Lunch Seminar (PALS), Univ. Maryland, USA	Jul. 2023
Ariel Consortium Meeting, RAS, London	May. 2023
Tides Meeting, St Annes College, Oxford	Mar. 2023
Invited Review, JWST Exoplanet Atmospheres Meeting, Christ Church, Oxford	Mar. 2023
Geophysical Fluid Dynamics, ETH Zurich	Feb. 2023
‘Mash-up’, Sociology, Philosophy and Anthropology, Exeter	Feb. 2023

To: Additional & Previous Communication

Education

Highlight Achievements:

Waves and Optics (PHY1023): Student Feedback	University of Exeter	2021
	Average (15 questions total): 4.5/5.0	
	Overall learning experience: 4.7/5.0	
	Online resources: 4.9/5.0	
Fellow of the Higher Education Academy	Advance HE	2017
Postgraduate Certificate in Academic Practice	University of Exeter	2017
Nominated: Teaching Award	University of Exeter	2010, 2019

Current Undergraduate Research Supervision:

Willow Harvey	MPhys Project	2023–Present
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To: Additional & Previous Education

Leadership & Service

Awards & Achievements

Future Leaders Fellows Leadership Award, UKRI: Shortlisted & Featured	2024
Future Leaders Fellows Impact Award, UKRI: Shortlisted & Featured	2024
Exeter Leadership Academy, Univ. Exeter	2024
Towards Inclusive Leadership, Univ. Exeter	2022
Leadership Difference Course, Univ. Exeter	2021
Academic Recognition Awards: “Dean’s Outstanding Contribution Award”, Univ. Exeter	2019
Academic Recognition Awards: “Diversity and Outreach” (shortlisted), Univ. Exeter	2019
Institute of Physics Juno: Juno Champion Status Physics & Astronomy (co-author), Univ. Exeter	2018
Athena Swan: Silver Award Physics & Astronomy (co-author), Univ. Exeter	2018
Lead for Met Office Site License, Univ. Exeter	2018
Above & Beyond Award, Univ. Exeter	2017 & 2020
Athena Swan: Bronze Award Physics & Astronomy (co-author), Univ. Exeter	2015

Current Institutional Roles:

Research IT and Digital Research Advisory Group	2024–Present
Internal REF outputs grading team	2024–Present
Research Strategy Steering Group, Physics & Astronomy	2023–Present
ROUTES Steering Group	2022–Present
Immersive Technology Network	2021–Present

Recent Significant Contributions (non-Research):

Invited Panelist: Enhancing the value of impact through experimentation, Exeter	2024
Organisation & Delivery: Panel & Workshop, Understanding Inclusive Leadership conference	2024
Invited: Edinburgh Research Culture Change Retreat, UKRI, Univ. Edinburgh	2023
Invited: Celebrating Mentors, Univ. Glasgow	2023
Invited: Closing Speech, FLF Annual Meeting, Welcome to Round 7 Fellows	2024
Invited Panelist: increasing inclusivity & equity in research cultures, Learning Leadership Legacy	2023
Panel Chair: ‘Research Culture’, FLF Annual Conference	2022
Panelists: Dame Prof. O. Leyser, Prof. C. Fagan, Prof. R. Norman, Dr D. Baptista	

Recent Significant Contributions (Research):

Co-lead: Exoclimes VI & EXOSLAM Summer School, Exeter	2023
Co-lead: JWST Community Workshop Series, Exeter (with Eva-Maria Ahrer & Maria Zamyatina)	2022
Co-lead: RAS Specialist Discussion Session: “Exoplanet Modelling in the James Webb Era II”, London	2022
Lead: Exeter Space & Extreme Environments: from Space to People	2021
Co-lead: RAS Specialist Discussion Session: “Exoplanet Modelling in the James Webb Era”, London	2021
Chair: NASA funding panel	2024
Panelist: STFC/UKSA/ESA M7/F2	2022

To: Additional & Previous Leadership & Service

Additional Details

The following sections include more complete details.

Additional & Previous Appointments

Associate Professor (Reader)	University of Exeter	Jul. 2019–Aug. 2021
Senior Lecturer	University of Exeter	Apr. 2015–Jul. 2019
Lecturer (Assistant Professor)	University of Exeter	Jan. 2014–Apr. 2015
Research Fellow	University of Exeter	Jul. 2011–Jan. 2014
Associate Research Fellow	University of Exeter	Jul. 2008–Jul. 2011

Qualifications:

PhD	Supervisor: Prof. T. Naylor, University of Exeter “Using colour–magnitude diagrams to study the evolution of young stellar populations”	Sep. 2004–Jun. 2008
MPhys (hons), 1 st Class	Univ. of Exeter (Supvr: Prof. W. Barnes) Dissertation subject: surface plasmon resonance Two Dean’s commendations & school prize for outstanding results	Sep. 1999–Jun. 2003

Back To: Academic Appointments

Publication List

Refereed Publications in Major Journals (reverse date ordered)

#	Journal, title and Author(s)
109	Submitted for Publication in the Monthly Notices of the Royal Astronomical Society An HST Transmission Spectrum of the Closest M-Dwarf Transiting Rocky Planet LTT 1445Ab. Bennett. K.; et al. incl. Mayne, N. J.
108	Submitted for Publication in the Monthly Notices of the Royal Astronomical Society (abridged) ALIGN: a JWST NIRSpec/G395H transmission spectrum of..WASP-15b. Kirk. J.; et al. incl. Mayne, N. J.
107	Submitted for Publication in Nature Astronomy Silicon monoxide in an ultrahot Jupiter atmosphere with a super-stellar C/O Mikal-Evans, T.; et al. incl. Mayne, N. J.
106	Under Review for Publication in the Planetary Science Journal. Observational signatures of 3D atmospheric chemistry for Earth-like exoplanets in spin-orbit resonances. Braam, M.; Palmer, P.; Decin, L; Mayne, N. ; Manners, J. and Rugheimer, S.
105	Under Review for Publication in Astronomy & Astrophysics. WASP-121 b’s transmission spectrum observed with JWST/NIRSpec G395r. Gapp, C.; Evans-Soma, T.; Barstow, J.; Lothringer, J.; Sing, D.; et al., incl. Mayne, N.
104	Accepted for Publication in the Monthly Notices of the Royal Astronomical Society. (abridged) ALIGN: How formation and migration..impact atmospheric compositions. Penzlin. A.; et al. incl. Mayne, N. J.
103	Accepted for Publication in the Royal Astronomical Society Techniques & Instruments. (abridged) ALIGN: A JWST comparative survey of aligned vs misaligned hot Jupiters.. Kirk. J.; et al. incl. Mayne, N. J.
102	Accepted for Publication in the Astrophysical Journal. An absolute mass, precise age, and hints of planetary winds for WASP-121 A and b from a JWST. Sing. D.; Evans-Soma, T.; Rustamkulov, Z.; Lothringer, J.; Mayne, N. J. & Shclaufman, K.
101	Monthly Notices of the Royal Astronomical Society, Volume 533, Issue 2, pp.2379-2390 (2024). What doesn’t kill Gaia, makes her stronger: impacts of external perturbations on biosphere evolution Arthur, R.; Nicholson, A.; Mayne, N.
100	Nature, 632, 1017–1020 (2024). Inhomogeneous terminators on the exoplanet WASP-39 b. Espinoza, N.; Steinrueck, M.; Kirk, J.; MacDonald, R.; Savel, A.; Arnold, K.; Kempton, E. et al., incl. Mayne, N.
99	The Planetary Science Journal, Volume 5, Issue 8, id.175, 10 pp. (2024). The CUISINES Framework for Conducting Exoplanet Model Intercomparison Projects, Version 1.0.

- Sohl, L.; Fauchez, T.; Domagal-Goldman, S.; Christie, D.; Dietrick, R.; et al., incl. **Mayne, N.**
- 98 Monthly Notices of the Royal Astronomical Society, Volume 532, Issue 3, pp.3001-3019 (2024).
(abridged) Longitudinal Filtering... in a General Circulation Model of Gaseous Exoplanets.
Christie, D.; **Mayne, N.**; Zamyatina, M.; Baskett, H.; Evans-Soma, T.; Wood, N.; Kohary, K.
- 97 The Astrophysical Journal, Volume 970, Number 1 (2024).
(abridged) Explicit representation of convection on the climate of a tidally locked planet...
Sergeev, D.; Boutle, I.; Lambert, F. H.; **Mayne, N. J.**; Bendall, T.; Kohary, K.; Olivier, E. & Shipway, B.
- 96 Nature Astronomy, 8, 1008–1019 (2024).
A Benchmark JWST Near-Infrared Spectrum for the Exoplanet WASP-39b.
Carter, A.; May, E.; et al. incl. **Mayne, N.**
- 95 Monthly Notices of the Royal Astronomical Society, Volume 531, Issue 1, pp.468-494 (2024).
Biosignatures from pre-oxygen photosynthesising life on TRAPPIST-1e.
Eager-Nash, J.; Daines, S.; McDermott, J.; Andrews, P.; Grain, L.; Bishop, J.; Rogers, A.; et al., incl. **Mayne, N.**
- 94 Monthly Notices of the Royal Astronomical Society, Volume 529, Issue 4, pp.3971-3987 (2024).
Correction (minor): Monthly Notices of the Royal Astronomical Society, Volume 530, Issue 3, pp.2933-2933 (2024).
3D simulations of TRAPPIST-1e with varying CO₂, CH₄ and haze profiles
Mak, M. T.; Sergeev, D.; **Mayne, N.**; Banks, N.; Eager-Nash, J.; Manners, J.; Arney, G.; Hébrard, E.; Kohary, K.
- 93 Monthly Notices of the Royal Astronomical Society, Volume 529, Issue 2, pp.1776-1801 (2024).
(abridged) Quenching-driven equatorial depletion and limb asymmetries...: WASP-96b example
Zamyatina, M.; Christie, D.; Hébrard, E.; **Mayne, N.**; Radica, M.; Taylor, J.; Baskett, H.; Moore, B.; Lils, C.; et al.
- 92 The Planetary Science Journal, Volume 5, Issue 3, id.64, 15 pp (2024).
(abridged) Modeling Atmospheric Lines By the Exoplanet Community (MALBEC): A CUISINES..intercomparison
Villanueva, G.; Fauchez, T.; Kofman, V.; Faggi, S.; Mak, M. T.; Sergeev, D.; Manners, J.; **Mayne, N.** et al.
- 91 Nature Astronomy, Advanced Online Publication (2024).
Nightside clouds and disequilibrium chemistry on the hot Jupiter WASP-43b.
Bell, T.; Crouzet, N.; Cubillos, P.; Kreidberg, L.; Piette, A.; Roman, M.; Barstow, J.; et al., incl. **Mayne, N.**
- 90 Icarus, Volume 410, 1 March 2024, 115908 (2023).
'Cold capture' of micrometeorites in Archean and Quaternary atmospheres: effects of dilute exospheres.
Skartlien, R.; Kihler, J.; Larsen, J.; Eager-Nash, J.; Palmer, T.; Boxer, T.; Daines, S.; **Mayne, N.**
- 89 Journal of Geophysical Research: Atmospheres, Volume 128, Issue 20 (2023).
3D simulations of the Archean Earth including photochemical haze profiles.
Mak, M. T.; **Mayne, N.**; Sergeev, D.; Eager-Nash, J.; Manners, J.; Kohary, K.
- 88 Geoscientific Model Development, Volume 16, Issue 19, 2023, pp.5601-5626. (2023)
LFRic simulations of idealised 3D atmospheric flows on terrestrial planets
Sergeev, D.; **Mayne, N.**; Bendall, T.; Boutle, I.; Brown, A.; Kavčić, I.; Kohary, K.; Manners, J.; et al.
- 87 Monthly Notices of the Royal Astronomical Society, Volume 526, Issue 1, pp.263-278. (2023).
(abridged) the 3-D ozone distribution on synchronously rotating rocky exoplanets.
Braam, M.; Palmer, P.; Decin, L.; Cohen, M. & **Mayne, N.**
- 86 Monthly Notices of the Royal Astronomical Society, Volume 525, Issue 1, pp.150-163. (2023).
(abridged) Shallow-Water Modelling of Atmospheric Circulation Regimes of Brown Dwarfs
Hammond, M.; **Mayne, N.**; Seviour, W.; Mitchell, D.
- 85 The Planetary Science Journal, Volume 4, Issue 4, id.68, 19 pp. (2023).
Traveling planetary-scale waves cause cloud variability on tidally locked aquaplanets
Cohen, M.; Bolasina, M.; Sergeev, D.; Palmer, P. & **Mayne, N.**
- 84 Nature, Volume 617, Issue 7961, p.483-487 (2023).
Direct Evidence of Photochemistry in an Exoplanet Atmosphere.
Tsai, S. and ERS collaboration incl **Mayne, N.**
- 83 Monthly Notices of the Royal Astronomical Society, Volume 521, Issue 4, pp.5139-5151 (2023)
A Biotic Habitable Zone: Impacts of Adaptation in Biotic Temperature Regulation
Nicholson, A. E. & **Mayne, N.**
- 82 Journal of Geophysical Research: Atmospheres, Volume 128, Issue 6, article id. e2022JD037544 (2023)
3D climate simulations find Archean cools at haze limit without haze
Eager-Nash, J.; **Mayne, N.**; Nicholson, A.; Prins, J.; Daines, S.; Lenton, T.; Sergeev, D; et al.
- 81 The Astrophysical Journal Letters, Volume 943, Issue 2, id.L17, 7 pp. (2023).

- (abridged) A JWST NIRSpec phase curve for WASP-121b
Mikal-Evans, T.; Sing, D.; Dong, J.; Foreman-Mackey, D.; Kataria, T.; et al., incl. **Mayne, N.**
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- 80 Nature volume 614, pages 670–675 (2023)
Early Release Science of the exoplanet WASP-39b with JWST NIRISS.
Feinstein, A. and ERS collaboration incl **Mayne, N.**
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- 79 Nature volume 614, pages 664–669 (2023)
Early Release Science of the exoplanet WASP-39b with JWST NIRSpec G395H.
Alderson, L. and ERS collaboration incl **Mayne, N.**
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- 78 Nature volume 614, pages 653–658 (2023).
Early Release Science of the exoplanet WASP-39b with JWST NIRCам.
Ahrer, E-M. and ERS collaboration incl **Mayne, N.**
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- 77 Nature volume 614, pages 659–663 (2023)
Early Release Science of the exoplanet WASP-39b with JWST NIRSpec PRISM.
Rustamkulov, Z. and ERS collaboration incl **Mayne, N.**
-
- 76 Geoscientific Model Development Volume 16, pp.621–657 (2023).
A modern-day Mars climate in the Met Office Unified Model: dry simulations
McCulloch, D.; Sergeev, D.; **Mayne, N.**; Bate, M.; Manners, J.; Boutle, I.; Drummond, B. & Kohary, K.
-
- 75 Monthly Notices of the Royal Astronomical Society, Volume 519, Issue 2, pp.3129-3153 (2023).
Observability of signatures of transport-induced chemistry in clear atmospheres of hot gas giant exoplanets
Zamyatina, M.; Hébrard, E.; Drummond, B.; **Mayne, N.**; Manners, J.; Christie, D.; Tremblin, P.; Sing, D. K et al.
-
- 74 Monthly Notices of the Royal Astronomical Society, Volume 518, Issue 2, pp.2472-2496. (2023)
(abridged) 3D modelling of the impact of stellar activity on tidally-locked terrestrial exoplanets
Ridgway, R.; Zamyatina, M.; Manners, J.; **Mayne, N.**; Lambert, H.; Braam, M.; Drummond, B. et al.
-
- 73 The Planetary Science Journal, Volume 3, Issue 11, id.261, 7 pp. (2022)
(abridged) CAMEMBERT: A Mini-Neptunes GCM Intercomparison, Protocol Version 1.0.
Christie, D.; Lee, E.; Innes, H.; Andreas Noti, P.; Charnay, B.; Fauchez, T.; **Mayne, N.** et al.
-
- 72 Monthly Notices of the Royal Astronomical Society, Volume 517, Issue 2, pp.2383-2402 (2022)¹
Lightning-induced chemistry on tidally-locked Earth-like exoplanets
Braam, M.; Palmer, P.; Decin, L.; Ridgway, R.; Zamyatina, M.; **Mayne, N.**; Sergeev, D. & Abraham, L.
-
- 71 Monthly Notices of the Royal Astronomical Society, Volume 517, Issue 1, pp.1407-1421. (2022)
(abridged) The Impact of Phase Equilibrium Cloud Models on GCM Simulations of GJ 1214b
Christie, D.; **Mayne, N.**; Gillard, R.; Manners, J.; Hébrard, E. & Kohary, K.
-
- 70 The Planetary Science Journal, Volume 3, Issue 9, id.214, 24 pp. (2022)
Bistability of the atmospheric circulation on TRAPPIST-1e
Sergeev, D.; Lewis, N.; Lambert, H.; **Mayne, N.**; Boutle, I.; Manners, J. & Kohary, K.
-
- 69 Monthly Notices of the Royal Astronomical Society, Volume 517, Issue 1, pp.222-239. (2022)
Predicting bio-signatures for nutrient limited biospheres
Nicholson, A.; Daines, S.; **Mayne, N.**; Eager-Nash, J.; Lenton, T. & Kohary, K.
-
- 68 Monthly Notices of the Royal Astronomical Society, Volume 515, Issue 2, pp.3037-3058 (2022)
(abridged) Supersolar sodium and oxygen absolute abundances for a “hot Saturn”
Nikolov, N.; Sing, D.; Spake, J.; Smalley, B.; Mikal-Evans, T.; Wakeford, H.; et al., **Mayne, N. J.**
-
- 67 The Planetary Science Journal, Volume 3, Issue 9, id.213, 17 pp. (2022)
(abridged) The TRAPPIST-1 Habitable Atmosphere Intercomparison (THAI). Part III: Simulated Observables.
Fauchez, T.; Villaneuva, G.; Sergeev, D.; Turbet, M.; Boutle, I. A.; Tsigaridis, K.; et al. incl **Mayne, N.**
-
- 66 The Planetary Science Journal, Volume 3, Issue 9, id.212, 26 pp. (2022)
(abridged) The TRAPPIST-1 Habitable Atmosphere Intercomparison (THAI). Part II: Moist Cases.
Sergeev, D.; Fauchez, T.; Turbet, M.; Boutle, I. A.; Tsigaridis, K.; Way, M. J.; Wolf, E. T. et al. incl. **Mayne, N.**
-
- 65 The Planetary Science Journal, Volume 3, Issue 9, id.211, 17 pp. (2022).
(abridged) The TRAPPIST-1 Habitable Atmosphere Intercomparison (THAI). Part I: Dry Cases.
Turbet, M.; Fauchez, T. J.; Sergeev, D.; Boutle, I. A.; Tsigaridis, K.; Way, M. J. et al. incl. **Mayne, N.**
-
- 64 The Astrophysical Journal, Volume 929, Issue 2, id.180, 15 pp. (2022)
(abridged) 3D radiative-transfer for exoplanet atmospheres. gCMCRT:
Lee, E.; Wardenier, J.; Prinoth, B.; Parmentier, V.; Grimm, S.; et al., incl. Christie, D.; & **Mayne, N.**
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¹Associated news release

- 63 The Astrophysical Journal, Volume 930, Issue 2, id.152, 16 pp. (2022)
(abridged) Longitudinally asymmetric stratospheric oscillation on a tidally locked exoplanet (LASO)
Cohen, M.; Bolasina, M; Palmer, P; et al., incl **Mayne, N.**
-
- 62 Nature Astronomy, 6, pages 471-479 (2022).
Diurnal variations in the stratosphere of the ultrahot exoplanet Wasp-121b
Mikal-Evans, T.; Sing, D.; Barstow, J.; Kataria, T.; Goyal, J.; Lewis, N.; Taylor, J.; et al., incl. **Mayne, N.**
-
- 61 The Astrophysical Journal, Volume 923, Issue 2, id.242, 19 pp. (2021)
(abridged)..Population Trends in Thermal Emission.. of Hot Jupiters....
Goyal, J.; Lewis, N.; Wakeford, H.; MacDonald, R. & **Mayne, N. J.**
-
- 60 Precambrian Research Volume 366, November 2021, 106423 (2021)
(abridged): CO₂ and O₂ oxidised 2.7 Ga micrometeorites...suggesting a >32% CO₂ atmosphere.
Correction (minor): Precambrian Research, vol. 391, p. 107022 (2023)
Huang, G.; Eager-Nash, J.; **Mayne, N. J.**; Cui, D.; Manners, J.; Hébrard, E.; Liu, Z. & Lenton, T.
-
- 59 Monthly Notices of the Royal Astronomical Society, Volume 506, Issue 3, pp.4500-4515 (2021).
The Impact of Mixing Treatments on Cloud Modelling in 3D Simulations of Hot Jupiters
Christie, D.; **Mayne, N.**; Lines, S.; Parmentier, V.; Manners, J.; Boutle, I.; Drummond, B.; et al.
-
- 58 Monthly Notices of the Royal Astronomical Society, Volume 506, Issue 2, pp.2853-2870 (2021).
(abridged)..a featureless transmission spectrum for the low-density transiting exoplanet WASP-88b.
Spyratos, P.; Nikolov, N. et al., incl. **Mayne, N. J.**
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- 57 The Astronomical Journal, Volume 162, Issue 3, id.88, 16 pp (2021).
(abridged)..Faculae and clouds explain the optical spectrum of the warm Saturn WASP-110b.
Nikolov, N.; Maciejewski, G.; Constantinou, S.; Madhusudhan, N.; Fortney, J.; et al., incl. **Mayne, N. J.**
-
- 56 The Planetary Science Journal, Volume 2, Number 3 (2021).
(abridged) TRAPPIST Habitable Atmosphere Intercomparison (THAI) workshop report.
Faucher, T.; Turbet, M.; Sergeev, D.; **Mayne, N.** et al.
-
- 55 Monthly Notices of the Royal Astronomical Society, Volume 505, Issue 3, Pages 4515-4530 (2021) .
(abridged) Heat redistribution Through H₂ Thermal Dissociation/Recombination...for Ultra-Hot Jupiters.
Roth, A.; Drummond, B.; Hébrard, E.; Tremblin, P.; Goyal, J.; **Mayne, N.**
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- 54 Astronomy & Astrophysics, Volume 649, id.A44, 34 pp (2021).
(abridged) Clouds in hot and ultra-hot jupiter atmospheres.
Helling, CH.; Lewis, D.; Samra, D.; Carone, L.; Graham, et al., incl. **Mayne, N.**
-
- 53 Monthly Notices of the Royal Astronomical Society, Volume 502, Issue 4, pp.6201-6215 (2021).
(abridged) Modelling the influence of stellar XUV-flux and cosmic rays on...HD 189733b.
Barth, P.; Helling, CH.; Stücken, E.; Bourrier, V.; Lines, S.; **Mayne, N.**; Rimmer, P. B.; et al.
-
- 52 Journal of Advances in Modeling Earth Systems, Volume 12, 8. (2020).
(abridged) Continuous Structural Parameterisations.
Lambert, H. F.; Challenor, P. G.; Lewis, N. T.; McNeill, D. J.; Owen, D.; et al., incl. **Mayne, N.**
-
- 51 Monthly Notices of the Royal Astronomical Society, Volume 497, Issue 4, pp.5155-5170 (2020).
A featureless optical transmission spectrum...for the ultra-hot Jupiter WASP-103b
Wilson, J.; Gibson, N.; Nikolov, N.; Constantinou, S.; Goyal, J.; Barstow, J.; et al., incl. **Mayne, N.**
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- 50 Monthly Notices of the Royal Astronomical Society, Volume 498, Issue 4, pp.4680-4704. (2020).
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- 48 Monthly Notices of the Royal Astronomical Society, Volume 496, Issue 2, pp.1638-1644. (2020).
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Mikal-Evans, T.; Sing, D. K.; Kataria, T.; Wakeford, H. R.; **Mayne, N.**; Lewis, N. K.; et al.
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- 47 Nature Communications 11, 2731 (2020). (Adapted version: Science Journal for Kids, 07/2020).
(abridged) Airborne dust increases the habitability of terrestrial exoplanets.
Boutle, I. A.; Joshi, M.; Lambert, F. H.; **Mayne, N.**; Lyster, D.; Manners, J.; Ridgway, R.; et al.
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Sergeev, D.; Lambert, H. F.; **Mayne, N.**; Boutle, I.; Manners, J. & Kohary, K.

- 45 *Astronomy & Astrophysics*, Volume 636, id.A68, 30 pp. (2020).
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Drummond, B.; Hébrard, E.; **Mayne, N.**; Venot, O.; Ridgway, R.; Changeat, Q.; Tsai, S-M.; et al.
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- 43 *Monthly Notices of the Royal Astronomical Society*, Volume 492, Issue 2, P. 1691–1705. (2020).
Ozone chemistry on tidally locked M dwarf planets.
Yates, J. S.; Palmer, P. I.; Manners, J.; Boutle, I. A.; Kohary, K.; **Mayne, N.**; L. Abraham.
- 42 *Astronomy & Astrophysics*, Volume 633, id.A2, 26pp. (2020).
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Debras, F.; **Mayne, N.**; Baraffe, I.; Jaupart, E.; Mourier, P.; Laibe, G.; Goffrey, T. & Thuburn, J.
- 41 *Astronomy & Astrophysics*, Volume 632, id.A114, 13 pp. (2019)
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Sainsbury-Martinez, F.; Wang, P.; Fromang, S.; Tremblin, P.; et al. incl. **Mayne, N.**
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- 39 *Monthly Notices of the Royal Astronomical Society*, Volume 488, Issue 1, p.1332-1355 (2019)
(abridged) 3D radiative–hydrodynamical simulations of a cloudy hot-Jupiter using *EddySed*.
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- 38 *Monthly Notices of the Royal Astronomical Society*, Volume 486, Issue 1, p.1123-1137 (2019)
The carbon-to-oxygen ratio: implications for the spectra of hydrogen-dominated exoplanet atmospheres.
Drummond, B. Carter, A.; Hébrard, E.; **Mayne, N. J.**; Sing, D. K.; Evans, T. M. and Goyal, J.
- 37 *The Astrophysical Journal*, Volume 871, Issue 1, article id. 56, 21 pp. (2019)
(abridged) The Limits of the Primitive Equations of Dynamics.
Mayne, N. J.; Drummond, B.; F. Debras; et al.
- 36 *Monthly Notices of the Royal Astronomical Society*, Volume 482, Issue 4, p.4503–4513 (2019)
Fully scalable forward model grid of exoplanet transmission spectra.
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- 35 *The Astrophysical Journal*, Volume 869, Issue 1, article id. 28, 17 pp. (2018)
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- 34 *Publications of the Astronomical Society of the Pacific*, Volume 130, Issue 993, pp. 114402 (2018)
The Transiting Exoplanet Community Early Release Science Program for JWST
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- 33 *Monthly Notices of the Royal Astronomical Society*, Volume 481, Issue 1, p.194–205 (2018)
(abridged) Exonephology: a transmission spectrum of a simulated cloudy HD 209458b.
Lines, S.; Manners, J.; **Mayne, N. J.**; Goyal, J.; Carter, A.; Boutle, I.; Lee, E.; et al.
- 32 *Astronomy & Astrophysics*, Volume 615, id.A97, 27 pp. (2018)
Simulating the cloudy atmospheres of HD 209458b and HD 189733b with the 3D Met Office GCM.
Lines, S.; **Mayne, N. J.**; Boutle, I. A.; Manners, J.; Lee, E.; et al. incl. Kerslake, M.
- 31 *Nature*, Volume 557, Issue 7706, p.526–529 (2018)
An absolute sodium abundance for a cloud-free ‘hot–Saturn’ exoplanet.
Nikolov, N.; Sing, D.; Fortney, J.; Goyal, J.; Drummond, B.; Evans, T.; et al. incl. **Mayne, N. J.**
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Drummond, B.; **Mayne, N. J.**; Baraffe, I.; Tremblin, P.; Manners, J.; Amundsen, D. S.; et al.
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Drummond, B.; **Mayne, N. J.**; Manners, J.; Carter, A. L.; Boutle, I.; Baraffe, I.; Hébrard, E.; et al.
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A library of ATMO forward model transmission spectra for hot Jupiter exoplanets.
Goyal, J. M.; **Mayne, N. J.**; Sing, D.; Drummond, B.; Tremblin, P.; Amundsen, D. S.; et al.
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(abridged) Advection of potential temperature in the atmosphere of irradiated exoplanets.
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Results from a set of three-dimensional numerical experiments of a hot Jupiter atmosphere.
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Exploring the climate of Proxima Centauri B with the Met Office Unified Model.
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I. A. Boutle.; **Nathan J. Mayne**; Benjamin Drummond; James Manners; et al.
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(abridged) Treatment of overlapping gaseous absorption with the correlated-k method.
Amundsen, D. S.; Pascal Tremblin.; James Manners.; Isabelle Baraffe.; & **N. J. Mayne.**
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Amundsen, D. S.; **N. J. Mayne.**; Isabelle Baraffe.; James Manners.; Pascal Tremblin.; et al.
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(abridged) Effects of Consistent Chemical Kinetics on PT profiles & Emission of Hot Jupiters
B. Drummond.; P. Tremblin.; I. Baraffe.; D. S. Amundsen.; **N. J. Mayne.**; et al.
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The mineral clouds on HD 209458b and HD 189733b.
Helling, CH.; Lee, E.; Dobbs-Dixon, I.; **Mayne N.**; Amundsen, D. S.; Khaimova, J.; et al.
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- 19 Monthly Notices of the Royal Astronomical Society, Volume 445, Issue 4, p.3496-3511 (2014)
Pre-main-sequence isochrones – III. The Cluster Collaboration isochrone server.
Bell, Cameron P. M.; Rees, Jon M.; Naylor, Tim; **Mayne, N. J.**; et al.
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- 18 Geoscientific Model Development, Volume 7, Issue 6, 2014, pp.3059-3087 (2014)
Using the UM dynamical cores to reproduce idealised 3-D flows.
Mayne, N. J.; Baraffe, I.; Acreman, D. M.; Smith, C.; Wood, N.; Skålid Amundsen; et al.
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- 17 Astronomy & Astrophysics, Volume 564, id.A59, 16 pp. (2014)
Accuracy tests of radiation schemes used in hot Jupiter global circulation models.
Amundsen, David S.; Baraffe, I; Tremblin, P; Manners, J.; Hayek, W; **Mayne, N. J.**; et al.
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(abridged) The unified model, applied to hot Jupiters. ENDGame for a HD 209458b test case.
Mayne, Nathan J.; Baraffe, Isabelle; Acreman, David M.; Smith, Chris; et al.
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- 15 Monthly Notices of the Royal Astronomical Society, Volume 434, Issue 3, p.2438-2450 (2013)
A lithium depletion boundary age of 22 Myr for NGC 1960.
Jeffries, R. D.; Naylor, Tim; **Mayne, N. J.**; Bell, Cameron P. M.; Littlefair, S. P.
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- 14 Monthly Notices of the Royal Astronomical Society, Volume 434, Issue 2, p.966-977 (2013)
No evidence for intense, cold accretion on to YSOs from measurements of Li in T-Tauri stars.
Sergison, Darryl J.; **Mayne, N. J.**; Naylor, Tim; Jeffries, R. D.; Bell, Cameron P. M.
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- 13 Monthly Notices of the Royal Astronomical Society, Volume 434, Issue 1, p.806-831 (2013)
Pre-main-sequence isochrones - II. Revising star and planet formation time-scales.
Bell, Cameron P. M.; Naylor, Tim; **Mayne, N. J.**; Jeffries, R. D.; Littlefair, S. P.
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- 12 Monthly Notices of the Royal Astronomical Society, Volume 424, Issue 4, pp. 3178-3191 (2012)
Pre-main-sequence isochrones - I. The Pleiades benchmark.
Bell, Cameron P. M.; Naylor, Tim; **Mayne, N. J.**; Jeffries, R. D.; Littlefair, S. P.
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- 11 The Astrophysical Journal, Volume 755, Issue 2, article id. 97, 20 pp. (2012)
(abridged) Can We Predict Global Magnetic Topology of PMS Star from HR Diagram?
Gregory, S. G.; Donati, J.-F.; Morin, J.; Hussain, G. A. J.; **Mayne, N. J.**; et al.
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- 10 Monthly Notices of the Royal Astronomical Society, Volume 423, Issue 2, pp. 1775-1804 (2012)

Bayesian fitting of Taurus brown dwarf spectral energy distributions.

Mayne, N. J.; Harries, Tim J.; Rowe, John; Acreman, David M.

- 9 Monthly Notices of the Royal Astronomical Society, Volume 418, Issue 3, pp. 1948-1958 (2011)
No wide spread of stellar ages in the Orion Nebula Cluster.
Jeffries, R. D.; Littlefair, S. P.; Naylor, Tim; **Mayne, N. J.**

- 8 Monthly Notices of the Royal Astronomical Society: Letters, Volume 413, Issue 1, pp. L56-L60 (2011)
Accretion-induced luminosity spreads in young clusters: evidence from stellar rotation.
Littlefair, S. P.; Naylor, Tim; **Mayne, N. J.**; Saunders, Eric; Jeffries, R. D.

- 7 Monthly Notices of the Royal Astronomical Society, Volume 409, Issue 4, pp. 1307-1329 (2010)
On the properties of discs around accreting brown dwarfs.
Mayne, Nathan J.; Harries, Tim J.

- 6 Monthly Notices of the Royal Astronomical Society, Volume 408, Issue 3, pp. 1409-1416 (2010)
Observational indicators of the transition from fully convective stars to stars with radiative cores.
Mayne, N. J.

- 5 Monthly Notices of the Royal Astronomical Society, Volume 403, Issue 2, pp. 545-557 (2010)
Rotation of young stars in Cepheus OB3b.
Littlefair, S. P.; Naylor, Tim; **Mayne, N. J.**; Saunders, Eric S.; Jeffries, R. D.

- 4 Monthly Notices of the Royal Astronomical Society, Volume 397, Issue 1, pp. 405-410 (2009)
Pre-main-sequence variability across the radiative-convective gap.
Saunders, Eric S.; Naylor, Tim; **Mayne, Nathan**; Littlefair, S. P.

- 3 Monthly Notices of the Royal Astronomical Society, Volume 386, Issue 1, pp. 261-277 (2008)
Fitting the young main sequence; distances, ages and age spreads.
Mayne, N. J.; Naylor, Tim.

- 2 Monthly Notices of the Royal Astronomical Society, Volume 376, Issue 2, pp. 580-598 (2007)
The Keele-Exeter young cluster survey - I. Low-mass pre-main-sequence stars in NGC 2169.
Jeffries, R. D.; Oliveira, J. M.; Naylor, Tim; **Mayne, N. J.**; Littlefair, S. P.

- 1 Monthly Notices of the Royal Astronomical Society, Volume 375, Issue 4, pp. 1220-1240 (2007)
Empirical Isochrones and relative ages for young stars and the radiative-convective gap.
Mayne, N. J.; Naylor, Tim; Littlefair, S. P.; Saunders, Eric S.; Jeffries, R. D.

Unrefereed Publications e.g., ‘white papers’ or policy documents (reverse date ordered)

- 3 Royal Society: Policy Implications of the Metaverse
Vine, S.; Blum-Dumontet, E.; et al., incl. **Mayne, N. J.**

 - 2 White paper for Twinkle Mission (2022)
The Twinkle Space Mission.
Edwards, B.; et al., incl. **Mayne, N. J.**

 - 1 White paper for ESA Voyage 2050 (2019)
Detecting life outside our solar system with a large high-contrast-imaging mission.
Snellen, I.; et al., incl. **Mayne, N. J.**
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[Additional & Previous Resource Awards](#)

	Direct Funding: PI/Host	Est. Total Value
2024	IDSAI Seed-Corn proposal, AI Climates (with O. Lewis & C. Brunt)	~£30 000
2023	DiRaC: Research Software Engineer Support	~£45 000
2023	RAS & Office for Astronomy Development, Astro4Dev grant (Hawi Yohanis, Ethiopia)	~£1 000
2022	DiRaC: Research Software Engineer Support	~£60 000
2021	DiRaC: Research Software Engineer Support	~£60 000
2020	DiRaC: Research Software Engineer Support	~£50 000
2020	Leverhulme: Research Project Grant	~£210 000
2019	STFC: Nucleus Award	~£125 000

2019	Hill Family PhD Scholarship & Diamond Jubilee Fund (Jake Eager-Nash)	~£90 000
2018	Impact Fund: STFC consolidated grant	~£28 000
2017	STFC Consolidated Grant: sub-project	~£300 000
2017	Impact Fund: IIB and CEMPS (internal)	~£21 000
2017	International Excellence Scholarship (awarded: student declined) (internal)	[~£131 000]
2016	Leverhulme: Research Project Grant	~£250 000
2015	Univ. Exeter PhD Studentship (internal)	~£80 000
2015–present	Minor Awards Total (e.g., travel grants, internships, equipment etc.)	~£55 000
2013–present	Met Office Academic Partnership (MOAP): staff secondments total of five seconded staff, various time allocations	~£150 000

Direct Funding: Co-I

Est. Total Value

2021	STFC: Spark (project partner, PI: Exeter Science Centre)	~£15 000
2020	STFC: Spark (project partner, PI: We The Curious)	~£15 000
2017	STFC Consolidated Grant (PI: I. Baraffe)	~£1 800 000
	Sub-Project: STFC Consolidated Grant project (PI: H. F. Lambert)	[~£300 000]
	Sub-Project: STFC Consolidated Grant project (PI: E. Hébrard)	[~£300 000]

High Performance Computing Resources

Est. 'In-kind' Value

2024	Isambard AI Allocation	(TBD)
2022	DiRAC:, ~80 million CPU hrs (PI: Prof. M. Bate)	~£3 000 000
2021	DiRAC:, ~20 million CPU hrs (PI: Prof. M. Bate)	~£1 000 000
2021	DiRAC:, ~4 million CPU hrs (PI: Prof. M. Bate)	~£200 000
2020	DiRAC:, ~18 million CPU hrs (PI: Prof. M. Bate)	~£1 000 000
2019	DiRAC:, ~62 million CPU hrs (PI: Prof. M. Bate)	~£2 500 000
2018	DiRAC:, ~22 million CPU hrs (PI: Prof. M. Bate)	~£900 000
2017	DiRAC: ~23 million CPU hrs (PI: Prof. M. Bate)	~£900 000
2015	DiRAC: ~75 million CPU hrs (PI: Prof. M. Bate)	~£3 000 000
2015–present	MONSooN: ~320 000 CPU hrs/year Rolling allocation (PI: Prof. P. Palmer)	~£14 000
2015–ongoing	MONSooN: ~160 000 CPU hrs/year Rolling allocation (PI: Dr J. Manners)	~£7 000/yr
2012	DiRAC: ~26 million CPU hrs (PI: Prof. M. Bate)	~£1 000 000

Observational Facilities Resources

Est. 'In-kind' Value

2024	JWST Cycle 3, 125.66 hrs (+24hrs HST) (Large, PI: Prof. Sing)	TBD
2023	JWST Cycle 2, 24.40 hrs (PI: Dr. Whiteford)	TBD
2023	JWST Cycle 2, 61.53 hrs (PI: Dr. Espinoza)	TBD
2023	JWST Cycle 2, 49.21 hrs (PI: Dr. Kirk)	TBD
2021	HST: 27 Primary Spacecraft Orbits in Cycle 29 (PI. Prof. D. Sing)	~£200,000
2021	JWST: 44.7 Primary Spacecraft Hours in Cycle 1 (PI. Dr T. Evans)	Pending
2019	HST: 14 Orbits (PI. Prof. D. Sing)	~£100,000
2019	HST: 60 Orbits (PI. Dr T. Evans)	~£500,000
2019	Spitzer DDT: 24 hrs, spectroscopy (PI. Dr N. Nikolov)	~£500 000
2017	Spitzer DDT: 80 hrs, phase curve (PI: Dr T. Evans)	~£1 000 000
2016	ESO SPHERE: 11 hrs, imaging (PI: E. Matthews)	~£35 000
2016	ESO FORS2, Large programme ~13 nights, spectroscopy (PI: Dr N. Nikolov)	~£400 000
2016	ESO SPHERE: 1 night, polarisation (PI: Prof. S. Hinkley)	~£30 000
2016	ESO SPHERE, NACO DDT: 8 hrs, imaging) (PI: Prof. S. Hinkley)	~£25 000
2015	ESO SPHERE: 16 hrs, imaging (PI: Prof. S. Hinkley)	~£50 000
2015	ESO SPHERE: 16 hrs, imaging (PI: Prof. S. Hinkley)	~£50 000
2014	ESO SPHERE: 18 hrs, imaging (PI: Prof. S. Hinkley)	~£55 000
2012	Isaac Newton Telescope (INT): 7 nights, photometry (PI: Prof. T. Naylor)	~£25 000
2011	William Herschel Telescope (WHT): 3 nights, multi-fibre spectroscopy	~£51 000
2010	Liverpool Telescope (LT): photometry (PI: Prof. T. Naylor)	~£8 500
2009	Gemini: multi-object spectroscopy (PI: Prof. T. Naylor)	~£51 000
2008	WHT:, multi-fibre spectroscopy (PI: Prof. T. Harries)	~£17 000
2008	WHT: multi-fibre spectroscopy (PI: Prof. T. Naylor)	~£51 000
2008	INT: photometry (PI: Prof. T. Naylor)	~£30 000
2008	INT: photometry (PI: Prof. T. Naylor)	~£5 000

2007	INT: photometry (PI: Prof. T. Naylor)	~£30 000
2007	WHT: multi-fibre spectroscopy (PI: Prof. T. Harries)	~£17 000
2006	WHT: multi-fibre spectroscopy (PI: Prof. T. Naylor)	~£102 000
2005	WHT: multi-fibre spectroscopy (PI: Prof. T. Naylor)	~£51 000
2005	Gemini: multi-object spectroscopy (PI: Prof. R. D. Jeffries)	~£51 000

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Additional & Previous Impact, Knowledge Exchange & Engagement

Additional Highlight Outputs:

Exoclimes Engage Event, (recordings)	2023
Space Careers Interview & Film for Next Steps South West	2022
Talking head in VR tour of Space Port	2023
Part of Cornwall Spaceport VR tour	2023
Co-lead: Exeter climate 'pop-up' exhibit	2022
Co-developed: Exoplanet Explorers Game	2022
Consultant: Cornwall Space Port "Story of a Satellite" Exhibit	2022
Created Exoplanet Teaching Resources (with Prof. J. Dillon.)	2022
Led: Exoplanet Explorer Engagement Project	2019–
Created material for We The Curious Autumn Planetarium Show	2018–
Created material for Exoplanet Concept Videos, Physics@Exeter	2019–

Misc. Public Engagement

- Events: Cunard/Carnival: Insights Speaker (Queen Mary II), 2023; Presentation and panelist at the 5th Shaw-IAU Workshop on Astronomy for Education, Nov. 2023; Talk at British Science Festival event with Exeter Science Centre, Sep. 2023; Gaia Event speaker at Exeter Cathedral, Feb. 2023; Presentation at Standon Calling Music Festival for Agile Rabbit, Jul. 2022; 'Space Matters' series presentation at Royal Cornwall Museum, May 2022; Presentation for Pint of Science, Turk's Head Exeter, May 2022; Exeter Science Centre Pop-up, consultant, 2022; Great Conjunction Event², including filmed segment, Dec. 2020; Joint event with Garth Wareley (Graffiti artist) for young people in South Africa and India on the Art-Science connection, Dec. 2020; Creative Writing Workshop with Amy Lilwall and Anna Kiernan, Exeter College, Feb. 2020; Presentation at IOP event, 2019; Speech at Excellence Awards for pupils of Cornwall schools, Penryn, 2019; Invitation to induction of artists through University of Exeter Arts and Culture 2019; Joint talk with Engine House VFX at Cornwall Immersive Technology, Event, Bedruthan, 2019; Provision of VR experience for South West Space Innovation Event, 2019; panel member for discussion at 'Greater than I' Panel Exeter Art Week Exeter, 2018; presentation at National Space Centre, Space Late event, 2018; School Physicist of the Year, presentation, 2015, 2017, 2018; Pint of Science presentation, Exeter, 2015, 2018; Britain Needs Scientists, plenary presentation 2015, 2016, 2018; invited talk at National Student Space Conference, University of Exeter 2017; presentation at Eden Project "Journey into Space" exhibition, Cornwall, 2017; presentation at New Scientist Live! event, 2017³; presentation at Disney futures workshop, 2015; Britain Needs Scientists, presentation, 2013, 2014; 3-minute wonder competition at Festival of Science, 2013
- Public Presentations: evening lecture, Thomas Hardy School Dorchester, 2016; evening lecture, Camborne Science and International Academy, 2016; 'Stargazing Live!' event, Univ. of Exeter, 2016; Plymouth Astronomical Society, 2016; Penryn Campus, Univ. of Exeter, 2016; Christmas lecture, Devonport High School for boys 2015; Christmas lecture, University of Exeter, 2014; National dark skies reserve, 2013; Cafe Scientifique, Sidmouth, 2012; open evening, international year of astronomy, organisation & overview presentation, University of Exeter, 2010
- Presentations for Schools: Exeter School, 2023; Wynstream School, Exeter, 2023; Withycombe Raleigh Primary School, 2023; Ogden Partnership talk @Sherborne School for Girls, 2023; Millfield School, 2023; Tretheras School, Newquay, 2022; Millfield School, 2020; Humphry Davy School, Penzance, 2020; Withycombe Raleigh School, 2019; Pool Academy Exoplanet Session, 2019; Exeter Scholars Programme Lecture, 2019; Physics progression programme lecture, 2018; St Johns International, Sidmouth 2018; NEXUS Camborne Science & International Academy, 2018; Year 7 "Space Day", Exeter College, Exeter 2017; Withycombe Raleigh CoE, Exmouth 2017; Communication Skills Course, 2016; Careers in physics at Truro College, 2014, 2015, 2016; Stoke Hill Junior school, Exeter 2015, 2016; home educated, and behavioural problem group, Redruth, 2014; St Luke's Science week, 2014; Tavistock school visit, 2013, 2014; Exwick Heights, Exeter, 2013; Badminton School, Bristol, 2012; Uffculme School, 2010; International School, Dubai 2009; Yeovil College, 'Meet the Scientist', poster & workshop, 2008

²<https://www.communicatingastronomy.org/cap2021-proceedings/>

³<https://live.newscientist.com/talks> ~30,000 visitors

- Presentations to Societies/Groups: Cornwall Amateur Astronomy Society, Mabe, (virtual) 2020; Exmouth Sea-Cadets, 2018; U3A (University of the Third Age), Exeter, 2017; Kaleider collaborative studio, 2016; Cornwall Amateur Astronomy Society, Mabe, 2015; Norman Lockyer Observatory, Sidmouth 2015; Torbay Astronomical Society, 2015; Senior Physics Society, Charterhouse School, 2014; Astronomy Society, seminar, Tiverton, 2011; Astronomy Society, Callington, 2011; Cornwall Astronomy Society, Penryn, 2011; Brannell Astronomy Society, Callington, 2010
- Miscellaneous: Careers session for Exeter Foundation Programme, 2023, 2024; Co-Author on Royal Society: Policy Implications of the Metaverse, 2023; Research & Career Pathway Talk, Foundation Programmes, Exeter, 2022; Consultant on Enos performance by Donald Craigie, 2022; Consultant on We The Curious Autumn Stargazing Planetarium show, 2021; Exeter Scholars Virtual Residential, 2020; Interview Training (Julian Shreeve), 2020; Media Training Event, Exeter, 2020; STFC Wonder Meeting, Swindon, 2019; Feature in CICT Winter Newsletter, 2019; Presentation on accessing Physics degrees for Exeter Scholars Students, Jan. 2019; Judge of Ogden Trust Science Essay Competition, Falmouth, Jul. 2017; Part of team which set up, and contributes to "Physics at Exeter" youtube channel, 2016; Short Concept Videos for Astrophysics outreach; Story on nomination of video for Lovie Award

Media

- TV & Video: BBC Spotlight Feature on Engagement Work, 2019; Promotional video for Centre for Intermedia and Creative Technology (CICT), 2018; TED^x Truro, presentation Sep. 2016; BBC Breakfast News interview & special comments (partial eclipse), Mar. 2015; Appearance on BBC 'Stargazing Live!' Programme, filmed segment, Jan. 2014
- Featured Articles: UM Newsletter article, May. 2023; Article on Ridgway et al., 2022; UM Newsletter article, Mar. 2020; Story in BBC science Focus Magazine, Aug. 2019; Article in University of Exeter Alumni Magazine, Mar. 2018; Story in CICT Newsletter, Apr. 2018; Article for "The Conversation", Oct. 2016
- Interviews & Press Releases: Wasp-39b; Combined Press Releases on THAI project: NASA, CNRS and Exeter; (2022); Story in Daily Beast on Nicholson et al., (2022) Press Release on Nature Astronomy Article, 2022; Press Release on Game Release for Space Week, 2021 [coordinated with We The Curious: Game & Animations]; BBC Radio Devon, Soundtrack of the Southwest, 2020; BBC Radio Devon Interview (UKRI FLF award), 2020; Press release on UKRI Future Leaders Fellowship, 2020; Combined UoE, UEA and UKRI STFC Press release on Nature Communications article featured in, for example, the Daily Mail, Science Daily, the Independent, ITV, and Sci Show, 2020; BBC Radio Devon Interview, 2020; Press Release on Schools Engagement Session at Pool Academy, 2019; Press Release on Virtual Reality Video reaching 1 Million views, Apr. 2018; Interview on 'Pint of Science' talk, BBC Radio Devon on, May. 2018; Press Release on Nature publication, May. 2018; Produced Animations with Engine House and At-Bristol for joint NASA & University of Exeter press release. Featured in e.g., Express, Verge, Sci News, Daily Star, IB Times, Telegraph, New Scientist, Science Alert, Science Daily, Sky at Night, Sky and Telescope, IFL Science, Forbes, NBC, Wired, Mirror, Phys Org, Inverse, Physics World, Astronomy Now etc. Aug. 2017; Interviews for WIRED, IFLScience, International Business Times, Financial Times, VICE, BBC World Service & BBC Radio Devon, Jun. 2017; Press Release on "Exoplanet Explorer" animations, Oct. 2017; Press release on research, University of Exeter, May. 2017; Radio Exe interview (Perseid Meteor Shower), Aug. 2015, Aug. 2016; Interviews on Perseid Meteor Shower, Radio Devon & Western Morning News, Aug. 2016; Coordinated NASA/University of Exeter press release on Research publication, Sep. 2016; Interview for "Research Fortnight", Dec. 2016; Interview on searching for life on exoplanets, RadioEXE, Oct. 2016; Interview for Devon Life magazine, 2014; News article, Express and Echo, 2014; Interview on Exoplanet modeling, BBC Radio Devon, 2014, Interview on Exoplanet modeling, BBC Radio Cornwall, 2014; News article, University of Exeter research news, 2014; News article, Met Office research news, 2014; News article, Daily Mail, 2012
- Miscellaneous: Research image as front cover of Icarus, Volume 410, 1 March 2024, 115908, 2023. ROUTES Network Conversation on Planetary Migration, May 2022; Invited to attend Spaceport Cornwall "Earth, Environment, Intelligence" event at Eden Project, Feb. 2022; Invited to attend Virgin Orbit UK Supplier Showcase, Jun. 2021; British Science Week Tweet, Mar. 2020; Physics@Exeter, 2019; Research image as front cover of Astronomy & Astrophysics Vol 561, Jan. 2014.

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Previous Postgraduate Research

- Completed Postdoctoral & Secondments: Dr Cédric Mesnage (IDSAI Seedcorn; Apr. 2024–Sep. 2024), Dr Sophie Wilmes (Sep. 2021–Sep. 2024), Dr Arwen Nicholson (Nov. 2020–May. 2024), Dr Ricky Olivier (Apr 2023–Apr. 2024), Dr Stefan Lines (secondment, May. 2021–Oct. 2023), Dr Eva-Maria Ahrer (Jul. 2023–Oct. 2-23, moved to MPIA), Dr Duncan Christie (Sep. 2019–Oct. 2022, moved to MPIA); Dr Lokesh Ragta (DiRAC Research Software Engineer, Jan 2021–Jun 2022), Dr Mark Hammond (with Prof D. Mitchell, Bristol, 2021, moved to Oxford fellowship); Dr James Manners (Met Office Secondment, 2013–2019, moved to joint position at

Univ. Exeter, 20% & Met Office, 80%); Dr Ben Drummond (STFC, 2017–2019, co-supervisor: Dr E. Hébrard, moved to Met Office **permanent**); Dr Stefan Lines (Leverhulme & STFC, 2016–2019, moved to Met Office **permanent**); Dr Ian Boutle (Met Office Secondment, 2016–2019); Dr Paul Cresswell (Met Office Secondment, 2016–2017); Dr Chris Smith (Met Office Secondment, 2013–2015)

- Graduated PhD: Dr Michelle Biegar (co-supervisors: Dr E. Hébrard, moved to position at DigiLab), Dr Jake Eager-Nash (co-supervisors: Dr E. Hébrard, Prof. F. H. Lambert, moved to postdoc at University of Victoria, Canada), Dr Simon Lance (co-supervisor: Prof. M. Browning, moved to postdoc at Exeter), Dr Robbie Ridgway (co-supervisor: Dr M. Zamyatina), Dr Guang “Menk” Huang (co-supervisor: Prof. T. Lenton, moved to Shenzhen Middle School), Dr M. Phillips (co-supervisor: Prof. I. Baraffe, moved to IfA), Dr J. Goyal (co-supervisor: Prof. D. Sing, moved to postdoc Cornell, NISER, India **permanent**), Dr J. Spake (co-supervisor: Prof. D. Sing, moved to Caltech–51 Peg fellowship); Dr Florian Debras (co-supervisor: Prof. G. Chabrier, moved to postdoc Univ. Toulouse, 2016–2019, CNRS 2020 **permanent**); Dr Ben Drummond (co-supervisor: Prof. I. Baraffe, moved to postdoc: Univ. Exeter, 2013–2017); Dr Darryl Sergison (co-supervisor: Prof. T. Naylor, 2013–2016); Dr David S. Amundsen (co-supervisor: Prof. I. Baraffe, moved to postdoc: Columbia Univ., 2012–2015); Dr Cameron Bell (co-supervisor: Prof. T. Naylor, moved to postdoc: ETH, Zurich, 2009–2012)
- Graduated MSc/MSci: Meghan Plumridge (Msci by Res [withdrew], 2022, moved to PhD Cambridge); Danny McCulloch (MSci by research, 2022, moved to PhD Exeter); Janke Prins (with Prof. I. Kamp, Groningen, MSc in Science Communication, 2022); Charlie Sweetland (MSc: Advanced Mathematics, 2015)
- Sponsorship of Honorary Positions (7): Stefan Lines (Met Office, MO); Benjamin Drummond (MO); Robert Sullivan (Ministry Of Defence, MOD); Ian Boutle (MO); James Manners (MO); Chris Smith (MO); Florian Debras (Univ. Lyon).

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Additional & Previous Communication

Invited Talks/Seminars:

Exoplanet Seminar Series, University of Cambridge	Oct. 2021
Kernow Sat Think Tank	May. 2021
Kavli institute for astrophysics and space research, MIT	May. 2021
Astrophysics, space research & stellar physics, Univ. of Birmingham	May. 2021
Astro-APEX (Astrobiology and Planetary Exploration), University College London	Apr. 2021
University of Geneva	Mar. 2021
Institut d’Astrophysique de Paris	Oct. 2020
THAI Workshop, Online workshop	Sep. 2020
Department of Astrophysics, Univ. of Vienna	Apr. 2020
BRIDGE Seminar Series, University of Bristol	Feb. 2020
“On Stars and Planets”, Center for Space Science, New York University, Abu Dhabi	Jan. 2020
Centre for Space and Habitability, University of Bern	Dec. 2019
Extreme Environments Think Tank, Penryn Campus, Univ. Exeter	Oct. 2019
Department of Physics & Astronomy, University of Sheffield	Oct. 2019
Lovelock Centenary: The Future of Global Systems Thinking, Univ. Exeter	Jul. 2019
Star Planet 2019, Ringberg (MPIA) Germany	Jun. 2019
Atmospheric, Oceanic and Planetary Physics, Oxford University	May. 2019
Dynamics of Rotating Fluids: ‘Dynamics of giant planets’, Univ. Exeter	Apr. 2019
Digital Exoplanets, MOLIM/COST Workshop, Charles University, Prague	Jan. 2019
Spectroscopy of Exoplanets, Cumberland Lodge (University College London)	Jul. 2018
Astronomy & Astrophysics Group, University of Warwick	May. 2018
Fluids & MHD seminars, University of Leeds	Apr. 2018
Plenary: Met Office Academic Partnership Poster & Presentation Event, Met Office	Feb. 2018
Dynamics of Rotating Fluids: ‘Dynamics of giant planets’, UCL	Jan. 2018
(abridged) Planetary atmospheres..., Wenner-Gren Center, Stockholm	Jun. 2017
(abridged) Climate science, atmospheres and life..., Univ. Cambridge	May. 2017
(abridged) Atmospheres of Disks and Planets 2017..., Ringberg (MPIA), Germany	Apr. 2017
Plenary: “CliMathNet” International Conference, University of Exeter	Jul. 2016
Astrophysics Research Institute, Liverpool John Moores University	Oct. 2016
Department of Physics and Astronomy, University of Leicester	Jun. 2016
Centre for Atmospheric Science, University of Cambridge	May. 2016
Institute for Astronomy, The University of Edinburgh, Royal Observatory	Oct. 2015
Atmospheric, Oceanic and Planetary Physics, Oxford University	Feb. 2015
Planetary Science, Department, Caltech	Dec. 2015
Institute for Planets and Exoplanets, UCLA	Dec. 2014
LCOGT, Santa Barbara	Dec. 2014
Department of Astronomy and Astrophysics, UC Santa Cruz	Dec. 2014

NASA Ames	Dec. 2014
Lunar and Planetary Lab, University of Arizona	Nov. 2014
School of Physics and Astronomy, University of St. Andrews	May. 2014
Geophysical and Astrophysical Fluids Department, University of Exeter	May. 2014
Applied Mathematics Department, University of Exeter	Jun. 2012
Met Office, Exeter	Jul. 2012
Astrophysics Group (star formation), University of Keele	Aug. 2009

Contributed Talks:

AbSciCon: Towards a Probabilistic Biotic Habitable RI, US	May 2024
Future Leaders: Two O'clock Talks	Nov. 2020
"OWL: ESP programme", UCSC	Jul. 2018
"Exoplanet UK community meeting", Univ. of Exeter	Apr. 2016
"Met Office/Univ. of Exeter Space Weather day", Univ. of Exeter	Mar. 2015
"Exoplanet UK community meeting", Cambridge Univ.	Apr. 2014
"Exoclimates, international conference", Davos Congress Centre	Feb. 2014
"European Planetary Science Congress", international conference, Univ. College London	Sep. 2013
"Mind the gap", international conference (invited by organiser), Hertfordshire Univ.	Sep. 2013
"Rotational fluid dynamics: planetary & stellar applications", workshop, Univ. of Exeter	May. 2013
"GCM & Exoplanets", workshop, University of Exeter	Dec. 2011
"Constellation Meeting", international conference (star formation), Tenerife	Oct. 2010
"National Astronomical Meeting" (star formation), Belfast	Apr. 2008

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Previous Education Activity:

Previous Undergraduate Teaching

Research and Career Pathway Seminar: Science Skills and Culture, Foundation Programme	2022
Module Consultant: Mathematics with Physical Applications (PHY2025)	2020–2021
Tutorial (3 rd year)	2015–2016
4 groups (1 hr/week each), 20 students (Bsc & Mphys)	
General Problem Class	2011
Delivery of lectures, coordination of assessment & marking	
Astrophysics Practical Module (2 nd year)	2008
Preparation of course content & assessments and marking & delivery	
C-programming Module	2008
Preparation of course content & assessments, and marking & delivery	
Astrophysics Practical Module (1 st year)	2007
Marking & delivery	
Physics Practical Module:	2005–2011
Preparation of lab experiments & assessments, and marking & delivery	
Communication Skills Course (1 st year)	2004–2016
Overall organisation & lecture delivery	
Pre-University Physics Course (pre-entry)	2004–2016
Overall organisation & lecture delivery	

- Completed UG Project Supervision (39): Nona McIntosh (Jackson Grimes Summer Internship, Nat Sci, 2024); Vanshika Gupta, Tom Batchelor, Luke Benzing, Alex McGinty (Poster presentation at RSMet Early career conference, Met Office, 2024), Katherine Seeger, Tom Boxer, Jack Smith, Lucy Grain, Aaron Rogers, Peter Andrews, James McDermott (Awarded the GP Srivastava prize for outstanding research project) & James Bishop, Isabelle Browne, Huw Davies, Rosie Gillard & Oakley Young (MPhys, 2020-2022), Oakley Young (EPSRC Summer Bursary, 2021); Danny McCulloch, internship (Bsc Zoology, 2019–2020); Joshua Parkin & Esse Selwood (with Jake Eager & Denis Sergeev), internship (2020); Jake Eager & David Reichalt[†] (2017–2019); Scott Larcombe, Harry McCrea, Duncan Lyster[†] & Calum Smith (co-supervisor: Dr S. Lines, MPhys, 2016–2018); Stephanie O'Neill & Daniel Gymer (co-supervisor: Dr F. H. Lambert, Bsc: Nat Sci, 2017–2018); Liam Crossling & Dan Barlow (co-supervisor: Dr F. H. Lambert, MSci: Nat Sci, 2016–2017); Nestor Arsenov (co-supervisor: Dr E. Hébrard, summer project, 2017); Max Kerslake[†] (co-supervisor: Dr S. Lines, summer project, 2017); Neil Lewis^{†*} (co-supervisor: Dr F. H. Lambert, summer project, 2016, 2017); Matthew Read & Lewis Ireland^{**} (summer project, 2013); Tom Wilson & Sam Horailb (co-supervisor: Prof. T. Naylor, MPhys, 2011–2013)

[†] Article published in refereed journal * & ** Article published in JUST (<http://emps.exeter.ac.uk/just/>)

Additional & Previous Leadership & Service

Additional Awards, Achievements & Development

FLF Development Network: 360° coaching	2024
Venn Leadership Executive Coaching	2024–2025
FLF Development Network: Advisory Boards ⁴	2024
Keys to Confidence: Led by Prof. Sara Seager, MIT	2023
FLF Development Network: Leadership Retreat (Univ. Bath)	2023
FLF Development Network: Understanding Your Personal Leadership Style	2022
FLF Development Network: Leadership Mentor Workshop	2022
Supporting the Mental Health of your Team (Univ. Exeter)	2022
FLF Development Network: 360° coaching (Tesselle Development)	2022
FLF Development Network: Interdisciplinary Evaluation	2022
FLF Development Network: Redefining Creativity	2022
FLF Development Network: Managing Change	2022
FLF Development Network: Mentor Workshop	2022
DICE (Diversity, Inclusion, Cohesion, Equality) Advocate Training	2022
DICE (Diversity, Inclusion, Cohesion, Equality) Champion Training	2022
DICE (Diversity, Inclusion, Cohesion, Equality) Insight Training	2022
Institute of Physics Unconscious Bias Workshop, Loughborough Univ.	2015

Additional Institutional Roles:

FLF Interview Panel (internal)	2024
Chair: Routes conversation: Land ownership, public access and the right to roam	2023
Teaching Assessment and Feedback Working Group	2023
Physics Away Day, leadership and strategy group	2022
CEMPS Spaceport Cornwall Working Group	2021–2022
Member of the Extreme Environments Institute ‘task group’	Sep. 2019–2022
Research–IT Service Owner’s Board	Feb. 2020–2024
Creative Industries Strategy Group	Feb. 2020–Nov. 2021
Public Engagement Strategic Advisory Group (PEG)	Feb. 2020–Sep. 2021
REF2020 Writing Retreat (contributing to REF document preparation)	2020
Global Systems Institute, Academic Working Group (deputy for Prof. I. Baraffe)	Jan. 2018–2020
Member of Centre for Intermedia and Creative Technology Network, Univ. Exeter	Jan. 2018–Present
Admissions Tutor, Physics & Astronomy, Univ. of Exeter	Sep. 2016–2019
Overseeing entire undergraduate admissions process: applications, interviews & offers.	
Implemented cut at AAB+, returned highest tariff entrant cohort, 2016/2017	
Returned highest ever discipline interview success rate, 2017/2018	
Stage One Coordinator, Physics & Astronomy, Univ. of Exeter	Sep. 2016–2018
Chairing module planning & review meetings, overseeing all 1 st year students (attendance, performance etc.)	
Assistant Director of Education, Physics & Astronomy, Univ. of Exeter	Sep. 2016–2018
Staff–Student Liaison Committee, Education Committee & Accreditation Committee (IOP)	
Inclusivity Strategy/Writing Group, Physics & Astronomy, Univ. of Exeter	Sep. 2013–2019
Inclusivity Working Groups, Physics & Astronomy, Univ. of Exeter	Sep. 2012–2019
Postdoctoral Secondary Facilitator, CEMPS, Univ. of Exeter	Sep. 2010–Apr. 2014
UCAS Open Day/Offer Holder Day (research talks), Physics & Astronomy, Univ. of Exeter	2014–Present
Pre-University Physics Course Sample Lecture, Univ. of Exeter	Jul. 2015, Jul. 2016
Athena Swan: Engagement & Awareness day, Univ. of Exeter	Mar. 2015, 2016
Research Interactive (undergraduates), CEMPS, Univ. of Exeter	2013
Research Showcase (under- & post-graduates), CEMPS, Univ. of Exeter	2013, 2014, 2015
Research Speed-Updating (staff), Univ. of Exeter	2013

Additional Significant Contributions (non-Research):

Supralab: Inclusivity in Science Feature	Aug. 2024
FLF Development Away Day: Dynamic Teamwork (with local group)	2024
Panel Member: Profile & Visibility workshop	2023
Belbin Teamwork Training Session (Dr G. Wyn Story, with local group)	2023
Barefoot Thinking, Science Leadership Course (for local group)	2023
Exeter Exoplanet Theory Group Summer Meeting: Newquay (~20 delegates) mock proposal evaluation and interview training	2022
Next Generation Modelling Systems Programme Advisory Group, Met Office	2022
Provided: Interview training for postdoctoral fellows (Julian Shreeve)	2022
Mentor: Wowbagger Productions Mentoring Scheme	2021
Delivered: Mock Panel Funding and Training Exercise, (20 participants)	2020
REF Focus Group	Dec. 2020
Promotion Workshops Series (organiser & presenter), Univ. of Exeter	2014–2017

Additional Significant Contributions (Research):

Contributor: STFC Exascale Computation Requirements	2024
Ombudsperson: cycle 2 Morning/Evening terminator JWST program	2024–
Session Chair: Celebration of JWST, Ringberg	2022
Session Chair: Atmospheres: Modelling sessions, UKEXOM, Edinburgh	2022
Panel Member: ‘Exoplanet Atmospheres in the 2020s & beyond’ at National Astronomical Meeting	2022
Co-Author: DiRAC Exoplanet Science case for Project Board (lead author: R. Alexander)	2021
Led: Discussion session, “Exoplanet Modelling”, UKEXOM, ~30 delegates, St Andrews	Mar. 2017
Panel member: Discussion session, “Learning from Exoplanets”, CliMathNet	Jul. 2016
Sole Organiser: “Idealised Planetary Modelling” workshop, ~30 delegates, Univ. Exeter	Feb. 2016

SOC (Scientific Organising Committee):

BUFFET Workshop	Oct. 2023
NExSS CUISINES/BUFFET Workshop	Sep. 2021
UKEXOM Birmingham	Apr. 2021
Exoclimes, Univ. Oxford	, Aug. 2019
UKEXOM, Imperial & UCL	Apr. 2019
EWASS symposium, Liverpool	Apr. 2018
UKEXOM, Univ. Oxford	Mar. 2018
UKEXOM, Univ. Exeter	Apr. 2016
GCM workshop, Univ. Exeter	2011

Reviewing:

- Journals: ApJ, MNRAS, PASA, Nature Ast., SPAC, PRL
- Funding: Royal Society (URF), NASA Postdoctoral Programme (NPP), ERC CoG, NASA ICAR, NASA XRP, NASA HW, Royal Society (URF), Eccellenza Professorial Fellowship and Ambizione: Swiss National Science Foundation (SNSF), NASA (NSPIRES), STFC (Consolidated, Ernest Rutherford Fellowships, Spark, Nucleus, Public Engagement Fellowship), NWO (Vidi), All Souls College Oxford Fellowship, UKRI (Future Leader Peer Review College), Belgian Federal Science Policy Office, NASA XRF, Austrian Science Fund (FWF), French National Research Agency (ANR).
- Facilities Reviewing: James Webb Space Telescope (JWST), JWST Large programmes, Hubble Space Telescope (HST), Swiss National Supercomputing Centre (CSCS), European Southern Observatory (ESO)
- Funding/Resources Panels: JWST External Panel (Cycle 4 & 5, 2024/2025), UKRI FLF Sift Panel Observer (2024), NASA (2022, 2023, 2024 [Chair]), ESO OPC Expert (P112-113; C) (2022/2023), STFC/UKSA/ESA M7/F2 (2022).
- Member of UKRI FLF Peer Review College., ESO OPC Panel Co-Chair (P97-C4, P98-C2) 2015/2016 (requested P99-declined)

Memberships:

- Promotion/Tenure Committees: NASA, Univ. UA, Purdue Univ. Chalmers Univ. Univ. Geneva, JHU

Memberships:

- Member of CUISINES GCM inter-comparison committee
- Member of ARIEL consortium: (Phase Curve, Chemistry and Solar System Synergies working groups)
- Fellow of the Royal Astronomical Society

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