

Tiffany D. Rogers, Ph.D.

Curriculum Vitae

EDUCATION

2012 Doctor of Philosophy, Experimental Psychology

The University of Memphis, Department of Psychology

Research Area: Neuroscience

Dissertation: Evaluation of Cerebellar-Cortical Circuitry using Rodent Models: Relevance to Autism Spectrum Disorders

Chair: Charles D. Blaha, Ph.D.

2009 Master of Science, General Psychology

The University of Memphis, Department of Psychology

Thesis: Evaluation of Deep Brain Stimulation Parameter Changes in a Levodopa-treated Parkinsonian Animal Model

Chair: Charles D. Blaha, Ph.D.

2006 Bachelor of Science

Lipscomb University, Nashville, TN

Major: Psychology

Minor: Biology

TEACHING EXPERIENCE

Instructor

2015 Graduate Statistics and Methods I, 2 Sections

Class size = 4, Lipscomb University

2015 Social Psychology, 1 Section

Class size = 30, Online course offered by Lipscomb University

2014 Introduction to Psychology (undergraduate), 1 Section

Class size = 25, Online course offered by Lipscomb University

2014 Graduate Statistics and Methods II, 1 Section

Class size = 3, Lipscomb University

- 2014 Behavior Modification (undergraduate), 1 Section Class size = 20, Lipscomb University
- 2014 Social Psychology (undergraduate), 2 Sections
Class size = 33, Online course offered by Lipscomb University
- 2012 Physiological Psychology (undergraduate), 1 Section
Class size = 20, Online course offered by The University of Memphis
- 2012 General Psychology (undergraduate), 1 Section Class size = 60, The University of Memphis
- 2011 Physiological Psychology (undergraduate), 2 Sections
Class size = 20, Online course offered by The University of Memphis
- 2011 General Psychology (undergraduate), 2 Sections Class size = 60, The University of Memphis
- 2010 General Psychology (undergraduate), 2 Sections Class size = 40, The University of Memphis

Teaching Assistant

- 2010 Research and Statistics II (undergraduate), 1 Semester Class Size = 30, The University of Memphis
Duties: Assisted in instructing weekly lab sessions, graded exams
- 2010 Advanced Statistics I (graduate), 1 Semester Class size = 30, The University of Memphis *Duties:*
Instructed review sessions, graded exams
- 2009 Introduction to Psychological Research (undergraduate), 1 Semester Class size = 30, The University of Memphis
Duties: Instructed weekly lab sessions on research design, graded student research manuscripts
- 2008-
2009 Research Design and Methodology (graduate), 2 Semesters Class Size = 30, The University of Memphis
Duties: Instructed weekly lab sessions on research design, graded student research manuscripts

Guest Lectures

- 4/2010 “Pathways involved in deep brain stimulation of the subthalamic nucleus for the treatment of Parkinson’s disease.”
Presentation given at the Student Research Forum, The University of Memphis
- 4/2008 “Graduate school application process”
Served on a panel discussing the application process to The University of Memphis Graduate School and current research conducted at the university, Christian Brothers University

RESEARCH EXPERIENCE

2015-

present Scientific Director of Conte Center Behavioral Core
Vanderbilt University

Duties: Supervise research assistant, assist researchers with project design, statistical analysis, and logistics of behavioral experiments

Supervisor: Randy Blakely, Ph.D.

2015-

present Postdoctoral Research Fellow

Pharmacology Department, Vanderbilt University

Research Topics Studied: Disruption of serotonin signaling in early development, impact of SERT and DAT mutations on gene networks and molecular/behavioral measures, mouse models of autism and ADHD *Skills and Duties:* Handling of mice, intracardiac perfusions, behavioral Testing, immunohistochemistry, transcriptome profiling, sectioning of brain tissue with microtome, breeding, polymerase chain reactions *Supervisor:* Randy Blakely, Ph.D.

2012-

2014 Postdoctoral Research Fellow

Psychiatry Department, Vanderbilt University

Research Topics Studied: Neural and genetic underpinnings of normal and pathological social behavior in mouse models of autism, the role of serotonin and the serotonin transporter in social and repetitive behaviors, genetic mouse models of autism and fragile X syndrome *Skills and Duties:* Handling of mice, intracardiac perfusions, behavioral testing including tube test and Crawley three-chamber sociability task, immunohistochemistry, cell counting, transcriptome profiling, sectioning of brain tissue with microtome, breeding, polymerase chain reactions

Supervisor: Jeremy Veenstra-VanderWeele, M.D.

2006-

2012 Research Assistant

Psychology Department, The University of Memphis

Research Topics Studied: The neurochemistry of cerebellar-cortical circuitry in relation to autism, nigrostriatal and mesocorticolimbic dopaminergic pathways in relation to Parkinson's disease, effects of exposure to drugs of abuse and polychlorinated biphenyls on the dopaminergic system

Skills and Duties: Handling of mice and rats, stereotaxic surgery, *in vivo* fixed potential amperometry, fast-scan cyclic voltammetry, chronic implantation and acute recording carbon fiber microelectrode construction, drug microinfusion and lesioning techniques, sectioning of tissue with cryostat, histological analyses of stereotaxic placements of electrodes and cannulae, cresyl violet tissue staining, operant chamber behavioral testing Supervisor: Charles D. Blaha, Ph.D.

2009 Research Collaborator with the Neurosurgical Unit at the Mayo Clinic

Rochester, MN

Research Topic Studied: Changes in deep brain stimulation protocol and stimulation parameters as used to treat Parkinson's disease

Duties: Examined effects of changes in intensity and pulse duration on dopamine efflux in mice lesioned with 6-OHDA using fixed potential amperometry

Supervisors: Kendall Lee, M.D., Ph.D. and Charles D. Blaha, Ph.D.

PEER-REVIEWED PUBLICATIONS

Fielding, J., **Rogers, T.D.**, Meyer, A., Miller, M.M., Nelms, J., Mittleman, G., Blaha, C.D., & Sable, H. (2013). Stimulation-evoked dopamine efflux in the nucleus accumbens following cocaine administration in rats perinatally exposed to polychlorinated biphenyls. *Toxicological Sciences*, *136*, 144-53.

Rogers, T.D., McKimm, E., Dickson, P.E., Goldowitz, D., Blaha, C.D., Mittleman, G. (2013). Is autism a disease of the cerebellum? An integration of clinical and pre-clinical research. *Frontiers in Systems Neuroscience*, *7*, 1-16.

Rogers, T.D., Dickson, P.E., McKimm, E., Heck, D.H., Goldowitz, D., Blaha, C.D. & Mittleman, G. (2013). Reorganization of circuits underlying cerebellar modulation of prefrontal cortical dopamine in mouse models of autism spectrum disorder. *Cerebellum*, *12*, 547-56.

Dickson, P.E., Miller, M.M., **Rogers, T.D.**, Blaha, C.D., & Mittleman, G. (2012). Effects of adolescent nicotine exposure and withdrawal on intravenous cocaine self-administration during adulthood in male C57BL/6J mice. *Addiction Biology*, *19*, 37-48.

Rogers, T.D., Dickson, P.E., Heck, D.H., Goldowitz, D., Mittleman, G., & Blaha, C.D. (2011). Connecting the dots of the cerebro-cerebellar role in cognitive function: Neuronal pathways for cerebellar modulation of dopamine release in the prefrontal cortex. *Synapse*, 65, 1204-1212.

Dickson, P.E., **Rogers, T.D.**, Lester, D.B., Miller, M.M., Matta, S.G., Chesler, E.J., Goldowitz, D., Blaha, C.D., & Mittleman, G. (2011). Genotype-dependent effects of adolescent nicotine exposure on dopamine functional dynamics in the nucleus accumbens shell in male and female mice: A potential mechanism underlying the gateway effect of nicotine. *Psychopharmacology*, 215, 631-642.

Dickson, P.E., **Rogers, T.D.**, Del Mar N., Martin, L.A., Heck, D., Blaha, C.D., Goldowitz, D., & Mittleman, G. (2010). Behavioral flexibility in a mouse model of developmental cerebellar Purkinje cell loss. *Neurobiology of Learning and Memory*, 94, 220-228.

Lester, D.B., **Rogers, T.D.**, & Blaha, C.D. (2010). Acetylcholine-dopamine interactions in the pathophysiology and treatment of CNS disorders. *CNS Neuroscience & Therapeutics*, 16, 137-162.

Lester, D.B., **Rogers, T.D.**, Garris P.A., Lee, K.H., Mohensi P., & Blaha C.D. (2009). Neuronal pathways involved in deep brain stimulation of the subthalamic nucleus for the treatment of Parkinson's disease. *Proceedings of the Annual International Conference of the IEEE Engineering in Medicine and Biology Society*, 1, 3302-3305.

Lester, D.B., Miller, A.D., **Pate, T.D.**, & Blaha, C.D. (2008). Midbrain acetylcholine and glutamate receptors modulate accumbal dopamine release. *NeuroReport*, 19, 991-995.

MANUSCRIPTS IN PROGRESS

Rogers, T.D., Forsberg, G., Zhau, J., Zhang, B., Veenstra-VanderWeele, J. (in preparation). Understanding the Amygdala's Role in Social Behavior in a Mouse Model of Autism.

CONFERENCE PUBLICATIONS

Rogers, T.D., Forsberg, C.G., Veenstra-VanderWeele, J. (2014). Differences in neuronal activation and gene expression in the fragile X mouse. *International Meeting for Autism Research Abstracts*, 18132.

Rogers, T.D., Forsberg, C.G., Veenstra-VanderWeele, J. (2014). Understanding the amygdala's role in social behavior. Poster session presented at the Vanderbilt University Medical Center Postdoctoral Research Symposium at Vanderbilt University.

Dickson, P.E., Corkill, B., **Rogers, T.D.**, McKimm, E.J., Miller M.M., Clardy, E.L., Goldowitz, D., Blaha, C.D., Mittleman, G. (2012). Effects of stimulus salience on serial reversal learning performance of a mouse model of fragile X syndrome. *Society for Neuroscience Abstracts*, 697.12.

Rogers, T.D., Heck, D.H., Goldowitz, D., Mittleman, G., Blaha, C.D. (2012). Cerebellar Purkinje cell loss results in a shift in modulatory control of cortical dopamine release in autism mouse model. Poster session presented at the Student Research Forum at the University of Memphis.

- Rogers, T.D.**, Spight, V., Heck, D.H., Goldowitz, D., Mittleman, G., Blaha, C.D. (2011). Cerebellar Purkinje cell loss results in a shift in modulatory control of cortical dopamine release by two distinct cerebellar-prefrontal cortex pathways: Relevance to the Autism disconnection hypothesis. *Society for Neuroscience Abstracts*, 56.08.
- Blaha, C.D., **Rogers, T.D.**, Spight, V., Heck, D., Goldowitz, D., Mittleman, G. (2011). Fragile X syndrome mutation (FMR1) results in a shift in modulatory control of cortical dopamine release by two distinct cerebellar-prefrontal cortex pathways: Relevance to the Autism disconnection hypothesis. *Society for Neuroscience Abstracts*, 56.03.
- McKimm, E., Corkill, B., **Rogers, T.D.**, Heck, D.H., Goldowitz, D., Mittleman, G., Blaha, C.D. (2011). Cerebellar Purkinje cell loss results in a shift in glutamatergic strength between two distinct cerebellar-prefrontal cortex pathways involved in modulating cortical dopamine release: Relevance to the Autism disconnection hypothesis. *Society for Neuroscience Abstracts*, 56.04.
- Sable, H.J., **Rogers, T.D.**, Fielding, J.R., Meyer, A.E., Miller, M.M., Nelms, J.L., Ward, M.A., Mittleman, G., Blaha, C.D. (2011). Cocaine-induced dopamine efflux in the nucleus accumbens in rats perinatally exposed to polychlorinated biphenyls. *Society for Neuroscience Abstracts*, 166.02.
- Dickson, P.E., Miller, M.M., **Rogers, T.D.**, Clardy, E.L., Blaha, C.D., Mittleman, G. (2011). Effects of adolescent nicotine exposure on adult intravenous cocaine self-administration in male C57BL/6J mice: Testing the nicotine gateway hypothesis. *Society for Neuroscience Abstracts*, 688.19.
- Rogers, T.D.**, Lester, D.B., Dickson, P.E., Miller, M.M., Heck, D.H., Goldowitz, D., Mittleman, G., Blaha, C.D. (2011). Neural pathways for cerebellar modulation of dopamine release in the prefrontal cortex. Poster session presented at the Student Research Forum at the University of Memphis.
- Rogers, T.D.**, Lester, D.B., Dickson, P.E., Miller, M.M., Heck, D.H., Goldowitz, D., Mittleman, G., Blaha, C.D. (2010). Connecting the dots of the autism disconnection hypothesis: Neural pathways for cerebellar modulation of dopamine release in the prefrontal cortex. *Society for Neuroscience Abstracts*, 562.21.

Rogers, T.D., Lester, D.B., & Blaha, C.D. (2010). Evaluation of parameter changes in deep brain stimulation in a levodopa-treated parkinsonian animal model. Poster session presented at the Student Research Forum at the University of Memphis.

Lester, D.B., **Rogers, T.D.,** Mohensi, P., Garris, P.A., Lee, K.H., & Blaha, C.D. (2009). Neuronal pathways and subthalamic nucleus receptor subtypes involved in striatal dopamine release evoked by stimulation of the pedunculopontine tegmental nucleus. *Society for Neuroscience Abstracts*, 45.12.

Rogers, T.D., Lester, D.B., Mohensi, P., Lee, K.H., Garris, P.A., & Blaha C.D. (2009). Evaluation of parameter changes in deep brain stimulation in a levodopa-treated parkinsonian animal model. *Society for Neuroscience Abstracts*, 45.1.

Dickson, P.E., **Rogers, T.D.,** Lester, D.B., Miller, M.M., Matta, S.G., Chesler, E.J., Goldowitz, D., Kobor, M.S., Blaha, C.D., & Mittleman, G. (2009). Adolescent nicotine exposure results in a persistent genotype-dependent increase in dopamine transporter uptake efficiency in the nucleus accumbens shell. *Society for Neuroscience Abstracts*, 345.16.

Lester, D.B., **Pate, T.D.,** & Blaha, C.D. (2009). Pathways involved in deep brain stimulation of the subthalamic nucleus for treatment of Parkinson's disease. Poster session presented at the Student Research Forum at the University of Memphis.

Lester, D.B., **Pate, T.D.,** Mohseni, P., Garris, P.A., Lee, K.H., & Blaha, C.D. (2008). Dopamine pathways involved in subthalamic nucleus deep brain stimulation for the treatment of Parkinson's disease. *Society for Neuroscience Abstracts*, 141.5.

Pate, T.D., Lester, D.B., Miller, A.D., Mittleman, G., & Blaha, C.D. (2008). Midbrain nicotinic and muscarinic acetylcholine and ionotropic glutamate receptors mediate dopamine release in the nucleus accumbens of mice. *Society for Neuroscience Abstracts*, 660.3.

Blaha, C.D., Lambert, R., Lester, D.B., **Pate, T.D.,** Mohseni, P., Garris, P.A., & Lee, K.H. (2008). Assessment of burst-like and continuous-intermittent stimulation of the nigrostriatal pathway to evoke sustained striatal extracellular concentrations of dopamine: Relevance to deep brain stimulation in Parkinson's disease. *Society for Neuroscience Abstracts*, 640.1.

AWARDS

2012 Ralph Faudree Award

Award for academic and research excellence in the Experimental Psychology Program at the University of Memphis

2012 First Place at the Student Research Forum at the University of Memphis

Monetary award for first place in the poster presentation of research in the division of Social and Behavioral Sciences.

2011 Annual Research Travel Award

Monetary award for travel from the College of Arts and Sciences at the University of Memphis to present research findings

2010 Annual Travel Award

Monetary award for travel from the Graduate Student Association of the University of Memphis to present research findings

- 2010 Second Place at the Student Research Forum at the University of Memphis**
Monetary award for second place in the poster presentation of research in the division of Physical and Applied Sciences.
- 2009 First Place at the Student Research Forum at the University of Memphis**
Monetary award for first place in the poster presentation of research in the division of Physical and Applied Sciences.
- 2007-**
- 2011 Annual Research Travel Award**
Monetary award for travel from the Psychology Department at the University of Memphis to present research findings

COMMITTEE MEMBERSHIP

- 2014 Thesis Committee, Mark Stabin**
Title: Social Identity Fusion and Outgroup Bias Lipscomb University

MENTORING EXPERIENCE

- 2013-**
- 2014 Trainer of Visiting Fellow in Veenstra-VanderWeele Laboratory**
Duties: Trained and supervised a visiting fellow in immunostaining, cell counting, and data analysis.
- 2012-**
- 2014 Assistant Trainer of Research Assistant in Veenstra-VanderWeele Laboratory**
Duties: Assisted in training research assistant in immunostaining, brain dissection, use of microtome, cell counting, and data analysis.
- 2008-**
- 2011 Trainer and Supervisor of Students in Blaha Laboratory**
Duties: Trained and supervised eight undergraduate students in stereotaxic surgery and fixed potential amperometry, assisted students with statistical analyses and the writing and defense of their honors theses

2008-

2010 Participated in Psychology INSPIRE program

Duties: Participated in departmental program designed to help underrepresented minorities pursue graduate degrees in psychology by mentoring three interns, training them in lab techniques, and assisting them in writing a research paper

REFERENCES

Jeremy Veenstra-VanderWeele, M.D.
Associate Professor of Psychiatry
Columbia University / New York State Psychiatric Institute
1051Riverside Drive
Mail Unit 78
Mail Code: Rm 5911C
New York, NY 10032
Office (646) 774-5251, Cell (773) 896-8640
veenstr@nyspi.columbia.edu

Charles D. Blaha, Ph.D.
Professor
Director of the Experimental Program
The University of Memphis Department
of Psychology
400 Innovation Drive
Memphis, TN 38111
(901) 678-1560
cblaha@memphis.edu

Shanna Ray, Ph.D. Professor,
Department Chair
Program Director of Graduate Studies in Psychology
Lipscomb University
Department of Psychology and Counseling
One University Park Drive
Ward 151
Nashville, TN 37204
(615) 966-5833
shanna.ray@lipscomb.edu