



Curriculum Vitae Professor Dr. Simon D.M. White



Name: Simon D.M. White
Born: 30 September 1951

Research Priorities: Structure, formation, evolution and clustering of galaxies, dark matter and dark energy, gravitational dynamics, simulation of cosmic structure formation, cosmology.

Simon David Manton White is an astrophysicist whose work focuses primarily on the formation of structure in the Universe. His special interest is in the nature, amount and distribution of the dark matter. Moreover, he was one of the originators of the Cold Dark Matter paradigm which dominates current theoretical thinking in this field. Most recently he was involved in studies of structure in the Cosmic Microwave Background.

Academic and Professional Career

- since 2019 Emeritus Director, Max-Planck-Institut für Astrophysik, Garching
- since 2007 D.Sc. (honoris causa), Durham University, Durham, UK
- since 2001 Honorary Professor, National Observatory, Beijing, China
- since 1999 Honorary Professor, Shanghai Astronomical Observatory, Shanghai, China
- since 1995 Honorary Professor, Ludwig-Maximilians-University, Munich
- 1994 - 2019 Director, Max-Planck-Institut für Astrophysik, Garching
- since 1994 Visiting Professor, University of Durham, Durham, UK
- since 1994 Scientific Member, Max-Planck-Society
- since 1992 Research Professor, Steward Observatory, University of Arizona, Tucson USA

- 1992 - 1994 Director, European Association for Research in Astronomy
- 1991 - 1994 Sheepshanks Reader in Astronomy, University of Cambridge, Cambridge, UK
- 1990 Member, Institute for Advanced Study, Jerusalem, Israel
- 1987 - 1991 Professor / Astronomer, Steward Observatory, University of Arizona, Tucson, USA
- 1984 - 1987 Associate Professor / Astronomer, Steward Observatory, University of Arizona, Tucson, USA
- 1984 Member, Institute for Theoretical Physics, Santa Barbara, USA
- 1982 Member, Institute for Advanced Study, Princeton, USA
- 1981 - 1984 Adjunct Assistant Professor, Astronomy Department, University of California (UC) Berkeley, USA
- 1980 - 1984 Senior Fellow, Space Sciences Laboratory, UC Berkeley, USA
- 1980 Attaché de CNRS, Institut d'Astrophysique de Paris, Paris, France
- 1979 - 1980 Research Fellow, Churchill College, University of Cambridge, Cambridge, UK
- 1978 Visiting Research Astronomer, NRAO, Charlottesville, Virginia, USA
- 1977 - 1978 Lindemann Fellow, Department of Astronomy, UC Berkeley, Berkeley, USA
- 1977 Ph.D. in Astronomy, University of Cambridge, Cambridge, UK
- 197 M.Sc. in Astronomy, University of Toronto, Toronto, Canada
- 1972 B.A. in Mathematics, Jesus College, University of Cambridge, Cambridge, UK

Functions in Scientific Societies and Committees (Selection)

- since 2009 Member, Advisory Board, The Kavli Institute for Astronomy and Astrophysics, Peking University, Beijing, China
- since 2009 Chair, International Advisory Board, ICC, Durham University, Durham, UK
- 2009 - 2010 Panel Chair, Observational Programme Committee, European Southern Observatory (ESO), Garching
- 2009 Member, Visiting Committee, Laboratoire d'Etudes du Rayonnement et de la Matière en Astrophysique et Atmosphères (LERMA), Paris, France
- 2005 Member, Visiting Committee, Physics Department, University of Bonn
- since 2004 Member, Advisory Board, Canadian Institute for Advanced Research (CIFAR) Toronto, Canada
- 2004 Member, Review Board for MUSE, ESO, Garching
- 2003 Member, Visiting Committee, Instituto de Astrofísica de Canarias, Tenerife, Spain
- 2003 Membre du Comité d'Évaluation de l'Institut d'Astrophysique de Paris, Paris, France

2002 - 2003 Panel Member, ESO Observational Programme Committee, Garching, Germany

2002 - 2006 Member, Board Physikalische Blätter (now Physik Journal)

2002 Member, Visiting Committee, Observatoire de Lyon, Lyon, France

2001 - 2007 Member, Review Committee for DAPNIA, Saclay, France

2001 Member, Review of Cosmology Programme of the Canadian Institute for Advanced Research

2000 Advisory Board Member, Wissenschaftskolleg zu Berlin, Berlin, Germany

2000 Elector, Oxford Chair in Astrophysics, Oxford, UK

1999 Member, Visiting Committee, Physics Department, Ecole Normale Supérieure, Paris, France

1999 - 2001 Member, PPARC Advisory Board for the Joint Infrastructure Fund

1999 - 2005 Member, Visiting Committee, Astrophysical Institute of Potsdam, Germany

1998 - 2001 Member, Sectional Committee 5, Royal Society of London, London, UK

1998 - 2004 Member, Visiting Committee, Max-Planck-Institute for Astronomy, Heidelberg

1998 - 2004 Member, Visiting Committee, Institute for Astrophysics, University of Porto, Porto, Portugal

1998 - 2002 Member, Haute Comite Scientifique, Observatoire de Paris, Meudon, France

1998 - 2002 Member, Steering Committee, Isaac Newton Institute, Cambridge, UK

1998 Director, Jerusalem Winter School in Theoretical Physics Galaxy Formation, Jerusalem, Israel

1997 - 2004 Chairman, Board of the European Association for Research in Astronomy

since 1995 Member, various Structural Commissions, Search Committees and Appointments Committees, Max-Planck Society, München, Germany

since 1994 Member, Steering Committee, The Virgo Consortium for Cosmological Supercomputer Simulations

1994 - 1995 Member, Nomination Jury for Senior Members, Institut Universitaire de France, Paris, France

since 1992 Member, Editorial Board, Monthly Notices of the Royal Astronomical Society

1991 - 1994 SERC Theory and Computation Panel and Science Advisory Committee, Gemini Project

1989 - 1990 Astronomy and Astrophysics Survey Committee Panels on Policy Opportunities and on Computing and Data Processing

1989 Hubble Space Telescope Time Allocation Committee

1984 - 1985 Member, Space Telescope Working Group on Galaxies

Project coordination, Membership in collaborative research projects (Selection)

2016 - 2022 “Gravity, Inflation, and Galaxies: Fundamental Physics with Large-Scale Structure” (GrInflaGal), Horizon 2020, European Research Council

2011 - 2015 “Latin American Chinese European Galaxy Formation Network” (Lacegal), Horizon 2020, European Research Council

2010 - 2014 Steering Committee Member, “Galaxy formation models for the next generation of evolutionary and cosmological surveys” (Galformod), Seventh Framework Programme of the European Community for research, technological development and demonstration activities, European Research Council

2009 - 2013 Cosmo Comp, European Union

2007 - 2009 Research Grant Agreement, German-Israeli Foundation for Scientific Research and Development

2006 - 2018 Project leader, “Simulating the galaxy population of Dark Energy universes”, German Research Community “Transregio 33”, German Research Community

2006-2018 Participating Scientist, „Origin and Structure of the Universe”, Clusters of Excellence 153, German Research Community

2005 - 2007 Subproject, “Co-evolution of galaxies and their dark matter environment: constraining the standard structure formation paradigm through simulation and analysis of galaxy-galaxy lensing”, Priority Programmes 1177, German Research Community

2004 - 2010 Marie Curie Training Site, European Commission

since 2000 International Max-Planck-Research Schools (IMPRS)

1999 - 2012 Planck Surveyor, Federal Ministry of Education and Research (BMBF)

Honours and Awarded Memberships (Selection)

2020 Clarivate Citation Laureate, USA

2017 Shaw Prize in Astronomy, Hong Kong

2015 Foreign Member, Chinese Academy of Sciences, Beijing, China

2011 Gruber Cosmology Prize, Gruber Foundation, Yale University, Yale, USA

2011 Member, European Physical Society, Mulhouse, France

2010 Honorary Citizenship, City of Padua, Italy

2010 Max-Born-Preis, Institute of Physics (IOP) and German Physical Society (DPG)

2009	Member, Academia Europaea, London, UK
2008	European Latsis Prize, European Science Foundation, Strasbourg, France
2008	Oort Professorship, Leiden University, Leiden, The Netherlands
2008	Dirk Brouwer Award, Division of Dynamical Astronomy, American Astronomical Society (AAS), USA
2007	Foreign Associate, National Academy of Sciences, USA
2007	Honorary doctorate (D.Sc.), Durham University, Durham, UK
since 2005	Member, German Academy of Science Leopoldina
2005	Gold Medal, Royal Astronomical Society, UK
2005	Dannie Heineman Prize, American Institute of Physics, USA
2005	Blaauw Lecturer, Groningen University, Groningen, The Netherlands
2003	Sackler Lecturer, Physics Department, Princeton University, Princeton, UK
2000	Max-Planck Research Award for international Cooperation, Max-Planck-Society, Alexander von Humboldt-Stiftung, Germany
1999	Lansdowne Lecturer, University of Victoria, Victoria, USA
1998	George Darwin Lecturer, Royal Astronomical Society, UK
1997	Fellow, Royal Society, UK
1996	Grubb Parsons Lecturer, University of Durham, Durham, UK
1986	Helen B. Warner Prize, American Astronomical Society (AAS), USA
1984 - 1989	Presidential Young Investigator Award, National Science Foundation, USA

Research Priorities

Simon D.M. White has worked primarily on the formation of structure in the Universe and is known for his contributions to the understanding of galaxy formation and for his role in helping to establish the viability of the current standard model for the evolution of cosmic structure, the so-called Λ CDM model.

Already at the time of his doctoral work he studied the influence of Dark Matter on the growth of structure and in 1978 together with astrophysicist Martin Rees White argued that the properties of galaxies can be understood if they form by condensation of gas at the centres of extended dark matter halos.

In later years he developed computer models which allowed the growth of galaxies and galaxy clustering to be simulated directly in order to allow quantitative comparison of theoretical models with astronomical observations. His work with astrophysicists Marc Davis, George Efstathiou and Carlos Frenk was particularly influential in establishing that a universe

dominated by Cold Dark Matter could produce large-scale structure in the galaxy distribution which closely resembles that observed.

Further highly cited work has addressed issues of stellar dynamics, of the detailed structure of galaxies and their dark halos, of the processes controlling galaxy formation, of the structure and evolution of galaxy clusters, and of the statistics of galaxy clustering. Particularly influential papers were those with astrophysicists Julio Navarro and Carlos Frenk on the "universal" structure of dark matter halos.