

# **CURRICULUM VITAE**

**XAVIER NAVARRO**

**April 2022**

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## **1. PERSONAL INFORMATION:**

Name: Xavier Navarro Acebes

Born June 7th 1955, in Barcelona (Spain).

Address: Venecia 5, 08031 Barcelona, Spain.

ID number: 37669921S

## **2. UNIVERSITY DEGREES**

Graduate in Medicine and Surgery (M.D.), Faculty of Medicine, Universitat Autònoma de Barcelona (UAB), 1972-1978. "A" qualification.

Doctor in Medicine (Ph.D.), Faculty of Medicine, UAB. Thesis defended on 12-5-1985, with A Cum Laude qualification.

## **3. ACADEMIC TITLES**

Graduate in Medicine and Surgery (M.D.) (Spain), 3-13-1979.

Physician Specialist in Neurology (Spain), 7-7-1982.

Doctor in Medicine (Ph.D.) (Spain), 2-28-1986.

Educational Commission for Foreign Medical Graduates (E.C.F.M.G.) (U.S.A.), january 1987.

Federation Licensing Examination (FLEX) (U.S.A.), june 1987.

Diplomate of the American Board in Electrodiagnostic Medicine, march 1989.

#### **4. PROFESSIONAL APPOINTMENTS**

Assistant Professor, Department of Physiology, Faculty of Medicine, UAB, october 1978 to november 1982.

Collaborator Professor, Department of Physiology, Faculty of Medicine, UAB, december 1982 to july 1988.

Assistant Physician, Department of Neurology, Hospital Sagrado Corazón, Barcelona, september 1979 to september 1982.

Visiting Assistant Professor, Department of Neurology, University of Minnesota, january 1986 to september 1988.

Titular Professor, Department of Cell Biology and Physiology, UAB, september 1988 to november 1999.

Full Professor, Department of Cell Biology, Physiology and Immunology, UAB, since november 1999.

#### **4.1. Academic positions.**

Director of the Medical Physiology Unit, Faculty of Medicine, UAB, 1988 to 1993, 2000 to 2002, 2009-2010.

Coordinator of the Ph.D. Program in Neurosciences, UAB, 1988-89 to 1991-92.

Secretary of the Unit of Basic Medical Sciences, Faculty of Medicine, UAB, 1988-89 and 1989-90.

Coordinator of the Unit of Basic Medical Sciences, Faculty of Medicine, UAB, 1990-91 and 1991-92.

Director of the Department of Cell Biology, Physiology and Immunology, UAB, december 2010 until december 2016.

ViceDean for Economy and Planning, Faculty of Medicine, UAB, since july 2017.

## **5. TEACHING ACTIVITIES**

### **5.1. Pregraduate teaching.**

Professor of Physiology, Faculty of Medicine, UAB, course 1978-79 until present.

Professor of Physiology. Degree in Food Science and Technology, Faculty of Veterinary, UAB, course 1993-94 until 1998-99.

Professor of "Biomedical applications of microelectronics", Campus Virtual Iberoamericano de Tecnología, course 2003-04 until 2006-07.

Professor of Physiology, Degree of Nursery, UAB, course 2009-10 until present.

Professor of Physiology. Degree of Biomedical Sciences, Faculty of Biosciences, UAB, course 2009-10.

Professor of Neurosciences. Master of Neurosciences, UAB, course 2009-10 until present.

### **5.2. PhD and Master courses.**

PhD Course "Lipids and plasma lipoproteins" 1981 to 1983, Faculty of Medicine, UAB

PhD Course "Clinical Biochemistry" 1982 and 1983, Faculty of Medicine, UAB

Postgraduate Course "Applied Electromyography", Postgraduate program in Neurology, University of Minnesota, 1987 and 1988.

PhD Course "Physiology and evaluation of the autonomic nervous system", UAB, 1988-89 until 2008-09. Director of the course.

PhD Course "Basic techniques in neuroscience", UAB, 1990-91.

PhD Course "Basic techniques in neurophysiology", UAB, 1993-94, 95-96, 97-98. Director of the course.

PhD Course "Sensory physiology", UAB, 1991-92 until 1999-2000. Director of the course.

PhD Course "Sensory neurophysiology and algesciology", UAB, 2001-02 until 2007-08. Director of the course.

PhD Course "Regeneration and plasticity of the nervous system", UAB, 1994-95 until 2008-09. Director of the course.

PhD Course "Neurophysiology of motor control systems", UAB, 2003-04 until 2007-08. Director of the course

PhD Course "Neurochemistry", UAB, 1988-89 to 1998-99.

PhD Course "Basic and clinical pharmacology of pain", UAB, 1989-90 to 1998-99.

PhD Course "Clinical Neuroimmunology ", UAB, 1999-00, 2000-01.

PhD Course "Introduction to pain treatment ", UAB, 2003-04, 2004-05.

PhD Course "Orthopedic Surgery and Traumatology", Univ. Barcelona, 1998.

PhD Course "Vascular and nerve microsurgery", Univ. Barcelona, 1998.

Professor, Module “Neural Regeneration”. Master of Neuroscience, Univ. Barcelona, 2007-08 until present.

Professor. Master of Neurosciences, UAB, course 2009-10 until present.

Director module “Scientific bases of Neurorehabilitation”. Master in Neurorehabilitation, Institute Guttmann, UAB, 2001-02 until present.

Director module “Anatomy and Physiopathology”. Master in Neuroengineering of Rehabilitation. Universitat Politècnica de Catalunya and UAB, 2019-20 until present.

### **5.3. Other Postgraduate courses.**

Course on "Thin Layer Chromatography", E.T.S. Engineering, Universidad Politécnica de Barcelona, May 1980.

Director and Professor of the "Diploma in Medical Secretary and Health Administration", UAB, courses 1989-90 to 1992-93.

Director and Professor, Course on "Evaluation of the autonomic nervous system in neurology", Sociedad Española de Neurología, december 1992.

Professor of Physiology, Postgraduate courses in Osteopathy, School of Physiotherapy Gimbernat, UAB, 1991 until 2020.

Professor, I Seminaire on Bioinspired Systems, Centro Nacional de Microelectrónica (C.S.I.C.), Bellaterra, october-november 1995.

Professor, I Advanced Seminaire on Pain Treatment, Foro para el Estudio del Dolor, Begur, april 1997.

Coordinator, Master in Paediatric Physiotherapy, ISFYES - UAB, Barcelona, 1997-98 to 2000-01.

Professor, XIV Course of vascular and nerve microsurgery, C.S. Parc Taulí, Sabadell, october 1998.

Professor, Master of Electromyography, Univ. Barcelona, Barcelona, 2001-02 to 2011-12.

Professor, Posgraduate Course “Neuropathic Pain”. Sociedad Española de Neurología, october 2006.

Professor, Erasmus Week Université Paris 5/7 and Universitat de Barcelona. Barcelona, 2013-2021.

Professor, Master of Neurological Electrodiagnosis, Univ. Barcelona, Barcelona, 2014-15 to 2017-18.

Professor, Course Update in Rehabilitation of Neuropathic Pain, Escuela Universitaria de Fisioterapia Gimbernat, UAB, 2015-16 to 2018-19.



#### 5.4. Academic Publications

- Navarro X. Curs pràctic de terminologia mèdica. Colección Documents, S. Publicacions, UAB, Bellaterra, 1996.
- Navarro X. Curs pràctic de terminologia mèdica. 2<sup>a</sup> ed. Colección Documents, S. Publicacions, UAB, Bellaterra, 1998.
- Navarro X. Neurofisiología. En: Curso de Actualización en Neurología para Médicos Residentes. Sociedad Española de Neurología, Ed. Drug Farma, Madrid, 2003, pp. 43-55.
- Navarro X, Ferrer T. Trastornos del sistema nervioso autónomo. In: Rozman C (director): Medicina Interna, 15th ed. Madrid, Elsevier, 2004, pp.1393-1397.
- Navarro X, Ferrer T. Trastornos del sistema nervioso autónomo. In: Rozman C (director): Medicina Interna, 16th ed. Madrid, Elsevier, 2008, pp.1404-1407.
- Navarro X. Trastornos del sistema nervioso autónomo. In: Rozman C (director): Medicina Interna, 17th ed. ISBN: 978-84-8086-896-9. Elsevier, Barcelona, 2012, pp. 1295-1298.
- Valero-Cabré A, Reig-Vilallonga J, Navarro X. Diccionari de Neurociència. Termcat, Barcelona, 2011. ISBN 978-84-393-8835-7.
- Navarro X. Lesión y regeneración de nervio periférico. En: ONCE (ed): Neurodinámica y lesiones nerviosas periféricas. Grafidax, Madrid, 2014, pp. 9-15. ISBN 978-84-484-0284-6.
- Navarro X. Bases neurofisiológicas del dolor. En: ONCE (ed): Neurodinámica y lesiones nerviosas periféricas. Grafidax, Madrid, 2014, pp. 57-63. ISBN 978-84-484-0284-6.
- Navarro X. Trastornos del sistema nervioso autónomo. En: Rozman C (director): Medicina Interna, 18th ed. ISBN: 978-84-9022-996-5. Elsevier, Barcelona, 2016, pp. 1318-1321.
- Navarro X, Udina E. Anatomía y fisiología de la Unidad Motora. A: Gutiérrez-Rivas E (ed): Manual de enfermedades neurológicas. ISBN 978-84-16732-35-7. Ed Ergon, Madrid, 2017, pp. 3-12.
- Navarro X. Trastornos del sistema nervioso autónomo. In: Rozman C, Cardellach F (directors): Medicina Interna, 19th ed. Elsevier, Barcelona, 2020, ISBN:978-84-9113-545-6, pp.1333-1336

## 6. FELLOWSHIPS AND AWARDS

- Grant for Practical Research (Ministry of Education, Spain), 1977-78.
- Fellowship for Training of Research Personnel (Ministry of Education, Spain), 1979-1981.
- Grant for Doctoral Thesis (Department of Education, Catalunya), 1984.
- Fellowship Fulbright-La Caixa for studies in the U.S.A., 1986-1987.
- Minnesota Medical Foundation grant, 1987-88.
- Grant for stages in foreign countries for research purposes (EE89/1), C.I.R.I.T. (Generalitat de Catalunya), 1989.
- Grant for Research Equipment, D.G.U.-UAB, 1991.
- Director of the Fellowship for Research Projects to Enrique Verdú, C.I.R.I.T. (Generalitat de Catalunya), 1991.
- Grant for Research Equipment, Overhead, UAB, 1992.
- Fellowship for attendance to the International Congress of EEG and Clinical Neurophysiology, International Federation of Clinical Neurophysiology, 1993.
- Grant for stages in foreign countries for research purposes (EE93/2-219), C.I.R.I.T. (Generalitat de Catalunya), 1993.
- Grant for Research Equipment, Overhead, UAB, 1993.
- Grant for Research Equipment, Overhead, UAB, 1994.
- Award "Ciutat de Barcelona" in the field of Technology, 1995.
- Grant for Research Equipment, Overhead, UAB, 1996.
- Special Action SAF96-1214-E, Programa Nacional de Salud, CICYT, investigator, 1996-97. "Establishment and consolidation of the Spanish Glial Network".
- Award in Neuroepidemiology, Decade of the Brain, Sociedad Española de Neurología, 1996.
- Special Action UAB-CIRIT, 1998. Experimental animals chamber.
- Award "Josep Trueta" for scientific research, Acadèmia de Ciències Mèdiques de Catalunya i de Balears, 2000.
- Award for established research groups, Group of Neuroplasticity and Regeneration (2002SGR-00087), Departament d'Universitats, Recerca i Societat de la Informació, Generalitat de Catalunya, 2003-05.
- Award SECOT to Basic Research, Sociedad Española de Cirugía Ortopédica y Traumatología, 2003.
- Well-Tech Award 2005 to the CYBERHAND project, Italy.

- Award for established research groups, Group of Neuroplasticity and Regeneration (2005SGR-00047), AGAUR, Generalitat de Catalunya, 2005-08.
- Acción Complementaria SAF2007-30936-E, Ministerio de Educación y Ciencia, 2008. “Internacional Symposium *Spinal Cord Injury: Regeneration and Rehabilitation*”.
- Award for established research groups, Group of Neuroplasticity and Regeneration (2009SGR-1059), AGAUR, Generalitat de Catalunya, 2009-13.
- Award for Scientific Research, ASPAYM (Asociación de Lesionados Medulares y Grandes Discapitados Físicos), 2009.
- Award for established research groups, Group of Neuroplasticity and Regeneration (2014SGR-201), AGAUR, Generalitat de Catalunya, 2014-16.
- Award for established research groups, Group of Neuroplasticity and Regeneration (2017SGR-233), AGAUR, Generalitat de Catalunya, 2018-22.

## 7. RESEARCH PROJECTS

### 7.1. Research projects in competitive calls

- National Institute of Health, NINCD Grant NS R01 26348, 1989-93. "Diabetic neuropathy treated by pancreas transplantation". co-investigator.
- Grant for pre-competitive research groups, UAB, 1989. "Studies on the reinnervation capabilities of sudomotor axons". PI.
- Grant PB88-0248, DGICYT (Ministry of Education, Spain), 1989-91. "Studies on reinnervation capabilities of the peripheral nervous system". PI.
- Grant PM89-0081, DGICYT (Ministeries of Education and Health, Spain), 1990-92. "Interrelation of age and lipid diet as modifiers of cardiovascular function". co-investigator.
- Registry of Multiple Sclerosis in Catalunya, Conselleria de Sanitat (Generalitat de Catalunya), 1989-92. Coordinator.
- Ist Award of the Societat Catalana de Neurologia - Fundació Uriach, 1991. "Aplication of electrical stimulation through neural interfaces in peripheral nerve regeneration".
- Grant, Fundación Mapfre-Medicina, 1993. "Aplication of neurotrophic factors for recovery in peripheral nerve lesions". PI.
- Grant PB92-1085-C02-02, DGICYT (Ministerio de Educación y Ciencia), 1993-94. "Neural interfase: Development of a neurofunctional biocompatible system". PI.
- Grant FIS94/0002-02, Fondo de Investigaciones Sanitarias de la Seguridad Social, 1994-96. "Neural interfase: Development of a neurofunctional biocompatible system". PI.
- Grant FIS95/0033-02, Fondo de Investigaciones Sanitarias de la Seguridad Social, 1995-97. "Use of transplants of ensheathing glia from olfactory bulb to promote regeneration in the injured peripheral and central nervous systems". Co-investigator.
- VI Award Societat Catalana de Neurologia - Fundació Uriach, 1996. "Schwann cells transplants: a new therapy for nerve regeneration". work director.
- Grant CRG971509, NATO Collaborative Research Grants Programme, 1997. "Nerve regeneration using alligned collagen matrices and Schwann cells". PI.
- Grant SAF97-0147, Programa Nacional de Salud, CICYT, 1998-2000. "Development and application of cellular prostheses for repairing peripheral nerves". PI.
- Project ESPRIT 26322, Programe ESPRIT, Comission of the European Communities, 1998-2001. "An integrated system for the neuroelectric control of grasp in disabled persons (GRIP)". PI.

- Award Schering-Plough, Sociedad Española de Neurología, 1998. "Olfactory bulb glial cells transplantation in demyelinated spinal cord: a therapeutic approach to multiple sclerosis".
- IX Award Societat Catalana de Neurologia - Fundació Uriach, 1999. "Ensheathing glia transplantation in demyelinating lesions". work director.
- Grant FIS 00/0031-02, Fondo de Investigación Sanitaria, Ministerio de Sanidad y Consumo, 2000-03. "Functional repair of spinal cord lesions with transplants of olfactory ensheathing glia, combined with neuroprotection and blockade inhibition of reactive glia". PI.
- Basic research award of the Acadèmia de Ciències Mèdiques de Catalunya i Balears, 2001-03. "Effects of immunophilins on nerve regeneration and glial transplants". co-investigator.
- Grant TIC2000-1398-C03, Ministerio de Ciencia y Tecnología, 2000-2003. "Neuroelectronic interphases: in vivo evaluation". co-investigator.
- Project IST-2001-35094, Programe IST, Comission of the European Communities, 2002-2005. "Development of a cybernetic hand prosthesis (CYBERHAND)". PI.
- Grant SAF2002-10159-E, Complementary Grant to an EU Project, Ministerio de Ciencia y Tecnología, 2003-05. PI.
- Grant SAF2002-04016-C02-02, Ministerio de Ciencia y Tecnología, 2003-05. "Modulation of glial reactivity and function of the rat spinal cord after traumatic and photochemical injuries". PI.
- Project IST-001917, Programa IST-FET, Comission of the European Communities, 2004-2008. "The fusion of Neuroscience and Robotics (NEUROBOTICS)". PI.
- Grant MERG-CT-2004-006381, Marie-Curie Reintegration Grant, European Commission, 2004-2005. "Use of embryonic stem cells and organotypic spinal cord slice preparations to establish cell-based therapies for spinal cord injury". PI Xavier Navarro; Researcher Caty Casas.
- Grant for Emerging Groups EME2005-15, UAB, 2005-07. "Cell transplants for repairing injuries to the central nervous system". Co-investigator.
- Grant for Research Project, Sociedad Española de Cirugía Ortopédica y Traumatología, 2006-07. Co-investigator.
- Bridge Grant for Research Groups PRP2006-07, UAB, 2006-07. "Repair of spinal cord injuries". PI.
- Grant PI060201, Fondo de Investigación Sanitaria, Inst Salud Carlos III, 2007-09. "Glial transplants combined with neuroprotection and neuronal restitution for repairing spinal root lesions". PI.
- Grant SAF2006-08682, Ministerio de Educación y Ciencia, 2007-09. "Pharmaco-cellular therapy for the repair of spinal cord injuries". Co-investigator.

- Grant from Fundació La MaratóTV3, 2008-2010. "Cell transplants and pharmacological treatment to control neuropathic pain in spinal cord lesions". Co-investigator.
- Project FP7 ICT- 224012, Commission of the European Communities, 2008-2012. "Transverse, Intrafascicular Multichannel Electrode system for induction of sensation and treatment of phantom limb pain in amputees (TIME)". PI.
- Marie Curie Initial Training Network, FP7- MC-214003-2, European Commission, 2008-2012. "Axonal regeneration, plasticity and stem cells (AXREGEN)". PI.
- Grant, Fundación Mapfre-Medicina, 2009. "Administration of AB-cristaline as a protective therapy in spinal cord injuries". Co-investigator.
- Grant SAF2009-12495, Ministerio de Ciencia e Innovacion, 2009-11. "Response of the spinal cord to transplants of ensheathing glia and bone marrow stromal cells: in vitro and in vivo studies". PI.
- Research Grant PIRG05-GA-2009-249274, Marie-Curie International Reintegration Grant, European Commission FP7, 2010-2014. "Role of lysophosphatidic acid in the pathophysiology of spinal cord injury (ROLPASCI)". PI Xavier Navarro; Researcher Rubèn López-Vales.
- Project FP7-278612, European Commission, 2011-2015. "Biohybrid templates for peripheral nerve regeneration (BIOHYBRID)". PI.
- Project FP7-280778-2, European Commission, 2012-2015. "Micro and Nano Engineered Bi-Directional Carbon Interfaces for Advanced Peripheral Nervous System Prosthetics and Hybrid Bionics (MERIDIAN)". PI.
- Project FP7-602547, European Commission, 2013-2016. "Natural sensory feedback for phantom limb pain modulation and therapy (EPIONE)". PI.
- Project FP7-611687, FET Proactive: Evolving living technologies, European Commission, 2013-2016. "Neurocontrolled bidirectional artificial upper limb and hand prosthesis (NEBIAS)". PI.
- Project TV3201428-10, Fundació La Marató-TV3, 2015-2017. "Gene therapy targeting neuregulins for the treatment of amyotrophic lateral sclerosis". PI.
- Cooperative project 2015/01, CIBERNED, 2015-2017. "Gene therapy addressing neuregulins for the treatment of motoneuron degeneration in amyotrophic lateral sclerosis". PI.
- Project PI15/01303, Instituto Salud Carlos III, 2015-2018. "Exploratory study on the etiopathogenesis, risk biomarkers and mechanisms involved in the regeneration of platinum-induced neuropathy". Co-investigator
- Project RTC-2015-3750-1, Ministerio de Economía y Competitividad, Spain, call Retos-Colaboración, 2015-2108. "Development of therapeutic agents based in nucleic acids for the treatment of neuromotor and neuromuscular diseases". Co-investigator.

- Project AFM-Telethon 20289. Association Française contre les Myopathies. 2016-2018. “Gene therapy targeting neuregulins for the treatment of amyotrophic lateral sclerosis”. PI.
- Project E10668. Eurostars, EUREKA. 2016-19. “eBIONERVE: personalized nerve grafts for treating human nerve injuries”. Co-PI.
- Project AC16/00050, ERA-Net NEURON Cofund and Instituto de Salud Carlos III, 2017-2019. “Non-invasive electrical stimulation of the cervical spinal cord to facilitate arm and hand functional recovery in incomplete traumatic cervical spinal cord injured patients (CERMOD)”. Co-investigator.
- Project funded by Fundación Ramon Areces, 2017-19. “Graphene-based flexible neural interfaces for the peripheral nervous system”. Co-investigator.
- Project PCI2018-093029, FLAG-ERA JTC and Ministerio de Ciencia, Innovación y Universidades, 2018-2021. “GRAphene-based Flexible neural Interfaces for the control of Neuroprosthetic devices (GRAFIN)”. PI (158.000€).
- Project RTI2018-096386-B-I00, Ministerio de Ciencia, Innovación y Universidades; Retos Investigación, 2019-2021. “Role of sigma 1 receptor on modulation of mitochondria-associated endoplasmic reticulum membrane (MAM) dysfunctions in motoneuron degeneration (SIGMAMALS)”. PI (150.000€).
- Project 20-DDC-497. The ALS Association, 2019-2021. “Synergistic dual target approach to ALS Therapy: simultaneous activation of two complementary targets, neuronal Kv7.2/3 channels and glial TSPO”. Coordinated project. Coordinator: Brigitte van Zundert, Universidad Andrés Bello, Chile. Local PI (\$176.000).
- Project, Cure for MND Foundation, 2019-2022. “Simultaneous activation of two complementary targets, Kv7.2/3 and TSPO: a promising and novel treatment of Amyotrophic Lateral Sclerosis (ALS)”. Coordinator: Mark Bellingham, University of Queensland. Local PI (AU\$ 216.300).
- Project NEUROGRAPH, GraphCAT: Comunitat Emergent de Grafè a Catalunya, Code 001-P-001702, PO FEDER Catalunya 2014-2020, 2018-2022. “Monitoring of cortical depolarization in neurointensive care using graphene microtransistors - clinical trial (NeuroGraph)”. PI (125.503€).
- Project GA 899822, H2020 FET Open, European Commission, 2020-2024. “Ultrasound peripheral interface and in-vitro model of human somatosensory system and muscles for motor decoding and restoration of somatic sensations in amputees (SOMA)”. PI (317.000€).
- Project PDC2021-121276-C33, Ministerio de Ciencia e Innovación; Pruebas de Concepto 2021, 2021-2022. Optimización de protocolos de actuación neuromórfica para un dispositivo de memoria accionado magnetoiónicamente. Co-investigator (11.500€).

- Project PCI2021-122075-2A, FLAG-ERA JTC and Agencia Estatal de Investigación, 2022-2024. Functional stimulation system for rehabilitation of gait and driving neural plasticity after spinal cord injury using graphene-based nerve electrodes (RESCUEGRAPH). PI (158.300€).

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## 7.2. Research Networks funded

- Special Action SAF96-1214-E, Programa Nacional de Salud, CICYT, investigator, 1996-97. "Establishment and consolidation of the Spanish Glial Network".
- Action COST-B10, Program COST, Research Network on "Brain Damage and Repair", European Commission, 1998-2002.
- Grant for the Network on Regeneration and Repair of the Nervous System, Generalitat de Catalunya, DGR (2000XT-00097) 2001-04.
- Grant for the Network on Regeneration and Repair of the Nervous System, Generalitat de Catalunya, AGAUR (2004XT-00074) 2005-08.
- Grant for the Network on Neuroprotheses for Rehabilitation, Generalitat de Catalunya, (DGR 2001XT-00051) 2002-04.
- Grant for the Network on Neuroprotheses for Rehabilitation, Generalitat de Catalunya, (AGAUR 2004XT-00055) 2005-08.
- Action COST-B30, Program COST, European Framework Programme, 2006-2010. Research Network "Neural regeneration and plasticity (NEREPLAS)".
- Group member of Centro de Investigación Biomédica en Red sobre Enfermedades Neurodegenerativas (CIBERNED), CB06/05/1105, Instituto de Salud Carlos III, 2008-present.
- Group member of Cell Therapy Network (TERCEL) RD06/0010/1004, Instituto de Salud Carlos III, 2008-2012. PI
- Distinction for Research Groups 2009SGR-1509, Agència de Gestió d'Ajuts Universitaris i de Recerca, Generalitat de Catalunya, 2009-2013. "Group of Neuroplasticity and Regeneration".
- Group member of Cell Therapy Network (TERCEL) RD12/0019/0011, Instituto de Salud Carlos III, 2013-2016. PI
- Distinction for Research Groups 2014SGR-201, Agència de Gestió d'Ajuts Universitaris i de Recerca, Generalitat de Catalunya, 2014-2016. "Group of Neuroplasticity and Regeneration".
- Group member of Cell Therapy Network (TERCEL) RD16/0011/0035, Instituto de Salud Carlos III, 2017-2021. PI
- Distinction for Research Groups 2017SGR-233, Agència de Gestió d'Ajuts Universitaris i de Recerca, Generalitat de Catalunya, 2018-2022. "Group of Neuroplasticity and Regeneration".

### 7.3. Research contracts funded by industry and corporations

- Contract grant with B. Braun Medical, 1993-1994. "Neurophysiological evaluation of bupivacaine in emulsion for peridural anesthesia". PI.
- Contract grant with Centro Nacional de Microelectrónica (CSIC), 1994. "Neural interface: Development of an experimental biological model". PI.
- Contract grant with Boehringer Ingelheim Pharma KG, 2000. "Assesment of the effects of immunophilin ligands". PI.
- Contract with Fundació Institut Guttmann, 2002-2010. "Advisory of research and training in neurorehabilitation".
- Contract grant with Laboratorios Esteve, 2006. "Effects of TTX on electrophysiological nerve excitability properties and on ectopic discharges in an animal model of neuropathic pain". PI.
- Contract grant with GlaxoSmithkline R&D, 2006. "Sweating mouse model". PI.
- Contract grant with Johnson & Johnson Pharmaceutical R&D, 2008-09. "Neurophysiological, histological, and immunohistochemical characterization of bortezomib-induced neuropathy in mice". PI.
- Contract grant with Johnson & Johnson Pharmaceutical R&D, 2009-11. "Evaluation of neuroprotective drug(s) to prevent bortezomib-induced neuropathy in mice". PI.
- Contract grant with Neurotec Pharma, 2011. "Evaluation of neuroprotective effects of NT-KO-003 compound in a model of motoneuron degeneration". PI.
- Contract grant with Neurotec Pharma, 2011-12. "Evaluation of neuroprotective effects of NT-KO-003 compound in a model of motoneuron degeneration. Study 2". PI.
- Subcontract with Project "STOP-ELA: multi-technologic approach for development of new therapies and advanced systems of pharmacologic delivery for amyotrophic lateral sclerosis", Programa INNPACTO, MICINN, 2013-14. PI.
- Contract grant with Laboratorios Esteve, 2015-17. "Evaluation of neuroprotective effects of sigma1 receptor ligands in models of motoneuron degeneration". PI.
- Contract grant with Oryzon Genomics, 2017. "Evaluation of neuroprotective effects of lsd-1 inhibitors in an in vitro model of motoneuron degeneration". PI
- Contract grant with Oryzon Genomics, 2017-18. "Evaluation of neuroprotective effects of LSD-1 inhibitors in the amyotrophic lateral sclerosis SOD1<sup>G93A</sup> mouse model". PI (18.607€).
- Contract grant with Laboratorios Esteve, 2017-19. "Evaluation of neuroprotective effects of sigma1 receptor ligands in in vitro and in vivo models of motor neuron degeneration". PI (80.000 €/year).

- Research agreement with Banc de Sang i Teixits, 2017-18. “Phase I/IIa, Randomized, Double-Blind, Two-Treatment-Arm, Placebo-Controlled Pilot Clinical Study to Evaluate Safety and Obtain Evidence of Efficacy in Intrathecal Administration of Wharton's Gelatin Expanded Mesenchymal Cells in Chronic Traumatic Spinal Cord Injury” (XCEL-SCI-01)”. PI (12.650 €)
- Contrato de Investigación con VERIGRAFT, 2019-20. “Bionerve grafts implanted to bridge a large nerve defect in sheep”. IP Xavier Navarro (98.225€).
-

## 8. SCIENTIFIC SOCIETIES

Acadèmia de Ciències Mèdiques de Catalunya i Balears, since 1974,

- President, Association of Medical Youth, 1977-78.

- Member of the board, Catalan Association of Electromyography, 1989-90.

Sociedad Española de Neurología, since december 1981.

- Member of the Teaching Committee, 1998-2002.

Member of the Medical Council, Asociación Española de Esclerosis Múltiple, 1984 to 1996.

American Academy of Neurology. Associate non-clinical member, 1986 to 1993. Corresponding Associate member 1993 to 1999.

American Association of Electrodiagnostic Medicine. Active member by examination, 1988 to 1996.

Overseas member 1996 to 2005.

European Neurological Society. Active member, 1988 to 1993.

Member of the Advisory Council on Physical Activity and Health Promotion, Generalitat de Catalunya, 1989 to 1999.

Research Group on the Autonomic Nervous System, World Federation of Neurology. Member, since july 1990.

Sociedad Española de Ciencias Fisiológicas. Numerary member, since 1990.

Sociedad Española de Neurociencias. Active member, since 1993.

European Neuroscience Association. Ordinary member, since 1994.

American Autonomic Society. Member, 1994 to 1998.

American Physiological Society. Corresponding member, since 1995.

Club Español de Electromiografía, founding member, since 1996. Later named SELECNE.

European Society of Peripheral Nerve Regeneration, founding member, since 2014. Treasurer.

## 9. SCIENTIFIC JOURNALS

Member of the Editorial Board, *Revista de Neurología*, 1995 to 1997.

Member of the International Editorial Board, *Journal of the Peripheral Nervous System*, 1996 to 2007.

Member of the Editorial Committee, *Continua Neurológica*, 1998 to 2002.

Member of the Editorial Board, *Restorative Neurology and Neuroscience*, since 2000.

Member of the Editorial Board, *Muscle & Nerve*, 2001 to 2005.

Associate editor, *Frontiers in Neuroengineering*, since 2008.

Member of the Editorial Board, *Neural Plasticity*, since 2018

Reviewer for *Acta Biomaterialia*, *Acta Neuropathologica*, *American Journal of Physiology*, *Annals of Neurology*, *Biomaterials*, *BMC Neuroscience*, *Brain*, *Brain Research*, *British Journal of Pharmacology*, *Diabetes Care*, *European Journal of Neuroscience*, *Experimental Neurology*, *Frontiers in Neurosciences*, *Frontiers in Physiology*, *IEEE Transactions Biomedical Engineering*, *Journal of Clinical Medicine*, *Journal of Neural Engineering*, *Journal of Neuroscience*, *Journal of Neuroscience Research*, *Journal of Neurophysiology*, *Journal of Neuroscience Methods*, *Medical Research Reviews*, *Movement Disorders*, *Muscle & Nerve*, *Nature Communications*, *Nature Neurology Clinical Practice*, *Nature Neuroscience*, *Neural Plasticity*, *Neurología*, *Neurological Sciences*, *Neurology*, *Neuropathology and Applied Neurobiology*, *Neuroscience*, *Neuroscience Letters*, *Neurorehabilitation & Neural Repair*, *Neurosurgery*, *Neurotherapeutics*, *New England Journal of Medicine*, *PLOSOne*, *Progress in Neurobiology*, *Science Advances*, *Sensors & Actuators*, *Theranostics*.

## 10. COMMUNICATIONS TO CONGRESSES

1. Martín S, Navarro X, Segura R. Funcionalismo miocárdico y ácidos grasos. Societat Catalana de Biologia, may 1979.
2. Segura R, Navarro X. Determination of lipid classes using submicroliter amounts of plasma by thin-layer chromatography and in situ spectrofluorometry after thermal treatment in the presence of silicon tetrachloride. World Congress of the International Society for Fat Research and the American Oil Chemists Society, New York, NY, may 1980.
3. Segura R, Navarro X. The use of halides as fluorescence inducing reagents for thin-layer chromatography. XV International Symposium Advances in Chromatography, Houston, TX, october 1980.
4. Navarro X. Perspectivas profesionales para los nuevos licenciados. Opciones para una racionalización de los recursos humanos en nuestra sanidad. Conference. Jornadas de Médicos Postgraduados de Cataluña, Barcelona, may 1981.
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6. Arqué JM, Leiva A, Serrano J, Navarro X, Segura R. Cuantificación de indolaminas y metabolitos relacionados mediante la combinación de cromatografía en capa fina y espectrofluorimetría. II Congreso FESBE, Madrid, june 1981.
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8. Arqué JM, Leiva A, López M, Navarro X, Segura R. Combined TLC-spectrofluorometric method for the quantitation of O-phthaldial dehydroxy and methoxy indole derivatives of biological interest. XVI International Symposium Advances in Chromatography, Barcelona, september 1981.
9. Balcells M, Targa C, Gironés D, Comes E, Navarro X, Toro PL. Neuralgia migrañosa crónica, una variante del cluster headache. 33 Reunión Nacional de la Sociedad Española de Neurología, Barcelona, december 1981.
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21. Kennedy WR, Navarro X, Kamei H. Sudomotor reinnervation in the mouse paw by collateral sprouting and by axon regeneration. Peripheral Neuropathy Association of America, Hilton Head, SC, november 1986.
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23. Van der Vliet JA, Sutherland D, Navarro X, Kennedy WR, Goetz FC. Long term follow-up of polyneuropathy in diabetic kidney transplant recipients. Minnesota Society of Neurological Sciences, Minneapolis, MN, november 1986.
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25. Navarro X, Kamei H, Kennedy WR. Comparación de los mecanismos de reinervación de las glándulas sudoríparas. 38 Reunión Anual de la Sociedad Española de Neurología, Barcelona, december 1986.
26. Navarro X, Segura R. Plasma lipids and fatty acids in multiple sclerosis. 39th Annual Meeting of the American Academy of Neurology, New York, NY, april 1987.
27. Kennedy WR, Navarro X, Kamei H. Influence of age on sudomotor axon regeneration. 39th Annual Meeting of the American Academy of Neurology, New York, NY, april 1987.
28. Van der Vliet JA, Navarro X, Kennedy WR, Goetz FC, Sutherland DER, Najarian JS. Polyneuropathy in diabetic kidney transplant recipients. 39th Annual Meeting of the American Academy of Neurology, New York, NY, april 1987.
29. Navarro X, Kennedy WR. Sudomotor nerve regeneration during maturation in mice. VIII International Congress of Electromyography and Related Clinical Neurophysiology, Sorrento, Italy, may 1987.
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33. Kennedy WR, Navarro X, Grampré J, Quick DC, Sakuta M. Orderly recruitment of sweat gland secretion. 112th Annual Meeting of the American Neurological Association, San Francisco, CA, october 1987.
34. Kennedy WR, Fries TJ, Navarro X. Small nerve fiber involvement in diabetic neuropathy. 34th American Association of Electromyography and Electrodiagnosis Annual Meeting, San Antonio, TX, october 1987.
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60. Navarro X, Kennedy WR, Sutherland DER. Improvement of diabetic neuropathy after a pancreas transplantation. IV Congress of the European Society for Organ Transplantation, Barcelona, november 1989.
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62. Miralles R, Espadaler JM, Navarro X, Rubies J. Neuropatía autonómica: estudio comparativo entre pacientes diabéticos y alcohólicos crónicos. 41 Reunión Anual de la Sociedad Española de Neurología, Barcelona, december 1989.
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64. Navarro X, Kennedy WR, Loewenson RB, Sutherland DER. Autonomic neuropathy and mortality in diabetic patients after a pancreas transplantation. 42nd Annual Meeting of the American Academy of Neurology, Miami, FL, april 1990.
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71. Verdú E, Guerrero J, Navarro X, Goñalons E. Evaluación de la función sudomotora en la neuropatía experimental por acrilamida. XXIV Congreso Nacional de la Sociedad Española de Ciencias Fisiológicas, Madrid, september 1990.

72. Navarro X, Verdú E, Butí M, Kennedy WR. Efectos de un injerto de nervio sobre la reinervación de músculos y glándulas sudoríparas. XXIV Congreso Nacional de la Sociedad Española de Ciencias Fisiológicas, Madrid, september 1990.
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91. Butí M, Verdú E, Forés J, Navarro X, Ramón R. Respuesta funcional del nervio periférico frente a diversos tipos de lesión y reparación. XXIX Congreso de la Sociedad Española de Cirugía Ortopédica y Traumatología, Granada, october 1992.
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### 13. Ph.D. THESIS DIRECTED

1. Enrique Verdú. "Variaciones de la capacidad regenerativa del sistema nervioso periférico con el envejecimiento". Fac. Ciencias, UAB, Bellaterra, march 1994. A Cum Laude.
2. Miquel Butí. "Reparación de lesiones de nervios periféricos por tubulización". Fac. Medicina, UAB, Bellaterra, may 1994. A Cum Laude.
3. Rafael O. Labrador. "Matrices acelulares y reparación de nervios periféricos por tubulización". Fac. Medicina, UAB, Bellaterra, june 1996. A Cum Laude.
4. Dolores Ceballos. "Estudio morfológico y ultraestructural del nervio periférico adulto y de sus variaciones con la edad". Fac. Ciencias, UAB, Bellaterra, november 1996. A Cum Laude. Co-director Dr. Jordi Cuadras Mas.
5. Jorge Juan Vilches. "Evaluación de la función sudomotora normal y en procesos de denervación y reinervación". Fac. Ciencias, UAB, Bellaterra, december 1997. A Cum Laude.
6. Juan José Lázaro. "Evaluación neurofisiológica de los anestésicos locales en emulsión lipídica". Fac. Medicina, UAB, Bellaterra, december 1998. A Cum Laude.
7. Francisco J. Rodríguez. "Injerto nervioso artificial y transplantes de células de Schwann en la reparación de nervio periférico". Fac. Ciencias, UAB, Bellaterra, march 1999. A Cum Laude Laude.
8. Antoni Valero-Cabré. "Restitució funcional i especificitat de la reinnervació després de lesions i reparacions del nervi perifèric". Fac. Medicina, UAB, Bellaterra, december 1999. A Cum Laude.
9. J. Rodrigo Pascual. "Efecto de la deprivación social temprana sobre el desarrollo neuronal en las cortezas prefrontal y cerebelosa de la rata: estudio morfológico e inmunohistoquímico". Fac. Medicina, UAB, Bellaterra, may 2000. A Cum Laude.
10. Esther Udina. "Efectes de l'FK506, un lligand d'immunofilines, en la regeneració nerviosa". Fac. Medicina, UAB, Bellaterra, april 2004. A Cum Laude.
11. Natalia Lago. "Evaluación neurobiológica de electrodos regenerativos como interfase entre nervios lesionados y prótesis biónicas". Fac. Ciències, UAB, Bellaterra, july 2006. A Cum Laude.
12. Mónica S. Guzmán-Lenis. "Estudio del efecto neuroprotector de tratamientos farmacológicos en un modelo in vitro de lesión excitotóxica de médula espinal de rata basado en cultivos organotípicos". UAB, Bellaterra, january 2009. A Cum Laude.
13. Narda Murillo. "Neuromodulación de la espasticidad en pacientes con lesión medular mediante vibración y estimulación magnética transcranial". Universitat Autònoma de Barcelona, july 2010. A Cum Laude.
14. M Dolores Soler. "Terapias neuromoduladoras para el dolor neuropático después de una lesión medular". Universitat Autònoma de Barcelona, november 2010. A Cum Laude.

15. Jordi Badia. “Neurobiological assessment of Transverse Intrafascicular Multichannel Electrodes (TIME) for the selective interface of peripheral nerves”. Universitat Autònoma de Barcelona, november 2011. A Cum Laude.
16. Laura Casals. “Neuroimmune interactions in neuropathic pain. Involvement of TNF- $\alpha$  and voltage-gated sodium channels in sensory neurons after peripheral nerve injury”. Universitat Autònoma de Barcelona, november 2011. A Cum Laude.
17. Armelle Klopstein. “Experimental spinal cord injury: Modulation of the inflammatory response and its effects on the secondary damage”. Universitat Autònoma de Barcelona, december 2011. A Cum Laude.
18. Ilary Allodi. “Changing the intrinsic growth capacity of motor and sensory neurons to promote axonal growth after injury”. Universitat Autònoma de Barcelona, july 2012. A Cum Laude.
19. Jordi Bruna Escuer. “Neuropatia induïda per bortezomib. Caracterització i factors de risc en un model experimental”. Universitat Autònoma de Barcelona, october 2012. A Cum Laude.
20. Elena Redondo Castro. “Neuropathic pain after thoracic spinal cord injuries. The importance of plasticity in lumbar segments and glial modulation”. Universitat Autònoma de Barcelona, april 2013. A Cum Laude.
21. Abel Torres Espín. “Terapia celular para lesiones que afectan a la médula espinal”. Universitat Autònoma de Barcelona, june 2013. A Cum Laude.
22. Renzo Mancuso. “Electrophysiological biomarkers for the study of new therapeutic strategies for motoneuron disease”. Universitat Autònoma de Barcelona, june 2014. A Cum Laude. Premi Extraordinari de Doctorat. Director: Xavier Navarro.
23. Francisco J González-Pérez. “Functionalizing artificial nerve guides to promote regeneration and recovery after peripheral nerve injuries”. Universitat Autònoma de Barcelona, february 2016. A Cum Laude. Director: Xavier Navarro, Esther Udina.
24. Daniel Santos Rojas. “Contributions to the development of a bio-electronic regenerative interface for the injured peripheral nerve”. Universitat Autònoma de Barcelona, july 2016. A Cum Laude. Director: Xavier Navarro, Jaume del Valle.
25. Víctor M López Álvarez. “Activity-dependent treatments for neuropathic pain”. Universitat Autònoma de Barcelona, october 2017. A Cum Laude. Director: Xavier Navarro, Stefano Cobianchi.
26. Natalia de la Oliva Muñoz. Biological response to implanted intraneural electrodes. Universitat Autònoma de Barcelona, february 2018. A Cum Laude. Director: Xavier Navarro, Jaume del Valle.

27. Guillem Mòdol Caballero. Gene therapy targeting Neuregulins for the treatment of amyotrophic lateral sclerosis. Universitat Autònoma de Barcelona, 12 juliol 2019. Excel·lent Cum Laude. Directors: Mireia Herrando, Xavier Navarro.
28. Marc Sebastián Romagosa. Brain computer interfaces for brain acquired damage. Universitat Autònoma de Barcelona, 9 juliol 2020. Excel·lent Cum Laude. Tesi Internacional. Directors: Esther Udina, Xavier Navarro, Rupert Ortner.
29. Núria Gaja Capdevila. Evaluation of neuroprotective effects of Sigma 1 receptor ligands on motoneuron degeneration models. Universitat Autònoma de Barcelona, 26 octubre 2021. Excel·lent Cum Laude. Directors: Mireia Herrando, Xavier Navarro.
30. Miguel A. Rubio Pérez. Characterization of alterations in sensory neuronal populations in amyotrophic lateral sclerosis. Universitat Autònoma de Barcelona, 4 febrero 2022. Excel·lent Cum Laude. Directors: Mireia Herrando, Xavier Navarro.

### 13.2. POSTGRADUATE RESEARCH WORKS DIRECTED (Master Thesis)

1. Enrique Verdú. "Variación de la capacidad de reinervación con la edad". Neuroscience Program, UAB, June 1991.
2. Miquel Butí. "Guies neurals en la regeneració dels nervis perifèrics". Neuroscience Program, UAB, June 1991.
3. Mònica Barnosell. "Variaciones funcionales del sistema nervioso periférico con el envejecimiento". Neuroscience Program, UAB, June 1992.
4. Jorge Vilches. "Evaluación de la respuesta sudorípara ante agentes colinérgicos". Neuroscience Program, UAB, June 1994.
5. Rafael O. Labrador. "Efectos de la matriz regenerativa en la reparación de lesiones nerviosas por tubulización". Neuroscience Program, UAB, June 1994.
6. Enric Bufill. "Prevalencia de la esclerosis múltiple en la comarca de Osona". Neuroscience Program, UAB, September 1994.
7. Nuria Gómez. "Estudio morfológico de la regeneración nerviosa tras resección y reparación". Neuroscience Program, UAB, September 1995.
8. Antoni Valero-Cabré. "Recuperació funcional després de diferents tipus de lesions i reparacions del nervi ciàtic de la rata". Neuroscience Program, UAB, June 1997.
9. J. Rodrigo Pascual. "Efecto de la restricción temprana de movimiento sobre el desarrollo dendrítico de las células de Purkinje en la rata". Neuroscience Program, UAB, June 1998.
10. Esther Udina. "Efectes de l'FK506, un lligand d'immunofilines, en la regeneració nerviosa". Neuroscience Program, UAB, September 2001.
11. Mónica S. Guzmán. "Desarrollo de un sistema de vectores plasmídicos para la generación de líneas de células de Schwann modificadas genéticamente, dirigidas a promover la regeneración nerviosa". Neuroscience Program, UAB, September 2004.
12. Beatriz Castaño. "Patología psiquiátrica en pacientes con lesión de sistema nervioso central". Public Health Program, UAB, September 2004.
13. Antoni Puigdemasa Borrajo. "Efectes de diverses teràpies dependents d'activitat sobre la regeneració nerviosa". Neuroscience Program, UAB, September 2006.
14. M. Dolor Soler Fernández. "Dolor neuropático en pacientes con lesión medular". Programa Neurociències, UAB, June 2007.
15. Laura Casals Díaz. "Canvis plàstics a les neurones nociceptives primàries i dolor neuropàtic en tres models de lesió del nervi ciàtic". Neuroscience Program, UAB, September 2007.
16. Jordi Badia Casahuga. "Estudi del patró fascicular del nervi perifèric". Neuroscience Program, UAB, September 2007. Notable.

17. Stanisa Raspopovic. "Development and test of algorithms for the use of peripheral neural interfaces to control robotic systems". Master of Science in Biomedical Engineering, Università di Pisa, september 2007.
18. Narda Murillo Licea. "Disminución de la espasticidad en sujetos con lesión medular por medio de la vibración". Neuroscience Program, UAB, june 2008.
19. Elena Asensio Pinilla. "Efectes de l'estimulació elèctrica i l'exercici sobre la regeneració en el sistema nerviós perifèric". Neuroscience Program, UAB, june 2008.
20. Alejandro Ceja García. "Efectos de la estimulación eléctrica sobre la regeneración nerviosa en lesiones de distinta severidad en el ratón". Neuroscience Program, UAB, september 2009.
21. Renzo Mancuso. "Electrophysiological analysis of a murine model of motoneuron disease". Master of Neurosciences, UAB, july 2010.
22. Cristina de Diego i Sílvia Puig. "Programa de estimulación sensorio-motora en la rehabilitación de pacientes con accidente cerebro-vascular crónico". Master of Neurosciences, UAB, september 2010.
23. Julia de Cruz. "Evaluación de la hiperalgesia y la reinervación sensorial despues de lesión de nervio periférico". Dirs.: Xavier Navarro & Stefano Cobianchi. Màster de Neurociències, UAB, september 2013.
24. Natalia de la Oliva. "Role of lipid rafts in peripheral nerve regeneration after axotomy". Dirs.: Jaume del Valle & Xavier Navarro. Màster de Neurociències, UAB, september 2014.
25. Antonio Cuesta. Model for the control of the foreign body response to intraneural electrodes based on collagen coating. Dirs.: Jaume del Valle, Xavier Navarro. Màster de Neurociències, UAB, september 2015.
26. Guillem Mòdol Caballero. Effect of Neuregulin-1 (NRG1) in amyotrophic lateral sclerosis (ALS) *in vitro* models. Dirs.: Mireia Herrando, Xavier Navarro. Màster de Neurociències, UAB, september 2015.
27. Maria Puigdoménech. Central modulation of neuropathic pain after peripheral nerve injury induced by treadmill exercise. Dirs.: Stefano Cobianchi, Xavier Navarro. Màster de Neurociències, UAB, september 2015.
28. Guillermo Alegre Alvira. Effects of Sigma 1 receptor modulators on a cell model of Amyotrophic Lateral Sclerosis. Dirs.: Mireia Herrando, Xavier Navarro. Màster de Neurociències, UAB, september 2016
29. Bruno Rodríguez. Nerve regeneration within a regenerative cuff electrode. Dirs.: Jaume del Valle, Xavier Navarro. Màster de Neurociències, UAB, juliol 2018.

30. Irina Noguera Calabús. Biocompatibility of graphene intrafascicular electrodes. Dirs.: Jaume del Valle, Xavier Navarro. Màster de Neurociències, UAB, juliol 2018.
31. Ildefonso Buela Fresno. Assessment of new treatments to reduce the foreign body reaction to intraneural implants. Dirs.: Jaume del Valle, Xavier Navarro. Màster de Neurociències, UAB, juliol 2019.
32. Jules P Hamers. Negative x Negative Makes Positive: Inhibiting the inhibitor to promote axonal regeneration. Dir.: Clara Penas, Xavier Navarro. Master of Biomedical Sciences, Maastricht University (NL), June 2020.
33. Patrick Cottilli. Effects of Sigma-1 receptor ligands on peripheral nerve regeneration. Dir.: Núria Gaja y Xavier Navarro. Màster de Neurociències, UAB, juliol 2021.
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## 14. PATENTS

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