

## CURRICULUM VITAE

### JOSE RODRIGUEZ-ROMAGUERA, PHD

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#### EDUCATION

- 2015: PhD in Academic & Research Psychology (Behavioral Neuroscience), University of Puerto Rico (UPR), Río Piedras, PR.  
2009: BA in General Psychology, UPR, Río Piedras, PR.

#### PAST & CURRENT POSITIONS:

- 2015-Present: Postdoctoral Research Fellow, Dept. of Psychiatry, UNC;  
Mentor: **Garret D. Stuber**, PhD  
2007-2015: Undergraduate & Graduate Research Trainee, Dept. of Psychiatry, UPR;  
Mentor: **Gregory J. Quirk**, PhD  
2007-2014: Summer Research Training at:  
  - 2011, 2014: Neuroanatomy Fellowship, Dept. of Pharmacology, University of Rochester (*Suzanne N. Haber's Lab*);
  - 2010: Marine Biological Labs (MBL, *Summer Program in Neuroscience Ethics & Survival*);
  - 2008: Dept. of Psychiatry, MGH, Harvard University (*Mohammed R. Milad's Lab*);
  - 2007: Dept. of Neurology, University of Iowa (*Daniel Tranel's Lab*).

#### HONORS & AWARDS

- 2018: American College of Neuropsychopharmacology (ACNP) Travel Award  
2017: American College of Neuropsychopharmacology (ACNP) Travel Award  
2017: Society for Neuroscience (SFN) Trainee Professional Development Award  
2017: Postdoctoral National Research Service Award (NRSA) from the National Institute of Mental Health (NIMH)  
2015: Gordon Research Conference Travel Award, Sponsored by Simons Foundation Autism Research Initiative  
2009-2011: SFN Neuroscience Scholars Program (NSP) Fellowship  
2009-2010: American Psychological Association (APA) Diversity Program in Neuroscience (DPN) Fellowship  
2009: Gordon Research Conference Travel Award, Carl Storm Minority Fellowship  
2009: UPR-RP Graduated Magna Cum Laude  
2008: Latin American Network for Training & Exchange of Researchers in Neuroscience (LANTERN) Fellowship, Harvard Medical School/UPR-MS  
2007-2009: NIMH Career Opportunities in Research (COR) Undergraduate Scholarship  
2005-2009: UPR-RP Dean's List

#### PROFESSIONAL ORGANIZATIONS

- 2018-Present Ad hoc member of the American College of Neuropsychopharmacology (ACNP)  
2007-Present Member of the Society for Neuroscience (SFN)  
2008-Present Member of the Molecular and Cellular Cognition Society (MCCS)

**FUNDING/GRANTS**

- 2017-present: NIMH, F32MH113327 **National Research Service Award (PI: Rodriguez-Romaguera, J)** "Functional dynamics of BNST neurons during distinct anxiety states" Role: PI
- 2015-2017: NIDA, R01DA038168-01S1 **Research Supplement to Promote Diversity in Health-Related Research** (PI: Stuber, GD) "Lateral Hypothalamic Circuits for Feeding and Reinforcement"; Role: Postdoctoral Research Associate
- 2014-2015: NIMH, R36MH105039 **Mental Health Research Dissertation Grant to Increase Diversity (PI: Rodriguez-Romaguera, J)** "Role of OFC in Fear Extinction and DBS" Role: PI
- 2010-2012: NIMH, R01MH058883-14S1 **Research Supplement to Promote Diversity in Health-Related Research** (PI: Quirk, GJ) "Prefrontal-Amygdala Interactions in Fear Conditioning"; Role: Graduate Research Assistant
- 2009-2010: NIMH, T32MH018882 **APA Diversity Program in Neuroscience Fellow** (PI: Martinez, JL); Role: Graduate Fellow
- 2007-2009: NIMH, T34MH19134-20 **Carrier Opportunity in Research (COR) Honors Undergraduate Research Training Fellow**; (PI: Bernal, G) Role: Undergraduate Fellow

**SCIENTIFIC PUBLICATIONS**

16. Diehl MM, Bravo-Rivera C, **Rodríguez-Romaguera J**, Pagán-Rivera PA, Burgos-Robles A, Roman-Ortiz C and Quirk GJ. (2018) "Active avoidance requires inhibitory signaling in the rodent prelimbic prefrontal cortex." *eLife*. e34657: 1-19.
15. **Rodríguez-Romaguera J** and Stuber GD. (2018) Social Isolation Co-opts Fear and Aggression Circuits. *Cell*. 173 (5): 1071-1072.
14. Zhou P, Resendez SL, **Rodríguez-Romaguera J**, Jimenez JC, Neufeld SQ, Stuber GD, Hen R, Mazen A, Sabatini BL, Kass RE, Paninski L. (2018) Efficient and accurate extraction of in vivo calcium signals from microendoscopic video data. *eLife*. 7:e28728.
13. **Rodríguez-Romaguera J** and Quirk GJ (2017) Extinction of conditioned fear and avoidance: Relevance for OCD. Book Chapter In: Obsessive-Compulsive Disorder: Phenomenology, Pathophysiology, and Treatment (Pittenger C, ed), New York: Oxford University Press.
12. Namboodiri VMK, **Rodríguez-Romaguera J**, Stuber GD. (2016) The Habenula. *Current Biology*. 26: R865-R881.
11. Martínez-Rivera FJ, **Rodríguez-Romaguera J**, Lloret-Torres ME, Do Monte FH, Quirk GJ, and Barreto-Estrada JL. (2016) Bidirectional modulation of extinction of drug seeking by deep brain stimulation of the ventral striatum. *Biol Psychiatry*. 80:682-690.
10. **Rodríguez-Romaguera J**, Greenberg BD, Rasmussen SA, and Quirk GJ. (2016) An avoidance-based rodent model of exposure with response prevention therapy. *Biol Psychiatry*. 80:534-540.

9. Heilbronner SR, **Rodríguez-Romaguera J**, Quirk GJ, Groenewegen HJ, and Haber SN. (2016) Circuit based cortico-striatal homologies between rat and primate. *Biol Psychiatry*. 80:509-521.
8. **Rodríguez-Romaguera J**, Greenberg BD, Haber SN and Quirk GJ. (2015) A cross species approach to understanding DBS modulation of fear. *Brain Stimulation* 8(5):986-8.
7. Rosal-Vidal LE, **Rodríguez-Romaguera J**, Do-Monte FHM, Andero, R (2015) Targeting the reconsolidation of extinction memories: a novel potential strategy to treat anxiety disorders. *Molecular Psychiatry* 20(11):1264-5.
6. **Rodríguez-Romaguera J**, Do Monte FHM, Tanimura Y, Quirk GJ and Haber SN (2015) Enhancement of fear extinction with DBS of ventral striatum: evidence for medial OFC involvement. *Neuropsychopharmacology* 40(7):1726-33.
5. Bravo-Rivera C, Diehl MM, Roman-Ortiz C, **Rodríguez-Romaguera J**, Rosas-Vidal LE, Bravo-Rivera H, Quinones-Laracuenta K and Do-Monte FHM (2014) Long-range GABAergic neurons in the prefrontal cortex modulate behavior. *J. Neurophysiology* 114(3):1357-1359.
4. Do Monte FHM, **Rodríguez-Romaguera J**, Rosas-Vidal LE, Quirk GJ (2013) Deep brain stimulation of the ventral striatum increases BDNF in the fear extinction circuit. *Front Behav Neurosci* 7:102.
3. **Rodríguez-Romaguera J\***, Do Monte FHM\*, Quirk GJ (2012) Deep brain stimulation of the ventral striatum enhances extinction of conditioned fear. *PNAS* 109:8764-8769. \*co-first authors. ~ *Highlighted in Nature*, 485:419 and *Neuron*, (20) 2012.
2. Rougemont-Bucking A, Linnman C, Zeffiro TA, Zeidan MA, Lebron-Milad K, **Rodríguez-Romaguera J**, Rauch SL, Pitman RK, Milad MR (2011) Altered processing of contextual information during fear extinction in PTSD: an fMRI study. *CNS Neurosci Ther* 17:227-236.
1. **Rodríguez-Romaguera J**, Sotres-Bayon F, Mueller D, Quirk GJ (2009) Systemic propranolol acts centrally to reduce conditioned fear in rats without impairing extinction. *Biol Psychiatry* 65:887-892.  
~ *Ranked top 5 best articles published in Biological Psychiatry in 2009.*

#### MANUSCRIPTS UNDER REVIEW

3. **Rodríguez-Romaguera J\***, Ung RL\*, Nomura H\*, Otis JM, Basiri ML, Zhou P, van den Munkhof HE, Nambodiri VMK, Zhu X, Robinson JE, McHenry JA, Resendez SL, Eckman LEH, Kosyk O, Jhou TC, Kash TL, Bruchas MR and Stuber GD. "Extended Amygdala Prepronociceptin Neurons Drive Physiological Arousal and Anxiety". \*co-first authors. *Manuscript in preparation.*
2. Resendez SL, Nambodiri VMK, Otis JM, Eckman LEH, Ung RL, Basiri ML, Kosyk O, Rossi MA, **Rodríguez-Romaguera J**, Dichter GS and Stuber GD. "Social stimuli activate oxytocin neurons within the paraventricular nucleus of the hypothalamus to promote social behavior in male mice". *Manuscript under review.*

1. Namboodiri VMK\*, Otis JM, van Heeswijk K, Voets ES, Alghorazi R, **Rodriguez-Romaguera J**, Stuber GD, Distinct ensembles of orbitofrontal neurons track and support associative learning, *Manuscript under review*.

#### ABSTRACTS FROM SCIENTIFIC CONFERENCES (FIRST AUTHORED ONLY)

15. **Rodriguez-Romaguera J**, Ung RL, Nomura H, Namboodiri VMK, Otis JM, Robinson JE, Resendez SL, McHenry JA, Eckman LEH, Kosyk O, van den Munkhof HE, Zhou P, Zhu X, Paninski L, Kash TL, Bruchas MR and Stuber GD. "Nociceptin neurons in the bed nucleus of the stria terminalis regulate anxiety" 56<sup>th</sup> Annual Meeting of the American College of Neuropsychopharmacology (ACNP). Palm Springs, CA, USA. December 3-7, 2017.
14. **Rodriguez-Romaguera J**, Ung RL, Nomura H, Namboodiri VMK, Otis JM, Robinson JE, Resendez SL, McHenry JA, Eckman LEH, Kosyk O, van den Munkhof HE, Zhou P, Zhu X, Paninski L, Kash TL, Bruchas MR and Stuber GD. "Nociceptin neurons in the bed nucleus of the stria terminalis regulate anxiety" 47th Annual Society for Neuroscience Meeting. Washington, DC, USA. November 11-15, 2017.
13. **Rodriguez-Romaguera J**, Ung RL, Nomura H, Otis JM, Zhou P, Robinson JE, Kosyk O, Zhu X, Namboodiri VMK, Eckman LEH, Resendez SL, McHenry JA, van den Munkhof HE, Paninski L, Kash TL, Bruchas MR and Stuber GD. "Encoding of anxiety states by extended amygdala pronociceptin neurons" Gordon Research Seminar & Gordon Research Conference: Amygdala Function in Emotion, Cognition, and Disease. Easton, MA. August 4-11, 2017.
12. **Rodriguez-Romaguera J**, Greenberg BD, Rasmussen SA, and Quirk GJ. "An avoidance-based rodent model of exposure with response prevention therapy" 54<sup>th</sup> Annual Meeting of the American College of Neuropsychopharmacology (ACNP). Hollywood, Florida, USA. December 6-10, 2015
11. **Rodriguez-Romaguera J**, Greenberg BD, Rasmussen SA, and Quirk GJ. "An avoidance-based rodent model of exposure with response prevention therapy" Gordon Research Conference (GRC), Amygdala in Health & Disease. Easton, ME, USA. July 31 - August 7, 2015
10. **Rodriguez-Romaguera J**, Bravo-Rivera H, González-Araya EI, Minier-Toribo AM, Greenberg BD, Rasmussen SA, and Quirk GJ "An avoidance-based model of exposure with response prevention in rats" 44th Annual Society for Neuroscience Meeting. Washington, DC, USA. November 15-19, 2014
9. **Rodriguez-Romaguera J**, Do Monte FH, Tanimura Y, Haber SN and Quirk GJ "Cortical origins of fibers mediating enhancement of fear extinction with DBS" Gordon Research Conference (GRC), Amygdala in Health & Disease. Easton, ME, USA. July 28 - August 2, 2013
8. **Rodriguez-Romaguera J**, Do Monte FH, Tanimura Y, Quirk GJ and Haber SN "Convergence of medial and orbital prefrontal cortical fibers in the ventral striatum mediate DBS-enhancement of fear extinction" 51<sup>st</sup> Annual Meeting of the American College of Neuropsychopharmacology (ACNP). Miami, Florida, USA. December 2-6, 2012
7. **Rodriguez-Romaguera J**, Do Monte FH, Tanimura Y, Quirk GJ and Haber SN "Origins of striatal fibers mediating DBS-enhancement of fear extinction." 42nd Annual Society for Neuroscience Meeting. New Orleans, LA, USA. November 13-17, 2012
6. **Rodriguez-Romaguera J**, Do Monte FHM and Quirk GJ "Deep brain stimulation of cortico-amygdala fibers in the ventral striatum facilitates fear extinction and induces plasticity in fear inhibitory circuits." Gordon Research Conference, Amygdala in Health & Disease. Waterville, ME, USA. July 31 - August 5, 2011

5. **Rodriguez-Romaguera J**, Bravo-Rivera C, Do Monte FHM and Quirk GJ “*DBS-like high frequency stimulation of fibers within the rat ventral striatum strengthens fear extinction and induces plasticity in extinction circuits.*” 49<sup>th</sup> Annual Meeting of the American College of Neuropsychopharmacology (ACNP). Miami, Florida, USA. December 5-9, 2010
4. **Rodriguez-Romaguera J**, Do Monte FHM, Rodriguez-Resto JO and Quirk GJ “*Deep brain stimulation within the nucleus accumbens of rats strengthens memory for fear extinction*” 40<sup>th</sup> Annual Society for Neuroscience Meeting. San Diego, CA, USA. November 13-17, 2010
3. **Rodriguez-Romaguera J**, Do Monte FHM and Quirk GJ “*DBS of the ventral striatum modulates fear expression and extinction memory in rats.*” Deep Brain Stimulation: Motor Systems and Beyond. Rochester, NY, USA. October 7-8, 2010
2. **Rodriguez-Romaguera J**, Sotres-Bayon F, Mueller D and Quirk GJ “*Systemic propranolol reduces expression of conditioned fear, and does not impair extinction learning.*” 47<sup>th</sup> Annual Meeting of the American College of Neuropsychopharmacology (ACNP). Scottsdale, Arizona, USA. December 7-11, 2008
1. **Rodriguez-Romaguera J**, Mueller D, Sotres-Bayon F, and Quirk GJ “*Systemic propranolol reduces both fear expression and prelimbic cortex activity.*” 38<sup>th</sup> Annual Society for Neuroscience Meeting. Washington, DC, USA. November 13-19, 2008

#### SCIENTIFIC TALKS

- Well Institute for Neuroscience, University of California San Francisco, San Francisco, CA (10/2018)
- 56<sup>th</sup> Annual Meeting of the American College of Neuropsychopharmacology (ACNP), Palm Springs, CA. (12/2017)
- 47<sup>th</sup> Annual Society for Neuroscience Meeting. Washington, DC. (11/2017)
- DECODE Summit & Workshop: Transformative CNS Therapeutics through Scientific Discovery & Partnership, Silicon Valley, CA. (09/2016)
- 70<sup>th</sup> Annual Society of Biological Psychiatry Scientific Meeting, Toronto, Ontario, Canada. (05/2015)
- Champalimaud Neuroscience Program, Champalimaud Center for the Unknown, Lisbon, Portugal. (02/27/2015)
- Departments of Psychiatry & Cell Biology and Physiology, UNC Neuroscience Center; University of North Carolina, Chapel Hill, NC. (02/2015)
- Department of Psychiatry; University of Pittsburgh; Pittsburgh, PA. (01/2015)
- Cellular Neurobiology Research Branch; NIH/NIDA Intramural Research Program; Baltimore, MD. (01/2015)
- Department of Psychiatry, University of Puerto Rico Medical School, San Juan, PR. (10/2013)
- 21<sup>st</sup> Annual Puerto Rico Neuroscience Conference; Río Piedras, PR. (12/2012)
- 9<sup>th</sup> Annual Molecular and Cellular Cognition Society Meeting, San Diego, CA, USA. (11/2010)
- Marine Biological Laboratories; Woods Hole, MA. (07/2010)
- Department of Neurology, University of Iowa, Iowa City, IA, USA. (08/2008)
- Department of Psychiatry, Massachusetts General Hospital, Harvard Medical School, Charlestown, MA. (07/2008)

**TEACHING EXPERIENCE**

- 2017: Guest Lecture, **Strategies for effective scientific communication: a sample from the neurosciences**. Course Title: Introduction to Composition and Rhetoric (ENGL 105), Undergraduate Course, University of North Carolina at Chapel Hill.
- 2012-2013: Guest Lectures: **Principles of Neuroscience**. Course Title: General Psychology, Undergraduate Course, University of Puerto Rico.
- 2012: Guest Lecture: **Animal Models of Anxiety Disorders**. Course Title: Translational Neuropsychiatry, Course for Psychiatry Residents, University of Puerto Rico School of Medicine.

**CAREER DEVELOPMENT ACTIVITIES**

- 2018: Ad hoc member of the **Minority Task Force of the American College of Neuropsychopharmacology (ACNP)**
- 2018: Invited Speaker at the University of North Carolina – **Burlington Middle School Bridge Program for Underrepresented Minorities in North Carolina**
- 2017: Co-chair of a Nanosymposium at the **Society for Neuroscience** Annual Meeting: "Motivation: Subcortical Neurocircuitry"
- 2017: Chair of **Gordon Research Seminar: Amygdala Function in Emotion, Cognition & Disease**
- 2015: Co-chair of **Gordon Research Seminar: Amygdala in Health & Disease**
- 2011-2013: Founder and Organizer of the **Amygdala Social** at the Annual Society for Neuroscience Meeting (currently active and held annually by others)
- 2012: Coordinator of the Scientific Committee for the 5<sup>th</sup> **Student Conference in Psychological Research at UPR-RP**
- 2011-2012: Founder and Coordinator of the Cognitive Neuroscience Network of the **Psychology Association for the Promotion of Student Research at UPR-RP**
- 2011-2012: Graduate Student Representative of the **Department of Psychology at UPR-RP**
- 2010-2013: **Brain Awareness Week** activity at the faculty of Social Sciences at UPR-RP
- 2008-2014: **Brain Awareness Week** activity at local public High Schools, San Juan, PR

**REFERENCES**

**Garret D. Stuber, PhD**

Professor, Dept. of Anesthesiology & Pain Medicine and Dept. of Pharmacology  
Center of Anesthesiology and Pain Medicine  
University of Washington  
1959 NE Pacific Street, J-wing Health Sciences  
Seattle, WA 98195  
*Tel:* +1 (510) 387-3750  
*Email:* gstuber@uw.edu  
(new address, in the process of moving from the University of North Carolina at Chapel Hill)

**Gregory J. Quirk, PhD**

Professor, Dept. of Psychiatry and Dept. of Anatomy & Neurobiology  
University of Puerto Rico - School of Medicine  
P.O. Box 365067  
San Juan, Puerto Rico 00936  
*Tel:* +1 (787) 999-3058  
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**Suzanne N. Haber, PhD**

Professor, Dept. of Pharmacology and Physiology  
University of Rochester Medical Center  
School of Medicine and Dentistry  
601 Elmwood Ave, Box 711  
Rochester, NY 14642  
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**Sheena Josselyn, PhD**

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Hospital for Sick Children Research Institute  
McMaster Bldg. Room 6018  
555 University Ave.  
Toronto, Ontario, Canada  
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