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Education and Research Positions

- 2003 BS in Clinical Psychology.** Autonomous University of Barcelona (UAB, Spain).
- 2005 MSc in Psychobiology.** UAB.
Mentor: Margalida Coll, PhD. UAB, School of Psychology.
- 2010 PhD in Neuroscience.** *Doctoral Extraordinary Prize.* UAB.
Mentor: Antonio Armario, PhD. UAB, School of Biosciences.
- 2011 Postdoctoral Research Fellow.**
Advisor: Kerry Ressler, MD, PhD. Emory University, Department of Psychiatry and Behavioral Sciences, Howard Hughes Medical Institute, Yerkes National Primate Research Center.
Atlanta, GA, USA.
- 2014 Ramón y Cajal Investigator** (Declined for a position at Harvard Medical School). MICINN, Spain.
- 2015-2016 Instructor in Psychiatry** (Faculty position)
McLean Hospital, Harvard Medical School, MA, USA.
- 2016-2020 Ramón y Cajal Investigator** (Tenure-Track Faculty Position)
MICINN, Spain; UAB, Institute of Neurosciences.
- 2016 – 2017 Research Associate in Psychiatry**
McLean Hospital, Harvard Medical School, MA, USA.
- Since 2018 CIBERSAM Researcher** at Group 29
Institute of Health Research Carlos III, Madrid, Spain
Parc Tauli Hospital Foundation, Sabadell, Barcelona, Spain.
- 2019-2022 Extraordinary Lecturer**
Department of Early Childhood Education, Faculty of Education,
University of Pretoria, South Africa.
- Since 2021 ICREA Research Professor – Full Professor** – at UAB, Institute of Neurosciences.

Summary

- **Selected publications:** *Science Advances*, *Nature Communications* (3), *Neuron* (2), *Science Translational Medicine*, *Molecular Psychiatry* (2), *Biological Psychiatry*, *eLife*, *The Journal of Neuroscience*.
- **>3300 citations** (Google Scholar).
- **>2250 citations** (Scopus).
- **h index** = 27 (Google Scholar); 24 (Scopus).
- Currently supervising 3 **master theses**, 5 **doctoral theses**, 3 **Postdocs** including **Beatriu de Pinós Fellowship** and a **Marie Skłodowska-Curie Global Postdoctoral Fellowship**.

Publications (*= Corresponding author)

Journals

1. Andero R, Torras-Garcia M, Quiroz-Padilla MF, Costa-Miserachs D, Coll-Andreu M (2007). *Electrical stimulation of the pedunculo pontine tegmental nucleus in freely moving awake rats: Time- and site-specific effects on two-way active avoidance conditioning*. **Neurobiology of Learning and Memory**. May; 87(4):510-21.
2. Muñoz-Abellán C, Andero R, Nadal R, Armario A (2008). *Marked dissociation between hypothalamus-pituitary-adrenal activation during exposure to immobilization or cat odors and their long-term behavioral effects*. **Psychoneuroendocrinology**. Sep; 33(8):1139-50.
3. Gagliano H, Andero R, Armario A, Nadal R (2009). *Repeated amphetamine administration in rats revealed consistency across days and a complete dissociation between locomotor and hypothalamic-pituitary-adrenal axis effects of the drug*. **Psychopharmacology**. Dec;207(3):447-59.
4. Jang SW, Liu X, Chan CB, France SA, Sayeed I, Tang W, Lin X, Xiao G, Andero R, Chang Q, Ressler KJ, Ye K (2010). *Deoxygedunin, a natural product with potent neurotrophic activity in mice*. **PLoS One**. Jul 13;5(7):e11528.
5. Andero R, Heldt SA, Ye K, Liu X, Armario A, Ressler KJ (2011). *Effect of 7,8-dihydroxyflavone, a small-molecule TrkB agonist, on emotional learning*. **American Journal of Psychiatry**. Feb;168(2):163-72.

Comment in: Monteggia LM (2011). *Toward neurotrophin-based therapeutics*. **American Journal of Psychiatry**. Feb;168(2):114-6.
6. Andero R, Daviu N, Escorihuela RM, Nadal R, Armario A (2012). *7,8-dihydroxyflavone, a TrkB receptor agonist, blocks long-term spatial memory impairment caused by immobilization stress in rats*. **Hippocampus**. Mar;22(3):399-408.
7. Andero R & Ressler KJ (2012). *BDNF and fear extinction: Translating PTSD molecular genetics research in animal models to the clinic*. **Genes, Brain and Behavior**. Jul;11(5):503-12.
8. Andero R, Brothers SP, Jovanovic T, Chen YT, Salah-Uddin H, Cameron M, Bannister TD, Almlí L, Stevens JS, Bradley B, Binder EB, Wahlestedt W, Ressler KJ (2013). *Opr11 regulation of amygdala-dependent fear in mice and humans with PTSD*. **Science Translational Medicine**. 5,188ra73.

Comment in: Seal KH & Stein MB (2013). *Preventing the pain of PTSD*. **Science Translational Medicine**. 5;5(188):188fs22.
9. Andero R*, Dias BG, Ressler KJ (2014). *A role for Tac2, NkB and Nk3 receptor in normal and dysregulated fear memory consolidation*. **Neuron**, Jul;16;83(2):444-54.
10. Dias B, Goodman JV, Ahluwalia R, Andero R, Ressler KJ (2014). *Amygdala-dependent fear memory consolidation via miR-34a and Notch signaling*. **Neuron**, Aug;20;83(4):1–13.

Comment in: Yates D (2014). *Learning and memory: consolidation of fear*. **Nature Reviews Neuroscience**. Oct;15(10):630-1.

11. Daviu N, **Andero R**, Armario A, Nadal R (2014). *Sex differences in the behavioural and hypothalamic-pituitary-adrenal response to contextual fear conditioning in rats*. **Hormones and Behavior**, Nov;66(5):713-723.

12. **Andero R*** (2015). *Nociceptin and the nociceptin receptor in learning and memory*. **Progress in Neuro-Psychopharmacology & Biological Psychiatry**. Oct 1;62:45-50.

13. Young MB, **Andero R**, Ressler KJ, Howell LL (2015). *3,4-Methylenedioxymethamphetamine facilitates fear extinction learning*. **Translational Psychiatry**. Sep 15;5:e634.

14. Rosas-Vidal L, Rodriguez-Romaguera J, **Andero R*** (2015). *The role of BDNF in reconsolidation of fear memories and its potential clinical relevance*. **Molecular Psychiatry**. Nov;20(11):1264-5.

15. Sawamura T, Klengel T, Jovanovic T, Armario A, Norrholm S, Ressler KJ, **Andero R*** (2016). *Dexamethasone enhances fear extinction and modulates FKBP5 in a PTSD-like model*. **Neuropsychopharmacology**. Feb;41(3):832-46.

16. **Andero R***, Daniel S, Guo JD, Bruner R, Seth S, Marvar PJ, Rainnie D, Ressler KJ (2016). *Amygdala-dependent molecular mechanisms of the Tac2 pathway in fear learning*. **Neuropsychopharmacology**. Oct;41(11):2714-22.

17. Galatzer-Levy I, **Andero R**, Sawamura T, Jovanovic T, Papini S, Ressler KJ, Norrholm S (2017). *Abnormal Fear Extinction Phenotypes across Species: Association with FKBP5 and Amelioration through Modification of Amygdala FKBP5 mRNA Expression using Dexamethasone*. **Neuropharmacology**. Dec 23;116:188-195.

18. Wingo AP, Velasco ER, Florido A, Lori A, Choi DC, Jovanovic T, Ressler KJ, **Andero R***. (2018). *Expression of PPM1F gene is regulated by stress and associated with anxiety and depression*. **Biological Psychiatry**. Feb 1;83(3):284-295.

Comment in: Diehl MM (2018). *It's in the Genes: A New Marker for Sex Differences in Depression and Anxiety*. **Biological Psychiatry**. Feb 1;83(3):e35-e36.

19. Marín-Blasco I, Muñoz-Abellán C, **Andero R**, Nadal R, Armario A (2018). *Neuronal activation after prolonged immobilization: do the same or different neurons respond to a novel stressor?* **Cerebral Cortex**. Apr 1;28(4):1233-1244.

20. Flores Á, Fullana MÀ, Soriano-Mas C, **Andero R*** (2018). *Lost in translation: how to upgrade fear memory research*. **Molecular Psychiatry**. Nov;23(11):2122-2132.

21. Saravia R, Ten-Blanco M, Julià-Hernández M, Gagliano H, **Andero R**, Armario A, Maldonado R, Berrendero F. (2019). *Concomitant THC and stress adolescent exposure induces impaired fear extinction and related neurobiological changes in adulthood*. **Neuropharmacology**. Jan;144:345-357.

22. Lori A, Maddox S, Sharma S, **Andero R**, Ressler KJ, Smith AK (2019). *Dynamic Patterns of Threat-Associated Gene Expression in the Amygdala and Blood*. **Frontiers in Psychiatry**. Jan 17;9:778.

23. Miron J, Goldberg X, López-Sola C, Nadal R, Armario A, **Andero R**, Giraldo J, Ortiz J, Cardoner N, Palao D (2019). *Perceived Stress, Anxiety and Depression Among Undergraduate Students: An Online Survey Study*. **Journal of Depression and Anxiety**. Vol 8 Issue 1.

24. Palao D, Gómez N, Montoro M, Guinovart M, Isabel P, Cebrià A, Aguilar E, Merodio I, López-Solà C, Armario A, Nadal R, **Andero R**, Ortiz J, Giraldo J, Perez V, Alonso J, Cardoner N and CODIRISC group (2019). *Clinical Predictors and Biomarkers of Suicide Attempts in Patients Registered Under the Suicide Risk Protocol: The CODIRISC Project*. **Journal of Depression and Anxiety**. Vol 9 Issue 1.

25. Velasco ER, Florido A, Milad MR, **Andero R*** (2019). *Sex differences in fear extinction*. **Neuroscience & Biobehavioral Reviews**. May 23;103:81-108.

26. Tortella-Feliu M, Fullana MA, Pérez-Vigil A, Torres X, Chamorro J, Littarelli SA, Solanes A, Ramella-Cravaro V, Vilar A, González-Parra JA, **Andero R**, Reichenberg A, Mataix-Cols D, Vieta E, Fusar-Poli P, Ioannidis JPA, Stein MB, Radua J, Fernández de la Cruz L (2019). *Risk factors for posttraumatic stress disorder: An umbrella review of systematic reviews and meta-analyses*. **Neuroscience & Biobehavioral Reviews**. Dec;107:154-165.
27. Kreutzmann JC, Khalil R, Köhler JC, Mayer D, Florido A, Nadal R, Andero R, Fendt M (2019). *Neuropeptide-S-receptor deficiency affects sex-specific modulation of safety learning by pre-exposure to electric stimuli*. **Genes, Brain and Behavior**. Oct 29:e12621.
28. Domingo-Rodríguez L, Ruiz de Azua I, Dominguez E, Senabre E, Serra I, Kummer S, Navandar M, Baddenhausen S, Hofmann C, **Andero R**, Gerber S, Navarrete M, Dierssen M, Lutz B, Martín-García E, Maldonado R (2020). *A specific prelimbic-nucleus accumbens pathway controls resilience versus vulnerability to food addiction*. **Nature Communications**. Feb 7;11(1):782.
29. Marvar PJ, **Andero R**, Hurlemann R, Lago T, Zelikowsky M, Dabrowska J (2021). *Limbic neuropeptidergic modulators of emotion and their therapeutic potential for anxiety and post-traumatic stress disorder*. Invited Review to **The Journal of Neuroscience**. Feb 3;41(5):901-910.
30. Florido A, Velasco ER, Soto C, Gómez A, Perez-Caballero L, Molina P, Nadal R, Pozo O, Saura CA, **Andero R*** (2021). *Sex differences in fear memory consolidation via Tac2 signaling in mice*. **Nature Communications**. May 3;12(1):2496.
- Comment in: Le Bras A (2021). *Sex-specific effects of Tac2 blockade on fear memory formation*. **Lab Animal**. 50, page 147.
31. Garcia-Esteve LI, Torres-Gimenez A, Canto M, Roca A, Velasco ER, Echevarria T, **Andero R**, Subira S (2021). *Prevalence and Risk Factors for Acute Stress Disorder in Female Victims of Sexual Assault*. **Psychiatry Research**. Dec; 306:114240.
32. Conde-Dusman MJ, Dey PN, Elía-Zudaire Ó, Rabaneda LG, García-Lira C, Grand T, Briz V, Velasco ER, **Andero R**, Niñerola S, Barco A, Paoletti P, Wesseling JF, Gardoni F, Tavalin SJ, Perez-Otaño I (2021). *Control of protein synthesis and memory by GluN3A-NMDA receptors through inhibition of GIT1/mTORC1 assembly*. **Elife**. Nov 17;10:e71575.
33. Porta-Casteràs D, Cano M, Steward T, **Andero R**, Cardoner N (2022). *The pituitary adenylate cyclase-activating polypeptide system as a sex-specific modulator of hippocampal response to threat stimuli*. **Neurobiology of Stress**. Apr 14;18:100448.
34. Florido A, Moreno E, Canela E, **Andero R*** (2022). *Opposite-sex effects on recognition memory consolidation after Nk3R blockade mice*. **Biology of Sex Differences**. Jun 11;13(1):28.
35. Velasco ER, Florido A, Flores Á, Senabre E, Gomez-Gomez A, Torres A, Roca A, Norrholm S, Newman EL, Das P, Ross RA, Lori A, Pozo OJ, Ressler KJ, Garcia-Esteve LL, Jovanovic T, **Andero R*** (2022). *PACAP-PAC1R modulates fear extinction via the ventromedial hypothalamus*. **Nature Communications**. Jul 28;13(1):4374.
36. Florido A, Velasco ER, Monari S, Cano M, Cardoner N, Sandi C, **Andero R**, Perez-Caballero L (2022). *Glucocorticoid-based pharmacotherapies preventing PTSD*. **Neuropharmacology**. Nov 17;224:109344.
37. Molina P, **Andero R**, Armario A. *Restraint or immobilization: a comparison of methodologies for restricting free movement in rodents and their potential impact on physiology and behavior* (2023). **Neuroscience & Biobehavioral Reviews**. May 6:105224.
38. Li Y, **Andero R**, Luchkina NV, Suh J, Ross RA, Lowell BB, Carlezon WA, Ressler KJ, Bolshakov VY (2023). *PACAP-mediated gating of anxiety-controlling circuits*. **bioRxiv**. May 2:2023.05.01.539007.
39. Cardoner N, **Andero R**, Cano M, Marin-Blasco I, Porta-Casteràs D, Serra-Blasco M, Via E, Vicent-Gil M, Portella M (2024). *Impact of Stress on Brain Morphology: Insights into Structural Biomarkers of Stress-related Disorders*. **Current Neuropharmacology**. 22, 935-962.

40. Florido A, Velasco ER, Romero LR, Acharya N, Marin Blasco IJ, Nabás JF, Perez-Caballero L, Rivero G, Olabarrieta E, Nuñez-delMoral A, González-Parra JA, Porta-Casteràs D, Cano M, Steward T, Antony MS, Cardoner N, Torrubia R, Jackson AC, Fullana MA, **Andero R*** (2024). *Sex differences in neural projections of fear memory processing in mice and humans*. **Science Advances**. Jul 12;10(28):eadk3365.
41. Florido A, Velasco ER, Soto-Faguás CM, Gomez-Gomez A, Perez-Caballero L, Molina P, Nadal R, Pozo OJ, Saura CA, **Andero R*** (2024). Author Correction: *Sex differences in fear memory consolidation via Tac2 signaling in mice*. **Nature Communications**. Jul 18;15(1):6051.
42. Perez-Caballero L, Guillot de Suduiraut I, Romero LR, Grosse J, Sandi C, **Andero R*** (2024). *Corticosterone administration immediately after peripuberty stress exposure does not prevent protracted stress-induced behavioral alterations*. **Psychoneuroendocrinology**. Aug 6;170:107164.
43. **Andero R***, Jovanovic T, Stein MB, Shalev AY (2024). *What I was thinking/what I would do differently: Biological markers and mechanisms of mental health*. **Journal of Traumatic Stress**. Oct;37(5):731-738.
44. Marin-Blasco I, Vanzo G, Rusco-Portabella J, Perez-Molina L, Romero L, Florido A, **Andero R*** (2024). *Sex differences in prelimbic cortex calcium dynamics during stress and fear learning*. **Biology of Sex Differences**. Oct 16;15(1):79.
45. Fabregat-Safont D, Alechaga É, Haro N, Gomez-Gomez À, Velasco ER, Nabás JF, **Andero R**, Pozo OJ (2024). *Towards the non-invasive determination of estradiol levels: Development and validation of an LC-MS/MS assay for quantification of salivary estradiol at sub-pg/mL level*. **Analytica Chimica Acta**. Dec 1;1331:343313.
46. Velasco ER#, Nabás JF#, Torrents-Rodas D, Arias B, Torrubia R, Fullana MA, **Andero R*** (2025). *The PAC1 receptor risk genotype does not influence fear acquisition, extinction, or generalization in women with no trauma/low trauma*. **Biological Psychology**. Jan;194:108981. #Co-first authors.
47. **Andero R*** (2025). *Stress-induced changes in the molecular processes underlying fear memories: implications for PTSD and relevant animal models*. **Molecular Psychiatry**. May;30(5):2219-2227.
48. Battaglia S, **Andero R**, Thayer JF (2025). *Translational cross-species evidence of heart-related dynamics in threat learning*. **Neuroscience & Biobehavioral Reviews**. Jun 28;176:106273.
49. Fronza MG, Torrent M, **Andero R**. *The role of Fezolinetant in fear memory consolidation*. **Brain Research**. 2025 Oct 15;1865:149879.

Book chapters

1. **Andero R**, Choi DC and Ressler KJ (2014). *The brain derived neurotrophic factor: TrkB pathway in regulating distributed neural plasticity*. **PMBTS Book series "Molecular Biology of Memory"**.122:169-92.
2. Velasco ER, Florido A, Marin-Blasco I, Molina P, Perez-Caballero L, **Andero R*** (2021). *Stress Immobilization Inducing Fear Extinction Deficits in Male and Female Mice*. **Springer protocols, Neuromethods**. "Translational Methods for PTSD Research". ISBN 978-1-0716-3217-8. 10.1007/978-1-0716-3218-5.
3. Velasco ER, Florido A, Perez-Caballero L, Marin I, **Andero R*** (2023). *The Impacts of Sex Differences and Sex Hormones on Fear Extinction*. **Current Topics in Behavioral Neuroscience**. 64:105-132.
4. Romero LR, Acharya N, Nabás JF, Marín I, **Andero R** (2024). *Sex Differences in Neural Circuits Underlying Fear Processing* (doi: 10.1007/7854_2024_543. Online ahead of print.). **Current Topics in Behavioral Neuroscience**.

Technical Reports

1. Florido A, Perez-Caballero L, Velasco ER, Molina P, Marín-Blasco I, **Andero R*** (2021). *Direct and indirect hormonal measurements in fear procedures: rats and mice*. **Current Protocols**. May;1(5):e102.

Lectures

1. **Hospital Clínic de Barcelona.** *Immobilization as a PTSD-like model in rodents and blockade of its deleterious effects by BDNF agonism.* Spain, 2011.
2. **University of Puerto Rico.** *PTSD animal models and BDNF as modulator of fear extinction.* San Juan, USA, 2012.
3. **Society of Biological Psychiatry.** *A Role for the Tac2 Gene and NK3 Receptor in Fear Memory Consolidation.* San Francisco, USA, 2013.
4. **Society for Neuroscience.** *A Role for the Tac2 Gene and NK3 Receptor in Fear Memory Consolidation.* San Diego, USA, 2013.
5. **Societat Catalana de Recerca i Teràpia del Comportament.** *Prevention of PTSD.* Barcelona, Spain, 2014.
6. **International Narcotics Research Conference.** *Amygdala-Dependent Fear is Regulated by Oprl1 in Mice and Humans with PTSD.* Montreal, Canada, 2014.
7. **Central European Institute of Technology.** *Molecular mechanisms in animal models of fear-based disorders.* Brno, Czech Republic, 2014.
8. **Anxiety and Depression Association of America.** *Dexamethasone suppression enhances fear extinction and modulates FKBP5 in a PTSD-like mouse model.* Miami, USA, 2015.
9. **Society of Biological Psychiatry.** *HPA Axis Suppression and Fkbp5 Regulation in Enhancing Fear Extinction: A Mouse Model of PTSD.* Toronto, Canada, 2015.
10. **Gordon Research Seminar - Amygdala in Health & Disease.** *Amygdala-Dependent Molecular Mechanisms of the Tac2 Pathway in Fear Learning.* Easton, Massachusetts, USA, 2015.
11. **Society for Neuroscience.** *Amygdala-Dependent Molecular Mechanisms of the Tac2 Pathway in Fear Learning.* Chicago, USA, 2015.
12. **International Society for Traumatic Stress Studies.** *Amygdala-Dependent Fear is Regulated by Oprl1 in Mice and Humans with Posttraumatic Stress Disorder.* New Orleans, USA, 2015.
13. **International Society for Traumatic Stress Studies.** *Transient Suppression of the Hypothalamic-Pituitary-Adrenal Axis leads to Enhanced Fear Extinction and Dynamic Fkbp5 Regulation in Amygdala.* New Orleans, USA, 2015.
14. **Societat Catalana de Psiquiatria i Salut Mental.** *Posttraumatic Stress Disorder.* Sitges, Barcelona, Spain, 2016.
15. **Parc de Recerca Biomèdica.** *Translational Mechanisms of Fear Memories.* Barcelona, Spain, 2016.
16. **Societat Catalana de Biologia, X Simposi de Neurobiologia.** *Ppm1f is regulated by stress and associated with anxiety and depression.* Barcelona, Spain, 2016.
17. **World Psychiatry Association International Congress.** *Molecular Mechanisms for the Prevention of Posttraumatic Stress Disorder.* Cape Town, South Africa, 2016.
18. **Universidad Autónoma de Madrid.** *Translational Mechanisms of Fear Memories.* Madrid, Spain, 2017.
[Video](#)
19. **Society of Biological Psychiatry.** *PPM1F is Regulated by Stress and Associated with Anxiety and Depression.* San Diego, USA, 2017.
20. **XI Annual Congress of Biotechnology – BAC 2017.** *Optogenetics.* Leon, Spain, 2017.

- 21. Annual Meeting of the Japan Neuroscience Society.** *PPM1F is Regulated by Stress and Associated with Anxiety and Depression.* Chiba, Japan, 2017.
- 22. University of Innsbruck.** *Sex differences in fear and anxiety.* Innsbruck, Austria, 2018.
- 23. Mediterranean Neuroscience Society.** *Sex-opposite behavioral and molecular mechanisms of fear memory.* Marrakech, Morocco, 2019.
- 24. National Meeting of the Spanish Society for Neuroscience.** *Novel mechanisms of traumatic stress eliciting anxiety, depression and fear dysregulations in both mice and humans.* Santiago de Compostela, Spain, 2019.
- 25. National Institute of Mental Health.** *Sex-opposite behavioral and molecular mechanisms of fear memory.* Bethesda, USA, 2019.
- 26. George Washington University.** *Sex-opposite molecular and behavioral signatures of fear memory consolidation.* Washington DC, USA, 2019.
- 27. Rutgers University.** *A drug with opposite sex effects in behavioral and molecular signatures of memory.* New Jersey, USA, 2019.
- 28. XV National Meeting of the SECAL.** *Optogenetics and in vivo calcium imaging in freely moving mice.* Sevilla, Spain, 2019.
- 29. Rosalind Franklin University.** *Sex-opposite effects of the Tac2 pathway in fear memory consolidation.* Chicago, USA, 2021 (Virtual).
- 30. Society of Biological Psychiatry.** *A drug targeting the peptide Neurokinin B receptor with sex-opposite effects in memory,* 2021 (Virtual).
- 31. Champalimaud Centre for the Unknown.** *Translational mechanisms of fear memory,* Lisbon, Portugal, 2021 (Virtual).
- 32. World Association for Stress Related and Anxiety Disorders.** *PACAP-PAC1R system in females: contributions to fear learning and adaptations to stressors.* Vienna, Austria, 2021.
- 33. XXIV National Meeting of Psychiatry.** *Sex differences in the translational mechanisms of fear memory.* València, Spain, 2021.
- 34. Society for Neuroscience.** *Sex-opposite effects of the Tac2 pathway in fear memory consolidation.* 2021 (Virtual).
- 35. Societat Catalana de Psiquiatria i Salut Mental.** *Sex-differences in fear processing.* Sitges, Barcelona, Spain, 2021.
- 36. H2020 ERANET JTC 2019 Midterm Symposium.** *Translational biomarkers of traumatic stress.* 2022 (Virtual).
- 37. Instituto de Investigación Sanitaria y Biomédica de Alicante.** *Un fármaco da valentía a los machos y miedo a las hembras.* Alicante, Spain, 2022 (Virtual).
- 38. Societat Catalana de Biologia, XII Simposi de Neurobiologia.** *PACAP-PAC1R modulates fear extinction via the ventromedial hypothalamus.* Barcelona, Spain, 2022.
- 39. 30th European Congress of Psychiatry (EPA).** *The Role of PACAP/PAC1R in PTSD: Effects on Fear Extinction via the Ventromedial Hypothalamus.* 2022 (Virtual).
- 40. International Traumatic Stress Societies (ISTSS).** *PACAP-PAC1R modulates fear extinction via the ventromedial hypothalamus,* Atlanta, USA, 2022.

- 41. Center for OCD, Anxiety & Fear Related Disorders (COARD), University of Florida.** *Translational Mechanisms of Fear Memories*. Gainesville, FL, USA, 2023 (Virtual).
- 42. 8th Congress of Pharmacy, Bulgarian Pharmaceutical Union.** *Sex differences, pharmacology, and memory formation*. Rila, Bulgaria, 2023.
- 43. European Meeting of Human Fear Conditioning.** *The neurokinin 3 receptor system and fear modulation in both mice and humans*. Salzburg, Austria, 2023.
- 44. Amygdala Gordon Conference (GRC).** *Sex Differences in Neural Projections of Fear Processing in Mice and Humans*. Barcelona, Spain, 2023.
- 45. Mediterranean Neuroscience Society (MNS).** *Sex Differences in Neural Projections of Fear Processing in Mice and Humans*. Carthage, Tunisia, 2023.
- 46. National Meeting of Psychiatry.** *Animal models of Posttraumatic Stress Disorder*. Salamanca, Spain, 2023.
- 47. 1st Meeting of the Spanish Stress Network.** *Translational Mechanisms of Fear Memory Lab*. València, Spain, 2023.
- 48. American College of Neuropsychopharmacology (ACNP).** *The Tac2 Pathway and Sex Differences in Memory Formation*. Tampa, USA, 2023.
- 49. INC-UAB External Advisory Board - Universitat Autònoma de Barcelona.** *Translational Mechanisms of Fear Memory*. Barcelona, Spain, 2023.
- 50. Stress and Resilience: Exploring New Horizons in Science and Applications. Global Stress Network. École Polytechnique Fédérale de Lausanne (EPFL).** *Sex differences in neuronal activity of stress and fear*. Lausanne, Switzerland, 2024.
- 51. 30th International Symposium Controversies in Psychiatry.** *Fear memory mechanisms underlying posttraumatic mental disorders*. Barcelona, Spain, 2024.
- 52. Societat Catalana de Biologia, XIII Simposi de Neurobiologia.** *Sex differences in fear memory processing in mice and humans*. Barcelona, Spain, 2024.
- 53. Neurobiology of Stress 2024.** *Exploring the Potential of Glucocorticoid Administration During Adolescence to Prevent Stress-Induced Effects*. Boston, United States, 2024.
- 54. Seminar on the Use of Human Brain Samples in CIBER Projects.** *Sex differences in neural projections of fear memory processing in mice and humans*. 2024 (Virtual).
- 55. National Meeting of Psychiatry.** *Sex differences in brain connectivity of fear in humans and animal models*. San Sebastian, Spain, 2024.
- 56. Harvard Bioscience, DSI, European User Group Meeting.** *Behavioral mechanisms of fear memories in mice*. Barcelona, Spain, 2024.
- 57. European Brain and Behaviour Society.** *Sex differences in neural projections of fear memory processing in mice and humans*. Bordeaux, France, 2025.
- 58. Leibniz Institute for Resilience.** *Translating Resilience: Lessons learned, open questions, and next steps*. Mainz, Germany, 2025.
- 59. Women Biology & Health Workshop (Esther Koplowitz Center).** *Sex Hormones and Fear Extinction: The Predictive Role of the Progesterone/Estradiol Ratio Across Species*. Barcelona, Spain, 2025.

Plenary Lectures

1. **University of Pretoria.** *Fear*. Pretoria, South Africa, 2018.
2. **InsideScientific** *Sex Differences in Fear Memory*. (Virtual) 2022. [Video](#)
3. **8th Congress of Pharmacy – Bulgarian Pharmaceutical Union.** *Sex differences, pharmacology and memory formation*. Rila, Bulgaria, 2023.
4. **International Traumatic Stress Societies (ISTSS).** *What I was thinking/what I would do differently*. Los Angeles, USA, 2023.
5. **Parc de Recerca Biomèdica (PRBB).** *Differential neural projections of memory formation in males and females*. Barcelona, Spain, 2023.
6. **Institute for Neurosciences in Alicante.** *Sex Differences in Neural Projections of Fear Processing in Mice and Humans*. Alicante, Spain, 2024.
7. **Northeastern University.** *Tac2 circuits*. Boston, United States, 2024.
8. **Belgium Campus iTversity.** *Technology and Neuroscience*. Pretoria, Southafrica, 2024.
9. **Max Delbrück Center for Molecular Medicine.** *Neural Pathways and Translational Mechanisms in Fear Memory*. Berlin, Germany, 2024.
10. **Achucarro - Basque Foundation for Science.** *Novel Fear Mechanisms in Humans and Mice*. Bilbao, Spain, 2024.
11. **University of Coimbra.** *Translational Mechanisms of Fear Memory*. Coimbra, Portugal, 2024.
12. **Institute for Bioengineering of Catalonia (IBEC).** *Translating fear mechanisms between humans and mice*. Barcelona, Spain, 2024.
13. **University of Valencia.** *Sex Differences in Neural Activity During Memory Tasks: Insights from Mice and Humans*. Valencia, Spain, 2025.
14. **9th Congress of Pharmacy – Bulgarian Pharmaceutical Union.** *Estradiol and Progesterone Interactions Modulate Fear Extinction: Evidence from Machine Learning and Cross-Species Analysis*. Rila, Bulgaria, 2025.
15. **Emory National Primate Research Center.** *Translational Neuroscience of Fear Memory*. Atlanta, USA, 2025.

Funding

- 2013 – 2015** **NIH-NIMH** grant R21; \$223,000.
Functional dissection of the Tac2-Nk3R pathway to prevent fear consolidation.
PI: Kerry Ressler. **Co-Investigator:** Raul Andero.
- 2015 – 2018** **NARSAD** Young Investigator Grant; \$65,000.
The Tac2 pathway as modulator of fear memories.
PI: Raul Andero.
- 2016 – 2021** **Ramón y Cajal** Programme, MICIN; 308.600€.
Translational Neuroscience.

PI: Raul Andero.

- 2017 – 2020** **SGR**, Direcció General de Recerca de la Generalitat de Catalunya; 40.000€
Neurobiology of stress and vulnerability to psychopathology.
PI: Antonio Armario. **Investigator** (among others): Raul Andero.
- 2017 – 2020** **RETOS MCIN**; 181.000€.
Tac2 microcircuits and macrocircuits in fear learning.
PI: Raul Andero.
- 2020 – 2023** **ERANET Neuron JTC 2019 H2020**; 825.090€
Translational biomarkers of traumatic stress
Coordinator and PI: Raul Andero 159.780€. **PI's:** Carmen Sandi, Torsten Klengel, and Narcis Cardoner.
- 2022 – 2024** **Fundación BBVA, Beca Leonardo**; 40.000€
Biomarcador traslacional de la experiencia de estrés traumático. **PI:** Raul Andero.
- 2021 – 2024** **Fundación Alicia Koplowitz**; 45.000€
Tratamiento preventivo e identificación de biomarcadores de diagnóstico precoz para el trastorno de estrés postraumático en adolescentes.
PI: Raul Andero.
- 2023 – 2025** **Redes de Investigación**, MCIN; *Spanish Network of Stress Research*; 30.000€
PI: Juan Nacher. **Investigator** (among others): Raul Andero.

Current Funding

- 2021 – 2025** **Proyectos de Generación de Conocimiento 2023**, MCIN; 284.350€
Sex differences in fear memory
PI: Raul Andero.
- 2022 – 2025** **La Caixa Foundation**; 1.000.000€
Involvement of the gut microbiota-brain cross talk in the loss of eating control.
Coordinator: Elena Martin, **PI's:** Raul Andero 250.392,75€, José Manuel Fernández-Real.
- 2023 – 2026** **SGR**, Direcció General de Recerca de la Generalitat de Catalunya; 40.000€
Neurobiology of stress and vulnerability to psychopathology.
PI: Roser Nadal. **Investigator** (among others): Raul Andero.
- 2023 – 2026** **Proyectos «Europa Excelencia» 2023**, MCIN; 100.000€
The Tac2 pathway in memory formation.
PI: Raul Andero.
- 2024 – 2027** **Proyectos I+D+i 2020**, MCIN; 325.000€
Hypothalamic regulation of fear memory and sex hormones.
PI: Raul Andero.
- 2024 – 2027** **European Commission. Marie Skłodowska-Curie Actions**; 285.140,64€
PnocMDDSex
PI: Raul Andero. Beneficiary: Antonio Florido.

Ad-hoc reviewer

- **Journals:** Science, Nature Communications, Molecular Psychiatry, Biological Psychiatry, Neurobiology of Stress, Cerebral Cortex, Biology of Sex Differences, eLife, Neuropsychopharmacology, Journal of Neuroscience, Learning and Memory, European Neuropsychopharmacology, Genes Brain and Behavior, Neuroscience, Biology of Mood & Anxiety Disorders, Epigenomics, Journal of Anxiety disorders, Cognitive

Affective & Behavioral Neuroscience, Frontiers in Behavioral Neuroscience, Synapse, Frontiers in Psychiatry, Frontiers in Molecular Neuroscience, PLOS ONE and Journal of Neural Transmission.

- **Grants:** European Commission ERC Grants, Swiss National Science Foundation (SNSF, Switzerland), UK Research and Innovation (UKRI, United Kingdom), Agencia Nacional de Evaluación y Prospectiva (ANEP, Spain), Agencia Española de Investigación (AEI, Spain), Human Frontier Science Program (HFSP, France), French National Research Agency (ANR, France), German Research Foundation (DFG, Germany), ETH Zürich (Switzerland) and William Harvey Research Institute Academy - Marie Curie grants (London, UK).
- Since 2021 **Editorial board member of Neurobiology of Stress.**
- 2023. **Co-guest editor** with Joanna Dabrowska (Rosalind Franklin University, USA) in **Neuropharmacology** on the Special Issue "*Fear, anxiety and PTSD: from cellular mechanisms to translational approaches*".

Technology Transfer & Patents

- "*Freezing program for Startle and freezing box control version 1.2.0*" and related hardware in collaboration with Panlab, Harvard Apparatus, 2007.
- "*Video-tracking system SMART versions 2.5.15 and 2.5.16*" in collaboration with Panlab, Harvard Apparatus, 2007.
- **International Patent.** *Methods of managing conditioned fear with neurokinin receptor antagonists* (2015). R. Andero & K.J. Ressler. PCT/US2015/037629. Priority country: International Application (PCT).
- **European Patent.** *Fezolinetant for use in the treatment and prevention of anxiety, fear-based disorders and depressive disorders* (2025). EP25160662.0. R. Andero & M Fronza.

Awards / Honors Total >20.000€

- **Postdoctoral Poster Award.** The Atlanta Chapter of the Society for Neuroscience (2010).
- **Extraordinary Doctoral Prize.** UAB (2011).
- **New Investigator Award.** NCDEU: American Society of Clinical Psychopharmacology (2013).
- **Outstanding Postdoc Award.** Emory University, School of Medicine (2013).
- **Career Development Leadership Award.** American Association of Anxiety & Depression (2015).
- **Best Innovation of 2014:** *Repurposed Drug for PTSD*. Emory University (2015).
- **Postdoctoral Travel Awards:**
 - Federation of European Neuroscience Societies (2012, 2014).
 - Society of Biological Psychiatry's Annual Meeting (2013)
 - Wisconsin Symposium on Emotion (2013).
 - International Narcotics Research Conference (2014).
- **Faculty Travel Awards:**
 - American College of Neuropsychopharmacology (2015).
 - Japan Neuroscience Society (2017).

PhD & Master Theses and TFG (Treball de Fi de Grau)

PhD in Neuroscience

1. Patricia Molina. **FPU Scholarship** FPU16/05416, MEC. Antonio Armario, PhD (UAB) and Dr. Andero are co-directors. Title: *Identification and manipulation of neural populations in the medial prefrontal cortex by specifically activated by stressful stimuli*. July 2022. Excellent *cum laude*.
2. Antonio Florido. **FI Scholarship** 2018 FI_B00030, Generalitat de Catalunya. Title: *Macrocircuity and microcircuity of Tac2 pathway in Fear Conditioning*. July 2022. Excellent *cum laude*.
3. Eric Velasco. **FPI Scholarship** BES-2017-080870, MINECO. Title: *Nociceptin and Tac2 pathway as modulators of fear memories*. February 2023. Excellent *cum laude*.

Master Theses in Neuroscience

1. Eric Senabre. Title: *Impaired Fear Extinction in Female Mice Previously Exposed to Traumatic Stress*. 13/07/2017. Grade: 8. UAB.
2. Eric Velasco. Title: *Expression of PPM1F gene is regulated by stress and associated with anxiety and depression*. 14/09/2017. Grade: 8.7. UAB.
3. José Antonio González. Title: *Sex dependent effects of silencing the Tac2-CeM neuronal subpopulation on fear memory*. 14/06/2019. Grade: 8.3. UAB.
4. Neha Acharya. Title: *Sex-based differences in CeM-Tac2 projections to the BNST during fear memory consolidation*. 01/07/2022. Grade: 9.48. Programme - Erasmus Mundus Joint Master Degree Biosciences and Bioengineering Innovations for Biohealth Engineering. Precision Medicine (BeinPM). Institutes: University of Grenoble Alpes (France), University of Naples Federico II (Italy), University of Barcelona (Spain). Research work performed at the AnderoLab, UAB.
5. Leire Rodríguez Romero. Title: *Behavioural consequences caused by a PTSD-like model applied in juvenile mice and evaluation of its prevention by corticosterone administration shortly after*. 20/07/2022. Grade: 8.2. UAB.
6. Joaquin Rusco Portabella. Title: *Deciphering the Prelimbic Circuitry in Post-Immobilisation Fear Memory Learning*. 28/06/2023. Grade: 8.1. UAB.
7. Jaime Fabregat Nabás. Title: *Fear conditioning, expression, and extinction: exploring the influences of sex and the menstrual cycle*. 12/07/2023. Grade: 7.9. UAB.
8. Giorgia Vanzo. Title: *Corticosterone as a preventive treatment for PTSD-like model in mice*. 21/03/2024. Grade: 110 *cum laude*. Programme: Master in Molecular and Cell Biology, Alma Mater University of Bologna (Italy) with an internship at Autonomous University of Barcelona (UAB). Research work performed at the AnderoLab, UAB. Grants: Study Grant for Preparation of the Thesis Abroad – University of Bologna, ERASMUS + Mobility for Traineeship Grant.
9. Sonia Marín Wong. Title: *A chemogenetic approach to study the role of the centromedial amygdala in fear learning*. 09/07/2024. Grade: 8.2. UAB.
10. Marta Torrent Bonilla. Title: *Sex-differences in NkB and Nk3R expression in a PTSD mouse model*. 16/09/2024. Grade: 8.3. UAB.
11. Manuel Eduardo Novelo Soto. Title: *Implication of menstrual cycle phase in fear Conditioning, expression, and extinction*. 16/09/2024. Grade: 6.0. UAB

TFG in Psychobiology

1. Maria Castillo. Title: *What neural circuits of fear are implicated in anxiety disorders? A systematic revision*. May 2018.
2. Carlos Garcia. Title: *Menstrual cycle, trauma, and the probability to develop PTSD*. May 2019.
3. Ruth Pascual. Title: *The memorization and retrieval of traumatic events in PTSD patients*. May 2019.
4. Noemy Salerno. Title: *Neurobiology of PTSD related to fear and anxiety in both animal models and humans*. May 2020.
5. Julia Carrasco. Title: *El cannabidiol com a tractament del trastorn d'ansietat social, una revisió sistemàtica*. May 2021.
6. David Zamorano. Title: *Epigenetics and PTSD: Psychology changing molecular biology*. May 2021.

Teaching

2004 – 2005 **Lecturer of the Psychobiology Department** (4 hours a week)
School of Psychology, National University of Distance Education (UNED), Spain.

Since 2017 **Assistant Professor.**

Department of Psychobiology and Methodology of Health Sciences; UAB, Spain.

2020 - 2024 **How the Brain Works** (27.5 hours per year). UAB Summer School.
Instructor at the Summer School with Dr. Elena Martin, UAB, Spain.

Accreditations for the Spanish and Catalan System

2012 **“Profesor Ayudante Doctor”**
ANECA, Spain.

2016 **“Professor Lector”**
AQU, Generalitat de Catalunya, Spain.

2018 **“Professor Agregat”**
AQU, Generalitat de Catalunya, Spain.

2020 **“Programa I3”**
AEI, Spain.

2021 **“Profesor Titular”**
ANECA, Spain.

Organization of Scientific Meetings

2011 – 2013 **Organizer**, Amygdala Social at Society for Neuroscience, ~250 participants, USA.

2015 **Chair**, Symposium at Society of Biological Psychiatry.
Understanding Fear Circuits to Identify Effective Treatments. Toronto, Canada.

2016 **Scientific Committee**, B-Debate.
Early Life Experience. Vulnerability or Resilience? Barcelona, Spain.

2017 **Chair**, Symposium at Society of Biological Psychiatry.
New Perspectives for Understanding Networks in Anxiety and Fear-Based Disorders.
San Diego, USA.

2017 **Chair**, Symposium at the National Congress of the Spanish Society for Neuroscience.
Gene Expression in Learning and Memory.
Alicante, Spain.

2018 – 2020 **FENS Programme Officer** for the FENS Forum 2020.

2019 – 2021 **FENS Programme Officer** for the Regional FENS Forum 2021.

2020 **Chair**, 27th International symposium on controversies in Psychiatry.
Violence-Induced Psychopathology: Victimization and Stress (Virtual).

2021 **Chair**, Symposium at the Congress of the World Association for Stress-Related and Anxiety Disorders. *Novel mechanisms and predictive responses in posttraumatic stress disorder and mouse models*. Vienna, Austria.

2022 **Chair**, Symposium at Societat Catalana de Biologia, XII Simposi de Neurobiologia. *Mental and behavioral disorders*. Barcelona, Spain.

2023 **Co-Chair**, Panel at the American College of Neuropsychopharmacology. *The Neuropeptide Tac2 Pathway Regulating Behavior Across Species*. Tampa, USA.

2025 **Programme Officer.** #11th International Symposium on Resilience Research. Mainz, Germany.

Selected media coverage (From > 30 countries) [Full list](#)

[Los Angeles Times](#) [US News](#) [La Vanguardia](#) [Scientific American](#) [Forbes](#) [National Geographic](#)

[El País](#) [Wisconsin Public Radio](#) [Catalunya Radio](#) [SER](#) [BBC](#)

Membership to Scientific Societies

- Molecular and Cellular Cognition Society (MCCS). Since 2008.
- Society for Neuroscience (SfN). 2010-2014 and 2019-2020.
- Spanish Society for Neuroscience (SENC). 2016-2021.
- Federation of European Neuroscience Societies (FENS). 2016-2021.
- Spanish Society of Psychobiology. Since 2016.
- The Japan Neuroscience Society (JNS). 2017-2018.

PhD Thesis Jury

1. *Glutamatergic vestibular neurons sustain motion-induced autonomic and aversive responses.* Pablo Machuca. Directors: Dr. Albert Quintana & Dr. Elisenda Sanz (UAB, Spain). July 2020.
2. *Involvement of pre-proenkephalin and Sigma-1 receptors in nicotine addiction.* Sami Kummer. Directors: Dr. Rafael Maldonado & Dr. Elena Martín-García (UPF, Spain) and Dr. Ana Montero (Esteve Laboratories). September 2020.
3. *Unraveling the role of dopamine signaling in the extended amygdala during defensive behaviors.* Laia Castell. Director: Emmanuel Valjent (University of Montpellier, INSERM, France). December 2020.
4. *Characterization of the pathological role of the cerebellum in a mouse model of autism.* Marta Fernández. Director: Dr. Olga Peñagarikano (UPV, Spain). November 2021.
5. *Study of molecular targets and neurobiological mechanisms involved in compulsive overeating.* Ana María Gallego Román. Directors: Rafael Maldonado López, Elena Martín García, Miquel Martín Sánchez (UPF, Spain). May 2022.
6. *Characterization of a mouse model of autism: focus on the excitatory/inhibitory and dopaminergic pathways.* Directors: Dr. Olga Peñagarikano and Dr. Shira Knafo (UPV, Spain). October 2023.
7. *Exploring prefrontal cortex dysfunction in the Fmr1KO mouse model of autism and fragile X syndrome.* Maria José Gueidão Costa. Directors: Dr. Melanie Ginger (University of Bordeaux, France) and Dr. Olga Peñagarikano (UPV, Spain). April 2025.

Outreach Activities

- 2011** **Judge** at Gwinett Science & Engineering Fair (High School), GA, USA.
- 2011 - 2014** **Guest Scientist** at Brain Awareness Outreach (Atlanta Chapter of the SfN, GA, USA):
- Montgomery Elementary School, 2011 and 2012.
 - Holy Innocents Episcopal School, 2013.
 - Georgia Dome, both Elementary and High school students, 2014.
- 2014** **Guest Scientist** at [Goose Pumps! The Science of Fear](#). Fernbank Museum, Atlanta, GA, USA.
- 2016** **Teacher**, *El cervell: l'última frontera del coneixement*. Institut de Ciències de l'Educació, UAB, Spain.
- 2016 to 2019** **Promotion and Outreach** of the UAB in high schools.
- 2017** **Instructor**. *La neuroestimulación en psicopatologías*. Institut de Ciències de l'Educació, UAB, Spain.

- 2017** **Guest Scientist** at **YoMo: The Youth Mobile Festival** (Mobile World Congress). Barcelona, Spain.
- 2019 to 2020** **EscoLab.** Engaging through neuroscience with local high school students. One or two visits per year.
- Since 2021** **Barcelona International Youth Science Challenge**, Fundació Catalunya La Pedrera. [The neurobiology of trauma: effects on behavior and brain function.](#) International high school students visit my lab for one week every summer.
- 2024** **Instructor.** “*How the Brain Works*”. School Jesús, Maria i Josep. Barcelona, Spain. **Catalonian Researchers' Night 2024-2025 ISGlobal.**
- 2025** **Visit to the elementary school**, CP Sant Jordi, Mollet del Vallès, Barcelona, Spain. “*How the Brain Works*”.
- 2025** **Pint of Science.** [Com funciona el cervell.](#) UAB, Barcelona, Spain.