

# MICHAEL T. TREADWAY, PHD

## CURRICULUM VITAE

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### CURRENT POSITION AND CONTACT INFORMATION:

Assistant Professor  
Department of Psychology (Primary)  
Assistant Professor  
Department of Psychiatry (Secondary)  
Emory University  
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### EDUCATION & TRAINING

2012 – 2015	Harvard Medical School/McLean Hospital, Belmont, MA <i>Instructor in Psychiatry</i>
2011 – 2012	Harvard Medical School/McLean Hospital, Belmont, MA <i>Clinical Fellow/Psychology Intern</i>
2006 – 2012	School of Arts and Sciences, Vanderbilt University, Nashville, TN <i>PhD in Clinical Science</i>
1996 – 2001	Columbia College, Columbia University, New York, NY <i>BA Major: Musicology. Cum Laude</i>

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### AWARDS AND HONORS (SELECTED)

2013	NARSAD Young Investigator Award (\$60,000)
2012	Adam Corneel Young Investigator Award (\$20,000)
2012	Vanderbilt Graduate Student Research Award (\$500)
2010	APA Dissertation Award (\$1,000)
2010	Vanderbilt Dissertation Enhancement Award (\$2,000)
2010	Motivational Neural Networks Travel Award (\$500)
2009	APF/COGDOP Graduate Research Fellowship (\$1,000)
2009	Trainee Abstract Award, <i>Organization for Human Brain Mapping</i> (\$750)
2008-2010	Vanderbilt University Travel Award (\$500, \$500, \$1,000)

2007, 2008 Wisconsin Symposium on Emotion, Graduate Fellow (\$500)  
2006 University Fellowship, *Vanderbilt University*  
2001 Graduated *cum laude*, *Columbia University*

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## CURRENT EXTRAMURAL FUNDING

R01MH102355 (PI: Treadway) 2016-2021  
NIH/NIMH

**Title:** Dynamics of inflammation and its blockade on motivational circuitry in depression

**Summary:** In this project we propose to examine behavior, neuroimaging, and plasma markers of motivation and inflammation in a sample of depressed patients before and after a double-blind, placebo-controlled administration of infliximab, a potent TNF-alpha antagonist.

**Role:** Principal Investigator

R00MH102355 (PI: Treadway) 2015-2018  
NIH/NIMH

**Title:** Stress and MDD effects on mPFC Glutamate and GABA during reward processing

**Summary:** In this project we propose to use pre- and post-stress measures of MR-Spectroscopy of medial prefrontal glutamate and GABA in combination with fMRI during a reward-learning paradigm to investigate the relationships between amino-acid neurotransmission, reward learning behavior and functional neuroimaging measures in healthy controls and MDD patients.

**Role:** Principal Investigator

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## COMPLETED EXTRAMURAL FUNDING

F31MH087015 (PI: Treadway) 2009-2012  
NIH/NIMH

**Title:** Neural Mechanisms of Effort-Based Decisions in Humans

**Summary:** This study examines individual differences in human effort-based decision-making using a novel behavioral measure of reward motivation in conjunction with dopamine receptor PET imaging both on and off an amphetamine challenge.

**Role:** PI

R21MH092751 (PI: Zald) 2011-2012  
NIH/NIMH

**Title:** Anhedonia and the Neural Basis of Effort-Based Decision-Making in Depression

**Summary:** This study examines the neural substrates of motivation in healthy controls and individuals with Major Depressive Disorder using a novel behavioral measure of motivation in concert with functional neuroimaging (fMRI).

**Role:** Key Study Personnel

R01MH068376-09 Supplement (PI: Pizzagalli) 2012 -  
2013

NIH/NIMH

**Title:** Neuroimaging Studies of Reward Processing in Depression

**Summary:** The goals of this supplement to 7R01MH068376 are to investigate (1) the role of inflammation response to stress as a risk-related biomarker for the development of stress-induced anhedonia, and (2) the predictive value of stress-induced anhedonia and underlying neurobiological underpinnings for future depressive symptoms, leading to the identification of putative markers of disease risk.

K99MH102355 (PI: Treadway)

2013-2014

NIH/NIMH

**Title:** Stress and MDD effects on mPFC Glutamate and GABA during reward processing

**Summary:** In this project we propose to use pre- and post-stress measures of MR-Spectroscopy of medial prefrontal glutamate and GABA in combination with fMRI during a reward-learning paradigm.

**Role:** Principal Investigator

R01MH101521 (PI: Pizzagalli)

2013-2017

NIH/NIMH

**Title:** Multi-Level Analysis of Positive Valence Systems Across Mood Disorders

**Summary:** This proposal aims to address seeks to identify neurobiological markers to aid in the differentiation of unipolar and bipolar depressive symptoms across multiple units of analysis (e.g., molecules, brain circuitry, behavior)

**Role:** Co-Investigator

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## PEER-REVIEWED PUBLICATIONS

Total Google Scholar Citations: 3254

Google Scholar h-index: 18

Google Scholar i10-index: 24

\*Equal contribution

†Invited contribution

\*\*Mentee

1. Beard, C., Millner, A., K., Hsu, Forgeard, M., **Treadway, M.T.**, Leonard, C.V., Kertz, S., Bjorvgvinsson, T. (in press). Network analysis of depression and anxiety symptoms in a heterogeneous psychiatric sample. *Psychological Medicine*
2. Felger, J., **Treadway, M.T.** (in press). Inflammation effects on motivation and psychomotor slowing: the role of dopamine. *Neuropsychopharmacology*.
3. **Treadway, M.T.**, Leonard, C.V\*\*. (2016). Isolating biomarkers for affective states: implications of affective chronometry. *Molecular Psychiatry epub May 31*

4. Goldsmith, D.G.\*\*\*, Haroon, E., Woolwine, B.J., Jung, M.Y., Wommack, E.C., Harvey, P.D., **Treadway, M.T.**, Felger, J.C., Miller, A.H. (in press). Inflammatory markers are associated with decreased psychomotor speed in patients with major depressive disorder. *Brain Behav Immun*.
5. †Lilienfeld, S.O., **Treadway, M.T.** (2016). Clashing diagnostic approaches: DSM-ICD versus RDoC. *Ann Rev Clin Psychol* 12, 435-463.
6. McCarthy, J.M., **Treadway, M.T.**, Blanchard, J.J. (2016). Inefficient Effort Allocation and Negative Symptoms in Schizophrenia. *Schizophrenia Research* 170, 278-284.
7. Buckholtz, J.W., Martin, J.W., **Treadway, M.T.**, Jan, K., Zald, D.H., Jones, O.D., Marois, R. (2015). From blame to punishment: disrupting prefrontal cortex reveals third-party norm enforcement mechanisms. *Neuron* 87, 1369-1380.
8. Reddy, L.F., Horan, W.P., Barch, D., Buchanan, R., Dunayevich, E., Gold, J., Lyons, N., **Treadway, M.T.**, Wynn, J.K. Young, J., Green, M.F. (2015). Effort-based decision making paradigms for clinical trials in schizophrenia: part 1 – psychometric characteristics of five paradigms. *Schizophrenia Bulletin*. svb089.
9. McCarthy, J.M., **Treadway, M.T.**, Blanchard, J.J. (2015). Motivation and Effort in Individuals with Social Anhedonia. *Schizophrenia Research* 165, 70-75.
10. Geany, J.T., **Treadway, M.T.**, Smillie, L.D. (2015). Trait anticipatory pleasure predicts effort expenditure for rewards. *PLoSOne*. e0131357.
11. Gilman, J.M., **Treadway, M.T.**, Curran, M.T., Calderon, V. Evins, A.E. (2015). Effect of Social Influence on Effort-Allocation for Monetary Rewards. *PLoSOne*. e0126656.
12. Anand, D., Oehlberg, K.A., **Treadway, M.T.**, Nusslock, R. (2015) Effect of failure/success feedback and the moderating influence of personality on reward motivation. *Cognition and Emotion*. Epub, 1-14.
13. Kumar P., Slavich G.M., Berghorst L.H., **Treadway M.T.**, Brooks, N.H., Dutra S.J., Greve, D.N., O'Donovan, A., Bleil, M.E., Maninger, N., Pizzagalli, D.A. (2015). Perceived life stress exposure modulates reward-related medial prefrontal cortex responses to acute stress in depression. *J Affect Disord* 180, 104-111.
14. **Treadway, M.T.**, Waskom, M.L., Dillon, D.G., Holmes, A.J., Park, M.T.M., Chakravarty, M.M., Dutra, S.J., Polli, F.E., Iosifescu, D.V., Fava, M., Gabrieli, J.D.E., Pizzagalli, D.A. (2015). Illness progression, recent stress and morphometry of hippocampal subfields and medial prefrontal cortex in major depression. *Biological Psychiatry*.
15. †Whitton, A.E., **Treadway, M.T.**, Pizzagalli, D.A. (2015). Reward processing dysfunction in major depression, bipolar disorder and schizophrenia. *Current Opinion in Psychiatry* 28(1), 7-12.

16. **Treadway, M.T.**, Peterman, J.S., Zald, D.H., Park, S. (2015). Impaired effort allocation in patients with schizophrenia. *Schizophrenia Research* 161, 382-385.
17. **Treadway, M.T.**,\* Buckholtz, J.W.,\* Martin, J. M., Jan, K., Asplund, C.L., Ginther, M.R., Jones, O.D., Marois, R.M. (2014). Corticolimbic Gating of Emotion Driven Punishment. *Nature Neuroscience* 17(9), 1270-1275.
18. Barch, D.M., **Treadway, M.T.**, Schoen, N. (2014). Effort, anhedonia and function in schizophrenia: reduced effort allocation predicts amotivation and functional impairment. *Journal of Abnormal Psychology* 123(2), 387-397.
19. †**Treadway, M. T.**, & Pizzagalli, D.A. (2014). Imaging the pathophysiology of major depressive disorder: from localist models to circuit-based analysis. Invited Contribution to *Biology of Mood and Anxiety Disorders* 4, 5.
20. †**Treadway, M. T.**, & Zald, D. H. (2013). Parsing Anhedonia: translational models of reward-processing deficits in psychopathology. *Current Directions in Psychological Science* 22(3), 244-249.
21. †**Treadway, M.T.**, Buckholtz, J.W, Zald, D.H. (2013). Perceived stress predicts altered reward feedback processing in medial prefrontal cortex. *Frontiers in Human Neuroscience*, 7.
22. Samanez-Larkin, G.R., Buckholtz, J.W., Cowan, R.C., Woodward, N.D., Li, R., Ansari, S., Arrington, C.M., Baldwin, R.M., Smith, C.E., **Treadway, M. T.**, Kessler, R.M., Zald, D.H. (2012). A thalamocorticostriatal dopamine circuit for psychostimulant-enhanced human cognitive flexibility. *Biological Psychiatry*.
23. **Treadway, M.T.**, Bossaller, N.A., Shelton, R.C., Zald, D.H. (2012). Effort-based decision-making in major depressive disorder: a translational model of motivational anhedonia. *Journal of Abnormal Psychology* 121, 553-558.
24. Wardle, M.C., **Treadway, M.T.**, de Wit, H. (2012) Caffeine increases psychomotor performance on the Effort Expenditure for Rewards Task. *Pharmacology, Biochemistry and Behavior* 102, 526-531.
25. Damiano, C., Aloji, J., **Treadway, M. T.**, Bodfish, J.W., Dichter, G.S. (2012). Adults with autism spectrum disorders exhibit decreased sensitivity to reward parameters when making effort-based decisions. *Journal of Neurodevelopmental Disorders* 4, 13.
26. **Treadway, M.T.**,\* Buckholtz, J.W.,\* Cowan, R.C., Woodward, N.D., Li, R., Ansari, S., Baldwin, R.M., Schwartzman, A.N., Shelby, E.S., Smith, C.E., Kessler, R. M., Zald, D.H. (2012). Dopaminergic mechanisms of individual differences in human effort-based decision-making. *Journal of Neuroscience* 32, 6170-6176.

27. Wardle, M.C., **Treadway, M.T.**, Mayo, L.M., Zald, D.H., de Wit, H. (2011). Amping up effort: effects of d-amphetamine on human effort-based decision-making. *Journal of Neuroscience* 31, 16597-16602.
28. McGinty, V.B., Hayden, B.Y., Heilbronner, S.R., Dumont, E.C., Graves, S.M., Mirrione, M.M., du Hoffman, J., Sartor, G.C., España, R.A., Millan, E.Z., Difeliceantonio, A.G., Marchant, N.J., Napier, T.C., Root, D.H., Borgland, S.L., **Treadway, M.T.**, Floresco, S.B., McGinty, J.F., Haber S. (2011). Emerging, reemerging, and forgotten brain areas of the reward circuit: Notes from the 2010 Motivational and Neural Networks conference. *Behavioral Brain Research* 225, 348-357.
29. **Treadway, M. T.**, & Buckholtz, J.W. (2011). On the use and misuse of genomic and neuroimaging science in forensic psychiatry: current roles and future directions. *Child and Adolescent Psychiatric Clinics of North America* 20, 533-546.
30. **Treadway, M. T.**, & Zald, D. H. (2011). Reconsidering anhedonia in depression: lessons from translational neuroscience. *Neuroscience & Biobehavioral Reviews* 35, 537-555.
31. Buckholtz, J.W.,\* **Treadway, M.T.**,\* Cowan, R.C., Woodward, N.D., Li, R., Ansari, S., Baldwin, R.M., Schwartzman, A.N., Shelby, E.S., Smith, C.E., Kessler, R. M., Zald, D.H. (2010). Dopaminergic network mechanisms for differences in human impulsivity. *Science* 329, 532.
32. Buckholtz, J.W., **Treadway, M.T.**, Cowan, R.L., Woodward, N.D., Benning, S.D., Li, R., Ansari, M.S., Baldwin, R.M., Schwartzman, A.N., Shelby, E.S., Smith, C.E., Cole, D., Kessler, R.M., Zald, D.H. (2010). Mesolimbic dopamine reward system hypersensitivity in individuals with psychopathic traits. *Nature Neuroscience* 13, 419-421.
33. **Treadway, M. T.**, Buckholtz, J.W., Lambert, W.E., Schwartzman, A.N., Zald, D.H. (2009). Worth the 'EEfRT?' The effort expenditure for rewards task as an objective measure of motivation and anhedonia. *PLoS One* 4, e6598.
34. **Treadway, M. T.**, Grant, M.M., Ding, Z., Hollon, S.D., Gore, J.C., Shelton, R.C. (2009). Early adverse events, HPA activity and anterior cingulate volume in MDD. *PLoS One* 4, e4887.
35. Lazar, S.W., Kerr, C., Wasserman, R.J., Gray, J.R., Greve, D., **Treadway, M.T.**, McGarvey, M. Quinn, B.T., Dusek, J.A., Benson, H.G., Rausch, S.L., Moore, C.I., Fischel, B. (2005). Meditation experience is associated with increased cortical thickness. *Neuroreport* 16, 1893-1897.

36. **Treadway, M.T.**, Cole, D.\*\* , Martin, J.W., Tennyson, R.L., Shelton, R.C., Zald, D.H. (under review). Blunted striatal effort anticipation signals during effort based decision-making in depression.
37. Kaiser, R.H.,\* **Treadway, M.T.**,\* Wooten, D.W., Kumar, P., Goer, F., Murray, L.M., Beltzer, M., Pechtel, P., Whitton, A., Cohen, A.L., Alpert, N.M., El Fakhri, G., Normandin, M.D., Pizzagalli, D.A. (under review). Dopamine transporter mechanisms of individual differences in corticostriatal learning networks.
38. **Treadway, M.T.**, Admon, R., Arulpragasam, A.A.\*\* , Mehta, M.M., Douglas, S., Vitaliano, G., Olson, D.O., Cooper, J.A.\*\* Pizzagalli, D.A. (under review). Stress-induced inflammation modulates prediction error signaling during reinforcement.
39. Fang, A., **Treadway, M.T.**, Hofmann, S.G., (under review). Working hard for oneself or others: effects of oxytocin on reward motivation in social anxiety disorder.
40. Mosner, M.G., Kinard, J.L., McWeeny, S., Shah, J.S., Damiano, C.A., Burchinal, M.R., Rutherford, H.J.V.m Greene, R. **Treadway, M.T.**, Dichter, G.S. (under review). Vicarious Effort-based decision-making in autism spectrum disorder.
41. Wadsworth, L.P., Forgeard, M., Hsu, K.J., Kertz, S., **Treadway, M.T.**, Bjorgvinsson, T. (under review). Decreases in repetitive negative thinking mediate the association between gains in self-compassion and improvement in depression and anxiety symptoms during brief treatment in a transdiagnostic clinical sample.
42. Zald, D.H. & **Treadway, M.T.** (under review). Reward processing, neuroeconomics and psychopathology.
43. Johnson, S.L. Swerdlow, B.A., **Treadway M.T.**, Tharp, J.A., Carver, C.S. (under review). Willingness to expend effort toward reward and extreme ambitions in bipolar disorder.
44. Mata, F., **Treadway, M.T.**, Kwok, A., Truby H., Yucel M., Stout, J.C., Verdejo-Garcia, A. (under review). Less willingness to expend effort for reward differentiates obesity and overweight and predicts attrition in a weight loss intervention
45. **Treadway, M.T.**, Cooper, J.A.\*\* , Barrick, E.M., Cole, D.C.,\*\* Leonard, C.V.,\*\* Ongur, D., Jensen, J.E., Pizzagalli, D.A. (under review). Chronic stress modulates effects of acute stress on medial prefrontal neurochemistry and function during avoidance learning.

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## BOOK CHAPTERS

1. **Treadway, M.T.** (2015). The neurobiology of motivational deficits in depression: an update on candidate mechanisms. In Balsam & Simpson (Eds).

2. **Treadway, M.T.** (2015). Liking little, wanting less: On (lacking) desire in psychopathology. In Hofmann and Nordgren (Eds). *The Psychology of Desire*. The Guilford Press: New York, NY.
3. **Treadway, M.T.** Teer, A.P\*\* & Zald, D.H. (in press). Parsing Anhedonia. Neurobiological substrates of reward processing in depression. In Mishara, Corlett, Fletcher, and Schwartz (Eds.) *Phenomenological Neuropsychiatry: Bridging the Clinic and Clinical Neuroscience*. Springer Press: New York, NY
4. **Treadway, M.T.** (2014). Personality disorders and the brain: emerging insights from clinical neuroscience. In Beck, Davis and Freeman (Eds). *Cognitive Therapy for Personality Disorders*, 3<sup>rd</sup> edition. The Guilford Press: New York, NY.
5. **Treadway, M. T.** & Zald, D. H. (2014). Translational neuroscience perspectives on anhedonia in depression. In Ritsner (Ed.) *Anhedonia: A New Insight*. Springer Press, New York, NY.
6. Pizzagalli, D. A. & **Treadway, M. T.** (2014). The neuroscience of depression: a neuroimaging perspective. In Gotlib and Hammen (Eds). *Handbook of Depression*, 3<sup>rd</sup> edition. The Guilford Press: New York, NY.
7. **Treadway, M.T.** & Lazar, S.W. (2010). Mindfulness and Neuroplasticity. In Baer R. (Ed). *Assessing Mindfulness and Acceptance: Illuminating the Processes of Change*. New Harbinger: Oakland, CA.
8. **Treadway, M.T.** & Lazar, S.W. (2008). The Neurobiology of mindfulness. In Didonna, F. (Ed). *Clinical Handbook of Mindfulness*. Springer Press: New York, NY

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## OTHER PUBLICATIONS AND POPULAR MEDIA

Treadway, D.C., **Treadway, M.T.** (2013) Study Guide for Quiet, by Susan Cain. Guilford Press, New York, NY 2013

Treadway, D.C., Treadway, K.K, **Treadway, M.T.**, Treadway, S.C. (2010). Home before dark: A family portrait of cancer and healing. Union Square Press, New York, NY.

**Treadway, M.T.** (2008). The ride home. *Psychotherapy Networker*, 32(2), 88.

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## INVITED TALKS

- 2017 Grand Rounds, Emory Department of Psychiatry, Atlanta, GA
- 2017 UCLA Colloquium Series, Los Angeles, CA
- 2016 *Society for Neuroscience*, San Diego, CA



- 2016 *Association of Behavioral and Cognitive Therapy*, New York, NY
- 2016 Winship Cancer Center Annual Retreat, Atlanta, GA
- 2016 *Society for Biological Psychiatry*, Atlanta, GA
- 2016 Cognitive Neuroscience Center Seminar, University of Illinois – Chicago, Chicago, IL
- 2016 Clinical Brownbag, Northwestern University, Evanston, IL
- 2016 *Society for Affective Science*, Chicago, IL
- 2016 *International Neuropsychological Society*, Boston, MA
- 2016 Emory University, Department of Psychology, Cognition and Development Colloquium
- 2016 Neurotoxicities and Cancer Treatment, Houston TX
- 2015 Emory University Alumni Board Meeting, Atlanta, GA
- 2015 *American College of Neuropsychopharmacology*, Hollywood, FL
- 2015 *Association of Behavioral and Cognitive Therapy*, Chicago, IL
- 2015 Rising Stars of Clinical Science, *Association for Psychological Science*, New York, NY
- 2014 Emory University, Department of Psychology
- 2014 Determination and Mechanisms of Effort Investment, *Association for Psychological Science*, San Francisco, CA
- 2013 The Role of Effort in Depression and Schizophrenia, *Society for Psychopathology Research*, Oakland, CA
- 2013 Massachusetts General Hospital, Center for Addiction Medicine, Grand Rounds
- 2013 Emotion and Motivation, *Organization for Human Brain Mapping*
- 2013 Dopamine and Effort, *Congresso Dopamine*, Sardinia, Italy
- 2013 Emory University, Department of Psychology
- 2013 University of Miami, Department of Psychology
- 2013 Temple University, Department of Psychology
- 2013 University of Colorado Boulder, Department of Psychology
- 2012 University of Maryland, Department of Psychology
- 2012 Yale University, Department of Psychology
- 2012 Boston University, Department of Psychology
- 2012 Columbia University, Department of Psychology, Cognitive Neuroscience Series
- 2012 Harvard University, Department of Psychology, Clinical Colloquium
- 2012 Harvard Medical School, Department of Psychiatry, CDASR speaker series
- 2012 University of Wisconsin-Madison, Department of Psychology
- 2011 Harvard University, Department of Psychology, Decision-Making Series
- 2011 University of Connecticut, Department of Psychology, Behavioral Neuroscience Seminar
- 2011 Vanderbilt University, Department of Psychology, Clinical Science Seminar

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## CHAired SYMPOSIA AND WORKSHOPS

- 2016 NIMH Council Workgroup: RDoC Tasks and Measures for Positive Valence Domain  
NIMH, Rockport, MD
- 2015 Network Analysis Approach to Psychopathology and Co-morbidity (Chair), *Association for Behavioral and Cognitive Therapy*, Chicago, IL
- 2015 Value-based Decision-making in psychopathology (Co-Chair) *Society for Psychopathology Research*, New Orleans, LA

2015 Translational Studies of Motivational Deficits (Co-Chair) *Society for Biological Psychiatry*, Toronto, CA

2011 Positive Valence Systems (PVS) Working Group, *NIMH RDoC*, Rockport, MD

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CONFERENCE PRESENTATIONS AND PUBLISHED ABSTRACTS  
(SELECTED)

1. Arulpragasam, A.R.\*\*\*, **Treadway, M.T.**, Admon, R., Mehta, M., Douglas, S., Vitaliano, G.D., Olson, D.P., Pizzagalli, D.A. (2016) The effects of acute stress on prediction error signaling in the nucleus accumbens during reinforcement learning. Poster presentation at the *Society for Biological Psychiatry*, Atlanta, GA.
2. Teer, A.T.\*\*\*, Cole, D., Ritschel, L., Ramirez, C., **Treadway, M.T.**, Craighead, W.E. (2016). Cingulate and insular responses to reward feedback in depressed adolescents. Poster presentation at the *Society for Biological Psychiatry*, Atlanta, GA.
3. Mosner, M. G., Kinard, J., McWeeny, S., Damiano, C.R., Burchinal, M.R., Rutherford, H.J.V., **Treadway, M.T.**, & Dichter, G.S. (2016). Effort-Based Decision-Making in Adolescents with Autism Spectrum Disorders. International Meeting for Autism Research, Baltimore, Maryland.
4. **Treadway, M.T.\***, Admon, R.\*, Douglas, S., Vitaliano, G., Olson, D.P. Pizzagalli, D.A., (2014). Neural mechanisms for stress-mediated shift in reward-punishment learning. Poster presentation at the annual meeting of *Cognitive Neuroscience Society*, Boston, MA.
5. Barch, D.M., **Treadway, M.T.**, Schoen, N., Dowd, E. (2014). Effort, motivation and reward learning in schizophrenia: relationships to amotivation and functional impairment. Poster presentation at the biennial meeting of the *Schizophrenia International Research Society*, Florence, Italy.
6. **Treadway, M.T.**, Waskom, B.A., Dillon, D.G. Holmes, A.J., Dutra, S.J., Polli, F.E., Iosifescu, D.V., Fava, M.D., Gabrieli, J.D.E., Pizzagalli, D.A. (2013). Illness progression, recent stress and morphometry of medial prefrontal cortex and hippocampus in major depression. Poster presentation at the annual meeting of *Society for Psychopathology Research*, Oakland, CA.
7. **Treadway, M.T.**, Buckholtz, J.W., Martin, J.W., Jan, K., Asplund, C.L. Jones, O.D., Marois, R. (2013). Intent perceptions gate the effect of emotion punishment decisions through corticolimbic circuits. *Society for Cognitive Neuroscience*, San Francisco, CA.
8. Arteaga, D.F., Samanez-Larkin, G.R., Buckholtz, J.W., **Treadway, M.T.**, Zald, D.H. (2013). Decoding the anticipation of monetary rewards: a multivariate pattern analysis. *Society for Cognitive Neuroscience*, San Francisco, CA.

9. **Treadway, M.T.**, Memmer, M., Martin, J. M., Shelton, R.C., Zald, D.H. (2012). Neural correlates of effort-based decision-making in major depression. Oral presentation at the annual meeting for the *Society for Neuroscience*, New Orleans, LA. .
10. Damiano, C., Aloji, J., **Treadway, M. T.**, Bodfish, J.W., Dichter, G.S. (2012). More Effort than it's worth? Effort-based decision making in autism spectrum disorders. Poster presentation at the *International Meeting for Autism Research*, Toronto, Canada.
11. **Treadway, M.T.**, Buckholtz, J.W., Cowan, R.L. Baldwin, R.M. Ansari, M.S., Shelby, E.S., Schwartzman, A.N., Kessler, R., Zald, D.H. (2010). Basal cortisol level predicts DA release in extended amygdala. Poster presentation at the annual meeting for the *Society for Neuroscience*, San Diego, CA.
12. Buckholtz, J.W., **Treadway, M.T.**, Cowan, R.L. Baldwin, R.M. Ansari, M.S., Shelby, E.S., Schwartzman, A.N., Kessler, R., Zald, D.H. (2010). Mesocingulate D2/D3 binding predicts impulsivity in humans. Poster presentation at the annual meeting for the *Society for Neuroscience*, San Diego, CA.
13. **Treadway, M.T.**, Buckholtz, J.W., Cowan, R.L. Baldwin, R.M. Ansari, M.S., Shelby, E.S., Schwartzman, A.N., Bossaller, N.A., Shelton, R.C., Kessler, R., Zald, D.H. (2010). Effort-based decision-making as a behavioral assay of mesolimbic dopamine function and motivational deficits in MDD. Oral presentation at the annual meeting for the *Society for Biological Psychiatry*, New Orleans, LA.
14. **Treadway, M.T.**, Buckholtz, J.W., Cowan, R.L. Baldwin, R.M. Ansari, M.S., Shelby, E.S., Schwartzman, A.N., Kessler, R., Zald, D.H. (2010). Dopaminergic mechanisms of human effort-based decision-making. Poster presentation at the annual meeting for the *Organization of Human Brain Mapping*, Barcelona, Spain.
15. Buckholtz, J.W., **Treadway, M.T.**, Cowan, R.L. Baldwin, R.M. Ansari, M.S., Shelby, E.S., Schwartzman, A.N., Kessler, R., Zald, D.H. (2010). Exaggerated amphetamine-induced dopamine release in striatal and extrastriatal regions predicts attentional dyscontrol in healthy individuals. Poster presentation at the annual meeting for the *Society for Biological Psychiatry*, New Orleans, LA.
16. **Treadway, M.T.**, Buckholtz, J.W., Cowan, R.L. Baldwin, R.M. Ansari, M.S., Shelby, E.S., Schwartzman, A.N., Kessler, R., Zald, D.H. (2010). Dopaminergic mechanisms of human effort-based decision-making. Poster presentation at the annual meeting for the *Organization of Human Brain Mapping*, Barcelona, Spain.
17. **Treadway, M.T.**, Buckholtz, J.W., Cowan, R.L. Baldwin, R.M. Ansari, M.S., Shelby, E.S., Schwartzman, A.N., Kessler, R., Zald, D.H. (2010). Dopaminergic mechanisms of human effort-based decision-making. Poster presentation at the annual meeting for the *Vanderbilt Kennedy Center Research Day*, Nashville, TN.

18. Buckholtz, J.W., **Treadway, M.T.**, Cowan, R.L. Baldwin, R.M. Ansari, M.S., Shelby, E.S., Schwartzman, A.N., Kessler, R., Zald, D.H. (2010). Exaggerated amphetamine-induced dopamine release in striatal and extrastriatal regions predicts attentional dyscontrol in healthy individuals. Poster presentation at the annual meeting for the *Vanderbilt Kennedy Center Research Day*, Nashville, TN.
19. **Treadway, M.T.**, Buckholtz, J.W., Cowan, R.L. Baldwin, R.M. Ansari, M.S., Shelby, E.S., Schwartzman, A.N., Kessler, R., Zald, D.H. (2009). Basal cortisol level predicts DA release in extended amygdala. Poster presentation at the annual meeting for the *Society for Neuroscience*, Chicago, IL.
20. Buckholtz, J.W., **Treadway, M.T.**, Cowan, R.L. Baldwin, R.M. Ansari, M.S., Shelby, E.S., Schwartzman, A.N., Kessler, R., Zald, D.H. (2009). Mesocingulate D2/D3 binding predicts impulsivity in humans. Poster presentation at the annual meeting for the *Society for Neuroscience*, Chicago, IL.
21. **Treadway, M.T.**, Buckholtz, J.W., Cowan, R.L. Baldwin, R.M. Ansari, M.S., Shelby, E.S., Schwartzman, A.N., Kessler, R., Zald, D.H. (2009). Subgenual cingulate dopamine release predicts reduced positive affect following amphetamine. Oral presentation at the annual meeting for the *Organization for Human Brain Mapping*, San Francisco, CA.
22. Buckholtz, J.W., **Treadway, M.T.**, Cowan, R.L. Baldwin, R.M. Ansari, M.S., Shelby, E.S., Schwartzman, A.N., Kessler, R., Zald, D.H. (2009). Mesocingulate D2/D3 binding predicts impulsivity in humans. Poster presentation at the annual meeting for the *Organization for Human Brain Mapping*, San Francisco, CA.
23. Grant, M.M. **Treadway, M.T.**, Hollon, S.H., Gore, J.C., Shelton, R.C. (2009). Association between deficits in emotion Regulation and cingulate function in MDD and controls. Poster presentation at the annual meeting for the *Society for Biological Psychiatry*, Vancouver, Canada.
24. Grant, M.M., **Treadway, M.T.**, Schrader, W., Hilton, R., Hollon, S.D., Gore, J.C., Shelton, R.C. (2009). Subjective experience of regulation of emotion and amygdala activity in MDD. Poster presentation at the annual meeting for the *Society for Biological Psychiatry*, Vancouver, Canada.
25. **Treadway, M.T.**, Rogers, B. P., Evans K.C., Scannell, E. C., Dusek, J. A., Benson, H. Lazar, S.W. (2008) Meditation experience is associated with increased connectivity in emotion regulation circuitry. Oral presentation at the annual meeting for the *Society for Neuroscience*, Washington, D.C.
26. Buckholtz, J.W., **Treadway, M.T.**, McHugo, M., Benning, S. D., Cole, D., Zald, D.H. (2008). Trait psychopathy is associated with functional and structural alterations in neural circuitry for reward and motivation. Poster presentation to the annual meeting for the *Society for Neuroscience*, Washington, D.C.

27. **Treadway, M.T.**, Grant, M.M., Stringer, E.A., Hollon, S.D., Gore, J.C., Shelton, R.C. (2008). Structure-function relationships in the ACC in MDD. Poster presentation at the annual meeting for the *Society of Biological Psychiatry*, Washington, D.C.
28. **Treadway, M.T.**, Grant, M.M., Stringer, E.A., Hollon, S.D., Gore, J.C., Shelton, R.C. (2007). Rostral anterior cingulate activity and elevated cortisol in MDD. Poster presentation at the annual meeting of the *Organization for Human Brain Mapping*, Chicago, IL.
29. Grant, M.M., Stringer, E.A., **Treadway, M.T.**, Hollon, S.D., Gore, J.C., Shelton, R.C. (2007). Deficits in adaptation to context: a neural marker for MDD. Poster presented at the annual meeting of the *Society of Biological Psychiatry*, San Diego, CA.
30. Grant, M.M., Stringer, E.A., **Treadway, M.T.**, Hollon, S.D., Gore, J.C., Shelton, R. C. (2006). Self-regulation of emotion: modulation via coordinated dorso-rostral cingulate activity in MDD. Poster presentation at the annual meeting of the *American College of Neuropsychopharmacology*, Hollywood, FL.
31. Romero-Canyas, R., Downey, G., Franco, N. V., DiBenigno, J., Wai, C., & **Treadway, M.T.** (January, 2006). Negativity in the eye of the beholder: Rejection sensitivity (RS) and perceiving negative affect in the faces of others. Poster presentation at the annual meeting of the *Society for Personality and Social Psychology*, Palm Springs, CA
32. Lazar, S.W., Kerr, C., Wasserman, R.J., Gray, J.R., Greve D., **Treadway, M.T.**, McGarvey, M., Quinn, B.T., Dusek, J.A., Benson, H.G., Rausch, S.L., Moore, C.I., & Fischl, B. (November, 2005) Meditation experience is associated with increased cortical thickness. Poster presentation at the annual meeting of the *Society for Neuroscience*, Washington D.C.

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## TEACHING & MENTORING

### *Graduate Advisees:*

Andrew Teer, B.A. (primary)  
Amanda Arulpragasam B.S. (primary)

### *Psychiatry Resident Advisees:*

David Goldsmith, MD (secondary)

### *Undergraduate Advisees:*

Meg Airely  
Heejae Choi  
Mark Gorman  
Nadia Irfan  
Melissa Letzler  
Shermin Punjwani

Brian Shim  
Anneka Soenstrom  
Alisha Uppal  
Annabel Lu

*Staff Advisees:*

Chelsea Leonard, BA  
Daniel Cole, BS  
Nadia Irfan, BA  
Asim Lal, BS

*FAC/Masters Committees*

Brett Murphy JD.  
Bryan Klapes BS  
Shaquille Edwards BS  
Alex Denker BA

*Dissertation Committees:*

Katy Renfro – Emory University  
Amanda Brown – Emory University  
Sarah Smith – Emory University  
Ashley Watts – Emory University  
Brooke Reidy – Emory University

*Undergraduate Courses Taught*

2016 (Fall) Abnormal Psychology  
Course Instructor: Michael Treadway, PhD  
2016 (Fall) Conceptual Foundations of Neurobiology and Neuroimaging  
Course Instructors: Michael Treadway, PhD; Danny Dilks, PhD

*Graduate Courses Taught*

2015 (Fall) Conceptual Foundations of Neurobiology and Neuroimaging  
Course Instructors: Michael Treadway, PhD; Danny Dilks, PhD

*Guest Lecturer*

2016 (Spring) Computational Neuroscience  
Course Instructor: Dieter Jaeger, PhD  
2016 (Spring) Cognitive Neuroscience  
Course Instructor: Danny Dilks, PhD  
2016 (Spring) Particle to Professor Series, Emory University School of Medicine  
Course Instructor: David Goldsmith, MD  
2015 (Fall) The Nature of Evidence, Emory University  
Course Instructor: Irwin Waldman, PhD  
2015 (Spring) The Nature of Evidence, Emory University  
Course Instructor: Irwin Waldman, PhD  
2014 (Fall) Abnormal Psychology, Harvard University

Course instructor: Joshua Buckholtz, Ph.D.  
2012 (Fall) Abnormal Psychology, Harvard University  
Course instructor: Joshua Buckholtz, Ph.D.  
2012 (Spring) Abnormal Psychology, Harvard University  
Course instructor: Joshua Buckholtz, Ph.D.  
2011 (Spring) Pathophysiology of Depression, Vanderbilt University  
Course instructor: Steven Hollon, Ph.D.  
2010 (Fall) Pathophysiology of Depression, Vanderbilt University  
Course instructor: Steven Hollon, Ph.D.

*Teaching Assistant*

2008 (Spring) Experimental Methods, Vanderbilt University,  
Course instructor: Adrienne Seiffert, Ph.D.  
2007 (Fall) Introduction to Psychology, Vanderbilt University  
Course instructor: Isabel Gauthier, Ph.D.

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## SERVICE

*Departmental Service*

2015–present: Chair, Web & IT Committee  
2015–Present: Member, Colloquium Committee  
2016: Organizer, 2016 Clinical Research Day  
2016: Poster context judge – CMBC Emotions Conference  
2016: Organizer, 2016 Departmental Research Festival  
2016–Present: Co-director, PAIS Blood Processing Lab (PBL)

*Laney Graduate School*

2015–Present: Member, Selection committee for Woodruff fellowships

*School Of Medicine Service*

2015–Present: Program Director, Residency Research Training Track  
2015–Present: Member, Psychiatry Residency Application Review Committee

*College of Arts and Sciences*

Sep, 2015: Invited speaker for Emory College Alumni Board Meeting  
May, 2016: Invited speaker for Regional Emory College Alumni Board Meeting, New York, NY

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## CLINICAL APPOINTMENTS

2015 – Present Licensed Clinical Psychologist in Private Practice  
GA License # 003882  
  
2014 – 2015 Practicum Supervisor  
McLean Hospital/Harvard Medical School

## Behavioral Health Partial Program

- 2014 – 2015      Clinical Assistant in Psychology  
McLean Hospital/Harvard Medical School,  
Behavioral Health Partial Program  
Supervisor: Thröstur Björgvinsson, PhD, ABPP
- 2011 – 2012      APA-Accredited Predoctoral Clinical Psychology Internship  
McLean Hospital/Harvard Medical School  
Internship Directors: Philip Leventusky, PhD, ABPP  
Thröstur Björgvinsson, PhD, ABPP
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## PROFESSIONAL ACTIVITIES

### *Ad Hoc Grant Review:*

Wellcome Trust (UK)  
Medical Research Council (UK)  
Vienna Science and Technology Fund (Austria)  
Research Foundation Flanders (Netherlands)

### *Ad Hoc Book Review:*

Guilford Press

### *Editorial Board Service*

Journal of Abnormal Psychology – Consulting Editor  
Clinical Psychological Science – Consulting Editor

### *Ad Hoc Journal Reviewer:*

(Average of about 1-2 reviews per week)

Brain; Biological Psychiatry; Clinical Psychological Science; Cognitive, Affective and Behavioral Neuroscience; Developmental Cognitive Neuroscience; European Journal of Neuropsychopharmacology; Frontiers in Neuroscience; Hormones and Behavior; Harvard Review of Psychiatry; Human Brain Mapping; International Journal of Neuropsychopharmacology; JAMA Psychiatry; Journal of Clinical Psychiatry; Journal of Cognitive Neuroscience; Journal of Abnormal Psychology; Journal of Affective Disorders; Journal of Experimental Psychology: General; Journal of Cognitive Neuroscience; Journal of Neuroscience; Journal of Personality Assessment; Journal of Psychiatric Research; Motivation and Emotion; Neuroimage; Neuron; Neuropsychologia; Neuropsychopharmacology; PLoS One; Psychiatry Research: Neuroimaging; Psychological Medicine; Psychoneuroendocrinology; Schizophrenia Bulletin; Schizophrenia Research; Scientific Reports; Social Cognitive Affective Neuroscience; Social Neuroscience ; Synapse

### *Professional Memberships:*

American Psychological Association – Member  
Association for Psychological Science – Member



Organization for Human Brain Mapping – Member  
Society of Biological Psychiatry – Member  
Society of Neuroscience – Member

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## MEDIA COVERAGE (SELECTED)

**NPR WBEZ Chicago** *How the brain judges fault and punishment*

**Science Daily.** *Fault trumps gruesome evidence*

**NPR Marketplace.** *The brain chemical that could make you a better worker.*

**Wired Science.** *The neuroscience of effort*

**CBS News.** *Brain's dopamine may explain why some are slackers at work*

**The Telegraph, UK.** *Slackers' brains are wired to under-achieve*

**Science Daily.** *Dopamine impacts your willingness to work*

**US News and World Report.** *Cues to slacker found in brain*

**Huffington Post.** *Slacker or go-getter? Brain chemical may tell*

**Shape Magazine** *Why are some people more motivated than others?*