Danielle Gerhard, PhD

Department of Psychiatry
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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 Fellow[1]
Postdoctoral Associate[2]
[1]Yale University, Department of Psychology, New Haven, CT
[2]Yale 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. **Gerhard, D.M.** & Meyer, H.C. Extinction trial spacing across days differentially impacts fear regulation in adult and adolescent male mice. *Neurobiology of Learning and Memory,* 107543.
2. Meyer, H.C.*, **Gerhard, D.M.***, Amelio, P.A., & Lee, F.S. (2021). Pre-adoelscent stress disrupts adult, but not adolescent, safety learning. *Behavioural Brain Research,* 400, 113005.
3. 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.
4. **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.
5. 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.
6. 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.
7. Deyama, S., Bang, E., Wohleb, E.S., Li, XY, Kato, T., **Gerhard, D.M.,** Dutheil, 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.
8. Chekroud, A.M., Foster, D., Zheutlin, A.B., **Gerhard, D.M.,** Roy, B., Koutsouleris, N., Chandra, A., Esposti, M.D., Subramanyan, G., Gueorguieva, 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.
9. 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,* Epub ahead of print.

10. 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.
11. Monsey, M.S.*, **Gerhard, D.M**.*, Boyle, L.M., Briones, M.A., Seligsohn, M., & Schafe, G.E (2014). A diet enriched with curcumin impairs newly acquired and reactivated fear memories. *Neuropsychopharmacology, 40*, 1278-88.
12. 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.

Manuscripts under review

1. Georgiou, P., Zanos, P., Mou, T.M., An, X., **Gerhard, D.M.,** …, Zarate, C.A., Duman, R.S., Thompson, S.M., & Gould, T.D. Experimenter sex modulates mouse biobehavioural and pharmacological responses. *(Original Research)*

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"*

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

SERVICE

Academic Journal Peer Review

Journal of Neuroscience
Nature Communications
Biological Psychiatry

Service to Department

2015 – 2016 Colloquium Series, Chair
Yale University Department of Psychology

Service to the Profession

2019 – 2020 Afterschool STEM mentor
DREAM Charter School, New York Academy of Science

2019 Brain Awareness Week Volunteer
BraiNY and the Greater New York City Chapter of SfN

2014 – 2016 Co-Editor-in-Chief
Yale Journal of Biology and Medicine

2013 – 2017 Graduate Mentor
Women in Science at Yale (WISAY), Yale University

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 – present Volunteer & tutor
New York Center for Children

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

2015 – 2018 Tutor
New Haven Reads

PROFESSIONAL SOCIETY MEMBERSHIP

Society for Neuroscience
Society of Biological Psychiatry
Flux Society for Developmental Cognitive Neuroscience