



## **Martin Estrada Valencia**

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## 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.

My education includes a bachelor degree in chemistry, developing a final degree project related to the synthesis of new heterocyclic compounds. I also hold a Master in Pharmaceutical Sciences from the National University of Colombia. There, as fellow of the Outstanding Postgraduate Students Scholarship, I achieved some experience in working with murine models related to Central Nervous System diseases such as epilepsy, depression and anxiety. I am PhD in Medicinal Chemistry thanks to a scholarship from the Colombian National Department of Science Technology and Innovation (Colciencias). My doctoral thesis was focused in the design, synthesis and evaluation of new multitarget molecules with potential use in Alzheimer's disease therapy. This project was developed in the Medicinal Chemistry Institute of Madrid.

My research focuses mainly on the following aspects. From my pre-doctoral experience

Development of new molecules aiming Central Nervous System

Design and Synthesis of Multitarget Ligands aiming enzymes related to neurodegenerative diseases

Design and Synthesis of New Anti Alzheimer's Agents

Evaluation of New Drugs on Murine Models for Depression and Anxiety

From my postdoctoral experience.

Development of New Strategies in Drug Discovery

Development of Inhibitors of Protein-Protein Interactions

Development of New Drugs for Brain Cancer

As can be inferred from my experience, I have a well defined research line related to the Development of new Drugs and Strategies for Drug Discovery in the Central Nervous System.



## 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.

22 scientific publications in peer reviewed journals

15 Publications in first decyl or first quartile in the area of Medicinal Chemistry

Seal of Excellence for my project presented with the University of Leeds to the Marie Sklodowska Curie Scheme

Cum laude distinction to the PhD thesis

Fellow of the Francisco José de Caldas Scholarships for PhD Studies

Fellow of the Outstanding Postgraduate Students of the National University of Colombia

Cum laude distinction to the Final Research Work to obtain the Degree in Chemistry

Certificación ANECA como Profesor Ayudante Doctor, Profesor Contratado Doctor y Profesor de Universidad Privada

497 citas, i10-index = 15 Google Scholar

Miembro del Tribunal Evaluador de tres Tesis Doctorales. Universidad Complutense de Madrid, Universidad Autónoma de Madrid

Invited Postdoctoral Visiting Researcher to the University of the Pacific in the United States

Invited Predoctoral Visiting Researcher

Member of the Spanish Society of Medicinal Chemistry (SEQT)

One paper as Co-corresponding, four papers as lead author

One research work awarded with the Lilly-price by Elly Lilly Company and SEQT. J. Med Chem. 2022

7 Travel awards to attend international scientific conferences



## Martin Estrada Valencia

Surname(s): **Estrada Valencia**  
Name: **Martin**  
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Personal web page: **[https://www.researchgate.net/profile/Martin\\_Estrada4](https://www.researchgate.net/profile/Martin_Estrada4)**

### Current professional situation

**Employing entity:** Newcastle University      **Type of entity:** University  
**Department:** Centre for Cancer  
**Professional category:** Research Associate  
**Start date:** 13/06/2022  
**Type of contract:** Grant-assisted student (pre or post-doctoral, others)      **Dedication regime:** Full time  
**Primary (UNESCO code):** 239001 - Design. Synthesis and study new drugs  
**Secondary (UNESCO code):** 230600 - Organic chemistry; 239001 - Design. Synthesis and study new drugs  
**Tertiary (UNESCO code):** 320903 - Evaluation of drugs; 320912 - Synthetic drugs  
**Performed tasks:** Research Associate in Medicinal Chemistry – Cancer Lead Optimisation Multi-parameter optimisation project aiming the synthesis of a new chemical entity for the treatment of brain cancer • Structure based design of new molecules with improved affinity for the pharmacological target • Design and optimisation of new synthetic pathways to obtain improved analogues of the lead compound • Optimisation of the Pharmacokinetic properties of the new compounds • Structure-Activity Relationship analysis • Analysis of biological data to inform potency improvement • Presentation and dissemination of the research results • Supervision and tutoring of postgraduate researchers  
**Identify key words:** Stability and folding/ unfolding of proteins; Cognitive neuroscience; Insanity senile (alzheimer, parkinson); Cancer

### Previous positions and activities

	Employing entity	Professional category	Start date
1	University of Leeds	Medicinal Chemistry Research Fellow	01/05/2021
2	University of Leeds	Postdoctoral Research Associate	01/11/2020
3	Consejo Superior de Investigaciones Científicas	Investigador Doctor	01/10/2017
4	University of the Pacific	Visiting Postdoctoral Researcher	01/08/2018
5	University of the Pacific	Visiting Postdoctoral Researcher	01/08/2017
6	Fundación Instituto Teófilo Hernando	Investigador Doctor	01/03/2017
7	Consejo Superior de Investigaciones Científicas	Investigador Contratado	01/05/2015
8	Consejo Superior de Investigaciones Científicas	Investigador Predoctoral Becario del Departamento Administrativo de Ciencia	01/04/2011

	Employing entity	Professional category	Start date
		Tecnología e Investigación (Colciencias) - Colombia	
9	Universidad Cooperativa de Colombia	Profesor Tiempo Completo	08/07/2010
10	Universidad Cooperativa de Colombia	Profesor Tiempo Parcial	01/02/2007
11	Universidad de Nariño	Profesor Encargado de Cátedra	27/04/2007
12	Colegio Filipense Nuestra Señora del Rosario	Profesor de Educación Secundaria	01/10/2005

- 1** **Employing entity:** University of Leeds **Type of entity:** University  
**Department:** Leeds Institute for Cardiovascular and Metabolic Diseases LICAMM, School of Medicine  
**City employing entity:** Leeds, West Yorkshire, United Kingdom  
**Professional category:** Medicinal Chemistry **Educational Management (Yes/No):** No  
 Research Fellow  
**Start-End date:** 01/05/2021 - 30/04/2022 **Duration:** 1 year  
**Type of contract:** Grant-assisted student (pre or post-doctoral, others)  
**Dedication regime:** Full time  
**Primary (UNESCO code):** 239001 - Design. Synthesis and study new drugs  
**Secondary (UNESCO code):** 230600 - Organic chemistry  
**Tertiary (UNESCO code):** 230222 - Molecular pharmacology; 320912 - Synthetic drugs  
**Performed tasks:** Medicinal Chemistry Research Fellow – Glioblastoma Multiforme Hit to Lead Optimisation. Leader of the chemical aspects in a multi-parameter optimisation project aiming the synthesis of a new chemical entity against brain cancer • Design and synthesis of new compounds with improved anticancer activity • Development of two assays for drug target validation • Design of new probes for identification of drug-target interactions • Design and chemical synthesis of new mitochondria directed analogues • Supervision of one Master Student  
**Identify key words:** Insanity senile (alzheimer, parkinson); Cancer  
**Field of management activity:** University
- 2** **Employing entity:** University of Leeds **Type of entity:** University  
**Department:** School of Chemistry  
**City employing entity:** Leeds, West Yorkshire, United Kingdom  
**Professional category:** Postdoctoral Research **Educational Management (Yes/No):** No  
 Associate  
**Start-End date:** 01/11/2020 - 30/04/2021 **Duration:** 6 months  
**Type of contract:** Temporary employment contract  
**Dedication regime:** Full time  
**Primary (UNESCO code):** 239001 - Design. Synthesis and study new drugs  
**Secondary (UNESCO code):** 230618 - Structure of organic molecules  
**Tertiary (UNESCO code):** 320802 - Action of drugs  
**Performed tasks:** Post-doctoral Research Associate in Synthesis and Chemical Biology. University of Leeds, School of Chemistry Design of new inhibitors of alpha-helix mediated protein-protein interactions • Multi-step synthesis of peptidomimetics aiming cancer and neurodegeneration related targets • Analysis of highly complex NMR data • Development of a photo-catalytic synthetic method • Determination of the Structure of the new inhibitors  
**Identify key words:** Synthetic organic chemistry; Insanity senile (alzheimer, parkinson); Cancer  
**Field of management activity:** University
- 3** **Employing entity:** Consejo Superior de Investigaciones Científicas **Type of entity:** State agency  
**Department:** Instituto de Química Médica, Instituto de Química Médica



**City employing entity:** Madrid, Community of Madrid, Spain  
**Professional category:** Investigador Doctor      **Educational Management (Yes/No):** No  
**Start-End date:** 01/10/2017 - 31/12/2019      **Duration:** 2 years - 3 months  
**Type of contract:** Grant-assisted student (pre or post-doctoral, others)  
**Dedication regime:** Full time  
**Primary (UNESCO code):** 239001 - Design. Synthesis and study new drugs  
**Secondary (UNESCO code):** 239001 - Design. Synthesis and study new drugs; 249000 - Neurosciences  
**Tertiary (UNESCO code):** 230600 - Organic chemistry  
**Performed tasks:** Design of non-electrophilic disruptors of the Nrf2/Keap1 protein-protein interaction  
• Design of new protein-protein interactions inhibitors based on computational tools • Tutoring and supervision of two undergraduate students and a visiting PhD student pre-doctoral researchers • Laboratory management, maintenance, and security • Purchasing of laboratory equipment  
**Identify key words:** Insanity senile (alzheimer, parkinson)  
**Field of management activity:** Public Research Body

**4** **Employing entity:** University of the Pacific  
**Department:** School of Pharmacy  
**City employing entity:** Stockton California, United States of America  
**Professional category:** Visiting Postdoctoral Researcher      **Educational Management (Yes/No):** No  
**Start-End date:** 01/08/2018 - 15/11/2018      **Duration:** 3 months - 15 days  
**Type of contract:** Grant-assisted student (pre or post-doctoral, others)  
**Dedication regime:** Full time  
**Primary (UNESCO code):** 320990 - Experimental Pharmacology  
**Secondary (UNESCO code):** 239001 - Design. Synthesis and study new drugs  
**Tertiary (UNESCO code):** 320912 - Synthetic drugs  
**Performed tasks:** Electrophysiological evaluation of Azocuroniums, a new family of photoswitchable agonists of nicotinic receptors • Evaluation of the effects of Azocuroniums on nicotinic receptors • Expression of nicotinic receptors on frog oocytes • Light controlled electrophysiological experiments in the two-electrode voltage-clamp technique  
**Identify key words:** Photochemistry; Electrophysiology  
**Field of management activity:** University

**5** **Employing entity:** University of the Pacific  
**Department:** School of Pharmacy  
**City employing entity:** Stockton California, United States of America  
**Professional category:** Visiting Postdoctoral Researcher      **Educational Management (Yes/No):** No  
**Start-End date:** 01/08/2017 - 15/10/2017      **Duration:** 2 months - 15 days  
**Type of contract:** Grant-assisted student (pre or post-doctoral, others)  
**Dedication regime:** Full time  
**Primary (UNESCO code):** 320990 - Experimental Pharmacology  
**Secondary (UNESCO code):** 221022 - Photochemistry  
**Tertiary (UNESCO code):** 320808 - Mechanism of drug action  
**Performed tasks:** Electrophysiological evaluation of Azocuroniums, a new family of photoswitchable agonists of nicotinic receptors • Optimisation of the two-electrode voltage-clamp technique • Purification of Azocuroniums • Expression of nicotinic receptors in frog oocytes • Measurement of acetylcholine induced currents • Measurement of the effects of Aocuroniums on the acetylcholine induced currents  
**Field of management activity:** University





- 6** **Employing entity:** Fundación Instituto Teófilo Hernando **Type of entity:** R&D Centre  
**Department:** Universidad Autónoma de Madrid  
**City employing entity:** Madrid, Community of Madrid, Spain  
**Professional category:** Investigador Doctor **Educational Management (Yes/No):** No  
**Start-End date:** 01/03/2017 - 31/07/2017 **Duration:** 5 months  
**Type of contract:** Grant-assisted student (pre or post-doctoral, others)  
**Dedication regime:** Full time  
**Primary (UNESCO code):** 239001 - Design. Synthesis and study new drugs  
**Secondary (UNESCO code):** 320990 - Experimental Pharmacology  
**Tertiary (UNESCO code):** 230600 - Organic chemistry  
**Performed tasks:** Design of inhibitors of the mitochondrial Na<sup>+</sup>/Ca<sup>2+</sup>exchanger (NCLX) • Computational design of new inhibitors with improved potency • Multi-step synthesis, characterization and purification of new inhibitors • One research article published as co-corresponding author  
**Identify key words:** Insanity senile (alzheimer, parkinson)  
**Field of management activity:** Public Research Body
- 7** **Employing entity:** Consejo Superior de Investigaciones Científicas **Type of entity:** State agency  
**Department:** Instituto de Química Médica  
**City employing entity:** Madrid, Community of Madrid, Spain  
**Professional category:** Investigador Contratado **Educational Management (Yes/No):** No  
**Start-End date:** 01/05/2015 - 30/09/2016 **Duration:** 1 year - 5 months  
**Type of contract:** Temporary  
**Dedication regime:** Full time  
**Primary (UNESCO code):** 239001 - Design. Synthesis and study new drugs  
**Secondary (UNESCO code):** 239001 - Design. Synthesis and study new drugs  
**Tertiary (UNESCO code):** 230600 - Organic chemistry  
**Performed tasks:** Design of New Multitarget Ligands against Alzheimer's Disease Design and evaluation of inhibitors of the Sigma 1 receptor Design and Synthesis of new inhibitors of Monoamine oxidases Design and Synthesis of inhibitors of Cholinesterases Determination of blood brain permeability of new drugs through the PAMPA assay  
**Identify key words:** Insanity senile (alzheimer, parkinson)
- 8** **Employing entity:** Consejo Superior de Investigaciones Científicas **Type of entity:** State agency  
**Department:** Instituto de Química Médica  
**City employing entity:** Madrid, Spain  
**Professional category:** Investigador Predoctoral **Educational Management (Yes/No):** No  
Becario del Departamento Administrativo de Ciencia Tecnología e Investigación (Colciencias) - Colombia  
**Start-End date:** 01/04/2011 - 30/04/2015 **Duration:** 4 years  
**Type of contract:** Beca del Ministerio de Ciencia Tecnología en Innovación de Colombia  
**Dedication regime:** Full time  
**Primary (UNESCO code):** 230600 - Organic chemistry; 239000 - Pharmaceutical Chemistry; 320912 - Synthetic drugs  
**Secondary (UNESCO code):** 239001 - Design. Synthesis and study new drugs; 320802 - Action of drugs; 320903 - Evaluation of drugs  
**Tertiary (UNESCO code):** 320990 - Experimental Pharmacology; 330305 - Chemical synthesis  
**Performed tasks:** Design and Synthesis of New Multitarget Directed Ligands (MTDL) against Neurodegenerative Diseases • Design, Synthesis and purification of new MTDLs • Computational Design of inhibitors of Alzheimer's Disease related enzymes: Cholinesterases, Monoamine oxidases,



Lipo-oxygenases and Sigma 1 Receptor • Design and executions of experiments to determine the brain permeability of the new MTDLs • Supervision and Mentoring of one Student of the Master in Organic Chemistry

**Identify key words:** Insanity senile (alzheimer, parkinson); Cancer

- 9** **Employing entity:** Universidad Cooperativa de Colombia **Type of entity:** University  
**Department:** Faculty of Medicine  
**City employing entity:** Pasto, Colombia  
**Professional category:** Profesor Tiempo Completo **Educational Management (Yes/No):** Yes  
**Start-End date:** 08/07/2010 - 05/12/2010 **Duration:** 5 months  
**Type of contract:** Temporary employment contract  
**Primary (UNESCO code):** 230200 - Biochemistry  
**Secondary (UNESCO code):** 230600 - Organic chemistry  
**Performed tasks:** Lecturer of Biochemistry for first year students of Medicine  
**Field of management activity:** University
- 10** **Employing entity:** Universidad Cooperativa de Colombia **Type of entity:** University  
**Department:** Facultad de Medicina  
**City employing entity:** Pasto, Colombia  
**Professional category:** Profesor Tiempo Parcial **Educational Management (Yes/No):** Yes  
**Start-End date:** 01/02/2007 - 16/12/2007 **Duration:** 10 months  
**Type of contract:** Temporary employment contract  
**Dedication regime:** Full time  
**Primary (UNESCO code):** 240300 - Biochemistry  
**Secondary (UNESCO code):** 230200 - Biochemistry  
**Tertiary (UNESCO code):** 320900 - Pharmacology  
**Performed tasks:** Diseño del programa curricular del área de Bioquímica para estudiantes de Medicina • Docencia de Bioquímica para estudiantes de primer año de Medicina • Evaluación continua de las actividades académicas • Tutoría y supervisión del progreso académico de los estudiantes • Tareas administrativas  
**Field of management activity:** University
- 11** **Employing entity:** Universidad de Nariño **Type of entity:** University  
**Department:** Agronomical Sciences  
**City employing entity:** Pasto, Colombia  
**Professional category:** Profesor Encargado de Cátedra  
**Start-End date:** 27/04/2007 - 15/06/2007 **Duration:** 2 months  
**Type of contract:** Temporary  
**Dedication regime:** Part time  
**Primary (UNESCO code):** 230600 - Organic chemistry  
**Performed tasks:** Substitute Lecturer of Organic Chemistry
- 12** **Employing entity:** Colegio Filipense Nuestra Señora del Rosario  
**City employing entity:** Pasto, Colombia  
**Professional category:** Profesor de Educación Secundaria **Educational Management (Yes/No):** Yes  
**Start-End date:** 01/10/2005 - 26/01/2007 **Duration:** 1 year - 4 months  
**Type of contract:** Permanent employment contract





**Performed tasks:** Docente de Educación Secundaria • Enseñanza de Química de Bachillerato • Supervisión del desarrollo académico de los estudiantes • Diseño del programa curricular del área de Química

**Field of management activity:** Colegio Privado



# Education

## University education

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

- 1** **University degree:** Certificación  
**Name of qualification:** Profesor Ayudante Doctor  
**Degree awarding entity:** Agencia Nacional de Evaluación de la Calidad y Acreditación  
**Date of qualification:** 27/09/2020  
**Type of entity:** Agencia del Estado
- 2** **University degree:** Certificación  
**Name of qualification:** Profesor de universidad Privada  
**Degree awarding entity:** Agencia Nacional de Evaluación de la Calidad y Acreditación  
**Date of qualification:** 27/09/2020  
**Type of entity:** Agencia del Estado
- 3** **University degree:** Certification  
**Name of qualification:** Profesor Contratado Doctor  
**Degree awarding entity:** Agencia Nacional de Evaluación de la Calidad y Acreditación  
**Date of qualification:** 27/09/2020  
**Type of entity:** Agencia del Estado
- 4** **University degree:** Bachelor of Science  
**Name of qualification:** Graduado en Química  
**Degree awarding entity:** Universidad de Nariño (Colombia)  
**Date of qualification:** 10/12/2005  
**Average mark:** Good  
**Prize:** Tesis de grado Laureada (Máxima Distinción en Colombia)  
**Standardised degree:** Yes  
**Date of homologation:** 28/06/2016  
**Foreign qualification:** Químico  
**Type of entity:** University
- 5** **University degree:** Master of Science  
**Name of qualification:** Máster en Ciencias Farmacéuticas  
**Degree awarding entity:** Universidad Nacional de Colombia  
**Date of qualification:** 09/07/2011  
**Type of entity:** University
- 6** **University degree:** Cursos de Formación Avanzada  
**Name of qualification:** Cursos de Formación Avanzada (60 Créditos)  
**Degree awarding entity:** Universidad de Alcalá  
**Date of qualification:** 2011  
**Type of entity:** University



## Doctorates

**Doctorate programme:** Doctorado Interuniversitario en Química Médica

**Degree awarding entity:** Universidad Complutense de Madrid, Universidad de Alcalá de Henares, Universidad San Pablo - CEU

**City degree awarding entity:** Madrid, Community of Madrid, Spain

**Date of degree:** 05/05/2016

**Thesis title:** Exploring the N-Benzylpiperidine and N,N-Dibenzyl-N-methylamine Fragments as Privileged Structures in the Search of New Multitarget Directed Drugs for Alzheimer's Disease

**Thesis director:** María Isabel Rodríguez Franco

**Obtained qualification:** cum laude

## Language skills

Language	Listening skills	Reading skills	Spoken interaction	Speaking skills	Writing skills
English	B2	B2	C1	C1	C1

## Teaching experience

### Experience supervising doctoral thesis and/or final year projects

- Project title:** Development of mitochondria-targeted chemical probes for the inhibition and assessment of energy metabolism in brain cancer cells

**Type of project:** Master of Natural Sciences

**Entity:** University of Leeds **Type of entity:** University

**City of entity:** Leeds, West Yorkshire, United Kingdom

**Student:** Connor Haigh

**Obtained qualification:** Master

**Date of reading:** 20/09/2021

**Date of award:** 20/09/2021
- Project title:** Síntesis de triazoles derivados del indol catalizada por nanopartículas de cobre soportadas

**Entity:** Instituto de Química Médica **Type of entity:** R&D Centre

**Student:** Santiago Stabile

**Date of reading:** 20/12/2020
- Project title:** Oligomerización de Metoxi- o Ciano-1H-Indoles Catalizada por un Ácido de Lewis: Síntesis de Compuestos con Potencial Actividad Biológica

**Entity:** Instituto de Química Médica **Type of entity:** State agency

**Student:** Imma Sempere Pérez

**Date of reading:** 01/07/2019
- Project title:** Neurogenic Agents as a Regenerative Treatment for CNS Diseases

**Entity:** Instituto de Química Médica **Type of entity:** R&D Centre

**Student:** Raquel Romero Chorro

**Date of reading:** 01/09/2018



- 5** **Project title:** Síntesis Orgánica de Amidas del Ácido Cinámico  
**Entity:** Instituto de Química Médica **Type of entity:** State agency  
**Student:** Mireia Vicente Pagola  
**Date of reading:** 01/07/2018
- 6** **Project title:** Trabajo fin de Máster Alzheimer's Disease: Design, Synthesis and Biological Assessment of New Flavonoid – Donepezil Hybrids as Selective Inhibitors of Human Acetylcholinesterase  
**Entity:** Instituto de Química Médica **Type of entity:** State agency  
**Student:** Lucía de Andrés Gordo  
**Date of reading:** 19/09/2014

## 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:** DESARROLLO DE FÁRMACOS ACTIVADORES DE NRF2 PARA TERAPIAS INNOVADORAS DE LA ENFERMEDAD DE ALZHEIMER  
**Entity where project took place:** Instituto de Química Médica **Type of entity:** State agency  
**City of entity:** Madrid, Community of Madrid, Spain  
**Start-End date:** 01/01/2018 - 21/12/2021  
**Total amount:** 656.121 €
- 2** **Name of the project:** Fármacos innovadores para enfermedades neurodegenerativas (Alzheimer y esclerosis lateral amiotrófica) activos en dianas neurogénicas y neuroprotectoras (SAF2015-64948-C2-1-R)  
**Entity where project took place:** Instituto de Química Médica - CSIC  
**Funding entity or bodies:** MINECO – Programa Estatal de I+D+i Orientada a los Retos de la Sociedad (Salud, cambio demográfico y bienestar) **Type of entity:** State agency  
**Start-End date:** 01/01/2016 - 31/12/2018  
**Total amount:** 181.500 €
- 3** **Name of the project:** Diseño, síntesis y evaluación de moléculas neurogénicas y/o neuroprotectoras como potenciales fármacos para enfermedades neurodegenerativas / Design, synthesis and evaluation of neurogenic and/or neuroprotective molecules as potential drugs for neurodegenerative diseases  
**Entity where project took place:** Instituto de Química Médica - CSIC  
**Funding entity or bodies:** CSIC, Proyecto Intramural Especial (PIE-201580E109)  
**Start-End date:** 15/12/2015 - 14/12/2018  
**Total amount:** 22.696 €



- 4** **Name of the project:** El intercambiador sodio/calcio mitocondrial como diana terapéutica para el desarrollo de fármacos innovadores para el tratamiento de enfermedades neurodegenerativas e ictus  
**Entity where project took place:** Fundación de Investigación Biomédica del Hospital Universitario de la Princesa  
**Type of entity:** Foundation  
**City of entity:** Madrid, Community of Madrid, Spain  
**Funding entity or bodies:** Instituto de Salud Carlos III  
**Type of entity:** Healthcare Institutions  
**City funding entity:** Madrid, Community of Madrid, Spain  
**Start-End date:** 01/03/2017 - 31/07/2017
- 5** **Name of the project:** Nuevos fármacos protectores mitocondriales para el potencial tratamiento del ictus cerebral y de enfermedades neurodegenerativas, incluido el Alzheimer / New mitochondrial protective drugs for the potential treatment of stroke and neurodegenerative diseases such as Alzheimer's (SAF2012-31035)  
**Entity where project took place:** Instituto de Química Médica - CSIC  
**Funding entity or bodies:** Plan Nacional de I+D+i, Programa de Biomedicina  
**Start-End date:** 01/01/2013 - 31/12/2016  
**Total amount:** 175.500 €
- 6** **Name of the project:** Estudio de las propiedades terapéuticas de fármacos basados en Melatonina como tratamiento innovador para enfermedades neurodegenerativas  
**Entity where project took place:** Fundación de Investigación Médica Mutua Madrileña Automovilística  
**Type of entity:** Foundation  
**City of entity:** Madrid, Community of Madrid, Spain  
**Start-End date:** 14/09/2012 - 13/09/2015  
**Total amount:** 20.000 €
- 7** **Name of the project:** Estudio de las propiedades terapéuticas de fármacos basados en Melatonina como tratamiento innovador para enfermedades neurodegenerativas / Study of the therapeutic properties of melatonin-based drugs as an innovative treatment for neurodegenerative diseases (AP103952012)  
**Entity where project took place:** Instituto de Química Médica (CSIC) e Instituto de Investigación Hospital 12 de Octubre de Madrid (i+12)  
**Funding entity or bodies:** Fundación de Investigación Médica Mutua Madrileña Automovilística  
**Type of entity:** Business  
**Start-End date:** 14/09/2012 - 13/09/2015
- 8** **Name of the project:** Diseño, síntesis y evaluación biológica preliminar de nuevos neuroprotectores mitocondriales / Design, synthesis and preliminary biological evaluation of new mitochondrial neuroprotective agentsM  
**Entity where project took place:** Instituto de Química Médica - CSIC  
**Funding entity or bodies:** CSIC, Proyecto Intramural Especial (PIE-201280E074)  
**Start-End date:** 15/04/2012 - 14/04/2015  
**Total amount:** 22.000 €

## Scientific and technological activities

### Scientific production

#### Publications, scientific and technical documents

- 1 Resveratrol-Based MTDLs to Stimulate Defensive and Regenerative Pathways and Block Early Events in Neurodegenerative Cascades. *Journal of Medicinal Chemistry*. 2022.  
**Type of production:** Scientific paper
- 2 Synthesis and Biological Assessment of 4,1-Benzothiazepines with Neuroprotective Activity on the Ca<sup>2+</sup> Overload for the Treatment of Neurodegenerative Diseases and Stroke. *Molecules*. 26 - 15, *Molecules*, 2021.  
**Type of production:** Scientific paper      **Format:** Journal  
**Corresponding author:** Yes
- 3 Optical control of muscular nicotinic channels with azocuroniums, photoswitchable azobenzenes bearing two N-methyl-N-carbocyclic quaternary ammonium groups. 2020.  
**Type of production:** Scientific paper
- 4 Tuning melatonin receptor subtype selectivity in oxadiazolone-based analogues: Discovery of QR2 ligands and NRF2 activators with neurogenic properties. 2020.  
**Type of production:** Scientific paper
- 5 New flavonoid – N,N-dibenzyl(N-methyl)amine hybrids: Multi-target-directed agents for Alzheimer's disease endowed with neurogenic properties. 2019.  
**Type of production:** Scientific paper
- 6 Structure-Activity Relationship of Potent Photo-Switchable Neuromuscular Inhibitors. 2019.  
**Type of production:** Scientific paper
- 7 Functional Characterization of Novel Photo-Switchable Neuromuscular Blockers. 2018.  
**Type of production:** Scientific paper
- 8 Multi-target-directed ligands for Alzheimer's disease: Discovery of chromone-based monoamine oxidase/cholinesterase inhibitors. 2018.  
**Type of production:** Scientific paper
- 9 Neurogenic and neuroprotective donepezil-flavonoid hybrids with sigma-1 affinity and inhibition of key enzymes in Alzheimer's disease. 2018.  
**Type of production:** Scientific paper
- 10 New cinnamic - N-benzylpiperidine and cinnamic - N,N-dibenzyl(N-methyl)amine hybrids as Alzheimer-directed multitarget drugs with antioxidant, cholinergic, neuroprotective and neurogenic properties. 2016.  
**Type of production:** Scientific paper





- 11** New neurogenic lipoid-based hybrids as innovative Alzheimer's drugs with  $\sigma$ -1 agonism and  $\beta$ -secretase inhibition. *Future Science*. 8 - 11, 2016.  
**Type of production:** Scientific paper **Format:** Journal
- 12** Recent Advances in Neurogenic Small Molecules as Innovative Treatments for Neurodegenerative Diseases. 2016.  
**Type of production:** Scientific paper
- 13** 3-Amidocoumarins as Potential Multifunctional Agents against Neurodegenerative Diseases. 2015.  
**Type of production:** Scientific paper
- 14** Potent and selective MAO-B inhibitory activity: Amino- versus nitro-3-aryl coumarin derivatives. 2015.  
**Type of production:** Scientific paper
- 15** Anticonvulsant profile of 2-ethylthio-7-methyl-4-(4-methylphenyl) pyrazolo[1,5-a][1,3,5]triazine. 2014.  
**Type of production:** Scientific paper
- 16** Assessment of the anticonvulsant activity of pyrazolo[1,5-a][1,3,5]triazines obtained by synthesis. *Revista Colombiana de Ciencias Químico Farmacéuticas*. 43 - 1, pp. 22. 2014.  
**Type of production:** Scientific paper **Format:** Journal  
**Corresponding author:** No
- 17** Discovery of 5-(4-hydroxyphenyl)-3-oxo-pentanoic acid [2-(5-methoxy-1H-indol-3-yl)-ethyl]-Amide as a neuroprotectant for Alzheimer's Disease by Hybridization of Curcumin and Melatonin. 2014.  
**Type of production:** Scientific paper
- 18** PP2A ligand ITH12246 protects against memory impairment and focal cerebral ischemia in mice. 2013.  
**Type of production:** Scientific paper
- 19** Pyridonepeptidase inhibitors, new dual AChE inhibitors as potential drugs for the treatment of Alzheimer's disease: Synthesis, biological assessment, and molecular modeling. 2012.  
**Type of production:** Scientific paper
- 20** Isolated molecules in 2-ethylsulfanyl-7-methyl-4-(4-methylphenyl) pyrazolo[1,5-a][1,3,5]triazine and hydrogen-bonded sheets of  $R^{2/2}(10)$ ,  $R^{2/2}(16)$ ,  $R^{4/22}$  and  $R^{4/24}$  rings in 2-ethylsulfanyl-7-methyl-4-(4-nitrophenyl)pyrazolo[1,5-a][1,3,5]triazine. 2006.  
**Type of production:** Scientific paper
- 21** Regioselective synthesis of novel 4-aryl-2-ethylthio-7-methyl pyrazolo[1,5-a]-[1,3,5]-triazines. 2006.  
**Type of production:** Scientific paper
- 22** S-ethyl N-benzoyldithiocarbamate: Two independent hydrogen-bonded  $R^{2/8}$  dimers of different symmetry linked into chains by a C-H $\cdots\pi$ (arene) interaction. 2004.  
**Type of production:** Scientific paper



## Works submitted to national or international conferences

- 1** **Title of the work:** Neurogenic Inducers Based on the Chromone Scaffold, A New Family of Multitarget Directed Ligands for Alzheimer's Disease  
**Name of the conference:** XXXVIII Annual Meeting of the Spanish Group of Neurotransmission and Neuroprotection  
**City of event:** Almagro, Castile-La Mancha, Spain  
**Date of event:** 13/12/2017  
**End date:** 15/12/2017  
**Organising entity:** Spanish Group of Neurotransmission and Neuroprotection  
**Type of entity:** Foundation  
Estrada Martín; Herrera-Arozamena C.; de Andrés L.; Pérez C.; Morales-García J.A.; Pérez-Castillo A.; Romero A.; Viña D.; Pricl S.; Laurini E.; Rodríguez-Franco M.I.
- 2** **Title of the work:** New Photoswitchable Neuromuscular Ligands: Chemical and Functional Characterization  
**Name of the conference:** XXXVIII Annual Meeting of the Spanish Group of Neurotransmission and Neuroprotection  
**City of event:** Almagro, Castile-La Mancha, Spain  
**Date of event:** 13/12/2017  
**End date:** 15/12/2017  
**Organising entity:** Spanish Group of Neurotransmission and Neuroprotection  
**Type of entity:** Foundation  
Herrera-Arozamena C; Estrada Martín; Martí-Marí O; de la Fuente-Revenga M; Villalba-Galea C.A; Rodríguez-Franco M.I.
- 3** **Title of the work:** Síntesis y Evaluación Farmacológica del Efecto Neuroprotector de Análogos de Ácido Okadaico  
**Name of the conference:** XXXVIII Annual Meeting of the Spanish Group of Neurotransmission and Neuroprotection  
**City of event:** Almagro, Castile-La Mancha, Spain  
**Date of event:** 13/12/2017  
**End date:** 15/12/2017  
**Organising entity:** Spanish Group of Neurotransmission and Neuroprotection  
**Type of entity:** Foundation  
López Arribas R.; Estrada M.; Lajarín R.; de los Ríos C.
- 4** **Title of the work:** A New Family of Multitarget Directed Compounds with Potential Application in Alzheimer's disease Treatment  
**Name of the conference:** Spanish-Italian Medicinal Chemistry Congress  
**City of event:** Barcelona, Catalonia, Spain  
**Date of event:** 12/07/2015  
**End date:** 15/07/2015  
**Organising entity:** Divisione di Chimica Farmaceutica- Sociedad Española de Química Terapéutica  
Martín Estrada Valencia; Lucía de Andrés; Concepción Pérez.
- 5** **Title of the work:** Searching For New Molecules With Multitarget Activities Against Alzheimer's Disease: Design, Synthesis And Biological Assessment Of New AChE-BACE-1 And AChE-MAO Inhibitors With Antioxidant Properties  
**Name of the conference:** 9<sup>th</sup> Annual Drug Discovery for Neurodegeneration Conference  
**City of event:** San Diego, United States of America



**Date of event:** 01/03/2015

**End date:** 03/03/2015

**Organising entity:** Alzheimer's Drug Discovery Foundation

**Type of entity:** Foundation

**City organizing entity:** New York, United States of America

Martín Estrada; Concepción Pérez; María Isabel Rodríguez-Franco.

**6 Title of the work:** New Multitarget Anti-Alzheimer Molecules

**Name of the conference:** First International scientific conference of young scientists and specialists on theme "Role of multidisciplinary approach in solving actual problems of fundamental and applied sciences"

**City of event:** Baku, Azerbaijan

**Date of event:** 15/10/2014

**End date:** 16/10/2014

**Organising entity:** Azerbaijan National Academy of Sciences

**City organizing entity:** Baku, Azerbaijan

**7 Title of the work:** New Molecules with Multitarget Activities Against Alzheimer's Disease: Design, Synthesis and Biological Assessment of New AChE- Beta-Secretase Inhibitors

**Name of the conference:** IV SEQT-Glaxo Smith Kline Summer School: Medicinal Chemistry in Drug Discovery

**City of event:** Madrid, Community of Madrid, Spain

**Date of event:** 25/06/2014

**End date:** 27/06/2014

**Organising entity:** SEQT-Glaxo Smith Kline

**Type of entity:** Sociedad Española de Química Terapéutica y Glaxo Smith Kline

**City organizing entity:** Madrid,

Martín Estrada; Lucía de Andrés; Concepción Pérez; María Isabel Rodríguez.

**8 Title of the work:** ALZHEIMER'S DISEASE: DESIGN, SYNTHESIS AND BIOLOGICAL ASSESSMENT OF NEW MULTITARGET FLAVONOID DERIVATIVES AS ACETYLCHOLINESTERASE AND BETA-SECRETASE INHIBITORS

**Name of the conference:** 1 Simposio de Jóvenes Investigadores de la Sociedad Española de Química Terapéutica

**City of event:** Madrid,

**Date of event:** 09/05/2014

**Organising entity:** Sociedad Española de Química Terapéutica

Lucía de Andrés; Martín Estrada Valencia; Concepción Pérez.

**9 Title of the work:** Neuropharmacological Effects of Some pyrazolo[1,5-a][1,3,5]triazine Analogues

**Name of the conference:** XIII Congreso Colombiano de Farmacología y Terapéutica. De la Biodiversidad a la Biotecnología

**City of event:** Cali, Colombia

**Date of event:** 12/08/2011

**End date:** 15/08/2011

**Organising entity:** Asociación Colombiana de Farmacología

Mario Guerrero Pabón; Martín Estrada Valencia.

**10 Title of the work:** Anticonvulsant effect of 2-ethylthio-7-methyl-4-(4-methylphenyl) pyrazolo[1,5-a][1,3,5]triazine

**Name of the conference:** British Pharmacological Society Winter Meeting 2010

**City of event:** Londres, Inner London, United Kingdom

**Date of event:** 14/12/2010

**End date:** 16/12/2010  
**Organising entity:** British Pharmacological Society  
**City organizing entity:** Londres, United Kingdom  
Mario Francisso Guerrero.

## R&D management and participation in scientific committees

### Scientific, technical and/or assessment committees

**Committee title:** Comité Científico  
**Affiliation entity:** Primer Simposio de Jóvenes Investigadores de la Sociedad Española de Química Terapéutica

### Organization of R&D activities

**Title of the activity:** Primer Simposio de Jóvenes Investigadores de la Sociedad Española de Química Terapéutica  
**Type of activity:** Simposio **Geographical area:** National  
**Convening entity:** SOCIEDAD ESPAÑOLA DE QUIMICA TERAPEUTICA  
**City convening entity:** Madrid, Community of Madrid, Spain  
**Start-End date:** 05/09/2014 - 05/09/2014

## Other achievements

### Stays in public or private R&D centres

- 1** **Entity:** Departamento de Química Orgánica y Farmacéutica (UCM) **Type of entity:** University Department  
**Faculty, institute or centre:** Facultad de Farmacia  
**City of entity:** Madrid,  
**Start-End date:** 01/05/2011 - 30/08/2011 **Duration:** 4 months  
**Goals of the stay:** Doctorate  
**Provable tasks:** A New Method for the Synthesis of Macrolactones
- 2** **Entity:** Universidad Nacional de Colombia **Type of entity:** University  
**Faculty, institute or centre:** Departamento de Farmacia  
**City of entity:** Bogotá, Colombia  
**Start-End date:** 01/10/2008 - 01/10/2010 **Duration:** 2 years  
**Goals of the stay:** Mater
- 3** **Entity:** Emory Black Research Laboratory - Universidad de Santiago de Chile  
**City of entity:** Santiago de Chile, Chile  
**Start-End date:** 06/06/2010 - 30/08/2010 **Duration:** 3 months  
**Goals of the stay:** Guest  
**Provable tasks:** Evaluation of MAO-B Inhibitory Capacity of New Synthetic Pyrazolo[1,5-a][1,3,5]triazines



- 4** **Entity:** Grupo de Investigación en Síntesis de Compuestos Heterocíclicos - Unversidad del Valle  
**Faculty, institute or centre:** Departamento de Química Universidad del Valle - Colombia  
**City of entity:** Cali, Colombia  
**Start-End date:** 19/01/2005 - 19/03/2005                      **Duration:** 3 months  
**Goals of the stay:** Guest  
**Provable tasks:** A New Method for the Synthesis of 4-Arilsubstituted pyrazolo[1,5-a][1,3,5]triazines