

# CARLOS I. RODRIGUEZ, Ph.D.

Postdoctoral Fellow | The Mind Research Network | crodriguez@mrn.org

## EDUCATION

- 2018 **Doctor of Philosophy**, Psychology – Cognition, Brain and Behavior.  
University of New Mexico  
Dissertation: *The effects of prenatal alcohol exposure on resting state functional connectivity in a sample of adolescents with fetal alcohol spectrum disorder.*
- 2015 **Master of Science, with Distinction**, Psychology – Cognition, Brain and Behavior.  
University of New Mexico  
Thesis: *The effects of moderate prenatal alcohol exposure on resting state functional connectivity and behavior.*
- 2006 **Bachelor of Arts**, Psychology – Concentration in Biopsychology; Biology Minor  
Western Colorado University

## REFEREED PUBLICATIONS

7. Rodriguez, C.I., Vergara, V., Davies, S., Calhoun, V., Savage, D.D., Hamilton, D.A. Detection of Prenatal Alcohol Exposure Using Machine Learning Classification and Resting-State Functional Network Connectivity Data. (*in press, Alcohol* 2021)
6. Donaldson, T., Barto, D., Bird, C., Magcalas, C., Rodriguez, C., Fink, B., Hamilton, D.A. Social Order: Using the sequential structure of social interaction to discriminate abnormal social behavior in the rat. *Learning and Motivation*. 2018;61, 41-51.
5. Bird, C.W., Barto, D., Magcalas, C.M., Rodriguez, C.I., Donaldson, T., Davies, S., Savage, D.D., Hamilton, D.A. Ifenprodil infusion in agranular insular cortex alters social behavior and vocalizations in rats exposed to moderate levels of ethanol during prenatal development. *Behavioural Brain Research*. 2017; 320, 1-11.
4. Rodriguez, C.I., Davies, S., Calhoun, V., Savage, D.D., Hamilton, D.A. Moderate prenatal alcohol exposure alters functional connectivity in the adult rat brain. *Alcoholism: Clinical & Experimental Research*. 2016; 40, 10.
3. Rodriguez, C.I., Magcalas, C.M., Barto D, Fink, B.C., Rice, J.P., Bird, C.W., Davies, S., Pentkowski, N., Savage, D.D., Hamilton, D.A. Effects of sex and housing on social, spatial, and motor behavior in adult rats exposed to moderate levels of alcohol during prenatal development. *Behavioural Brain Research*. 2016; 313, 233-243.
2. Hamilton, D.A., Barto, D., Rodriguez, C.I., Magcalas, C., Fink, B.C., Rice, J.P., Bird, C.W., Davies, S., Savage, D.D. Effects of moderate prenatal ethanol exposure and age on social behavior, spatial response perseveration errors and motor behavior. *Behavioural Brain Research*. 2014; 269, 44-54.
1. Hamilton, D.A., Magcalas, C.M., Barto, D., Bird, C.W., Rodriguez, C.I., Fink, B.C., Pellis, S.M., Davies, S., Savage, D.D. Moderate Prenatal Alcohol Exposure and Quantification of Social Behavior in Adult Rats. *Journal of Visualized Experiments*. 2014;94.

## PUBLICATIONS IN SUBMISSION

1. Rodriguez, C.I., Vergara, V., Calhoun, V., Savage, D.D., Hamilton, D.A., Tesche, C., Stephen, J.M. Disruptions in global network segregation in adolescents and young adults with Fetal Alcohol Spectrum Disorder. (*ACER*)

## FORMAL RESEARCH PRESENTATIONS

6. National Hispanic Science Network, October 2018. Rockville, MD. Invited presenter and panelist.
5. Department of Psychology, The University of Texas at El Paso, May 2018. Invited talk.
4. Department of Psychology, The University of Texas at El Paso, February 2018. Invited talk.
3. National Enhancement of Under-Represented Academic Leadership (NEURAL) Conference, June 2016. Research presentation.
1. Summer Program In Neuroscience Ethics and Survival (SPINES), July 2015. The Marine Biological Laboratory, Woods Hole, MA. Research presentation.

## RESEARCH SUPPORT

- 2017 **The Ford Foundation**  
Dissertation Fellowship Award
- 2013 **National Institutes of Health**, The National Institute of Alcohol Abuse & Alcoholism  
Diversity Supplement Grant 13-0447; P.I.: Derek Hamilton, Ph.D.

## HONORS & AWARDS

- 2017 The Society for Neuroscience; Neuroscience Scholars Program, Fellow
- 2018 National Hispanic Science Network, Invited Panelist & Travel Award
- 2017 University of New Mexico, Career Services; Student Conference Award Program
- 2016 University of New Mexico, Career Services; Student Conference Award Program
- 2016 University of New Mexico, El Centro de la Raza; El Puente Research Fellowship Program
- 2015 University of New Mexico, El Centro de la Raza; El Puente Research Fellowship Program
- 2016 University of Alabama, Birmingham; N.E.U.R.A.L. Conference Travel Award
- 2016 University of Alabama, N.E.U.R.A.L. Conference; Best Oral Presentation
- 2016 Research Society on Alcoholism; Student Merit Travel Award
- 2015 SPINES Symposium Travel Award
- 2015 The Marine Biological Laboratory; Summer Program in Neuroscience Ethics and Survival (SPINES)
- 2014 International Society of Biomedical Research on Alcoholism; Student Merit Travel Award
- 2013 Research Society on Alcoholism Meeting; Student Merit Travel Award
- 2012 University of New Mexico, El Centro de la Raza; Latino Graduate & Professional Student Fellowship Award

## ADDITIONAL TRAINING

- 2019 Introduction to R. SAGE Campus
- 2018 Recognizing and Addressing Power Dynamics in Academia.  
Led by Drs. Keith Trujillo, Andrea Giuffrida, Erika Marín-Spiotta; & Jean King. Society for Neuroscience
- 2017 Neuroethics and Public Engagement: Why, How, and Best Practices.  
Led by Emily Cloyd, Drs. Laura Cabrera & Martha Farrah. Society for Neuroscience
- 2015 fMRI Acquisition and Analysis course led by Drs. Vince Calhoun, Kent Kiehl, & Tor Wager. The Mind Research Network.

## PEER REVIEW

- 2020 Brain Connectivity, original manuscript review
- 2018 Plos One, original manuscript review
- 2017 McMillan Learning, textbook chapter review. Intro to Brain and Behavior, 5<sup>th</sup> ed. by Kolb, Whishaw, and Teskey.  
Chapter 6: How do drugs and hormones influence brain and behavior?  
Chapter 12: What causes emotional and motivated behavior?

## POSTER PRESENTATIONS

- 2018 Rodriguez, C., Vergara, V., Davies, S., Calhoun, V., Savage, D.D., Hamilton, D.A. Detection of Prenatal Alcohol Exposure Using Machine Learning Classification and Resting-State Functional Network Connectivity Data. Society for Neuroscience.
- 2017 Rodriguez CI, Rice JP, Candelaria-Cook FT, Yang Y, Purvis R, Sillerud L, Abbot CC, Bustillo J, Perrone-Bizzozero N, Calhoun VD, Hamilton DA. The Effects of Chronic Olanzapine Exposure on Functional Network Connectivity in the Anesthetized Rat. Society for Neuroscience.
- 2016 Rodriguez CI, Lieberman G, Davies S, Calhoun V, Savage D, Hamilton D. The Effects of Prenatal Ethanol Exposure on Microstructural Connectivity of Male and Female Rats. Research Society on Alcoholism.
- 2016 Rodriguez CI, Davies S, Calhoun V, Savage D, Hamilton D. The Effects of Prenatal Ethanol Exposure on Microstructural Connectivity of Male and Female Rats. Poster presented at the N.E.U.R.A.L.

- 2015 Rodriguez CI, Davies S, Calhoun V, Savage D, Hamilton D. Moderate Prenatal Alcohol Exposure Alters Hippocampal Functional Connectivity and Social Behavior in Adult Long Evans Rats Society for Neuroscience.
- 2014 Rodriguez CI, Davies S, Calhoun V, Savage D, Hamilton D. The Effects of Prenatal Ethanol Exposure on Resting State and Functional Connectivity of Male and Female Rats. Society for Neuroscience.
- 2014 Rodriguez CI, Davies S, Calhoun V, Savage D, Hamilton D. The Effects of Prenatal Ethanol Exposure on Resting State Functional Connectivity of Male and Female Rats. Research Society on Alcoholism.
- 2013 Rodriguez CI, Davies S, Calhoun V, Savage D, Hamilton D. The Effects of Pre-natal Ethanol Exposure on Resting State Networks and Functional Connectivity of the Anesthetized Rat Brain. Society for Neuroscience.
- 2013 Rodriguez CI, Davies S, Calhoun V, Savage D, Hamilton D. The Effects of Prenatal Ethanol Exposure on Resting State Networks and Functional Connectivity of the Anesthetized Rat Brain. Research Society on Alcoholism.

## EXPERIENCE

- 2020 The Mind Research Network, March 2020- Present  
Postdoctoral Fellow
- Collected, organized, and prepared neuroimaging datasets for quantitative analyses
  - Composed and submitted research manuscripts for peer review publication
  - Prepared and submitted NIH funding proposal
- 2019 University of New Mexico, March 2019- March 2020  
Program Specialist: Center for Academic Program Support
- Oversaw the planning, budgeting, hiring, training, and daily operations of 2 university programs
  - Managed 2 graduate assistant coordinators, 3 undergraduate student managers, and 27 undergraduate student employees
  - Evaluated cognitive and educational psychology research to develop evidence-based programming and training for students and faculty
  - Conducted program evaluation and preparation of faculty reports
  - Collaborated and developed student-aimed online modules on time management and procrastination
  - Created and delivered presentations for various UNM community audiences on college student learning
- 2018 University of Texas at El Paso, June 2018 – February 2019  
Postdoctoral Fellow: Department of Psychology, Vulnerabilities Issues in Drug Abuse Career and Transdisciplinary Training Program
- Designed and executed pre-clinical experiments to explore the relationship between spatial learning, memory, and stress
  - Collaborated with the Art Department to fabricate custom designed behavioral testing apparatus
  - Collected, analyzed, and visualized behavioral data
  - Created and modified research protocols and drafted original research reports for publication
  - Assisted in securing institutional approval from the animal research ethics and biosafety committees
  - Mentored 2 graduate students
  - Composed and delivered 6 academic research presentations to academic audiences
- 2012 University of New Mexico, August 2012 – July 2018  
Doctoral Student
- Received over \$188,000 in grants, fellowships, and professional development awards
  - Composed several professional development award proposals, 2 first-authored publications, 4 co-authored publications, 9 research posters, and 48 oral research presentations
  - Collaboratively planned and performed behavioral, physiological, and histological experiments in a pre-clinical model of Fetal Alcohol Spectrum Disorder
  - Conducted qualitative and quantitative analyses of animal and human structural and functional neuroimaging data utilizing SPM, AFNI, and Matlab software packages
  - Developed neuroimaging data analysis pipelines and data management procedures

El Puente Graduate Student Mentor, 2015-2017

- Assisted in the curriculum design and implementation of an undergraduate research program
- Developed a strong understanding of adult learning theories and models
- Co-mentored 12 undergraduates from various disciplines in developing academic research skills
- Assisted in program evaluation

Graduate Teaching Assistant, 2012-2018

- Instructor of Record for 6 sections of Introduction to Brain & Behavior
- Designed over 40 lessons with class discussions and assessed the performance of 370 students
- Recorded, edited, and uploaded 147 videos to a learning management system for an online course
- Successfully secured best practices certification for an online course
- Managed graduate teaching assistants and undergraduate peer assistants

2010 University of New Mexico

Instructor of Record, 2010

- Co-developed a university freshman college success seminar
- Designed 14 lessons, class discussions, and assessed the performance of 18 students

2009 Senior Student Program Advisor, October 2009 – July 2012

- Academically advised, counseled, and mentored undergraduate students
- Coordinated aspects of incoming freshman summer orientation sessions
- Managed and trained undergraduate student orientation leaders and office staff

2007 Western Colorado University, August 2007 – July 2009

Admissions Counselor

- Successfully planned and executed in- and out-of-state recruitment travel
- Attended national college fairs and planned student recruitment events
- Reviewed and determined admissibility of undergraduate applicants
- Served as a primary point of contact for prospective students and their parents

**COMMUNITY & PROFESSIONAL SERVICE**

2020 Neuroscience Scholars Program Associate Mentor, Society for Neuroscience

2019 Research Presentation Consultant, Oak Ridge Institute for Science and Education and the Defense Threat Reduction Agency's Joint Science and Technology Institute; Albuquerque, NM

2017 Longfellow Elementary School, Science Fair Judge; Albuquerque, NM

2016 Presenter at the Science, Technology, Engineering, Art, Math and Health (STEAMH) Career Exploration Program; UNM Health Sciences Center; Albuquerque, NM