CURRICULUM VITAE
Jean-Pierre, Georges CHANGEUX

1) Personal Data

Born April 6, 1936, in Domont (Val d'Oise), France
Citizenship: French
Married (Annie), one child (Thomas)
Private address: 47, rue du Four, 75006 Paris, France
Professional address: Institut Pasteur, 25 rue du Dr. Roux, 75015 Paris, France
Phone (personal): (33 6 13 77 46 00); e-mail: changeux@noos.fr

2) Academic Training

Ecole Normale Supérieure (rue d'Ulm, Paris) (1955) and Licence de Sciences Naturelles (1956, 1957) at Paris University. Diplôme d'Etudes Supérieures (Mention Très Bien et Félicitations du Jury) (1958). Agrégé des Sciences Naturelles (received first) (1958). Doctorat d'Etat de Sciences Naturelles, Paris (Mention Très Honorable et Félicitations du Jury), supervisor Pr. Jacques Monod, Institut Pasteur (1964).

3) Academic Positions

Agrégé-préparateur of Zoology, Ecole Normale Supérieure, 1958 ; Postdoctoral fellow, Universiy of California, Berkeley, 1965-1966 (with J Gerhart & H Schachman); visiting Assistant Professor Columbia University College of Physicians & Surgeons, New-York (with D Nachmansohn), 1966-1967 ; Sous-Directeur, Collège de France, Paris (Chaire de Biologie Moléculaire), 1967 ; Director of the Unit of Molecular Neurobiology, Institut Pasteur, Paris, 1972-2006 ; Professor Collège de France, 1975-2006 ; Professor Institut Pasteur, 1975-2006, emeritus since 2007 ; Skaggs distinguished visiting professor in Pharmacology, University of California San Diego 2008-2012 (with P Taylor) ; International Faculty, Kavli Institute for Brain & Mind, University of California San Diego 2012-2022 (with R Greenspan).

4) Scientific Prizes and Awards

Prix Alexandre Joannidès, Académie des Sciences, Paris, 1977.
Gairdner Foundation International Award, *"In recognition of his pioneering work in purifying and elucidating the mechanisms of the cholinergic receptor."* Toronto, Canada, 1978.
Richard Lounsbery Prize, National Academy of Sciences, Washington (USA) and Académie des Sciences, Paris, 1983.
Wolf Foundation Prize in Medicine, for *"the isolation, purification and characterization of the acetylcholine receptor".* Jerusalem, Israel, 1983.
Prix Broquette-Gonin, Académie Française, for *"l'Homme Neuronal",* 1983 (nomination by Claude Levi-Strauss).
Ciba Geigy Drew Award in Biomedical Research, Madison, 1985.
F.O. Schmitt medal and prize, Neuroscience Research Program, Rockefeller University, New York, 1986.
Rita Levi-Montalcini Award, Fidia Research Foundation, Washington, 1988.
Bristol-Myers-Squibb Award in Neuroscience, New York, 1990.

Carl-Gustaf Bernhard medal, Swedish Royal Academy of Sciences, Stockholm, 1991.
Science for Art, Prix d'Honneur LVMH, Paris, 1992.
International Prize Amedeo e Frances Herlitzka for Physiological Sciences, Torino, 1992.
Médaille d'Or, Centre National de la Recherche Scientifique, Paris, 1992.
Louis Jeantet Prize for Medicine, for *"his work in structural biology",* Geneva, 1993.
Thudichum medal, Biochemical Society, London 1993.
Goodman and Gilman Award in drug receptor pharmacology, American Society for Pharmacology and Experimental Therapeutics, Anaheim, California, 1994.
Camillo Golgi medal, Accademia Nazionale dei Lincei, Rome 1994.
Sir Hans Krebs medal, FEBS, Helsinki, 1994; Max-Delbrück medal, in Molecular Medicine, Berlin, 1996.
Grand Prix de la Fondation pour la Recherche Médicale, Paris, 1997 ;
Jean-Louis Signoret prize in Neuropsychology, Paris, 1997.
Emanuel Merck prize in Chemistry, Darmstadt, RFA,1998.
Linus Pauling medal, 1998/1999, Stanford, USA.
Eli Lilly award in preclinical Neuroscience, European College of Neuropsychopharmacology, London, 1999.
Langley Award for basic research on nicotine and tobacco, Washington, 2000.
Balzan Prize for Cognitive Neuroscience, for *"establishing a new direction for the study of cognitive functions by rooting them at the molecular level".* Berne, 2001.
American Philosophical Society's Karl Spencer Lashley Award in neuroscience, *"In recognition of his pioneering, comprehensive studies into the fundamental molecular mechanisms underlying interneuronal communication and their role in network formation, learning, and reward"* Philadelphia, 2002.
Lewis Thomas Prize for Writing about Science, Rockefeller University, New-York, 2005.
Dart/NYU Biotechnology Award in Basic Biotechnology, New-York, 2006.
Golden Eurydice Award from International Forum of Biophilosophy, Bruxelles, 2006.
National Academy of Sciences Award in the Neurosciences USA, for *"his seminal discoveries elucidating cellular and molecular bases for synaptic plasticity in the brain",* Washington, 2007.
Neuronal plasticity prize, IPSEN Foundation, Geneva, 2008.
International College of Neuro-Psycho-Pharmacology Pioneer Award, for the fundamental discoveries concerning *"The structure and function of the nicotinic acetylcholine receptor",* Munchen, 2008.
Passarow award for *"extraordinary achievements in neuropsychiatric research",* Los Angeles, 2010.
Japanese Society for the Promotion of Science Award for Eminent Scientists,Tokyo, 2012.
Italian Society for Neuroethics Award Medal, Padova, 2015.
The Olav Thon international research award in biomedicine, to "*honour a researcher who has connected a deep understanding of molecules and their regulation to new insights into the functions and diseases of the brain"*. Oslo, Norway, 2016.
Albert Einstein World Award of Science, for "*exceptional scientific achievements and leadership in the field of neuroscience and especially for his pioneering contributions to the science and understanding of neuroreceptors for the past 50 years*". Hong Kong, 2018.
Prix Science et laicité du Comité Laicité République, Paris, 2018.

Goldman-Rakic Prize *for "Outstanding Achievements in Cognitive Neuroscience",* New-York, & Yale 2018.
Elevated *Lead scientist* of the Human Brain program SGA3, Brussels-Lausanne 2020.
Clarivate citation laureate in *Physiology or medicine* 2021, London.
Erasmus medal 2023 from Academia Europaea, Munich.
Sigillo di Ateneo of the Universita degli studi di Urbino, Urbino 2024

5) Academies & Honorary Degrees

Deutsche Akademie der Naturforscher Leopoldina zu Halle (Pharmacology), 1974 ; Académie de Médecine de Turin, 1976 ; National Academy of Sciences, Washington (USA) (foreign associate), 1983 ; Royal Academy of Sciences, Stockholm, (Sweden) (foreign member), 1985 ; Académie des Sciences, Paris, 1988 ; Académie Royale de Médecine de Belgique (Bruxelles) (foreign honorary member), 1988 ; Academia Europaea (founding member), 1988 ; American Academy of Arts and Sciences, Boston, (USA) (foreign member), 1994 ; Romanian Academy of Medical Sciences, Bucarest (foreign member), 1996 ; Institute of Medicine of the National Academies, Washington, (USA) (foreign associate), 2000 ; Istituto Veneto di Scienze, Lettere Ed Arti, Venezia (Italy), 2001 ; Hungarian Academy of Sciences, Budapest (foreign member associate), 2004 ; European Academy of Sciences, Bruxelles (member), 2004 ; International Academy of Humanism ; Académie Royale des Sciences, des Lettres & des Beaux-Arts de Belgique (foreign member), 2010; Accademia Nazionale dei Lincei, Rome, (Italy) (foreign member) , 2010.

Doctor honoris causa: Universities of Torino, Italy, 1989 ; Dundee, Scotland, 1992 ; Geneva, Switzerland, 1994 ; Stockholm, Sweden, 1994 ; Liège, Belgium, 1996 ; Ecole Polytechnique Fédérale of Lausanne, Switzerland, 1996 ; University of Southern California, Los Angeles, USA, 1997 ; Bath, UK, 1997 ; Montréal University, Canada, 2000 ; The Hebrew University of Jerusalem, Israel, 2004 ; Ohio State University, Columbus, USA, 2007 ; University of Buenos Aires, Argentina, 2010 ; *Professeur honoris causa* HEC Paris 2011; University of Ottawa, Canada, 2014; University of Chile, Santiago, Chile, 2016; Weizmann Institute, Rehovoth, Israel, 2016; Monash University, Melbourne, Australia 2017.

6) Honorary Conferences (selection)

Smith, Kline and French Lectures in Pharmacology, Vanderbilt University, School of Medicine (USA), 1974; Third Louis B. Flexner Lecture, University of Pennsylvania, Philadelphia (USA), 1974 ; Fourth FEBS Ferdinand Springer Lecture, 1975 ; William Draper Harkins Memorial Lecture, Department of Chemistry, University of Chicago (USA), 1977 ; Windsor C. Cutting Memorial Lecture, Department of Pharmacology, Stanford University (USA), 1978 ; John Krantz Memorial Lecture, Department of Pharmacology, Baltimore (USA), 1978 ; *Harvey Lecture*, *Rockfeller University,* New York (USA), 1980 ; *Wolfgang Pauli Vorlesungen Lecture*, *E.T.H. Zurich* (Switzerland), 1980 ; Otto Loewi Memorial Lecture, Department of Pharmacology, New York University (USA), 1982 ; Conférence Pfizer, Institut de Recherches Cliniques de Montréal (Canada), 1985; *Woodward Lecture*, Yale University, 1985 ; *Wittaker Distinguished Lecture in Brain Science*, *Massachusetts Institute of Technology*, Cambridge, MA. (USA), 1986 ; First Walter Dandy lecture, Baltimore (USA), 1986 ; *Warner-Lambert Lecture*, 17th Annual Meeting of the *Society for Neuroscience*, New Orleans (USA), 1987 ; First Trends in Pharmacological Sciences Lecture, FASEB meeting, Washington (USA), 1990 ; *Aharon Katzir-Katchalsky Lectures*, *Rehovot*

(Israel) 1990 ; Third Jean Brachet Memorial Lecture, Bruxelles (Belgium), 1991 ; Opening lecture European Neuroscience Association meeting, Cambridge (U.K.), 1991 ; Inaugural lecture EUROMEDECINE 92, Montpellier, 1992 ; Special lecture *dedicated to the memory of Prof. Shosaku Numa,* New York Academy of Sciences*, Waseda University*, Tokyo (Japan), 1993 ; Special lecture 11th European Workshop on Cognitive Neuropsychology, Accademia Cusano, Bressanone (Italy), 1993 ; Giuseppe Moruzzi lectures, Accademia Nazionale dei Lincei, Scuola Normale Superiore of Pisa, Italy, 1993 ; First *Jus lecture on Ethics and Neurosciences, Toronto*, 1995 ; Berlin Lecture in Molecular Medicine, Berlin (RFA), 1995 ; Sterling drug Lecture, Boston University School of medicine (USA), 1996 ; Flynn Lecture, Yale University, 1996 ; Cass Memorial Lecture, Dundee University, Scotland, 1996 ; Bruno Ceccarelli Lecture, Milan (Italy), 1996 ; First *Cavalieri-Ottolenghi Lecture, Turin* (Italy), 1996 ; EMBO Lecture : British Brain Research Association meeting, Liverpool (UK), 1997 ; Seventh annual *Edmond Fischer Lecture*, *Seattle* (USA), 1997 ; Ralph I. Dorfman Memorial Lecture, Stanford Univ. School of Medicine (USA), 1998; *Ferrier Lecture*, The Royal Society, London (UK), 1998 ; *Emanuel Merck-Vorlesung*, *Technische Universität, Darmstadt* (RFA), 1998; *Linus Pauling lecture, Stanford* (USA), 1998/1999 ; F.C. Donders Lectures on cognitive neuroscience, Nijmegen (NL), 1999 ; Burroughs-Wellcome lecture in Pharmacology, Washington, (USA), 1999 ; *First Mind Brain and Behavior lectures*, *Harvard University*, (USA), 1999 ; Carl Friedrich Von Siemens Foundation lecture, Munich (RFA), 1999 ; Friday evening lecture, Woods Hole (USA), 2000 ; Annual Sterling lecture, Albany Medical College, New York, 2001 ; Schueler distinguished lecture in pharmacology, New Orleans, (USA), 2002 ; *Wenner-Gren distinguished lecture*, *Stockholm* (Sweden), 2002 ; *The Kenneth Myer Lecture, Melbourne* (Australia), 2003 ; *The Heller Lecture Series in Computational Neuroscience, Institute of Life Sciences, Jerusalem* (Israel), 2004 ; *Jerry A. Weisbach memorial lecture*, *Rockefeller University*, 2005 ; *Benjamin W. Zwelfach Memorial Lecture*, *University of California San Diego (USA)*, 2007 ; *ASPET's Centennial meeting*, San Diego (USA) 2008 ; *Nobel symposium « Genes, Brain and Behavior », Stockholm*, (Sweden) 2008 ; Keynote lecture *CARTA Symposium « Evolutionary origins of Art and Aesthetics », San Diego,* (USA) 2009 ; Keynote lecture *Keystone Symposium « Protein, dynamics, allostery and function », Keystone* (USA) 2009 ; Inaugural Elaine Sanders-Bush lecture Vanderbilt University (USA) 2010 ; *Open lecture* Swedish Royal Academy of Sciences, Stockholm (Sweden) 2010 ; *Nobel symposium « The Enlightened Brain», Stockholm,* (Sweden) 2010 ; *Edwin G. Krebs Lecture on Molecular Pharmacology, Seattle* (USA) 2011 ; *Swedish physiological society lecture on « Allostery, signal transduction & drug design» Stockholm*, (Sweden) 2012 ; Heller lecture in computational neuroscience, Jerusalem (Israel) 2012 ; Keynote lecture, Centro Nacional de Investigaciones Oncológicas, Madrid (Spain) 2012; *Shosaku Numa Memorial lecture*, Kyoto (Japon) 2012; *40th EMD-Millipore lectures : «The concept of allostery & the allosteric properties of the nicotinic acetycholine receptor: implications for brains diseases & drug design» UCSD La Jolla* (USA) 2013; Eraldo Antonini lecture "Allosteric properties of pentameric receptor-channels: from bacteria to brain" Ferrara (Italy) 2013 ; 8th Jülich Lecture: "Ethical issues raised by the progress of neuroscience" (Germany) 2014 ; *the Jack Cooper lecture "Allosteric mechanism of signal transduction investigated with pentameric ligand-gated ion channels" Yale University* (USA) 2014 ; Keynote lecture « The Epigenetics of Neuronal Networks by synapse selection during development » University of Uppsala (Sweden) 2015; *DMM 2015 meeting :« A Pasteur-Kavli Institutes partnership :from the concept of allosteric interaction to the design of allosteric*

modulators » Karolinska Institute, Stockholm (Sweden) 2015; Keynote lecture « An overview of what neuroscience can tell us about mind and behaviour » Royal Society of Medicine, London, (UK) 2015; Plenary lecture **«** Toward a molecular biology of conscious processing: consequences for drug design" University of Helsinki (Finlande) 2015; Olav Thon prize lecture « From allosteric interactions to the modulation of higher brain functions » Oslo (Norway) 2016; Conference opening and Keynote address ASCEPT-MPGPCR Joint Scientific Meeting « Allosteric mechanisms of receptor function and modulation: towards a new pharmacology » Melbourne 2016 ; Keynote adress IGIS-Servier symposium on endocrinology: Allosteric interactions and cell signalling: 50 years of development Juan les Pins 2017; *253rd American Chemical Society National Meeting san Francisco, Keynote Lecture* at the Symposium "Allosteric Interactions & Regulation of Complex Biomolecular Systems: From Proteins to Cell Signaling" 2017 ; Keynote lecture 4th NovAliX Conference 2017 Biophysics in drug discovery Strasbourg 2017 ; *Conference opening and Keynote address : Allostery and molecular machines The Royal Society, London* 2017. *Dialog with Noam Chomsky*, *Introduction to the Symposium Science of consciousness, Tucson 2018*. Belgian Brain Congress Keynote lecture: "A system biology approach for modeling the brain: critical targets for the modulation of higher brain functions-from genes to cognition"*,* Liège 2018. *Xinglin forum Guest speaker "The nicotinic acetylcholine receptor from chemistry to cognition" Zhejiang University School of Medicine Hangzhou* China 2018.Tiselius symposium *Keynote lecture "Molecular dynamics of ligand-gated ion channels: from signal transduction to allosteric modulation: implications for drug discovery Uppsala* 2019. World Laureate Forum: Brain Science Summit, *"Molecular mechanisms of brain communications at atomic resolution: implications for drug discovery*", Hong Kong, China, 2020. CARTA Symposium Altered States of the Human Mind: "*Cognitive Enhancement & General Anesthesia*", San Diego 2021. ALLODD Allostery in drug discovery Keynote Lecture: *Allostery: a historical perspective: implications for drug discovery* Barcelona 2022. *Hominization of of the human brain: hypothetical mechanisms & Toward a new pharmacology of receptors: Allosteric drug design*, Shanghai WLA forum 2023. *Conscious processing down to the molecular level* Keynote Lecture Berzelius symposium Stockholm 2024. Sigillo di Ateneo reception Lecture: *Allosteric modulation of neurotransmitter receptors: toward a new pharmacology* Urbino 2024. *Allostery: from bacterial regulatory enzymes to brain receptors,* Keynote lecture Allostery turns 60: Accademia Nazionale dei Lincei Rome, 2025.

7) <u>Distinguished Honors</u>

Grand-Croix dans l'Ordre National de la Légion d'Honneur, 2011; Grand-Croix dans l'Ordre National du Mérite 1995 ; Commandeur dans l'Ordre des Arts et des Lettres, 1994 ; Commandeur des Palmes Académiques.

8) <u>Scientific Societies</u>

Honorary member of Neurosciences Research Program, MIT and Rockefeller University (USA), since 1984; Honorary member of the Japanese Biochemical Society, Sendai, Japan, 1985; Honorary member of the American Neurology Association, 1988; Honorary member of University College London, 1990; Membre d'honneur à titre étranger de la Société Belge de Neurologie, Bruxelles, 1991; Member of European Molecular Biology Organization.

9) <u>Administrative and Scientific Responsibilities</u>

Membre du Conseil Scientifique de l'Action Concertée Membranes Biologiques de la Délégation générale à la Recherche Scientifique et Technique (DGRST), 1969-1977 ; Membre de la Commission 6 de l'Institut National de la Santé et de la Recherche Médicale (INSERM), 1974-1979 ; Membre du Conseil d'Administration de l'Association des Pharmacologistes, 1978-1983 ; *Président de l'Action Concertée "Dynamique du Neurone" (DGRST), 1977-1983* ; Membre de la Commission 22 du Centre National de la Recherche Scientifique (CNRS), "Interactions Cellulaires", 1980-1982 ; Membre du Comité Sectoriel Sciences de la Vie (CNRS), 1981-1982 ; *Vice-Président du Conseil Scientifique de la Fondation Fyssen, 1979-2000* ; *Président du Conseil Scientifique de l'INSERM, 1983-1987* ; Membre du Conseil Supérieur de la Recherche et de la Technologie, 1987-1989 ; *Member Board of Scientific Directors of The Scripps Research Institute La Jolla, USA* since 1987 ; Membre du Conseil Scientifique de l'Institut Pasteur, 1989-1992 ; Président de la Société des Neurosciences, 1989-1992 ; *Président de la Commission Inter-ministérielle pour la Conservation du Patrimoine Artistique National*, *1989-2012* ; Président de l'Action Concertée "Sciences de la Cognition" du Ministère de la Recherche Scientifique et Technique et du Ministère de l'Education Nationale, 1988-1992 ; Membre du Conseil Scientifique de "Human Frontiers Science Program", 1990-1992 ; Membre du Comité Scientifique "Life Sciences" de l'European Science Foundation (ESF), 1990-1992 ; Membre du Conseil du Développement Européen de la Science et de la Technologie (CODEST), 1991-1992 ; *Président du Comité Consultatif National d'Ethique pour les Sciences de la Vie et de la Santé, 1992-1998* ; Membre du Comité de l'Energie Atomique *1998-2003* ; Membre du Conseil d'Administration de l'Institut Pasteur, 2000-2005 ; Directeur du Département de Neuroscience Institut Pasteur, 2002-2006 ; Vice-président puis membre du Conseil d'Administration de la Société des Amis du Louvre depuis 2004; *Président du Comité de Vigilance Ethique de l'Institut Pasteur, 2007-2012* ; Membre du Conseil Scientifique de l'Agence Internationale des Musées, France Muséums, 2007-2013 ; *Member of the Kavli prize committee for Neuroscience*,Oslo*, 2007-2010;* Membre du Comité de programmation du Musée du Luxembourg 2010-2014 ; Président du Conseil d'Orientation de l'Institut du Cerveau et de la Moëlle épinière, La Salpétrière, 2010-2012; *Governor of the Florey Institute for Neuroscience & Mental Health, Melbourne,* since 2012; Président d'Honneur du Département de Neuroscience de l'Institut Pasteur since 2015; *European Human Brain Program, Lausanne: Co-Leader then deputy-Leader (2016-2018) Ethics & Society division,* 2017-2019 ; leader of the Co-Design Project "Modelling Drug Discovery", 2020-2023 ; *Lead Scientist* SGA3 WP5, 2020-2023.

<u>10) Training and Teaching</u>

Jean-Pierre Changeux mentored more than 85 students and postdoctoral fellows, many of whom are now distinguished leaders in the fields of biological sciences, neuroscience, in particular:

France : Stanislas Dehaene (Prof Collège de France, Brain prize 2014),
Thierry Heidmann (Silver medal CNRS), Jérome Giraudat (Silver medal CNRS),
Jacques Mallet, Nicolas LeNovère, Jean-Louis Bessereau, Pierre-Jean Corringer (Silver medal CNRS), Uwe Maskos, Sylvie Granon, Philippe Faure... and many others in France,

USA: James Patrick (Prof emeritus Baylor College), Jonathan Cohen (Prof Harvard U), Henry Lester (Prof CalTech), Richard Olsen (Prof UCLA), Christopher Henderson (Prof Columbia U),

Marina Picciotto (Prof & Chair Yale U), Gerald Hazelbauer (Prof & Chair U of Missouri) … and many others in the USA.
Canada: Naguib Mechawar (Prof McGill U), Bernard Jasmin (Prof Ottawa U) Guilaume Dumas (Prof U Montréal) in Canada.
Japan: Katsuhiko Mikoshiba (Prof Tokyo U & Riken I) among 8 former postdoctoral fellows now in Japan.
Israel: Vivian Teichberg (deceased) (Prof Weizmann I) in Israel.
Germany: Heinrich Betz (Prof Max-Planck Frankfurt U), Hans Grunhagen (Executive vice-president Evotec Biosystem AG, Hamburg) in Germany.

As chair of the Neuroscience Department at Institut Pasteur 2002-2006, Jean-Pierre Changeux recruited Prs Christine Petit, Thomas Bourgeron & Pierre-Marie Lledo.

11) Publications

Jean-Pierre Changeux has authored over 600 scientific publications, not including the books listed below. (The complete list of scientific publications is included at the end of this CV.)
Total Citations: 119 650
H-index: 170
Clarivate citation: Laureate in *Physiology or Medicine in* 2021

12) Books and Related Publications

J.-P. CHANGEUX L'Homme neuronal, Fayard Paris (1983) ; Neuronal Man (Laurence Garey translator) 1985 Pantheon Books.
J.-P. CHANGEUX Molécule et Mémoire, Bedou Gourdon (1988).
J.-P. CHANGEUX (dir.) Fondements naturels de l'Ethique, Odile Jacob Paris (1993).
J.-P. CHANGEUX (dir.) Une même éthique pour tous? Odile Jacob Paris (1997).
J.-P. CHANGEUX, A. CONNES Matière à pensée, Odile Jacob Paris (1989, 2000, 2008) ; *Conversations on Mind, Matter and Mathematics* (M.B. De Bevoise translator) 1995 Princeton University Press.
J.-P. CHANGEUX Raison et Plaisir, Odile Jacob Paris (1994, 2002).
J.-P. CHANGEUX, P. RICOEUR Ce qui nous fait penser: La Nature et la Règle, Odile Jacob Paris (1998, 2008) ; *What makes us think ? a neuroscientist and a philosopher argue about ethics, human nature and the brain* (M.B. De Bevoise translator) (2000) Princeton University Press.
J.-P. CHANGEUX L'homme de vérité, Odile Jacob Paris (2002, 2004, 2008) ; *The Physiology of Truth : neuroscience & human knowledge* (2004) (M.B. De Bevoise translator) Harvard University Press.
J.-P. CHANGEUX (dir.) Gènes et Culture, Colloque annuel du Collège de France Odile Jacob Paris (2003).
J.-P. CHANGEUX (dir.) La Vérité dans les sciences, Colloque annuel du Collège de France Odile Jacob (2003).
J.-P. CHANGEUX & S. EDELSTEIN *Nicotinic acetylcholine receptors : from molecular biology to cognition* (2005) Odile Jacob New-York.
J.-P. CHANGEUX catalogue d'exposition **(**Nancy) La lumière au siècle des Lumières et aujourd'hui, Odile Jacob Paris (2005).

J.-P. CHANGEUX catalogue d'exposition (Meaux) Les passions de l'âme, Odile Jacob Paris (2006).
J.-P. CHANGEUX (dir.) L'Homme artificiel, Colloque annuel du Collège de France Odile Jacob Paris, (2007).
J.-P. CHANGEUX Du vrai, du Beau, du Bien, un nouvelle approche neuronale, Odile Jacob Paris (2008) ; *The good, the true, the beautiful. A neuronal approach* (Laurence Garey translator) (2012) Yale/Odile Jacob.
P. BOULEZ, J.-P. CHANGEUX, P.MANOURY Les neurones enchantés : cerveau et musique
Odile Jacob Paris, (2014). J.-P.Changeux, P.Boulez, P.Manoury *The enchanted neurons* Odile Jacob Paris, (2019).
J.-P. CHANGEUX *La beauté dans le cerveau*, Odile Jacob Paris, (2016)

J.P. CHANGEUX *Le Beau et la splendeur du Vrai* entretiens avec François L'Hyvonnet, Albin Michel Paris (2023) in English *The Beauty and the Splendor of Truth* Centre de Ressources en Information Scientifique Institut Pasteur Paris 2024)

13) Exhibitions

Jean-Pierre Changeux has been the **curator** of three major exhibitions on Art and Science:
De Nicolo dell'Abate à Nicolas Poussin: aux sources du Classicisme 1550-1650, Musée Bossuet Meaux in 1988, with catalog.
L'Âme au Corps, Arts et Sciences, 1793-1993 (with Gérard Régnier), Galeries nationales du Grand Palais Paris in 1993-1994 with catalog.
La lumière au siècle des Lumières et aujourd'hui. Art et science : de la biologie de la vision à une nouvelle conception du monde, Galeries Poirel Nancy in 2005 with catalog.

Jean-Pierre and Annie Changeux have **donated** 3 paintings to Le Louvre, one to Notre Dame-de-Paris and 35 to the Musée Bossuet at Meaux.

14) COMPLETE LIST OF SCIENTIFIC PUBLICATIONS PUBLICATIONS by Jean-Pierre Changeux and his group

The most important publications are: *bolded.

"[On the biochemical expression of genetic determinants of Escherichia coli introduced to Salmonella typhimurium]." Changeux, J. P., C R Hebd Seances Acad Sci **250**: 1575-1577; (1960) Feb 22.

***"The feedback control mechanisms of biosynthetic L-threonine deaminase by L-isoleucine." Changeux, J. P., Cold Spring Harb Symp Quant Biol 26: 313-318; (1961)**

"[Effect of L-threonine and L-isoleucine analogs on L-threonine desaminase]." Changeux, J. P., J Mol Biol **4**: 220-225; (1962) Mar.

"Allosteric proteins and cellular control systems." Monod, J., J. P. Changeux and F. Jacob, J Mol Biol **6**: 306-329; (1963) Apr.

"Allosteric Interactions Interpreted in Terms of Quaternary Structure." Changeux, J. P., Brookhaven Symp Biol **17**: 232-249; (1964) Dec.

"[on the Allosteric Properties of L-Threonine Deaminase. I. Methods of Studying Biosynthetic L-Threonine Deaminase]." Changeux, J. P., Bull Soc Chim Biol (Paris) **46**: 927-946; (1964)

"[on the Allosteric Properties of Biosynthetic L-Threonine Deaminase. Ii. Kinetics of Action of Biosynthetic L-Threonine Deaminase with Respect to the Natural Substrate and Inhibitor]." Changeux, J. P., Bull Soc Chim Biol (Paris) **46**: 947-961; (1964)

"[on the Allosteric Properties of Biosynthetic L-Threonine Deaminase. 3. Interpretation of the Inhibitory Effect of L-Isoleucine: Steric Hindrance or Allosteric Effect]." Changeux, J. P., Bull Soc Chim Biol (Paris) **46**: 1151-1173; (1964)

***"On the Nature of Allosteric Transitions: A Plausible Model." Monod, J., J. Wyman and J. P. Changeux, J Mol Biol 12: 88-118; (1965) May.**

"The Control of Biochemical Reactions." Changeux, J. P., Sci Am **212**: 36-45; (1965) Apr.

"[on the Allosteric of Biosynthesized L-Threonine Deaminase. Iv. The Desensitization Phenomenon]." Changeux, J. P., Bull Soc Chim Biol (Paris) **47**: 113-139; (1965)

"[on the Allosteric Properties of Biosynthesized L-Threonine Deaminase. V. The Allosteric Transition]." Changeux, J. P., Bull Soc Chim Biol (Paris) **47**: 267-280; (1965)

"[on the Allosteric Properties of Biosynthesized L-Threonine Deaminase. Vi. General Discussion]." Changeux, J. P., Bull Soc Chim Biol (Paris) **47**: 281-300; (1965)

"On the nature of allosteric transitions: implications of non-exclusive ligand binding." Rubin, M. M. and J. P. Changeux, J Mol Biol **21**: 265-274; (1966) Nov 14.

"Responses of acetylcholinesterase from Torpedo marmorata to salts and curarizing drugs." Changeux, J. P., Mol Pharmacol **2**: 369-392; (1966) Sep.

"[Effects of ionic forces and curarizing agents on the acetylcholine esterase properties of the electric tissue of Torpedo marmorata]." Changeux, J. P., C R Acad Sci Hebd Seances Acad Sci D **262**: 937-940; (1966) Feb 21.

"[On the properties of biosynthetic L-threonine desaminase of a mutant of E. coli K 12]." Sanchez, C. and J. P. Changeux, Bull Soc Chim Biol (Paris) **48**: 705-713; (1966)

"On the mode of action of colicins: a model of regulation at the membrane level." Changeux, J. P. and J. Thiery, J Theor Biol **17**: 315-318; (1967) Nov.

"Affinity labeling of the acetylcholine-receptor." Changeux, J. P., T. R. Podleski and L. Wofsy, Proc Natl Acad Sci U S A **58**: 2063-2070; (1967) Nov

"Electrical phenomena associated with the activity of the membrane-bound acetylcholinesterase." Podleski, T. and J. P. Changeux, Science **157**: 1579-1581; (1967) Sep 29.

"On the arginase of the Shope papillomas." Orth, G., F. Vielle and J. P. Changeux, Virology **31**: 729-732; (1967) Apr.

"On the cooperativity of biological membranes." Changeux, J. P., J. Thiery, Y. Tung and C. Kittel, Proc Natl Acad Sci U S A **57**: 335-341; (1967) Feb.

"On the excitability and cooperativity of the electroplax membrane." Changeux, J. P. and T. R. Podleski, Proc Natl Acad Sci U S A **59**: 944-950; (1968) Mar.

"Allosteric interactions in aspartate transcarbamylase. I. Binding of specific ligands to the native enzyme and its isolated subunits." Changeux, J. P., J. C. Gerhart and H. K. Schachman, Biochemistry **7**: 531-538; (1968) Feb.

"Allosteric interactions in aspartate transcarbamylase. 3. Interpretation of experimental data in terms of the model of Monod, Wyman, and Changeux." Changeux, J. P. and M. M. Rubin, Biochemistry 7: 553-561; (1968) Feb.

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