



Curriculum Vitae Professor Dr Peter J. Ratcliffe

Name: Sir Peter J. Ratcliffe
Born: 14 May 1954



Image: Paul Wilkinson

Research Priorities: Oxidation, oxygen homeostasis, tumour hypoxia

Peter J. Ratcliffe is a British nephrologist. He discovered how the cells of the human body sense and adapt to oxygen availability. This discovery has provided the basis for developing new strategies to combat anaemia, cancer, and other diseases. For his research, Peter J. Ratcliffe was honoured with the 2019 Nobel Prize in Physiology or Medicine.

Academic and Professional Career

- since 2020 Distinguished Scholar, Ludwig Institute for Cancer Research (LICR), New York City, USA
- since 2016 Director for Clinical Research, The Francis Crick Institute, London, UK
- since 2016 Director, Target Discovery Institute, University of Oxford, Oxford, UK
- 2004 - 2016 Nuffield Professor and Head, Nuffield Department of Medicine, University of Oxford, Oxford, UK
- 1996 - 2003 Professor of Renal Medicine and Senior Research Fellow, Jesus College, University of Oxford, Oxford, UK
- 1992 - 1996 University Lecturer for Nephrology, Nuffield Department of Medicine, University of Oxford, Oxford, UK
- 1990 - 1992 Wellcome Senior Fellow for Clinical Science, Nuffield Department of Medicine, University of Oxford, Oxford, UK
- 1987 - 1990 Clinical Lecturer for Clinical Medicine, Nuffield Department of Medicine, University of Oxford, Oxford, UK
- 1983 - 1987 Research Fellow, Nuffield Department of Medicine, University of Oxford, Oxford, UK

- 1981 - 1983 Registrar, Renal and General Medicine, Renal Unit, Nuffield Department of Medicine and Department of Geriatric Medicine, University of Oxford, Oxford, UK
- 1979 - 1981 Senior House Officer, Hammersmith Hospital, London Chest Hospital, the Brompton Hospital at the National Hospital, Queen's Square, London, UK
- 1978 - 1979 House Officer, St Bartholomew's Hospital and Hackney Hospital, London UK

Honours and Awarded Memberships

- since 2020 Member, German National Academy of Sciences Leopoldina, Germany
- 2020 Fellow, American Association for Cancer Research (AACR), USA
- 2020 Capo D'Orlando Prize, The Discepolo Foundation, Vico Equense, Italy
- 2020 Doctor honoris causa, University of Oulu, Oulu, Finland
- 2019 Nobel Prize for Physiology or Medicine, Karolinska Institutet, Stockholm, Sweden
- 2018 Massry Prize, Meira and Shaul Massry Foundation, Los Angeles, USA
- 2017 Buchanan Medal, Royal Society, UK
- 2017 Doctor honoris causa, University of Zurich, Zurich, Switzerland
- 2016 Albert Lasker Award for Basic Medical Research, Lasker Foundation, New York City, USA
- 2014 Wiley Prize in Biomedical Sciences, Wiley Foundation, Hoboken, USA
- 2014 Knight Commander, Order of the British Empire for Services to Clinical Medicine, UK
- since 2007 Foreign Honorary Member, American Academy of Arts and Sciences, USA
- since 2006 Member, European Molecular Biology Organization (EMBO)
- 2005 Elected Member, Council, Royal Society, UK
- since 2002 Fellow, Royal Society, UK
- since 2002 Fellow, Academy of Medical Sciences, London, UK
- since 1996 Fellow, Royal College of Physicians, London, UK

Research Priorities

Peter J. Ratcliffe is a British nephrologist. He discovered how the cells of the human body sense and adapt to oxygen availability. This discovery has provided the basis for developing new strategies to combat anaemia, cancer, and other diseases. For his research, Peter J. Ratcliffe was honoured with the 2019 Nobel Prize in Physiology or Medicine.

Maintaining oxygen balance (oxygen homeostasis) is a key challenge for the body. Oxygen deficiency (hypoxia) is a major cause of many diseases. Oxygen availability affects, for example, the growth of cancer cells in certain cases.

Oxygen sensors of cells offer starting points for developing new therapies to treat cancer, anaemia, and lung and cardiovascular diseases. The reason being that in cancer, many of these signalling pathways are dysregulated by either an oncogenic mutation or microenvironmental hypoxia. Peter Ratcliffe's lab investigates the importance of these processes for disease development, particularly the effects of unphysiological switching of massively interconnected signalling pathways in cancer.

Peter Ratcliffe's researchers want to understand how these pathways' potentially anti-oncogenic components are adapted during cancer progression. Lineage marking and genetic and genomic strategies are being used to do so.