CURRÍCULUM VÍTAE NORMALIZADO

VICTOR MANUEL MESEGUER VIGUERAS

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GOBIERNO DE ESPAÑA
MINISTERIO DE CIENCIA E INNOVACIÓN

FECYT FUNDACIÓN ESPAÑOLA PARA LA CIENCIA Y LA TECNOLOGÍA

Summary of CV

This section describes briefly a summary of your career in science, academic and research; the main scientific and technological achievements and goals in your line of research in the medium -and long- term. It also includes other important aspects or peculiarities.

I obtained a major degree in Biology at the University of Murcia (2001). From early on I realised I was highly motivated for scientific research and I started working at the Francisca Sevilla Lab, in the CEBAS-CSIC, where I was granted with a “Fundación Séneca” Fellowship. The results were published in The Experimental Journal of Botany (2006).

I did my PhD in Neurosciences at the Instituto de Neurociencias de Alicante under the supervision of Félix Viana. In order to fund my predoctoral work I obtained a “MCYT” fellowship at first, and a “Generalitat Valenciana” predoctoral fellowship afterwards. During my PhD I performed two scientific stays to learn “patch-clamp” and cell culture techniques at the KULeuven (Leuven, Belgium) for 3 months in 2004 and for 6 months in 2006. My thesis, presented in July 2009, obtained the Cum Laude rate and the Extraordinary PhD Award by the Universidad Miguel Hernández (UMH). I also presented my work in several international conferences and published 7 articles (with 2 first-author papers, one of them in The Journal of Neuroscience, one review, and I was co-author in prestigious journals such as Nature Neuroscience, The Journal of Neuroscience and The Journal of Physiology).

After obtaining the PhD degree, I did my first postdoc under the supervision of Carlos Belmonte (2010-2013). During that period of time I initiated and coordinated a project about the identification of TRPA1 as a direct molecular sensor of bacterial endotoxins on nociceptors. As result of that, I am co-inventor on a patent, conceded in 2013 and held by the UMH and CSIC, related to the use of TRPA1 antagonists for the treatment of symptoms caused by bacterial infections or bacterial endotoxins. Shortly after getting the patent approval, the results were published in Nature Communications (2014).

Simultaneously, I was recognized by the UMH as Honorary Lecturer and participated in teaching Physiology subjects for Medicine students, and obtained in 2014 the positive evaluation by ANECA compulsory for recruitment by Public Universities of PhD assistant lecturers (Profesor Ayudante Doctor) and PhD lecturers (Profesor Contratado Doctor).

After my first postdoc, seeking to expand my knowledge in the modulation of ion channel activity, and attracted by the highly competitive scientific environment and cutting-edge technology of the Department of Cellular and Molecular Biology of the University of California at Berkeley, I moved to San Francisco (USA) where I joined to Richard Kramer Group, a pioneer and world leader in the use of the so-called “photoswitches”, small molecules that confer light sensitivity to ion channels. During this stay (2013-2015), I acquired first-hand experimental experience in photo-control of ion channels, and specifically I worked on the photo-modulation of retinal ganglion cells and HCN channels by DENAQ, a photoswitch that has been proven to be effective in the visual restoration in blind mice. The results allowed me to be coauthor in both Nature Neuroscience and Neuron in 2016. After that, I returned back to Carlos Belmonte and Juana Gallar lab, at the UMH, where I am leading two projects. On the one hand, we aim at defining corneal nerve plasticity in the adult living mouse. On the other hand, we are optically controlling corneal nerve activity by using photoswitches. This project has been granted by “Ministerio de Ciencia e Innovación” with competive funds in 2019.

General quality indicators of scientific research

This section describes briefly the main quality indicators of scientific production (periods of research activity, experience in supervising doctoral theses, total citations, articles in journals of the first quartile, H index...). It also includes other important aspects or peculiarities.

I have published **22** articles, including **4** first-author papers,one of them in Nature Communications, another one in The Journal of Neuroscience, an article in Channels and a review in the journal Current Pharmaceutical Biotechnology. In addition, as last author,I have published two reviews in the International Journal of Molecular Science and a scientific paper in Investigative Ophthalmology & Visual Science. Besides that, I am a co-author in two Nature Neuroscience articles, a Neuron paper and a Nature Communications. Among these publications, **19** out of **22** are **Q1** papers. In addition, I am co-inventor of a patent entitled: Use of TRPA1 receptor antagonists for treating diseases associated with bacterial infections.. Further, I have an **H index** of **16** and my publications have been **cited 1352** times. The sum of cites without self-citation is **1317 .** These quality indicators have been obtained from the Web of Science Core Collection report. Further, I have gained recognition for a six year research from the "Agència Valenciana d´Avaluació i Prospectiva (AVAP)."

VICTOR MANUEL MESEGUER VIGUERAS

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Name: **VICTOR MANUEL**
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ResearcherID: **L-3883-2014**
Contact aut. region/reg.: **Valencian Community**

Current professional situation

Employing entity: Universidad Miguel Hernández de Elche **Type of entity:** University
Department: Physiology, Facultad de Ciencias Experimentales
Professional category: Assistant Professor
Start date: 01/09/2017
Type of contract: Temporary employment contract **Dedication regime:** Full time
Primary (UNESCO code): 240000 - Life Science
Secondary (UNESCO code): 241100 - Human physiology
Identify key words: Natural sciences and health sciences

Previous positions and activities

	Employing entity	Professional category	Start date
1	Universidad Miguel Hernández de Elche	Adjunct Professor	01/09/2016
2	Universidad Miguel Hernández de Elche	Research Associate	01/09/2015
3	University of California, Berkeley	Research Associate	01/07/2013
4	Instituto de Neurociencias de Alicante - UMH	Research Associate	01/03/2010
5	Instituto de Neurociencias de Alicante - UMH	Reserach Associate	07/09/2009
6	Instituto de Neurociencias de Alicante - UMH	PhD student	01/09/2007
7	Instituto de Neurociencias de Alicante	PhD student	01/09/2003
8	Instituto de Neurociencias de Alicante - UMH	PhD student	01/07/2003
9	Centro de Edafología y Biología Aplicada del Segura –CEBAS-CSIC	PhD student	10/03/2003

1 **Employing entity:** Universidad Miguel Hernández de Elche
Department: Fisiología, Facultad de Ciencias Experimentales
City employing entity: Elche, Valencian Community, Spain
Professional category: Adjunct Professor
Start-End date: 01/09/2016 - 31/08/2017 **Duration:** 1 year

Type of contract: Temporary employment contract
Dedication regime: Part time
Primary (UNESCO code): 240000 - Life Science
Secondary (UNESCO code): 241100 - Human physiology

2 **Employing entity:** Universidad Miguel Hernández de Elche
Professional category: Research Associate
Start-End date: 01/09/2015 - 31/08/2017 **Duration:** 2 years
Type of contract: Temporary employment contract
Dedication regime: Full time
Primary (UNESCO code): 240000 - Life Science
Secondary (UNESCO code): 249000 - Neurosciences
Tertiary (UNESCO code): 249001 - Neurophysiology

3 **Employing entity:** University of California, Berkeley
Professional category: Research Associate
Start-End date: 01/07/2013 - 12/05/2015 **Duration:** 1 year - 10 months - 12 days

4 **Employing entity:** Instituto de Neurociencias de Alicante - UMH **Type of entity:** University
Professional category: Research Associate
Start-End date: 01/03/2010 - 31/07/2013 **Duration:** 3 years - 5 months

5 **Employing entity:** Instituto de Neurociencias de Alicante - UMH **Type of entity:** University
Professional category: Reserach Associate
Start-End date: 07/09/2009 - 28/02/2010 **Duration:** 5 months - 24 days

6 **Employing entity:** Instituto de Neurociencias de Alicante - UMH **Type of entity:** University
Professional category: PhD student
Start-End date: 01/09/2007 - 30/12/2008 **Duration:** 1 year - 3 months - 30 days

7 **Employing entity:** Instituto de Neurociencias de Alicante **Type of entity:** State agency
Professional category: PhD student
Start-End date: 01/09/2003 - 01/09/2007 **Duration:** 4 years

8 **Employing entity:** Instituto de Neurociencias de Alicante - UMH **Type of entity:** University
Professional category: PhD student
Start-End date: 01/07/2003 - 01/09/2003 **Duration:** 2 months

9 **Employing entity:** Centro de Edafología y Biología Aplicada del Segura –CEBAS-CSIC **Type of entity:** State agency
Professional category: PhD student
Start-End date: 10/03/2003 - 01/07/2003 **Duration:** 3 months - 20 days

Education

University education

1st and 2nd cycle studies and pre-Bologna degrees

University degree: Higher degree
Name of qualification: Degree in Biology
Degree awarding entity: Universidad de Murcia **Type of entity:** University
Date of qualification: 26/09/2001

Doctorates

Doctorate programme: PhD in Neurosciences
Degree awarding entity: Universidad Miguel Hernández de Elche **Type of entity:** University
Date of degree: 16/07/2009

Language skills

Language	Listening skills	Reading skills	Spoken interaction	Speaking skills	Writing skills
English	B2	B2	B2	B2	B2

Teaching experience

General teaching experience

1 **Type of teaching:** Official teaching
Name of the course: Cell Communication
Professional category: Investigador
Type of programme: Master's degree **Type of teaching:** Practical work (classroom-problems)
Type of subject: Obligatory
University degree: Master en Neurociencias
Start date: 2018 **End date:** 2018
Type of hours/ ECTS credits: Credits
Hours/ECTS credits: 2
Entity: Universidad Miguel Hernández de Elche **Type of entity:** University
Faculty, institute or centre: Instituto de Neurociencias de Alicante
City of entity: Alicante, Spain
Subject language: English

2 **Type of teaching:** Official teaching
Name of the course: Cell Communication
Professional category: Investigador
Type of programme: Master's degree **Type of teaching:** In person theory
Type of subject: Obligatory
University degree: Master en Neurociencias
Start date: 2018 **End date:** 2018
Type of hours/ ECTS credits: Credits
Hours/ECTS credits: 2
Entity: Universidad Miguel Hernández de Elche **Type of entity:** University
Faculty, institute or centre: Instituto de Neurociencias de Alicante
City of entity: Alicante, Spain
Subject language: English

3 **Type of teaching:** Official teaching
Name of the course: Fisiología Humana y Animal
Professional category: Profesor Ayudante Doctor
Type of programme: Bachelor's degree **Type of teaching:** Laboratory work
Type of subject: Core
University degree: Ciencias Ambientales
Start date: 2018 **End date:** 2018
Type of hours/ ECTS credits: Credits
Hours/ECTS credits: 21
Entity: Universidad Miguel Hernández de Elche **Type of entity:** University
Faculty, institute or centre: Facultad de Ciencias Experimentales
Department: Departamento de Fisiología
City of entity: Elche, Spain
Subject language: Spanish

4 **Type of teaching:** Official teaching
Name of the course: Fisiología Animal y humana
Professional category: Profesor asociado
Type of programme: Bachelor's degree **Type of teaching:** Laboratory work
Type of subject: Core
University degree: Grado en Biotecnología
Course given: primero
Start date: 2016 **End date:** 2017
Type of hours/ ECTS credits: Hours
Hours/ECTS credits: 45
Entity: Universidad Miguel Hernández de Elche **Type of entity:** University
Faculty, institute or centre: Facultad de Medicina
Department: Departamento de Fisiología
City of entity: ALICANTE, Spain
Subject language: Spanish

5 **Type of teaching:** Official teaching
Name of the course: Fisiología humana
Professional category: Profesor asociado
Type of programme: Bachelor's degree **Type of teaching:** In person theory
Type of subject: Core
University degree: Grado en Farmacia

Course given: primero
Start date: 2016 **End date:** 2017
Type of hours/ ECTS credits: Hours
Hours/ECTS credits: 6
Entity: Universidad Miguel Hernández de Elche **Type of entity:** University
Faculty, institute or centre: Facultad de Medicina
Department: Departamento de Fisiología
City of entity: ALICANTE, Spain
Subject language: Spanish

6 **Type of teaching:** Official teaching
Name of the course: Cell Communication
Professional category: Investigador
Type of programme: Master's degree **Type of teaching:** Practical work (classroom-problems)
Type of subject: Obligatory
University degree: Master en Neurociencias
Start date: 2016 **End date:** 2017
Type of hours/ ECTS credits: Credits
Hours/ECTS credits: 2
Entity: Universidad Miguel Hernández de Elche **Type of entity:** University
Faculty, institute or centre: Instituto de Neurociencias de Alicante
City of entity: Alicante, Spain
Subject language: English

7 **Type of teaching:** Official teaching
Name of the course: Cell Communication
Professional category: Investigador
Type of programme: Master's degree **Type of teaching:** In person theory
Type of subject: Obligatory
University degree: Master en Neurociencias
Start date: 2016 **End date:** 2017
Type of hours/ ECTS credits: Credits
Hours/ECTS credits: 1
Entity: Universidad Miguel Hernández de Elche **Type of entity:** University
Faculty, institute or centre: Instituto de Neurociencias de Alicante
City of entity: Alicante, Spain
Subject language: English

8 **Type of teaching:** Official teaching
Name of the course: Fisiología Humana y Animal
Professional category: Profesor Asociado
Type of programme: Bachelor's degree **Type of teaching:** Laboratory work
Type of subject: Core
University degree: Ciencias Ambientales
Start date: 2016 **End date:** 2017
Type of hours/ ECTS credits: Credits
Hours/ECTS credits: 21
Entity: Universidad Miguel Hernández de Elche **Type of entity:** University
Faculty, institute or centre: Facultad de Ciencias Experimentales
Department: Departamento de Fisiología
City of entity: Elche, Spain

Subject language: Spanish

9 **Type of teaching:** Official teaching
Name of the course: Fisiología Humana
Professional category: Profesor asociado
Type of programme: Bachelor's degree **Type of teaching:** Laboratory work
Type of subject: Core
University degree: Grado en Podología
Start date: 2016 **End date:** 2017
Type of hours/ ECTS credits: Credits
Hours/ECTS credits: 36
Entity: Universidad Miguel Hernández de Elche **Type of entity:** University
Faculty, institute or centre: Facultad de Medicina
Department: Departamento de Fisiología

10 **Type of teaching:** Official teaching
Name of the course: Fisiología Médica I
Professional category: Honorific collaborator
Type of programme: Bachelor's degree **Type of teaching:** Laboratory work
Type of subject: Core
University degree: Graduado o Graduada en Medicina
Course given: primero
Start date: 2015 **End date:** 2016
Type of hours/ ECTS credits: Hours
Hours/ECTS credits: 12
Entity: Universidad Miguel Hernández de Elche **Type of entity:** University
Faculty, institute or centre: Facultad de Medicina
Department: Departamento de Fisiología
City of entity: ALICANTE, Spain
Subject language: Spanish

11 **Type of teaching:** Official teaching
Name of the course: Cell Communication
Professional category: Investigador
Type of programme: Master's degree **Type of teaching:** Practical work (classroom-problems)
Type of subject: Obligatory
University degree: Master en Neurociencias
Start date: 2015 **End date:** 2016
Type of hours/ ECTS credits: Credits
Hours/ECTS credits: 2
Entity: Universidad Miguel Hernández de Elche **Type of entity:** University
Faculty, institute or centre: Instituto de Neurociencias de Alicante
City of entity: Alicante, Spain
Subject language: English

12 **Type of teaching:** Official teaching
Name of the course: Cell Communication
Professional category: Investigador
Type of programme: Master's degree **Type of teaching:** In person theory
Type of subject: Obligatory
University degree: Master en Neurociencias

Start date: 2015 **End date:** 2016
Type of hours/ ECTS credits: Credits
Hours/ECTS credits: 1
Entity: Universidad Miguel Hernández de Elche **Type of entity:** University
Faculty, institute or centre: Instituto de Neurociencias de Alicante
City of entity: Alicante, Spain
Subject language: English

13 **Type of teaching:** Official teaching
Name of the course: Fisiología Humana
Professional category: Honorific collaborator
Type of programme: Bachelor's degree **Type of teaching:** In person theory
Type of subject: Core
University degree: Grado en Podología
Course given: primero
Start date: 2012 **End date:** 2013
Type of hours/ ECTS credits: Hours
Hours/ECTS credits: 1
Entity: Universidad Miguel Hernández de Elche **Type of entity:** University
Faculty, institute or centre: Facultad de Medicina
Department: Departamento de Fisiología
City of entity: ALICANTE, Spain
Subject language: Spanish

14 **Type of teaching:** Official teaching
Name of the course: Fisiología Médica I
Professional category: honorific collaborator
Type of programme: Bachelor's degree **Type of teaching:** Laboratory work
Type of subject: Core
University degree: Graduado o Graduada en Medicina
Course given: primero
Start date: 2012 **End date:** 2013
Type of hours/ ECTS credits: Hours
Hours/ECTS credits: 45
Entity: Universidad Miguel Hernández de Elche **Type of entity:** University
Faculty, institute or centre: Facultad de Medicina
Department: Departamento de Fisiología
City of entity: ALICANTE, Spain
Subject language: Spanish

15 **Type of teaching:** Official teaching
Name of the course: Neurobiología
Professional category: honorific collaborator
Type of programme: Bachelor's degree **Type of teaching:** Laboratory work
Type of subject: Core
University degree: Graduado o Graduada en Medicina
Course given: segundo
Start date: 2012 **End date:** 2013
Type of hours/ ECTS credits: Hours
Hours/ECTS credits: 45
Entity: Universidad Miguel Hernández de Elche **Type of entity:** University

Faculty, institute or centre: Facultad de Medicina
Department: Departamento de Fisiología
City of entity: ALICANTE, Spain
Subject language: Spanish

16 **Type of teaching:** Official teaching
Name of the course: Synaptic transmission and plasticity. Sensory Processing.
Professional category: Investigador
Type of programme: Master's degree **Type of teaching:** In person theory
Type of subject: Obligatory
University degree: Master en Neurociencias
Start date: 2012 **End date:** 2013
Type of hours/ ECTS credits: Credits
Hours/ECTS credits: 1,5
Entity: Universidad Miguel Hernández de Elche **Type of entity:** University
Faculty, institute or centre: Instituto de Neurociencias de Alicante
City of entity: Alicante, Spain
Subject language: English

17 **Type of teaching:** Official teaching
Name of the course: Fisiología Humana
Professional category: honorific collaborator
Type of programme: Bachelor's degree **Type of teaching:** In person theory
Type of subject: Core
University degree: Grado en Podología
Course given: primero
Start date: 2011 **End date:** 2012
Type of hours/ ECTS credits: Hours
Hours/ECTS credits: 1
Entity: Universidad Miguel Hernández de Elche **Type of entity:** University
Faculty, institute or centre: Facultad de Medicina
Department: Departamento de Fisiología
City of entity: ALICANTE, Spain
Subject language: Spanish

18 **Type of teaching:** Official teaching
Name of the course: Fisiología Humana
Professional category: honorific collaborator
Type of programme: Bachelor's degree **Type of teaching:** In person theory
Type of subject: Core
University degree: Grado en terapia ocupacional
Course given: primero
Start date: 2011 **End date:** 2012
Type of hours/ ECTS credits: Hours
Hours/ECTS credits: 1
Entity: Universidad Miguel Hernández de Elche **Type of entity:** University
Faculty, institute or centre: Facultad de Medicina
Department: Departamento de Fisiología
City of entity: ALICANTE, Spain
Subject language: Spanish

19 **Type of teaching:** Official teaching
Name of the course: Fisiología Médica I
Professional category: honorific collaborator
Type of programme: Bachelor's degree **Type of teaching:** Laboratory work
Type of subject: Core
University degree: Graduado o Graduada en Medicina
Course given: primero
Start date: 2011 **End date:** 2012
Type of hours/ ECTS credits: Hours
Hours/ECTS credits: 9
Entity: Universidad Miguel Hernández de Elche **Type of entity:** University
Faculty, institute or centre: Facultad de Medicina
Department: Departamento de Fisiología
City of entity: ALICANTE, Spain
Subject language: Spanish

20 **Type of teaching:** Official teaching
Name of the course: Neurobiología
Professional category: honorific collaborator
Type of programme: Bachelor's degree **Type of teaching:** Laboratory work
Type of subject: Core
University degree: Graduado o Graduada en Medicina
Course given: segundo
Start date: 2011 **End date:** 2012
Type of hours/ ECTS credits: Hours
Hours/ECTS credits: 9
Entity: Universidad Miguel Hernández de Elche **Type of entity:** University
Faculty, institute or centre: Facultad de Medicina
Department: Departamento de Fisiología
City of entity: ALICANTE, Spain
Subject language: Spanish

21 **Type of teaching:** Official teaching
Name of the course: Synaptic Function and Signal Transduction Mechanisms
Professional category: Investigador
Type of programme: Master's degree **Type of teaching:** In person theory
Type of subject: Obligatory
University degree: Master en Neurociencias
Start date: 2011 **End date:** 2012
Type of hours/ ECTS credits: Credits
Hours/ECTS credits: 1
Entity: Universidad Miguel Hernández de Elche **Type of entity:** University
Faculty, institute or centre: Instituto de Neurociencias de Alicante
City of entity: Alicante, Spain
Subject language: English

22 **Type of teaching:** Official teaching
Name of the course: Estructura y Función del Cuerpo Humano: Módulo Fisiología
Professional category: honorific colaborator
Type of programme: Diploma **Type of teaching:** Laboratory work
Type of subject: Core

University degree: Diplomatura en Terapia Ocupacional
Course given: primero
Start date: 2003 **End date:** 2004
Type of hours/ ECTS credits: Hours
Hours/ECTS credits: 9
Entity: Universidad Miguel Hernández de Elche **Type of entity:** University
Faculty, institute or centre: Facultad de Medicina
Department: Departamento de Fisiología
City of entity: ALICANTE, Spain
Subject language: Spanish

23 **Type of teaching:** Official teaching
Name of the course: Estructura y Función del Cuerpo Humano: Módulo Fisiología
Professional category: honorific collaborator
Type of programme: Diploma **Type of teaching:** Laboratory work
Type of subject: Core
University degree: Diplomado en Fisioterapia
Course given: primero
Start date: 2003 **End date:** 2004
Type of hours/ ECTS credits: Hours
Hours/ECTS credits: 15
Entity: Universidad Miguel Hernández de Elche **Type of entity:** University
Faculty, institute or centre: Facultad de Medicina
Department: Departamento de Fisiología
City of entity: ALICANTE, Spain
Subject language: Spanish

Participation in innovative teaching projects

Project title: INFLUENCIA DE LOS ESTEREOTIPOS DE GÉNERO SOBRE LA AUTOCONFIANZA DE LOS ESTUDIANTES PARA AFRONTAR LA ASIGNATURA DE FISIOLOGÍA
City of entity: Elche, Valencian Community, Spain
Type of participation: Principal investigator
Dedication regime: Full time
Time of working relationship: For an undetermined time
Name of the main researcher: Victor Manuel Meseguer Vigueras
Number of participants: 1
Amount awarded: 450 €
Funding entity: Universidad Miguel Hernández de Elche
Type of call: Competitive
Geographical area: National
Start-End date: 2018 - 2018 **Duration:** 1 year

Scientific and technological experience

Scientific or technological activities

R&D projects funded through competitive calls of public or private entities

1 **Name of the project:** Modulación optoquímica de la actividad de las terminaciones nerviosas sensoriales de la córnea del ratón
Identify key words: Molecular mechanism of disease
Type of project: Basic research (including archaeological digs, etc) **Geographical area:** National
Degree of contribution: Coordinator of total project, network or consortium
Entity where project took place: Universidad Miguel Hernández de Elche **Type of entity:** University
City of entity: SAN JUAN DE ALICANTE, Valencian Community, Spain
Name principal investigator (PI, Co-PI....): Victor Manuel Meseguer Vigueras
Nº of researchers: 1
Type of participation: Principal investigator
Name of the programme: PROGRAMA ESTATAL DE I+D+i ORIENTADA A LOS RETOS DE LA SOCIEDAD, EN EL MARCO DEL PLAN ESTATAL DE INVESTIGACIÓN CIENTÍFICA Y TÉCNICA Y DE INNOVACIÓN 2018-2021
Code according to the funding entity: RTI2018-100994-A-I00
Start-End date: 01/01/2019 - 31/12/2021 **Duration:** 3 years
Total amount: 108.900 €

2 **Name of the project:** Mecanismos sensoriales periféricos implicados en la detección de la humedad, plasticidad, envejecimiento y cambios tras la lesión y en condiciones patológicas
Type of project: Basic research (including archaeological digs, etc) **Geographical area:** National
Degree of contribution: Researcher
Entity where project took place: Universidad Miguel Hernández de Elche **Type of entity:** University
City of entity: Alicante, Valencian Community, Spain
Type of participation: Team member
Name of the programme: Convocatoria Retos de la Sociedad I+D+I MINECO 2017
Code according to the funding entity: SAF2017-83674-C2-2-R
Start-End date: 01/01/2018 - 31/12/2020
Total amount: 133.100 €
Dedication regime: Full time

3 **Name of the project:** Control optoquímico de las terminaciones nerviosas sensoriales en la córnea del ratón
Type of project: Basic research (including archaeological digs, etc) **Geographical area:** Regional
Degree of contribution: Coordinator of total project, network or consortium
Entity where project took place: Universidad Miguel Hernández de Elche **Type of entity:** University
City of entity: Alicante, Valencian Community, Spain

Type of participation: Principal investigator
Name of the programme: CONSELLERIA DE EDUCACIÓN, INVESTIGACIÓN CULTURA Y DEPORTE
Code according to the funding entity: GV/2018/098
Start-End date: 01/01/2018 - 31/12/2018
Total amount: 8.000 €
Dedication regime: Full time

4 **Name of the project:** Regulación neural de la humedad de las mucosas del ojo y la boca: Mecanismos moleculares y celulares de transducción, regulación refleja y cambios con la edad
Type of project: Basic research (including archaeological digs, etc) **Geographical area:** National
Degree of contribution: Researcher
Entity where project took place: Universidad Miguel Hernández de Elche **Type of entity:** University
City of entity: Alicante, Valencian Community, Spain
Type of participation: Team member
Name of the programme: Convocatoria Retos de la Sociedad I+D+I MINECO 2014
Code according to the funding entity: SAF2014-54518-C3-2-R
Start-End date: 01/01/2015 - 31/12/2017
Total amount: 220.000 €
Dedication regime: Full time

5 **Name of the project:** Understanding how photoswitches restore visual function in blindness
Type of project: Research and development, including transfer **Geographical area:** Non EU International
Degree of contribution: Researcher
Entity where project took place: University of California Berkeley **Type of entity:** University
City of entity: Berkeley, United States of America
Type of participation: Team member
Name of the programme: National Institute of Health (NIH)
Code according to the funding entity: 1R01EY024334-01A1
Start-End date: 2015 - 2016
Total amount: 343.455 €
Dedication regime: Full time

6 **Name of the project:** Cambios celulares y moleculares en las neuronas sensoriales del ganglio trigémino tras su lesión periférica
Type of project: Basic research (including archaeological digs, etc) **Geographical area:** National
Degree of contribution: Researcher
Entity where project took place: Universidad Miguel Hernández de Elche **Type of entity:** University
City of entity: Alicante, Valencian Community, Spain
Type of participation: Team member
Name of the programme: Convocatoria Proyectos I+D+i MEC 2008 (Plan Nacional I+D+i 2008-2011)
Code according to the funding entity: BFU 2008-04425
Start-End date: 01/01/2009 - 30/09/2014
Total amount: 798.600 €
Dedication regime: Full time

7 **Name of the project:** Transducción de los cambios de temperatura por las neuronas sensoriales intactas y lesionadas
Degree of contribution: Researcher
Entity where project took place: Universidad Miguel Hernández de Elche **Type of entity:** University
City of entity: Alicante, Valencian Community, Spain
Type of participation: Team member
Name of the programme: Ayudas para la realización de proyectos de I+D en el marco de algunos programas nacionales del Plan Nacional de I+D+i 2004-2007
Code according to the funding entity: BFU2005-08741
Start-End date: 31/12/2005 - 30/12/2008
Total amount: 261.800 €
Dedication regime: Part time

8 **Name of the project:** Acuerdo específico de cotitularidad de la invención titulada “Uso de antagonistas del receptor TRPA1 para el tratamiento de enfermedades asociadas a infecciones bacterianas”
Type of project: Industrial research **Geographical area:** National
Degree of contribution: Scientific coordinator
Entity where project took place: Universidad Miguel Hernández de Elche **Type of entity:** University
City of entity: Alicante, Valencian Community, Spain
Name principal investigator (PI, Co-PI....): VICTOR MANUEL MESEGUER VIGUERAS; FÉLIX VIANA DE LA IGLESIA; CARLOS BELMONTE MARTÍNEZ
Nº of researchers: 3
Type of participation: Team member
Name of the programme: Patente
Code according to the funding entity: WO/2013/038046
Start date: 23/10/2012
Dedication regime: Part time

R&D non-competitive contracts, agreements or projects with public or private entities

1 **Name of the project:** Modulation of Activity of Temperature-sensitive ion channels
Type of project: Basic research (including archaeological digs, etc) **Entity where project took place:** Universidad Miguel Hernández de Elche
Degree of contribution: Researcher
Entity where project took place: Universidad Miguel Hernández de Elche **Type of entity:** University
City of entity: Alicante, Valencian Community, Spain
Funding entity or bodies:
FUNDACION BANCO BILBAO-VIZCAYA
City funding entity: Spain
Start date: 01/07/2008 **Duration:** 9 months
Total amount: 126.670 €

2 **Name of the project:** Addenda al Acuerdo de Colaboración en Materia de Gestión de Transferencia Tecnológica en el Campo de la Biotecnología
Type of project: Research and development, including transfer **Entity where project took place:** Universidad Miguel Hernández de Elche
Degree of contribution: Researcher
Type of entity: University

Entity where project took place: Universidad Miguel Hernández de Elche
City of entity: Alicante, Valencian Community, Spain
Funding entity or bodies:
Fundación Marcelino Botín
Type of entity: Foundation
City funding entity: Botín, Cantabria, Spain

Start date: 21/01/2008
Duration: 2 years
Total amount: 379.310,35 €

3 **Name of the project:** Segunda Enmienda de la propuesta de Investigación de Apoyo con fecha de 5 de Julio de 2004 y modificada el 12 de Abril de 2005
Type of project: Industrial research
Entity where project took place: Universidad Miguel Hernández de Elche
Degree of contribution: Researcher
Entity where project took place: Universidad Miguel Hernández de Elche
Type of entity: University
City of entity: Alicante, Valencian Community, Spain
Funding entity or bodies:
Alcon Research Ltd.
City funding entity: Fort Worth Texas, United States of America

Start date: 08/08/2005
Duration: 3 months
Total amount: 25.000 €

4 **Name of the project:** Acuerdo de Colaboración en Materia de Gestión de Transferencia Tecnológica en el Campo de la Biotecnología
Type of project: Research and development, including transfer
Entity where project took place: Universidad Miguel Hernández de Elche
Degree of contribution: Researcher
Entity where project took place: Universidad Miguel Hernández de Elche
Type of entity: University
City of entity: Alicante, Valencian Community, Spain
Funding entity or bodies:
Fundación Marcelino Botín
Type of entity: Foundation
City funding entity: Botín, Cantabria, Spain

Start date: 21/01/2005
Duration: 3 years
Total amount: 534.482,64 €

5 **Name of the project:** Efectos de compuestos de tipo AINE sobre la actividad neuronal de unidades nociceptivas corneales
Type of project: Industrial research
Entity where project took place: Universidad Miguel Hernández de Elche
Degree of contribution: Researcher
Entity where project took place: Universidad Miguel Hernández de Elche
Type of entity: University
City of entity: Alicante, Valencian Community, Spain
Funding entity or bodies:
Alcon Research Ltd
City funding entity: Fort Worth Texas, United States of America

Start date: 15/07/2004
Duration: 1 year
Total amount: 107.800 €

Results

Industrial and intellectual property

Title registered industrial property: USO DE ANTAGONISTAS DEL RECEPTOR TRPA1 PARA EL TRATAMIENTO DE ENFERMEDADES ASOCIADAS A INFECCIONES BACTERIANAS
Inventors/authors/obtainers: VICTOR MANUEL MESEGUER VIGUERAS; CARLOS BELMONTE MARTÍNEZ; FÉLIX VIANA DE LA IGLESIA
Entity holder of rights: Universidad Miguel Hernández de Elche (75%) - CSIC (25%)
Nº of application: 201131503
Country of inscription: Spain
Date of register: 16/09/2011
Conferral date: 30/05/2014

Scientific and technological activities

Scientific production

H index: 16
Date of application: 30/01/2021
Fuente de Indice H: WOS

Publications, scientific and technical documents

1 Carolina Luna; Kamila Mizerska; Susana Quirce; Carlos Belmonte; Juana Gallar; María del Carmen Acosta; Victor Meseguer. Sodium Channel Blockers Modulate Abnormal Activity of Regenerating Nociceptive Corneal Nerves after Surgical Lesion. Investigative Ophthalmology and Visual Science. Association for Research in Vision and Ophthalmology (ARVO), 04/01/2021.
Type of production: Scientific paper **Format:** Journal
Corresponding author: No

2 Yeranddy A Alpizar; Brett Boonen; Alicia Sanchez; Carole Jung; Alejandro López-Requena; Robbe Naert; Brecht Steelant; Katrien Luyts; Cristina Plata; Vanessa De Vooght; Jeroen AJ Vanoirbeek; Victor M Meseguer; Thomas Voets; Julio L Alvarez; Peter W Hellings; Peter HM Hoet; Benoit Nemery; Miguel A Valverde; Karel Talavera. TRPV4 activation triggers protective responses to bacterial lipopolysaccharides in airway epithelial cells. Nature Communications. 8 - 1, pp. 1059. Nature Publishing Group, 20/10/2017.
Type of production: Scientific paper **Format:** Journal
Degree of contribution: Author or co-author of article in journal with external admissions assessment committee
Corresponding author: No

3 Maria José López González; Enoch Luis; Otto Fajardo; Víctor Meseguer; Katharina Gers Barlag; Sergio Niñerola; Félix Viana. TRPA1 Channels Mediate HGF Response to Phenytoin. Journal of Dental Research. SAGE Publications, 01/03/2017.
Type of production: Scientific paper **Format:** Journal
Corresponding author: No

4 Ivan Tochitsky; Zachary Helft; Victor Meseguer; Russell B Fletcher; Kirstan A Vessey; Michael Telias; Bristol Denlinger; Jonatan Malis; Erica L Fletcher; Richard H Kramer. How Azobenzene Photoswitches Restore Visual Responses to the Blind Retina.Neuron. 92 - 1, pp. 100 - 113. 05/10/2016. ISSN 1097-4199
Type of production: Scientific paper
Degree of contribution: Author or co-author of article in journal with external admissions assessment committee

5 Kwang Woo Ko; Matthew N Rasband; Victor Meseguer; Richard H Kramer; Nace L Golding. Serotonin modulates spike probability in the axon initial segment through HCN channels.Nature neuroscience. 19 - 6, pp. 826 - 834. 06/2016. ISSN 1546-1726
Type of production: Scientific paper
Degree of contribution: Author or co-author of article in journal with external admissions assessment committee

6 Illés Kovács; Carolina Luna; Susana Quirce; Kamila Mizerska; Gerard Callejo; Ana Riestra; Laura Fernández Sánchez; Victor M Meseguer; Nicolás Cuenca; Jesús Merayo Lloves; M Carmen Acosta; Xavier Gasull; Carlos Belmonte; Juana Gallar. Abnormal activity of corneal cold thermoreceptors underlies the unpleasant sensations in dry eye disease.Pain. 157 - 2, pp. 399 - 417. 02/2016. ISSN 1872-6623
Type of production: Scientific paper
Degree of contribution: Author or co-author of article in journal with external admissions assessment committee

7 Victor Meseguer; Yeranddy A Alpizar; Enoch Luis; Sendoa Tajada; Bristol Denlinger; Otto Fajardo; Jan-Albert Manenschijn; Carlos Fernández Peña; Arturo Talavera; Tatiana Kichko; Belén Navia; Alicia Sánchez; Rosa Señarís; Peter Reeh; María Teresa Pérez García; José Ramón López López; Thomas Voets; Carlos Belmonte; Karel Talavera; Félix Viana. TRPA1 channels mediate acute neurogenic inflammation and pain produced by bacterial endotoxins.Nature communications. 5, pp. 3125. 2014. ISSN 2041-1723
Type of production: Scientific paper
Degree of contribution: Author or co-author of article in journal with external admissions assessment committee

8 Karel Talavera; Maarten Gees; Yuji Karashima; Víctor M Meseguer; Jeroen A J Vanoirbeek; Nils Damann; Wouter Everaerts; Melissa Benoit; Annelies Janssens; Rudi Vennekens; Félix Viana; Benoit Nemery; Bernd Nilius; Thomas Voets. Nicotine activates the chemosensory cation channel TRPA1.Nature neuroscience. 12 - 10, pp. 1293 - 1299. 10/2009. ISSN 1546-1726
Type of production: Scientific paper
Degree of contribution: Author or co-author of article in journal with external admissions assessment committee

9 Patricio Orio; Rodolfo Madrid; Elvira de la Peña; Andrés Parra; Víctor Meseguer; Douglas A Bayliss; Carlos Belmonte; Félix Viana. Characteristics and physiological role of hyperpolarization activated currents in mouse cold thermoreceptors.The Journal of physiology. 587 - Pt 9, pp. 1961 - 1976. 01/05/2009. ISSN 1469-7793
Type of production: Scientific paper
Degree of contribution: Author or co-author of article in journal with external admissions assessment committee

10 Cruz Morenilla Palao; María Pertusa; Víctor Meseguer; Hugo Cabedo; Félix Viana. Lipid raft segregation modulates TRPM8 channel activity.The Journal of biological chemistry. 284 - 14, pp. 9215 - 9224. 03/04/2009. ISSN 0021-9258
Type of production: Scientific paper
Degree of contribution: Author or co-author of article in journal with external admissions assessment committee

11 Yuji Karashima; Jean Prenen; Victor Meseguer; Grzegorz Owsianik; Thomas Voets; Bernd Nilius. Modulation of the transient receptor potential channel TRPA1 by phosphatidylinositol 4,5-biphosphate manipulators.Pflugers Archiv : European journal of physiology. 457 - 1, pp. 77 - 89. (Germany): 10/2008. ISSN 0031-6768
Type of production: Scientific paper
Degree of contribution: Author or co-author of article in journal with external admissions assessment committee

12 Otto Fajardo; Victor Meseguer; Carlos Belmonte; Félix Viana. TRPA1 channels mediate cold temperature sensing in mammalian vagal sensory neurons: pharmacological and genetic evidence.The Journal of neuroscience : the official journal of the Society for Neuroscience. 28 - 31, pp. 7863 - 7875. 30/07/2008. ISSN 1529-2401

Type of production: Scientific paper

Degree of contribution: Author or co-author of article in journal with external admissions assessment committee

13 Victor Meseguer; Yuji Karashima; Karel Talavera; Dieter D'Hoedt; Tansy Donovan Rodríguez; Felix Viana; Bernd Nilius; Thomas Voets. Transient receptor potential channels in sensory neurons are targets of the antimycotic agent clotrimazole.The Journal of neuroscience : the official journal of the Society for Neuroscience. 28 - 3, pp. 576 - 586. 16/01/2008. ISSN 1529-2401

Type of production: Scientific paper

Degree of contribution: Author or co-author of article in journal with external admissions assessment committee

14 Otto Fajardo; Victor Meseguer; Carlos Belmonte; Félix Viana. TRPA1 channels: novel targets of 1,4-dihydropyridines.Channels (Austin, Tex.). 2 - 6, pp. 429 - 438. 2008. ISSN 1933-6969

Type of production: Scientific paper

Position of signature: 2

Degree of contribution: Author or co-author of article in journal with external admissions assessment committee

Total no. authors: 4

15 Annika Mälkiä; Rodolfo Madrid; Victor Meseguer; Elvira de la Peña; María Valero; Carlos Belmonte; Félix Viana. Bidirectional shifts of TRPM8 channel gating by temperature and chemical agents modulate the cold sensitivity of mammalian thermoreceptors.The Journal of physiology. 581 - Pt 1, pp. 155 - 174. 15/05/2007. ISSN 0022-3751

Type of production: Scientific paper

Degree of contribution: Author or co-author of article in journal with external admissions assessment committee

16 M Carmen Acosta; Carolina Luna; Gustav Graff; Victor M Meseguer; Felix Viana; Juana Gallar; Carlos Belmonte. Comparative effects of the nonsteroidal anti-inflammatory drug nepafenac on corneal sensory nerve fibers responding to chemical irritation.Investigative ophthalmology & visual science. 48 - 1, pp. 182 - 188. 01/2007. ISSN 0146-0404

Type of production: Scientific paper

Degree of contribution: Author or co-author of article in journal with external admissions assessment committee

17 Rodolfo Madrid; Tansy Donovan Rodríguez; Victor Meseguer; Mari Carmen Acosta; Carlos Belmonte; Félix Viana. Contribution of TRPM8 channels to cold transduction in primary sensory neurons and peripheral nerve terminals.The Journal of neuroscience : the official journal of the Society for Neuroscience. 26 - 48, pp. 12512 - 12525. 29/11/2006. ISSN 1529-2401

Type of production: Scientific paper

Degree of contribution: Author or co-author of article in journal with external admissions assessment committee

18 H Vanacker; Lm Sandalio; A Jiménez; J M Palma; F J Corpas; V Meseguer; M Gómez; F Sevilla; M Leterrier; C H Foyer; L A del Río. Roles for redox regulation in leaf senescence of pea plants grown on different sources of nitrogen nutrition.Journal of experimental botany. 57 - 8, pp. 1735 - 1745. 2006. ISSN 0022-0957

Type of production: Scientific paper

Degree of contribution: Author or co-author of article in journal with external admissions assessment committee

19 Fernando Aleixandre-Carrera; Nurit Engelmayer; David Suárez-Ares; María del Carmen Acosta; Carlos Belmonte; Juana Gallar; Victor Meseguer; Alex Binshtok. Optical Assessment of Nociceptive TRP Channel Function at the Peripheral Nerve Terminal. International Journal of Molecular Sciences. 22 - 2, pp. 481 - 501. MDPI, 06/01/2021.

Type of production: Bibliographic review

Format: Journal

Corresponding author: Yes

20 Justyna Startek; Brett Boonen; Karel Talavera; Victor Meseguer. TRP Channels as Sensors of Chemically-Induced Changes in Cell Membrane Mechanical Properties. International Journal of Molecular Sciences. 20 - 2, pp. 371 - 390. MDPI AG, Basel, Switzerland, 16/01/2019.
Type of production: Bibliographic review **Format:** Journal
Degree of contribution: Author or co-author of article in journal with external admissions assessment committee
Corresponding author: No

21 Brett Boonen; Yeranddy Alpizar; Victor Meseguer; Karel Talavera. TRP Channels as Sensors of Bacterial Endotoxins. Toxins. 10 - 8, Multidisciplinary Digital Publishing Institute, 11/08/2018.
Type of production: Bibliographic review **Format:** Journal
Corresponding author: No

22 Víctor M Meseguer; Bristol L Denlinger; Karel Talavera. Methodological considerations to understand the sensory function of TRP channels.Current pharmaceutical biotechnology. 12 - 1, pp. 3 - 11. 01/01/2011. ISSN 1873-4316
Type of production: Bibliographic review **Format:** Journal
Degree of contribution: Author or co-author of article in journal with external admissions assessment committee

Works submitted to national or international conferences

1 **Title of the work:** Photo-Modulation of Corneal Cold Nerve Terminal Impulse Activity by a P2X Channel-Permeant Photoswitch
Name of the conference: Federation of European Neuroscience Societies - FENS2020
Corresponding author: No
City of event: Glasgow, United Kingdom
Date of event: 12/07/2020
End date: 15/07/2020
Organising entity: Federation of European Neuroscience Societies - FENS2020
David Ares-Suárez; Enrique Velasco; Almudena Iñigo-Portugués; Susana Quirce; María del Carmen Acosta; Carlos Belmonte; Juana Gallar; Victor Meseguer.

2 **Title of the work:** Monitoring remodeling and regeneration of individual corneal nerve fibers in the adult living mouse
Name of the conference: The 28th Annual Meeting of the Israel Society for Neuroscience (ISFN)
Type of event: Conference
Type of participation: Participatory - oral communication
Corresponding author: Yes
City of event: Eilat, Israel
Date of event: 05/01/2020
End date: 07/01/2020
Organising entity: Israel Society for Neuroscience **Type of entity:** Associations and Groups
City organizing entity: Herzeliya, Israel

3 **Title of the work:** Morpho-dynamic changes of corneal cold sensory nerve fibers in the adult living mouse
Name of the conference: 3rd AXON Meeting "Circuits Development & Axon Regeneration"
City of event: Alicante, Valencian Community, Spain
Date of event: 11/09/2019
End date: 13/09/2019
Victor Meseguer; Almudena Iñigo-Portugués; Fernando Borrás; Salvador Sala; María del Carmen Acosta; Juana Gallar; Carlos Belmonte.

4 **Title of the work:** Photomodulation of spontaneous electrical activity in guinea pig corneal cold nerve terminals by means of a p2x channel -permeant photoswitch
Name of the conference: NEUROSCIENCE 2018
Type of event: Conference
Type of participation: 'Participatory - poster
Corresponding author: Yes
City of event: San Diego, United States of America
Date of event: 03/11/2018
End date: 09/11/2018
Organising entity: Society for Neuroscience **Type of entity:** Associations and Groups
City organizing entity: Washington, United States of America
Victor Meseguer; David Ares; Enrique Velasco; Susana Quirce; M. Carmen Acosta; Carlos Belmonte; Juana Gallar.

5 **Title of the work:** Monitoring plasticity and regeneration of individual intraepithelial corneal cold nerves in the adult living mouse
Name of the conference: NEUROSCIENCE 2017
Type of event: Conference
Type of participation: 'Participatory - poster
Corresponding author: Yes
City of event: Washington, United States of America
Date of event: 11/11/2017
End date: 15/11/2017
Organising entity: Society for Neuroscience **Type of entity:** Associations and Groups
City organizing entity: Washington, United States of America
Iñigo-Portugués A; Borrás F; Rincón-Frutos L; Expósito G; Gallar J; Belmonte C; Meseguer V.

6 **Title of the work:** Cold sensory nerve fibers in the adult living mouse experience dynamic morphological changes at the intact cornea
Name of the conference: 17º CONGRESO NACIONAL DE LA SENC 2017
Type of event: Conference
Type of participation: 'Participatory - poster
Corresponding author: Yes
City of event: Alicante, Valencian Community, Spain
Date of event: 27/09/2017
End date: 30/09/2017
Organising entity: SOCIEDAD ESPAÑOLA DE NEUROCIENCIA
City organizing entity: Spain
Iñigo-Portugués A; Expósito G; Gallar J; Belmonte C; Meseguer V.

7 **Title of the work:** Optical control of corneal nerve activity using chemical photoswitches
Name of the conference: Abstracts from the 2017 European Association for Vision and Eye Research Conference
Type of event: Conference **Geographical area:** European Union
Type of participation: 'Participatory - poster
Corresponding author: Yes
City of event: NIce, France
Date of event: 27/09/2017
End date: 30/09/2017
Organising entity: European Association for Vision and Eye Research **Type of entity:** Associations and Groups

City organizing entity: Leuven, Belgium
With external admission assessment committee: Yes
Type of contribution: Scientific paper
Gallar J; Ares-Suarez D; Quirce S; Acosta MC; Belmonte C; Meseguer V. "Optical control of corneal nerve activity using chemical photoswitches". En: Acta Ophthalmologica. 95 - S259, (Iceland): John Wiley & Sons, 07/09/2017. Available on-line at: <http://onlinelibrary.wiley.com/doi/10.1111/j.1755-3768.2017.04434/full>. ISSN 1755375X

8 **Title of the work:** Optical control of spontaneous electrical activity in guinea pig corneal cold nerve terminals by means of a chemical photoswitch
Name of the conference: 17º CONGRESO NACIONAL DE LA SENC 2017
Type of event: Conference
Type of participation: 'Participatory - poster
Corresponding author: Yes
City of event: Alicante, Valencian Community, Spain
Date of event: 27/09/2017
End date: 30/09/2017
Organising entity: SOCIEDAD ESPAÑOLA DE NEUROCIENCIA
City organizing entity: Spain
Ares-Suárez D; Velasco E; Quirce S; Acosta MC; Belmonte C; Gallar J; Meseguer V.

9 **Title of the work:** Remodeling Of Corneal Cold Sensory Nerve Fibers in the adult living mouse
Name of the conference: 2017 ARVO Annual Meeting
Type of event: Conference
Corresponding author: Yes
City of event: Baltimore, United States of America
Date of event: 07/05/2017
End date: 11/05/2017
Organising entity: The Association for Research in Vision and Ophthalmology
City organizing entity: Maryland, United States of America
With external admission assessment committee: Yes
Iñigo-Portugués A; Expósito G; Gallar J; Belmonte C; Meseguer V.

10 **Title of the work:** Mechanism of disease selective vision restoration by small molecule photoswitches
Name of the conference: ARVO Annual Meeting Abstract, 2015
Type of event: Conference **Geographical area:** Non EU International
Corresponding author: No
City of event: Denver, United States of America
Date of event: 2015
End date: 2015
Organising entity: The Association for Research in Vision and Ophthalmology **Type of entity:** Associations and Groups
City organizing entity: Maryland, United States of America
Type of contribution: Scientific paper
Tochitsky I; Meseguer V; Helft Z; Polosukhina A; Kramer R. "Mechanism of disease selective vision restoration by small molecule photoswitches.". En: Mechanism of disease selective vision restoration by small molecule photoswitches.. 56 - 7, pp. 2265 - 2265. 11/06/2015. ISSN 1552-5783

11 **Title of the work:** Altered Responsiveness of Corneal Cold-Thermoreceptive Nerve Terminals in Long-Term Eye Dryness Is Associated With Changes of Voltage-Gated Na+ and K+ Currents
Name of the conference: NEUROSCIENCE 2013
Type of event: Conference

Type of participation: 'Participatory - poster
Corresponding author: No
City of event: San Diego, United States of America
Date of event: 09/11/2013
Organising entity: Society for Neuroscience **Type of entity:** Associations and Groups
City organizing entity: Washington, United States of America
Gasull X; Callejo G; Luna C; Quirce S; Kovacs I; Meseguer V; Acosta M; Belmonte C; Gallar J.

12 **Title of the work:** Local anesthetic action of the TRPA1 agonist cinnamaldehyde
Name of the conference: Italian-Hispano-Portuguese Workshop on Molecular Biology and Biophysics of Ion Channels and Transporters edition 4th
City of event: Mallorca, Balearic Islands, Spain
Date of event: 17/10/2013
End date: 19/10/2013
Organising entity: Italian-Hispano-Portuguese Workshop on Molecular Biology and Biophysics of Ion Channels and Transporters
Aguiar-Alpizar Y; Boonen B; Van Gerven L; Denlinger B; Everaerts E; Menigoz A; Meseguer V; De Ridder D; Voets T; Vennekens R; Viana F; Lampert A; Alvarez J; Hellings P; Belmonte C; Talavera K.

13 **Title of the work:** Altered Responsiveness of Corneal Cold-Thermoreceptive Nerve Terminals in Long-Term Eye Dryness Is Associated With Changes of Voltage-Gated Na+ and K+ Currents
Name of the conference: 15º CONGRESO NACIONAL DE LA SENC 2013
Type of event: Conference
Type of participation: 'Participatory - poster
Corresponding author: No
City of event: Oviedo, Principality of Asturias, Spain
Date of event: 25/09/2013
Organising entity: SOCIEDAD ESPAÑOLA DE NEUROCIENCIA
City organizing entity: Spain
Gasull X; Callejo G; Luna C; Quirce S; Kovacs I; Meseguer V; Acosta M; Belmonte C; Gallar J.

14 **Title of the work:** TRPA1 channels are neuronal chemosensors of bacterial endotoxins
Name of the conference: 22nd Congress of the European-Chemoreception-Research-Organization (ECRO) location
Type of event: Conference **Geographical area:** European Union
Type of participation: 'Participatory - poster
Corresponding author: No
City of event: Leuven, Belgium
Date of event: 27/08/2013
End date: 29/08/2013
Organising entity: KULeuven **Type of entity:** University
City organizing entity: Leuven, Belgium
Type of contribution: Scientific paper
Viana F; Meseguer V; Aguiar-Alpizar Y; Luis E; Fernandez-Peña C; Tejada S; Kichco T; Reeh P; Pérez-García MT; López-López JR; Voets T; Belmonte C; Talavera K. "TRPA1 channels are neuronal chemosensors of bacterial endotoxins". En: Chemical Senses. 39 - 1, pp. 74 - 75. Oxford University Press, 2014. ISSN 0379-864X

15 **Title of the work:** Local anesthetic action of the TRPA1 agonist cinnamaldehyde
Name of the conference: Genes, Circuits and Behavior. CELL SYMPOSIA
Type of event: Conference
Type of participation: 'Participatory - poster

Corresponding author: No
City of event: Toronto, Canada
Date of event: 02/06/2013
End date: 04/06/2013
Organising entity: Elsevier **Type of entity:** Business
City organizing entity: Amsterdam, Holland
Alpizar Y; Boonen B; van Gerven L; Denlinger B; Everaerts W; Lampert A; Hellings P; Álvarez JL; Meseguer V; Belmonte C; Talavera K.

16 **Title of the work:** The TRPA1 cation channel is an effector of bacterial endotoxins
Name of the conference: Genes, Circuits and Behavior. CELL SYMPOSIA
Type of event: Conference
Type of participation: 'Participatory - poster
Corresponding author: Yes
City of event: Toronto, Canada
Date of event: 02/06/2013
End date: 04/06/2013
Organising entity: Elsevier **Type of entity:** Business
City organizing entity: Amsterdam, Holland
Meseguer V; Viana F; Talavera K; Alpizar Y; Fajardo O; Tajada S; Denlinger B; Luis E; Manenschijn J; Belmonte C.

17 **Title of the work:** TRPA1 channels are neuronal sensors for bacterial endotoxins
Name of the conference: NEUROSCIENCE 2012
Type of event: Conference
Type of participation: 'Participatory - poster
Corresponding author: Yes
City of event: New Orleans, United States of America
Date of event: 13/10/2012
Organising entity: Society for Neuroscience **Type of entity:** Associations and Groups
City organizing entity: Washington, United States of America
Meseguer V; Alpizar Y; Fajardo O; Tajada S; Denlinger B; Luis E; Manenchijn J; Fernández-Peña C; Talavera A; Kichco T; Reeh P; Pérez-García M; López-López J; Voets T; Belmonte C; Talavera K; Viana F.

18 **Title of the work:** Modulation of voltage-dependent sodium currents by the TRPA1 agonist cinnamaldehyde
Name of the conference: International Workshop on Transient Receptor Potential (TRP) Channels
Type of event: Conference
Type of participation: 'Participatory - poster
Corresponding author: No
City of event: Valencia, Valencian Community, Spain
Date of event: 12/09/2012
End date: 14/09/2016
Organising entity: Cátedra Santiago Grisolía / UMH / CSIC / IBMC **Type of entity:** University
City organizing entity: Spain
Boonen B; Denlinger B; Alpizar Y; Voets T; Meseguer V; Belmonte C; Talavera K.

19 **Title of the work:** Phenytoin, Nifedipine and Carbamazepine induce gingival enlargement through TRPA1 activation
Name of the conference: International Workshop on Transient Receptor Potential (TRP) Channels
Type of event: Conference

Type of participation: 'Participatory - poster
Corresponding author: No
City of event: Valencia, Valencian Community, Spain
Date of event: 12/09/2012
End date: 14/09/2016
Organising entity: Cátedra Santiago Grisolía / UMH **Type of entity:** University / CSIC / IBMC
City organizing entity: Spain
López-González M; Fajardo O; Meseguer V; Valero M; Pertusa M; Belmonte C; Viana F.

20 **Title of the work:** TRPA1 channels are neuronal sensors for bacterial endotoxins
Name of the conference: International Workshop on Transient Receptor Potential (TRP) Channels
Type of event: Conference
Type of participation: Participatory - oral communication
Corresponding author: Yes
City of event: Valencia, Valencian Community, Spain
Date of event: 12/09/2012
End date: 14/09/2016
Organising entity: Cátedra Santiago Grisolía / UMH **Type of entity:** University / CSIC / IBMC
City organizing entity: Spain
Meseguer V.

21 **Title of the work:** Corneal Sensory Receptor Activity In Experimental Dry Eye
Name of the conference: ISER 2012 XX Biennial Meeting Of The International Society For Eye Research
Type of event: Conference
Type of participation: 'Participatory - poster
Corresponding author: No
City of event: Berlín, Germany
Date of event: 21/07/2012
Organising entity: International Society For Eye Research **Type of entity:** Associations and Groups
City organizing entity: San Francisco, United States of America
Kovacs I; Luna C; Quirce S; Meseguer V; Gasull X; Acosta M; Belmonte C; Gallar J.

22 **Title of the work:** Phenytoin, Nifedipine and Carbamazepine induce gingival enlargement through TRPA1 activation
Name of the conference: 8TH FENS Forum of Neurosciences
Type of event: Conference
Type of participation: 'Participatory - poster
Corresponding author: No
City of event: Barcelona, Spain
Date of event: 14/07/2012
Organising entity: Federation of European Neuroscience Societies **Type of entity:** Associations and Groups
López González M; Fajardo O; Meseguer V; Valero M; Pertusa M; Belmonte C; Viana F.

23 **Title of the work:** Intracellular Calcium Responses To Natural Stimuli Of Ocular Trigeminal Ganglion Neurons Of Guinea Pigs After Long-term Eye Dryness
Name of the conference: ARVO Annual Meeting Abstract, April 2011
Type of event: Conference **Geographical area:** Non EU International

Type of participation: 'Participatory - poster
Corresponding author: No
City of event: Baltimore, United States of America
Date of event: 2011
Organising entity: The Association for Research in Vision and Ophthalmology **Type of entity:** Associations and Groups
City organizing entity: Maryland, United States of America
Type of contribution: Scientific paper
Acosta MC; Meseguer V; Kovács Illés; Luna CL; Gallar J; Belmonte C. "Intracellular Calcium Responses To Natural Stimuli Of Ocular Trigeminal Ganglion Neurons Of Guinea Pigs After Long-term Eye Dryness". 52, pp. 3775 - 3775. (United States of America): ISSN 1552-5783

24 **Title of the work:** Chemosensitivity of trigeminal sensory neurons
Name of the conference: Workshop " TRP channels and sensory Biology"
Type of event: Conference **Geographical area:** European Union
Type of participation: Participatory - oral communication
Corresponding author: Yes
City of event: Elche, Valencian Community, Spain
Date of event: 02/12/2010
End date: 03/12/2010
Organising entity: Instituto Universitario de Biología Molecular y Celular **Type of entity:** University Research Institute
City organizing entity: Elche, Spain
Meseguer V.

25 **Title of the work:** Increased Responsiveness of Corneal Cold Nerve Terminals in an Experimental Model of Dry Eye
Name of the conference: 2nd TRP channels meeting
Type of event: Conference
Type of participation: 'Participatory - poster
Corresponding author: Yes
City of event: Leuven, Belgium
Date of event: 22/09/2010
End date: 24/09/2010
Organising entity: KULeuven **Type of entity:** University
City organizing entity: Leuven, Belgium
Meseguer V; Kovacs I; Luna C; Quirce S; Acosta MC; Belmonte C; Gallar J.

26 **Title of the work:** Activation of TRPA1 channels by 1,4-dihydropyridines
Name of the conference: II Hispano-Italian Workshop on the Molecular Biology and Biophysics of Ion Channels
Type of event: Conference **Geographical area:** European Union
Type of participation: Participatory - oral communication
Corresponding author: Yes
City of event: Castalla, Valencian Community, Spain
Date of event: 05/11/2009
End date: 08/11/2009
Organising entity: Hispano-Italian Workshop on the Molecular Biology and Biophysics of Ion Channels **Type of entity:** Associations and Groups
City organizing entity: Spain
Meseguer V.

27 **Title of the work:** Activation of TRPA1 channels by 1,4-dihydropyridines
Name of the conference: II Hispano-Italian Workshop on the Molecular Biology and Biophysics of Ion Channels
Type of event: Conference **Geographical area:** European Union
Type of participation: 'Participatory - poster
Corresponding author: Yes
City of event: Castalla, Valencian Community, Spain
Date of event: 05/11/2009
End date: 08/11/2009
Organising entity: Hispano-Italian Workshop on the Molecular Biology and Biophysics of Ion Channels **Type of entity:** Associations and Groups
City organizing entity: Spain
Meseguer V; Fajardo O; Luis E; López MJ; Belmonte C; Viana F.

28 **Title of the work:** Activation of TRPA1 channels by 1,4-dihydropyridines
Name of the conference: 2ª Reunión de la Red Española de Canales Iónicos (RECI II)
Type of event: Conference
Type of participation: 'Participatory - poster
Corresponding author: Yes
City of event: Valladolid, Castile and León, Spain
Date of event: 15/10/2009
End date: 16/10/2009
Organising entity: Red Española de Canales Iónicos **Type of entity:** Associations and Groups
City organizing entity: Spain
Meseguer V; Fajardo O; López MJ; Belmonte C; Viana F.

29 **Title of the work:** TRP Channels in Sensory Neurons As Novel Targets Of The Antimycotic Clotrimazole
Name of the conference: Biophysical Society 52nd Annual Meeting and 16th International Biophysics Congress
Type of event: Conference **Geographical area:** Non EU International
Type of participation: 'Participatory - poster
Corresponding author: Yes
City of event: Long Beach California, United States of America
Date of event: 2008
Organising entity: Biophysical Society **Type of entity:** Associations and Groups
City organizing entity: Maryland, United States of America
Type of contribution: Scientific paper
Meseguer V; Karashima J; Talavera K; D´Hoedt D; Viana F; Nilius B; Voets T. En: Biophysical Journal. 94, 2008. ISSN 0006-3495

30 **Title of the work:** Shifts in voltage-dependence of recombinant and native TRPM8 channels by chemicals agents and temperature
Name of the conference: PENS Workshop 2007 (Mechano-transduction and Nociception)
Type of event: Conference
Type of participation: 'Participatory - poster
Corresponding author: Yes
City of event: Bucharest, Romania
Date of event: 25/08/2007
End date: 30/08/2007
Organising entity: PENS **Type of entity:** Associations and Groups
Meseguer V; Madrid R; Malkia A; Belmonte C; Viana F.

31 **Title of the work:** Bidirectional modulation of TRPM8 by chemical agents and temperature
Name of the conference: 1ª Reunión Española de Canales Iónicos (RECI)
Type of event: Conference
Type of participation: 'Participatory - poster
Corresponding author: No
City of event: San Juan de Alicante, Valencian Community, Spain
Date of event: 2007
Organising entity: Red Española de Canales Iónicos **Type of entity:** Associations and Groups
Malkia A; Madrid R; Meseguer V; Belmonte C; Viana F.

32 **Title of the work:** Pharmacological dissection of TRPM8 contribution to thermal responses in mammalian peripheral cold thermoreceptors
Name of the conference: Third Cajal Winter Conference. Huesca SPAIN 2007.
Type of event: Conference **Geographical area:** National
Type of participation: 'Participatory - poster
Corresponding author: No
City of event: Huesca, Aragon, Spain
Date of event: 2007
Organising entity: SOCIEDAD ESPAÑOLA DE NEUROCIENCIA
City organizing entity: Spain
Madrid R; Malkia A; Donovan-Rodriguez T; Meseguer V; Valero M; Acosta M; Luna C; Belmonte C; Viana F.

33 **Title of the work:** Pharmacological dissection of TRPM8 contribution to thermal responses in mammalian peripheral cold thermoreceptors
Name of the conference: 1ª Reunión Española de Canales Iónicos (RECI)
Type of event: Conference
Type of participation: 'Participatory - poster
Corresponding author: No
City of event: San Juan de Alicante, Valencian Community, Spain
Date of event: 2007
Organising entity: Red Española de Canales Iónicos
City organizing entity: Spain
Madrid R; Malkia A; Donovan-Rodriguez T; Meseguer V; Valero M; Acosta M; Luna C; Belmonte C; Viana F.

34 **Title of the work:** Pharmacological dissection of TRPM8 contribution to thermal responses in mammalian peripheral cold thermoreceptors
Name of the conference: 36th Annual Meeting of the Society for Neuroscience
Type of event: Conference **Geographical area:** Non EU International
Type of participation: 'Participatory - poster
Corresponding author: No
City of event: Atlanta, United States of America
Date of event: 18/10/2006
Organising entity: Society for Neuroscience **Type of entity:** Associations and Groups
City organizing entity: Washington, United States of America
Madrid R; Malkia A; Donovan-Rodriguez T; Meseguer V; Valero M; Acosta M; Luna C; Belmonte C; Viana F.

35 **Title of the work:** Pharmacological dissection of TRPM8 contribution to thermal responses in mammalian peripheral cold thermoreceptors
Name of the conference: Cell and Molecular Biology of TRP channels
Type of event: Conference
Type of participation: 'Participatory - poster
Corresponding author: No
City of event: Bath, United Kingdom
Date of event: 07/09/2006
End date: 08/09/2006
Organising entity: University of Bath **Type of entity:** University
City organizing entity: United Kingdom
Malkia A; Madrid R; Meseguer V; De la Peña E; Valero M; Belmonte C; Viana F.

36 **Title of the work:** Effects of the Nonsteroidal Anti–Inflammatory Drug Nepafenac on Sodium Channels in Cultured Mice Trigeminal Sensory Neurons
Name of the conference: ARVO Annual Meeting Abstract, May 2006
Type of event: Conference **Geographical area:** Non EU International
Type of participation: 'Participatory - poster
Corresponding author: No
City of event: Ft. Lauderdale, United States of America
Date of event: 2006
End date: 2006
Organising entity: The Association for Research in Vision and Ophthalmology
City organizing entity: Maryland, United States of America
Type of contribution: Scientific paper
Belmonte C; Meseguer V; Graff G; Viana F. "Effects of the Nonsteroidal Anti–Inflammatory Drug Nepafenac on Sodium Channels in Cultured Mice Trigeminal Sensory Neurons". En: ARVO Annual Meeting Abstract. 2006. ISSN 1552-5783

37 **Title of the work:** Modulación de la actividad del canal iónico TRPM8 por receptores acoplados a proteínas G
Name of the conference: Sociedad Española de Neurociencias. Málaga 2005
Type of event: Conference **Geographical area:** National
Type of participation: 'Participatory - poster
Corresponding author: Yes
City of event: Málaga, Andalusia, Spain
Date of event: 2005
Organising entity: Sociedad Española de Neurociencias **Type of entity:** Associations and Groups
City organizing entity: Spain
Meseguer V; Gomis A; Belmonte C; Bayliss D; Viana F.

38 **Title of the work:** Relationships between antioxidants and leaf senescence in nodule pea plants
Name of the conference: Oxidants and antioxidants in Biology
Type of event: Conference **Geographical area:** National
Type of participation: 'Participatory - poster
Corresponding author: No
City of event: Cádiz, Andalusia, Spain
Date of event: 06/02/2003
End date: 08/02/2003
Organising entity: Grupo Español de Investigación de Radicales Libres **Type of entity:** Associations and Groups

City organizing entity: Spain
Vanacker H; Palma JM; Jiménez A; Sandalio LM; Corpas FJ; Meseguer V; Gómez M; Sevilla F; Foyer CH; Del Río LA.

39 **Title of the work:** Foliar senescence and oxidative metabolism in plants of Pisum (Pisum sativum cv Phoenix): Nodulation effect with Rhizobium leguminasorum
Name of the conference: VII Reunión del grupo español de radicales libres y III Iberoamericana
Type of event: Conference **Geographical area:** España e Iberoamérica
Type of participation: 'Participatory - poster
Corresponding author: Yes
City of event: Cáceres, Extremadura, Spain
Date of event: 26/09/2002
Organising entity: Grupo Español de Investigación en Radicales Libres **Type of entity:** Associations and Groups
City organizing entity: Spain
Meseguer V; Jiménez A; Gómez J; Del Río LA; Sevilla F.

R&D management and participation in scientific committees

Scientific, technical and/or assessment committees

Committee title: Thesis Jury Member: MODULATION AND GENERATION OF PLASMA MEMBRANE CATION CHANNELS BY SILICA NANOPARTICLES by Alicia Sánchez Linde
Primary (UNESCO code): 240000 - Life Science
Secondary (UNESCO code): 249000 - Neurosciences
Tertiary (UNESCO code): 249001 - Neurophysiology
Affiliation entity: KU Leuven **Type of entity:** University
City affiliation entity: Leuven, Belgium
Start-End date: 19/12/2017 - 19/12/2017

Other achievements

Stays in public or private R&D centres

1 **Entity:** University of California at Berkeley
City of entity: Berkeley, United States of America
Primary (UNESCO code): 240000 - Life Science
Secondary (UNESCO code): 249000 - Neurosciences
Tertiary (UNESCO code): 249001 - Neurophysiology
Start-End date: 2013 - 2015 **Duration:** 1 year - 10 months - 12 days
Funding entity: National Institutes of Health **Type of entity:** Administrative Body of the National Health System
City funding entity: United States of America
Goals of the stay: Post-doctoral
Provable tasks: I conduced patch-clamp experiments on retinal ganglion cells with the aim of studying the cellular and molecular basis of visual restoration by means of opto-pharmacological tools
Acquired skills developed: I acquired the ability of doing patch-clamp experiments on retinal ganglion cells in a retinal whole-mount preparation

Relevant results: We demonstrated that P2X receptors are a natural conduit allowing cell-type-selective and degeneration-specific delivery of photoswitches to restore visual function in blinding disease.

2 **Entity:** KULeuven **Type of entity:** University
Faculty, institute or centre: Faculty of Medicine
City of entity: Leuven, Belgium
Primary (UNESCO code): 240000 - Life Science
Secondary (UNESCO code): 249000 - Neurosciences
Tertiary (UNESCO code): 249001 - Neurophysiology
Start-End date: 01/07/2006 - 31/12/2006 **Duration:** 6 months
Funding entity: Generalitat Valenciana **Type of entity:** Consellería de Empresa, Universidad y Ciencia
City funding entity: Valencia, Valencian Community, Spain
Name of programme: Ayudas para estancias predoctorales fuera de la Comunidad Valenciana
Goals of the stay: Doctorate
Provable tasks: I conducted calcium imaging on trigeminal sensory neurons natively expressing TRPV1, TRPM8 and TRPA1 ion channels
Acquired skills developed: I learnt to do trigeminal sensory primary cultures and measuring intracellular calcium by means of fura-2 fluorometry.
Relevant results: I found that clotrimazole stimulated a subset of TRPV1-expressing and TRPA1-expressing trigeminal neurons. (Meseguer et al., 2008)- The Journal of Neuroscience
Identify key words: Natural sciences and health sciences

3 **Entity:** KULeuven **Type of entity:** University
Faculty, institute or centre: Faculty of Medicine
City of entity: Leuven, Belgium
Primary (UNESCO code): 240000 - Life Science
Secondary (UNESCO code): 249000 - Neurosciences
Tertiary (UNESCO code): 249001 - Neurophysiology
Start-End date: 01/10/2004 - 23/12/2004 **Duration:** 2 months - 23 days
Funding entity: Generalitat Valenciana **Type of entity:** Consellería de Empresa, Universidad y Ciencia
City funding entity: Valencia, Valencian Community, Spain
Name of programme: Ayudas para estancias predoctorales fuera de la Comunidad Valenciana
Goals of the stay: Doctorate
Provable tasks: I was instructed and performed patch-clamp experiments on HEK293 cells heterologously overexpressing TRPV1 and TRPM8 ion channels
Acquired skills developed: I acquired the ability of doing patch-clamp experiments on HEK293 cells heterologously over-expressing TRPV1, TRPA1 and TRPM8 ion channels.
Relevant results: I found that clinically relevant clotrimazole concentrations activate heterologously expressed TRPV1 and TRPA1, and in contrast inhibites the cold and menthol receptor TRPM8 (Meseguer et al, 2008)- The Journal of Neuroscience
Identify key words: Natural sciences and health sciences

Obtained accreditations/recognitions

1 **Description:** PROFESOR AYUDANTE DOCTOR
Accrediting entity: Agencia Nacional de Evaluación de la Calidad y Acreditación (ANECA) **Type of entity:** State agency
City accrediting entity: Madrid, Spain
Date of recognition: 12/03/2014

2 **Description:** PROFESOR CONTRATADO DOCTOR
Accrediting entity: Agencia Nacional de Evaluación de la Calidad y Acreditación (ANECA)
City accrediting entity: Madrid, Spain
Date of recognition: 12/03/2014

3 **Description:** PROFESOR DE UNIVERSIDAD PRIVADA
Accrediting entity: Agencia Nacional de Evaluación de la Calidad y Acreditación (ANECA)
City accrediting entity: Madrid, Spain
Date of recognition: 12/03/2014