INSTITUT DE FRANCE
Académie des sciences

Joanne **Chory**

Élue Associé étranger le 8 décembre 2009 dans la section de Biologie intégrative

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Joanne Chory, née en 1955 aux États-Unis, est Professeur de biologie à l'Université de Californie à San Diego et directrice du laboratoire de biologie végétale au Salk Institute. Elle est aussi chercheur au Howard Hughes Medical Institute et professeur adjoint à l'université de Californie à San Diego. Elle étudie les mécanismes par lesquels les plantes s'adaptent aux changements de leur environnement lumineux. Ses travaux sur l'espèce modèle *Arabidopsis thaliana* lui ont permis d'étudier les rôles respectifs des phytochromes, photorécepteurs de la partie rouge du spectre lumineux. L'étude moléculaire de mutants dé-étiolés lui a permis de montrer que les signaux lumineux dérépriment la mise en place de l'appareil photosynthétique selon une voie de transduction dont ses travaux ont révélé l'existence. Son équipe a étudié aussi la co-régulation des gènes nucléaires et plastidiaux dans la mise en place de l'appareil photosynthétique. Un dernier thème de recherche concerne la découverte des fonctions d'une nouvelle classe d'hormones, les brassinostéroïdes, dans les processus d'élongation cellulaire, travail remarquable qui lui vaut une reconnaissance internationale.

Joanne Chory, born in 1955 in the USA, is Howard H. and Maryam R. Newman Chair and director of the Plant Biology Laboratory at the Salk Institute. She is also an investigator with the Howard Hughes Medical Institute and adjunct professor at UCSD. Dr. Chory is interested in identifying the mechanisms by which plants respond to changes in their light environment. She uses genetic, genomic and biochemical approaches in the reference plant, Arabidopsis thaliana, to identify components of the phototransduction pathways, with emphasis placed on the events mediated through a family of red/far-red-light-absorbing receptors named phytochromes. Chory's lab has also identified mutations in nuclear-localized signalling components and shown that they are involved in degradation of key transcription factors that regulate gene expression in response to light. Her team also found a large number of nuclear and plastidic genes involved in the coordinated regulation of the photosynthetic apparatus. Work in Dr. Chory's lab has also led to the discovery of the roles of a new steroid hormone, brassinolide, that controls plant development in response to light, and has identified the receptor and signaling pathway of brassinolides. This pioneering work has given Joanne Chory an international reputation for excellence.

Curriculum vitae

1984-1988	Postdoctoral Fellow, Harvard Medical School (USA)
1988-1994	Assistant Professor, Plant Biology Laboratory, the Salk Institute
1992-1994	Adjunct Assistant Professor, Biology Department, University of California, San Diego (UCSD)
1994-1998	Associate Professor, Plant Biology Laboratory, the Salk Institute
1997-present	Investigator, The Howard Hughes Medical Institute
1998-present	Professor, Plant Biology Laboratory, The Salk Institute

1998-present Director, Plant Biology Laboratory, The Salk Institute
1999-present Adjunct Professor, Biology Department, UCSD

Membership

1998 Fellow of the American Academy of Arts and Sciences
1999 Member of the National Academy of Sciences (USA)
2005 Fellow of the American Association for the Advancement of Science
2006 Associate Member of the European Molecular Biology Organisation (EMBO)
2008 Member of the German National Academy of Sciences Leopoldina

Awards

1994 Award for Initiatives in Research, National Academy of Sciences (USA)
1995 Charles Albert Schull Award, American Society of Plant Physiologists
2000 L'Oréal-UNESCO Award for Women in Science
2003 Scientific American 50-Research Leader in Agriculture
2004 Kumho Award in Plant Molecular Biology

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