

THE OBSERVATORY

Founded in 1877 by Sir William Christie, Astronomer Royal

EDITED BY

D. J. STICKLAND R. W. ARGYLE S. J. FOSSEY

EDITORS 1877–2023

W. H. M. Christie	1877–1882	P. J. D. Gething	1954–1956
E. W. Maunder	1881–1887	D. W. Dewhurst	1956–1957
A. M. W. Downing	1885–1887	A. Hewish	1957–1961
T. Lewis	1885–1887	W. R. Hindmarsh	1957–1961
	and	B. E. J. Pagel	1961–1962
A. A. Common	1888–1892	J. E. Baldwin	1961–1962
H. H. Turner	1888–1897	D. McNally	1961–1963
H. P. Hollis	1893–1912	C. A. Murray	1961–1966
S. Chapman	1913–1914	P. A. Wayman	1962–1964
A. S. Eddington	1913–1919	R. V. Willstrop	1963–1966
F. J. M. Stratton	1913–1925	R. F. Griffin	1963–1985
H. Spencer Jones	1915–1923	J. B. Alexander	1964–1965
J. Jackson	1920–1927	S. V. M. Clube	1965–1966
W. M. H. Greaves	1924–1932	K. B. Gebbie	1966–1968
J. A. Carroll	1926–1931	W. Nicholson	1966–1973
G. Merton	1928	D. Lynden-Bell	1967–1969
W. H. Steavenson	1929–1933	C. Jordan	1968–1973
H. W. Newton	1929–1936	R. G. Bingham	1969–1972
R. O. Redman	1932–1935	M. V. Penston	1972–1975
R. v. d. R. Woolley	1933–1939	S. J. Burnell	1973–1976
W. H. McCrea	1935–1937	D. H. P. Jones	1973–1977
H. F. Finch	1936–1947	P. J. Andrews	1975–1983
A. D. Thackeray	1938–1942	G. G. Pooley	1976–1984
G. C. McVittie	1938–1948	R. C. Smith	1977–1983
H. R. Hulme	1940–1941	A. R. King	1982–1989
D. S. Evans	1941–1945	D. J. Stickland	1983–
A. Hunter	1943–1949	C. R. Jenkins	1984–1992
G. L. Camm	1945–1947	R. W. Hilditch	1985–1989
A. Brown	1947–1948	M. G. Watson	1990–1991
M. A. Ellison	1947–1953	I. D. Howarth	1990–1997
G. J. Whitrow	1948–1950	A. Collier Cameron	1991–1997
E. M. Burbidge	1948–1951	P. C. T. Rees	1992–1993
P. J. Treanor	1949–1953	B. J. Boyle	1993–1996
J. G. Porter	1950–1960	R. W. Argyle	1996–
M. W. Ovenden	1951–1952	P. T. O'Brien	1997–2000
P. A. Sweet	1953–1957	S. J. Fossey	1998–
R. H. Garstang	1953–1960		

VOLUME 143

2023

AUTHOR INDEX

Page numbers in *italics* refer to reviews

Alday, J.	156	Lloyd, C.	63, 175
Aplin, K.	36	McKim, R.	84, 274
Beckman, J.	43, 45, 277	Miles, R.	85
Bennett, J.	244	Mitton, S.	191
Bernhard, K.	63	Moschner, W.	63
Blandford, R.	99	Newsam, A.	205
Bond, P.	86	Peeters, S.	234
Chan, J. C. Y.	101	Phillipps, S.	4, 88, 106, 250
Clampin, M.	246	Pryse, E.	202
Cooke, C.	93	Ray, L.	153
Corbally, C.	35	Ridpath, I.	269
Cottaar, S.	1	Rigley, J. K.	98
Davies, R.	248	Šarčević, N.	140
de Belsunce, R.	98	Schaye, J.	194
Dunlop, S.	49, 144	Smethurst, R.	159
England, K.	279	Smith, F. G.	275
Evans, A.	240	Smith, R. C.	48, 90, 188, 233
Fitzsimmons, A.	199	Southworth, J.	19, 71, 120, 165, 221, 254
Foulger, G. R.	231	Stickland, D.	54, 137
Foulkes, M.	143	Ting, Y.-S.,	213
Frank, P.	63	Trimble, V.	39, 54, 97, 132, 139, 142, 145, 228, 232, 237, 241, 242, 276
Gair, J.	42	Tucker, R.	187
Garrett, M. A.	51	van der Sluijs, M. A.	57
Goldschmidt, P.	190	van Horn, H.	138
Griffin, R. E. M.	89, 134	Viall, N.	217
Hayden-Pawson, C.	147	Whiting, A.	14
Heavens, A.	229, 279	Williams, D. A.	87, 141
Helbig, P.	37, 40, 53, 92, 94, 131, 135, 229, 238	Williams, P.	86, 189
Hockey, T.	33	Witstok, J.	146
Jardine, M.	52		
Jones, O.	149		
Kent, B.	235		
King, A.	208		
Kramer, M.	230		

SUBJECT INDEX

Astronomy Outreach:	
Extending astronomy outreach through Eisteddfodau in Wales (E. Pryse)	202
Black Holes:	
The growth of supermassive black holes (R. Smethurst)	159
Congratulations:	
The 100th birthday of Sir Francis Graham-Smith FRS.	192
Correspondence:	
The view from the bottom (T. Hockey)	33
On militarization of the Moon (C. Corbally)	35
Increasing crescents (P. Helbig)	131
Identifying Polyphylax—a 430-year mystery solved? (I. Ridpath)	269
Cosmology:	
Cosmology from the CMB and Lyman- α forest (R. de Belsunce)	98
Probing the Universe with confidence (J. Chan)	101
Cosmic ignorance (P. Ferreira)	103
Cosmological simulations of galaxy formation (J. Schaye)	194
On the evolution of galactic haloes in cosmological simulations of galaxy formation (J. Bennett)	244
Editorial	245
Exozodiacal Dust:	
The origin and evolution of warm exozodiacal dust (J. K. Rigley)	98
Galaxies:	
Spectroscopic studies of star-forming galaxies and the intergalactic medium in the early Universe (J. Witstok)	146
The chemical evolution of galaxies explored through multi-object integral field spectroscopy (C. Haydon-Pawson)	147
Reconstructing galaxy-merger history with graph-neural methods (Y.-S. Ting)	213
Geophysics:	
Heterogeneity and flow in the deep Earth (S. Cottaar)	1
Linking intra-plate volcanism to underlying mantle dynamics (R. Davies)	248
Here and There	56, 100, 148, 192, 244, 290
History of Astronomy:	
Cornish astronomers in the astronomical societies 1820–1920 (S. Philipps)	4
Ordering the Universe with naked-eye observations (A. Whiting)	14
The view from the bottom (T. Hockey)	33
Ancient reports of the Zodiacal Light as viewed from mountain tops (M. A. van der Sluijs)	57
The first <i>Monthly Notices</i> (S. Philipps)	106
Increasing crescents (P. Helbig)	131
Herschel 2022: a double anniversary (P. Fara)	161
The first issue of <i>The Observatory</i> (S. Philipps)	250
Identifying Polyphylax—a 430-year mystery solved? (I. Ridpath)	269
Astronomical centenaries for 2024 (K. England)	279
Meteorites:	
The fall, recovery, and analysis of the Winchcombe meteorite (A. King)	208
Moon:	
On militarization of the Moon (C. Corbally)	35
Increasing crescents (P. Helbig)	131
Obituary:	
Jay Pasachoff (1943–2022)	56
Maarten Schmidt (1929–2022) (R. Blandford)	99
Observatories:	
Access to the Universe for all—the National Schools Observatory (A. Newsam)	205

Royal Astronomical Society:	
Royal Astronomical Society, Astronomy and Geophysics Meetings:	
2022 April 22	I
2022 October 14	101
2022 November 11	149
2022 December 9	156
2023 January 13	193
2023 February 10	202
2023 March 10	213
2023 April 14	246
Royal Astronomical Society, GCSE Poster Competition 2023	213
Royal Astronomical Society, Medallists and Prizewinners:	
Gold Medal 2023 (Astronomy): Professor John Peacock	193
Gold Medal 2023 (Geophysics): Professor Timothy Palmer	193
Chapman Medal 2023: Professor Nicholas Achilleos	193
Eddington Medal 2023: Dr. Monica Moscibrodzka	193
Herschel Medal 2023: Professor Heino Falcke	193
Jackson-Gwilt Medal 2023: Professor Roberto Abraham & Professor Peter van Dokkum	193
Price Medal 2023: Dr. Rhian Jones	193
Fowler Award 2023 (Astronomy): Dr. Christopher Berry	193
Fowler Award 2023 (Geophysics): Dr. Oliver Allanson	193
Group Achievement Award 2023 (Astronomy) : <i>MeerKAT</i> team	193
Service Award 2023 (Astronomy): Charles Barclay	193
Agnes M. Clerke Medal 2023: Professor Jim Bennett	193
Annie Maunder Medal 2023: Black In Astro	193
Winton Capital Award 2023 (Astronomy): Dr. Alexandra Amon	193
Winton Capital Award 2023 (Geophysics): Dr. Ravindra Desai	193
RAS Education Award 2023 (Primary): Inge Helmecke	193
RAS Education Award 2023 (Secondary and Further Education): Dr. David Boyce	193
RAS Education Award 2023 (Higher Education): Dr. Ravindra Desai	193
RAS GCSE Poster Competition	193
Royal Astronomical Society, Honorary Fellowships 2023: Dr. Erik Høg (A), Dr. Premana Premadi (A) & Dr. Rita Sambruna (A)	193
Royal Astronomical Society, Talks:	
Harold Jeffreys Lecture 2022: Heterogeneity and flow in the deep Earth (S. Cottaar)	I
George Darwin Lecture 2022: Small-body impacts across the Galaxy (A. Fitzsimmons)	199
James Dungey Lecture 2022: From neither here nor there: the coupling between giant planets and their surroundings (L. Ray)	153
Solar System:	
From neither here nor there: the coupling between giant planets and their surroundings (L. Ray)	153
Investigating the isotopic composition of the atmosphere of Mars with the <i>ExoMars Trace Gas Orbiter</i> (J. Alday)	156
Space Missions:	
NASA's plans for the future (M. Clampin)	246
Space Telescopes:	
Early science with the <i>JWST</i> (O. Jones)	149
Stars:	
Rediscovery of eclipsing binaries (J. Southworth)	
Paper 12: The F-type twin system ZZ Boötis	19
Paper 13: The F-type twin system IT Cassiopeiae	120
Paper 14: The F-type system V570 Persei	165
Paper 15: The B-type supergiant system V1765 Cygni	254
GSC 03937-02349: A short-period W UMa binary with a massive companion (C. Lloyd <i>et al.</i>)	63
Re-parameterization of four limb-darkening laws and their implementation into the JKTEBOP code (J. Southworth)	71
Is VZ Librae a quadruple system (C. Lloyd)	175
Star Formation:	
Spectroscopic studies of star-forming galaxies and the intergalactic medium in the early Universe (J. Witstok)	146
Stellar dynamics:	
Simple approximations to the positions of the Lagrangian Points (J. Southworth)	221
Sun:	
The Grand Challenge—questions of solar-wind physics (N. Viall)	217

Thesis Abstracts:

Cosmology from the CMB and Lyman- α forest (R. de Belsunce)	98
The origin and evolution of warm exozodiacal dust (J. K. Rigley)	98
Spectroscopic studies of star-forming galaxies and the intergalactic medium in the early Universe (J. Witstok)	146
The chemical evolution of galaxies explored through multi-object integral field spectroscopy (C. Haydon-Pawson)	147
On the evolution of gaseous haloes in cosmological simulations of galaxy formation (J. Bennett)	244

Zodiacal Light

Ancient reports of the Zodiacal Light as viewed from mountain tops (M. A. van der Sluijs)	57
--	----

REVIEW INDEX

Basri, G., <i>An Introduction to Stellar Magnetic Activity</i>	52
Battiston, R., <i>First Dawn. From the Big Bang to Our Future in Space</i>	93
Beckinridge, J. R. & Pridgeon, A. M., <i>With Stars in Their Eyes. The Extraordinary Lives and Enduring Genius of Aden and Marjorie Meinel</i>	237
Bottino, A. & Favero, C., <i>I Never Call It Big Bang. George Gamow—The Extraordinary Story of a Genius of Physics</i>	191
Burgess, C., <i>Soviets in Space</i>	86
Chandrasekhar, S., <i>China's Space Programme</i>	276
Chaty, S., <i>Accreting Binaries: Nature, Formation, and Evolution</i>	139
Chodos, A. & Riordon, J., <i>Ghost Particle. In Search of the Elusive and Mysterious Neutrino</i>	234
Del Nobile, E., <i>The Theory of Direct Dark Matter Detection. A Guide to Computations</i>	40
Deser, S., <i>Forks in the Road: A Life in Physics</i>	242
Dhurandhar, S. & Mitra, S., <i>General Relativity and Gravitational Waves. Essentials of Theory and Practice</i>	42
Díaz, M., González, G. & Pullin, J., <i>Sounds of the Cosmos. Gravitational Waves and the Birth of Multimessenger Astronomy</i>	232
Dunlop, S. & Tirion, W., <i>Collins 2023 Guide to the Night Sky</i>	54
Dunlop, S. & Tirion, W., <i>Night Sky Almanac. A Stargazer's Guide to 2023</i>	54
Dunlop, S., <i>Weather Almanac. A Guide to 2023</i>	54
Ellis, R. S., <i>When Galaxies Were Born. The Quest for Cosmic Dawn</i>	92
Filipović, M. D. & Tothill, N. F. H., <i>Principles of Multimessenger Astronomy</i>	43
Filipović, M. D. & Tothill, N. F. H., <i>Multimessenger Astronomy in Practice</i>	45
Fisher, P., <i>What is Dark Matter?</i>	40
Forget, François <i>et al.</i> (eds.), <i>Understanding the Diversity of Planetary Atmospheres</i>	36
Goldberg, M., <i>Outer Space: 100 Poems</i>	188
Hawking, S. W. & Ellis, G. F. R., <i>The Large Scale Structure of Space-Time. 50th Anniversary Edition</i>	279
Henin, B., <i>Imaging Our Solar System. The Evolution of Space Mission Cameras and Instruments</i>	85
Hsieh, K. C. & Möbius, E., <i>Neutral-Atom Astronomy. Plasma Diagnostics From the Aurora to the Interstellar Medium</i>	141
Huterer, D., <i>A Course in Cosmology</i>	229
Impey, C., <i>Worlds Without End. Exoplanets, Habitability, and the Future of Humanity</i>	235
Jeanloz, R. & Freeman, K. H. (eds.), <i>Annual Review of Earth and Planetary Sciences, Volume 50, 2022</i>	231
Johnson, L., <i>A Traveler's Guide to the Stars</i>	188
Kaiser, D. (ed.), "Well, Doc, You're In". <i>Freeman Dyson's Journey Through the Universe</i>	90
Kellermann, K. I. & Bouton, E. N., <i>Star Noise. Discovering the Radio Universe</i>	275
Kennett, C., <i>Uranus and Neptune</i>	143
Kerner, R., <i>Our Celestial Clockwork: From Ancient Origins to Modern Astronomy of the Solar System</i>	49
Kerss, T., <i>Observing Our Solar System. A Beginner's Guide</i>	144
Leavitt, D., <i>What's Gotten Into You. The Story of Your Body's Atoms, from the Big Bang Through Last Night's Supper</i>	233
Lloyd-Ronning, N. M., <i>Great Mysteries in Astrophysics. A guide to what we don't know</i>	240
López-Corredoira, M., <i>Fundamental Ideas in Cosmology: Scientific, Philosophical and Sociological Critical Perspectives</i>	94
Lyne, A., Graham-Smith, F. & Stappers, B., <i>Pulsar Astronomy, 5th Edition</i>	230
Mambrini, Y., <i>Particles in the Dark Universe. A Student Guide to Particle Physics</i>	39
McConnell, B. S., <i>The Alien Communication Handbook: So We Received a Signal—Now What?</i>	51
Mee, N., <i>Gravity. From Falling Apples to Supermassive Black Holes</i>	187

Montmerle, T. & Fauque, D. (eds.), <i>Astronomers as Diplomats: When the IAU Builds Bridges Between Nations</i>	132
Olson, D. W., <i>Investigating Art, History, and Literature with Astronomy</i>	48
Orchiston, W., Robertson, P. & Sullivan III, W. T., <i>Golden Years of Australian Radio Astronomy</i>	89
Peebles, P. J. E., <i>The Whole Truth: A Cosmologist's Reflections on the Search for Objective Reality</i>	142
Pinsonneault, M. & Ryden, B., <i>Stellar Structure and Evolution</i>	241
Rafelski, J., <i>Modern Special Relativity: A Student's Guide With Discussions and Examples</i>	53
Rezzolla, L., <i>The Irresistible Attraction of Gravity: A Journey to Discover Black Holes</i>	229
Roberts, B. W., <i>Reversing the Arrow of Time</i>	238
Royal Observatory Greenwich (compilers), <i>Astronomy Photographer of the Year (Collection II)</i>	86
Schilling, G., <i>The Elephant in the Universe: Our Hundred-Year Search for Dark Matter</i>	37
Sheehan, W. & Limaye, S. S., <i>Venus</i>	84
Shindell, M., <i>For the Love of Mars. A Human History of the Red Planet</i>	274
Silk, J., <i>Back to the Moon. The Next Giant Leap for Humankind</i>	189
Ti-Pei Li, <i>Foundations of Physics and Cosmology</i>	228
Trimble, V. & Weintraub, D. (eds.), <i>The Sky Is for Everyone: Women Astronomers in Their Own Words</i>	134
van den Berg, R., <i>Een passie voor precisie. Frederik Kaiser (1808–1872), Vader van de Leidse Sterrewacht</i>	135
van Dishoeck, E. & Kennicutt, R. C. (eds.), <i>Annual Review of Astronomy and Astrophysics, Volume 50, 2022</i>	137
Vasconcellas, C. A. Z. & Weber, F. (eds.), <i>Astrophysics in the XXI Century with Compact Stars</i>	138
Vrtilek, S. D., <i>New Windows on the Universe. Advances in Multimessenger Astronomy</i>	277
Webb, J. R., <i>Extragalactic Astrophysics, 2nd Edition</i>	88
Whittet, D. C. B., <i>Dust in the Galactic Environment, 3rd Edition</i>	87
From The Library:	
Jeans, J., <i>The New Background of Science</i>	97
Mees, C. E. K., <i>Fundamentals of Photography</i>	145
Mitchel, O. M., <i>Astronomy of the Bible (with a biographical sketch)</i>	54
Other Books Received:	
Calle, C. I. & Aplin, K., <i>Electrostatic Phenomena on Planetary Surfaces, 2nd Edition</i>	145
Ellis, S., Bland-Hawthorn, J. & Leon-Saval, S., <i>Principles of Astrophotonics</i>	192
Sokolsky, P. & Sinnis, G. (eds.), <i>Large Area Networked Detectors for Particle Astrophysics</i>	145
Tallents, G., <i>An Introduction to Special Relativity for Radiation and Plasma Physics</i>	145

