

# JAVIERA PILAR OYARZUN, Ph.D.

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## EDUCATION

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2012 – 2017 Ph.D. in Psychology, *magna cum laude*, University of Barcelona, Barcelona, Spain.  
2010 – 2011 MSc. Research in Personality and Behavior, University of Barcelona, Barcelona, Spain.  
2003 – 2008 B.S. in Biology, minor in Psychology. Pontifical Catholic University of Chile, Santiago de Chile

## POSITIONS AND EMPLOYMENTS

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2022 – Postdoctoral Associate at the Phelps Lab, Psychology Department, Harvard University, Cambridge, MA, USA  
2018 – 2021 Postdoctoral Fellow, at the Phelps, Psychology Department and the LeDoux lab, Center for Neural Science, New York University, New York, NY, USA.  
2010 – 2017 Grad Student, Brain and Cognition Unit, University of Barcelona, Barcelona,  
2008 – 2009 Research Assistant. Cognitive Neuroscience Laboratory, Psychiatry Dpt., Faculty of Medicine.  
2007 Research Assistant. Neurobiology Laboratory, Psychiatry Dpt., Faculty of Medicine.  
2004 – 2005 Research Assistant. Behavioral Ecology Laboratory, Ecology Dpt., Faculty of Biological Science.

## AWARDS AND FELLOWSHIPS

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2019 TL1 Clinical and Research Training Award, Clinical and Translational Institute, NYU  
2019 Kavli Summer Institute in Cognitive Neuroscience Fellowship, NIMH, NIDA and Kavli Foundation  
2018 Extraordinary Doctorate Award, Council of the University of Barcelona  
2012 Research and Teaching Award, University of Barcelona.

## SPECIALIZED TRAINING

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III International Sleep Replay Workshop. Huntington Beach, CA. April 25<sup>th</sup>, 2022.

Metagenomics, metatranscriptomics, and Multiomics for microbial communities studies, Physalia, May 24<sup>th</sup> 28<sup>th</sup>, 2021.

Harvard FSL for neuroimaging analyses Workshop. March, 2021

II International Sleep Replay Workshop. (virtual) 2021.

Microbiota and the Brain workshop, Neuroscience School of Advance Studies, August, 2020.

Neuroinflammation workshop, Neuroscience School of Advance Studies, Sept 2020

BIOF 089 | Microbiome Bioinformatics with QIIME2. FAES, NIH, Bethesda, MD. Jan 8 – 10, 2020.

International Sleep Replay Workshop. Northwestern University, Evanston, IL. Sep 18-19, 2019.

Intersections Between Neural Representations and Network Models. Computational Social Neuroscience. Kavli Summer Institute in Cognitive Neuroscience, Sta. Barbara, CA, USA, Jun 25<sup>th</sup> – Jul 5<sup>th</sup>, 2019

Functional Connectivity in Magnetic Resonance Imaging (MRI) – Applications from Graph Theory Analysis into Social Cognition and Brain Disorders, University of Barcelona. Nov 30<sup>th</sup>, 2015.

Summer School 2012 EEG and fMRI Analysis with EEGLAB and SPM.. Institute for Advance Study. Delmenhorst, Germany, Oct 2 – 4, 2012.

## **PUBLICATIONS**

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**Kredlow AM, Oyarzún JP\***, Fan H, Meksin R, Hirst W, Phelps E.A. (2023). Emotion language use in narratives of the 9/11 attacks predicts long-term memory. *Emotion*. Advance online publication. <https://doi.org/10.1037/emo0001287>

**Oyarzún JP**, Kuntz TM, Stussi Y, Karaman OT, Vranos S, Callaghan B.L, Huttenhower C, LeDoux J.E, Phelps E.A (2022). Human threat learning is associated with gut microbiota composition. *PNAS Nexus*. 2022 Dec 2;1(5):pgac271. doi: 10.1093/pnasnexus/pgac271.

**Oyarzún JP**, Càmara E, Kouider S, Fuentemilla L, de Diego-Balaguer R (2018). Implicit but not explicit extinction to threat-conditioned stimulus prevents spontaneous recovery of threat-potentiated startle responses in humans. *Brain and Behavior*. Dec 4:e01157. doi: 10.1002/brb3.1157.

**Oyarzún JP**, Moris J, Luque D, Diego-Balaguer R, Fuentemilla L (2017). Target memory reactivation during sleep adaptively promotes the strengthening or weakening of overlapping memories. *Journal of Neuroscience* 3537-16. Aug 9;37(32):7748-7758. doi: 10.1523/JNEUROSCI.3537-16.2017.

**Oyarzún JP**, Packard PA, de Diego-Balaguer R, Fuentemilla L (2016). Motivated encoding selectively enhances memory for future inconsequential semantically-related events. *Neurobiology of Learning and Memory*. Sep;133:1-6. doi: 10.1016/j.nlm.2016.05.005.

**Oyarzún JP** and Packard PA (2012). Stress-induced gist-based memory processing: a possible explanation for overgeneralization of fear in posttraumatic stress disorder. *The Journal of Neuroscience*. Jul 18;32(29):9771-2. doi: 10.1523/JNEUROSCI.2318-12.2012.

**Oyarzún JP**, Lopez-Barroso D, Fuentemilla L, Cucurell D, Pedraza C, Rodriguez-Fornells A, de Diego-Balaguer R (2012). Updating fearful memories with extinction training during reconsolidation: a human study using auditory aversive stimuli. *PLoS One*.7(6): e38849. doi: 10.1371/journal.pone.0038849.

Quirici V, Castro RA, **Oyarzún J**, Ebensperger LA (2008). Female degus (*Octodon degus*) monitor their environment while foraging socially. *Animal Cognition*. Jul;11(3):441-8. doi: 10.1007/s10071-007-0134-z.

## **TEACHING**

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2019                      *Discovering our microbial identity: the gut microbiome in health and disease*. Guest Lecturer. Brownbag series, Master Program in Psychology, Rutgers University-Camden, New Jersey, USA, 2019. (2 hours)

2013 – 2017           *Emotional Learning and Memory Reconsolidation*. Lecturer for the Research Behavior and Cognition Master program. University of Barcelona, Spain. (5 hours per year)

2013 – 2015           *Perception and Attention*. Laboratory Training at the Faculty of Psychology, University of Barcelona. (30 hours per year).

2013                      *Attention, Memory and Learning. Fundamentals of Human Cognition*. Lecturer at the Faculty of Library and Information Science, University of Barcelona, Spain. (12 hours)

## **OUTREACH**

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2017                      *Brain and Emotions*. Workshop at Cultural Center Casa Elizalde, Barcelona, Spain.  
2016                      *Brain, Memory and Plasticity*. Brain seminars at schools. Brain awareness week, Municipality of Barcelona, Barcelona, Spain.  
2016                      *Brain Plasticity*. Science Fair stand “*Saló de l’Ensenyament*”, Municipality of Barcelona, Barcelona, Spain.  
2011 – 2015            ESCOLAB. Open-doors lab day for school students. University of Barcelona.

## **MENTORING**

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### **University at Albany SR Program Mentorship**

2023 –                      **Becky Lee**

### **Supervision of undergraduate student at Harvard University**

2022                      **Patricia Sieweyumptewa**

### **Supervision of undergraduate research assistant at New York University**

2018 – 2019            Yasmine Elasmr, Aaron Mackie, Maria Garland, Neharika Nair, Anh Nguye

### **Co-supervision of Master students at University of Barcelona**

2016 – 2017            Ivonne Zwanet Heideman  
2016                      Anton Grishchenko  
2014 – 2015            Gil Sala Bordallo  
2013 – 2015            Clara Patricia Espinoza

## **TALKS AND PRESENTATIONS**

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### **Invited Talks**

The gut microbiome composition is associated with learning and memory. Mind Brain Behavior Junior Symposium. Harvard University. March 31<sup>st</sup>, 2023.

The gut microbiota in human learning and memory. Microbiome Epidemiology Working Group (MEWG), The Harvard Chan Microbiome in Public Health Center. December 5<sup>th</sup>, 2022

Threat Learning and memory performance are associated with the gut microbiota in healthy humans. gNeuro forum. Harvard Brain Science Initiative and Harvard Digestive Disease Center. November 7<sup>th</sup>, 2022.

Inter-individual Differences in Threat Learning are Associated with Gut Microbiota Composition. Reading Emotions Symposium: Gut Brain and Affect. July 6<sup>th</sup>, 2021.

Anxiety and the Gut Microbiota. Translational Research in Progress seminars. Clinical and Translational Science Institute. NYU Langone's Department of Medicine. October 19<sup>th</sup>, 2020.

Target memory reactivation during sleep promotes strengthening of partially overlapped memories. International Workshop on Learning and Memory Consolidation, 2014, Donostia-San Sebastián, Spain.

Updating fearful memories with extinction training during reconsolidation. Neuroscience Institute, Autonomous University of Barcelona (UAB), Cerdanyola del Vallès, Spain, 2012.

Reconsolidation: Re-writing our memories. Invited talk at the Institute of Neuropsychiatry and Addictions, Hospital del Mar, Parc de Salut MAR, Barcelona, Spain, 2012.

### **Poster presentations**

*Absence of association between gut microbiota composition and individual cortisol responses to physical stress in healthy humans.* **Oyarzún JP**, Kuntz TM, Huttenhower C, LeDoux J.E, Phelps E.A. Society for Neuroscience, Washington DC, November 11<sup>th</sup>-25<sup>th</sup>, 2023.

*Creating a Language Based-Model of Depression and Anxiety Severity During the COVID-19 Pandemic.* Beech, A., **Oyarzun, JP.**, Phelps, E., & Kredlow, M. A. Society for Affective Science, Long Beach, CA. March 30 – April 1, 2023.

*Episodic Memory is associated with gut microbiota composition in healthy humans.* **Oyarzún JP**, Kuntz TM, Davachi L, Huttenhower C, LeDoux J.E, Phelps E.A. International Conference in Learning and Memory, Huntington Beach, CA, April 26<sup>th</sup> -31<sup>st</sup> 2023.

*Overestimating stress experienced early during the pandemic is associated with decreased emotional well-being.* Castillo, J.\*, Fan, H.\*, Karaman, O. T., Shu, J., Stussi, Y., Kredlow, M. A., Vranos, S., **Oyarzun, J. P.**, Dorfman, H., Sambrano, D., & Phelps, E. A. 15<sup>th</sup> Annual Meeting of the Social and Affective Neuroscience Society, Santa Barbara, CA, April 27<sup>th</sup> - 29<sup>th</sup>, 2023.

*Instructed Reappraisal During Writing Can Have Short- and Long-Term Effects on Narrative Language Use and Affect: A Pilot Study on COVID-19 Experiences.* Sieweyumptewa, P., Karaman, O.T., **Oyarzun, JP.**, Kredlow, M. A., Shu, J., & Phelps, E. 15<sup>th</sup> Annual Meeting of the Social and Affective Neuroscience Society, Santa Barbara, CA, April 27<sup>th</sup> - 29<sup>th</sup>, 2023.

*Human threat learning is associated with gut microbiota composition.* **Oyarzún JP**, Kuntz TM, Stussi Y, Karaman OT, Vranos S, Callaghan B.L, Huttenhower C, LeDoux J.E, Phelps E.A (2022). Society for Neuroscience, San Diego, CA, Nov 12<sup>th</sup> – 16<sup>th</sup>, 2022.

*Do linguistic features of trauma narratives predict trauma-related emotions and memory overtime?* Kredlow, M.A., **Oyarzun, J.P.**, Fan, H., Meskin, R., Hirst, W., Phelps, E.A. 37<sup>th</sup> Annual Conference of the International Society for Traumatic Stress Studies (virtual), November, 2022.

*Implicit extinction prevents the spontaneous recovery of defensive responses.* **Oyarzún JP**, Càmara E, Kouider S, Fuentemilla L, de Diego-Balaguer R. XXVIII International Congress of the Spanish Society of Comparative Psychology, 2016, Barcelona, Spain.

*Motivated Encoding enhances memory for future but not past, inconsequential related events in humans.* **Oyarzún JP**, Packard P, de Diego-Balaguer R, Fuentemilla L. EPFL Brain Mind Symposia - Mechanisms of Memory Consolidation, Reconsolidation and Extinction and their Relevance to Psychiatry, 2015, Lausanne, Switzerland.

*Memory reactivation during sleep promotes better consolidation of event episodes linked by overlapping elements.* **Oyarzún JP**, Moris J, Luque D, Diego-Balaguer R, Fuentemilla. Society for Neuroscience, 2015, Chicago, USA.

*Updating fearful memories with extinction training during reconsolidation: a human study using auditory aversive stimuli.* **Oyarzún JP**, Lopez-Barroso D, Fuentemilla L, Cucurell D, Pedraza C, Rodriguez-Fornells A, de Diego-Balaguer R. ESF-FENS Conferences on the dynamic brain - The Neurobiology of Emotion, 2012, Stresa, Italy.

*Emotional modulation of the executive function in patients with Posttraumatic Stress Disorder.* Bacigalupo F, Rebolledo P, López-Calderón J, Luck S, Arriagada V, Carbonell C, Botto A, **Oyarzún J**, Aboitiz F. 66<sup>th</sup> Annual Meeting of the Society of Biological Psychiatry 2011, San Francisco, USA.