Nathan Mayne

Curriculum Vitae

n.j.mayne@exeter.ac.uk
http://exoclimatology.com/
http://www.astro.ex.ac.uk/people/nathan/
0000-0001-6707-4563

Academic Career

UKRI Future Leaders Fellow	University of Exeter	Feb. 2021–Present
Professor (Personal Chair)	University of Exeter	Aug. 2021–Present
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

PhD — Supervisor: Prof. T. Naylor, University of Exeter — Sep. 2004–Jun. 2008
"Using colour–magnitude diagrams to study the evolution of young stellar populations"

MPhys (hons), 1st Class — Univ. of Exeter (Supvr: Prof. W. Barnes) — Sep. 1999–Jun. 2003
Dissertation subject: surface plasmon resonance
Two Dean's commendations & school prize for outstanding results

Research and Publications

I have a strong and sustained track record of resource awards, from diverse sources, acting as both a principal and co-investigator. Additionally, I have a strong track record of high–quality publications, across a range of journals. Direct funding with estimated total amounts, and resource awards with estimated values, followed by publications are listed below.

Direct Funding: PI/Host		**Est. Total Value**
2023	MIT Seed Fund, Venus Climate (with. Prof. S. Seager) [submitted]	∼£30 000
2023	IDSAI Seed-Corn proposal, AI Climates (with. O. Lewis & C. Brunt) [submitted]	∼£30 000
2023	DiRaC: Research Software Engineer Support [submitted]	∼£30 000
2023	DiRaC: Research Software Engineer Support	∼£45 000
2023	Royal Society: International Exchanges (with Prof. N. Cowan, Montréal)	∼£12 000
2023	RAS & Office for Astronomy Development, Astro4Dev grant (Hawi Yohanis, Ethiopia)	∼£1 000
2023	China Scholarship Council, Visiting Scholar (Dr. Haitao Li, Chinese Academy of Sciences) [submitted]	∼£100 000
2023	University of Exeter PhD Scholarships for Black British Researchers (Sophia Adams)	∼£70 000
2022	DiRaC: Research Software Engineer Support	∼£60 000
2021	Institute of Physics: Bell–Burnell PhD Scholarship (Mei Ting Mak)	∼£77 000
2021	UKRI: Future Leaders Fellowship	∼£1 600 000
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**
2024	STFC: Astronomy Large Award (PI. P. Wheatley, Warwick)[EOI Accepted, in prep]	∼£5 000 000
2023	STFC: Small Award (PI: Dr. E. Hébrard)	∼£550 000
2021	Leverhulme: Research Project Grant (PI: M. Green, Bangor)	∼£250 000
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**
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**
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

Publications

NASA ADS (as of 29th January, 2024): 3769 citations, **h-index: 39**
Google Scholar (as of 29th January, 2024): 4580 citations, **h-index: 42**

Refereed Publications in Major Journals (reverse date ordered)

#	Journal, title and Author(s)
92	Accepted for Publication in The Planetary Science Journal. (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 Accepted for Publication in Nature Astronomy.
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.**

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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**.

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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.

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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.; Kavčič, I.; Kohary, K.; Manners, J.; et al.

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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.**

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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.

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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.; Bollasina, M.; Sergeev, D.; Palmer, P. & **Mayne, N.**

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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.**

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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.**

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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.

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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 NIRCam.
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.**

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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.

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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.

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74 Monthly Notices of the Royal Astronomical Society, Volume 518, Issue 2, pp.2472-2496. (2022)
(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.

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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.

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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.

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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.

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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.

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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.

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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.**

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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.**

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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.**

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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.**

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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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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.; Bollasina, M; Palmer, P; et al., incl **Mayne, N.**

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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.**

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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.**

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60 Precambrian Research Volume 366, November 2021, 106423 (2021)
(abridged): CO_2 and O_2 oxidised 2.7 Ga micrometeorites...suggesting a >32% CO2 atmosphere (Corrigendum)
Huang, G.; Eager-Nash, J.; **Mayne, N. J.**; Cui, D.; Manners, J.; Hébrard, E.; Liu, Z. & Lenton, T.

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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.

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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.**

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56 The Planetary Science Journal, Volume 2, Number 3 (2021).
(abridged) TRAPPIST Habitable Atmosphere Intercomparison (THAI) workshop report.

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[1] Associated news release

Fauchez, T.; Turbet, M.; Sergeev, D.; **Mayne, N.** et al.

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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.**.

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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.

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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.; McNeall, D. J.; Owen, D.; et al., incl. **Mayne, N.**

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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).
A Library of Self–consistent Simulated Exoplanet Atmospheres.
Goyal, J.; **Mayne, N.**; Drummond, B.; Sing, D. K.; Hébrard, E.; Lewis, N.; Tremblin, P. et al.

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49 Astronomy & Astrophysics, Volume 639, id.A99, 12 pp. (2020).
Implications of Stellar Type on the Climate of Tidally-locked Terrestrial Exoplanets.
Eager-Nash, J.; Reichelt, D.; **Mayne, N.**; Lambert, H. F.; Sergeev, D.; Boutle, I.; et al.

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48 Monthly Notices of the Royal Astronomical Society, Volume 496, Issue 2, pp.1638–1644. (2020).
(abridged) Confirmation of water emission in the dayside spectrum of Wasp–121b.
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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46 The Astrophysical Journal, Volume 894, Issue 2, id.84 (2020).
(abridged) Atmospheric convection plays a key role in the climate of tidally–locked terrestrial exoplanets.
Sergeev, D.; Lambert, H. F.; **Mayne, N.**; Boutle, I.; Manners, J. & Kohary, K.

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45 Astronomy & Astrophysics, Volume 636, id.A68, 30 pp. (2020).
(abridged) Implications of 3D chemical transport in hot Jupiter atmospheres.
Drummond, B.; Hébrard, E.; **Mayne, N.**; Venot, O.; Ridgway, R.; Changeat, Q.; Tsai, S-M.; et al.

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44 Geoscientific Model Development, Volume 13, Number 2, P. 707–716 (2020).
TRAPPIST-1 Habitable Atmosphere Intercomparison (THAI). Part I: Motivations and protocol.
Fauchez, T.; Turbet, M.; Wolf, E. T.; Boutle, I.; Way, M.; Del genio, A. D.; **Mayne, N.**; 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.

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42 Astronomy & Astrophysics, Volume 633, id.A2, 26pp. (2020).
(abridged) Acceleration of Superrotation in Simulated Hot Jupiter Atmospheres.
Debras, F.; **Mayne, N.**; Baraffe, I.; Jaupart, E.; Mourier, P.; Laibe, G.; Goffrey, T. & Thuburn, J.

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41 Astronomy & Astrophysics, Volume 632, id.A114, 13 pp. (2019)
(abridged) Deep Atmospheres of Hot Jupiters: Deep, Hot, Adiabats.
Sainsbury–Martinez, F.; Wang., P.; Fromang, S.; Tremblin, P.; et al. incl. **Mayne, N.**

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40 Astronomy & Astrophysics, Volume 631, id.A36, 15 pp. (2019)
(abridged) Eigenvectors, Circulations and Linear Instabilities for Planetary Science.
Debras, F.; **Mayne, N.**; Baraffe, I.; Goffrey, T. & Thuburn, J.

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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*.
Lines, S.; **Mayne, N.**; Manners, J.; Boutle, I. A.; Drummond, B.; et al.

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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.
Goyal, J.; Wakeford, H.; **Mayne, N**.; Lewis, N.; Drummond, B.; Sing, D.

35 The Astrophysical Journal, Volume 869, Issue 1, article id. 28, 17 pp. (2018)
(abridged) 3D thermal, dynamical and chemical structure of the atmosphere of HD 189733b.
Drummond, B.; **Mayne, N. J.**; Manners, J.; Baraffe, I.; Goyal, J.; Tremblin, P.; et al.

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
Bean, Jacob.; Stevenson, Kevin B.; Batalha, Natalie M.; et al. incl. **Mayne, Nathan**.

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.**

30 Astronomy & Astrophysics, Volume 612, id.A105, 17 pp. (2018)
(abridged) The effect of metallicity on the atmospheres of exoplanets.
Drummond, B.; **Mayne, N. J.**; Baraffe, I.; Tremblin, P.; Manners, J.; Amundsen, D. S.; et al.

29 The Astrophysical Journal Letters, Volume 855, Issue 2, article id. L31, 9 pp. (2018)
(abridged) Signatures of wind-driven chemistry with a fully consistent 3D model of HD209458b.
Drummond, B.; **Mayne, N. J.**; Manners, J.;Carter, A. L.; Boutle, I.; Baraffe, I.; Hébrard, E.; et al.

28 The Astrophysical Journal, Volume 854, Issue 2, article id. 171, 15 pp. (2018)
The influence of a sub-stellar continent on the climate of a tidally–locked exoplanet.
Lewis, N. T.; Lambert, F. H.; Boutle, .I A.; **Mayne, N. J.**; Manners, J.; Acreman, D. M.

27 Monthly Notices of the Royal Astronomical Society, Volume 474, Issue 4, p.5158-5185 (2018)
Erratum: Monthly Notices of the Royal Astronomical Society, Volume 486, Issue 1, p.783-795 (2019)
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.

26 The Astrophysical Journal, Volume 841, Issue 1, article id. 30, 8 pp. (2017)
(abridged) Advection of potential temperature in the atmosphere of irradiated exoplanets.
P. Tremblin.; G. Chabrier.; **N. J. Mayne.**; Amundsen, D. S.; I. Baraffe.; F. Debras.; et al..

25 Astronomy & Astrophysics, Volume 604, id.A79, 27 pp. (2017)
Results from a set of three-dimensional numerical experiments of a hot Jupiter atmosphere.
N. J. Mayne; F. Debras; I. Baraffe; John Thuburn; David S. Amundsen; et al.

24 Astronomy & Astrophysics, Volume 601, id.A120, 13 pp. (2017)
Exploring the climate of Proxima Centauri B with the Met Office Unified Model. (Corrigendum)
I. A. Boutle.; **Nathan J. Mayne**; Benjamin Drummond; James Manners; et al.

23 Astronomy & Astrophysics, Volume 598, id.A97, 10 pp. (2017)
(abridged) Treatment of overlapping gaseous absorption with the correlated-k method.
Amundsen, D. S.; Pascal Tremblin.; James Manners.; Isabelle Baraffe.; & **N. J. Mayne.**

22 Astronomy & Astrophysics, Volume 595, id.A36, 11 pp. (2016)
(abridged) UK Met Office GCM with a sophisticated radiation scheme applied to HD 209458b
Amundsen, D. S.; **N. J. Mayne.**; Isabelle Baraffe.; James Manners.; Pascal Tremblin.; et al.

21 Astronomy & Astrophysics, Volume 594, id.A69, 15 pp. (2016)
(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.

20 Monthly Notices of the Royal Astronomical Society, Volume 460, Issue 1, p.855-883 (2016)

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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16 Astronomy & Astrophysics, Volume 561, id.A1, 24 pp. (2014)
(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.

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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.**

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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.

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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.

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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.

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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.

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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.

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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.

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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.

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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.**

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

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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.**

Impact and Knowledge Exchange

I am a lead author of an Impact Case Study (ICS), which is an absolutely critical component of the UK Research Excellence Framework (REF) process[2], and also contributed to the University of Exeter's Knowledge Exchange Framework (KEF) submission. I have an exceptional track record of public engagement, and lead a key collaboration with the Met Office.

Primary Activity

- Exoclimes Engage Event, (recordings)
- UKRI/STFC Impact Video
- Space Careers Interview & Film for Next Steps South West
- Talking head in VR tour of Space Port
- Part of Cornwall Spaceport VR tour
- Part of team developing and delivering Exeter Science Centre 'pop-up' event (`https://exetersciencecentre.org/events/climate-pop-up/`)
- Co-developed Exoplanet Explorers Game: `http://exoexplorer.wethecurious.org/`
- **Lead author of Research Excellence Framework (REF) 2021 Impact Case Study (ICS)**
- Consultant on Cornwall Space Port "Story of a Satellite" Exhibit
- **Contributor to the University of Exeter Knowledge Exchange Framework (KEF) submission**
- Leading Exoplanet Explorer Engagement Project: `http://emps.exeter.ac.uk/exoplanetexplorers/`
- Created Exoplanet Teaching Resources: `https://fluxphysics.github.io/exoplanets/` (with Prof. J. Dillon.)
- Created Exoplanet Mini–documentary (360°): `https://youtu.be/qhLExhpXX0E`
  - YouTube Metrics: 17+ millions views, 5 000+ comments
  - **Winner of: Bronze and People's choice Awards, Lovie Awards, 2018**
  - Featured in We The Curious Autumn Planetarium Show
  - Adopted by Partners e.g., S[cube], `http://immobilitymagd.wpengine.com/imagining/`
  - Presentation on Project at Future Sync (`https:/futuresync.co.uk`) and Software Cornwall, 2019
- Developed Exoplanet Concept Videos, Physics@Exeter YouTube:
  e.g., `https://www.youtube.com/channel/UCX9eLLawNgedMYtYegsRqeQ`.
- Adaptation of a journal article for children: How can dust make planets more suitable for life? `https://www.nature.com/articles/s41467-020-16543-8` (working with `sciencejournalforkids.org`) [3].
- Created Cinematic (360°) Exoplanet Video: `https://www.youtube.com/watch?v=Vnke9dWofR8`
  - **Finalist for a VR Education and Training Award, 2019**
- Cunard/Carnival: Insights Speaker, 2023.

Misc. Public Engagement

- Events: Presentation and panellist 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 Event[4], 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

[2] UK Universities are evaluated through the REF, requiring demonstration of wider impacts of research through ICSs.
[3] This was the first Physical Sciences and Astrophysics article to be adapted in this way.
[4] `https://www.communicatingastronomy.org/cap2021-proceedings/`

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, 2017[5]; 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 Hardye 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

- 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 Traning 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

Education

I have contributed to several undergraduate modules, supervised a large number of undergraduate projects, been nominated for two teaching awards, and led the core Physics module Waves and Optics, receiving outstanding feedback in the most recent, official feedback exercise.

- Fellow of the Higher Education Academy (F-HEA), 2017
- PCAP (Postgraduate Certificate in Academic Practice), 2017
- **Nominated for Univ. Exeter Teaching Award, 2010 & 2019**

[5]https://live.newscientist.com/talks ∼30,000 visitors

Undergraduate Teaching

Research and Career Pathway Seminar: Science Skills and Culture, Foundation Programme	2022
Module Lead: Waves and Optics (PHY1023)	2020–2021
Student Feedback Scores (Univ. Exeter Accelerate Survey, April 2021):	
Average (15 questions total): 4.5/5.0	
Overall learning experience: 4.7/5.0	
Online resources: 4.9/5.0	
Undergraduate Project Supervision (e.g., MPhys, NatSci)	2011–Present
Module Consultant: Mathematics with Physical Applications (PHY2025)	2020–2021
Tutorial (3rd 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 (2nd 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 (1st year):	2007
Marking & delivery	
Physics Practical Module:	2005–2011
Preparation of lab experiments & assessments, and marking & delivery	
Communication Skills Course (1st year)	2004–2016
Overall organisation & lecture delivery	
Pre-University Physics Course (pre–entry)	2004–2016
Overall organisation & lecture delivery	

- Current UG Supervision (14): Jack Smith, Lucy Grain, Aaron Rogers, Peter Andrews, James McDermott (Awarded the GP Srivastava prize for outstanding research project) & James Bishop (MPhys, 2021-2023); Tom Batchelor, Luke Benzing, Jamie Hoskyns & Alex McGinty (MPhys, 2022-2024); Katherine Seeger (MPhys, 2022-2024); Tom Boxer & Vanshika Gupta (Nat Sci, 2022-2024)
- Completed UG Project Supervision (25): 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 Horaib (co–supervisor: Prof. T. Naylor, MPhys, 2011–2013)

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

Postgraduate Research

I currently lead a large research team, the Exeter Exoplanet Theory Group (EETG), and have previously been involved in the supervision of 9 PhD students, supporting several through to permanent research positions.

PhD Examination (6)

- Dr Mark Hammond (supervisor: Prof. R. Pierrehumbert), Univ. Oxford, 2019
- Dr Adam Finley (internal, supervisor: Prof. S. Matt), Univ. Exeter, 2020
- Dr Taylor Bell (supervisor: Prof. N. Cowan), McGill Space Institute, 2021
- Dr Anjali Piette (supervisor: Prof. Nikku Madhusudhan), Cambridge University, 2021
- Dr Guillaume Chaverot (supervisors: Dr. Emeline Bolmont & Dr Martin Turbet, Univ. Geneva, 2023
- Dr Hamish Innes (supervisor: Prof. R. Pierrehumbert), Univ. Oxford, 2023

Postdoctoral Supervision

Dr Sophie Wilmes	Archean Climate Drivers (Univ. Bangor) co-supervisors: Profs. M. Green, M. Way, J. Duarte	Sep. 2021–Sep. 2024
Dr Krisztian Kohary	UM & LFRic Support 0.3FTE	Feb. 2021–Feb. 2025
Dr Arwen Nicholson	EXOGAIA: Life–climate interaction	Nov. 2020–May 2024

	co-supervisors: Prof. T. Lenton, Dr. J. Manners	
Dr Maria Zamyatina	Chemistry: exoplanet modelling co-supervisor: Dr. E. Hébrard	Sep. 2019–Apr. 2025
Dr Denis Sergeev	Convection: exoplanet modelling co-supervisor: Dr. F. H. Lambert	Sep. 2018–Apr. 2025
Dr Ricky Olivier	RSE: LFRic for Exoplanets co-supervisor: Dr. D. Sergeev & Dr. M. Zamyatina	Sep. 2022–Apr. 2024

PhD Supervision

Martha (Mei Ting) Mak	PhD: exoplanet modelling co-supervisor: Dr. D. Sergeev, Dr. E Hébrard	Sep. 2021–Sep. 2025
Sophia Adams	PhD: exoplanet photochemistry co-supervisor: Dr. E Hébrard	Sep. 2023–Jun. 2027

- Completed Postdoctoral & Secondments (11): 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 (13): Dr. Michelle Biegar (co–supervisors: Dr. E. Hébrard, moved to position at DigiLab), Dr. 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 postoc 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. Tolouse, 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 (3): 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).
- Mentorship of External Researchers: Tom Mikal-Evans (first postdoc, Exeter, to Research Group Leader at MPIA).

Note: all PhD students are supervised by at least two academics at the University of Exeter.

Leadership and Management

I have demonstrated a sustained contribution to leadership and management at the University of Exeter, through roles such as Admissions Tutor and Assistant Director of Education, to significant contributions to our successful Athena Swan Bronze and Silver and Institute of Physics Juno Champion submissions. I have received several awards, led negotiations for a University site licence for Met Office software and am a member of several boards, strategy and advisory groups.

- **Exeter Leadership Academy, Exeter University:** 2023/4
- **UKRI/FLF Development Network (invited):**
  Edinburgh Research Culture Change Retreat (Univ. Edinburgh, 2023)
- **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
- **Towards Inclusive Leadership:** 2022
- **Leadership Difference Course:** 2021
- **CEMPs Academic Recognition Awards:** "Dean's Outstanding Contribution Award", 2019
- **CEMPs Academic Recognition Awards:** "Diversity and Outreach" (shortlisted), 2019
- **Institute of Physics Juno:** Juno Champion Status Physics & Astronomy (co-author), 2018
- **Athena Swan:** Silver Award Physics & Astronomy (co-author), 2018
- **Met Office Site Licence:** lead for Univ. Exeter wide software licence (use & development), 2018–2022
- **Above & Beyond Award**, 2017 & 2020
- **Athena Swan:** Bronze Award Physics & Astronomy (co-author), 2015

Roles & Responsibilities

Invited Contribution at Celebrating Mentors event, Univ. Glasgow	2023
Chair: Routes conversation: Land ownership, public access and the right to roam	2023
Teaching Assessment and Feedback Working Group	2023
Research Strategy Steering Group, Physics & Astronomy	2023
Physics Away Day, leadership and strategy group	2022
Next Generation Modelling Systems Programme Advisory Group, Met Office	2022–present
ROUTES Steering Group	2022–present
Immersive Technology Network	2021–present
CEMPS Spaceport Cornwall Working Group	2021–2022
Mentor: Wowbagger Productions Mentoring Scheme	2021
Member of the Extreme Environments Institute 'task group'	Sep. 2019–2022
Research–IT Service Owner's Board	Feb. 2020–present
Creative Industries Strategy Group	Feb. 2020–Nov. 2021
Public Engagement Strategic Advisory Group (PEG)	Feb. 2020–Sep. 2021
Contributed to Knowledge Exchange Framework (KEF) submission	2020–2021
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 1st 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

Initiatives & Contributions

Physics@Exeter Lecture, Univ. Exeter	Feb. 2020
UCAS Open Day Sample Lecture, Univ. of Exeter	Jun. 2016
Pre-University Physics Course Sample Lecture, Univ. of Exeter	Jul. 2015, Jul. 2016
Athena Swan: Engagement & Awareness day, Univ. of Exeter	Mar. 2015, 2016
Institute of Physics Unconscious Bias Workshop, Loughborough Univ.	2015
Promotion Workshops Series (organiser & presenter), Univ. of Exeter	2014–2017

UCAS Open Day, Physics & Astronomy, Univ. of Exeter Interaction & discussion sessions	2014–present
UCAS Admissions, Physics & Astronomy, Univ. of Exeter Interviews, presentations & discussions sessions	2014–present
Natural Sciences Offer-Holder visit day, Univ. of Exeter Presentation and discussion sessions	2014
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
UCAS general, Physics & Astronomy, Univ. of Exeter Tours, hosting and external visits	1997–present

Research Leadership & Support[6]

- Belbin Teamwork Training Session (Dr G. Wyn Story), 2023
- Barefoot Thinking, Science Leadership Course, 2023
- Six monthly career 1:1 meetings with all members of research group
- Annual retreats: e.g., Lego strategy session, finding funding, interview training, mock funding applications including CV & proposal feedback and panel interviews (external & internal providers)
- Interview training for postdoctoral fellows (Julian Shreeve)
- Mock panel exercise for all PhD and postdoctoral researchers in wider research group (myself)
- Challenge Of Science Leadership, 12 Early-Career-Researchers (barefootthinking.com)
- Mentorship (outside of group): Tom Mikal-Evans, Stuart Daines

External Recognition

I am recognised, internationally, as a leader in the field of exoplanet research. I have been invited to deliver presentations at major conferences and institutes, regularly engaged with the media including involvement in national and international programmes, and served the community extensively through review processes. I have been involved in the organisation of a large number of highly successful and important scientific meetings.

Invited Talks: Conferences/Workshops/Meetings

Aug. 2023	iREx Café, Université de Montréal
May. 2023	Ariel Consortium Meeting, RAS, London
Mar. 2023	Tides Meeting, St Annes College, Oxford
Mar. 2023	Invited Review, JWST Exoplanet Atmospheres Meeting, Christ Church, Oxford
Feb. 2023	'Mash–up', Sociology, Philosophy and Anthropology, Exeter
May. 2021	Kernow Sat Think Tank (virtual: COVID–19)
Sep. 2020	THAI Workshop, Online workshop (virtual: COVID–19)
Jan. 2020	"On Stars and Planets", Center for Space Science, New York University, Abu Dhabi
Oct. 2019	Extreme Environments Think Tank, Penryn Campus, Univ. Exeter
Jul. 2019	Lovelock Centenary: The Future of Global Sytems Thinking, Univ. Exeter
Jun. 2019	Star Planet 2019, Ringberg (MPIA) Germany
Apr. 2019	Dynamics of Rotating Fluids: 'Dynamics of giant planets', Univ. Exeter
Jan. 2019	Digital Exoplanets, MOLIM/COST Workshop, Charles University, Prague
Jul. 2018	Spectroscopy of Exoplanets, Cumberland Lodge (University College London)
Feb. 2018	**Plenary:** Met Office Academic Partnership Poster & Presentation Event, Met Office
Jan. 2018	Dynamics of Rotating Fluids: 'Dynamics of giant planets' University College London
Jun. 2017	Planetary atmospheres: on Earth, in the solar system, and on exoplanets Wenner-Gren Center, Stockholm
May. 2017	Climate science, atmospheres and life: from the Earth and beyond University of Cambridge
Apr. 2017	Atmospheres of Disks and Planets 2017: Chemistry, Dynamics and Observations Ringberg (MPIA), Germany
Jul. 2016	**Plenary:** "CliMathNet" International Conference, University of Exeter

Invited Talks: Seminars

Aug. 2023	NASA GISS/Univ. Columbia, New York, USA

[6] I encourage people requiring more information to reach out to people I have previously or are currently supervising. Their perspective is, of course, just as valuable as my more senior peers/colleagues.

Jul. 2023	Carnegie Science, Washington DC, USA
Jul. 2023	Planetary Astronomy Lunch Seminar (PALS), Univ. Maryland, USA
Feb. 2023	Seminar, Geophysical Fluid Dynamics, ETH Zurich
Oct. 2021	Exoplanet Seminar Series, University of Cambridge
May. 2021	Kavli institute for astrophysics and space research, MIT (virtual: COVID–19)
May. 2021	Astrophysics, space research & stellar physics, Univ. of Birmingham (virtual: COVID–19)
Apr. 2021	Astro-APEX (Astrobiology and Planetary Exploration), University College London (virtual: COVID–19)
Mar. 2021	University of Geneva (virtual: COVID–19)
Oct. 2020	Institut d'Astrophysique de Paris (virtual: COVID–19)
Apr. 2020	Department of Astrophysics, University of Vienna (pre–recorded: COVID–19)
Feb. 2020	BRIDGE Seminar Series, University of Bristol
Dec. 2019	Centre for Space and Habitability, University of Bern
Oct. 2019	Department of Physics & Astronomy, University of Sheffield
May. 2019	Atmospheric, Oceanic and Planetary Physics, Oxford University
May. 2018	Astronomy & Astrophysics Group, University of Warwick
Apr. 2018	Fluids & MHD seminars, University of Leeds
Oct. 2016	Astrophysics Research Institute, Liverpool John Moores University
Jun. 2016	Department of Physics and Astronomy, University of Leicester
May. 2016	Centre for Atmospheric Science, University of Cambridge
Dec. 2015	Met Office, Exeter (Delivered by PhD student Ben Drummond)
Oct. 2015	Institute for Astronomy, The University of Edinburgh, Royal Observatory
Feb. 2015	Atmospheric, Oceanic and Planetary Physics, Oxford University
Dec. 2014	Planetary Science, Department, Caltech
Dec. 2014	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
Nov. 2014	Lunar and Planetary Lab, University of Arizona
May. 2014	School of Physics and Astronomy, University of St. Andrews
May. 2014	Geophysical and Astrophysical Fluids Department, University of Exeter
Jun. 2012	Applied Mathematics Department, University of Exeter
Jul. 2012	Met Office, Exeter
Aug. 2009	(star formation) Astrophysics Group, University of Keele

Contributed Talks

Nov. 2020	Future Leaders: Two O'clock Talks (virtual: COVID–19)
Jul. 2018	"OWL: ESP programme", UCSC
Apr. 2016	"Exoplanet UK community meeting", Univ. of Exeter
Mar. 2015	"Met Office/Univ. of Exeter Space Weather day", Univ. of Exeter
Apr. 2014	"Exoplanet UK community meeting", Cambridge Univ.
Feb. 2014	"Exoclimes, international conference", Davos Congress Centre
Sep. 2013	"European Planetary Science Congress", international conference, Univ. College London
Sep. 2013	"Mind the gap", international conference (invited by organiser), Hertfordshire Univ.
May. 2013	"Rotational fluid dynamics: planetary & stellar applications", workshop, Univ. of Exeter
Dec. 2011	"GCM & Exoplanets", workshop, University of Exeter
Oct. 2010	"Constellation Meeting", international conference (star formation), Tenerife
Apr. 2008	"National Astronomical Meeting" (star formation), Belfast

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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 CITC Newsletter, Apr. 2018; Article for "The Conversation", Oct. 2016
- Interviews & Press Releases: 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: 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.

Roles

Organisation of Scientific Meetings/Events/Training:

- Exoclimes VI & EXOSLAM Summer School, Exeter: 2023
- JWST Workshop, Exeter (Lead: Eva-Maria Ahrer, supported by Maria Zamyatina): 2022
- Chair of Panel Session: 'Research Culture' at FLF Annual Conference, Oct. 2022 (Panelists: Dame Prof. Ottoline Leyser, Prof. Colette Fagan, Prof. Rachel Norman, Dr Diego Baptista)
- Exeter Exoplanet Theory Group Summer Meeting: Newquay, Aug. 2022 (∼20 delegates) (mock prosposal evaluation and interview training)
- RAS Specialist Discussion Session: "Exoplanet Modelling in the James Webb Era II", London, Apr. 2022 (virtual: COVID-19)
- Exeter Exoplanet Theory Group Summer Meeting: Penryn, Jul. 2021 (∼30 delegates) (incl. Lego Serious Play session)
- Mock Panel Funding and Training Exercise, (20 participants), 2020
- Exeter Space & Extreme Environments: from Space to People, May. 2021, (∼160 registered, virtual: COVID–19)
- RAS Specialist Discussion Session: "Exoplanet Modelling in the James Webb Era", London, Jan. 2021 (virtual: COVID–19)
- Discussion Session: "Exoplanet Modelling", UKEXOM, ∼30 delegates, St Andrews, Mar. 2017
- Workshop: "Idealised Planetary Modelling", ∼30 delegates, Univ. Exeter, Feb. 2016 (sole organiser)
- SOC (Scientific Organising Committee): BUFFET Workshop (Oct. 2023); NExSS CUISINES/BUFFET Workshop (Sep. 2021, virtual: COVID–19), UKEXOM Birmingham (Apr. 2021, virtual: COVID–19), Exoclimes (Oxford, Aug. 2019), UKEXOM (Imperial & UCL Apr. 2019), EWASS symposium (Liverpool, Apr. 2018), UKEXOM (Oxford, Mar. 2018), UKEXOM (Univ. Exeter, Apr. 2016), GCM workshop (Exeter, 2011)

Service:

- Invited Closing Speech at FLF Annual Meeting, Welcome to Round 7 Fellows (2024)
- Panelist for increasing inclusivity and equity in research cultures at FLF Learning Leadership Legacy event
- Panel Member on Profile & Visibility workshop, 2023
- Session Chair: Celebration of JWST, Ringberg 2022
- Session Chair: Atmospheres: Modelling sessions, UKEXOM, Edinburgh 2022
- Panel Member for 'Exoplanet Atmospheres in the 2020s and beyond' at National Astronomical Meeting, 2022
- Member of CUISINES GCM inter-comparison committee
- Member of ARIEL consortium: (Phase Curve, Chemistry and Solar System Synergies working groups)
- Co-Author: DiRAC Exoplanet Science case for Project Board (lead author: R. Alexander)
- REF Focus Group, Dec. 2020
- Panel member for discussion session: "Learning from Exoplanets", CliMathNet, Jul. 2016
- European Southern Observatory (ESO) Observing Programmes Committee (OPC) Panel Co-Chair (P97-C4, P98-C2) 2015/2016 (requested P99-declined)
- ESO OPC Expert (P112-113; C) 2022/2023
- 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: James Webb Space Telescope (JWST), JWST Large programmes, Hubble Space Telescope (HST), Swiss National Supercomputing Centre (CSCS)
  - Funding Panels: NASA (2022, 2023), STFC/UKSA/ESA M7/F2 (2022).
  - Member of UKRI FLF Peer Review College.

Professional Memberships:

Fellow of the Royal Astronomical Society