

Neuronal Organization of the Brain and Cognitive Functions

Jean-Pierre Changeux

2001 Balzan Prize for Cognitive Neurosciences

Balzan GPC Adviser: Nicole Le Douarin

Main Researchers: Nicolas Champiaux, Stanislav Dehaene, Philippe Faure, Thomas Gisiger, Sylvie Granon, Zhi-Yan Han, Corentin Le Magueresse, Nicolas Le Novère, Jérôme Sallette

Affiliated Institution: Institut Pasteur

Period: 2001-2007

Jean-Pierre Changeux is Professor Emeritus at the Institut Pasteur and Honorary Professor of the Collège de France. In his research, Changeux was mainly concerned with the study of the correlation of cognitive functions and the molecular aspects of cerebral activity. His laboratory was the first to activate the genes of neuronal nicotinic receptors and to study the consequences they might have on human behaviour. Jean-Pierre Changeux used the second half of his Balzan Prize to continue and diversify this research at the Récepteurs et Cognition unit of the Institut Pasteur. General overviews of this research are contained in the publications listed below. In the *Nature Reviews Neuroscience* article, Changeux reviews studies in transgenic mice that started to reveal which nicotine receptor subunits mediate the effects of nicotine on behavior, cognition and addiction, thus forming therapeutic targets for nicotine addiction.

Main Publications

Changeux J-P, Edelstein SJ. 2005. Nicotinic Acetylcholine Receptors: From Molecular Biology to Cognition. Paris-New York: Editions Odile Jacob.

Changeux J-P. 2010. Nicotine addiction and nicotinic receptors: lessons from genetically modified mice. *Nature Reviews Neuroscience*.