Leopoldina
Nationale Akademie
der Wissenschaften

Curriculum Vitae Prof. Dr. Edith Heard

Name: Edith Heard
Born: 5 March 1965

Research Priorities: Genetics, epigenetics, developmental biology, biodiversity, planetary health

Edith Heard is a British geneticist and developmental biologist. The natural scientist has made a considerable contribution to our understanding of the epigenetic development of mammals. Her research currently focuses on the diverse range of relationships between humans and the natural world around them and how these relationships affect human health. Edith Heard is an advocate of tackling the challenges posed by climate change and the associated biodiversity loss from the perspective of the life sciences.

Academic and Professional Career

since 2019	Director General, European Molecular Biology Laboratory (EMBL), Heidelberg, Germany
since 2012	Professor of Epigenetics and Cellular Memory, Collège de France, Paris, France
since 2010	Director, Unit of Genetics and Developmental Biology, Curie Institute, Paris, France
2006 - 2008	Senior Team Leader, Nuclear Dynamics and Genome Plasticity Unit, French National Centre for Scientific Research (CNRS), Paris, France
2001 - 2006	Team Leader, Research Group, Curie Institute, Paris, France
2000 - 2001	Visiting Scholar, Cold Spring Harbor Laboratory, New York City, USA
1993 - 2000	Scientist, Laboratory of Dr. Philip Avner, Institut Pasteur, Paris, France
1991 - 1993	Postdoctoral Fellow, Institut Pasteur, Paris, France
1990	Doctorate, Imperial Cancer Research Fund, Lincoln's Inn Fields, London, UK

1983 - 1986 Degree in Natural Sciences, University of Cambridge, Cambridge, UK

Functions in Scientific Societies and Committees

since 2021 Member, Science Council, World Health Organization (WHO)

since 2020 Member, Senate, Max Planck Society, Germany

since 2017 Member, Scientific Advisory Committee, EMBL, Heidelberg, Germany

since 2017 Member, Scientific Advisory Board, Hubrecht Institute, Utrecht, Netherlands

since 2017 Member, Scientific Advisory Board, Biotech Research & Innovation Centre (BRIC), University of Copenhagen, Copenhagen, Denmark

since 2016 Member, Scientific Advisory Board, Francis Crick Institute, London, UK

since 2014 Member, Scientific Advisory Board, Institute of Human Genetics, Montpellier, France

2008 - 2011 Member, Scientific Advisory Board, Young Investigator Programme, European Molecular Biology Organization (EMBO)

2006 - 2009 Member, Scientific Advisory Board, ATIP-Avenir Program, CNRS, Paris, France

Chairperson, Scientific Advisory Board, Curie Institute, Paris, France

Member, Scientific Advisory Board, CNRS, Paris, France

Member, Strategic Research Advisory Committee, France

Member, Membership Committee, EMBO

Member, Committee, Fellows, Royal Society, UK

Project Coordination, Membership in Collaborative Research Projects

2016 Co-Chair, French National Programme PAUSE, Collège de France, Paris, France

Honours and Awarded Memberships

since 2021 Member, National Academy of Medicine, USA

since 2021 Member, German National Academy of Sciences Leopoldina, Germany

since 2021 Member, National Academy of Sciences, USA

2020 L'Oréal-UNESCO For Women in Science Award, UNESCO, L'Oréal, Paris, France

2019 Hansen Family Award, Bayer AG, Germany

2017 ESHG Award, European Society of Human Genetics (ESHG)

2017	Grand Prix, National Institute of Health and Medical Research (INSERM), Paris, France
2015	Chevalier of the French Legion of Honour, France
since 2013	Fellow, Royal Society, UK
since 2012	Member, Academia Europaea
2008	Silver Medal, CNRS, Paris, France
2007	Otto Mangold Award, Society of Developmental Biology, Heidelberg, Germany
since 2005	Member, EMBO

Research Priorities

Edith Heard is a British geneticist and developmental biologist. The natural scientist has made a considerable contribution to our understanding of the epigenetic development of mammals. Her research currently focuses on the diverse range of relationships between humans and the natural world around them and how these relationships affect human health. Edith Heard is an advocate of tackling the challenges posed by climate change and the associated biodiversity loss from the perspective of the life sciences.

Heard began conducting research in epigenetics during her doctoral studies when the field was only just emerging. During her early work, she investigated the causes of gene amplification – an increase in the number of copies of the same gene – which often occurs in tumour cells. She then went on to research the epigenetic process of X-chromosome inactivation (XCI), which is where one of the two X chromosomes is largely or fully silenced during embryonic development. The scientist's research group was one of the first to be able to demonstrate that this epigenetic process exhibits both stability and considerable plasticity.

Heard is particularly interested in researching the fundamental principles of gene regulation, especially the role of non-coding RNA during the development process and the onset of diseases.

In more recent years, she has also turned her attention to the serious global ramifications of biodiversity loss. To date, scientists have primarily focused on using physical and chemical measures to address these dramatic changes, with a tendency for the life sciences to be under-represented. Heard believes, however, that the life sciences offer much potential for us to gain an understanding of fundamental life processes from the cellular to the planetary level. In-depth knowledge about the interactions between different species could help scientists to model future developments and identify courses of action. Heard's team is also involved in developing genomic and metabolic markers that can be used to keep a closer eye on the development of ecosystems.

As the Director General of the European Molecular Biology Laboratory (EMBL), Heard is committed to fostering close European and international cooperation. She also supports researchers working under difficult political and economic conditions in their home country or in exile.