



Curriculum Vitae Professor Dr Joanne Chory

Name: Joanne Chory

Date of birth: 19 March 1955

Research Priorities: Plant genetics, shade avoidance syndrome, growth hormone auxin, phytochromes, brassinosteroids

Joanne Chory is an American plant biologist whose work has contributed to the identification of plant hormones. She investigates the natural variations of a given plant type as well as the ways in which plants react to different light and temperature conditions. Her work might help to better understand plants' processes for adapting to climate change.

Academic and Professional Career

- since 1999 Adjunct Professor, Biology Department, University of California (UC) San Diego, San Diego, USA
- since 1998 Director, Plant Biology Laboratory, Salk Institute for Biological Studies, La Jolla, USA
- 1997 Investigator, Howard Hughes Medical Institute, Chevy Chase, USA
- 1994 - 1998 Associate Professor, Plant Biology Laboratory, Salk Institute for Biological Studies, La Jolla, USA
- 1992 - 1994 Adjunct Assistant Professor, Biology Department, UC San Diego, San Diego, USA
- 1988 - 1994 Assistant Professor, Plant Biology Laboratory, Salk Institute for Biological Studies, La Jolla, USA
- 1984 - 1988 Postdoctoral Fellow, Harvard Medical School, Boston, USA
Ph.D. in Microbiology, University of Illinois at Urbana-Champaign, Champaign, USA
B.A. in Biology, Oberlin College, Oberlin, USA

Functions in Scientific Societies and Committees

2006 Associated Member, European Molecular Biology Organization (EMBO)

Honours and Awarded Memberships

2022 Honorary Doctorate, Universidad Nacional Autónoma de México, Mexico City, Mexico

2020 Pearl Meister Greengard Prize, Rockefeller University, New York City, USA

2019 Princess of Asturias Award for Technical and Scientific Research, Princess of Asturias Foundation, Oviedo, Spain

2018 Breakthrough Prize in Life Sciences, Rubenstein Communications Inc., New York City, USA

2012 Genetics Society of America Medal, Genetics Society of America, USA

2011 Member, Royal Society, UK

2009 Member, Académie des Sciences, France

since 2008 Member, German National Academy of Sciences Leopoldina, Germany

2005 Fellow, American Association for the Advancement of Science (AAAS), USA

2004 Kumho Award in Plant Molecular Biology, Kumho Cultural Foundation, Seoul, South Korea

2003 Scientific American 50-Research Leader in Agriculture, USA

2000 L'Oréal-UNESCO for Women in Science Award, United Nations Educational, Scientific and Cultural Organization (UNESCO) as well as Fondation L'Oréal, Clichy, France

1999 Member, National Academy of Sciences, USA

1998 Member, American Academy of Arts and Sciences, USA

1995 Charles Albert Shull Award, American Society of Plant Physiologists, USA

1994 Award for Initiatives in Research, National Academy of Sciences, USA

Research Priorities

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Individuals of one and the same type of plant can often thrive in very different environmental conditions. A popular model organism of plant genetics, thale cress (*Arabidopsis thaliana*), grows in many parts of the world, from Northern Scandinavia to Central Africa. Joanne Chory's team examines the genetic material of this plant to find molecular clues about these adaptation processes. They also investigate the natural variations of this plant. Her laboratory contributed significantly to the decoding of three important plant hormones. She was thus able to shed light on the hitherto unknown process with which plants produce the important growth hormone auxin.

Using the example of thale cress, she also described shade avoidance syndrome. Photosensitive proteins in plants, known as phytochromes, constantly measure the environmental light conditions. If a given plant is placed somewhere too cramped and shady, processes are activated which allow it to shoot upwards. Using gene analyses, Joanne Chory and her team succeeded in localising growth genes responsible for shade avoidance syndrome. She discovered that plants' reactions to light conditions are controlled by genetic variations. These variations ensure that plants in more northern countries react more sensitively to light than plants at the equator. Her analyses also showed that the reactions to light conditions were not subject to linear signal transmission, but rather a process with a range of interacting components.

Her laboratory was also able to decode the molecular signal chain of hormones involved in the blossoming of plants. Brassinosteroids influence gene activity controlling both plant growth and the process of cell ageing. Through further research into brassinosteroids, Joanne Chory aims to uncover the mechanism of plant growth and identify how changes to the environment influence growth.