

# Curriculum Vitae: Carlos S. Frenk

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## Personal Details:

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## Summary and highlights (details in remainder of CV)

### Recent highlights

- Elected Honorary Fellow of King's College, Cambridge (2023)
- Chair of the Royal Society Public Engagement Committee (2021-)
- Rumford Medal, Royal Society (2021)
- Founding Director of Institute for Computational Cosmology (2001 - 2020)

### Publications, citations, etc

- 568 refereed papers in the scientific literature; 206 non-refereed
- My papers have been cited over 122,569 times (H-index 154), making me one of most cited authors in astronomy and space science in the world. Eighteen of my papers have been cited over 1000 times, 45 more than 500 times and 218 more than 100 times. My average number of citations per refereed paper is 216.
- Co-author of 5 of the 100 most cited papers ever published in astronomy and space science (a total of over 2.5 million).
- Included in the list of "Highly cited" researchers (those whose papers rank among the top 1% most cited in their field the previous year), published by the Web of Science Group, every year since this list was introduced.
- 2020 Clarivate Web of Science Citation Laureate (out of 24 across all areas of science and economics). Ranked no. 97 in the world and 7 in UK in the field of Physics according to H-index.
- 245 invited talks at major international conferences.
- Supervised 50 PhD students (45 graduated so far) and 50 postdoctoral researchers, many of whom have gone on to influential positions in industry and academia around the world.
- Included in "The world's most influential scientific minds, 2015", a list of 3000 highly cited researchers (compiled by Thomson Reuters).

## Research grants and other income

- Since 1985, I have been awarded research grants totalling £81.0 million (in 2017 pounds) as PI. Of this £68.9 million has come from UK sources (Research Councils, Royal Society, etc) and £12.1 million from the EU.
- I have raised £7,370,000 from philanthropic organizations (for two new buildings and PhD studentships).

## Academic leadership

- Helped build up astronomical research at Durham, with the group growing from fewer than 10 astronomers and astrophysicists when I arrived in 1985 to over 150 today.
- Founded the Institute for Computational Cosmology (ICC) in 2001 and was Director until 2020. I was head of the precursor “Theory Group” until 2001 and Head of Astronomy during 2002-2007. The ICC is now one of the leading institutions in the world engaged on research on the structure of the Universe. It employs over 50 scientists and technicians who build model universes using powerful supercomputers with the aim of understanding how our Universe evolved from simple beginnings to its present day complexity characterized by myriads of stars and galaxies.
- Led two major fundraising campaigns (from philanthropic organizations, Government and Durham University) for the construction of two buildings at Durham to house the ICC and its sister Institute for Particle Physics Phenomenology. The first, during 1998-2000 (with M. Pennington and J. Sterling), was for the Ogden Centre East building and the second, during 2012-2014, for the Ogden Centre West. I introduced the world-renowned architect Daniel Libeskind to Durham, and this led to his successful bid for the design of the second building which was opened in March 2017.

## Committees

- Have served on 11 Research Council committees, 9 Royal Society committees (including Council during 2012-15) and 10 foreign committees, including the Kavli Prize for Astrophysics selection panel. Since Jan/2021, I have been Chair of Royal Society Public Engagement Committee. Since Jan/2022 I have been Chair of Panel 9 of the ERC Advanced Investigator Grants committee.

## Public outreach

- Initiated (with J. Sterling and I. Smail) a programme of public outreach through which tens of thousands of school children in the Northeast have been exposed to contemporary ideas about the Big Bang and the evolution of the Universe.
- Have delivered 128 public lectures, including 18 named lectures.
- Have appeared on TV in numerous occasions: 32 times on the BBC (Horizon, Sky at night, news, etc), 12 times on other UK channels (Channel 4, ITV, etc) and 16 times on foreign channels (in the USA, Germany, France, Italy, Spain, Argentina, Australia, Japan, Mexico). I have appeared on radio on 63 occasions, including 42 on the BBC radio and on several foreign stations (Canada, Argentina, Spain, Mexico, China).

### **Main awards and distinctions**

Honorary Fellow of King's College Cambridge (2023), Rumford Medal, Royal Society (2021), Paul Dirac Medal, Institute of Physics (2020), Clarivate Web of Science Citation Laureate (2020); Commander of the Order of the British Empire (CBE, 2017); Max Born Prize German Physical Society (2017); Member of the Mexican Academy of Science (2017); Gold medal, Royal Astronomical Society (2014); Alexander von Humboldt Research Award (2013); The Gruber Cosmolgy Prize (2011); Hoyle Medal and Prize, Institute of Physics (2010); George Darwin prize, Royal Astronomical Society (2010); Royal Society Wolfson Research Merit award (2006); Elected Fellow of the Royal Society (2004); Gabino Barreda medal (UNAM) (1976).

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## Full Curriculum Vitae

### Academic Record:

Dates	Degree	Place
1977-1981	PhD (Astronomy)	University of Cambridge
1976-1977	Maths Tripos Part III (Honours)	University of Cambridge
1972-1976	BSc Theor. Phys. (Top marks in year)	University of Mexico

### Employment:

Dates	Position	Institution
2001-present	Ogden Professor of Fundamental Physics	University of Durham
2001-2020	Director, Institute for Computational Cosmology	University of Durham
1985-2001	Lecturer, Reader (1991), Professor (1993)	University of Durham
1983-1985	Postdoctoral Research Fellow	University of Sussex
1983-1985	Assistant Research Physicist	University of California, Sta. Barbara
1981-1983	Postdoctoral Research Fellow	University of California, Berkeley

### Fellowships, awards and distinctions:

Year	
2023	Honorary Fellow of King's College, Cambridge
2023	Honorary Fellow of Cambridge Philosophical Society
2021	Rumford Medal, Royal Society
2020	Paul Dirac medal and prize, Institute of Physics
2020	Clarivate Web of Science Citation Laurate (2020)
2019	Honorary Doctor of Science, Sussex University
2017	Commander of the Order of the British Empire (CBE)
2017	Max Born Prize German Physical Society (DPG)
2017	Elected member of the Mexican Academy of Sciences
2014	Oort Professorship, Leiden Observatory, the Netherlands
2014	Gold medal, Royal Astronomical Society
2013	Alexander von Humboldt Research Award
2013	Lansdowne Visitor, UVic, Canada
2013	The Biermann Lectures, Max Planck Society
2011	The Gruber Cosmolgy Prize (\$500,000, jointly w. M. Davis, G. Efstathiou, S. White)
2010	Hoyle Medal and Prize, Institute of Physics
2010	George Darwin prize, Royal Astronomical Society
2007	Daniel Chalonge medal, Observatoire de Paris
2006	Royal Society Wolfson Research Merit award
2006	The Withrow lecture, Royal Astronomical Society
2004	Elected Fellow of the Royal Society
2004	Ranked 2 <sup>th</sup> most cited author in Space Sciences in the world in the past 10 years.
2002	Ranked 5 <sup>th</sup> most cited physical scientist in UK since 1980
2000-2001	Leverhulme Research Fellowship
2000	Ranked 16 <sup>th</sup> most cited physical scientist in the UK during the 1990s
1996-1999	PPARC Senior Fellowship

1992-1993	Sir Derman Christopherson Fellowship, University of Durham
1991-1992	Nuffield Foundation Science Research Fellowship
1985	SERC Advanced Fellowship (declined)
1976-1979	British Council Fellowship
1976	<i>Gabino Barreda</i> medal for first place in Theor. Phys. degree

### Main SERC/PPARC/STFC Committees:

Year	Description
2012-	DiRAC Management Board
2008	Ad hoc STFC Advisory Panel (Chairman)
1996-1999	Astronomy Committee
1994-1999	Board of the Issac Newton Group of Telescopes (Chairman 1997-99)
1997	First and Planck instrument review panel (Chairman)
1996-1997	Intercouncil High Performance Comp. management ctte.
1996-1998	Joint Astr. and Part. Phys. supercomputing panel
1991-2001	UK Dark Matter Experiment review panels
1991-1994	Astronomy and Astrophysics Committee
1991-1994	Theory grants panel
1990-1991	Education, Training and Fellowships Panel

### Main Royal Society Committees:

Year	Description
2023-	Member of Council
2020-	Dorothy Hodgkins Fellowships Panel - Deputy Chair
2019-	Public engagement Committee - Chair since 2021
2020-2022	International Programmes Advisory Group
2020-2022	Research and Innovation Contact Group
2020-2021	Peer Review Group
2016- 2020	Dorothy Hodgkins Fellowships Panel
2015- 2018	EU Contact Group
2013- 2017	Grants and Awards Committee
2013- 2016	Public engagement Committee
2013-	International Strategy Group
2012- 2015	Member of Council
2012- 2013	Research Professorships Panel
2010 -2012	Education Fellowships (chair)
2008 -2013	Newton International Fellowships Committee A-side (chair)
2008- 2013	Education Committee
2006- 2009	Sectional Committees 5 and 2 (recommends new Fellows)
2004-2007	University Research Fellowships Panel Ai
2004	Mullard Prize

### Foreign Committees:

Year	Description
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2023 -	Center for Computational Astrophysics, Flatiron Institute, New York, USA, review panel
2023 -	Tsung-Dao Lee Institute Advisory Committee, China
2022-	Inter Academy Partnership
2021-	European Research Council Advanced Investigator Grants, Brussels, Belgium; Chair of Panel 9 (Science of the Universe) since 2022
2021- 2022	Appointing committee for Professorship in Computational Physics (Theoretical Astrophysics), University of Heidelberg
2021- 2022	Board of Australian Research Centre on dark matter
2018 - 2020	Tsung-Dao Lee Institute Advisory Committee, China
2016-	DESI (Dark Energy Survey Instrument) Institutional Board, USA
2012-2016	Kavli Prize for Astrophysics Committee, Norway
2013 - 2020	Board of Mesoamerican Centre for Theoretical Physics, Mexico
2013	MPA-Beijing Observatory Partner Group Review, China
2008	Lamost Telescope Scientific Review, China
2006-27	PanSTARRS, USA
2004	Deutsche Forschungsgemeinschaft Review Panel, Germany (Formation and Evolution of Black Holes, Galaxies and their Environments)
2003-2010	Canada Research Chairs program: College of Reviewers

## Other:

Year	Description
2017-2019	Blavatnik Prize for Young Scientists jury
2016- 2019	L'Oreal-UNESCO Prize For Women in Science jury
2013	President Physics Section, British Science Festival
2002-2007	Head of Astronomy, Durham University
2005-2006	President of North East Association for Science Education
2005-2010	Issac Newton Institute of Mathematics, Scientific Steering Committee
2008	Wakeham Review of The health of Physics in the UK

## Teaching

- Various undergraduate and postgraduate courses in Physics and Astrophysics, since 1985.

## PhD students

- *Graduated (45) - Name (PhD year)* M. Plionis (1989), R. Bower (1990), B. Moore (1990), S. Lorrimer (1993), G. Wilson (1995), V. Eke (1996), L. Teodoro (1997), S. Kay (2000), A. Benson (2000), C. Power (2002), J. Helly (2003), C. dalla Vecchia (2005), R. Malbon (2006), Libeskind (2006), R. Crain (2008), P. Bett (2008), R. Angulo (2008), Y. Cai (2009), J. Gonzalez (2009), A. Cooper (2010), V. Eke(2005), N. Fanidakis (2010), H. Kim (2010) D. Murphy (2011), O. Parry (2011), Q. Guo (2013), M. Lovell (2013), J. Han (2013), L. Jing (2014), R. Kennedy (2014), Y. Rosas (2014), Schaller (2015), S. Bose (2017), D. Campbell (2017), H. Jun (2017), O. Newton (2019), A. Richings (2019), A. Genina (2020), T. Callingham (2021), A. Kelly (2022), E. Sirks (2022), A. Curran (2022), Q. He (2022), W. Elbers (2023), V. Faorukhar (2023), T. Evans (2023).
- *Current:* Y. Wang, S. Lange, A. Menegas, H. Zheng (visiting), K. Xu (visiting),
- All, but one, successfully completed their PhDs and, of the 45 who have graduated, over 30 are still working in astronomy.

## Postdoctoral assistants

- 50 postdoctoral researchers supervised since 1985, most still employed in Astronomy, including several in permanent or long-term posts: A. Aguirre-Santaella, Aristeidis Amvrosiadis, N. Arimoto, C. Baugh, A. Benitez-Llambay, E. Branchini, Y. Cai, M. Cautun, A. Cooper, V. Eke, W. Elbers, A. Fattahi, A. Font, M. Furlong, L. Gao, F. Governato, Qi Guo, Quan Guo, J. Han, Q. He, J. Helly, W. Hellwing, A. Jenkins, C. Lacey, S. Lillengen, S. Lu, M. Lovell, B. Lowing, A. Ludlow, P. Mazzota, M. Nagashima, J. Navarro, P. Norberg, T. Okamoto, K. Oman, F. Pearce, S. Ploeckinger, D. Reed, A. Richings, A. Robertson, I. Santos-Santos, T. Sawala, M. Schaller, M. Schneider, M. Sharma, S. Shao, M. Stringer, I. Szapudi, J. Wang, W. Wang,
- 7 current postdocs: Q. He, Aristeidis Amvrosiadis, I. Santos-Santos, W. Elbers, S. Lillegen, S. Lu, A. Aguirre-Santaella

## Conferences Organized (since 2000)

Year	Conference
2000	Galaxy Formation/The intergalactic medium – EU TMR Network Meeting (Durham)
2001	New Astronomy (Durham)
2003	Dark matter and dark energy – Royal Society Discussion Meeting (London)
2003	Galaxy formation (Cozumel, Mexico), SOC chair
2011	Galaxy Formation (Durham, Chair of SOC)
2013	Dark matter - Aspen workshop
2015	Dark matter – Joint Royal Society and Korea workshop (London)
2021	Heraeus workshop on Astrophysical windows on dark matter (London)
2023	Fiat Lux (Castelgandolfo, Italy)
2023	DESI collaboration meeting (Chair, Durham)
2023	Cole@60 (Durham, UK)

## Membership of Scientific Organizing Committees (since 2005)

Year	Conference
2006	Bernard@60 (Valencia)
2006	The role of black holes in galaxy formation (Potsdam)
2007	Dark Galaxies and Lost Baryons – IAU symp 244 (Cardiff)
2007	From IRAS to Herschel/Planck: cosmology with IR and sub-mm surveys (London)
2008	Surveys & sims of large-scale structure (Berkeley)
2008	Simulations in Cosmology and Galaxy Formation – NOVICOSMO 2008 (Trieste)
2008	Leopoldina dark energy conference (Munich)
2008	Galactic Structure and the Structure of Galaxies (Ensenada, Mexico)
2010	Computational Astrophysics (Halifax, Canada)
2011	Galaxy mergers (Taiwan)
2011	National astronomy meeting (Cardiff)
2012	Disk galaxy formation (Heidelberg)
2012	Cosmological simulations in joint UK/Germany NAM (Manchester)
2013	Physical link between galaxies and halos (Munich)
2014	The cosmic web (Talin)
2014	Dwarf galaxies (Potsdam)
2016	Identification of dark matter (Sheffield)
2017	Origin and evolution of baryonic halos (Galapagos)

2017	Galaxy-halo connection (Sta. Barbara)
2018	Stellar halos across the cosmos (Heidelberg)
2018	Cosmology 2018 (Dubrovnik)
2019	Small Galaxies, Cosmic Questions (Durham)
2020	IDM2020 (online)
2022	IDM2020 (Vienna)
2023	Nobel Symposium on Dark Matter (Stockholm)
2023	Galaxy formation (Shanghai)

## Research grants as PI

Dates	Title	Awarding Body	Amount (£)
1984-86	The evolution of large-scale structure	NATO	6,700
1987-90	The structure, dynamics and evolution of galaxy clusters	SERC	48,727
1987-90	Cosmological N-body simulations	SERC	46,763
1987-89	Cosmological N-body simulations	Nuffield Foundation	1,000
1987	The epoch of galaxy formation	NATO	17,000
1987-89	Pregalactic evolution	NATO	4,000
1988-91	Pregalactic evolution	SERC	55,218
1990	Observational Tests of Inflation	NATO	20,000
1990	Supercomputer simulations of galaxy formation	Durham University	4,000
1991-94	Real and simulated galaxy clusters	SERC	60,448
1991	The origin of cosmic structure	Durham University	5,600
1991-92	Science Research Fellowship	Nuffield Foundation	20,934
1992-95	Computer simulations in Cosmology	SERC	24,018
1992-94	Simulations of galaxy clusters	NATO	5,000
1992-96	Extragalactic astronomy and cosmology at Durham	SERC	555,920
1993-94	Astrophysical applications of GRAPE	SERC	65,188
1993-95	Network for research in theoretical cosmology	EC	194,000 ecu
1993-96	Cosmology at Durham	EC	100,000 ecu
1994-97	Analytic and numerical studies of galaxy formation	EC	100,000 ecu
1994-97	Astrophysical applications of HARP	SERC	87,883
1994-98	Extragalactic astronomy and cosmology at Durham	PPARC	950,000
1994-96	The Virgo consortium: cosmological simulations using T3D	EPSRC	74,000
1995-98	Visiting Fellows in Extragalactic Astronomy & Cosmology	PPARC	13,400
1996-2000	Extragalactic astronomy and cosmology at Durham	PPARC	1,011,895
1996-2000	Network for research in Galaxy Formation	EC	245,890
1996	UK Cosmology Supercomputer Centre	HEFCE JREI	545,890
1996-99	Senior Fellowship	PPARC	132,453
1997-98	The Virgo consortium	PPARC	315,000
1997-99	TMR Fellowship	EC	64,000
1997-2000	Virgo Project: Cosmological Supercomputer Simulations	PPARC	15,681
1997	Simulations of Galaxy Clusters	PPARC	3,750
1997-99	Testing galaxy formation models	British Council	2,900
1998	UK Fundamental Physics Consortium	HEFCE JREI	1,945,000
1998-2001	Visiting Fellows in Extragalactic Astronomy & Cosmology	PPARC	18,982
1998-2002	Extragalactic astronomy and cosmology at Durham	PPARC	1,357,332
1999	The formation and evolution of galaxies	PPARC	10,722



2000-2001	Virgo: cosmological supercomputer simulats. (programmer)	PPARC	19787
2000-2001	Research Fellowship	Leverhulme Trust	16,440
2000-2001	The Virgo consortium: simulating the Universe	HEFCE JREI	652, 988
2000-2003	Virgo : cosmological supercomputer simulats. (operations)	PPARC	12,768
2000-2004	Network for research in Intergal. Medium	EC	€250,140
2000-2004	Extragalactic astronomy and cosmology at Durham	PPARC	1,318,508
2001-2002	Support for computer system management	PPARC	125,558
2001-2004	Visiting Fellows Extragal. Astr. Cosmo	PPARC	27,715
2001-2004	The Durham Centre for Fundamental Physics	JIF	2,928,000
2002-2005	From Fund. Phys. to gals. and Universe (Nat. PUS award)	PPARC	80,000
2002-2006	Extragalactic astronomy and cosmology at Durham	PPARC	1,184,805
2002-2006	Support for computer system management	PPARC	487,494
2004-2007	Lenac network (ALFA programme)	EC	631,711
2004-2007	Virgo: cosmological supercomputer simulations	PPARC	75,000
2004-2007	Simulating the Universe	HEFCE (SRIF-2)	750,000
2004-2008	The De Laszlo Foundation Award		70,000
2005-2008	The Virtual Universe (VirtU)	PPARC	153,617
2005-2008	A beginner's guide to the Universe	PPARC	92,685
2005-2008	Virgo: supercomputer management support	PPARC	223,657
2005-2008	Virgo: operational costs	PPARC	17,354
2005-2008	Visiting Fellows at Durham	PPARC	47,414
2005-2008	Visiting Professorship	Leverhulme	36,750
2005-2010	Extragalactic astronomy and cosmology at Durham	PPARC	2,092,296
2006-2008	Support for computer system management	PPARC	343,823
2006-2008	PATT Travel for Extragalactic Astronomy	PPARC	49,961
2006-2009	The end of the cosmic dark ages	microsoft	60,000
2006-2010	Marie Curie Host Fellowships	EC	723,135
2008-2011	Visiting Fellows at Durham	STFC	73,282
2006-2012	Wolfson Merit Award	Royal Society	200,000
2008-2013	The Formation of Cosmic Structure (rolling grant)	STFC	3,105,567
2009-2012	High Performance Computing: Virgo	STFC	1,654,047
2009-2013	Cosmocomp Initial Training Network	EC	3,465,385
2011-2014	Visiting Fellows at Durham	STFC	90,531
2011-2015	Latin Am., China, Eur. Gal. Form. Network (LACEGAL)	EC	202,217
2011-2016	ERC Advanced Investigator Grant (From the Milky Way to the large-scale structure)	Euro Res Coun	1,935,800
2011-2015	The Formation of Cosmic Structure (rolling grant)	STFC	2,639,340
2012-2016	The Durham DiRAC-2 petascale facility	STFC	3,700,000
2014-2017	Durham Consolidated Grant £7.4M (all Durham)	STFC	2,634,040 (ICC)
2015-2018	Newton Advanced Fellowship	Royal Society	111,000
2017-2018	The Durham DiRAC-2.5x Memory Intensive	STFC	2,128,952
2017-2020	Durham Consolidated Grant £7.4M (all Durham)	STFC	2,200,000 (ICC)
2017-2020	The Durham DiRAC-2.5 Operations	STFC	567,548
2018-2024	ERC Advanced Investigator Grant (The identity of the dark matter)	Euro Res Coun	€2,493,439
2020-2023	Durham Consolidated Grant £5.95M (all Durham)	STFC	1,350,000 (ICC)
2017-2021	DiRAC-2.5 operations	STFC	2,115,359
2019-2022	DiRAC-3 computer and operations	STFC	7,148,944

2022-2023	DiRAC-3 operations extension	STFC	4,449,000
2023-2026	DiRAC-3 operations	STFC	2,105,000
<b>Total UK</b> (In 2017 pounds)			68,872,131
<b>Total EU</b> (In 2017 pounds)			12,146,435 (approx.)

### Other fund raising

Dates	Purpose	Source	Amount (£)
2014	New Building for Ogden Centre	Wolfson Foundation	1.5M
2013	New Building for Ogden Centre	Ogden Trust	3.32M
2013	New Building for Ogden Centre	Fund raising campaign	90,000
2001	Building for Ogden Centre for Fundamental Physics	Ogden Trust	2.2M
2002	Sculptures by Peter Robinson for Ogden Centre	de Laszlo/Hefner	confidential
2005-	Research support	de Laszlo Foundation	117,000
2011-2015	PhD studentship	Undisclosed	80,000
2015-2018	PhD studentship	Undisclosed	80,000
2019-2023	PhD studentship	Undisclosed	83,000

### Invited talks at major international conferences

Date	Conference	Lecture/review
1984	Evoln. Struc. in Univ., Sta. Barbara, Ca.	Cosmological N-body Simulations
1984	3 <sup>d</sup> Anglo-Spanish Sch. Astr., Granada	Dark matter in the Universe
1984	Hidden matter in the Univ. (RAS), London	Is the dark matter non-baryonic?
1985	The Early Universe, RAL	The large-scale structure of the Universe
1985	The material content of Univ., RS, London	Galaxy clustering
1986	Cosm. and gal. form. Copenhagen	Numerical simulations of clustering
1986	Nearly Normal Galaxies, Sta Cruz, Ca	Gal. halos and the generation of ang. mom.
1986	Particle Phys. and Cosm., Berkeley, Ca	The formation of cosmic structure
1987	Streaming motions in the local Univ., RGO	Theor. implications of streaming motions,
1987	Cosm. and Phys. Early Univ., RS London	Large-scale structure
1987	The Early Universe, Cambridge	Dark matter and galaxy formation
1987	The Struc. Univ. IAU Symp 130, Hungary	N-body simulations of galaxy formation
1988	Cosm.- particle phys, Uppsala, Sweden	Galaxy formation
1988	Particle Astrophysics, Berkeley, Ca.	Galaxy clusters
1990	The Birth of Univ. Nobel Symp, Sweden	Models of large scale structure
1990	Astr. & Plan. Sci. Board, SERC	Large scale structure and dark matter
1990	Traces primordial struc. in Univ., Ringberg	Real and imaginary clusters
1990	Observ. tests of inflation, Durham	The clustering of IRAS galaxies
1990	Texas/ESO/CERN meeting, Brighton	The cold dark matter model: does it work?
1991	1 <sup>st</sup> Intern. Sch. Astr. Erice	Models of large-scale structure
1992	HEPP 92, Lancaster	The Universe: what is the matter
1992	2 <sup>nd</sup> Intern. School Astr. Erice	Dark Matter and origin of large-scale struct.
1992	The CMB and LSS after COBE, Stockholm	Implications for models of struct. formation
1993	The background radn (RAS), London	COBE and the amplitude of mass fluctns.
1993	National Astr. Meeting, Leicester	The Baryon Catastrophe
1993	Neutrino Astronomy, RS London	Neutrinos and the missing mass problem

- 1993 Num. sims. in Astrophys. Mexico City
- 1993 Intern. sch. on dark matter, Valencia
- 1993 The gal. lum. fn., (RAS) London
- 1994 New horizons in part-astrophys., Abingdon
- 1994 Recontres de Moriond
- 1994 3<sup>d</sup> Intern. Sch. Astr. Erice
- 1994 Trends in Astrophysics Stockholm
- 1994 The mass and comp. of gal. clus., Munich
- 1994 Gal. form. ev. 17<sup>th</sup> Texas Symp, Munich
- 1995 New light on gal.ev. IAU 171, Heidelberg
- 1995 Fifth Summer School Vatican Obs, Rome
- 1995 The universe at high  $z$ , Edinburgh
- 1995 Mapping, Measuring the Univ., Valencia
- 1996 National Astronomy Meeting, Liverpool
- 1996 National Astronomy Meeting, Liverpool
- 1996 Critical Dialogues, Princeton
- 1996 HST/High-redshift Universe, Cambridge
- 1996 Dark & visible matter in galaxies, Sesto
- 1996 Formation & evoln. of galaxies, Argentina
- 1996 Identification of dark matter, Sheffield
- 1996 Emergence of structure in Univ., Vatican
- 1997 Winter conference on Astrophysics, Aspen
- 1997 Particle phys. & early univ., Cambridge
- 1997 IAU Symposium 186, Kyoto
- 1997 The Young Universe, Rome
- 1997 4th Intl. School of Astrophysics, Erice
- 1997 The non-sleeping Universe, Porto
- 1998 Lecture Series, CERN, Geneva
- 1998 Large-scale structure, Royal Society
- 1998 Evolution of galaxies, Aspen
- 1998 The birth of galaxies, Blois
- 1998 Summer School in Cosmology, Tarragona
- 1998 Evoln. of large-scale structure, Garching
- 1998 When/how bulges form and evolve? STSCi,
- 1998 The Universe at  $2 < z < 5$ , Maryland
- 1998 Academic Exchange Program, Durham, NC
- 1999 Structure and dynamics of galaxies, Venice
- 1999 Satellite galaxies, Ringberg, Germany
- 1999 Galaxy morphology, Paris
- 1999 Cosmic flows, Victoria, Canada
- 2000 Fundamental Phys. in Space, CERN Geneva
- 2000 Galaxy disks & disk galaxies, Rome
- 2000 New cosm. data, IAU Symp 201, Manchester
- 2000 Computational Cosm., Victoria, Canada
- 2000 IDM2000, York
- 2001 Matter in the Universe, Bern, Switz.
- 2001 Oort Meeting on Gal. Form., Leiden, Holland
- 2001 Frontiers of the Universe, Blois, France
- 2001 IAU Symp 208 Astrophys Supercomp, Tokyo
- Large-scale structure of the Universe
- Dark matter and structure formation
- The origin of the galaxy luminosity function
- The mean density of the Universe
- Galaxy clusters and cosmology
- Dark matter and origin of large-scale struc.
- Large-scale structure: a review
- Unresolved problems in cluster modelling
- Galaxy formation
- Galaxy formation and evolution
- Lectures in Cosmology
- Modelling galaxy evolution
- N-body simulations and galaxy formation
- Numerical simulations of cosmic structure
- $\Omega$  from clusters
- Large-scale structure: the devil's advocate view
- Galaxy formation and evol: outstanding problems
- Numerical & analytic modelling of gal. evolution
- Galaxy formation and large-scale structure
- Structure formation and dark matter
- Models of galaxy formation and evolution
- Large-scale structure and galaxy clusters
- Astronomical Evidence for Dark Matter
- Overview: theory
- Theory and Phenomenology of Galaxy Formation
- Galaxy formation and large-scale structure
- Constraints on the cosm. parameters
- Cosmic large-scale struct., dark matter, origin of gals.
- Summary
- Semi-analytic models of galaxy formation
- Semi-analytic modelling of gal. formation and evoln.
- Prospects in Cosmology
- Summary
- Theoretical expectations
- Forming galaxies: theory
- The dark and bright sides of the Universe
- Ab initio modelling of galaxy formation
- The faint end of the luminosity function
- The astrophysics of galaxy morphology
- Expectations from numerical simulations
- What to expect from NGST
- The epoch of disk formation
- The distr. of dark matter & galaxies
- Simulating galaxy formation & clustering
- The cold dark matter model
- Theory of structure formation
- Critical tests of structure formation models
- Gal. clustering at high and low  $z$
- Connecting cosmological sim. to the real world

2001	Comput. Fluid Dyn. in Astrophys, Leicester	Sim. of the cosmic dark matter, gas and gals
2001	Europhys. Conf. on Comput. Phys., Aachen	Cosmic Architecture
2001	A New Era in Cosmology, Durham	The nature of Scuba galaxies
2001	IAU LA Reg. meeting, Cordoba, Argentina	The origin of cosmic structure
2001	Science from la Palma, La Palma	Highlights in Cosmology
2001	Roy Soc Disc meeting, London	Simulating the formation of cosmic structure
2001	Particle Physics Theory meeting, Durham	The origin of structure in the universe
2002	The formation and ev of gals, Cozumel, Mexico	From recombination to the present
2002	Making Light of Gravity (M. Rees 60 <sup>th</sup> ), Cambr.	Simulations of galaxy formation
2002	Identification of dark matter, York	Summary of large-scale structure
2002	9th Intl. School of Astrophysics, Palermo	The cold dark matter paradigm
2002	Last frontiers in particle physics, Madrid	Dark matter
2002	The Emergence of Cosmic Structure, Maryland	Dark matter and galaxy formation
2003	CIAR Cosmology/Gravity, Montreal	Results from the 2dF galaxy redshift survey
2003	Particle Physics 2003 (IOP), Durham	Dark matter, dark energy and cosmic structure
2003	IAU Symposium 220 Dark Matter in Galaxies XXV IAU General Assembly, Sydney	Groups and clusters in the 2dF redshift survey
2003	Kavli-Cerca meeting on the future of cosmology, Cleveland	Dark matter: is anything ruled out?
2003	Dark Matter and Dark Energy, Bonn	Dark matter candidates
2004	The quest for concordance cosm. Cambridge	Confronting gal. form. theory with observations
2004	Star Formation Processes, Aspen	The galaxy luminosity function
2004	2nd Mex. Meet. Math & Exper. Phys., Mexico	The origin of cosmic structure
2004	XXII Texas Symp Rel Astrophys., Stanford	The 2dF survey and cosmological simulations
2005	Future cosm clusters of gals, Kona, Hawaii	Clusters as knots of the cosmic web
2005	CIAR Cosmology & Gravity Program, Quebec	Cosmic wiggles
2005	DEISA symp on supercomputing appl., Paris	Computing the Universe
2005	2 <sup>nd</sup> Chinese School Extragal. Astr., Tianjin	4 lectures on galaxy clusters
2005	Computational cosmology, Trieste	The effect of feedback on galaxy formation
2005	Guillermo Haro 2005 Adv School, Puebla	2 lectures on cosmology
2005	SUSY05, Durham	The emergence of a cosm paradigm
2005	Space Science School, Alpback	The standard model of cosmology
2005	Open Questions in Cosmology, Garching	Is the IMF universal?
2005	Crafoord days, Lund	Testing cosmological theory against observations
2005	The structure of the Universe and the future of Cosmology, Stockholm	The gal form & large-scale structure connection
2005	AGN & gal evolution, Castel Gandolfo	Simulations of galaxy formation
2005	A European Supercomputer, Barcelona	Computing the Universe
2006	CIAR Cosmology & Gravity Program, Banff	Baryon Acoustic Oscillations
2006	IX Mexican Sch Particles and Fields	Our surprising universe
2006	IAG-Lenac XIII Adv. Sch. of Astr., Iguazu,	2 lectures
2006	Bernard's cosmic stories, Valencia	Simulating the universe
2006	DPG Sch. Dark Matter & Dark Energy, Bonn	Formation of Cosmic Structure
2006	IAU JD15, Prague	CDM predictions for Spitzer
2006	Identification of dark matter, Rhodes	Cosmological parameters
2006	The role of black holes in gal form, Potsdam	Rise & fall of BH populatin
2006	Physics of the early universe, Paris	Large-scale structure
2006	Roy Astr Soc, London	The Virgo consortium
2007	IAU symposium 244, Cardiff	A baryon inventory

2007	PASCOS07, London	The cosmic large-scale structure
2007	From IRAS to Herschel/Planck, London	Galaxy formation in the infrared
2007	Dark Matter, Dark Energy, CMB & LSS, Paris	Testing CDM
2007	From Planets to Dark Energy, Manchester	Galaxy formation
2008	Surveys & sims of large-scale structure, Berkeley	From CDM to $\Lambda$ CDM
2008	Dark matter on small scales, Paris	Dark matter on small scales: N-body simulations
2008	Gal. structure & the structure of gals, Ensenada	$\Lambda$ CDM predictions for gal. morphology
2008	National astronomy meeting, Belfast	Dark matter on small scales
2008	Galaxy properties, Aspen	Galaxy mergers
2008	The standard model of the universe, Paris	The small-scale structure of the Universe
2008	Putting Gravity to Work, Cambridge	The density structure of dark matter halos
2008	Identification of dark matter 2008, Stockholm	A blueprint for detecting dark matter in Gal. halo
2008	Back to the Galaxy (II), Sta Barbara	Dark matter annihilation radiation from Gal. halo
2008	Simulations in Cosm. & Gal. Formation, Trieste	Dark matter halos
2008	Building the Milky Way, Santa Barbara	Cosmology on Small Scales
2009	Cosmology on the beach, Baja California	3 lectures on the large-scale struc. of the Universe
2009	ENTAP Dark Matter 2009	The structure of galactic dark matter halos
2009	Obs of black hole mergers, STScI, Baltimore	Black holes in the LCDM cosmology
2009	CIFAR meeting, Mt Temblant, Canada	The structure of dark matter halos
2009	Dark matter detection, Cleveland, USA	(Mostly) dark matter halos
2009	Origins Symposium, Phoenix, USA	Dark matter rules
2009	DEISA Prace Symp, Amsterdam	Cosmological simulations
2009	Unity of the Universe, Portsmouth	The satellites of the MW
2009	TeV Particle Astrophysics, Stanford, USA	Cold dark matter detection
2009	13th Paris Colloqium, Paris	Cosmology on small scales
2009	The Milky Way & the Local Group, Heidelberg	Early universe reionisation
2009	DPG Astroparticle Physics, Bonn	The structure of the universe
2009	Universnet, Barcelona	Cosmology on small and large scales
2009	Galilei Xu Guangqi Sym., Shanghai	The small scale structure of the Universe
2009	UK HEP, Durham	The structure of the universe
2010	Bond@60, Toronto	Cosmology in our backyard
2010	Superc techn in Astr., Santiago, Chile	The cosmic large-scale struc.
2010	The first gals, QSOs, $\gamma$ -bursts; Penn State	Obs. signatures of the first gals
2010	Part. Phys. & Cosm.- 2010, Torino	Outlook from cosmology
2010	PASCOS 2010, Valencia	Dark matter & cosmic structure
2010	14th Paris Colloqium, Paris	CDM on small scales
2010	TeV Part. Astroph., Paris	The small scale structure of the Univ.
2010	Galaxy clusters, Munich	X-ray coronae around galaxies
2010	Darkness visible, Cambridge	MW satellites in LCDM
2010	Galaxy Evolution: IR to mm, Guilin, China	Predictions from LCDM
2010	KIAS Works. Cosm. Str. Form., Seoul, S. Korea	Cosmology on small scales
2010	KIAS Works. Cosm. Str. Form., Seoul, S. Korea	Workshop summary
2011	Galaxy Evolution, Ringberg, Germany	Cosmology in our backyard
2011	Particle Phys & Cosm, CERN, Switzerland	Testing LCDM on galaxy scales
2011	Gas in galaxies, Kloster-Seeon	The gas accretion history of the Milky Way
2011	Galaxy formation, Durham	The satellites of the Milky Way
2011	Galaxies in the dark, Cafayate, Argentina	Looking back and seeing forward
2011	High perf. comput. in astr., Cordoba, Argentina	The standard model of cosmology
2011	Feeding the giants, Ischia	Galaxy formation and cosmology

2011	Dark workshop, Florence	ΛCDM: successes and challenges
2011	Clusters of gals as cosmic labs, Stockholm	Where will dark matter first be seen?
2011	Dark matter in clusters, gals; Nottingham	Cosmology in our backyard
2011	APP National Symposium, Leiden	Cold <i>vs</i> warm dark matter
2012	First light & faintest dwarfs, Sta Barbara	Satellites of the MW & the nature of dark matter
2012	UK-German Nat. Astr. Meeting, Manchester	Cosmology in our backyard (plenary)
2012	Candian Inst for Advanced Res AGM	The Milky Way & the nature of the dark matter
2012	MPA-IFT Spring Workshop on LSS	γ-ray dark matter annihilation radn. in gal. clusters
2012	Dark Matter Silver Jubilee Symp., Pasco, WA	The formation of cosmic structure
2012	13 <sup>th</sup> Marcel Grossman Meeting, Stockholm	New developments in large scale structure
2012	Identification of dark matter 2012, Chicago	Status of dark matter simulations
2012	IAU Symp 295 Intriguing life of massive gals.	Future prospects
2012	Big BOSS workshop, Paris	Theoretical challenges for precision cosm.
2013	Identifying & characterizing DM, a Barbara	Decoding identity of dark matter from Milky Way
2013	Nordic Physics Days, Lund, Sweden	Cosmology in your backyard
2013	Physical link gals - halos, Garching, Germ.	Stellar halos ... (theory)
2013	Invisibles 13 Workshop, Durham	Warm <i>vs</i> cold dark matter: large-scale structure sims
2013	Ripples in the Cosmos, Durham	The identity of the dark matter
2013	Dark matter, Aspen	Constraints on direct and indirect detection
2014	Quantum Universe, Groningen	Cosmology in our backyard
2014	Galaxy formation and cosmology, Beijing	The Milky Way and the identity of the dak matter
2014	The Zeldovich Universe, Tallin, Estonia	Large and small-scale structure simulations
2014	IAU Symp. 311: Galaxy Masses, Oxford	Mass of the Milky Way and nature of dark matter
2014	Dwarf galaxies, Potsdam	Searching for identity of dark matter in Local Group
2014	Cosmology after Planck	Dark matter - nearby universe
2014	Solvay Conference, Brussels	The nature of dark matter
2015	AAS 225th meeting, Seattle	Looking for dark matter (RAS Gold Medal talk)
2015	Spectroscopy in next decade, La Palma	Galaxy evol: big questions
2015	The Hawking workshop, UK	Cosmology today
2015	Symmetries in the universe, Irsee, Germany	Dark matter crisis?
2015	Accurate Astrophys., correct Cosmology, London	Is CDM ruled out?
2015	Roman Juszkiewicz Symposium, Warsaw	is CDM ruled out?
2015	George Efstathiou at 60, Cambridge	In the dark with George
2015	Roy Soc UK-Korea Bilateral meeting Chicheley	Cold dark matter
2015	HAP dark matter 2015, Karlsruhe, Germany	Cold vs Warm dark matter
2015	IBS-MultiDark worksh. on dark matter, Madrid	CDM rules
2015	100 years of General Relativity, Miami	Clues to identity in the dark matter
2016	Dark matter on the smallest scales, Leiden	CDM vs WDM: tests on subgal scales
2016	Identification of dark matter 2016, Sheffield	Cold and warm dark matter
2016	COSMO-16, Ann Arbor	Searching for the identity of dark matter
2016	“Particle Phys. meets Cosmology,” Bad Honnef	Observational tests of ΛCDM
2016	The Milky Way and its environments, Paris	Clues to the dark matter from the Milky Way
2017	The low surface brightness universe, London	Predictions for ΛCDM
2017	Origin and evol. of baryonic halos, Galapagos	Identification of the dark matter from the MW halo
2017	IOP HEPP meeting, Sheffield	The identity of dark matter is written on the sky
2017	German Physics Society, Muenster	Identify of dark matter from local neighbourhood
2017	The Galaxy-halo connection Sta. Barbara	CDM and the small-scale structure
2017	Advances in theoretical cosmology, Stockholm	How to rule out cold dark matter
2017	The Milky Way and its environments, Vietnam	How to rule out cold dark matter

2017	Piercing the sphere of influence, Cambridge	AGN and the curious case of the Milky Way
2017	Topical workshop on dark matter, Singapore	A conclusive test of cold dark matter
2017	HEP Forum: Cosmology, Gravit., Particle Phys.	Dark matter simulations
2018	Have sterile neutr. been discovered? Leiden	The way forward
2018	Comp. Gal. Form., Ringberg Castle, Germany	Cores or cusps?
2018	DM at the dawn of discovery?, Heidelberg	The status of cold dark matter
2018	Particle, Astroparticle and Cosmology, Tallinn	A definitive test of cold dark matter
2018	Patras Worksh. Axions, Wimps, Hamburg	The status of the Lambda Cold Dark Matter model
2018	The Phys. Gal. Scal. & nature DM, Kingston	A conclusive test of cold dark matter
2018	Halo Substructure and DM Searches, Madrid,	Tests of $\Lambda$ CDM with subhalos
2018	DM detection ..., Santa Barbara	The cold dark matter model
2018	Stellar halos across the cosmos, Heidelberg	Imprint of cosmic reionization on halo of Milky Way
2018	Hans-Jensen lecture, Heidelberg	The CDM model and how to rule it out
2018	Cosmology and Astroparticles, Dubrovnik	The small-scale structure of the Universe
2019	Small galaxies, cosmic questions, Durham	Dwarfs: the giants of cosmology
2019	Dutch Astroparticle Symposim, Wijk aan Zee	Distinguishing CDM from other models
2019	Polish Astronomical Society meeting, Olsztyn	Tests of the cold dark matter paradigm
2019	Dark side of the Universe, Buenos Aires	A conclusive test of cold dark matter
2019	1 <sup>st</sup> Shanghai Assembly Cosm. & Gal. Form,	Astrophysical tests of the identity of dark matter
2019	Festkolloquium for Simon White, MPA Garching	The birth of CDM and its current health
2020	Identification of dark matter, Vienna (online)	Simulations of a CDM universe
2020	Congress Mexican Phys Soc., Mex. City (online)	A definitive test of cold dark matter: no ifs or buts
2020	Opening Mesoam Inst Sc. Chiapas, Mex (online)	The formation of structure in the Universe
2020	Latin Am. Work. Obs Cosm, Sao Paolo (online)	A conclusive test of the cold dark matter model
2021	CTA science meeting, Durham	CDM predictions for Gamma-ray annihilation radn.
2022	Comp. gal. form., Ringberg Castle, Germany	Miscalculations in simulations of Galactic satellites
2022	Virgo meeting, Garching, Germany	A short history of $\Lambda$ CDM
2022	IDM22 Vienna	Dark Matter Halo Simulations/Observations
2023	Nicolaus Copernicus World Congress, Torun, Poland	The cold dark matter model
2023	Observing the evolving universe, London	A conclusive test of LCDM
2023	Nobel Symposium on dark matter, Stockholm, Sweden	A definitive test of the cold dark matter hypothesis
2023	Fiat Lux, Castelgandolfo, Italy	A conclusive test of cold dark matter
2023	Cosmology 2023 in Miramare, Trieste Italy	A conclusive test of cold dark matter
2023	550 Years of the Copernican Universe: our Place in the Cosmos, Berlin	The emergence and prospects of the standard model of cosmology

## Recent research seminars

During the past few years I have given research colloquia (to both astronomy and physics departments) at: Observatoire de Paris, Meudon; MRAO, Cambridge; Ann Arbor, Michigan; Mexico City; IoA, Cambridge; Manchester University, ROE; Max-Planck Institut fur Astrophysik, Munich; Liverpool John Moore University, University College, London; Imperial College, London; Oxford University; University of Ohio; University of Basel; Paul Scherrer Institute in Zurich; Universidad Complutense, Madrid; Nottingham University; Lancaster University, University of Helsinki, Finland; Barcelona; University of Utrecht (2006), Holland; University of Birmingham (2006); MPA Garching (2006); Southampton University (2006); Caltech (2006); SISSA (Trieste, 2006); Cam-

bridge University (2006); Paris Observatory (2006); Oxford University (2006), Edinburgh University (2006); Groningen University (2006); Bonn University (2006); Heidelberg University (2007); Paris University (2008); Caltech (2009); Glasgow (2010), Sussex (2011), Heidelberg (HITS colloquium; 2011); Portsmouth (2011); Edinburgh (2011); Santa Barbara (2012), UA Madrid (2012), Southampton (2012), Odense (2012), Leiden (2012), Amsterdam (2012), Cambridge (2012), MSSL (2012), Imperial College (2013), Victoria, Canada (2013), Santiago, Chile (2013), Aspen (2013), the Biermann lectures (series of 3 lectures), Garching (2013), Harvard (2014), Amsterdam (2014), Strasbourg (2015), Fermilab (2015), Chicago University (2015), Saclay (2017), Potsdam (2017), Cambridge (2017), Mexico City (2017), Nottingham (2017), Marseille (2017), UCL (2017), Bristol (2017), Durham (2017), Cambridge (2017), Heidelberg (2018), Hamburg (2018), Nanjing (2018), Beijing (2018, 3seminars), Liverpool (2019), Mexico City (2019), Victoria (2019), L'Aquila (2019), Heidelberg (2020, online), Zhejiang (2020), online, Hamburg (2020, online), Madrid (2020, online), Santiago de Chile (2020, online), Teheran (2021, online), Indiana (2022, online), Chicago (2022), Milan (2022), Minneapolis (2022), Granada (2022), Donostia (2023), Portsmouth (2023).

## Science outreach

### *Named public lectures*

<b>Date</b>	<b>Event</b>	<b>Lecture</b>
2003	The Hoyle Memorial lecture, Leeds	The Big Bang
2006	The Elizabeth Spreadbury Lecture, UCL, London	Building the universe
2006	The Withrow Lect. of the Roy Astr Soc., London	Our implausible universe
2007	The O'Neill Lecture, Glasgow	Our implausible universe
2008	The 2008 Dundee Christmas Lecture, Dundee	Our implausible universe
2009	The Cosmocaixa Lecture, Barcelona	Simulant l'univers
2010	The Roy Astr. Soc Darwin Lecture, Glasgow	The small-scale struc of the Univ.
2012	The Guy Fawkes Phys. Lect., St. Peter Sch., York	Cosmic history
2013	The Lansdowne Lecture, U of Victoria, Canada	Everything from nothing
2015	The 2nd Wetton Lecture, Oxford Univ.	How our universe was made
2015	The Oort Lecture, Leiden Univ.	Cosmic origins
2018	Edinburgh Mathematical Society Public Lecture	Clues to the identity of the dark matter
2018	The Alfred Curtis Lecture, Brit Astr A, Winchester	The making of our Universe
2018	The Jeremiah Horrocks Anniversary Lect, Preston	How our Universe was made
2019	Master Distinguished Lecture, Shanghai	Everything from nothing
2022	The Brinson Lecture, Chicago	How our Universe was made
2022	Global lectures, Durham University, London	Cosmic Extinction: the far future of our Universe
2022	The Misel Family Lecture, Minneapolis	How our Universe was made

### *Other public lectures*

<b>Date</b>	<b>Event</b>	<b>Lecture</b>
1995	Durham Festival of Science	Simplifying our complex Universe
1995	Brit. Assoc. Fest. Science (Newcastle)	The simplicity of our complex Universe
1995 -	Various Astronomical Societies	various lectures
1996	University of Cordoba	El lado oscuro del universo
1998	Dillons (Durham)	The First Dillons Science Lecture
1998	Duke University, N. Carolina, USA	First Duke-Durham Lecture
2000	Universidad Complutense	Public debate on cosmology in 2000



2003	Gifted and talented children, Newcastle	Cosmic origins
2003	Royal Albert Hall, London	The first few seconds
2003	The Hoyle Memorial lecture, Leeds	The Big Bang
2004	The Edinburgh Internat. Science Festival	The dark side of the Universe
2004	Mathematics and culture in Europe, Bologna	The origin of galaxies
2005	Einstein's year – Universum, Mexico City	Cosmic Architecture
2005	Cafe Scientifique, Newcastle	Cosmology
2005	Science Museum, Valencia	Cosmic origins
2005	Durham Alumni Association, London	Cosmic architecture
2006	Association of Science Educators, Durham	Cosmic evolution
2006	The Elizabeth Spreadbury Lecture, UCL, Lond	Building a universe
2006	FMF Symposium, Groningen	Our implausible universe
2006	The Withrow Lect. of Roy. Astr. Soc., Lond	Our implausible universe
2007	Newcastle Science Festival	Our implausible universe
2007	New Generation Science meeting, Durham	Our implausible universe
2007	The 59 club (of independent schools), Newcastle	Our universe
2008	The O'Neill Lecture, Glasgow	Cosmic architecture
2008	The Centre for Life, Newcastle	The origin of cosmic structure
2008	Cafe Scientifique, Stockton	Cosmic puzzles
2008	Nibiru Astronomical Society, Mexico city	Our implausible universe
2008	Dundee Christmas Lecture, Dundee	Our implausible Universe
2009	Barcelona	Simulating the Universe
2009	Cleveland Museum of Natural History	The great cosmic gamble: galaxies from nothing
2009	Free University of Berlin (Laudatio V. Springel)	Simulating the Universe
2009	Oxford University Sci. Soc.	The universe: all from nothing
2010	The RAS Darwin Lecture, Glasgow	The small-scale struc of the Univ.
2010	Penn State University	The great cosmic gamble
2010	Valencia, Spain	El improbable universe
2010	Queens University, Belfast	The great cosmic puzzle
2010	Universidad Complutense de Madrid	La estructura del universo
2010	Astro-Expo 2010, Dublin	Everything from Nothing
2011	Jo Richardson School, London	The great cosmic gamble
2011	Cosmology: the science of the Universe, Brussels	The origin of galaxies
2011	The Hay (Philosophy) Festival, Hay on Wye	Before the beginning, after the end
2011	The Ogden Physics Forum, Cambridge	The cosmological paradigm
2011	The British Science Festival, Bradford	Why dark matters?
2011	Huddersfield Astr. Soc.	The Big Bang for beginners
2011	Newcastle Astr. Soc and IoP	Everything from nothing
2011	Cambridge University Scientific Society	Everything from nothing: how our Univ. was made
2011	Portsmouth Univ. Public Lect. Series	Cosmic history: everything from nothing
2012	European Astrofest 2012, London	In search of the dark
2012	Newcastle Science Festival 2012	Searching for dark matter
2012	Bradford Astro Soc	Dark matter
2012	York Festival of Ideas (opening lecture)	Where it all began: the Big Bang
2012	13 <sup>th</sup> Marcel Grossman meeting, Stockholm	Dark matters
2012	Ogden@10: five questions in Phys, Durham	Dark matter
2013	Trinity College Science Society, Cambridge	Everything from nothing: how our Univ. was made
2013	Equipping Religious Leaders in Age of Sci, Durh.	The Big Bang
2013	Norwegian Astronomical Society, Tromso	Dark matters

2013	Royal Grammar School, Newcastle	All from nothing
2013	The Lansdowne Lecture, U of Victoria, Canada	Everything from Nothing,: how our Univ. was made
2013	El Mercurio lecture series, Santiago, Chile	Todo de la nada
2013	Invisibles 13 Public lecture	What went (Big) Bang?
2013	Oxford May Music	Debate w. Russel Stannard on Limits of Knowledge
2013	British Science Festival	The origin of galaxies
2014	Light year, Durham	The first light
2015	La Palma, Spain	Nuestro improbable Universo
2015	The 2nd Wetton Lecture, Oxford Univ.	How our universe was made
2015	The Oort Lecture, Leiden Univ.	Cosmic origins
2015	Crawick Universe, Drumlanrig Castle, Scotland	The Universe as we know it
2015	Thyssen-Bornemisza museum, Madrid	The limits of the Universe
2015	The Ogden Forum, Cambridge	The new cosmology
2015	Light, Art, the Universe, Everything, Durham	The first light
2015	University of Miami	Everything from nothing
2015	XIII Symposium of Mexican Students, London	Everything from Nothing
2016	American Assoc. Adva. of Sci 2016, Washington	Searching for DM (discussant)
2016	Lorentz Center Highlights Lecture	What is the dark matter?
2016	Manchester European City of Science	Dark matter, gal. form.
2016	Cambridge Physical Society	The creation of our Universe
2016	Institute of Physics, Edinburgh	Structure in the Universe
2017	The Castle Lecture, Durham	All from nothing
2017	Ogden Centre opening, Durham	Cosmic architecture
2017	Galapagos Islands	El universo de galaxias
2017	Mexico City	Todo de la nada: como se formo el universo
2017	IOP Winter Lectures are Roy Soc Edinburgh	The making of our Universe
2017	Cambridge Webb Society	Everything from nothing: creation of the Universe
2017	The Crawick Universe, Sanquhar	How our Universe was made
2017	Durham scales workshop	Scales of the visible Universe: the largest of them all
2017	Durham legacies, London	Cosmic architecture: research at the Ogden Centre
2017	Singapore	Everything from nothing
2017	Orchestra of the Age of Enlightenment, London	The origin of galaxies
2018	British Applied Maths Colloquium, St. Andrews	The standard model of cosmology
2018	World conference on science literacy, Beijing	Computing the universe
2018	Xuyi, China	The cosmic dark matter
2019	York festival of ideas	Visual imagination in science
2019	Federation of Astronomical Societies	Everything from nothing
2019	Saturday science, Durham	Everything from nothing
2020	Shanghai University	All from nothing
2020	Cambridge Astronomical Society, Cambridge	How our universe was made
2020	INSIGHTS Lectures at Newcastle Uni. (virtual)	Everything from Nothing
2020	The DESI survey, Nat. Uni. Mexico (online)	Everything from Nothing
2021	Durham-Chinese Academy Sci webinar	Everything from Nothing
2021	STEMfest (part of World Space Week (online)	Dark matter
2021	St Aidan's College, Durham (online)	Everything from nothing
2021	Cardiff Scientific Society (online)	How the Universe was made
2021	Royal Astronomical Society Friends (online)	Dark matter: the architect of the Universe
2022	University of Milano Bicocca, Italy	How our Universe was made
2022	Ogden@20, Durham	Dark matter

2022	Extinction and survival lecture series, London	Cosmic extinction and survival
2023	The Role of Science in Church and Society, House of Lords, London	Cosmology
2023	Cambridge Philosophical Society, Cambridge	Cosmic extinction: the far future of our universe
2023	King's college, Cambridge	The making of our universe
2023	Bishops workshop, Durham	Cosmic extinction: the far future of the Universe
2023	Cambridge Philosophical Society, Cambridge	Cosmic extinction: the far future of our universe
2023	Braemar summit: the great acceleration, Braemar, Scotland	Cosmology
2023	Newcastle Astronomical Society, Newcastle	The far future of our Universe

*Other outreach activities*

<b>Date</b>	<b>Event</b>	<b>Lecture</b>
2005	Roy. Soc. Summer Science Exhibition	Cosmic architecture
2008	The Huxley Prize – adjudicator	Eaton College
2009	Roy. Soc. Summer Science Exhibition	Cosmic origins
2010	Roy. Soc. Summer Science Exhibition	Cosmic origins
2013	Roy. Soc. Summer Science Exhibition	What is the matter?
2014	How the light gets in, Hay on Wye	Mathematical universe debate
2016	AAAS 2016 annual meeting:	Dark matter where and what?
2016	Roy. Soc. Summer Science Exhibition	Galaxy makers
2017	Westminster Higher Education Forum	Talk: “Challenges of Brexit for UK science”
2020	Roy. Soc. Summer Science Exhibition (online)	Your place in the Universe
2021	Roy. Soc. Summer Science Exhibition (online)	Your place in the Universe
2023	Roy. Soc. Summer Science Exhibition Lates	Galaxy maker

**Media**

<b>Date</b>	<b>Organization</b>	<b>Programme</b>
1986	Australian Television	Beyond 2000: the big questions
1988	BBC Radio 3	The twilight of the gravitino
1988	Sveriges Riksradio AB, Stockholm	The dark side of the Universe
1990	Japan Broadcasting Corp.	The cosmos – NHK-TV
1991	BBC 2 (Horizon)	Of Big Bangs, stick men and galactic holes
1991	TVE (Spanish Television)	El Espejo
1992-	Various newspapers and radio stations	Interviews
1994	BBC Radio	Science on 3
1994	BBC 2 TV (Horizon)	Whispers of Creation
1994	Channel 4 TV (Equinox)	The Rubber Universe
1994	BBC 2	Newsnight
1995	Tyne-Tees News – ITV	Cosmology
1997	BBC News	Galaxy formation
1997	Tyne-Tees News – ITV	Galaxy formation
1997	The Today Programme – BBC radio 4	Galaxy formation
1997	BBC 2	Stephen Hawking's Universe
1998	Channel 5 News	First on five
1999	Channel 6 – French TV	Interview

1999	UK Today (TV: Foreign & Common. Off.)	Interview
2000	Tele-Madrid News	Interview
2000	The Today Programme – BBC radio 4	Interview
2000	BBC 2	Theories of everything
2001	BBC Radio 4	Try This at Home
2001	BBC Radio 4	Material World
2002	BBC 2	Frontiers of Science
2002	BBC 2	Dark matter
2002	The Today Programme BBC radio 4 (10/Jan)	Cosmology
2002	The Today Programme BBC radio 4 (21/Feb)	Supercomputers
2003	Horizon BBC2 (Jan)	The Hubble Space Telescope
2003	Sky at Night BBC2 (March)	Special guest
2003	Below the superficial BBC radio 4	Dark matter
2003	Sky at Night BBC2 (October)	Special guest
2004	Sky at Night BBC2 (April)	Digging for dark matter
2004	Channel 4	”What we still don’t know”
2005	Channel 4 News	Baryon wiggles
2005	BBC 1 News	The Millennium Simulation
2005	BBC 2 Newsnight	The Millennium Simulation
2006	BBC 2 Horizon	Most of our universe is missing
2006	National Geographic TV	The origin of the universe
2006	Discovery Channel	Black holes
2007	Sky at Night BBC2 (October)	Colliding galaxies
2007	BBC 2	Cosmos
2008	The Today Programme BBC radio 4 (11/Jan)	Cosmological simulations
2008	Channel 4 News (5/Sept)	Dark matter
2008	Various radio interviews (6/Nov)	Radiation from dark matter
2009	BTV Barcelona (5/Feb)	Interview
2009	BBC Radio 3 Frontiers	Dark Matter
2010	BBC 1 (Inside out) (1/Feb)	The future of the Milky Way
2010	BBC Horizon (8/Mar)	The standard model of cosmology
2011	Discovery Channel (25/Apr)	How the Universe works
2011	BBC 1 (March)	Wonders of the universe (international edition)
2011	BBC radio 4 (March)	In doubt we trust
2011	BBC 4 (March)	Everything and nothing
2011	BBC radio 4 (March)	In our time (Melvyn Bragg)
2011	German public radio	Interview
2011	La Voz del Interior, Argentina	interview
2011	Cordoba University TV	In dialogue with Diego Lambas
2011	BBC News online (Sept)	Interview (dark matter)
2011	The Guardian Science Weekly (Sept)	Podcast on dark matter
2011	BBC radio 4 (Sept)	Material World
2012	Servus TV (Austria/Germany) (Feb)	Hubble mission - universum – Dark matter
2012	French TV (June)	Dark matter and dark energy
2012	BBC News: Look North (18/Sept)	interview
2012	Sky at Night BBC2 (Nov)	The stuff of the universe
2013	CFOX (Canada) (April)	Radio interview
2013	El Mercurio Newspaper (Chile) (April)	Interview
2013	Tyne-Tees TV (10/Sept)	Interview

2014	Channel 4 News (17/March)	Interview
2014	BBC Tyne-Tees radio (April)	Interview
2014	Science Now BBC radio 4 (7/May)	Interview
2014	BBC News website (8/May)	quote
2014	Infinite Monkey Cage, BBC radio 4 (1/Aug)	participant
2015	In our Time BBC radio 4 (12/March)	participant
2015	Horizon: “Dancing in the Dark - The End of Physics?” BBC 2 (22/March)	participant
2015	TVE Spanish television News (4/March)	interview
2015	The Guardian: The cosmologist who makes beautiful university buildings appear	interview
2015	Life Scientific BBC radio 3 (9/June)	interview
2015	The Forum BBC world serv. (11/Nov)	interview
2015	Free Thinking BBC Radio 3 (17/Nov)	interview
2016	BBC World Service (19/Dec)	interview
2017	The Today Programme BBC Radio 4 (1st/Jan)	interview
2017	Infinite Monkey Cage, BBC radio 4 (20/Feb)	participant
2017	BBC 1 (9/Mar)	interview
2017	ITV Tyne Tees (10/Mar)	interview
2017	BBC Online (19/Mar) (12/Mar)	quote
2017	Free Thinking BBC Radio 3 (19/Mar)	interview
2017	Inside Science BBC Radio 4 (27/Apr)	interview
2017	Horizon: BBC 4 (30/April)	participant
2017	Televisa News, Mexico (15/June)	interview
2018	BBC Radio 4 Today programme, BBC News, Channel 4 News, Sky News BBC Scotland, BBC Ireland, The Economist radio, Metro radio, The Sunday Times, The Northern Echo (14/Mar)	interviews on Stephen Hawking’s death
2018	Inside Science BBC Radio 4 (5/Apr)	interview
2018	Desert Island Discs BBC Radio 4 (10/June)	interview
2018	The oldest galaxies in the Universe (16/Aug) BBC Radio 4 Today programme, BBC News, Sky News, BBC Wales, BBC Ireland, BBC Tyneside, BBC world service and several more (includ. Mexico)	interviews
2019	Galactic collision, NBC news, Talkradio, etc (8/Jan)	interviews
2020	BBC Radio 4 Today programme	Dark matter
2020	BBC Radio 4	Laws that aren’t laws
2020	The Big Beard podcast, Ukraine	Cosmology
2021	BBC News TV and online (27/May)	Dark matter
2022	BBC Radio 3	Free thinking - after dark
2022	BBC 1 The One Show	Durham City of Culture bid
2022	RAI Italia News	Conversation with Prof. Giovanna Iannantuoni, Rector of University of Milano Bicocca
2022	BBC World Service (Latinamerica)	Interview during the Queen’s funeral
2023	ITV news	The DESI map of the universe
2023	BBC News Look North	The DESI map of the universe
2023	BBC Radio 4 Today programme	The DESI map of the universe
2023	Arte TV (Germany and France)	Arte 42 and the Multiverse, participant

2023 BBC Radio 4 Today programme  
2023 BBC News at 10

The largest cosmological simulation  
The largest cosmological simulation

**Refereed Publications: 563**

**Non-refereed Publications: 210      Books edited: 3**

(full list on <http://star-www.dur.ac.uk/csf/homepage/PublicationList.html>)

**Citation statistics (ADS; Jan 2024)**

- Total number of citations: 122,569
- H-index: 154
- Number of papers with more than 1000 citations: 18
- Number of papers with more than 500 citations: 45
- Number of papers with more than 100 citations: 218
- 2020 Clarivate Web of Science Citation Laureate (out of 24 across all areas of science and economics)
- Since 2004: within top 10-20 most cited in Space Sciences in the world
- Since 2001 listed in “Highly cited” list (within 1% most cited in Space Science) every year
- 5<sup>th</sup> most cited physical scientist in UK during 1980-2000
- 5<sup>th</sup> seventh highest H-index in physical sciences in UK, 97<sup>th</sup> in the world