



Prof. John David Barrow

Professor of Mathematical Sciences



Most important awards, prizes and academies

Durham University Mathematical Prize 1973; Durham University Prize 1974; Collingwood Mathematical Prize (Durham University and London Mathematical Society) 1974; Johnson Memorial Prize (Oxford University) 1975; Wallace Research Prize (Oxford University) 1977; Lindemann Fellowship of the English Speaking Union of the Commonwealth 1977; Junior Research Lectureship, Christ Church, Oxford 1977; Gravity Prize (5th), Gravity Foundation Awards 1979; Miller Fellowship, University of California at Berkeley 1980; Gravity Prize (3rd), Gravity Foundation Awards 1981; Nominated for the Bhappu Prize of the International Astronomical Union by the Council of the Royal Astronomical Society 1986/7; Nuffield Foundation Science Fellowship 1986/87; Samuel Locker Award in Astronomy 1989; Gravity Prize (4th), Gravity Foundation Awards 1993; Royal Society Leverhulme Senior Fellowship 1992/3; PPARC Senior Fellowship (5 years) 1994-9; Templeton Award 1995; Gravity Prize (5th), Gravity Foundation Awards 1997; Gordon Godfrey Visiting Professor of Physics, University of New South Wales, Sydney, 1998; Kelvin Medal, Royal Glasgow Philosophical Society, 1999; Wellcome Sci-art 2000 Award, 2000; Gordon Godfrey Visiting Professor, University of New South Wales, Sydney, December 2000; Italian Theatre Awards, Premi Ubu 2002 Prize for best play (awarded for *Infinites*); Elected Fellow of the International Society for Science and Religion (FISSR), 2002; Gresham Professor of Astronomy, Gresham College, 2003-7; Emeritus Gresham Professor of

Astronomy, Gresham College, 2007-; Elected Fellow of the Royal Society (London), FRS, 2003; Gordon Godfrey Visiting Professor of Physics, University of New South Wales, Sydney, November 2003; Italgas Prize for Promulgation of Science 2003, (awarded for *Infinities*); Lacchini Prize and Medal of the Unione Astrofili Italiani 2005; Honorary Concurrent Professor of Physics, University of Nanjing, China 2005-; Queen's Anniversary Prize 2006 (to Millennium Mathematics Project); Templeton Prize, Templeton Foundation 2006; Honorary Citizen, City of Louisville, Kentucky 2006; Gresham Professor of Geometry, Gresham College 2008-12; Michael Faraday Medal and Prize, Royal Society 2008; Gresham Prize, Mercers Company and Corporation of London 2009 (also to Millennium Mathematics Project); Kelvin Medal and Prize, Institute of Physics, 2009; Elected Member of the Academia Europaea (MAE), 2009; L'Academie Internationale de Philosophie des Sciences, Titular Member, elected 2009; Premio Oriente Science (Prize), Colletti Foundation 2010; Merck-Serono Prize for Science and Literature, Merck-Serono, Italy, 2011; Gravity Research Foundation Research Essay 3rd Prize 2011; Christopher Zeeman Medal, London Mathematical Society and IMA, 2011; Premio Antico Pignolo (Literary Prize), Venice 2012; Emeritus Gresham Professor of Geometry, Gresham College, 2012-; Dirac Gold Medal and Prize, Institute of Physics 2015; Honorary Fellow, Van Mildert College, Durham University, 2015; Gold Medal of the Royal Astronomical Society, 2016; Physics Letters Journal: Outstanding Contribution in Reviewing Award, 2017; Giuseppe Occhialini Medal and Prize of the Institute of Physics and the Italian Physical Society, 2019. *Fellowships*: Fellow of the Royal Astronomical Society (FRAS); Fellow of the Institute of Physics and Chartered Physicist (CPhys FInstP) 1998; International Astronomical Union, Member of Commission 47; Forum Fellow, World Economic Forum, Davos, Switzerland 1999, 2000; Fellow of the Royal Society of Arts (FRSA), elected 1999; Fellow, International Society for Science and Religion (ISSR), elected 2002; Honorary Fellow, International Society for Science and Religion (ISSR), elected 2017; Fellow of the Royal Society of London (FRS), elected 2003; L'Academie Internationale de Philosophie des Sciences, Titular Member, elected 2009; Member of e-LISA Cosmology Working Group, 2014-.

Summary of scientific research

Cosmology, astrophysics, theories of gravitation, astroparticle physics, and astronomical tests of fundamental physics. Public Engagement: Mathematics education, public understanding of science and mathematics. Millennium Mathematics Project.

Main publications

Books: *The Left Hand of Creation: The Origin and Evolution of the Expanding Universe*, 1983. Pp. 256. Basic Books, New York and Heinemann, London (with J Silk); paperback eds by Allen & Unwin, London and Basic Bks., NY; 2nd enlarged edition 1995, pp 262, publ. Oxford UP, NY and Penguin, London + various languages; *L'Homme et le Cosmos*, 1984. Pp. 113, Radio France Imago, Paris (with FJ Tipler); *The Anthropic Cosmological Principle*, 1986. Pp. 706, Oxford University Press, Oxford and New York+ various languages (with FJ Tipler), 2nd edn. 1996; *The World Within the World*, 1988. Pp. 398, Oxford University Press, London and NY, hard and paper;

2nd edn 1995 and various languages; *Theories of Everything: The Quest for Ultimate Explanation*, 1991. Pp. 223, Oxford University Press, London and NY, and various languages. Paperback edns by Vintage, London and Ballantine, NY; *Pi in the Sky: Counting, Thinking and Being*, 1992. Pp. 317, Oxford University Press, London and NY, and various languages. Paperback edns by Penguin, London and Little Brown, NY; *Perché il Mondo è Matematico?*, 1992. Pp. 108, (1991 Sigma-Tau-Laterza Lectures) Laterza, Rome and various languages; *The Origin of the Universe*, 1993. Pp. 150, Basic Books, NY and Orion, London (and 26 languages); *The Artful Universe*, 1995. Pp. 274, Oxford University Press, London and NY and various languages. Paperback edns by Penguin, London and Little Brown, NY; *Impossibility: the limits of science and the science of limits*, 1998. Oxford U.P., Oxford and NY. Pp. 279 and various languages; *Between Inner Space and Outer Space*, 1999. Oxford U.P., Pp. 274 + various languages; *The Universe that Discovered Itself*, 2000. Oxford U.P., London and New York, pp. 448; *The Book of Nothing*, 2000. Jonathan Cape London & Pantheon NY (2001) + various languages, pp. 361; *Infinites*, 2002. Edizione Piccolo Teatro di Milano, Milan in Italian, pp. 94; *The Constants of Nature: From Alpha to Omega*, 2002. Jonathan Cape, London and 2003 Pantheon NY+ various languages, pp. 353; *The Infinite Book: A Short Guide to the Boundless, Timeless and Endless*, 2005. Jonathan Cape and Vintage London and Pantheon NY+ various languages, pp. 328; *The Artful Universe Expanded*, 2005. 2nd edn Oxford UP, London and NY, pp. 321. paperback edn OUP (2011), Actes Sud, France (2015); *New Theories of Everything*, 2007. 2nd expanded edn., Oxford UP, Oxford and NY, pp. 260; *Cosmic Imagery: Key Images in the History of Science*, April 2008. Bodley Head, Random House, London and W.W. Norton, NY, Paidos, Madrid and Mondadori, Milan, pp. 610; *One Hundred Essential Things You Didn't Know You Didn't Know*, Oct 2008. Bodley Head, Random House, London and W.W. Norton, NY, + various languages, pp. 254; *Essential Things You Didn't Know You Didn't Know*, 2010. E-book, Bodley Head, London, pp. 56; *The Book of Universes*, Feb. 2011. Bodley Head, Random House and Norton USA, pp. 354; *One Hundred Essential Things You Didn't Know You Didn't Know About Sport*, March 2012, Bodley Head, Random House and Mathletics, W. Norton USA, June 2012; *Mathletics*, June 2013. Vintage Random House and W. Norton, NY. Paperback edns; *One Hundred Essential Things You Didn't Know about Maths and the Arts*, 2014. Bodley Head, Random House and 2015 Norton USA. Articles: JD Barrow and J Middleton 2008 The Stability of an Isotropic Cosmological Singularity in Higher-order Gravity, *Phys. Rev. D* 77, 103523; JD Barrow, R Maartens and CG Tsagas 2007 Cosmology with Inhomogeneous Magnetic Fields, 2007. *Physics Reports* 449, 131-171; B Li, DF Mota and JD Barrow 2008 Detecting a Lorentz-violating Field in Cosmology, 2008 *Phys. Rev. D* 77, 024032; JD Barrow, 2007 A Strong Constraint on Ever-Present Lambda, *Phys. Rev. D* 75, 067301; JD Barrow and S Hervik 2006 Anisotropically Inflating Universes, *Phys. Rev. D* 73, 023007; T Clifton and JD Barrow 2005 The Power of General Relativity, *Phys. Rev. D* 72, 103005; JD Barrow 2005 General Cosmological Bounds on Spatial Variations of Physical Constants, *Phys. Rev. D* 71, 083520; JD Barrow 2004 Sudden Future Singularities, *Class. Quantum Gravity* 21, L79-L82; K Subramanian, TR Seshadri and JD Barrow 2003 Small-scale CMB Polarisation anisotropies due to Tangled Primordial Magnetic Fields, *Mon. Not. Roy. Astron. Soc.* 344, L31-35; HB Sandvik, JD Barrow and J Magueijo 2002 A simple varying-alpha cosmology, 2002. *Phys. Rev. Lett.* 88, 031302.

