

Danielle Gerhard, PhD

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EDUCATION

PhD. 2017 Yale University, Department of Psychology, *with distinction*

BA 2012 University of Tennessee, Knoxville, Psychology, *summa cum laude*

POSITIONS AND TRAINING

2018 – present Postdoctoral Associate of Neuroscience
Weill Cornell Medicine, Department of Psychiatry, New York, NY
Advisor: Dr. Francis Lee

Research: Molecular, neural, and behavioral development following early life adversity

2013 – 2018 Graduate Student Fellow¹
Postdoctoral Associate²
¹Yale University, Department of Psychology, New Haven, CT
²Yale University School of Medicine, Department of Psychiatry, New Haven, CT
Advisor: Dr. Ronald Duman

Research: Cellular and molecular mechanisms underlying adult stress, depression, and rapid-acting antidepressants

2012 – 2013 Graduate Student Fellow
Yale University, Department of Psychology, New Haven, CT
Advisor: Dr. Glenn Schafe

Research: Pavlovian fear conditioning and memory reconsolidation

PUBLICATIONS

Journal Articles

1. Georgiou, P., Zanos, P., Mou, T-C., An, X., **Gerhard, D.M.**, ...Zarate, C.A., Duman, R.S., Thompson, S.M., & Gould, T.D. (2022). Experimenters' sex modulates mouse behaviors and neural responses to ketamine via corticotropin releasing factor. *Nat Neurosci*, 25(9): 1191-1200.
2. **Gerhard, D.M.** & Meyer, H.C. (2021). Extinction trial spacing across days differentially impacts fear regulation in adult and adolescent male mice. *Neurobiology of Learning and Memory*, 186: 107543.
3. Meyer, H.C.*, **Gerhard, D.M.***, Amelio, P.A., & Lee, F.S. (2021). Pre-adolescent stress disrupts adult, but not adolescent, safety learning. *Behavioural Brain Research*, 400: 113005.
4. Pothula, S., Kato, T., Liu, R-J., Wu, M., **Gerhard, D.M.**, Shinohara, R., Sliby, A-N., Chowdhury, G., Behar, K.L., Sanacora, G., Banerjee, P., & Duman, R.S. (2020). Cell-type specific modulation of NMDA receptors triggers antidepressant actions. *Molecular Psychiatry*, 26: 5097-5111.
5. **Gerhard, D.M.**, Pothula, S., Liu, R-J, Wu, M., Li, X-Y, Girgenti, M.J., Taylor, S.R., Duman, C.H., Delpire, E., Picciotto, M., Wohleb, E.S., & Duman, R.S. (2020). GABA interneurons are the cellular trigger ketamine's rapid antidepressant actions. *J Clin Invest*, 130(3): 1336-1349.
6. Ali, F., **Gerhard, D.M.**, Sweasy, K., Pothula, S., Pittenger, C., Duman, R.S., Kwan, A.C. (2020). Ketamine disinhibits dendrites and enhances calcium signals in prefrontal dendritic spines. *Nat Commun*, 11(1): 72.
7. Ali, F., Shao, L.X., **Gerhard, D.M.**, Sweasy, K., Pothula, S., Pittenger, C., Duman, R.S., Kwan, A.C. (2020). Inhibitory regulation of calcium transients in prefrontal dendritic spines is compromised by a nonsense Shank3 mutation. *Mol Psychiatry*, 26: 1945-1966.
8. Deyama, S., Bang, E., Wohleb, E.S., Li, XY, Kato, T., **Gerhard, D.M.**, Duteil, S., Dwyer, J.M., Taylor, S.R., Picciotto, M.R., & Duman, R.S. (2019). Role of neuronal VEGF signaling in the prefrontal cortex in the rapid antidepressant effects of ketamine. *Am J Psychiatry*, 176: 388-400.
9. Chekroud, A.M., Foster, D., Zheutlin, A.B., **Gerhard, D.M.**, Roy, B., Koutsouleris, N., Chandra, A., Esposti, M.D., Subramanyan, G., Gueorgieva, R., Paulus, M., & Krystal, J.H. (2018). Predicting barriers to treatment for depression in a U.S. national sample: A cross-sectional, proof-of-concept study. *Psychiatr Serv*, 69: 927-934.
10. Kabir, Z.D., Lee, A.S., Burgdorf, C.E., Fischer, D., Rajadhyaksha, A.M., Mok, E., Rizzo, B., Rice, R.C., Singh, K., Ota, K.T., **Gerhard, D.M.**, Schierberl, K.C., Glass, M., Duman, R.S., & Rajadhyaksha, A.M. (2017). Cacna1c in the prefrontal cortex

regulates depression-related behaviors via REDD1. *Neuropsychopharmacology*, 42(10): 2032-2042.

11. Wohleb, E.S., Wu, M., **Gerhard, D.M.**, Taylor, S.R., Picciotto, M.R., Alreja, M., & Duman, R.S. (2016). GABA interneurons mediate the rapid antidepressant-like effects of scopolamine. *The Journal of Clinical Investigation*, 126: 2482-2494.
12. Monsey, M.S.*, **Gerhard, D.M.***, Boyle, L.M., Briones, M.A., Seligsohn, M., & Schafe, G.E (2015). A diet enriched with curcumin impairs newly acquired and reactivated fear memories. *Neuropsychopharmacology*, 40: 1278-88.
13. Morrison, K.E., Bader, L.R., Clinard, C.E., **Gerhard, D.M.**, Gross, S.E., and Cooper, M.A. (2014). Maintenance of dominance status is necessary for resistance to social defeat stress in Syrian hamsters. *Behav Brain Res*, 86: 270-277.

Review Articles and Commentaries

1. Meyer, H.C., Fields, A., Vannucci, A., **Gerhard, D.M.**, Bloom, P.A., Heleniak, C., Opendak, M., Sullivan, R., Tottenham, N., Callaghan, B.L., & Lee, F.S. The added value of cross-talk between developmental circuit neuroscience and clinical practice to inform the treatment of adolescent anxiety. *Accepted at Biological Psychiatry: Global Open Science*.
2. Gerhard, D.M., Meyer, H.C., & Lee, F.S. An adolescent sensitive period for threat responding: impacts of stress and sex. *Biological Psychiatry*, 89, 651-658.
3. **Gerhard, D.M.** & Ross, D.A. (2018). Reshaping the depressed brain: A focus on synaptic health. *Biological Psychiatry*, 84, e73-e75.
4. **Gerhard, D.M.** & Duman, R.S. (2018). Rapid-acting antidepressants: Mechanistic insights and future directions. *Curr Behav Neurosci Rep*, 5, 36-47.
5. **Gerhard, D.M.** & Duman, R.S. (2018). Sex-specific molecular changes in depression. *Biological Psychiatry*, 84, 2-4.
6. Wohleb, E.S., **Gerhard, D.M.**, Thomas, A., & Duman, R.S. (2016). Molecular and cellular mechanisms of rapid-acting antidepressants ketamine and scopolamine. *Current Neuropharmacology*, 15, 11-20.
7. **Gerhard, D.M.**, Wohleb, E.S., & Duman, R.S. (2016). Emerging treatment mechanisms for depression. *Drug Discovery Today*, 21, 454-464.

Book Chapters

1. Gerhard, D.M., Meyer, H.C., Li, A., & Lee, F.S. 'Biological Mechanisms of Anxiety Disorders: Animal and Human Studies' in Dennis S. Charney & others (eds), *Neurobiology of Mental Illness*, 6 edn, Oxford Academic. Forthcoming 2023.

CONFERENCE PRESENTATIONS

Talks: American College of Neuropsychopharmacology (2020), International Society for Developmental Psychobiology (2020)

Posters: Association for Clinical and Translational Science (2021), Society for Neuroscience (2013-2019), Society of Biological Psychiatry (2016), Flux Society for Developmental Cognitive Neuroscience (2019)

GRANTS

2019 – 2021 TL1 Postdoctoral Training Award (TR-002386),
Weill Cornell Medicine Clinical and Translational Science Center
*“Impact of adolescent stress on the development of neural circuits
underlying social behaviors”*

Continued education under grant:

- Clinical Translational Pharmacology
- Genomics Workshop
- Bioinformatics Workshop
- Intro to R Programming
- Grant Writing Workshop
- Designing and Effective Team Structure

HONORS AND AWARDS

2017 Graduated with distinction with a PhD in Psychology (Yale University)

2012 Graduated *Summa Cum Laude* with a degree in Psychology (UTK)

2012 Chancellor’s Honors Award for Extraordinary Professional Promise in Arts & Sciences (UTK)

2011 Undergraduate Summer Research Award

2009 – 2012 Department of Psychology Honors Program

2009 – 2012 Chancellor’s Honors Program

2008 – 2012 HOPE Scholarship, The University of Tennessee

TEACHING AND MENTORING EXPERIENCE

Training

2008 Certificate of College Teaching Preparation for Integration
Research, Teaching, and Learning Associate
Yale University, Yale Center for Teaching and Learning

Teaching Fellow

2014, 2015, 2017	Psychopharmacology, Yale University
2016	Abnormal Psychology, Yale University
2013, 2014	Learning & Memory, Yale University

Mentoring

2020	High school intern, Weill Cornell Medicine; <i>Currently at Harvard University</i>
2020	High school intern, Weill Cornell Medicine; <i>Currently at Cornell University</i>
2020 – 2021	Paia Amelio, Weill Cornell Medicine; <i>Currently a research assistant at the NIH</i>

SERVICE

Academic Journal Peer Review

Journal of Neuroscience
Nature Communications
Biological Psychiatry

Service to Department

2015 – 2016	Colloquium Series, Chair <i>Yale University Department of Psychology</i>
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Service to the Profession

2019 – 2020	Afterschool STEM mentor <i>DREAM Charter School, New York Academy of Science</i>
2019	Brain Awareness Week Volunteer <i>BraiNY and the Greater New York City Chapter of SfN</i>
2014 – 2016	Co-Editor-in-Chief <i>Yale Journal of Biology and Medicine</i>
2013 – 2017	Graduate Mentor <i>Women in Science at Yale (WISAY), Yale University</i>

2016 – 2017 Yale Science Journalism Symposium Committee (2016 – 2017)
Yale University

2013 – 2017 Judge
New Haven Science Fair

2012 – 2014 Deputy Editor and Colloquium Series Organizer
Yale Journal of Biology and Medicine

Public Outreach

2019 – 2022 Volunteer & tutor
New York Center for Children

2017 – 2018 Volunteer
Pediatric Emergency Department, Yale New Haven Hospital

2015 – 2018 Tutor
New Haven Reads