

## Profile

### Nobel Prize in physiology or medicine 2014



**Prof. John O'Keefe, Ph.D.**

Professor of Cognitive Neuroscience  
Department of Cell and Developmental Biology  
University College London  
UK.

John O'Keefe is Professor of Cognitive Neuroscience in the Department of Cell and Developmental Biology at University College London. In June 2013, he was appointed as the Inaugural Director of the Sainsbury Wellcome Centre.

Born in New York City and a U.S. citizen, John O'Keefe received a bachelor's degree from the City College of New York. He went on to study for his doctoral degree in physiological psychology with Ronald Melzack in Donald O. Hebb's department at McGill University in Montreal; his doctorate was awarded in 1967. O'Keefe then worked as a U.S. National Institute of Mental Health postdoctoral fellow at University College London in the laboratory of Patrick Wall. He has been there ever since, becoming a professor in 1987.

Throughout his career, O'Keefe has studied the hippocampus and its role in spatial memory and navigation, the loss of which is prominent in disorders such as Alzheimer's disease. His research has shown how networks of hippocampal neurons are involved in determining an animal's location in the environment. He discovered place cells in the hippocampus and, with Lynn Nadel, co-authored the ground-breaking 1978 book "The Hippocampus as a Cognitive Map," which set out the spatial theory of hippocampal function ([www.cognitivemap.net](http://www.cognitivemap.net)). The discovery of place cells and the formulation of the cognitive map theory are important early milestones in the development of the field of cognitive neuroscience.

John O'Keefe is a Fellow of the Royal Society (UK) and the Academy of Medical Sciences, and has been awarded numerous prizes in recognition of his research. He was awarded the Feldberg Foundation Prize in 2001 for work in medical and biological science, the 2006 Grawemeyer Award in psychology in 2006, the British Neuroscience Association Award for Outstanding Contribution to British Neuroscience in 2007, the Federation of European Neuroscience Societies European Neuroscience Journal Award in recognition of excellence in all areas of neuroscience in 2008, and the Louisa Gross Horwitz Prize in 2013.