



## Patrese A. Robinson-Drummer, Ph.D.

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Department of Psychology

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### **Current Position**

- Haverford College, Haverford, PA  
Assistant Professor of Neuroscience (Summer 2021-present)  
Department of Psychology

### **Previous Positions:**

- Haverford College, Haverford, PA  
Visiting Assistant Professor (Spring 2020-Spring 2021)  
Department of Psychology
- New York University, New York, NY  
Postdoc Fellow (Winter 2018-Winter 2020)  
PI: Regina M. Sullivan, Ph.D.

### **Education:**

- University of Delaware, Newark, DE  
Ph.D. in Psychology-Behavioral Neuroscience (February 7<sup>th</sup>, 2018)  
Dissertation Title: Ontogeny of Contextual Fear Conditioning: Behavioral, Neuropharmacological, and Molecular Mechanisms.  
*Advisor:* Mark E. Stanton, Ph. D.
- Saint Joseph's University, Philadelphia, PA  
M.S. in Experimental Psychology, (May 12<sup>th</sup>, 2012)  
Thesis Title: Behavioral Lateralization and Social Behaviors in the Northern Bald Ibis (*Geronticus eremita*)  
*Thesis Advisor:* Matthew J. Anderson, Ph.D.
- University of Delaware, Newark, DE  
B.S. in Animal Science (Biology & Psychology Minors; May 29<sup>th</sup>, 2010)
  - Spring 2007

### **Professional Memberships**

- Faculty for Undergraduate Neuroscience
- Pavlovian Society



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- International Society of Developmental Psychobiology
- Society for Neuroscience
- Eastern Psychological Association
- Psi Chi Honor Society
- Sigma Xi Research Society

### Manuscripts

- Zanni, G.\*, **Robinson-Drummer, P. A.\***, Dougher, A. A., Deutsch, H. M., DeSalle M. J., Teplitsky, D., Vemulapalli, A., Sullivan, R. M., Eisch, A. J., & Barr, G. A. (2021). Maternal continuous oral self-administration alters pup affective/social communication but not spatial learning or sensory-motor function. *Drug and Alcohol Dependence*.
- Robinson-Drummer, P. A.**, Opendak, M., Blomkvist, A., Chan, S., Tan, S., Delmer, C., Wood, K., Sloan, A., Jacobs, L., Fine, E., Chopra, D., Sandler, C., Kamenetzky, G., & Sullivan, R. M. (2019). Infant trauma alters social buffering of threat learning: Emerging role of the prefrontal cortex in preadolescence. *Frontiers in Behavioral Neuroscience*, 13, 132.
- Opendak, M., **Robinson-Drummer, P. A.**, Blomkvist, A., Zanca, R. M., Wood, K., Jacobs, L., Chan, S., Tan, S., Woo, J., Venkataraman, G., Kirschner, E., Lundström, J. N., Wilson, D. A., Serrano, P. A., & Sullivan, R. M. (2019). Neurobiology of maternal regulation of infant fear: the role of mesolimbic dopamine and its disruption by maltreatment. *Neuropsychopharmacology*, 44(7), 1247–1257.
- Heroux, N. A., **Robinson-Drummer, P. A.**, Kawan, M., Rosen, J. B., Stanton, M. E. (2019). Neonatal ethanol exposure impairs long-term context memory formation and immediate early gene expression in the medial prefrontal cortex in rats. *Behavioural Brain Research*, 359(2019), 386-395.
- Jablonski, S. A., **Robinson-Drummer, P. A.**, Schreiber, W. B., Asok, A., Rosen, J. B. & Stanton, M. E. (2018). Impairment of the context preexposure facilitation effect in juvenile rats by neonatal alcohol exposure is associated with decreased Egr-1 mRNA expression in the prefrontal cortex. *Behavioral Neuroscience*, 132(6), 497-511.
- Robinson-Drummer, P. A.**, Chakraborty, T., Heroux, N. A., Rosen, J. B., & Stanton, M. E. (2018). Age and experience dependent changes in *Egr-1* expression during the ontogeny of the context preexposure facilitation effect (CPFE). *Neurobiology of Learning and Memory*, 150 (2018), 1-12.
- Robinson-Drummer, P. A.**, Heroux, N. A., & Stanton, M. E. (2017). Antagonism of Muscarinic Acetylcholine Receptors in the Medial Prefrontal Cortex Disrupts the Context Preexposure Facilitation Effect. *Neurobiology of Learning & memory*, 143(2017), 27-35.
- Heroux, N. A., **Robinson-Drummer P. A.**, Sanders, H. R., Rosen, J. R., & Stanton, M. E. (2017). Differential involvement of the medial prefrontal cortex across variants of contextual fear conditioning. *Learning and Memory*, 24(8), 322-330.



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- Robinson-Drummer, P. A.**, Dokovna, L. B., Heroux, N. A., & Stanton, M. E. (2016). Cholinergic mechanisms of the context preexposure facilitation effect in adolescent rats. *Behavioral Neuroscience*, *130*(2), 196-205.
- Heroux, N. A., **Robinson-Drummer P. A.**, Rosen, J. R., & Stanton, M. E. (2016). NMDA receptor antagonism disrupts acquisition and retention of the context preexposure facilitation effect in adolescent rats. *Behavioral Brain Research*, *301*(2016), 168-177.
- Robinson-Drummer, P.A.**, & Stanton, M.E. (2015). Using the context preexposure facilitation effect to study long-term context memory in preweanling, juvenile, adolescent, and adult rats. *Physiology and Behavior*. *148*, 22-28.
- Anderson, M. J., & **Robinson-Drummer, P. A.** (2015). Examining the effects of directional orientation and defighting on lateral behavior in captive Caribbean flamingos (*Phoenicopterus ruber*). *Journal of Behavioral and Neuroscience Research*
- Anderson, M. J., & **Robinson, P. A.** (2012). Preliminary evidence of behavioral lateralization in the Northern bald ibis *Geronticus eremita*. *Avian Ecology and Behaviour*. *21*(2012) 3–12.

### Chapters and Reviews

- Schreiber, W. B. & **Robinson-Drummer, P. A.** (submitted). Examining Diversity Topics in Biological Psychology Courses. *Teaching of Psychology*.
- Stanton, M. E., Murawski, N. J., Jablonski, S. A., **Robinson, Drummer, P. A.**, Heroux, N. A. (2021). Mechanisms of context conditioning in the developing rat. *Neurobiology of Learning and Memory*, *179*(2021), 107388.
- Robinson-Drummer, P. A.**, Roth, T., Raineke, C., Opendak, M., & Sullivan, R. M. (2020). Neurobiology of infant threat processing and developmental transitions In M. S. Gazzaniga, G. R. Mangun & D. Poeppel (Eds.), *The Cognitive Neurosciences*, 6/e.

### Symposia and Talks

- Robinson-Drummer, P. A.** (2019). *Development of learning and affective systems: Examination of circuit interactions in rodents and humans*. Symposium Chair, 90<sup>th</sup> Annual Meeting of the Eastern Psychological Association, New York, NY. February 28-March 2, 2019.
- Robinson-Drummer, P. A.**, (2019). Different early-life perturbations compromise infant learning via divergent pathways. Talk given to the 90<sup>th</sup> Annual Meeting of the Eastern Psychological Association, New York, NY. February 28-March 2, 2019
- Robinson-Drummer, P. A.**, Chakraborty, T., Heroux, N. A., Rosen, J. B., & Stanton, M. E. (2016). Age and experience-dependent changes in *Egr-1* expression during the ontogeny of the context exposure facilitation effect. Talk given at the annual meeting of the International Society for Developmental Psychobiology, San Diego, California, November 9-11, 2016.
- Robinson-Drummer, P. A.**, Heroux, N. A., & Stanton, M. E. (2016). Intra-dorsal hippocampal antagonism of muscarinic acetylcholine receptors disrupts the context preexposure facilitation effect. Data blitz presented at the Park City Winter Conference on the Neurobiology of Learning and Memory January 7-10, 2016



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## Posters and Presentations

Wood, E.\*, **Robinson-Drummer, P. A.\***, Yu, N., Tu., X., Cho, H., Wakefield, R., and Sullivan, R. M. (accepted). How does the infant brain respond to harsh maternal care? Poster submitted to the 53<sup>rd</sup> Annual meeting of the International Society for Developmental Psychobiology. Washington., D.C. by way of a Virtual meeting, October 21-23, 2020

**Robinson-Drummer, P. A.**, Opendak, M., Blomkvist, A. & Sullivan, R. M. (2019). Maternal suppression of learned fear and developmental transitions in prefrontal activity. Poster presented at the Annual meeting of the Society for Neuroscience. Chicago, IL. October 19-23, 2019.

**Robinson-Drummer, P. A.**, Opendak, M., Blomkvist, A. & Sullivan, R. M. (2019). Suppression of learned fear by maternal presence and developmental transitions in prefrontal activity. Poster presented at the 52<sup>nd</sup> Annual meeting of the International Society for Developmental Psychobiology. Chicago, IL. October 16-18, 2019.

Zanni, G., Barr, G. A., **Robinson-Drummer, P. A.**, Sullivan, R. M., Eisch, A., DeSalle, M., Chandar, J., Dougher, A. A., Deutsch, H., Vemulapalli, A., Teplitsky, D. (2019) Oral self-administration in the pregnant rat affects maternal behavior and results in mild behavioral changes in the offspring. Poster presented at the 52<sup>nd</sup> Annual meeting of the International Society for Developmental Psychobiology. Chicago, IL. October 16-18, 2019.

Chan, S., Opendak, M., **Robinson-Drummer, P. A.**, and Sullivan, R. M. (2019). Early life adversity diminishes rat pup's VTA and reward value of the mother. Poster presented at the 90<sup>th</sup> Annual Meeting of the Eastern Psychological Association, New York, NY. February 28-March 2, 2019.

Delmer, C., **Robinson-Drummer, P. A.**, Opendak, M., & Sullivan, R. M. (2019). Infant sensitivity to maternal modulation of the HPA stress axis. Poster presented at the 90<sup>th</sup> Annual Meeting of the Eastern Psychological Association, New York, NY. February 28-March 2, 2019.

Tan, S., Opendak, M., **Robinson-Drummer, P. A.**, & Sullivan, R. M. (2019). Network processing of threat during infancy. Poster presented at the 90<sup>th</sup> Annual Meeting of the Eastern Psychological Association, New York, NY. February 28-March 2, 2019.

Venkataraman, Robinson-Drummer, P., Opendak, M., Blomkvist, A., Sullivan, R. M. (2019). Early life maltreatment reduced the role of the striatum in threat learning. Poster presented at the 90<sup>th</sup> Annual Meeting of the Eastern Psychological Association, New York, NY. February 28-March 2, 2019.

Woo, J., Blomkvist, A., **Robinson-Drummer, P. A.**, Opendak, M., & Sullivan, R. M. (2019). Maternal presence blocks fear learning in infant rats by blocking plasticity molecules. Poster presented at the 90<sup>th</sup> Annual Meeting of the Eastern Psychological Association, New York, NY. February 28-March 2, 2019.

Wood, K., **Robinson-Drummer, P. A.**, Opendak, M. & Sullivan, R. M. (2019). Infant trauma induces adolescent perturbed amygdala-fear learning. Poster presented at the



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90<sup>th</sup> Annual Meeting of the Eastern Psychological Association, New York, NY.  
February 28-March 2, 2019.

- Robinson-Drummer, P. A.**, Opendak, M., & Sullivan R. M. (2018). Developmental regulation of threat, dopamine and VTA-amygdala connectivity. Poster presented at the 48<sup>th</sup> annual meeting of the Society for Neuroscience, San Diego, CA. November 3-7, 2018.
- Robinson-Drummer, P. A.**, Opendak, M., & Sullivan R. M. (2018). Maternal regulation of threat, dopamine and VTA-amygdala connectivity in developing pups. Poster presented at the 51<sup>st</sup> annual meeting of the International Society for Developmental Psychobiology, San Diego, CA. October 31-November 2, 2018.
- Heroux, N. A., **Robinson-Drummer, P. A.**, Rosen, J. B., & Stanton, M. E. (2018). Prefrontal and cholinergic mechanisms of impaired cognition after developmental alcohol exposure in rats. Poster presented at the 51<sup>st</sup> annual meeting of the International Society for Developmental Psychobiology, San Diego, CA. October 31-November 2, 2018.
- Heroux, N. A., **Robinson-Drummer, P. A.**, Sanders, H. R., Rosen, J. B., & Stanton, M. E. (2018). Neonatal ethanol exposure impairs context memory formation and immediate early gene expression in the medial prefrontal cortex. Data presented at the annual meeting of the Fetal Alcohol Spectrum Disorders Study Group and the Research Society on Alcoholism, San Diego, California. June 16, 2018.
- Heroux, N. A., **Robinson-Drummer, P. A.**, Osborne, B. F., Rosen, J. B., Stanton, M. E. (2018). Involvement of the medial prefrontal cortex in contextual fear conditioning. Data-blitz talk presented at the Park City Winter Conference on the Neurobiology of Learning and Memory, Park City, UT. January 4-7, 2018.
- Wood, K., **Robinson-Drummer, P. A.**, Opendak, M., Sullivan, R. M. (2018). Infant maltreatment alters preadolescent fear learning. Poster presented at the annual meeting of the Eastern Psychological Association, Philadelphia, Pa., March 1-3, 2018.
- Robinson-Drummer, P. A.**, Long, V. S., & Stanton, M. E. (2017). Evidence of NMDA-independent acquisition of context memory in developing rats. Poster presented to the annual meeting of the International Society for Developmental Psychobiology. Washington, DC. November 8-10, 2017.
- Heroux, N. A.**, Robinson-Drummer, P. A., Rosen, J. B., Stanton, M. E. (2017). Neonatal ethanol exposure impairs the context preexposure facilitation effect (CPFE) in adolescent rats: Acquisition, retention, and reinforcement effects. Poster presented at the annual meeting of Pavlovian Society, Philadelphia, PA. October 5-8, 2017
- Robinson-Drummer, P. A.**, Maczko, S., Hutchins, D., McGaughy, J. A., & Stanton, M. E. (2017). Neonatal alcohol exposure impairs sustained attention but not attentional set shifting in the rat. Poster submitted to the 40<sup>th</sup> Annual Research Society on Alcoholism Scientific Meeting, Denver, Colorado, June 24-28, 2017.
- Robinson-Drummer, P. A.**, Chakraborty, T., Heroux, N. A., Rosen, J. B., & Stanton, M. E. (2016). Age and experience-dependent changes in *Egr-1* expression during the ontogeny of the context exposure facilitation effect. Poster presented at the annual



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- meeting of the Society for Neuroscience, San Diego, California, November 12-16, 2016.
- Heroux, N. A., **Robinson-Drummer, P. A.**, Sanders, H. R., Rosen, J. B., & Stanton, M. E. (2016). The medial prefrontal cortex (mPFC) is required for the acquisition and retention of the context preexposure facilitation effect (CPFE) in adolescent rats. N. A. Heroux, P. A. Robinson-Drummer, Sanders, H. R., J. B. Rosen, M. E. Stanton. Poster presented at the annual meeting of the Society for Neuroscience, San Diego, California, November 12-16, 2016.
- Heroux, N. A., **Robinson-Drummer, P. A.**, Sanders, H. R., Rosen, J. B., & Stanton, M. E. (2016). Regional contributions of the medial prefrontal cortex (mPFC) to contextual fear conditioning in adolescent rats. Poster presented at the annual meeting of the International Society for Developmental Psychobiology, San Diego, California, November 9-11, 2016.
- Robinson-Drummer, P. A.**, Heroux, N. A., & Stanton, M. A. (2016) Intra-medial prefrontal cortex antagonism of muscarinic acetylcholine receptors disrupts the context exposure facilitation effect. Poster presented at the annual meeting of the Pavlovian Society, Jersey City, New Jersey, September 29-October 1, 2016.
- Heroux, N. A., Buban, K. N., **Robinson-Drummer, P. A.**, Rosen, J. B., & Stanton, M. E. (2016). Inactivation of the medial prefrontal cortex (mPFC) impairs the retention of a context-shock association in the CPFE but not sCFC in adolescent rats. Poster presented at the annual meeting of the Pavlovian Society, Jersey City, New Jersey, September 29-October 1, 2016.
- Heroux, N. A., **Robinson-Drummer, P. A.**, Rosen, J. B., & Stanton, M. E. (2016). MK-801 impairs the acquisition of contextual fear in the context pre-exposure facilitation effect (CPFE) paradigm in adolescent rats. Data blitz presented at the Park City Winter Conference on the Neurobiology of Learning and Memory January 7-10, 2016
- Robinson-Drummer, P. A.**, Heroux, N. A., & Stanton, M. E. (2015). Intra-dorsal hippocampal antagonism of muscarinic acetylcholine receptors disrupts the context preexposure facilitation effect. Poster presented at the Annual meeting of the Pavlovian society in Portland, Oregon September 17-19, 2015
- Robinson-Drummer, P. A.**, Heroux, N. A., & Stanton, M. E. (2015). Intra-dorsal hippocampal antagonism of muscarinic acetylcholine receptors disrupts the context preexposure facilitation effect. Poster presentation at the annual meeting of the International Society for Developmental Psychobiology, San Sebastian, Spain, July 20-23, 2015.
- Heroux, N. A., **Robinson-Drummer, P. A.**, Rosen, J. B., Stanton, M. E. (2015). MK-801 impairs the acquisition of contextual fear in the context pre-exposure facilitation effect (CPFE) paradigm in adolescent rats. Poster to be presented at ISDP 2015. San Sebastian, Spain.
- McGaughy, J. A., Creer, D. J., McBurnie, J. A., **Robinson-Drummer, P. A.** & Stanton, M. E. (2014). The effects of neonatal alcohol exposure on attentional set shifting and susceptibility to distraction. Poster presented at the annual meeting of the Society for Neuroscience, Washington, D. C., November 15-19, 2014.



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- Robinson-Drummer, P.A., & Stanton, M.E.** (2013) Using the Context Preexposure Facilitation Effect to Study the Ontogeny of Long-Term Memory. Poster presentation at the 6<sup>th</sup> Annual Delaware Neuroscience Research and Poster Symposium, Newark, DE, December 6, 2013
- Robinson-Drummer, P.A., & Stanton, M.E.** (2013) Using the Context Preexposure Facilitation Effect to Study the Ontogeny of Long-Term Memory. Poster presentation at the annual meeting of the International Society for Developmental Psychobiology, San Diego, CA, November 6-9, 2013.
- Robinson, P. A., & Anderson, M. J.** (2012). Behavioral lateralization and social behaviors in the Northern bald ibis (*Geronticus eremita*). Poster presented at the annual Eastern Psychological Association meeting, Pittsburg, PA (March).
- Robinson, P. A., & Anderson, M. J.** (2011). Behavioral lateralization in the Northern bald ibis (*Geronticus eremita*). Poster presented at the 6<sup>th</sup> annual Psi Chi Research Day, Philadelphia, PA (April).
- Robinson, P. A., & Anderson, M. J.** (2011). Behavioral lateralization in the Northern bald ibis (*Geronticus eremita*). Poster presented at the 22<sup>nd</sup> annual Saint Joseph's University Sigma Xi Student Research Symposium, Philadelphia, PA (April).
- Robinson, P. A., & Anderson, M. J.** (2011). Behavioral lateralization in the Northern bald ibis (*Geronticus eremita*). Poster presented at the annual Eastern Psychological Association meeting, Cambridge MA (March).

### Fellowships and Honors

- Society for Neuroscience, Neuroscience Scholars Program, Associate  
Fall 2018-2020
- ISDP Sandra Weiner Award Recipient  
Fall 2016
- University of Delaware Dissertation Fellowship  
Fall 2016- Spring 2017
- University of Delaware Graduate Scholar  
Fall 2013, Fall 2014
- 1<sup>st</sup> place award recipient for the Graduate Division Poster Presentation  
Delaware Neuroscience Research and Poster Symposium  
Fall 2013
- 2<sup>nd</sup> Place award recipient for Outstanding Poster Presentation at the 6<sup>th</sup> Annual  
Philadelphia Area Psi Chi Research Day  
Spring 2011
- University of Delaware Woman of Promise Award  
Fall 2009

### Travel Awards

- Neuroscience Scholars Program Enrichment Grant  
Winter 2019



## HAVERFORD COLLEGE

- ISDPTravel Award  
Fall 2013, Summer 2015, Fall 2016, Fall 2017, Fall 2018
- University of Delaware Psychology Department Graduate Travel Funding  
Fall 2013, Summer 2015, Fall 2016, Fall 2017
- University of Delaware Professional Development Award for Graduate Students  
Fall 2013, Summer 2015

### **Research Interests**

- Animal Learning & Behavior
- Ontogeny of Memory
- Animal models of FASD
- Developmental stress and abuse

### **References**

Dr. Mark Stanton

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Dr. Gordon Barr

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