

Elizabeth Irene Martin Flandreau, PhD

Associate Professor; Grand Valley State University, 1 Campus Drive, Allendale MI 49401

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EDUCATION

BA Biology 2003 *Summa cum Laude*

Lawrence University, WI

- *Thesis: Nicotine-ethanol interactions in flash-evoked potentials and behavior of rats.*
- Psychology Minor, Interdisciplinary Neuroscience

PhD Neuroscience, 2009

Emory University, Atlanta GA

- *Dissertation: Corticotropin-Releasing Factor Overexpression in the Central Amygdala: Gene Expression, HPA Axis Function, and Behavior*
- Department of Psychiatry and Behavioral Sciences

CURRENT EMPLOYMENT

Grand Valley State University, Department of Psychology, Allendale, MI 01/2015 – Present

- *Teaching:*
 - SWS Psychology 300: Research Methods in Psychology
 - Psychology 330: Foundations of Behavioral Neuroscience
 - Psychology 430: Physiological Psychology
 - Psychology 435: Advanced Behavioral Neuroscience
 - Honor's HNR 251 (+ curriculum development): Brains in Question
 - Curriculum Development: Behavioral Neuroscience Course Based Laboratory Experience (in progress)
 - Guest Lectures:
 - GVSU CMB 250 11/7/2019
 - GVSU Neuroscience Club 4/13/18
 - GVSU Cognitive neuroscience Club 10/2015
- *Service to Department, College, University, and Academic Community:*
 - Psychology Department Search Committee for BNS Position (2022-Present)
 - GVSU Major's Fair (2022)
 - Psychology Department HIP Committee (2022)
 - CLAS Strategic Initiative 1 Visioning Team (05 – 07 / 2022)
 - LIFT-MC (2021 – Present; Co-Chair 2022)
 - Summer Strategic Initiative Groups (SSIG; 05 – 09/2021)
 - Department Curriculum Committee (2017 – 2022; Chair)
 - Psychology Department Coronavirus Committee- Support colleagues in the move to remote instruction (03/2020 – 12/2020)
 - Group Advising Session for BNS Majors (03/2020)
 - University Writing Skills Committee (UWSC; 2020 – Present)
 - Student Scholars Day Committee (SSD; 2018 – 2022)
 - Psychology Department Search Committee for Lab Tech Position (2018)
 - Department Curriculum Committee (2017 – Present; Chair)
 - Psychology Department Research Methods Teaching Circle (2015 – Present)
 - Psychology Department Behavioral Neuroscience (BNS) Teaching Circle (2015 – Present)
 - Laker Experience Day BNS Representative (~Once per semester 2016-2019)
 - Peer Reviewer for Academic Journals (2009 – Present)
 - Faculty Advisor, Psi Chi GVSU Chapter (2015- 2017)

- Psychology Department Library Committee (2017)
- Psychology Department Meeting Recorder (2015)
- *Research Mentor for Undergraduate Students*
 - Academic Advisor for Behavioral Neuroscience Majors (n ~ 100 / year)
 - Honor's Senior Project Advisor
 - Research Advisor for Undergraduate Students (e.g. McNair, S3/MS3, PSY 399, PSY 499, and volunteer)
 - Collaboration with Students in Statistical Consulting Center (n = 2)

Professional Development Training

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| ○ Blackboard ULTRA “pioneer” | GVSU | 05 – 08 / 2022 |
| ○ POGIL Workshop | POGIL | 01/18/2021 |
| ○ Faculty Dialogues | GVSU | 01/12/2021 |
| ○ eLearning & Emerging Technologies Workshops | GVSU | 06 – 12 / 2020 |
| <i>Numerous workshops to improve my own online instruction and support my colleagues via my role on the “Coronavirus Committee”</i> | | |
| ○ Inclusive Excellence Teaching Institute | GVSU | 05-06/2020 |
| ○ Interrogating Whiteness in Mentoring | GVSU | 06/2019 |
| ○ Mentoring Undergraduate Research Students | GVSU | 02/2019 |
| ○ Mitigating Implicit Bias: Tools for the Neuroscientist | SfN | 01/2019 |
| ○ Foundations of Online and Hybrid Course Development | GVSU | 10 - 11 / 2018 |
| ○ Engaging Difference Workshop | GVSU | 08/2016 |
| ○ Classroom Climate Workshop | GVSU | 08/2016 |
| ○ SWS Syllabus Workshop | GVSU | 01/2016 |
| ○ Integrated Course Design Workshop | GVSU | 08/2015 |
| ○ College Classroom | UCSD | 09 – 12/2014 |
| ○ CREST Certificate Program | UCSD | 2010 – 2012 |
| <i>Clinical Research Enhancement through Supplemental Training (post-graduate courses in epidemiology, statistics, research methods, and ethics)</i> | | |
| ○ Lab Management Symposium | Salk Institute | 03/2012 |

Peer-Reviewed Primary Research Publications

- Eudave, D.¹, BeLow, M.¹, and **Flandreau, EI** (2018) Impact of high fat or high sucrose diet on behavioral and metabolic response to social stress *Neurobiology of Stress*, 9: (1-8)
- Toth, M., **Flandreau, EI.**, Deslauries, J., Geyer, M., Mansuy, I., Merlo-Pich, E., and Risbrough, V (2016) Overexpression of forebrain CRH during early life increases trauma susceptibility in adulthood *Neuropsychopharmacology*, 41(6):1681-90.
- **Flandreau, E.I.**, Risbrough, V., Lu A., Ableitner, M., Geyer, M.A., Holsboer, F., Deussing, J.M. (2015). Cell type-specific modulations of corticotropin-releasing factor (CRF) and its type 1 receptor (CRF1) on startle behavior and sensorimotor gating. *Psychoneuroendocrinology*, 53:16-28.
- Toth, M., Gresack, J.E., Bangasser, D.A., Plona, Z., Valentino, R.J., **Flandreau, E.I.**, Mansuy, I., Merlo-Pich, E., Geyer, M.A., Risbrough, V., 2013. Forebrain-Specific CRF Over-Production During Development is Sufficient to Induce Enduring Anxiety and Startle Abnormalities in Adult Mice. *Neuropsychopharmacology*, 39 (6):1409-19.

- **Flandreau, E.I.**, Bourke, C.H., Ressler, K.J., Vale, W.W., Nemeroff, C.B., Owens, M.J., (2013). Escitalopram alters gene expression and HPA axis reactivity in rats following chronic overexpression of corticotropin-releasing factor from the central amygdala. *Psychoneuroendocrinology*. 38, 1349-61.
- Gafford, G.M., Guo, J.D., **Flandreau, E.I.**, Hazra, R., Rainnie, D.G., Ressler, K.J., (2012). Cell-type specific deletion of GABA(A)alpha1 in corticotropin-releasing factor-containing neurons enhances anxiety and disrupts fear extinction. *Proceedings of the National Academy of Science (PNAS) USA*. 109, 16330-5.
- Sink, K.S., Walker, D.L., Freeman, S.M., **Flandreau, E.I.**, Ressler, K.J., Davis, M., (2013). Effects of continuously enhanced corticotropin releasing factor expression within the bed nucleus of the stria terminalis on conditioned and unconditioned anxiety. *Molecular Psychiatry*. 18, 308-19.
- **Flandreau, E.I.**, Ressler, K.J., Owens, M.J., Nemeroff, C.B., (2012). Chronic overexpression of corticotropin-releasing factor from the central amygdala produces HPA axis hyperactivity and behavioral anxiety associated with gene-expression changes in the hippocampus and paraventricular nucleus of the hypothalamus. *Psychoneuroendocrinology*. 37, 27-38.
- **Martin EI***, Ressler KJ*, Jasnow AM, Dabrowska J, Rainnie DG, Nemeroff CB, and Owens MJ (2010); A novel transgenic mouse for gene-targeting within cells that express corticotropin-releasing factor, *Biological Psychiatry* 67, 1212-6.
- Keen-Rhinehart E, Michopoulos V, Toufexis DJ, **Martin EI**, Nair H, Ressler KJ, Davis M, Owens MJ, Nemeroff CB, Wilson ME (2009). Continuous expression of corticotropin-releasing factor in the central nucleus of the amygdala emulates the dysregulation of the stress and reproductive axes. *Molecular Psychiatry*. 14, (37-50).
- Hetzler BE and **Martin EI** (2006) Nicotine-ethanol interactions in flash-evoked potentials and behavior of Long-Evans rats. *Pharmacology, Biochemistry, and Behavior* 83:76 – 89.

Peer-Reviewed Review Articles and Book Chapters

- Reasoner, E.¹, and **Flandreau, E.** (2021). The Comorbidity Between Epilepsy and Psychiatric Disorders: Assessing the Integration of Neuropsychiatric Care. *IMPULSE* (2021)
- **Flandreau EI**, Toth M. (2018). Animal Models of PTSD: A Critical Review. *Curr Top Behav Neurosci* 38:47-68
- **Martin EI**, Nemeroff CB (2010) The Biology of Generalized Anxiety Disorder and Major Depressive Disorder: Commonalities and Distinguishing Features. In: *The Future of Psychiatric Diagnosis: Refining the Research Agenda Depression and Generalized Anxiety Disorder*, American Psychiatric Institute Press.
- **Martin EI**, Ressler KJ, Binder E, Nemeroff CB (2009) The Neurobiology of Anxiety Disorders: Brain Imaging, Genetics, and Psychoneuroendocrinology. *Psychiatric Clinics*, 32(3):549-575.
- **Martin EI**, Nemeroff CB (2008) The role of corticotropin-releasing factor in the pathophysiology of depression: Implications for antidepressant mechanisms of action. *Psychiatric Annals* April 2008, Vol 38, Number 4.
- **Martin EI**, Nemeroff CB (2005) The War of the Soups and the Sparks: The Discovery of Neurotransmitters and the Dispute over How Nerves Communicate. *New England Journal of Medicine* 353:2093-2094.

¹ Undergraduate Student ² Graduate student in Cell Molecular Biology Master's Program

Complete List of Published Work in MyBibliography:

<http://www.ncbi.nlm.nih.gov/sites/myncbi/16yhpycv5JeQW/bibliography/49569051/public/?sort=date&direction=ascending>

Oral Presentations by GVSU Student Authors

- Buchheit A^{1,3} and **Flandreau EI** (04/18/2018) Influence of Unhealthy Diet on Stress-Induced Acoustic Startle in Mice, *Psychology Department Student Colloquium*, GVSU; 10-minute presentation
- Eudave, D.^{1,3} and **Flandreau EI** (04/2017) Effects of unhealthy diet on sensitivity to social defeat stress, *Psychology Department Faculty Colloquium*, GVSU; 60-minute presentation and 10-minute presentation at *Student Scholar's Day*
- Phillips, S^{1,3} (4/2016) Tests of Anxiety-like Behavior in Mice. 10-minute mini-lecture in PSY 330 and at Psychology Department Student Colloquium, GVSU.

Poster Presentations with GVSU Student Authors

- Desjarlais T^{1,3}, **Flandreau EI**, (10/2019) Timeline for impact of high sucrose diet on plasma corticosterone, ghrelin, and caloric efficiency *Society for Neuroscience Conference*, Chicago IL
- Block M^{1,3}, Wilk K¹, **Flandreau EI**, (10/2019) Predator Odor Stress on Stress and Metabolic Endocrine Outcomes in Male and Female C57BL6/N Mice. *Society for Neuroscience Conference*, Chicago IL
- Block M^{1,3}, Desjarlais T^{1,3}, **Flandreau EI** (04/10/2019) Interactions between stress and diet on endocrine and gene-expression outcomes in mice. *Student Scholars Day*, GVSU
- Eudave D¹, BeLow M¹, Buchheit A¹, **Flandreau EI**³ (11/04/2018) “Unhealthy diet high in fat or sucrose on negative valence behavior in mice, *International Society for Neuroscience Convention*, San Diego, CA.
- Buchheit A^{1,3}, Toth Z¹, Morrish J¹, **Flandreau EI** (04/11/2018) Influence of Unhealthy Diet on Stress-Induced Acoustic Startle in Mice, *Student Scholars Day*, GVSU
- BeLow, M., and **Flandreau EI** (4/2017) The Tail Suspension Test: The Effects of Diet on Stress-Induced Depressive-like Behavior in Mice *Student Scholar's Day*, GVSU
- Eudave, D.^{1,3}, Mittner, K.², Bomya, R.¹, and **Flandreau, EI** (10/22/2016) Effects of Diet on Sensitivity to Social Defeat Stress in Mice *MGLUR Conference*, Ohio State University
- Eudave, D.^{1,3}, Mittner, K.², Bomya, R.¹, and **Flandreau, EI** (11/5/2016) Effects of Diet on Sensitivity to Social Defeat Stress in Mice *WMRUGS Conference*, Van Andel Research Institute, Grand Rapids, MI.
- Bomya, R.^{1,3}, Mittner, K.², Eudave, D.¹, and **Flandreau, EI** (11/5/2016) Impact of High Fat or High Sucrose Diet on Body Weight in Mice Exposed to Social Defeat Stress *WMRUGS Conference*, Van Andel Research Institute, Grand Rapids, MI.

¹ Undergraduate Student ² Graduate student in Cell Molecular Biology Master's Program ³ Presenting Author

Research Support

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| ○ CSCE Laker Extramural Proposal Development Support, GVSU | 2019 |
| ○ OURS Supplemental Research Funds | 2019 |
| ○ CSCE Support, GVSU | 2019 |
| ○ OURS McNair, GVSU | 2016, 2019 |
| ○ CSCE Catalyst Grant, GVSU | 2017 – 2018 |
| ○ OURS Early Faculty Supplemental Startup, GVSU | 2016 – 2017 |
| ○ CSCE Catalyst Grant, GVSU | 2015 – 2016 |
| ○ T32 Biological Psychiatry Postdoctoral Fellowship MH18399-25
NIH, Salk Institute for Biological Studies, and UCSD | 2011 – 2013 |

- T32 Endocrine/Metabolism Postdoctoral Training Grant DK007044-30 2009 – 2010
NIH, Salk Institute for Biological Studies, and UCSD
- F32 Ruth L. Kirschstein National Service Award (NRSA) MH079667 2007 – 2009
NIH, Emory University
- T32 Neurobiology of Drug Abuse Training Grant DA015040 2006 – 2007
NIDA, Emory University
- Howard Hughes ORDER Teaching Fellowship, Emory University 2005 – 2006
- T32 Training in Systems and Integrative Biology: Neuroscience GM08605 2003 – 2005
NIH, Emory University

PREVIOUS ACADEMIC EMPLOYMENT

- Salk Institute for Biological Studies, Peptide Biology, La Jolla, CA; Postdoctoral Research Fellow
06/2009 – 02/2012
 - Advisor: Dr. Wylie Vale
 - Research Focus: Interactions between stress and diet on sensitivity to social stress
- University of California at San Diego, Department of Psychiatry; Postdoctoral Research Fellow:
03/2012 – 12/2014
 - Advisors: Dr. Victoria Risbrough (UCSD) & Dr. Richard Hauger (VA, La Jolla, CA)
 - Research Focus: Environmental and genetic impacts on behavioral, endocrine, and gene-expression response to stress.
- University of San Diego, Department of Psychology; Adjunct Instructor 2013: NEUR 310
Behavioral Neuroscience

Publications in Progress

- Friend SF, Risbrough V, **Flandreau EI.**, Model organisms and tissues to elucidate biological mechanisms of anxiety (Invited Book Chapter in Review; Oxford University Press)
- **Flandreau, E.I.**, Risbrough, V., Fear learning and sensorimotor gating phenotypes in six strains of laboratory mice (Primary Research Article in Preparation)

Professional Membership

- Counsel for Undergraduate Research (CUR)
- International Society of Psychoneuroendocrinology
- Phi Beta Kappa Honor Society
- Psi Chi Psychology Honor Society
- International Society for Neuroscience