



## AYUDAS RAMÓN Y CAJAL CONVOCATORIA 2018

### Turno de acceso general

**Nombre:** EIROA OROSA, FRANCISCO JOSE

**Referencia:** RYC2018-023850-I

**Área Temática:** Psicología

**Correo Electrónico:** fjeiroa@gmail.com

#### Título:

Sociocultural determinants of wellbeing and human rights awareness

#### Resumen de la Memoria:

I am a multidisciplinary social scientist working at the intersection of critical public health, continuous professional education, practitioner awareness, beliefs change and medical sociology; using educational participatory action research methodologies. After doing a PhD in the context of a large project of public health legislation change, and five years as researcher in a public university hospital, I got a global vision of how research can influence practice and the need for contextualisation of this process, usually abstracted from its sociocultural determinants. At the same time, I developed an intense activity in human rights intervention, educational and research contexts. In 2013 I got my first lecturing position and in 2016 I started the Marie Skłodowska-Curie project that I am currently developing in collaboration with Professor Michael Rowe, a medical sociologist at Yale University.

The main objective of my career has been that the findings of my projects have a direct translation into social transference projects using educational participatory action research methodologies to promote human rights awareness among a diverse range of practitioners through educational activities. My current research interests are focused on the analysis of strategies for the awareness of health and social services users and professionals, to improve communication between them, enhancing participation of the former and critical reflection and self-care of the latter. Practitioners might benefit from my results by considering the effect that social roles, rights, responsibilities and resources have on psychosocial wellbeing. The benefits for service users include learning their rights, fostering their preferences, and empowering them through the whole care process. This interdisciplinary endeavour has the collaboration of academics from various social sciences around the world, and the participation of hundreds of active health professionals.

My research lines are very connected to social transference, especially in the form of continuing educational programs for professionals, as it can be derived from my collaborations with organisations with organisations such as Doctors without Borders, diverse patients' associations; or the alliance against stigma and discrimination Obertament. I have also served as an advisor for governmental and legislative bodies at the autonomic (Andalusia and Catalonia), Spanish governmental and European levels. In general, all my research lines have been engaged with social transformation and real changes in the practice of various professions.

My main research objective for the next years is intending to offer a bottom-up, source-embedded integration of the understanding of psychosocial wellbeing and distress using citizenship-related concepts. My main goals are a) to demonstrate how health and wellbeing are closely tied to citizenship, and b) to help professionals understanding wellbeing and distress in the context of social rights and responsibilities, with the objective of moving towards a rights-based practise. The breakthrough of my line of research, therefore, is to provide a methodology for implementing a new framework, based in social science knowledge, in real healthcare practise.

#### Resumen del Currículum Vitae:

After my graduation and postgraduate studies carried in Spain, I have studied in 5 foreign universities and have been hired in 4 foreign academic and research institutions. Furthermore, I have developed activities as field staff in the Central African Republic with Doctors without Borders. At the research level, I have been involved in several international consortiums (including two European Commission-funded projects), 3 international and 5 national professional federations.

As of 28th January 2019, with 63 publications in peer reviewed journals (14 as first author, 16 as corresponding author, two more in press and three under review), 9 books (2 as first author, 2 outreach books), 18 book chapters (8 as first author), 2 technical reports, 18 conference proceedings (among 74 conference presentations, 44 of them as principal author, 8 of them invited), 23 invited keynotes in seminars and workshops, and the supervision of 5 successful PhD dissertations (in addition to 27 master's and 3 degree's final projects), I have been able to achieve an h-index of 12 according to Clarivate Analytics, 13 according to Scopus/Scimago and 18 according to Google Scholar (includes books, book chapters, dissertations).

Clarivate Analytics JCR (former Thomson Reuters): 49 journal articles with citation data, 8 indexed conference proceedings, 358 citations, 7.16 average citations per article, 5 publications in the first decile, 12 in the first quartile, 25 in the second quartile, 5 in the third quartile and 8 in the fourth quartile.

Scopus / Scimago SJR: 55 articles with citation data in Scopus, 439 citations, 413 excluding self-citations, 7.98 average citations per article. 56 journals indexed in Scimago, 10 publications in the first decile, 32 in the first quartile, 17 in the second quartile, 7 in the third quartile



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and 1 in the fourth quartile).

Google Scholar (includes books, book chapters, conference presentations and dissertations): 883 citations, i10-index 29 (number of publications with at least 10 citations).

Regarding funding I have received 5 personal grants including a research sabbatical, with a total amount of 41,500 euros. Additionally, I have been involved in a total of 17 R+D+I projects funded through competitive calls of public or private bodies and an additional 3 R+D+I non-competitive contracts. As co-researcher I have participated in 8 projects that involved an input of 212,332 euros for my hiring institutions. Furthermore, have been principal investigator or coordinator of 9 projects (including a Marie Skłodowska-Curie global fellowship) involving an input of 388,670 euros.

I have participated in a wide range of transference projects including additional funding to apply the findings of my research in real social projects through educational participatory action research methodologies, having reached more than 10,000 people. Almost all my publications are linked to projects that have combined academic productivity with transfer to society activities. It is important to bear in mind that in my field, considering the requirements of funders, all materials must be shared as open access, preventing patenting. However, the materials and actions produced can be considered equivalent to patents.



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**Nombre:** LOPEZ SOLA, MARINA  
**Referencia:** RYC2018-026250-I  
**Área Temática:** Psicología  
**Correo Electrónico:** mlopezsola@gmail.com

#### Título:

Psychological and neural mechanisms underlying chronic pain and suffering

#### Resumen de la Memoria:

My research focuses on understanding and isolating the brain mechanisms and psychological processes that underlie human suffering at the interface between chronic pain and depression. My main research questions are: how does the brain give rise to experiences of physical pain and emotional suffering at the neural systems level? And, what are the main neural and psychological modulators of such experiences?

I did my PhD at the University of Barcelona, where I identified specific brain mechanisms underlying reports of suffering in adult women with fibromyalgia. I discovered that fibromyalgia patients experienced suffering for longer periods than healthy women and such experiences are paralleled by longer-lasting activity in brain regions encoding affect and anxiety (Lopez-Sola et al., 2009; Lopez-Sola et al., 2010a). I studied whether such abnormalities were specific for fibromyalgia or could also be found in a very commonly comorbid affective disorder, i.e., major depression. I demonstrated that the abnormalities detected in fibromyalgia patients were not present in major depressive patients who were overall less sensitive to pain than healthy subjects (Lopez-Sola et al., 2010b). I observed that pharmacological treatment in major depression recovered normal pain sensitivity in patients and attenuated brain activity in regions processing self-referential information. During my post-doctoral studies at the University of Colorado Boulder I pursued my research on understanding the psychological and neural mechanisms mediating the effects of social support and empathic care in attenuating pain and suffering and depression (Lopez-Sola et al., 2017b; Lopez-Sola et al., 2018; Lopez-Sola et al., under second review). I also investigated the psychological and neural mechanisms of mindfulness based cognitive therapy in preventing depression relapse (work in progress). Last, at the university of Colorado Boulder I developed the first sensitive and specific neural tool to identify new fibromyalgia patients with high diagnostic accuracy (over 93% in out-of-sample individuals) and predict clinical symptoms (Lopez-Sola et al., 2014; 2017a). This work had vast societal impact with over 15 press interviews world-wide. Currently, I direct the Pain and Emotion Neuroscience Laboratory at Cincinnati Children's Hospital, where I lead a research line to develop psychological and brain-based models that can identify juvenile patients at risk for chronic pain and depression at an early age. I also focus on developing psychological and neural markers of positive response to different treatments. Specifically, my lab works on identifying sensitive and specific pathophysiology markers of juvenile and adult forms of fibromyalgia. I examine how brain activity and psychological functioning during tailored symptom-provocation tasks predict patients' response to treatments based on physical fitness and cognitive regulation. My second line of research examines to what extent neural pathophysiology underlying chronic pain is specific vs. shared with major depression. Last, I investigate the brain mechanisms involved in analgesia elicited by mindfulness meditation strategies, altruistic behavior and social support.

#### Resumen del Currículum Vitae:

My approach towards research is multidisciplinary and intrinsically collaborative. I have over 10 years of experience leading and conducting neuroimaging and behavioral studies with a major focus on disorders of chronic pain with a remarkable affective component (adult and juvenile fibromyalgia, osteoarthritis with symptoms of central sensitization and juvenile idiopathic arthritis), and disorders of affect and anxiety, such as major depression.

My research has led to 40 international publications (over 2300 citations), with 39 on the first quartile, 346 average number of citations per year and an h-index of 27, 5 competitive training fellowships, and involvement in 8 competitive funded grants, including 4 research grants as Principal Investigator, i.e., a NARSAD Young Investigator Award, Brain and Behavior Foundation, Francisco J. Varela Award, Mind and Life Foundation, 2017 Discovery Award, Cincinnati Children's Research Foundation (CCRF) and 2018 Board of Trustees Award (CCRF). I received a positive score (priority of 34 and suitable for review) on first submission of my first R01 grant (2million budget) at the National Institutes of Health (NIH), NIAMS (National Institute of Arthritis and Musculoskeletal and Skin Diseases) in the US. I am currently a tenure track assistant professor at the second most prestigious institution in medical and psychological research with children and adolescents in the US, Cincinnati Children's Hospital. I am the author of a discovery patent from my work on identifying a neural signature predictive of fibromyalgia diagnosis at the single patient level. I have been a reviewer for the University of Leuven in Belgium, the US-Israel Binational Science Foundation, and numerous journals in the field of psychology, neuropsychology, psychological medicine, affective and cognitive neuroscience, neuroimaging, psychiatry, pain physiology, and neuroscience and behavioral reviews. I have contributed to the board of editors at Pain Research and Management. I have contributed to multiple symposia in international meetings in the fields of psychology and human neuroscience. I have been invited to give talks to prestigious universities world-wide and have been selected for out-reach science events.



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**Nombre:** DE LA VEGA DE CARRANZA, ROCIO  
**Referencia:** RYC2018-024722-I  
**Área Temática:** Psicología  
**Correo Electrónico:** rociovegapsicologa@gmail.com

#### Título:

Digital health interventions for pediatric chronic pain

#### Resumen de la Memoria:

I am a Senior Research Fellow in the Center for Child Health, Behavior, and Development at Seattle Children's Research Institute. I received my PhD in Clinical Psychology four years ago in Spain, obtaining the International mention and the Extraordinary award from the Universitat Rovira i Virgili.

Chronic pain is an immensely burdensome problem globally and there are few effective treatment options for children and adolescents. For my PhD project I developed and evaluated two smartphone apps: Painometer, to assess pain intensity using validated scales, and Fibroline, a digital Cognitive-Behavioral self-management treatment program for adolescents and young adults with chronic widespread pain. I also developed a platform to create and modify psychological interventions online (WellTech) that can be used by health professionals without coding or programming skills. The intellectual property of the two apps and the platform are registered at the Benelux Office for Intellectual Property (BOIP). The culmination of this work was the formation of a spin-off company, which I co-founded, that is focused on the development of smartphone apps and technological services for psychosocial treatments, with a strong focus on chronic pain.

My training in pain research over the past eight years includes several international appointments. During my predoctoral studies, I completed a three-month internship at the IWK Health Centre (Canada) to learn about developing smartphone applications for pediatric headache. In 2015 I was awarded a Beatriu de Pinós grant and spent two years working on non-pharmacological pain management interventions at the University of Washington (USA) which is currently within the top ten public Universities in the world. In November 2017, I obtained a postdoctoral fellowship at the Seattle Children's Research Institute (among the USA top five pediatric research centers) where I adapted a successful online intervention (Web-MAP), into an app that is currently being tested in a randomized controlled trial. Recently, I obtained the Hearst grant as principal investigator with a project aimed at investigating mechanisms (e.g. readiness to change, adherence) and personal characteristics (e.g. age) that predict success in digital health interventions. This would ultimately help build a personalized medicine approach for digital health interventions for pediatric pain, which is the line of research I would like to pursue.

During my career I have developed an aptitude for collaborating with interdisciplinary teams, preparing teaching materials and teaching college classes, managing online interventions, writing grant proposals, and designing studies. My time abroad has required me to speak English fluently, which has greatly expanded my opportunities for collaboration. Additionally, my mentors are among the top world experts on pain, pediatric pain and eHealth, allowing me access to an extensive contact network. Finally, my scholarly productivity and reputation in my field is reflected in 42 peer-reviewed publications (11 as first author), numerous presentations at conferences, service as a reviewer and associate editor for international journals, and leadership appointments on international committees (Pain In Child Health, Society of Pediatric Psychology; APA Div 54) and dissertation committees.

#### Resumen del Currículum Vitae:

I wish to highlight my (1) scientific productivity as demonstrated by publications in my field, (2) knowledge translation and development of intellectual property, (3) awards, (4) international collaborations, and (5) independence in securing research funds.

One of the main achievements in my CV is my scientific productivity. I have published 42 peer-reviewed publications (11 as first author) predominantly on the topic of pediatric pain, demonstrating my contribution to scholarship in this field. The majority of my publications are with international collaborators and have been published in the top journals of the field of pain and psychology, such as: The Journal of Pain, Clinical Journal of Pain, Pain, Journal of Health Psychology. Despite having received my PhD only 4 years ago, my works have been cited a total of 386 times and my H index is 11.

I have made major achievements in knowledge translation (i.e. making innovations available to the patients and healthcare professionals) including registering the intellectual property of some of my developments and founding a company. The aim is to make technological solutions available for treating chronic pain so that insurance companies could provide them to the patients for free or to assist clinicians to develop online solutions for their own patients. I enjoy scientific divulgation, as shown by the recurrent collaborations in ALGOS Blog <http://algos-dpsico.urv.cat/es/category/blog/> focused on pain research, assessment, and treatment and the various talks given to non-scientific audiences.

Receiving awards for my scientific contributions also highlights my career achievements. Specifically, I have received the FPI doctoral grant, the Extraordinary PhD award, and the Beatriu de Pinós postdoctoral fellowship, which all reflect on the perceived impact of my scientific work. I have also received recognitions for the technological innovations I developed, providing further support for their importance to my field.

My achievement in forming international collaborations has stemmed from achieving travel awards to present my work at international



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conferences, and to conduct international laboratory visits and complete research internships. This training and experience have allowed me to build an international network of contacts in countries such as the USA, Canada and Australia, and to learn techniques and procedures from leading world experts in the field. Having international collaborations sets me on a trajectory to develop an international reputation for my scientific work and for building a leading research program back in Spain.

Finally, one achievement that shows my progress towards reaching independence in securing research funds is the grant award from the Hearst Foundation as a principal investigator. I have also completed training in grant writing that will help me to continue to secure research funds and resources to build an independent program of investigation in pediatric pain research.



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**Nombre:** MARTINEZ DE ARENAZA URQUIJO, EIDER  
**Referencia:** RYC2018-026053-I  
**Área Temática:** Psicología  
**Correo Electrónico:** eiderarenaza@gmail.com

#### Título:

Brain resilience to aging and Alzheimer's disease: the role of lifestyle

#### Resumen de la Memoria:

My research focuses on understanding the brain mechanisms, cognitive processes and lifestyle behaviors that make people resilient against aging and Alzheimer's disease. I combine multimodal neuroimaging techniques with neuropsychological and lifestyle information to pursue this area of research.

Research lines and perspective. (i) Benefits of healthy lifestyles on brain and cognition. My research shows that early life as well as late adulthood activities (e.g., reading or walking) have benefits on brain and cognitive health including reduced presence of Alzheimer's disease pathological changes. (ii) Imaging biomarkers of reserve and resilience. In a series of studies, I have been able to identify brain areas that may be fundamental to maintain cognition at older ages; these areas are associated with better vascular health. My longer-term goal is to translate these findings to (iii) lifestyle interventions.

International research experience: I have conducted 6 years of research abroad. During my PhD (University of Barcelona, 2009-13) I did 1 research stay at the National Institute of Research in France (INSERM, 2011), where I also worked during my postdoctoral career stage (2013-17). I was visiting researcher at the University of California, Berkeley, US, (2015-16) and currently, I am a research fellow at Mayo Clinic, Rochester, Minnesota, US (2018-).

Scientific production and funding: I have published a total of 33 articles (total citations: 1281), 25 in 1st quartile journals, 9 as first author and 8 as second (H-index: 17; i10-index: 22) and obtained several grant funding, notably 7 million for an EU-funded H2020 program (as co-applicant) from which > 400K were allocated to the Work package I lead.

Capacity to lead: I have supervised 8 master students and research staff. I am the co-leader of an EU-funded H2020 program in 4 countries (Spain, UK, France and Germany) where I lead the Workpackage Lifestyle.

International projection/networks: I am co-chair in a professional area of interest of the International Society to Advance Alzheimer's (2015-), reviewer for >10 journals and international grants. I have been speaker, invited lecturer or invited chair in >10 international conferences. I have published 7 research articles with international groups or as a result of collaborations.

Overall, over the years, the quality and impact of my research has exponentially increased. If granted, the Ramón y Cajal contract will help me establish as a group leader in this area of research.

#### Resumen del Currículum Vitae:

##### LEADERSHIP, MENTORING and CAPACITY to OBTAIN FUNDING

Co-leader of a 7 million European Union-funded Horizon 2020 program and scientific leader of the Workpackage Lifestyle (413K) that I coordinate in 4 countries.

1 PhD scholarship (AGAUR-Training Programme for Researchers; 2009-2012); 2 Mobility Grants, 1 to work at INSERM, Normandy, France (2011); and 1 to work at the University of Berkeley, California, US (2015); and 4 award-travel fellowships to present my work at conferences.

I have supervised 7 Master's students (some of their work has been presented in international conferences; e.g., Ourry et al., The Alzheimer's Association International Conference, 2017) and 1 research engineer (2015-2018).

##### SCIENTIFIC PRODUCTION and MEDIA COVERAGE

I have published a total of 33 peer-reviewed articles, 25 in Q1 journals; 9 as first author and 8 as second author.

Total citations: 1281 (my most cited first-authored paper: 128 citations; second-authored paper: 240); H-index: 17; i10-index: 22 (source: google citations).

I wrote 3 book chapters (e.g. in Editorial Médica Panamericana) about cognitive reserve and lifestyle.

My work has been featured in journals such as Scientific American (2013), reference websites for Alzheimer's disease research such as Alzforum (2016), and magazines (Science&Santé, 2017)



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#### INTERNATIONAL SCIENTIFIC ACTIVITY

I have performed research in several internationally recognized teams: with Dr. Gaël Chételat's group at INSERM, France (2013-2017); Prof. W. Jagust's group at the University of California, Berkeley, US (2015-2016); and currently with Dr. Clifford Jack's group, as research fellow in Dr. P. Vemuri's team at the Mayo Clinic, Rochester, US (2018-).

My leadership in the field together with the experience gained leading the above-mentioned EU-funded program has resulted in creating an extensive network with key scientific leaders of the field. I have published 7 papers as result of this collaborations.

Invited Speaker or Chair in >10 international conferences.

#### REFEREEING ACTIVITY and EVIDENCE OF RECOGNIZED EXPERTISE

Reviewer for several high impact journals in the field of aging and Alzheimer's disease ; grant reviewer; and abstract reviewer for The Alzheimer's Association International Conference.

Selected Program Chair of the Professional Area of Interested Reserve, Resilience and protective factors of the Alzheimer's Association International Society to Advance Alzheimer's Research and Treatment; Chaired by Prof. Y. Stern.

Session Chair at The Alzheimer's Association International Conference ( Brain maintenance session, Toronto, 2016; Resilience and vulnerability , Chicago, 2018).

Invited lecturer or participation to debates, for example, at the University of California, Berkeley (2016); Controversies in Neurology, Athens (2016) or at the Ludwig-Maximilians-Universität, Munich (2017) among others.

My view/opinion on the field of resilience to Alzheimer's disease was published in the leading clinical neurology journal worldwide (IF: 8.1); and 9 months after the publication it has reached a total of 15 citations.

2 times thesis jury member