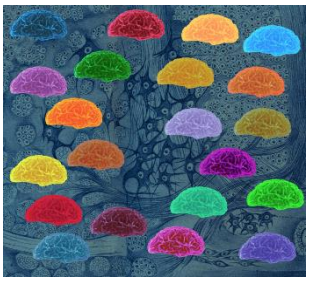

Date: December, 2022

CURRICULUM VITAE

Javier DeFelipe

TABLE OF CONTENTS

1. PERSONAL INFORMATION

Surname(s)	DeFelipe Oroquieta	
Forename	Javier	
Social Security, Passport, ID number	51697866F	
Sex	Male	
Age	69	
Researcher codes	WoS Researcher ID	publons.com/researcher/2551169/javier-defelipe/
	Google Scholar Author ID	https://scholar.google.es/citations?hl=es&user=lvjKuYkAAAAJ
	Open Researcher and Contributor ID (ORCID)	orcid.org/0000-0001-5484-0660

2. CURRENT POSITION

Post/ Professional Category	Research Professor	
UNESCO Code	2490 (Neurosciences)	
Key Words	Natural sciences and health sciences	
Name of the University/Institution	Consejo Superior de Investigaciones Científicas (CSIC)	
	Department/Centre	Instituto Cajal
	Full Address	Avenida Doctor Arce 37. 28002 Madrid
	Email Address	defelipe@cajal.csic.es
	Phone Number	+34 673337066
Start date	2004	

3. EDUCATION (*title, institution, date*)

Year	*University*	*Degree*	*Title*
1975	Universidad Complutense de Madrid	First degree	Biology
1977	Universidad Complutense de Madrid	Master (if appropriate)	Master in Biology
1979 April 24	Universidad Complutense de Madrid	PhD	PhD in Biology (Neuroanatomy)

4. INDICATORS OF QUALITY IN SCIENTIFIC PRODUCTION

Scopus

-Total number of publications: 320
-Total number of citations: 18198
-H-index: 72

Google Scholar

-Total number of citations: 26964
-H-index: 85
-i10-index: 253

Other indicators:

-Thesis supervised: 19

-Books: 9

-Book chapters: 39

-Invited lecturer (418): *Seminars* 127 (80 National; 47 International); *Scientific Meetings and Congresses*: 211 (129 national; 84 international); *Plenary and Keynote Lectures*; 82 (57 national; 25 international).

-Organization of large meetings and other scientific events: 30

5. SUMMARY OF CV

I began my research career in 1976 at the Cajal Institute, under the supervision of Dr. J. Rodrigo, experimentally and morphologically studying the sympathetic and parasympathetic innervation of the mammalian oesophagus. Having presented my doctoral thesis in 1979, I joined the laboratory of Drs F. Valverde and A. Fairén at the same Institute. It was in this period that I began to study the microorganization of the cerebral cortex, using the combined method of Golgi-electron microscopy, a subject that has remained the focal point for my research since then. During this period, we developed a very simple and effective method for correlative light and electron microscopic studies to analysis the connections between identified neurons at the electron microscopy level. In 1983, I obtained a Fogarty Fellowship (NIH) to work with Dr. Edward Jones at the Washington University School of Medicine, St. Louis (USA). This allowed me to extend my studies on cortical organization through the use of additional methods, such as high resolution immunocytochemistry and the use of anatomical tracers. From 1984 to 1985 I was appointed as a Visiting Scientist, in the laboratory of Dr. Jones at the University of California (Irvine). After this period in the laboratory of the Dr. Jones, I was appointed as Tenured Scientist (1986) at the Cajal Institute to continue my research on the cerebral cortex. Between 1989 and 1991, I returned to Dr. Jones' laboratory to study the microorganization of the monkey cerebral cortex. In 1991 I returned to the Cajal Institute to establish a research group that principally focuses on the microorganization of the normal cerebral cortex (including hippocampus) in various species (particularly humans) and on the alterations of cortical circuits in epilepsy and Alzheimer's disease. Another of my principal interest is the study of the history of cortical histology and circuitry and on the contributions of Cajal to neuroscience. In 2000, I was appointed as Research Scientist, and in 2004 as Research Professor in the same institution. A particularly important event that occurred in my scientific career was in 2009, when his group was awarded the Cajal Blue Brain Project (CBBP) and since then I have been serving as the director of the CBBP. This project has made it possible to have a multidisciplinary team of more than 50 researchers (anatomists, physiologists mathematicians and computer scientists) and to create the Laboratorio Cajal de Circuitos Corticales, (CSIC/Universidad Politécnica Madrid). As a result of this project, several tools and new computational methods have been developed that represent an important technological contribution (https://cajalbbp.es/). These tools and methods include intracellular injection techniques, the integration and exploitation of microanatomical data and the development of a new FIB/SEM technology (double beam electron microscopy), which allows the ultrastructural study of large volumes of tissue in a semi-automatic way — essential technology for deciphering the synaptome. Finally, I have served as the Associate editor of Brain Research (2006-2009) and as the Chief editor of Frontiers in Neuroanatomy (2007-present). I was the Spanish Project leader for the NASA Neurolab project (1998) and Scientific leader of the Subproject SP1 (Mouse Brain Organization) of the Human Brain Project (HBP; October 2013 to March 2020) and member of the Science and Infrastructure Board of the HBP (2013-present).

5. MOST RELEVANT ACCOMPLISHMENTS

Summary major contributions (see below full publication list):

-***1980-1983***. We developed a very simple and effective method for correlative light and electron microscopic studies to analysis the connections between identified neurons at the electron microscopy level. This method allowed us to identify unequivocally every part of the axon and the dendrites of the cell under study. Thanks to this method, we demonstrated the existence of interneurons that form multiple synaptic contacts with other neurons, preferably with their cell bodies. On the basis of this efferent synaptic pattern, these neurons were identified as basket cells. This correlative method is fundamental to analyze cortical synaptic circuits and the ultrastructural features of particular microanatomical elements in the cerebral cortex.

-***1983-1985*** (first period in the United States). Our laboratory was one of four groups that demonstrated, for the first time, the coexistence of neuropeptides (somatostatin, neuropeptide Y and cholecystokinin) with a classical neurotransmitter (GABA) in the cerebral cortex. In addition, we provided evidence that despite being GABAergic, chandelier and basket cells do not contain either of these three peptides. Likewise, by means of intracortical microinjections of tritiated GABA, we demonstrated the existence of GABAergic cells that form highly specific, vertical interlaminar connections in several areas of the monkey cerebral cortex.

-***1986-1989***. After my return in 1986 to the Cajal Institute, I supervised a study that was carried to quantitatively and qualitatively analyse the GABAergic synaptic inputs to the axon initial segment and soma of corticocortical and corticothalamic pyramidal cells in the cat visual cortex (I. Fariñas, doctoral thesis). We observed that not only do callosal and corticothalamic pyramidal cells differ significantly in the total number of GABAergic synapses on their axon initial segment and cell body, but those pyramidal cells that project to the thalamus do not establish synapses with chandelier cells. In this way, we demonstrated that different populations of pyramidal cells are involved in different intrinsic cortical circuits. This study is still one of the few to provide clear evidence that the most widely accepted hypothesis of the uniformity of cortex has been overstated and that there are actually wide variations in cortical organization.

-***1989-1991*** (second period in the United States). Until 1989 the only way of visualizing double bouquet cells and chandelier cells was with the Golgi method. Since this method is inconsistent and these cells are difficult to stain in the adult brain, their distribution and neurochemical properties were poorly characterised. We then discovered that chandelier cells contained parvalbumin but not calbindin, and that double bouquet cells contained calbindin but not parvalbumin. These findings have facilitated the chemical characterization of these neurons (by means of immunocytochemical colocalization techniques), as well as the study of their cortical distribution and their synaptic connections with identified populations of pyramidal cells. Likewise, we discovered the existence of a microcolumnar structure in the cerebral cortex of the monkey that is formed by the axons of the double bouquet cells. These microcolumns can express diverse substances depending on the cortical area in which they are found.

-***1991-present***. Following my definitive return to the Cajal Institute to set up my laboratory, the most relevant contributions during this period have been:

Normal cerebral cortex

The large expansion and the differentiation of the neocortex constitute two major events during the evolution of the mammalian brain. Thus, it is particular interesting to ascertain how the human neocortex has evolved to endow us with the capacity of speech and thought, faculties that distinguish humans from other mammals. In other words, the crucial question remains: what is special about the neocortex of humans and how does it differ from that of other species? For these reasons, an important part of the research performed in my laboratory since it was definitively established at the Cajal Institute focuses on this issue. As a whole, our microanatomical and neurochemical studies in several areas of the human cerebral cortex, and in that of other mammals, have revealed the following main conclusions:

(1) The human neocortex shares many common microanatomical features with other non-human mammals, but it also has many unique specializations that are likely to be crucial for the cortical activity typical of humans.

(2) The demonstration that double bouquet cells represent a key component of the cortical minicolumnar organization in primates, but not in other species.

(3) The pattern of synaptic organization (i.e., percentage, length and density of asymmetric [excitatory] and symmetric [inhibitory] synapses, and the number of synapses per neuron) and microanatomy of pyramidal cells is characteristic of each cortical area and species. Therefore, data

Methodology

(1) Development of a variety of software tools to examine the anatomical design of brain circuits.

(2) Our research team is the first to apply the FIB/SEM technology to study the synaptic organization of the human brain obtained at autopsy. This technology is providing the first data set on the detailed synaptic organization of the human brain that has been achieved to date.

Epilepsy

(1) Formulation of the hypothesis that the loss of chandelier cells is fundamental in the development of forms of human epilepsy that are associated with structural alterations.

(2) Demonstration that in the apparently normal neocortex of epileptic patients with hippocampal sclerosis, microzones exist (of approximately of 500 x 500 µm) in which the synaptic circuits are altered. These microzones might represent an anatomical substratum that explains the epileptiform activity in the neocortex of patients with hippocampal sclerosis. Therefore, we proposed that more effective surgical treatment of patients with pharmaco-resistant mesial temporal lobe epilepsy could be carried out if more information were available on the relationship between epileptiform activity and the microanatomical and chemical alterations in the cerebral cortex.

(3) His group identified dramatic morphological and neurochemical reorganizations of chandelier terminals and basket formations in the sclerotic hippocampus of epileptic patients. These changes varied considerably across different hippocampal fields in a given patient, and between different patients. Nevertheless, it should be emphasized that neuronal loss and synaptic reorganization are not necessarily epileptogenic per se, and it thus seems clear that particular circuits must be altered to induce epilepsy.

(4) There is a consistent and highly significant loss of microvessels in the sclerotic hippocampal CA1 field as well as a variety of vascular alterations in the remaining blood vessels. We suggest that blood vessel alterations are an additional pathological hallmark of hippocampal sclerosis associated with temporal lobe epilepsy and that they may relate to the pathogenesis of this condition

Alzheimer disease (AD)

(1) Amyloid (AB) plaques induce a loss of dendritic spines within the dendrites contacting the plates but not the rest of the dendrites of the same affected neuron.

(2) A large proportion of AB plaques are in contact with the neuronal soma and their soma membrane that is in contact with the plaques lacking GABAergic (inhibitory) terminals. The gradual appearance of plaques would increase susceptibility to the generation and propagation of epileptiform seizures.

(3) The diffuse accumulation of phosphotau in a putative pre-tangle state does not induce changes in the dendrites of pyramidal neurons, whereas the presence of tau aggregates forming tangles is associated with progressive alteration of dendritic spines and dendrite atrophy, depending on the degree of tangle development. Thus, the presence of phosphotau in neurons does not necessarily mean that they suffer severe and irreversible effects as thought previously. Rather, the characteristic cognitive impairment in AD is likely to depend on the relative number of neurons that have well developed tangles.

(4) Using FIB/SEM technology, we have shown that, in general, there are no significant differences between AD and control samples in the density, morphological features and spatial distribution of synapses in cases with early stages of AD in the transentorhinal cortex, as well as in CA1 and entorhinal cortex. Individuals in late stages of the disease suffered the most severe synaptic alterations, including a decrease in synaptic density and morphological alterations of the remaining synapses. Since AD cases show cortical atrophy, our data indicate a reduction in the total number (but not the density) of synapses at early stages of the disease, with this reduction being much more accentuated in subjects with late stages of Alzheimer's disease.

Other contributions

-Demonstration that permanent changes arise in the cortical circuits of rats that develop in space (NASA, Neurolab project). As the activity of the neocortex is directly related with higher brain functions, the synaptic plasticity induced by microgravity may be particularly relevant for future prolonged human spaceflight, or for the establishment of permanent colonies in space.

-Formulation of the hypothesis that the spillover of neurotransmitter may represent a new and widespread mechanism by which cortical pyramidal neurons can interact with interneurons. Indeed, this interaction would represent an intermediate situation between conventional synapses and volume transmission, because the spatial disposition of these perisomatic excitatory and inhibitory terminals may allow transmission with a time course comparable to that of traditional chemical synapses. Furthermore, the extrasynaptic activation of the inhibitory axo-somatic terminals would depend on the activation of the neighbouring excitatory synapse, rather than representing a diffuse and non-specific phenomenon.

My main interest in neuroscience and expertise is summarized in the following review articles:

-DeFelipe J, Jones EG (1992) Santiago Ramón y Cajal and methods in neurohistology. Trends Neurosci. 15: 237-246. https://doi.org/10.1016/0166-2236(92)90057-F

-DeFelipe J, Fariñas I (1992) The pyramidal neuron of the cerebral cortex: Morphological and chemical characteristics of the synaptic inputs. Prog Neurobiol. 39: 563-607. https://doi.org/10.1016/0301-0082(92)90015-7

-DeFelipe J (1993) Neocortical neuronal diversity: chemical heterogeneity revealed by co-localization studies of classic neurotransmitters, neuropeptides, calcium binding proteins and cell surface molecules. Cereb Cortex.3: 273-289. https://doi.org/10.1093/cercor/3.4.273

-DeFelipe J (1999) Chandelier cells and epilepsy. Brain 122:1807-1822. https://doi.org/10.1093/brain/122.10.1807

-DeFelipe J (2002) Cortical interneurons: From Cajal to 2001. Prog Brain Res 136: 215-238. https://doi.org/10.1016/S0079-6123(02)36019-9

-DeFelipe J (2002) Sesquicentennial of the birthday of Santiago Ramón y Cajal (1852-2002), the father of modern neuroscience. Trends Neurosci 25:481-484. https://doi.org/10.1016/s0166-2236(02)02214-2

-DeFelipe J (2005) Reflections on the structure of the cortical minicolumn. In: Neocortical modularity and the cell minicolumn (MF Casanova, ed). Nova Science Publishers, New York. pp 57-91.

-DeFelipe J (2006) Brain plasticity and mental processes: Cajal again. Nat Rev Neurosci. 7:811-817. https://doi.org/10.1038/nrn2005

-DeFelipe J (2010) From the connectome to the synaptome: an epic love history. Science 330:1198-201. https://doi.org/10.1126/science.1193378

-DeFelipe J (2011) The evolution of the brain, the human nature of cortical circuits and intellectual creativity. Front Neuroanat. 5:29. https://dx.doi.org/10.3389%2Ffnana.2011.00029

-DeFelipe J, Garrido E, Markram H (2014) The death of Cajal and the end of scientific romanticism and individualism. Trends Neurosci. 37: 525-527. https://doi.org/10.1016/j.tins.2014.08.002

-DeFelipe J (2015) The anatomical problem posed by brain complexity and size: a potential solution. Front Neuroanat. 9:104. https://dx.doi.org/10.3389%2Ffnana.2015.00104

-DeFelipe J (2015) The dendritic spine story: an intriguing process of discovery. Front Neuroanat. 9:14. https://doi.org/10.3389/fnana.2015.00014

-DeFelipe J (2017) Neuroanatomy and Global Neuroscience. Neuron. 2017 Jul 5;95(1):14-18. https://doi.org/10.1016/j.neuron.2017.05.027

-Maestú F, de Haan W, Busche MA, DeFelipe J (2021). Neuronal excitation/inhibition imbalance: core element of a translational perspective on Alzheimer pathophysiology. Ageing Research Reviews. 69:101372. https://doi.org/10.1016/j.arr.2021.101372

6. RESEARCH PROJECTS AND GRANTS (*most important projects last 10 years*)

1. *Título: Microorganizacion del hipocampo humano en individuos normales y con enfermedad de alzheimer*

Funding agency: Ministerio de Ciencia e Innovación. Ref.: PID2021-127924NB-I00
Duration: 2022-2024.
Principal investigators: Javier DeFelipe and Ruth Benavides-Piccione
Amount: 242.000 €

2 *Título: Human Brain Project (FET Flagship SGA3)*

Funding agency: EC.
Duration: 01/04/2020-30/9/2023
Workpage 1: Javier DeFelipe
Amount: 589.955 €

3 *Título: Human Brain Project (FET Flagship SGA2)*

Funding agency: EC.
Duration: 01/04/2018-31/03/2020.
Leader Subproject 1: Javier DeFelipe
Amount: 1.280.292 €

4 *Título: The Pyramidal Neuron in Cognition and Alzheimer's Disease*

Funding agency: Alzheimer's Association
Duration: 01/02/2015-31/07/2018.
Principal Investigator: Javier DeFelipe
Amount: 450.000 $

5 *Título: Estudio de la microorganización de la corteza cerebral en pacientes de Alzheimer y del hámster como modelo para estudiar la fosforilación de Tau*

Funding agency: Ministerio de Ciencia e Innovación. Ref.: SAF2015-66603-P
Duration: 2016-2018.
Principal investigator: Javier DeFelipe
Amount: 237.160 €

6 *Título: Human Brain Project (FET Flagship SGA1)*

Funding agency: EC.
Duration: 01/04/2016-31/03/2018.
Co-Leader Subproject 1: Javier DeFelipe
Amount: 1.322.944 €

7. *Título: Cajal Blue Brain*

Funding agency: Ministerio de Ciencia e Innovación. / Blue Brain/ École Polytechnique fédérale de Lausanne.

Duration: 01/01/2009-31/12/2018.
Director: Javier DeFelipe
Amount: 25M € loan in deposit

8 *Título: Microanatomical and Neurochemical Alterations of the cerebral cortex in Alzheimer's disease.*

Funding agency: Ministerio de Economía y Competitividad. BFU2012-34963
Duratio: 01/01/2013-31/12/2015
Principal Investigator: J. DeFelipe
Amount: 193.050 €

9 *Título: Estudio microanatómico de la corteza cerebral en pacientes con enfermedad de alzheimer y en modelos animales. Efecto de los cannabinoides en la progresión de la enfermedad.*

Funding agency: Ministerio de Ciencia e Innovación. SAF2009-09394 (subprograma NEF).
Duration: 01/01/2010-31/12/2012.
Principal Investigator: J. DeFelipe
Amount: 145.200€

7. FULL PUBLICATION LIST

7.1 Articles

1979

-Rodrigo J, Hernández CJ, DeFelipe J, Pérez Antón JA, Espinosa F (1979) Spinous leafy nerve endings in the feline stomach wall. Acta Anat. 103: 184-191. https://doi.org/10.1159/000145009

1980

-Rodrigo J, Robles-Chillida EM, Espinosa F, DeFelipe J, Hernández CJ, Arnedo A, Mayo I (1980) New contribution on the oesophageal mucous innervation in certain monkeys (*Cercopithecidae*) Acta Anat. 108: 510-520. https://doi.org/10.1159/000145350

-Rodrigo J, Robles-Chillida EM, DeFelipe J, Pérez-Antón JA, Pedrosa J, Arnedo A (1980) Sensoryvagal nature of oesophageal submucous layer nerve endings. Determined by surgical degeneration methods. Acta Anat. 108: 540-550. https://doi.org/10.1159/000145352

1981

-Rodrigo J, Robles-Chillida EM, DeFelipe J, Mayo I, Pérez-Antón JA, Pedrosa J, Gómez A (1981) Effects of surgical sympathectomy on laminar nerve endings in myenteric ganglia. Acta Ant. 109: 34-43. https://doi.org/10.1159/000145362

1982

-Rodrigo J, DeFelipe J, Robles-Chillida EM, Pérez-Antón JA, Mayo I, Gómez A (1982) Sensory vagal nature and anatomical acces paths to esophagus laminar nerve endings in myenteric ganglia. Determination by surgical degeneration methods. Acta Anat. 112: 47-57. https://doi.org/10.1159/000145496

-DeFelipe J, Fairén A (1982) A type of basket cell in superficial layers of the cat visual cortex: a Golgi-electron microscope study. Brain Res. 244: 9-16. https://doi.org/10.1016/0006-8993(82)90898-8

1984

-Hendry SHC, Jones EG, DeFelipe J, Schmechel D, Brandon C, Emson PC (1984) Neuropeptide-containing neurons of the cerebral cortex are also GABAergic. Proc. Natn. Acad. Sci. U.S.A. 81: 6526-6530. https://doi.org/10.1073/pnas.81.20.6526

1985

-DeFelipe J, Hendry SHC, Jones EG, Schmechel D (1985) Variability in the terminations of GABAergic chandelier cell axons on initial segments of pyramidal cell axons in the monkey sensory-motor cortex. J Comp Neurol. 231:364-384. https://doi.org/10.1002/cne.902310307

-DeFelipe J, Jones EG (1985) Vertical organization of γ-aminobutyric acid- accumulating intrinsic neuronal systems in monkey cerebral cortex. J Neurosci. 5: 3246- 3260. https://doi.org/10.1523/jneurosci.05-12-03246.1985

1986

-DeFelipe J, Hendry SHC, Jones EG (1986) A correlative electron microscopic study of basket cells and large GABAergic neurons in the monkey sensory-motor cortex. Neuroscience 7: 991-1009. https://doi.org/10.1016/0306-4522(86)90075-8

-DeFelipe J, Conley M, Jones EG (1986) Long-range focal collateralization of axons arising from corticocortical cells in monkey sensory-motor cortex. J Neurosci. 6: 3749-3766. https://doi.org/10.1523/jneurosci.06-12-03749.1986

1988

-Fonseca MJ, DeFelipe J, Fairén A (1988) Local connections in transplanted and normal cerebral cortex of rats. Exp Brain Res. 69: 387-398. https://doi.org/10.1007/bf00247584

-Jones EG, DeFelipe J, Hendry SHC, Maggio JE (1988) A study of tachykinin- immunoreactive neurons in monkey cerebral cortex. J Neurosci. 8:1206-1224. https://doi.org/10.1523/jneurosci.08-04-01206.1988

-DeFelipe J, Jones EG (1988) A light and electron microscopic study of serotonin- immunoreactive fibers and terminals in the monkey sensory-motor cortex. Exp Brain Res. 71: 171-182. https://doi.org/10.1007/bf00247532

-DeFelipe J, Fairén A (1988) Synaptic connections of an interneuron with axonal arcades in the cat visual cortex. J. Neurocytol. 17: 313-323. https://doi.org/10.1007/bf01187854

-DeFelipe J, Conti F, Van Eyck SL, Manzoni T (1988) Demonstration of glutamate- positive axon terminals forming asymmetric synapses in cat neocortex. Brain Res. 455: 162-165. https://doi.org/10.1016/0006-8993(88)90127-8

1989

-DeFelipe J, Hendry SHC, Jones EG (1989) Visualization of chandelier cell axons by parvalbumin immunoreactivity in monkey cerebral cortex. Proc. Natn. Acad. Sci. U.S.A. 86: 2093-2097. https://dx.doi.org/10.1073%2Fpnas.86.6.2093

-Conti F, DeFelipe J, Fariñas I, Manzoni T (1989) Glutamate-positive neurons and axon terminals in cat sensory cortex: a correlative light and electron microscopic study. J. Comp. Neurol. 290: 141-153. https://doi.org/10.1002/cne.902900109

-DeFelipe J, Hendry SHC, Jones EG (1989) Synapses of double bouquet cells in monkey cerebral cortex visualized by calbindin immunoreactivity. Brain Res. 503: 49-54. https://doi.org/10.1016/0006-8993(89)91702-2

1990

-DeFelipe J, Hendry SHC, Hashikawa T, Molinari M, Jones EG (1990) A microcolumnar structure of monkey cerebral cortex revealed by immunocytochemical studies of double bouquet cell axons. Neuroscience 37: 655-673. https://doi.org/10.1016/0306-4522(90)90097-N

1991

-Fariñas I, DeFelipe J (1991) Patterns of synaptic input on corticocortical and corticothalamic cells in the cat visual cortex. I. The cell body. J Comp Neurol. 304: 53-69. https://doi.org/10.1002/cne.903040105

-Fariñas I, DeFelipe J (1991) Patterns of synaptic input on corticocortical and corticothalamic cells in the cat visual cortex. II. The axon initial segment. J Comp Neurol. 304: 70-77. https://doi.org/10.1002/cne.903040106

-DeFelipe J, Hendry SHC, Hashikawa T Jones EG (1991) Synaptic relationships of serotonin-immunoreactive terminal baskets on GABA neurons in the cat auditory cortex. Cereb Cortex 1: 117-133. https://doi.org/10.1093/cercor/1.2.117

-DeFelipe J, Jones EG (1991) Parvalbumin immunoreactivity reveals layer IV of the monkey cerebral cortex as a mosaic of microzones of thalamic afferent terminations. Brain Res. 562: 39-47. https://doi.org/10.1016/0006-8993(91)91184-3

1992

-DeFelipe J, Jones EG (1992) High resolution light and electron microscopic immunocytochemistry of co-localized GABA and calbindin D-28k in somata and double bouquet cell axons of monkey somatosensory cortex. Eur J Neurosci. 4: 42-60. https://doi.org/10.1111/j.1460-9568.1992.tb00108.x

-DeFelipe J, Jones EG (1992) Santiago Ramón y Cajal and methods in neurohistology. Trends Neurosci. 15: 237-246. https://doi.org/10.1016/0166-2236(92)90057-F

-DeFelipe J, Fariñas I (1992) The pyramidal neuron of the cerebral cortex: Morphological and chemical characteristics of the synaptic inputs. Prog Neurobiol. 39: 563-607. https://doi.org/10.1016/0301-0082(92)90015-7

-Jones EG and DeFelipe J (1992) Ramón y Cajal: observer and interpreter. Trends Neurosci. 15: 484. https://doi.org/10.1016/0166-2236(92)90098-s

1993

-DeFelipe J, Sola RG, Marco P, del Río MR, Pulido P, Ramón y Cajal S (1993) Selective changes in the microorganization of the human epileptogenic neocortex revealed by parvalbumin immunoreactivity. Cerebral Cortex 3: 39-48. https://doi.org/10.1093/cercor/3.1.39

-DeFelipe J, Fairén A (1993) A simple and reliable method for correlative light and electron microscopic studies. J. Histochem. Cytochem. 41: 769-772. https://doi.org/10.1177/41.5.8468459

-DeFelipe J (1993) A study of NADPH diaphorase-positive axonal plexuses in the human temporal cortex. Brain Res. 615: 342- 346. https://doi.org/10.1016/0006-8993(93)90047-q

-DeFelipe J (1993) Neocortical neuronal diversity: chemical heterogeneity revealed by co-localization studies of classic neurotransmitters, neuropeptides, calcium binding proteins and cell surface molecules. Cereb Cortex. (Feature article).3: 273-289. https://doi.org/10.1093/cercor/3.4.273

1994

-del Río MR, J DeFelipe (1994) A study of SMI 32-stained pyramidal cells, parvalbumin-immunoreactive chandelier cells and presumptive thalamocortical axons in the human temporal neocortex. J Comp Neurol. 342: 389-408. https://doi.org/10.1002/cne.903420307

-DeFelipe J, Huntley GW, del Río MR, Sola RG, Morrison JH (1994) Microzonal decreases in the immunostaining for non-NMDA ionotropic excitatory amino acid receptor subunits GluR 2/3 and GluR 5/6/7 in the human epileptogenic neocortex. Brain Res. 657: 150-158. https://doi.org/10.1016/0006-8993(94)90962-8

-Vickers JC, Huntley GW, Hof PR, Bederson J, DeFelipe J, Morrison JH (1994) Immunocytochemical localization of non-NMDA ionotropic excitatory amino acid receptor subunits in human neocortex. Brain Res. 671: 175-180. https://doi.org/10.1016/0006-8993(94)01372-o

-DeFelipe J (1994) Pyramidal cell. Trends Neurosci (Vignette). 17: 119. https://doi.org/10.1016/0166-2236(94)90121-X

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-del Río MR, DeFelipe J (1995) A Light and Electron Microscopic Study of Calbindin D-28k Immunoreactive Double Bouquet Cells in the Human Temporal Cortex. Brain Res. 690:133-140. https://doi.org/10.1016/0006-8993(95)00641-3

1996

-Berbel P,Marco P, Cerezo JR, DeFelipe J (1996) Distribution of parvalbumin immunoreactivity in the neocortex of hypothyroid adult rats. Neurosci. Lett. 204:65-68. https://doi.org/10.1016/0304-3940(96)12318-1

-del Río MR, DeFelipe J (1996) Colocalization of Calbindin D-28k, Calretinin and GABA Immunoreactivities in Neurons of the Human Temporal Cortex. J Comp Neurol. 369:472-482. https://doi.org/10.1002/(sici)1096-9861(19960603)369:3%3C472::aid-cne11%3E3.0.co;2-k

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-DeFelipe J (2014). *El Jardín de la Neurología: Sobre lo bello, el arte y el cerebro*. BOE y CSIC, Madrid. ISBN: 9788434021563

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-DeFelipe J (2018) *Cajal's Neuronal Forest: Science and Art*. Oxford University Press, New York. ISBN: 9780190842833

- DeFelipe J (2022) *De Laetoli a la Luna. El insolito viaje del cerebro humano.*Crítica, Madrid. ISBN: 978-84-9199-426-8

7.3 Book chapters

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-DeFelipe J (1997) Microcircuits in the brain. In: Biological and artificial computation: from neuroscience to technology. Lecture Notes in Computer Science; vol. 1240 (Mira J, Moreno-Díaz R, Cabestany J, eds). Springer, Berlin, pp 1-14..

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-Dierssen M., Benavides-Piccione R., Martínez-Cué C., Estivill X., Baamonde, C. Fillat, M. Martínez de Lagrán, X. Altafaj, Flórez J., Elston G., DeFelipe J (2003) Genotype-phenotype neural correlates in trisomy 21. In: "The Adult with Down Syndrome. A new challenge for society". (JA.Rondal, A Rasore-Quartino, S Soresi eds). Whurr Publishers, London, pp 15-30.

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-DeFelipe, J (2007) Santiago Ramón y Cajal, el padre de la neurociencia moderna. En: Actas Congreso Cajal. Gobierno de Aragón. Zaragoza, pp 462-483.

-DeFelipe J, Alonso-Nanclares L, Arellano J, Ballesteros-Yáñez I, Benavides-Piccione R, Munoz A (2007) Specializations of the cortical microstructure of humans. In: Evolution of the nervous systems: a comprehensive reference. Vol 4 Primates (Kaas JH & Preuss TM, eds). Elsevier, Amsterdam, pp 167-190.

-DeFelipe J (2007) Historia de la neurona: influencia de los estudios de Santiago Ramón y Cajal en la neurociencia moderna. En: Histología del sistema nervioso del hombre y de los vertebrados. Santiago Ramón y Cajal. Ministerio de Sanidad y Consumo, Consejo Superior de Investigaciones Científicas y Boletín Oficial del Estado. Madrid, pp 19-99.

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-Morales, J, Alonso-Nanclares L, Rodríguez J, Merchán-Pérez A, DeFelipe J, Rodríguez A (2010) Computer Assisted Identification, Segmentation and Quantification of Synapses in the Cerebral Cortex. In: Trends in Applied Intelligent Systems. Lecture Notes in Computer Science (N García-Pedrajas, F Herrera, C Fyfe, JM Benítez, M Ali, eds). Springer, Berlin, pp 112–118.

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-DeFelipe J (2013) Cajal and the discovery of a new artistic world: The neuronal forest. In: The Fine Arts, Neurology and Neuroscience: History and Modem Perspectives (S Finger, D Zajdel, F Boller, J Bogousslavsky, eds). Elsevier, New York. Prog Brain Res. 203:201-220.

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-Turégano-López M, Rodríguez J-R, Alonso-Nanclares L, González-Soriano J, DeFelipe J, Merchán-Pérez A. (2021). Pre-Embedding Immunostaining of Brain Tissue and Three-Dimensional Imaging with FIB-SEM. In: Luján R, Ciruela F, editors. Receptor and Ion Channel Detection in the Brain. Neuromethods. New York, NY: Springer US. p. 285–302.

7.4 Science communication

DeFelipe J (1999) Antes y después de Cajal. Diario Médico (mayo).

DeFelipe J (2001) Cajal y la Histología del Sistema Nervioso. Trébede (mayo).

DeFelipe J (2002) Cerebro y abstracción. El Mundo / el Cultural (septiembre).

DeFelipe J (2003) Cuando Cajal cambió el curso de la historia de la neurociencia. Diario Médico (junio).

DeFelipe J (2003) Cajal y sus dibujos ¿Arte o Ciencia? El Mundo / el Cultural (diciembre).

DeFelipe J (2004) Cajal y sus dibujos (Boletin del Instituto Andaluz del Patrimonio Histórico Año XII).

7.5 Other publications

-DeFelipe J (1995) Book review: Neurocytology. Fine structure of neurons, nerve processes, and neuroglial cells. Ennio Pannese Thieme, New York, 1994, ISBN 3-13-781801. J Chem Neuroanat. 9: 80. https://doi.org/10.1016/0891-0618(95)90017-9

-DeFelipe J (1999) Células en candelabro y epilepsia. Noticias médicas 33:14-18.

-DeFelipe J (1999) Hace 100 años. Cajal y la corteza cerebral. Investigación y Ciencia (octubre). https://www.investigacionyciencia.es/revistas/investigacion-y-ciencia/el-futuro-de-la-computacin-se-est-creando-en-el-m-i-t-148/hace-100-aos-cajal-y-la-corteza-cerebral-7683

-DeFelipe J (2002) El cerebro en el espacio. Mente y Cerebro. Investigación y Ciencia; Scientific American. 1:72-81,

-DeFelipe J (2004) Santiago Ramón y Cajal's Histology of the Nervous System of Man and Vertebrates. Mcgraw-Hill Encyclopledia of Science and Technology Online.

-DeFelipe J Comment on "Chicago: AD and Epilepsy—Joined at the Synapse?" Alzheimer Research Forum. November 13, 2009 Available at: http://www.alzforum.org/new/detail.asp?id=2283

-DeFelipe (2013) Project Syndicate. Clearing A Path Through the Brain. October 8. https://www.project-syndicate.org/commentary/unraveling-the-mysteries-of-the-human-brain-by-javier-defelipe?barrier=accesspaylog

-Comment by Javier DeFelipe on: Stem Cells Treat Epileptic Symptoms in Mice. Alzheimer Research Forum. May 8, 2013. Available at http://www.alzforum.org/new/detail.asp?id=3483

-DeFelipe J (2013) Análisis del cerebro: innovación tecnológica y estrategia interdisciplinar. CIC NETWORK 24-28.

-DeFelipe J (2013) Cajal's Butterflies of the Soul. OUPblog https://blog.oup.com/2013/11/cajal-butterflies-of-the-soul-cerebral-cortex/

-DeFelipe J (2016) Reflections on theNeuron Doctrine. Commentary on Foundations of the Neuron Doctrine. 25th Anniversary Edition. GM Shepherd. Oxford University Press, New York.

-Rockland KS, DeFelipe J (2016) Editorial: Neuroanatomy for the XXIst Century. Front Neuroanat. 10:70. https://doi.org/10.3389/fnana.2016.00070

-DeFelipe J (2021) Los dibujos de Cajal y el descubrimiento del bosque neuronal del cerebro. Catálogo "Sinapsis ciencia y arte en España, de Ramón y Cajal al siglo XXI". Dirección de Asuntos Culturales y Científicos de la AECID y la Embajada de España en Suecia. Nobel Price Museum. Stockholm, Sweden

8. THESIS SUPERVISED

Title: Inervación GABAérgica de células piramidales identificadas en la corteza visual del gato.

PhD: Isabel Fariñas
University: Autónoma de Barcelona (Facultad de Ciencias).
Year: 1989
Calification: Apto Cum Laude

Title: Microorganización de la corteza cerebral humana. colocalización de proteínas fijadoras de calcio, y estudio de las características químicas y sinaptología de las células en candelabro y células de double bouquet..

PhD: María del Rosario del Río
University: Autónoma de Madrid (Facultad de Ciencias).
Year: 1995
Calification: Apto Cum Laude

Title: Alteraciones de los circuitos sinápticos en la corteza cerebral de pacientes epilépticos.

PhD: Pilar Marco
University: Autónoma de Madrid (Facultad de Ciencias).
Year: 1995
Calification: Apto Cum Laude

Title: Colocalización de receptores ionotrópicos de glutamato en la corteza cerebral humana normal y epileptogénica.

PhD: Mª del Carmen González-Albo
University: Complutense de Madrid (Facultad de Biología).
Year: 2001
Calification: Apto Cum Laude

Title: Alteraciones en el hipocampo de pacientes con epilepsia del lóbulo temporal farmacorresistente.

PhD: Jon Arellano (co-directed with Alberto Muñoz)
University: Complutense de Madrid (Facultad de Biología).
Year: 2003
Calification: Apto Cum Laude

Title: Microestructura e inervación catecolaminérgica de las células piramidales de la corteza cerebral.

PhD: Ruth Benavides-Piccione (co-directed with Guy Elston)
University: Complutense de Madrid (Facultad de Biología).
Year: 2004
Calification: Apto Cum Laude

Title: Microanatomía de la corteza cerebral de pacientes epilépticos con tumores o displasia cortical.

PhD: Lidia Alonso-Nanclares
University: Complutense de Madrid (Facultad de Biología).
Year: 2005
Calification: Apto Cum Laude

Title: La célula piramidal de la corteza cerebral de roedores: alteraciones microanatómicas en modelos de drogadicción

PhD: Inmaculada Ballesteros-Yáñez (co-directed with Emilio Ambrosio)
University: Complutense de Madrid (Facultad de Biología).
Year: 2006
Calification: Apto Cum Laude

Title: Caracterización y distribución de los terminales en candelabro en la corteza cerebral. Relación con el segmento inicial del axón.

PhD: María del Carmen Inda García (co-directed with con Alberto Muñoz)
University: Complutense de Madrid (Facultad de Biología).
Year: 2008
Calification: Apto Cum Laude

Title: Alteraciones del hipocampo esclerótico y de la corteza temporal adyacente en pacientes con epilepsia del lóbulo temporal.

PhD: Asta Kastanauskaite (co-directed with Lidia Alonso-Nanclares)
University: Autónoma de Madrid (Facultad de Medicina).
Year: 2009
Calification: Apto Cum Laude

Title: Estudio de la inervación perisomática neuronal en la corteza cerebral normal y en la enfermedad de Alzheimer.

PhD: Lidia Blazquez-Llorca (co-directed with Virginia García-Marín)
University: Complutense de Madrid (Facultad de Biología).
Year: 2010
Calification: Apto Cum Laude

***Title*:** Alteraciones microanatómicas de las dendritas de las neuronas de proyección en la enfermedad de Alzheimer.

PhD: Paula Merino-Serrais (co-directed with Shira Knafo)
University: Universidad: Autónoma de Madrid (Facultad de Biología).
Year: 2011
Calification: Apto Cum Laude

Title: Estudio tridimensional de la ultraestructura de la corteza cerebral de la rata.

PhD: Andrea Santuy (co-directed with Angel Merchán-Pérez)
University: Autónoma de Madrid (Facultad de Biología).
Year: 2018
Calification: Apto Cum Laude

Title: Estudio del aparato de Golgi y del segmento inicial del axón de neuronas corticales en el cerebro normal y en la enfermedad de Alzheimer.

PhD: Alejandro Antón Fernández (co-directed with Alberto Muñoz)
University: Autónoma de Madrid (Facultad de Biología).
Year: 2018.
*Calification: Apto Cum Laude (*award "Alberto Rábano 2018", Fundación Romanillos).

Title: Estudio integrado de las características histopatológicas y clínicas en pacientes con enfermedad de Alzheimer

PhD: Diana Furcila (co-directed with Lidia Alonso-Nanclares and Emilio Ambrosio)
University: Universidad Nacional de Educación a Distancia (Programa de Doctorado en Psicología de la Salud).
Year: 2019Calification: Apto Cum Laude

Title: Microorganización de la corteza transentorrinal y de la corteza entorrinal humana en condiciones normales y en la enfermedad de Alzheimer

PhD: Marta Domínguez Álvaro (co-directed with Lidia Alonso-Nanclares)
University: Autónoma de Madrid (Departamento de Anatomía, Histología y Neurociencia).
Year: 2020.
Calification: Apto Cum Laude (Doctoral Extraordinary Award; Universidad Autónoma de Madrid)

Title: Three-dimensional synaptic organization of the CA1 field in the normal human hippocampus and in Alzheimer's disease.

PhD: Marta Montero-Crespo (co-directed with Lidia Blázquez-Llorca)
University: Autónoma de Madrid (Departamento de Anatomía, Histología y Neurociencia).
Year: 2021.
Calification: Apto Cum Laude ("Francisco del Pozo" award for the best doctoral thesis carried out at the CTB, Univerdiad Politécnica Madrid)

Title: Study of the hyperphosphorylation of tau and its effect on neuronal morphology in the Syrian hamster during hibernation.

PhD: Mamen Regalado Reyes (co-directed with Gonzalo León Espinosa)
University: Autónoma de Madrid (Programa de Neurociencias).
Year: 2021.
Calification: Apto Cum Laude

Title: Ultraestructura y conectividad de la corteza cerebral..

PhD: Marta Turégano-López (co-directed with Angel Merchán-Pérez)
University: Autónoma de Madrid (Programa de Neurociencias).
Year: 2022.
Calification: Apto Cum Laude

9. INVITED LECTURER

9.1 Seminars (National)

-Conexiones intracorticales de la corteza cerebral. Facultad de Medicina, Universidad Autónoma. **Madrid**, 1986.

-Interneuronas en la corteza cerebral y su posible relación con enfermedades corticales. Hospital 10 de Octubre. **Madrid**, 1986.

-Organización sináptica de la corteza cerebral. Societat Catalana de Biología. **Barcelona**, 1986.

-Alteraciones de los circuitos sinápticos corticales en pacientes epilépticos. Circuitos neuronales corticales. Facultad de Medicina. **Alicante**, 1992.

-Óxido nítrico: plexos nerviosos y neuronas en la corteza cerebral. Facultad de Medina. Universidad Autónoma. **Madrid**, 1993.

-Organización del cerebro. Colegio Libre de Eméritos. **Madrid**, 1994.

-Microorganización de la corteza cerebral de pacientes epilépticos. Facultad de Medicina. Universidad de Tenerife. **Tenerife**, 1995.

-Circuitos hiperexcitadores en la corteza cerebral humana y su relación con la epilepsia. Facultad de Biología. Universidad de Sevilla. **Sevilla**, 1996.

-Alteraciones de los circuitos neuronales en la corteza cerebral humana de pacientes epilépticos. Facultad de Medicina, Universidad de Navarra. **Pamplona**, 1996.

-Organización sináptica de la corteza cerebral. Facultad de Medicina, Universidad de Valladolid. **Valladolid**, 1996.

-Aspectos conceptuales de la comunicación intercientífica en neurociencias. Hospital Hermanos de San Juan de Dios. **Madrid**, 1997.

-Microorganización de la corteza cerebral. Universidad Europea de Madrid (CEES). **Madrid**, 1997.

-Circuitos sinápticos en la corteza cerebral de pacientes epilépticos. Facultad de Medicina, Universidad Complutense. **Madrid**, 1997.

-La misión Neurolab de la NASA. Dto. de Microbiología y Genética. Universidad de Salamanca. **Salamanca**, 1999.

-Microorganización de la corteza cerebral de pacientes epilépticos. Facultad de Medicina. **Santander**, 1999.

-Células en candelabro y epilepsia. Facultad de Medicina. Universidad de Navarra. **Pamplona**, 2000.

-Viaje al interior del cerebro. El Foro Cívico-Cultural. Pozuelo de Alarcón. **Madrid**, 2001.

-El cerebro en el espacio: La misión Neurolab de la NASA. Museo de la Ciencia. **Barcelona**, 2002.

-Santiago Ramón y Cajal, el padre de la neurociencia española. Facultad de Biología. Universidad de Barcelona. **Barcelona**, 2002.

-Santiago Ramón y Cajal y el nacimiento de la neurociencia moderna. Instituto de Biomédicas (CSIC). **Madrid**, 2002.

-The brain in the space. Instituto Nacional de Técnica Aeroespacial. **Madrid**, 2002.

-Efecto de los vuelos espaciales en el desarrollo del cerebro. Facultad de Biología. (UCM). **Madrid**, 2003.

-El cerebro en el espacio: La misión Neurolab de la NASA. Residència d'Investigadors (CSIC). **Barcelona**, 2003.

-Cerebro y cultura. Fundación Santander Central Hispano. **Madrid**, 2003.

-Alteraciones y plasticidad de los circuitos neuronales en pacientes epilépticos.Hospital Ramón y Cajal. **Madrid**, 2003.

-Plasticidad de los circuitos neuronales y epilepsia. Facultad de Medicina (Universidad de Castilla-La Mancha. **Albacete**, 2003.

-Microorganización de la corteza cerebral: Alteraciones patológicas de las espinas dendríticas de las células piramidales. Facultad de Ciencias (Universidad de Autónoma). **Madrid**, 2004.

-El cerebro: Misterios, mitos y realidades. **Salamanca**, 2004.

-Circuitos neuronales que inducen y perpetúan la epilepsia fármaco-resistente. Hospital de la Princesa. **Madrid**, 2005.

-Los dibujos de Cajal. Hospital Central de la Defensa. **Madrid**, 2005.

-El cerebro humano:aspectos comparativos. Fundación Jiménez Díaz. **Madrid**, 2005.

-Santiago Ramón y Cajal y la neurociencia en el siglo XXI. Facultad de Biología. Universidad de Vigo. **Vigo**, 2006.

-El cerebro humano: microorganización y evolución. Museo Casa de la Moneda. **Madrid**, 2006.

-Museo de la técnica de l'Empordà. Viaje al interior del cerebro. **Figueras**, 2006

-Aula Hoy. Fundación Vocento. Ramón y Cajal y la Ciencia Médica. **Cáceres**, 2006.

-Aula Hoy. Fundación Vocento. Ramón y Cajal y la Ciencia Médica. **Badajoz**, 2006.

-Las células piramidales y cognición. Centro de Investigación en Medicina Aplicada (CIMA). **Pamplona**, 2007.

-Ramón y Cajal y la neurociencia del siglo XXI. Ateneo de Navarra/Planetario de Pamplona. **Pamplona**, 2007.

-Circuitos corticales y evolución. Departamento Neuroquímica. IIBB-CSIC-IDIBAPS. **Barcelona**, 2007.

-Neuroanatomía de los procesos cognitivos. Ciclo:Perspactives en Neurociences. Cent anys después de Ramón y Cajal. Residència d'Investigadors (CSIC). **Barcelona**, 2007.

-Paisajes Neuronales. Cena con las Estrellas. Observatorio Fabra. **Barcelona**, 2007.

-Viaje al interior del cerebro. I.E.S Aramo. **Oviedo**, 2007.

-Cajal y las mariposas del alma. CIVICAN Fundación Caja Navarra. **Pamplona**, 2007.

-The pyramidal neuron in cognition. Instituto de Neurociencias. **Alicante**, 2008.

-Cerebro y sexo. "Pensando en el amor: ciencia y literatura". CosmoCaixa de Alcobendas. **Madrid**, 2008.

-Circuitos corticales y evolución. Facultad de Medicina. Universidad Complutense. **Madrid**, 2008.

-Cognición y circuitos corticales. Instituto Aragonés de Ciencias de la Salud. **Zaragoza**, 2008.

-Cajal: Ciencia y arte. CosmoCaixa de Alcobendas. **Madrid**, 2008.

-El cerebro, evolución y cognición. Instituto de Enseñanza Media Beatriz Galindo. **Madrid**, 2008.

-Circuitos corticales y cognición. Facultad de Medicina Universidad Autónoma. **Barcelona**, 2009.

-El cerebro: misterios, mitos y realidades. Instituto de Enseñanza Media Beatriz Galindo. **Madrid**, 2009.

-Seminario Teófilo Hernando. Facultad de Medicina. Universidad Autónoma de Madrid. **Madrid**, 2010.

-Cajal: Ciencia y arte. Instituto de Neurociencias de Castilla y León. **Salamanca**, 2010.

-Circuitos corticales y cognición: El Proyecto Cajal Blue Brain. Instituto Física Interdisciplinar y Sistemas Complejos. **Palma de Mallorca**, 2010.

-Viaje al interior del cerebro: "Proyecto Cajal Blue Brain". Sesión General. Hospital Gregorio Marañón. **Madrid**, 2010.

-Las mariposas del alma: Ciencia y arte. Hospital de Donostia. **San Sebastián**, 2010.

-Sobre lo bello, el arte y la ciencia. Museo Elder de la Ciencia y la Tecnología. **Las Palmas de Gran Canaria**, 2010.

-Alteraciones de los circuitos corticales en la enfermedad de Alzheimer. Seminarios de Biomedicina. Departamentos de Fisiología, Farmacología y Bioquímica y Biología Molecular. Facultad de Medicina, Universidad Complutense de Madrid. **Madrid**, 2011.

-β-amyloid plaques, Tau hyperphosphorylation and alterations of cortical circuits in Alzheimer`s disease. IRB. **Barcelona**, 2011.

-Circuitos corticales y cognición. VII Ciclo seminarios de biomedicina instituto de investigación sanitaria. Fundación Jiménez Díaz. **Madrid**, 2011.

-Plasticidad cerebral y el proyecto Cajal Blue Brain. Facultad de Biología. Universidad Complutense. **Madrid**, 2012.

-Sobre lo bello, el arte y la evolucion del cerebro. Museu de Ciències Naturals de Barcelona. **Barcelona**, 2012.

-Innovación en la neurociencia: qué nos hace ser humanos. Centro de Innovación BBVA. **Madrid**, 2012.

-Neurociencia: nuevas tecnologías para el estudio de la enfermedad de Alzheimer. Centro de Innovación BBVA. **Madrid**, 2013.

-Videoconferencia: Neuropatología, nuevas tecnologías en el estudio de las enfermedades neurodegenerativas. Sesiones Clínicas de Actualización en Neurología. MSD - Innova - Merck Sharp & Dohme. **Madrid**, 2013.

-Sobre lo bello, el arte y el cerebro. Seminario "La Maestría es un Grado", Facultad de Geografía e Historia, Universidad Complutense de Madrid. **Madrid**, 2014.

-Viaje al interior del cerebro: cognición y plasticidad. Facultad de Psicología, Universidad Autónoma de Madrid. **Madrid**, 2014.

-Human Brain Project. Plan de Formación Especializada del Imserso CRE de Alzheimer del Imserso. **Salamanca**, noviembre, 2014.

-El cerebro humano: Una perspectiva científica y filosófica. Universidad Popular Carmen de Michelena. Tres Cantos, **Madrid**, octubre 2015.

-El jardín de la neurología: Sobre lo bello, el arte y el cerebro. Biblioteca Nacional de España. XV Semana de la Ciencia. **Madrid**, noviembre, 2015.

-Innovación tecnológica y estrategia interdisciplinar para el estudio del cerebro. CINAC-Hospital Puerta del Sur y Universidad San Pablo CEU. **Madrid**, diciembre, 2015.

-Nuevas tecnologías para el estudio microscópico del cerebro. Hospital Universitario La Princesa. **Madrid**, abril, 2016.

-Nuevas tecnologías para el estudio del cerebro: "Human Brain Project". Hospital de la Santa Creu i Sant Pau. **Barcelona**, octubre, 2016.

-XII CICLO Seminarios de Biomedicina Hospital Universitario. Fundación Jiménez Díaz. Nuevas tecnologías para el análisis del cerebro: aplicaciones en la enfermedad de Alzheimer. **Madrid**, 17 noviembre, 2016.

-Sobre lo bello, el arte y la evolución del cerebro. Biblioteca Pública Municipal Eugenio Trías. Casa de Fieras de El Retiro. **Madrid**, febrero 16, 2018.

-El cerebro humano: una perspectiva científica y filosófica. Jam Science - Divulgación Científica, MOE. **Madrid**, febrero 20, 2018.

-Nuevas tecnologías para el estudio del cerebro: "Human Brain Project". Seminarios de Biomedicina 2018. Facultad de Medicina de la Universidad Complutense de Madrid. **Madrid**, marzo 1, 2018.

-Brain connectomics: exploring the connectome and synaptome. Salón de Actos del IBiS. Campus Hospital Universitario Virgen del Rocío. **Sevilla**, junio 25, 2019.

Nuevas tecnologías para el estudio de la enfermedad de Alzheimer: Proyecto Cajal Blue Brain. Asociación Por un Mañana Sin Alzheimer. **León**, octubre 8, 2019.

9.2 Seminars (International)

-Intrinsic organization of the primate cerebral cortex. Faculty of Medicine, University of Ancona. Ancona, **Italy**, 1987.

-Selective changes in the microorganization of the human epileptic cortex. Arthur M. Fishberg Research Center for Neurobiology. The Mount Sinai Medical Center. New York, **USA**, 1992.

-Microanatomy of the human cerebral cortex. University of Fribourg. Fribourg, **Switzerland**, 1993.

-Altered synaptic circuitry in the human temporal epileptogenic neocortex. Instituto Nazionale Neurologico "C. Besta". Milan, **Italy**, 1998.

-The human temporal epileptogenic neocortex. Faculty of Medicine, University of Verona. Verona, **Italy**, 1998.

-El proyecto Neurolab de la NASA. Hospital General de la Policía Nacional. Bogotá, **Colombia**, 1999.

-Ramón y Cajal: La Neurociencia en la Era Espacial. Academia Nacional de Medicina (Invitado especial). Bogotá, **Colombia**, 1999.

-Alterations of cortical circuits in human temporal lobe epilepsy. Institute of Experimental Medicine. Budapest, **Hungary**, 2001.

-Alteraciones corticales en pacientes con epilepsia del lóbulo temporal. Facultad de Medicina. Universidad de Guadalajara. Guadalajara, **México**, 2001.

-Alterations of cortical circuits in epilepsy. Ruhr-Universitat. Institut für Physiologie. Bochum, **Germany**, 2003.

-The pyramidal neuron in cognition. Instituto Pasteur. Paris, **France**, 2004.

-Cajal and the birth of modern neuroscience. Centre de Recherche Cerveau et Cognition. Toulouse, **France**, 2005.

-Cortical microcircuits: quantitative and evolutionary aspects, Centre de Recherche Cerveau et Cognition. Toulouse, **France**, 2005.

-Viaje al interior del cerebro a través de los dibujos de Cajal. Centro Cultural de España en México. **México**, 2005.

-Santiago Ramón y Cajal y el nacimiento de la neurociencia moderna. Instituto Nacional de Psiquiatría Ramón de la Fuente, México. **México**, 2005.

-Los circuitos corticales a través de la evolución y la organización microcolumnar de la corteza cerebral. Instituto Nacional de Psiquiatría Ramón de la Fuente, México. **México**, 2005.

-La neurona piramidal en la cognición, en el retraso mental y en la esquizofrenia. Instituto Nacional de Psiquiatría Ramón de la Fuente, México. **México**, 2005.

-Alteración de los circuitos corticales en pacientes epilépticos. Instituto Nacional de Psiquiatría Ramón de la Fuente, México. **México**, 2005.

-Alterations of cortical circuits in epilepsy" CHU Pitié Salpêtrière. Paris. **France**, 2005.

-Viaje al interior del cerebro a través de los dibujos de Cajal. Instituto Cervantes. Stockholm, **Sweden**, 2006.

-Viaje al interior del cerebro a través de los dibujos de Cajal. Instituto Cervantes/Facultad de Medicina. Belgrado, **Serbia**, 2006.

-Cajal: Ciencia y arte. Instituto Cervantes. Chicago, **USA**, 2007.

-The pyramidal neuron in cognition. Albert Einstein College of Medicine of Yeshiva University. New York, **USA**, 2008.

-Cajal: Ciencia y arte. Instituto Cervantes. New York, **USA**, 2008.

-Cajal: Ciencia y arte. Facultade de Medicina de Ribeirao Preto, **Brasil**, 2008.

-The subiculum, chandelier cells and epilepsy. Facultade de Medicina de Ribeirao Preto. **Brasil**, 2008.

-Cajal: Ciencia y arte. Instituto Cervantes. Rio de Janeiro, **Brasil**, 2009.

-Cajal: Ciencia y arte. Instituto Cervantes. Salvador de Bahia, **Brasil**, 2009.

-Cajal: Ciencia y arte. Instituto Cervantes. Brasilia, **Brasil**, 2009.

-Cajal: Ciencia y arte. Instituto Cervantes. Belgrado, **Serbia**, 2009.

-Alterations of synaptic circuits in epilepsy: hippocampal sclerosis. The Walton Centre for Neurology and Neurosurgery. Liverpool, **United Kingdom**, 2009.

-Cortical circuits and cognition. Instituto Pasteur. Paris, **France**, 2010.

-Paisajes Neuronales: Ciencia y arte. Instituto Cervantes. New Delhi, **India**, 2010.

-Celebrating a century of neuroscience progress: Three-dimensional electron microscope imaging of the cerebral cortex. Department of Neuroscience, Columbia University. New York. **USA**, 2011.

-Cortical microcircuits and Alzheimer's disease. Mount Sinai School of Medicine. New York, **USA**, 2011.

-Alzheimer's disease: The pyramidal neuron in cognition. Karolinska Institute. Stockholm, **Sweden**, 2011.

-β-amyloid plaques, Tau hyperphosphorylation and alterations of cortical circuits in Alzheimer`s disease. UCB Centre for CNS Innovation. Brainel'Alleud, **Belgium**, 2012.

-Brain connectomics: Connectome, synaptome and the siliconcortex. UCL School of Pharmacy. London, **United Kingdong**, March 2013.

-Exploring the synaptome: promising new technologies. Allen Institute for Brain Science. Seatle, **USA**, June, 2014.

-Exploring the synaptome: promising new technologies. Aula Golgi del Sistema Museale di Ateneo. Università degli studi di Pavia. Pavia, **Italy**, January, 2018.

-Brain connectomics: exploring the connectome and synaptome. Department of Anatomy & Neurobiology. Boston University School of Medicine. Boston, **USA**, 12 April 2018.

-Neuroscience Seminar Series: Brain Evolution: Reflections on the Human Nature of Cortical Circuits. Yale School of Medicine. New Haven, **USA**, 14 May, 2018.

-Brain connectomics: From Cajal to present. Societas Physiologicae Holmiensis. Fysiologföreningen. Peter Reichard Lecture Hall (Biomedicum), Karolinska Institute. Stockholm, **Sweden**, 23 November, 2021.

-Cajal y el descubrimiento del bosque neuronal. Instituto Cervantes. Stockholm, **Sweden**, 24 November, 2021.

-The human brain: a philosophical and scientific perspective. Corpus Curiosum (videoconference) 15 june, 2022.

9.3 Scientific Meetings and Congresses (National)

-II Congreso de la Sociedad Española de Neurociencia. **Barcelona**, 1987.

-Reunión Nacional sobre Redes Neuronales. Miraflores de la Sierra, **Madrid**, 1991.

-Cirugía de la Epilepsia (I Curso). Hospital de la Princesa. **Madrid**, 1992.

-Universidad Complutense. Cursos de Verano, El Escorial. **Madrid**, 1993.

-Cirugía de la Epilepsia (II Curso). Hospital de la Princesa. **Madrid**, 1994.

-VI Congreso de la Sociedad Española de Neurociencia. **Valladolid**, 1995.

-Universidad Internacional Alfonso VIII. **Soria**, 1995.

-La corteza cerebral asociativa. Curso Internacional de Postgrado. Universidad Autónoma. **Madrid**, 1996.

-IX Congreso Nacional de Histología. **Pamplona**, 1997.

-Los Límites de la Investigación. VI Foro Universitario Juan Luis Vives (Ayuntamineto de Valencia). **Valencia**, 1998.

-Neurociencias: Una visión integrada. Curso de Verano de San Roque. **Cádiz**, 1998.

-VIII Reunión interdisciplinar sobre poblaciones de alto riego de deficiencias. Organizado por GENYSI (Asociación Interdisciplinar para la Prevención y Atención Temprana de las Deficiencias). **Madrid**, 1998.

-XI Congreso Nacional de la Sociedad Española de Neurología. **Santiago de Compostela**, 1999.

-Jornadas sobre epilepsia. Colegio de Médicos. **Madrid**, 2000.

-Reunión de la Liga Andaluza contra la epilepsia. **Cádiz**, 2000.

-Homenaje a Santiago Ramón y Cajal. Facultad de Medicina. **Barcelona**, 2000.

-Las nuevas fronteras de las ciencias sociales y la educación infantil. Junta de Extremadura. Jarandilla, **Cáceres**, 2000.

-Acciones terapeúticas sobre la neurodegeneración. Universidad de Cádiz. Algeciras, **Cádiz**, 2000.

-L'evolució del cervell i l'origen de la parla humana. Museo de la Ciencia. **Barcelona**, 2001.

-The brain in the space. Instituto Nacional de Técnica Aeroespacial. **Madrid**, 2002.

-Ramón y Cajal: su vida y obra. El proyecto Neurolab de la NASA. Hospital Miguel Servet. **Zaragoza**, 2003.

-Simposium de Cierre del Año Cajal. El Legado Científico de Cajal. Colegio de Médicos. **Madrid**, 2003.

-Especializaciones del Cerebro Humano. Escuela de Neurociencias Santiago Ramon y Cajal. Universidad Menéndez Pelayo. **Valencia**, 2003.

-Importancia de Santiago Ramón y Cajal en el nacimiento de la neurociencia moderna. Congreso Cajal. **Zaragoza**, 2003.

-Circuitos corticales y esquizofrenia. VII Congreso Nacional de Psiquiatría. **Palma de Mallorca**, 2003.

-Importancia de la obra de Cajal en el nacimiento de la neurociencia moderna. Curso de formación del profesorado de enseñanza secundaria. Universidad Internacional Menéndez Pelayo. **Santander**, 2004.

-Microanatomia de las células piramidales de la corteza cerebral. IV Encuentros Atlánticos de Neurociencia. **A Coruña**, 2004.

-Cajal y el Proyecto Neurolab de la NASA. I Jornadas de Biología. **Palma de Mallorca**, 2004.

-El Cerebro: Misterios, mitos y realidades. I Jornadas de Biología. **Palma de Mallorca**, 2004.

-Alteraciones de los circuitos corticales en las epilepsias. II Curso de Invierno de epilepsia, Rascafria, **Madrid**, 2005.

-El cerebro humano: aspectos evolutivos. XV Xornadas de Filosofía. **Vigo**, 2005.

-Cerebro: Aspectos comparativos y evolución. Ciclo: Neurociencias: Homenaje a Santiago Ramón y Cajal. Centro de Apoyo al profesorado de Madrid (Comunidad de Madrid). **Madrid**, 2006.

-IIIª Reunión de Neumólogos y Cirujanos Torácicos de Hospitales Militares. Santiago Ramón y Cajal: la medicina del siglo XXI. Hospital Central de la Defensa. **Madrid**, 2005.

-Avances en etiopatogenia de la epilepsia. VIII Reunión Anual de la Sociedad Extremeña de Neurología. **Badajoz**, 2006.

-Aspectos básicos de los circuitos corticales y alteraciones en la epilepsia. Aula de Neurociencias "Neurocirugía funcional". Hospital de la Princesa. **Madrid**, 2006.

-Degeneración y reparación en el sistema nervioso. Aportaciones Científicas de Cajal y de la Escuela Histológica Española. Universidad de Valladolid. **Valladolid**, 2006.

-Cajal y la neurología del siglo XXI. Acto Académico de Celebración del Centenario de la concesión del Premio Nobel a D. Santiago Ramón y Cajal. **Zaragoza**, 2006.

-Las espinas dendríticas y cognición: alteraciones en patologías cerebrales. Los retos de la Biología Molecular en el inicio del Siglo XXI". Escuela de Biología Molecular "Eladio Viñuela". **Santander**, 2006.

-Santiago Ramón y Cajal. Premio Nobel de Fisiología o Medicina. Real Academia de Ciencias. **Madrid**, 2006.

-Cajal y las mariposas del alma. Ateneo de Madrid. **Madrid**, 2006.

-Santiago Ramón y Cajal: cien años del premio Nobel. Cajal y el enigma del cerebro Hospital Puerta de Hierro. **Madrid**, 2006.

-Un Siglo del Premio Nobel: la obra de Ramón y Cajal. Fundación CajaMurcia. Vigencia de Ramón y Cajal en la ciencia. **Murcia**, 2006.

-Las mariposas del alma: Un viaje desde el placer hacia la teoría de la mente. Curso de Verano. Universidad Complutense. San Lorezo de El Escorial, **Madrid**, 2006.

-Homenaje al Dr. Santiago Ramón y Cajal en el centenario de la concesión del Premio Nobel. Cajal y la Neurociencia en el Siglo XXI. Real Academia de Medicina y Cirugía. **Murcia**, 2006.

-Acerca de las Epilepsias Focales. Hospital Gregorio Marañón, Madrid/Janssen-Cilag Circuitos corticales y epilepsia. **Toledo**, 2006.

-Alteraciones de circuitos corticales. 4º Curso de Invierno de Epilepsia. El Paular, **Madrid**, 2007.

-2º Curso de Epilepsia. Desafíos en el diagnóstico de la epilepsia. Estructura de la corteza cerebral y el hipocampo. Universidad Complutense- Hospital Ruber Internacional. **Madrid**, 2007.

-Viaje al interior del cerebro humano. Fundación Provincial de Cultura de la Diputación de Cádiz. **Cádiz**, 2007.

-Cajal y la neuropatología. Reunión anual del Club Español de Neuropatología. Palacio de Congresos Barcelona. **Barcelona**, 2007.

-Circuitos corticales y Alzheimer. Cursos de Verano. El Escorial, **Madrid**, 2007.

-Cursos de Verano de la Universidad de Málaga: Evolución de la corteza cerebral. Ronda, **Málaga**, 2007.

-Displasia cortical y epilepsia. V Curso de Invierno de epilepsia. Rascafria, **Madrid**, 2008.

-Neuropatología aplicada en demencias: La células piramidales y cognición. Investigación en demencias: Traslación de la ciencia básica a la investigación clínica. **Barcelona**, 2008.

-Origen de la mente humana. Cursos de Verano de la Universidad de Málaga. Vélez, **Málaga**, 2008.

-Deterioro neuronal. Avances en neurología y las ciencias de la conducta. Cursos de Verano. El Escorial, **Madrid**, 2008.

-El hipocampo epiléptico. VI Curso de Invierno de epilepsia. Rascafria, **Madrid**, 2009.

-Viaje al interior del cerebro. I Setmana de la Recerca. Facultad de Medicina de la Universidad de Barcelona. **Barcelona**, 2009.

-Circuitos corticales y epilepsia. VI Reunión de la Sociedad Andaluza de Epilepsia. **Almeria**, 2009.

-Evolución darwiniana de la célula piramidal, cognición y enfermedad de Alzheimer. Simposio "de Darwin a Alzheimer". LI Congreso de la Sociedad Española de Geriatría y Gerontología. **Bilbao**, 2009.

-Bases biológicas de la plasticidad cerebral. Curso de Verano. Universidad Complutense. San Lorezo de El Escorial, **Madrid**, 2009.

-El lóbulo frontal epiléptico. VII Curso de Invierno de epilepsia. Rascafria, **Madrid**, 2010.

-Actualizaciones en la enfermedad de Alzheimer. Las espinas dendríticas y cognición: alteraciones de la enfermedad en la Alzheimer. Real Academia Nacional de Farmacia y la Fundación José Casares Gil. **Madrid**, 2010.

-Cognitive enhancement and cortical dendritic spines. Cerebro y cognición. Potenciación de las capacidades mentales. CUIMPB-Centro Ernest Lluch. **Barcelona**, 2010.

-Neuroestetica: cerebro, mente y belleza. Universidad Complutense. Cursos de Verano. El Escorial, **Madrid**, 2010.

-La subjetividad: aspectos neurobiológicos, psico(pato)lógicos y autobiográficos. Universidad Internacional Menéndez Pelayo. **Santander**, 2010.

-El lenguaje de las neuronas. Universidad Internacional Menéndez Pelayo. **Santander**, 2010.

-VII Simposio Avances en la enfermedad de Alzheimer. Fundación Reina Sofía/Fundación CIEN. **Madrid**, 2010.

-Neuroplasticidad. Reunión científica "Neurofarmacología Creativa". **Madrid**, 2010.

-Viaje al interior del cerebro humano. VIII Curso de Invierno de epilepsia. Rascafria, **Madrid**, 2011.

-Hacia dónde va la investigación en Alzheimer. XI JORNADAS AFALcontigo. Alzhéimer Aspectos sanitarios y farmacológicos. **Madrid**, 2011.

-Circuitos corticales en la Enfermedad de Alzheimer: aportaciones del proyecto Cajal Blue Brain. 7ª Edición de los Cursos de Verano de la UPM en el Real Sitio de San Ildefonso. La Granja, **Segovia**, 2011.

-Three-dimensional imaging of the cerebral cortex. XIV Congreso Nacional de la SENC. **Salamanca**, 2011.

-Circuitos Corticales y cognición: El proyecto Cajal Blue Brain. Nuevas perspectivas para el trabajo en Salud Mental". Servicio de Psiquiatría y Salud Mental del Hospital 12 de Octubre y Oficina Regional de Salud Mental y la Agencia Laín Entralgo. Hospital 12 de Octubre. **Madrid**, 2011.

-La enfermedad de Alzheimer: Alteraciones de los circuitos neuronales y deterioro cognitivo. Ciclo de Conferencias 'Alzheimer' del Museo Elder de la Ciencia y la Tecnología. **Las Palmas de Gran Canaria**, 2011.

-II Reunión Internacional de actualización en esquizofrenia. **Salamanca**, 2011.

-VII Curso de Especialista en "Discapacidad Infantil. Diagnóstico y Rehabilitación. Hospital Infantil Universitario Niño Jesús. **Madrid**, 2011.

-Curso cuidados centrados en el neurodesarrollo del pretérmino. Hospital General Universitario Gregorio Marañón. **Madrid**, 2012.

-VII Curso-Seminario de Neurohistoria (SEN). Pitágoras, Cajal y la plasticidad cerebral. Atenas, **Grecia**, 2012.

-Curso de Humanidades Contemporáneas. Facultad de Medicina (UAM). **Madrid**, 2012.

-Neuroanatomía celular (Microorganización de la corteza cerebral y epilepsia. IX Curso de Invierno de epilepsia. Rascafria, **Madrid**, 2012.

-Alteraciones de los circuitos corticales y deterioro cognitivo en la enfermedad de Alzheimer. II Congreso Nacional de Demencias y Enfermedad de Alzheimer. **Almeria**, 2012.

-Proyecto Alzheimer 3π. VIII Simposio sobre Avances en la enfermedad de Alzheimer. Fundación Reina Sofía–Fundación CIEN. **Madrid**, 2012.

-Plasticidad cerebral, envejecimeinto y neurodegeneración. XIX Foro de Neurociencias de la Cátedra de Neurociencias Clínicas UAM-Novartis y del IdiPAZ. Facultad de Medicina de la Universidad Autónoma de Madrid. **Madrid**, 2012.

-Investigar en épocas de crisis. Nuevas tecnologías para el estudio microscópico del cerebro en la enfermedad de Alzheimer. Fundación Ramón Areces, Fundación Pfizer e Instituto de Salud Carlos III. **Madrid**, 2012.

-Reunión sobre Innovación Laboratorios Roche Farma. **Córdoba**, 2013.

-Nuevas tecnologías para el estudio microscópico del cerebro: The Human Brain Project. XI Curso de Invierno de Epilepsia. La Granja, **Segovia**, 2014.

-Cerebro, evolución y creatividad intelectual. XXXVI Curso de Humanidades Contemporáneas de la Facultad de Medicina de la Universidad Autónoma de Madrid, "Cerebro, mente y comportamiento. De la evolución al deterioro". **Madrid**, 2014.

-Viaje al interior del cerebro: Cajal Blue Brain y Human Brain Project, TecnoRevolución: la era de las tecnologías convergentes". Fundación Telefónica. **Madrid**, 2014.

-Viaje al Interior del Cerebro Humano. El cerebro humano y las máquinas pensantes. Instituto de la Ingeniería de España. **Madrid**, 2014.

-El Proyecto Cerebro Humano de la Comisión Europea. Retos de la Neurociencia en el siglo XXI. Fundación Tatiana Pérez de Guzmán el Bueno. Real Academia Nacional de Medicina. **Madrid**, 2014.

-Nuevas tecnologías para el estudio microscópico del cerebro. Avances en imagen biomédica: del laboratorio a la clínica. Curso de Verano. Universidad Complutense. San Lorezo de El Escorial, **Madrid**, 2014.

-Viaje al centro del cerebro. Inteligencia artificial y porvenir de la especie humana. Curso de Verano. Universidad Internacional Menéndez Pelayo. **Santander**, 2014.

-Viaje al interior del cerebro: nuevas tecnologías y estrategia interdisciplinar. Ciclo de Conferencias 75 años CSIC. Real Jardín Botánico del CSIC. **Madrid**, 2014.

-Plasticidad Cerebral. I Congreso sobre el DCA Catilla y León. **Valladolid**, 2014.

-Reflexiones sobre el arte y el cerebro: el bosque neuronal. Arte y Ciencia. Fundación "la Caixa"/CSIC Illes Balears. **Palma de Mallorca**, noviembre, 2014.

-Nuevas tecnologías para el estudio de las alteraciones de circuitos neuronales en demencia.V Curso de Formación Interdisciplinar en Demencias Neurodegenerativas. Fundación CIEN/CIBERNED y UNED. **Madrid**, 2015.

-Proyecto "Human Brain Project". Semana Mundial del Cerebro. **Barcelona**, 2015.

-VI Jornada Educativa/Neurodidáctica. Últimos avances de las neurociencias. Fundación Rafael del Pino. **Madrid**, 2015.

-Simposio: "Los contactos neuronales vistos por Cajal". El descubrimiento de las espinas dendríticas. Real Academia Nacional de Medicina. **Madrid**, octubre, 2015.

-XIII Foro de innovación social. El futuro ya está aquí: El nuevo paradigma de las organizaciones sociales. "Cerebro, una perspectiva histórica, científica y humanística". Casa de América. **Madrid**, 2015.

-Madrid Convention Bureau. Neurociencia, neuromarketing y neuroeventos. Introducción a la Neurociencia: el cerebro. Real Fábrica de Tapices. **Madrid**, diciembre 2015.

-La Belleza del Cerebro. Sobre lo Bello, el Arte y el Cerebro. Jornada: Fronteras de la Neurociencia (I). **Sevilla**, 19 de febrero, 2015.

-Avanzando en el conocimiento del cerebro. Proyectos Cajal Blue Brain y Human Brain. XIV Reunión Anual de la Asociación Madrileña de Neurología. **Madrid**, octubre 21, 2016.

-¿Podremos construir un modelo virtual del cerebro? La apuesta del Human Brain Project. Ibercaja Obra Social. Ciclo: Ciencia por descubrir. **Zaragoza**, octubre 25, 2016.

-Tranformación digital de la sociedad: Modelo virtual del cerebro. Casa de cultura de la Diputació de Girona. Ontologia del fet de conversar: un diàleg entre el cervell i les TIC. **Girona**, noviembre 3, 2016.

-Nuevas tecnologías para el estudio microanatómico del cerebro de pacientes con EM. V Symposium de Neuroinmunología: "Esclerosis Múltiple". Hospital Universitario La Paz - Universidad Autónoma de Madrid. **Madrid**, diciembre 14, 2016.

-Avanzando en el conocimiento del cerebro. Proyectos Cajal Blue Brain y Human Brain. XIV Reunión Anual de la Asociación Madrileña de Neurología. **Madrid**, octubre 21, 2016.

-La relevancia de la plasticidad cerebral en un envejecimiento activo. Ronpiendo Fronteras en la Investigación sobre Envejecimiento. Fundación General CSIC. Residencia de Estudiantes. **Madrid**, diciembre 19, 2017.

-Plasticidal neuronal y el Human Brain Project. I Congreso Nacional de Daño Cerebral. Centro Universitario San Rafael - Nebrija. **Madrid**, marzo 16, 2018.

-Naturaleza humana del cerebro humano. III Jornadas Científica Fundación Clínica Rocío Vázquez. "La fascinante complejidad del cerebro humano". **Sevilla**, junio, 22, 2018.

-Nuevas tecnologías para el estudio del cerebro: Redes Neuronales. IV Foro Actualización en Epilepsia. Palacio de Santoña. **Madrid**, junio, 23, 2018.

-Naturaleza humana del cerebro humano. Jornada Psicoanálisis y Neurociencias. Sección de Psicoanálisis de la AEN y Servicio de psiquiatría del niño y del adolescente del HGUGM. Hospital General Universitario Gregorio Marañón. **Madrid**, septiembre 28, 2018.

-Cerebro y creatividad: una vía de expresión de lo bello. Simposio Fundación del Cerebro. LXX Reunión Anual de la Sociedad Española de Neurología. **Sevilla**, noviembre 2018.

-Descifrando el cerebro: de su anatomía y actividad a sus patologías. Nuevas tecnologías para el estudio del cerebro: Proyecto Cajal Blue Brain. Salón de Grados, Sección de Medicina Facultad de Ciencias de la Salud. Universidad de La Laguna. **Tenerife**, mayo 17, 2019.

-Diálogo entre Neurología y Arte. El jardín de la Neurología. II Encuentro "Ciencia, Arte, Creatividad" organizado por la Fundación Botín y la UIMP. Centro Botín. **Santander**, septiembre, 9-10, 2019.

-Cajal en el Siglo XXI. Universidad Complutense de Madrid. **Madrid**, octubre 25, 2019.

-Demencias: El gran reto del envejecimiento. Hospital Clínico San Carlos. **Madrid**, noviembre 26, 2019.

-Santiago Ramón y Cajal. 150 años en la Universidad de Zaragoza. Nuevas tecnologías para el estudio del cerebro: Desde Cajal a nuestros días. Paraninfo - Sala Aula Magna. **Zaragoza**, diciembre 12, 2019.

-Cosejo Social de la UPM. Los avances de la ingeniería biomédica y biomedicina, y sus implicaciones en el mundo de la salud: el cerebro. "El cerebro humano: una perspectiva científica y filosófica". ETS de Ingenieros Industriales. **Madrid**, marzo 6, 2020.

-Cajal y el nacimiento de la neurociencia moderna. Semana/Ciencia/innovación. Hospital Universitario 12 de Octubre. **Madrid**, noviembre 4, 2020.

-El cerebro humano: una perspectiva científica y filosófica. Explorando las fronteras neurológicas y psiquiátricas en los trastornos depresivos. Lunbeck. **Madrid**, noviembre 10, 2020.

-Cajal y el descubrimiento del bosque neuronal. Ciclo de Conferencias de la Exposición Santiago Ramón y Cajal. Museo Nacional de Ciencias Naturales. **Madrid**, noviembre 20, 2020.

-Viaje al interior del cerebro a través de las nuevas tecnologías. 2nd International Congress y XLVII Jornadas Nacionales de Socidrogalcohol. Con la colaboración de Excelsis. **Madrid**, diciembre 3, 2020.

-Cajal y las espinas dendríticas. Plantación de la rosa Santiago Ramón y Cajal. Hospital Universitario 12 de Octubre. **Madrid**, mayo 13, 2021.

-Colores en un bosque neuronal. Fundación Telefónica. **Madrid**, octubre 27, 2021.

–Cajal y el descubrimiento del bosque neuronal. Ciclo de Conferencias: "El legado de Ramón y Cajal". Sala Jerónimo Zurita. Edificio Pignatelli. **Zaragoza**, noviembre 13, 2021.

-El cerebro humano: una perspectiva científica y filosófica. XVIII Curso de Invierno de Epilepsia., La Granja, **Segovia**, febrero 18, 2022.

- Exposición Ramón y Cajal, Ciencia y Arte. Mesa redonda. Cajal artista. Universidad Camilo José Cela. **Madrid**, junio 21, 2022.

- Cajal y el nacimiento de la neurociencia moderna, Homenaje Simposio Santiago Ramón y Cajal. Colegio de Médicos de Navarra. **Pamplona**, septiembre 27, 2022.

-Mesa redonda "Enterder la Neurociencia". I Jornada de Edición no literaria de la Comunidad de Madrid. Biblioteca Regional de Madrid Joaquín Leguina. **Madrid,** 7 de noviembre 2022.

- La importancia de la figura de Cajal y su influencia en nuestros días. Semana de la Ciencia simposio “Desde la Neurociencia de Cajal a las nuevas metodologías de diagnóstico e intervención en las enfermedades neuropsiquiátricas” Salón de Actos de la Biblioteca Histórica Marqués de Valdecilla, Universidad Complutense de **Madrid**, noviembre 11, 2022.
- Cajal y la plasticidad del cerebro. Semana de la Ciencia. Salón de Actos, edificio Materno-Infantil.. Hospital Universitario 12 de Octubre. **Madrid**, noviembre 17, 2022.

9.4 Scientific Meetings and Congresses (International)

-International Meeting on Visual Neuroscience. Santiago de Compostela, **Spain**, 1988.

-Hispano-Swedish meeting. Frontiers in Neurobiology. Madrid, **Spain**, 1992.

-Excitatory amino acids and the cerebral cortex. Portonovo Bay, **Italy**, 1995.

-Conference on structure, function and development of thalamus and cortex. Riken Brain Science Institute. Susono, **Japan**, 1996.

-Local Neocortical Circuits. Ben-Gurion, **Israe**l, 1997.

-1st Mediterranean Neuroscience Conference. Montpellier, **France**, 1997.

-International Work-Conference on Artificial and Natural Neural Networks. Lanzarote, **Spain**, 1997.

-Mechanisms involved in visual perception. Instituto Juan March. Madrid, **Spain**, 1998.

-Curso Internacional del Programa de Doctorado en Neurociencia de la Universidad Autónoma. La corteza cerebral asociativa. Madrid, **Spain**, 1998.

-Neocortical Columns. Weizmann Institute of Science. Behovot, **Israel**, 1999.

-4th European Congress on Epileptology. Florence, **Italy**, 2000.

-Computation in the Cortical Column. Breckenridge, Colorado, **USA**, 2000.

-El cerebro en el espacio: La misión Neurolab de la NASA. XXV Aniversario del Centro de Investigación Biomédica de Occidente. Guadalajara, **México**, 2001.

-The structure of the cortical microcircuit. Instituto Juan March de Estudios e Investigaciones. Madrid, **Spain**, 2002.

-The pyramidal neuron and mental retardation. X International Meeting: Molecular Biology of Chromosome 21 and Down Syndrome. Sitges, Barcelona, **Spain**, 2002.

-Synaptic circuits in cortical dysplasias. 5th European Congress on Epileptology. Madrid, **Spain**, 2002.

-Second International Symposium Space Science in the Third Millennium-Future Explorations. Valencia, **Spain**, 2002.

-Human GABAergic cortical microcircuitry: Cathecolaminergic interneurons. Instituto Juan March de Estudios e Investigaciones. Madrid, **Spain**, 2003.

-Microstructure of the neocortex: Comparative aspects and Specificity of Synaptic Connectivity. "Brain in Montion". EPFL. Lausanne, **Switzerland**, 2003.

-Alteraciones de los circuitos corticales en pacientes epilépticos. III Simposium Internacional sobre Cirugía de la Epilepsia. Fundación Areces. Madrid, **Spain**, 2003.

-Cortical Interneurons: From Cajal to 2003. IZN Retreat. Kloster Schöntal, **Germany**, 2003.

-Cortical histology: From Cajal to present. 6th IBRO World Congress of Neuroscience. Praga, **Czech Republic**, 2003.

-Microcircuits: The interface between neurons and global brain function. Dahlem Konference. Berlin, **Germany**, 2004.

-Microcircuitry of the Cortical Column. Cold Spring Harbor. Laurel Hollow, New York, **USA**, 2004.,

-The thalamocortical assembly. Neuronal mechanisms for sensation and action. University of California, Davis, **USA**, 2004.

-Microestructure of the cerebral cortex: Comparative aspects. FENS. Lisboa, **Portugal**, 2004.

-The pyramidal neuron in cognition. III International meeting for Network on Experimental Models of CNS Diseases. Barcelona, **Spain**, 2004.

-Forum Barcelona. The Social Brain. Biology of Conflict and Cooperation. Barcelona, **Spain**, 2004.

-Cajal and the birth of modern neuroscience. L'école européenne d'épistémologie en neurosciences. Hendaye, **France**, 2004.

-Reflections on the structure of the cortical minicolumn. 7th Annual meeting of Ibangs. Sitges, Barcelona, **Spain**, 2005.

-Double bouquet cells in monkey and human cerebral cortex, with emphasis on areas 17 and 18. European Conference on Visual Perception (ECVP, 2005). La Coruña, **Spain**, 2005.

-The subiculum in the sclerotic hippocampus of epileptic patients. The Subiculum in Normal and Pathological Brain Function. Oxford, **United Kingdom**, 2005.

-Cajal y los procesos mentales. Centenario de la concesión del Premio Nobel a don Santiago Ramón y Cajal, 1906-2006. International Symposium. 100 Years of Neurobiology. CSIC. Madrid, **Spain**, 2006.

-Joint Meeting of the Anatomical Society of Great Britain and Ireland and the Spanish Anatomical Society. Specializations of the Human Cortex. Madrid, **Spain**, 2006.

-Celebrating a Century of Neuroscience Progress after the 1906 Nobel Prize. Cajal in the garden of neurology. Stockholm, **Sweden**, 2006.

The legacy of Ramon y Cajal: different kinds of grey matter and their functional significance. Max-Planck-Institute. Tübingen, **Germany**, 2006.

-FDS Neurosciences Seminar. Cognition: from Genes to Function. The pyramidal cell in cognition. Soria, **Spain**, 2006.

-III Symposium. Advances in Alzheimer`s disease. Ministry of Health and Consumer Affairs. Presided by her Majesty the Queen Sofia. Madrid, **Spain**, 2006.

-Premier Symposium Común des Instituts Cajal et Pasteur. Comparative structure of cortical circuitry. Instituto Pateur, Paris, **France**, 2006.

-Focus on Epileptogenesis. The subiculum in the sclerotic hippoampus of epileptic patients. Policlinico Umberto I. Roma, **Italy**, 2006.

-Functional Cellular Neuroimaging and Microscopy: "The Pyramidal neuron in cognition". The Open University. Mylton Keynes, **United Kingdom**, 2007.

-Symposium Club Cajal: Dendritic spines in cortical pathologies. Querétaro, **México**. 2007.

-From Molecules to Cognition. A tribute to Jean-Pierre Changeux. Institut Paster. Paris, **France**, 2007.

-Chandelier hypothesis for the development of epilepsy. Mechanisms of Drug Resistance in Epilepsy. Faculty Club of the Katholieke Universiteit. Leuven, **Belgium**, 2008.

-Dendritic spines and Alzheimer's Disease. 5th Symposium Advances in Alzheimer's Disease. Madrid, **Spain**, 2008.

-Computations in Neocortical Circuits. The synaptic organization of the perisomatic region of pyramidal cells. Howard Hughes Medical Institute, Janelia Farm Campus. Ashburn, VA, **USA**, 2009.

-Cortical microcircuits and Alzheimer disease. FDS Neurosciences Seminar. What is new in Alzheimer disease. Soria, **Spain**, 2009.

-Brain/Body Communication. The endocrine Connection. Gender differences in human cortical synaptic density. The Neuroscience Institute, Loyola University Chicago, **USA**, 2009.

-Brain/Body Communication. The endocrine Connection. Cajal and the neuron theory: the beginning of modern neuroscience. The Neuroscience Institute, Loyola University Chicago, **USA**, 2009.

-The human connectome: views from MRI and microscopy. Specializations of the cortical microstructure of humans. Seoul, **Korea**, 2010.

-The Cajal Blue Brain: Three-dimensional electron microscope imaging of the cerebral cortex. 16th Annual Meeting of the Organization for Human Brain Mapping. Barcelona, **Spain**, 2010.

-Cinvestav. 50 Anniversary. Science and Technology for Development, a Global Perspective. Multinational colloquium. Celebrating a century of neuroscience progress after the studies of Cajal. Center for Research and Advanced Studies, **México**, 2010.

-Microorganization of the cerebral cortex and 3D electron microscopy. First Yale-Cajal joint Symposium on Neurobiology, Instituto Cajal. Madrid, **Spain**, 2011.

-Dendritic spines and Alzheimer's disease. Global Alzheimer's Research Summit. Palacio de Congresos de Madrid. **Spain**, 2011.

-In memoriam: Ted G. Jones. Cajal Club Social. Washington, **USA** 2011.

-Brain connectomics. R&D International Symposium on Biology and Commmunications. Fundación Areces. Madrid, **Spain**, 2012.

-Species-specific variations in GABAergic interneurons. Cortical Interneurons in Health and Disease". EMBO Workshop. Palma de Mallorca, **Spain**, 2012.

-Microscopic visualization of the brain: From Cajal to present.Neuroscience 2012 Madrid: from neuron to nets, from brain models to neuro-regeneration. Fundación Areces. Madrid, **Spain**, 2012.

-Cajal, the neuron theory and modern connectomics. Cortex and Thalamus: Mechanisms of Development and Function (Cajal Club: FENS satellite meeting). Barcelona, **Spain**, 2012.

-Introduction to symposium in honor of Ted Jones. The thalamus. Cajal Club: FENS satellite meeting). Barcelona, **Spain**, 2012.

-Cajal's from the perspective of systems Neuroscience: the basic plan of the nervous system. FENS social event "History of Neuroscience". Museu de Ciències Naturals, Museu Blau. Barcelona, **Spain**, 2012.

-MIT Madrid+Vision Horizon Lectures. Brain connectomics: connectome, synaptome and the siliconcortex. Hospital Gregorio Marañón. Madrid, **Spain**, 2012.

-First Meeting of translational research in mental and neurodegenerative diseases. Círculo de Bellas Artes. Madrid, **Spain**, June 14-15, 2013.

-The pyramidal neuron in cognition: Aging and Alzheimer's disease. The Senescent Synapse (Satellite Symposium of the 64th Meeting of the Italian Physiological Society), Portonovo di Ancona, **Italy**, September, 2013.

-Aprendizaje y neurociencia. ¿Qué podemos aprender de la resiliencia. II Congreso Europeo de Resiliencia. Universidad del País Vasco. Bilbao, **Spain**, 2013.

-El estudio del cerebro: ciencia y arte. I Jornada Internacional sobre Neuroestética. Instituto de Salud Carlos III, Madrid, **Spain**, 2014.

-Función inhibitoria cortical. III Jornadas Internacionales de Actualización en esquizofrenia, Valladolid, **Spain**, 2014.

-GE Healthymagination Brain Trust III and Kavli Futures Symposium. Neuro Data Without Borders. Kavli Royal Society International Centre Chicheley Hall. Buckinghamshire, **United Kingdom**, May, 2014.

-Workshop: Studying Human Cortical Circuitry in a Dish. Allen Institute for Brain Science. Seatle, **USA**, June, 2014.

-Workshop: Human Brain Project (HBP) Science Centres & Museums Programme. Campus Biotech, Geneva, **Switzerland**, March, 2015.

-Workshop: HBP Hippocamp CA1: Collaborative and Integrative Modeling of Hippocampal Area CA1. UCL School of Pharmacy. London, **United Kingdom**, March, 2015.

-Feed-forward and feedback processing: anatomy, function and physiology. Focal nature of pyramidal cell axons and patterns of synaptic inputs on pyramidal cells. EITN, Paris **France**, April 6-7, 2017.

-Blue Brain and Human Brain Project. V Congreso Internacional de Patología Dual sobre salud mental y adicciones. Madrid, **Spain**, 23-25 March 23rd, 2017.

-Synaptic organization of the CA1 neuropil. Workshop: HBP Hippocamp CA1 II: Collaborative and Integrative Modeling of Hippocampal Area CA1. EITN. Paris **France**, May 23-24, 2017.

-Brain connectomics: exploring the connectome and synaptome. Workshop "Different elements of primate neural networks in the connectome era". Erice Ettore Majorana Centre. Erice, Sicily, **Italy**, June 27-29. 2017.

-Brain evolution: Reflections on the human nature of cortical circuits. First HBP Curriculum Workshop Series. Understanding the Brain: Neurobiology for Non-specialists. Medical University Innsbruck, Department of Pharmacology. Innsbruck, **Austria**, July 3-6, 2017.

-Similarities between the universe and microscopic world of the brain: two parallel worlds? XVI Summer "Teófilo Hernando's" School of Pharmacology of the Menéndez Pelayo's International University (UIMP, Universidad Internacional Menéndez Pelayo). Santander, **Spain**, July 24-28, 2017.

-The Anatomical Problem Posed by Brain Complexity and Size: A Potential Solution. XVI Summer "Teófilo Hernando's" School of Pharmacology of the Menéndez Pelayo's International University (UIMP, Universidad Internacional Menéndez Pelayo). Santander. **Spain**, July 24-28, 2017.

-Homage to Ramon y Cajal, implications for modern neuroscience. The very essence of what we are – neuroscience symposium. Society of Spanish Researchers in the United Kingdom. Oxford, **United Kingdom**, November 4, 2017.

-Mapping the Brain. Simposio internacional Ars Incognita. Centro de Creación Contemporánea de Andalucía en Córdoba (C3A). Córdoba, **Spain**, March 17, 2018.

-Cortical cell type differences and similarities in different species: human cortical circuit specializations. Fall Brain Conference "The Necessity of Cell Types for Brain Function". Moltkes Palæ. Copenhagen, **Denmark**, October 7-10, 2018.

-Species differences in the morphology and neurochemical features of cortical interneurons. SfN euroscience, minisymposium "Multidimensional Neuronal Cell Type Classification in the Cerebral Cortex". San Diego, **USA**, November 6, 2018.

-Conversations on Cajal. Cajal Club Social. Chicago, **USA**, 2019.

-New technologies to study the brain: Alzheimer's disease. Clinical techniques and challenges in patient treatment. Centro Alzheimer Fundación Reina Sofía. Madrid, **Spain,** October 25.

-Network science for cortical circuits: specificity versus regularity. Brain connectomics. EITN. Paris, **France**, December 4-5, 2019.

-Brain connectomics: From Cajal to present. Emerging Topics in Artificial Intelligence. SPIE Optics + Photonics 2021. San Diego, **USA**, August 1-5, 2021.

-Panel discussion "Creative interventions at the interface of neuroscience and artificial intelligence". Brain Innovation Days. Brussels (**Belgium**) October 13, 2021.

-Neurotwin-Workshop. Connectome, synaptome and AD. Barcelona, **Spain**, March 22, 2022.

-Human nature of the human cerebral cortex. III SIMPOSIO Fernando Reinoso Suárez "The exceptional cerebral cortex of humans: development, neurons, function and vulnerability". Fundación Tatiana Pérez de Guzmán el Bueno. Madrid, **Spain**, October 21, 2022.

9.5 Plenary and keynote lectures (National)

-Conferencia inaugural. Homenaje a Santiago Ramón y Cajal. **Zaragoza**. 2002.

-Cultura y cerebro (Conferencia de clausura). 1er Congreso de Estudiantes. Universidad Ramon Llull. **Barcelona**, 2002.

-Conferencia Inaugural. II congreso de Veterinaria y Ciencias Afines. Facultad de Veterinaria. **Madrid**, 2003.

-Conferencia Inaugural. Ramón y Cajal y la Neurociencia en el siglo XXI. Ciclo Complutense de Salud, Sociedad y Discapacidad. Universidad Complutense de Madrid. **Madrid**, 2006.

-Conferencia "Santiago Ramón y Cajal". LVII Reunión Anual de la Sociedad Española de Neurología. Barcelona, 2006.

-Acto de inauguración de la exposición "Paisajes Neuronales". Viaje al interior del cerebro a través de los dibujos de Cajal. Fundación la Caixa. **Barcelona**, 2006.

-Conferencia Inaugural, Seminarios de Biomedicina. Cognición y circuitos corticales.. Instituto Aragonés de Ciencias de la Salud. **Zaragoz**a, 2008.

-Conferencia Magistral. Hospital Clínic-IDIBAPS y la Fundación Clínic para la Investigación Biomédica. **Barcelona**, 2009.

-Conferencia inaugural. II Encuentro Multidisciplinar de Sociedades Científicas. Alcalá de Henares. **Madrid**, 2009.

-Alzheimer y Arte. Entrega de Premios Osakidetza a la Innovación en Gestión. **Vitoria**, 2009.

-Conferencia de Clausura. Jornada sobre Neurobiología. Instituto de Salud Carlos III. Circuitos corticales y cognición: la enfermedad de Alzheimer. **Madrid**, 2010.

-Conferencia de Clausura. XVII Congreso Nacional y XI Internacional de Medicina General y de Familia. **Granada**, 2010.

-Conferencia Inaugural. Sociedad de Pediatría de Madrid y Castilla-La Mancha. **Madrid**, 2010.

-Conferencia de Clausura. Primeras Jornadas Formativas para Residentes sobre Sistema Nervioso Central. **Madrid**, 2010.

-Conferencia Plenaria. 4º FORO CIBERNED. Alteración de los circuitos corticales en la enfermedad de Alzheimer. **Santander**, 2010.

-Conferencia de Bienvenida. VIII Edición del Curso "Las Demencias en la Práctica Clínica: Temas no Resueltos" Laboratorios Janssen. **Valladolid**, 2011.

-Conferencia de Clausura. Viaje al interior del cerebro: El proyecto Cajal Blue Brain. Semana Internacional del Cerebro. Hospital Nacional de Parapléjicos. **Toledo**, 2011.

-Lección Inaugural. Ingeniería, arquitectura cerebral y la neurociencia del siglo XXI. Acto de apertura del curso 2011-2012 de la Universidad Politécnica de Madrid. **Madrid**, 2011.

-Conferencia Inaugural. VII Jornadas Complutenses, VI Congreso Nacional de Investigación para Alumnos de Pregraduados en Ciencias de la Salud y XI Congreso de Ciencias Veterinarias y Biomédicas. **Madrid**, 2012.

-Conferencia de Clausura. El hilo de la Investigación. Alzheimer, El hilo de Ariadna (Novartis). **Madrid**, 2012.

-Conferencia Magistral. El cerebro humano: una perspectiva científica y filosófica. Jornada de presentación del Instituto Universitario de Investigación en Neuroquímica (Universidad Complutense de Madrid). **Madrid**, 2012.

-Conferencia Magistral. Viaje al interior del cerebro: Proyecto Cajal Blue Brain. Premios MSD a la investigación biomedical para Residentes Hospital Universitario Ramón y Cajal. **Madrid**, 2012.

-Conferencia inaugural. X Viaje al interior del cerebro: Proyecto Cajal Blue Brain II Ágora de neuroexpertos. Novartis, **Valencia**, febrero 2013.

-Conferencia inaugural: "Conectoma y sinaptoma humano. Proyecto Blue Rain". Sección de Neurociencia Clínica de la Asociación Española de Neuropsiquiatría. Complejo Asistencial de Segovia. **Segovia**, febrero 2013.

-Conferencia inaugural: Seminario Anual del Centro de Investigación en Electrónica Industrial de la UPM. Cutting-edge technologies for the 2020 horizon. A new strategy to study the brain: the human brain project. **Madrid**, marzo 2013.

-Conferencia de Clausura: XII Certamen Universitario Arquímedes. Universidad Politécnica de Madrid. Sobre lo bello, el arte y la evolución del cerebro. **Madrid**, noviembre 2013.

-Conferencia de Clausura: Impulsando una revolución en epilepsia (Eisai). Cerebro: innovación tecnológica y estrategia interdisciplinar. **Madrid**, febrero 2014.

-Keynote: Exploring the synaptome: promising new technologies. Neurogune 2014 - 2nd Basque Neuroscience meeting. **San Sebastian**, 2014.

-Conferencia "Nuevas Tecnologías para el estudio del cerebro y su aplicación en la enfermedad del Alzheimer ". Día mundial del Alzheimer, Componiendo el Futuro. Asociación de familiares de enfermos de Alzheimer. **Soria**, septiembre, 2014.

-Conferencia Magistral: XXXVII Reunión Sociedad Andaluza de Neurología. **Málaga**, octubre, 2014.

-Conferencia de clausura: Nuevas tecnologías para el estudio de la neuropatología degenerativa. Sociedad Española de Neuropatología. **Valencia**, noviembre, 2014.

-Conferencia plenaria: Innovación tecnológica y estrategia interdisciplinar para el estudio de la enfermedad de Alzheimer. FARMADRID-24 (Reunión de Farmacólogos de la Comunidad de Madrid). **Madrid**. julio, 2015,

-Conferencia Magistral: Nuevas tecnologias para el estudio del cerebro: Human Brain Project. VIII Congreso de Educación Médica de la Universidad Complutense de Madrid. **Madrid**, septiembre, 2015.

-Lección Conmemorativa del XXXVIII Aniversario del Hospital Universitario Ramón y Cajal. Análisis del cerebro: innovación tecnológica y estrategia interdisciplinary. **Madrid**, octubre, 2015.

-Conferencia de Clausura. Reconstrucciones digitales de circuitos corticales y su aplicación al estudio de las enfermedades neurológicas. XIII Curso de Invierno de Epilepsia. La Granja, **Segovia**, febrero 18-20, 2016

-Conferencia Inaugural: "Nuevas tecnologías del estudio del cerebro"III Jornadas en Neurociencias. Universidad Europea de Madrid, Campus de Villaviciosa de Odón. **Madrid**, marzo, 2016.

-Conferencia Inaugural: Nuevas tecnologías para el estudio de la enfermedad de Alzheimer. Inauguración del XXXIX minicongreso de investigación biomédica. Facultad de Medicina (UAM). **Madrid**, abril, 2016.

-Conferencia plenaria: Sobre lo bello, el arte y la evolución del cerebro. X Simposi de Neurobiologia, Societat Catalana de Biologia. **Barcelona**, octubre, 2016.

-Conferencia Inaugural: Circuitos corticales y cognición. Reunión de expertos: Intercambio de experiencias en el tratamiento clínico de la depresión (laboratorios Lundbeck). **Madrid**, marzo 10, 2017.

-Conferencia Inaugural: La conectividad cerebral: El Cajal visionario. XIV Reunión de la Sociedad Andaluza de Epilepsia. **Málaga**, marzo 31, 2017.

-Conferencia Magistral: Sobre lo bello, el arte y el cerebro. ICON (Novartis). **León**, mayo 6, 2017.

-Conferencia plenaria: El cerebro Humano. Perspectiva Científica y Filosófica. II Jornadas de la Sociedad Española de Medicina Psicosomática. Fundación Jiménez Díaz. **Madrid**, marzo, 2, 2018.

-Conferencia inaugural: El cerebro humano: una perspectiva científica y filosófica. Ciclo: Los secretos de nuestro cerebro. Escola Europea de Pensament Lluís Vives. Universitat de València. **Valencia**, abril 17, 2018.

-Conferencia Plenaria. Nuevas tecnologías para el estudio del cerebro: desde cajal a nuestros días. Centenario del fallecimiento de Nicolás Achúcarro y Lund (Bilbao, 1880-1918) y 50 aniversario de la creación de la Facultad de Medicina de la UPV/EHU. Centro Achúcarro (Parque Científico UPV/EHU). **Bilbao**, abril 23, 2018.

-Conferencia Magistral. Sinapsis y Alzheimer. Cognición, conectoma y sinaptoma. Nutricia, Advance Medical Nutrition. **Barcelona,** mayo 3, 2018.

-Conferencia Magistral. IV Foro de Actualización en Neurología. Nuevas tecnologías para el estudio del cerebro: Redes euronales. **Madrid**, junio 23, 2018.

-Ponencia Inaugural: “Conocer el cerebro es imprescindible para entender el comportamiento: ¿ somos nuestro cerebro?”. La experiencia del cliente como motor de la innovación. Hotel NH Hesperia. Organiza Diario Expansión. **Madrid**, diciembre 13, 2018.

-Nuevas tecnologías para el estudio del cerebro: “proyecto Cajal Blue Brain. VIII Jornada extraordinaria memorial Jesús Montoliu. Institut de Recerca Biomèdica de Lleida. **Lleida**, diciembre 18, 2018.

-Conferencia Plenaria. Nuevas tecnologías para el estudio del cerebro: Human Brain Project. II Jornadas CNS Exeltis Day. Hotel Eurobuilding. **Madrid**, enero 18, 2019.

-Conferencia Plenaria. Sobre lo bello, el arte y el cerebro. XVI Curso de Invierno de Epilepsia. La Granja, **Segovia**, febrero 22, 2019.

-Conferencia Plenaria. Circuitos corticales y cognición. Congreso Interdisciplinar Estudiantes Neurología y Neurociencia. **Lleida**, marzo 8, 2019.

-Aula de la Ciencia y la Tecnología de la Universidad de Alicante. El cerebro humano: una perspectiva científica y filosófica. **Alicante**, mayo 30, 2019.

-El cerebro humano: una perspectiva científica y filosófica.XVII Reunión Anual de la Asociación Madrileña de Neurología. **Madrid**, octubre 11, 2019.

-Acto de celebración por la jubilación del Profesor Juan Alberto Sigüenza. Nuevas tecnologías para el estudio microscópico del cerebro: desde Cajal a nuestros días. Escuela Politécnica Superior, Universidad Autónoma de Madrid. **Madrid**, septiembre 24, 2021.

-Conferencia inaugural: “El cerebro humano: una perspectiva científica y filosófica” IX Curso Docente del Grupo de Estudio del Trastorno Bipolar de Andalucia. **Antequera** (Málaga), marzo 4, 2022.

-Conferencia Magistral. El bosque neuronal: viaje al interior del cerebro. Symposio Alzerta (Esteve). **Barcelona**, octubre 8, 2022.

-Conferencia Magistral. Cajal y los procesos mentales. Jornada de Cajal en la Facultad de Psicología de la UNED. **Madrid**, octubre 17, 2022.

-Conferencia Magistral. Cajal, las espinas dendrítica y los procesos mentales. XX Reunión Anual de la Asociación Madrileña de Neurología (AMN). **Madrid**, octubre 20, 2022.

-Conferencia inaugural de la exposición “Astronautas”. Cajal en el espacio: la misión Neurolab de la NASA. Salón de Actos del Museo Nacional de Ciencias Naturales. **Madrid**, diciembre 12, 2022.

9.6 Plenary and keynote lectures (International)

-Key Lecture. XXI Congress of the European Association of Veterinary Anatomists. Lugo, **Spain**, 1996.

-Key Lecture. Cajal Club. Society for Neuroscience. Miami, **USA**, 1999.

-Key Lecture. Congresso Nazionale della Societa Italiana di Fisiologia. Lecture on History of Physiology. Ancona, **Italy**, 2001.

-International Conference on Artificial Neural Networks. Madrid, **Spain**, 2002.

-Opening Lecture. 14th International World Confederation for Physical Therapy Congress. Barcelona, **Spain**, 2003.

-Key Lecture. Society for Neuroscience. Golgi-Cajal Centennial. Cajal. Washington, **USA**, 2006.

-Key Lecture. BNA Christmas Symposium: 'The Legacy of Golgi and Cajal: past, present and future. The Royal Society. London, **United Kingdom**, 2006.

-Cajal Lecture. Congress of the European Federation of Neurological Societies (EFNS). Madrid, **Spain**, 2008.

-Closing Lecture. XVII Congreso Nacional y XI Internacional de Medicina General y de Familia. Granada, **Spain**, 2010.

-Closing Lecture. Early stages of neurodegenerative diseases: What can we learn from them? Lundbeck laboratories. Copenhague, **Denmark**, 2011.

-Key Lecture. 8th Winter Brain Symposium. The pyramidal neuron in cognition. Sils Maria, **Switzerland**, 2012.

-American Association of Anatomists Plenary Session (125th Anniversary). From the Connectome to the Synaptome. Boston, **USA**, 2013.

-Key Lecture, 11th International Conference on Photonics and Imaging in Biology and. Exploring the synaptome: promising new technologies. Wuhan, **China**, 20l3.

-Opening Lecture, XII Summer "Teófilo Hernando's" School of Pharmacology of the Menéndez Pelayo's International University (UIMP, Universidad Internacional Menéndez Pelayo). Brain damage and repair. Santander, **Spain**, 2013

-Conferecia Inaugural. Viaje al interior del cerebro: nuevas tecnologías y efectos de las sustancias adictivas. VIII Symposium Internacional sobre Prevención y Tratamiento del Tabaquismo. Hospital Clínico de San Carlos. Madrid, **Spain**, 2013.

-Conferecia Inaugural. Sobre lo bello, el arte y la evolución del cerebro. 2º Congreso Internacional de Espacios de Arte y Salud. Hospital de Dénia Marina Salud. Alicante, **Spain**, 2014.

-Opening lecture: Alterations of cortical circuits in Alzheimer's disease. Workshop "New Targets in Neurodegenerative diseases: emphasis on new advances in Alzheimer's Disease research". The European Graduate School of Neuroscience (EURON). Braga, **Portugal**, september, 2014.

-Opening lecture: Analyzing the brain: technology innovation and multidisciplinary approach. Audiogenic Epilepsy: from Models to the Clinic. Salamanca, **Spain**, September, 2014.

-Key Lecture: Exploring the brain: The sound of morphology. 7th Westerberger Herbsttagung: Microscopy Applications and Quantitative Image Analysis. Universität Osnabrück, **Germany**, 2014.

-Pinckney-Harmon lecture (sponsored by the Cajal Club): The human nature of the human brain. 1st Conference on Cortical Evolution. Toledo, **Spain**, May 2015.

-Lectura Magistralis. Brain connectomics: exploring the connectome and synaptome. XVI Congress of the Italian Society of Neuroscience. Cagliari (Sardinia), **Italy**, October, 2015.

-Opening lecture: Cajal and the butterflies of the soul: brain plasticity and mental processes. European Association of Neurosurgical Societies Annual Meeting 2015. Madrid, **Spain**, October, 2015.

-Clase Magistral Ciencia 2018 ASIERI-Embajada de España. Instituo Cervantes, Milan, **Italy**, June 12, 2018.

-Clase Magistral Ciencia 2018 ASIERI-Embajada de España. Joint Research Center, European Commission. Ispra, **Italy**, June 13, 2018.

-Opening lecture: Cajal, the neuron theory and the golden era for artistic creativity in neuroscience. The 13th World Congress on Controversies in Neurology (CONy), Madrid, **Spain**, April 4-7, 2019.

-Conferencia Plenaria: El cerebro humano: una perspectiva científica y filosófica. I[er] Summit Neurosciencias, Laboratorios Bagó. Mendoza, **Argentina**, December 1-3, 2022.

10. ORGANIZATION OF LARGE MEETINGS AND OTHER SCIENTIFIC EVENTS

-Organizer of the symposium "Development, plasticity and degeneration in epilepsy" 5th Society of Neuroscientists of Africa Conference (IBRO). Nairobi, **Kenia**, 2001.

-Co-organizer of the symposium ot he Cajal Club " Changing views of Cajal´s neuron". Madrid, **Spain,** 2001.

-Co-organizer of the symposium "Synaptic dysfunction and schizophrenia". Instituto Juan March de Estudios e Investigaciones. Madrid, **Spain,** 2003.

-Organizer of the symposium "History of neuroscience: the cerebral cortex". 6th IBRO World Congress of Neuroscience. Praga, **Czech Republic**, 2003.

-Organizer of the course "Estructura, función y alteraciones de la corteza cerebral". Cursos de Verano. El Escorial, Madrid, **Spain,** 2003.

-Co-organizer of the symposium "Regional specialisation in primate cortical circuitry: implications for sensory processing". FENS. Lisboa, **Portugal**, 2004.

-Co-organizer of the scientific meeting científica "Nomenclature of Neocortical Interneurons". Petilla, Navarra, **Spain**, 2005.

--Co-organizer of the symposium "Cajal Centenary Conference on the Cerebral Cortex". Cosmociaxa Museum, CSIC and IBRO. Barcelona, **Spain**. 2006.

-Co-organizer of the course "La corteza cerebral: aspectos evolutivos, cognición y enfermedades corticales. Cursos de Verano El Escorial. Madrid, **Spain**, 2006.

-Director of the Maratón Santiago Ramón y Cajal y la Neurociencia en el Siglo XXI. Museo de la Ciencia y Tecnología. Madrid, **Spain**, 2006.

-Director del ciclo de conferencias El Cerebro Humano: una Perspectiva Científica y Filosófica. Aula Abierta, Fundación Juan March. Madrid, **Spain**, 2007.

-Co-organizer of the symposium ot he Club Cajal "From Development to Degeneration and Regeneration of the Nervous System". Instituto de Neurobiología, Universidad Nacional Autonoma de Mexico (UNAM). Querétaro, **México**, 2007.

-Director of the course "Circuitos corticales y Alzheimer". Cursos de Verano El Escorial. Madrid, **Spain**, 2007.

-Director of the course "El cerebro, evolución y cognición. Cursos de Verano de la Universidad de Málaga. **Spain**, 2007.

-Director of the course "Origen de la mente humana". Cursos de Verano de la Universidad de Málaga. **Spain**, 2008.

-Co-organizer of the congress "Cortical Interneurons in Health and Disease". EMBO Workshop. Palma de Mallorca, 2009.

-Director Académico: Circuitos Corticales y cognición: El proyecto Cajal Blue Brain. Colegio Oficial de Médicos. Madrid, **Spain**, 2010.

-Co-organizer of the del Ciclo de Conferencias 'Alzheimer' del Museo Elder de la Ciencia y la Tecnología. Las Palmas de Gran Canaria, **Spain**, 2011.

-Co-organizer of the congress "Cortical Interneurons in Health and Disease". EMBO Workshop. Palma de Mallorca, **Spain**, 2012.

-Co-organizer of the symposium of the Cajal Club: Cortical development and connectivity. Barcelona, **Spain**, 2012.

-Co-Director del encuentro Proyecto Flagship Unión Europea: Grafeno y el Cerebro Humano. Universidad Internacional Menéndez Pelayo. Santander, **Spain**, 2013.

- Curator of the exhibition " El Jardín de la Neurología" dentro del Encuentro BRAI.NS 2014, Centro de Convenciones Internacionales de Barcelona. Barcelona, **Spain**, february, 2014.

-Organizer and Curator of the exhibition " El Jardín de la Neurología"en el Centro de Apoyo a la Investigación Tecnológica (CAIT), de la Universidad Politécnica de Madrid. Madrid, **Spain**, 2014.

-Director de la mesa Neuroestética, 2º Congreso Internacional de Espacios de Arte y Salud, Hospital de Dénia Marina Salud. Denia, **Spain**, june, 2014.

-Organizer of the concert / conference "El canto de las neuronas. Conference: J. DeFelipe "Nuevas tecnologías para el estudio de la Enfermedad de Alzheimer: La música de las espinas dendríticas". CSIC, Fundación CIEN/ Fundación Reina Sofía y Universidad Politécnica de Madrid. Sede Central CSIC. Madrid, **Spain**, october, 2014.

-Organizer of the concert / conference "El canto de las neuronas. Conference: J. DeFelipe "Nuevas tecnologías para el estudio de la Enfermedad de Alzheimer: La música de las espinas dendríticas". Fundación Divina Pastora y la Asociación de Familiares de Enfermos de Alzheimer de Valencia. Auditorio Mar Rojo del Oceanogràfic. La Ciudad de las Artes y de las Ciencias de Valencia. Valencia, **Spain**, september, 2015.

-Organizer of the concert / conference "El canto de las neuronas. Conference: J. DeFelipe: Nuevas tecnologías para el estudio de la Enfermedad de Alzheimer: La música de las espinas dendríticas. Fundación Divina Pastora y la Asociación de Familiares de Enfermos de Alzheimer de Barcelona. Petit Palau / Palau de la Música Catalana, Barcelona, **Spain**, october, 2015.

-President of the Organizing Committee of the Summit 2015 of the Human Brain Project. Ilustre Colegio Oficial de Médicos de Madrid. **Spain**, september 27-30, 2015.

-Co-director of the course "Understanding the Human Brain". Escuela de Farmacología "Teófilo Hernando" Universidad Internacional Menéndez Pelayo (XVI Summer "Teófilo Hernando's"School of Pharmacology). Santander, **Spain**, july 24-28.

-Co-director of the workshop "Dendritic Spines: Morphology, Function and Modeling". European Institute for Theoretical Neuroscience (EITN). Paris, **France**, october 5-6, 2017.

11. GUEST PROFESSOR IN DOCTORATE OR MASTER'S COURSES

11.1 National

-Facultad de Medicina de la Universidad Autónoma. **Madrid**, 1988.

-Facultad de Medicina de la Universidad de Alicante. **Alicante**, 1989.

-Instituto de Ingeniería del Conocimiento. Universidad Autónoma. **Madrid**, 1992.

-Facultad de Medicina de la Universidad del País Vasco. **Bilbao**, 1992.

-Facultad de Medicina de la Universidad Autónoma de Madrid. **Madrid**, 1993.

-Centro de Biología Molecular de la Universidad Autónoma. **Madrid**, 1994.

-Facultad de Medicina de la Universidad Autónoma. **Madrid**, 1996.

-Facultad de Medicina de la Universidad Autónoma. **Madrid**, 2000.

-Facultad de Medicina de la Universidad Complutense. **Madrid**, 2001.

-Facultad de Medicina de la Universidad del País Vasco. **Bilbao**, 2001.

-Facultad de Medicina de la Universidad Autónoma. "Corteza asociativa". **Madrid**, 2002.

-Facultad de Medicina de la Universidad Autónoma. "Las Epilepsias: Una Ventana Abierta hacia el Cerebro. **Madrid**, 2002.

-Facultad de Medicina de la Universidad Autónoma. Introducción a la Clínica Neurológica. Universidad Pablo de Olavide. **Sevilla**, 2002.

-Facultad de Medicina de la Universidad Complutense. Epileptología. **Madrid**, 2002.

-Curso de Periodismo Científico y Tecnológico* "Divulgación Científica en Neurociencias: Proyecto Neurolab". Universidad Carlos III. **Madrid**, 2003

-Alteraciones de circuitos corticales en pacientes epilépticos. Facultad de Medicina de la Universidad Complutense. **Madrid**, 2003.

-Curso: ¿El cerebro social o construcción social de la realidad? Centro Andaluz de Biología del desarrollo. **Sevilla**, 2003

-Magister en Neuropsicología Infantil. Facultad de Psicología. Universidad Complutense. **Madrid**, 2004.

-Curso de Doctorado, Las epilepsias: de los mecanismos básicos a la práctica clínica. Fundación Jiménez Díaz. **Madrid**, 2004.

-Curso de Doctorado Extraordinario: Modelos experimentales de epilepsia y su aplicación en la clínica neurológica. **Salamanca**, 2005.

-Aula de Neurociencias "Neurocirugía Funcional". Curso de Doctorado, Hospital de la Princesa, Facultad de Medicina UAM. **Madrid**, 2005.

-Máster en Periodismo y Comunicación de la Ciencia, la Tecnología y el Medio Ambiente. Campus de Getafe de la Universidad Carlos III. **Madrid**, 2006.

-Máster en Periodismo y Comunicación de la Ciencia, la Tecnología y el Medio Ambiente. Campus de Getafe de la Universidad Carlos III. **Madrid**, 2007.

-Curso de Territorial de Biología, CAP. Estructura y aspectos cognitivos del cerebro. Madrid, 2008.

-Neurobiología: Cerebro y Cultura. 4ª. Edición del Máster en Periodismo y Comunicación de la Ciencia, la Tecnología y el Medio Ambiente que organiza la Universidad Carlos III de Madrid. **Madrid**, 2008.

-Máster en Periodismo y Comunicación de la Ciencia, la Tecnología y el Medio Ambiente. Campus de Getafe de la Universidad Carlos III. **Madrid**, 2009.

-Curso Discapacidad Infantil. Diagnóstico y Rehabilitación. Plasticidad del SNC. Hospital Infantil Universitario Niño Jesús. **Madrid**, 2009.

-Viaje al interior del cerebro: "Proyecto Cajal Blue Brain"Aula Interactiva en Neurología (MSD). **Madrid**, 2010.

-Máster en Neurociencia, UAM-Instituto Cajal, CSIC. Año Académico 2010-2011: Neurobiología del Envejecimiento Cerebral y Enfermedades del Sistema Nervioso: Neurobiología Molecular, Celular y Clínica. **Madrid**, 2011.

-Máster en Neurociencia, UAM-Instituto Cajal, CSIC. Año Académico 2011-2012: Neurobiología del Envejecimiento Cerebral y Enfermedades del Sistema Nervioso: Neurobiología Molecular, Celular y Clínica. **Madrid**, 2012.

-Introducción a la Neurociencia (1ª edición) Universidad Autónoma de Madrid. **Madrid**, Febrero, 2021.

11.2 International

-General neuroanatomy and cortical histology. Advanced Course in Computational Neuroscience Ovidos, **Portugal**, 2003.

-Cortical microcircuits:quantitative and evolutionary aspects. Advanced Course in Computational Neuroscience. Ovidos, **Portugal**, 2003.

-Doctorate course, Faculty of Medicine, University of Ancona, **Italy**, 2004:

- Cajal and the birth of modern neuroscience
- General neuroanatomy and introduction to the study of cortical microcircuits
- Main types of cortical interneurons and their connections
- The microcolumnar organization of the neocortex
- Cortical microcircuits: quantitative and evolutionary aspects I
- Cortical microcircuits: quantitative and evolutionary aspects II
- The pyramidal neuron in cognition, mental retardation and schizophrenia
- Cortical plasticity: The brain in the space (Neurolab Mission of NASA)
- Alterations of cortical circuits in epilepsy I
- Alterations of cortical circuits in epilepsy II

-Course Developpment et plastite du Systeme nerveux. Cortical microcircuits. Instituto Pasteur, Paris (**France**), 2006.

-Course Developpment et plastite du Systeme nerveux. Cortical microcircuits. Instituto Pasteur, Paris (**France**), 2007.

-Course Developpment et plastite du Systeme nerveux. Cortical microcircuits. Instituto Pasteur, Paris (**France**), 2009.

-Course Developpment et plastite du Systeme nerveux. Cortical microcircuits. Instituto Pasteur, Paris (**France**), 2010.

-Course Developpment et plastite du Systeme nerveux. Cortical microcircuits. Instituto Pasteur, Paris (**France**), 2011.

-Course "The Cerebral Cortex: Organization and Dynamics". Department of Neuroscience, Karolinska Institute, Estocolmo (**Sweden**), 2011.

-Course Developpment et plastite du Systeme nerveux. Cortical circuits : evolution and cognition. Instituto Pasteur, Paris (**France**), 2012.

-Course Developpment et plastite du Systeme nerveux. Cortical circuits : evolution and cognition. Instituto Pasteur, Paris (**France**), 2013.

12. HONORS AND DISTINCTIONS

-Cajal Medal and 1999 Krieg Cortical Kudos Award, modality Cortical Discoverer (Club Cajal). **USA**.

-VII Premio Ramón Trias Fargas de Investigación sobre síndrome de Down 2003. Shared with Dierssen M., Benavides-Piccione R., Martínez-Cué C., Estivill X., Flórez J., Elston G.. **Barcelona**.

-Premio de Investigación en Neuroendocrinología Pfizer 2004 (SEEN). Shared with Guadaño-Ferraz, A., Benavides-Piccione, R., Venero, C., Lancha, C., Vennström, B., Sandi, C., y Bernal, J. **Madrid**.

-National Alliance for Autism Research Award (**USA**), 2000. Shared with Jorge Prieto.

-President of the "History of Neuroscience" Committee of IBRO (2004-2009).

-Golden award for the best documentary/biography, World Media Festival, **Hamburg** "Santiago Ramón y Cajal. Las Mariposas del Alma. *Director* Ana Martínez; *Scientific Advisor* Javier DeFelipe (TVE, 2007).

-Honorary Member of the American Association for Anatomists (Elected 2013) in recognition of exceptional accomplishments in the field of anatomical sciences (**USA**).

-II Edición de los Premios A TU SALUD de LA RAZÓN en la categoría 'Investigador en Ciencia y Tecnología'. **Madrid**, 2013.

-III Edición Premios Mano Amiga en la categoría individual (Alzheimer, León), **León**, 2013.

-19th Lección Conmemorativa Carmen y Severo Ochoa. Residencia de Estudiantes. **Madrid**, 2013.

-III Edición de los Premios Ciudad de Tres Cantos: Mención Especial, **Madrid**, 2015

-2015 Zenith Fellows Award (Alzheimer's Association), **USA**.

-Cajal's Neuronal Forest: 2018 British Medical Association Awards. Best Illustrated Book Award.

-Cajal's Neuronal Forest: 2019 PROSE Award for the Biomedicine and Neuroscience category.

-Elected Ordinary member of the Academia Europeae (section Physiology & Neuroscience), 2021.

13. EDITORIAL ACTIVIY

-Guest editor of the special issue "Neocortical circuits: evolutionary aspects and the specificity versus non-specificity of synaptic connections". J Neurocytol (2002).
-Editor of the Boletín de la Sociedad Española de Neurociencia (1994-1996; 2002-2004).
-Editor of History of World Neuroscience on the Web (IBRO) (2004-2009).
-Chief Editor of Frontiers in Neuroanatomy (2007-present).
-Associate editor of Brain Research (2006-2009).
-Member of the "Editorial board" Journal of Chemical Neuroanatomy (2000-2011).
-Member of the "Editorial board" Experimental Neurology (1999).
-Member of the "Editorial board" Cerebral Cortex (2005-present).
-Member of the "Editorial board" Scientific Reports (2022-present).

-Co-editor of the following Research Topics:
Rockland KS and DeFelipe J (2012) Cortical white matter: beyond the pale. Front. Neuroanat. https://doi.org/10.3389/fnana.2011.00067
Rockland KS and DeFelipe J (2012) Cortical GABAergic neurons: stretching it. Front. Neuroanat., https://doi.org/10.3389/fnana.2012.00016
DeFelipe J, Markram H, and Rockland KS (2012) The neocortical column. Front. Neuroanat. https://doi.org/10.3389/fnana.2012.00022
Rockland KS and DeFelipe J (2014) Neuroanatomy for the XXIst Century. Front. Neuroanat. https://doi.org/10.3389/fnana.2016.00070
Rockland KS and DeFelipe J (2018) Why have cortical layers? What is the function of layering? Do neurons in cortex integrate information across different layers? Front. Neuroanat. https://doi.org/10.3389/fnana.2018.00078
Garcia-Segura LM and DeFelipe J (2022) Sex differences in the brain. Front. Neuroanat. https://doi: 10.3389/fnana.2022.1000121
-Scientific director and editor of the collection of books *Fronteras de la ciencia (Neurociencias)* RBA/National Geographic, 2017, 2018.
-Editorial Board Member for Scientific Reports

14. COVER FIGURES

-Cover Journal of Comparative Neurology (May, 1991), taken from de Fariñas & DeFelipe, 1991.
-Cover Trends in Neuroscience (July, 1992), taken from de DeFelipe & Jones, 1989.
-Cover Brain (August, 1996), taken from Marco et al., 1996.
-CoverJournal Chemical Neuroanatomy (December, 1996), taken from del Río & DeFelipe, 1996.
-Cover NeuroReport (February, 1998), taken from DeFelipe & González-Albo, 1998.
-Cover Cerebral Cortex (March, 1998), taken from Estrada & DeFelipe, 1998.
-Cover Mol Brain Res (March, 1999), taken from Garzón et al., 1999
-Cover Brain (Octubre, 1999), taken from DeFelipe, 1999.
-Cover Cerebral Cortex (May, 2002), taken from Arellano et al., 2002.
-Cover Jornal of Neurocytol (March-June, 2002), taken from DeFelipe.
-Cover Cerebral Cortex (August, 2002), taken from DeFelipe et al., 2002.
-Cover Molecular Psychiatry (Octubre, 2002), taken from Guadaño et al., 2002.
-Cover Cerebral Cortex (March, 2003), taken from Benavides-Piccione & DeFelipe, 2003.
-Cover Brain (Enero, 2005), taken from Alonso-Nanclares et al., 2005,
-Cover Cerebral Cortex (October, 2005), taken from Benavides-Piccione et al., 2005
-Cover Neurobiology of Disease (October, 2005), taken from Benavides-Piccione et al., 2005.
-Cover Nature Neuroscience Reviews (October, 2006), taken from DeFelipe, 2006.
-Cover Cerebral Cortex (January, 2009), taken from Inda et al., 2009.
-Cover Cerebral Cortex (July, 2013), taken from Benavides-Piccione et al., 2013.
-Cover Journal of Neuroscience (July, 2014), taken from Morales et al., 2014.
-Cover Cell (October 8, 2015), taken from Markram et al., 2015.
-Cover Cerebral Cortex (October, 2016), taken from Bosch et al., 2016.
-Cover Neurobiology of Disease (December, 2016), taken from Anton et al., 2016.
-Cover Cerebral Cortex (December 2022), taken from Benavides-Piccione et al., 2021.
Other:
-Back cover of NeuroReport (October, 1999), taken from Elston et al., 1999.
-Cover of the book "The Hippocampus Book" Andresen et al., ed. Oxford University Press (2006). "Image produced by Shira Knafo in the laboratory of Javier DeFelipe".
-Biomedical picture of the day (August 9, 2012). Reprinted from Nature Medicine 18: 1087–1094 http://bpod.mrc.ac.uk/archive/2012/8/9

15. PARTICIPATION IN EVALUATION TASKS

Evaluator of scientific projects of the following institutions: The Israel Science Foundation (Israel), National Science Foundation (USA), Irish Health Research Board (Irleland), NATO Collaborative Research Grants (Belgium), Human Frontier, Science Program (France), Agencia de Evaluación (Spain), Italian Ministry for University and Research (Italy), Italian Committee for Research Evaluation (CIVR) (Italy).

Evaluator of the following major international journals: Brain, Cerebral Cortex, Journal of Comparative Neurology, Journal of Neuroscience, Nature Neuroscience, Nature Methods, Proceedings of the National Academy of Sciences, Science, Trends in Neuroscience,

16. ADVISORY COMMITTEE SERVICE

-Member of the scientific advisor committee of "Frontier Research Programs" for the creation of the neuroscience laboratory at Riken Brain Science Institute. Saitama, **Japan**, 1989.
-Member of the committee to review the Cognitive Brain Science Research Group, RIKEN Brain Science Institute. Saitama, **Japan**, 2006.
-Member of the international committee to evaluate the Blue Brain Project, EPFL, Lausanne, **Switzerland**, 2008.
-Assistant to the Chair of Área de Biomedicina de la Agencia Nacional de Evaluación Prospectiva (**Spain**), 2009-2011.
-Member of the external scientific committee of the Instituto Ramón y Cajal de Investigación Sanitaria, IRYCIS, **Madrid** (2014-present).
- Member of the scientific advisor committee of the Fundación Reina Sofía–Fundación CIEN, **Madrid** (2014-2019).
-Member of the Selection Committee of the Jennifer N. Bourne Prize in Brain Ultrastructure (**Society for Neuroscinece**) (2021-2024).
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17. OTHER

-Comments and translation of some passages in the book entitled Foundations of the Neuron Doctrine by GM Shepherd, Oxford University Press, 1991.
-Elected member of the Spanish Society of Neuroscience, 1994-1996.
-Scientific advisor and collaborator of the program "No hay vida sin comunicación" Educational TV series (TVE) "La aventura del saber".
-Scientist guest in the debate "Viure a l'espai" of the Millennium program (TV3), 1999.-Scientist collaborator of the Neurolab Project (NASA), 1998.
-Exhibition curator of the Instituto Cervantes and Fundación “La Caixa” of the exhibition “Paisajes Neuronales”.
-Co-Director of the First International Neuroescape Exhibition. The Caixa Foundation Science Museum, Barcelona, 2006. Curator of the following exhibitions:

National Exhibitions

Paisajes Neuronales, Museo CosmoCaixa (**Barcelona**), 6/9/2006 – 26/11/2006.
Paisajes Neuronales, Museo de la Ciencia (**Valladolid**), 11/5/2007-26/8/2007.
Paisajes Neuronales, Museo de las Ciencias (**Cuenca**) 7/9/2007- 16/12/2007.
Paisajes Neuronales, Casa de las Ciencias (**Logroño**), 5/2/2008- 30/3/2008.
Paisajes Neuronales, Museo de la Ciencia y el Agua (**Murcia**) 9/42007- 30/5/2007.
Paisajes Neuronales, Museo CosmoCaixa (**Madrid**), 17/6/2008- 30/10/2009.
Paisajes Neuronales, Palacio Provincial (**Cádiz**), 26/05/2009-5/07/2009.
Paisajes neuronales. Centro Cultural de Adra (**Almeria**), 13/7/2009-30/8/2009
Paisajes neuronales. Museo Elder (**Las Palmas de Gran Canaria**), 17/9/2009-22/11/2009.
Paisajes neuronales. Instituto de Neurociencias de Castilla y León. (**Salamanca**), 13/1/2010-28/2/2010.
Paisajes neuronales. Caixa Forum (**Palma de Mallorca**), 17/3/2010-13/8/2010.
Paisajes neuronales. Hospital de Donostia, **San Sebastián**, 23/9/2010-29/10/2010.
Paisajes neuronales. Facultad de Medicina. Universidad de Castilla-La Mancha (**Albacete)**, 17/11/2010-19/12/2010.
Paisajes neuronales. DOMUS. **A Coruña**, 3/5/2011-28/8/2011.
Paisajes neuronales. Civivox Condestable. **Pamplona**, 5/9/2011-2/10/2011.
Paisajes neuronales. Castillo de San Felipe. Puerto de la Cruz. **Tenerife**, 4/7/2012-17/8/2012.
Paisajes neuronales. Arona. **Tenerife**, 4/9/2012-17/10/2012.

Internacional

Neuronalscapes, IBRO World Congress of Neuroscience, Melbourne (**Australia**), 12/7/2007 – 17/7/2007.

Neuronalscapes, The Science Museum Hebrew University (**Israel**), 2007-permanent.

Paisajes Neuronales, Instituto Cervantes, Chicago (**USA**), 17/12/2007-1/2/2008.

Paisajes Neuronales Instituto Cervantes, New York (**USA**) 25/3/2008- 24/4/2008.

Paisagens Neuronais. Facultade de Medicina, Ribeirao Preto (**Brasil**)19/8/2008- 16/9/2008.

Paisagens Neuronais. Instituto Cervantes de Sao Paolo (**Brasil**) 23/9/2008- 25/10/2008.

Paisagens Neuronais. Casa da Ciência, Universidad Federal de Río de Janeiro, Instituto Cervantes, Rio de Janeiro (**Brasil**) 6/1/2009-15/2/2009.

Paisagens Neuronais. Instituto Cervantes, Salvador de Bahia (**Brasil**) 25/3/2009- 30/4/2009.

Paisagens Neuronais. Instituto Cervantes, Brasilia (**Brasil**) 20/5/2009- 4/7/2009.

Paisagens Neuronais. Palácio das Artes, Instituto Cervantes, Belo Horizonte (**Brasil**) 21/7/2009-1/9/2009.

Neuronalscapes, Howard Hughes Medical Institute, Janelia Farm Campus, Ashburn, VA (**USA**), 2009 – permanent.

Paisajes Neuronales, Instituto Cervantes and Serbian Academy of Sciences and Arts, Belgrado (Serbia), 23/10/2009-1/12/2009.

Paisajes neuronales, Instituto Cervantes, Budapest (**Hungary**), 10/12/2009 - 10/01/2010.

Paisajes neuronales, Instituto Cervantes, Lisboa (**Portugal**), 7/4/2010 - 18/06/2010.

Paisajes neuronales, Neuron Landscapes. Instituto Cervantes, Nueva Delhi (**India**), 5/8/2010 - 5/12/2010.

Paisajes Neuronales. Instituto Cervantes de Bremen (**Germany**), 7/72015-7/8/2015.

-Curator of the exhibition "BRAI.NS art". Novartis BRAI.NS 2014 standalone meeting (**Barcelona**), February14-15, 2014

-Special event "Documentary screening: *Santiago Ramón y Cajal: Butterflies of the Soul"* by Javier DeFelipe. The McGovern Institute for Brain Research at MIT. Singleton Auditorium. Cambridge, **USA**, October, 22, 2018.

-Co-Director de los *Talleres de neurociencia Cajal para niños*. Entidades organizadoras: Cajal Blue Brain, Centro de Tecnología Biomédica, Madrid InnovativeNeurotech Alliance, Hospital Universitario 12 de Octubre (Área de Cultura y Ciencia) y Empresa cultural Rocaviva Eventos. 2022-2023.