

# Curriculum Vitae

## Tiffany Love, PhD

Last Updated: 02/18/2016

### **EDUCATION**

| <u>Years</u> | <u>Degree</u>         | <u>Institution (Area of Study)</u>   |
|--------------|-----------------------|--|
| 1998 - 2002  | B.S.                  | University of New Mexico (Biology & Psychology; Minor: Chemistry)<br>Albuquerque, NM   |
| 2004 - 2010  | Ph.D.                 | University of Michigan (Neuroscience)<br>Ann Arbor, MI                                 |
| 2010 - 2012  | Postdoctoral Training | University of Michigan, Molecular & Behavioral Neuroscience Institute<br>Ann Arbor, MI |

### **ACADEMIC HISTORY**

#### **Psychiatry (Adult Psychiatry)**

10/19/2015 Hire, Tenure Track, Assistant Professor

### **PROFESSIONAL EXPERIENCE**

#### **Full-Time Positions**

|                |   |
|----------------|---|
| 2012 - 2015    | Research Investigator, Department of Psychiatry, University of Michigan, Ann Arbor, MI        |
| 2015           | Research Assistant Professor, Department of Psychiatry, University of Michigan, Ann Arbor, MI |
| 2015 - Present | Adjunct Research Assistant Professor, University of Michigan, Ann Arbor, MI                   |
| 2015 - Present | Assistant Professor, University of Utah, Salt Lake City, UT                                   |

#### **Reviewer Experience**

Ad Hoc Reviewer for Biological Psychiatry  
Ad Hoc Reviewer for Genes, Brain and Behavior  
Ad Hoc Reviewer for Journal of Psychiatry and Neuroscience  
Ad Hoc Reviewer for Psychoneuroendocrinology  
Ad Hoc Reviewer for Schizophrenia Bulletin

### **SCHOLASTIC HONORS**

|      |  |
|------|--|
| 1998 | New Mexico Success Scholarship, University of New Mexico, Albuquerque, NM  |
| 2004 | Rackham Merit Fellowship, University of Michigan, Ann Arbor, MI  |
| 2005 | Outstanding Graduate Student Instructor (GSI) Teaching Honor Roll, University of Michigan, Ann Arbor, MI                                 |
| 2012 | Trainee, Career Development Institute (CDI) for Psychiatry, Stanford University, Stanford, CA & University of Pittsburgh, Pittsburgh, PA |
| 2014 | American College of Neuropsychopharmacology (ACNP) Travel Award, Phoenix, AZ   |
| 2016 | Chair's Choice Award, Society for Biological Psychiatry, Jacksonville, FL, USA   |

### **ADMINISTRATIVE EXPERIENCE**

#### **Professional Organization & Scientific Activities**

2015 Committee Member, Society for Social Neuroscience, (S4SN) Early Career Awards Committee

#### **Grant Review Committee/Study Section**

2014 Grant Reviewer, Biotechnology and Biological Sciences Research Council (BBSRC),

Swindon, England, United Kingdom

**Symposium/Meeting Chair/Coordinator**

2012 Lecturer/Coordinator, Workshop on the Preprocessing of Neuroimaging Data, University of Michigan, Molecular & Behavioral Neuroscience Institute, Ann Arbor, MI

**PROFESSIONAL COMMUNITY ACTIVITIES**

2013 Presenter, Nerd Nite Ann Arbor, Cupid wasn't aiming for your heart: the neuroscience of love

**SERVICE AT PREVIOUS INSTITUTIONS**

2006 Demonstration Leader, University of Michigan, Neuroscience Program Outreach. Lead classroom demonstrations on the five senses to promote neuroscience to elementary school children.

2008 - 2012 Volunteer, University of Michigan, M-Heal/World Medical Relief, Organized and cataloged medical equipment and supplies, Detroit, MI

2009 Volunteer, University of Michigan, Assisted in Neuroscience Program recruitment activities

2011 - 2015 Member, University of Michigan Substance Abuse Research Center

2015 Demonstration Leader, University of Michigan, Brains Rule! Neuroscience Exposition. Lead functional neuroanatomy demonstration for middle school students.

**CURRENT MEMBERSHIPS IN PROFESSIONAL SOCIETIES**

American Association for the Advancement of Science  
Organization for Human Brain Mapping  
Society for Social Neuroscience  
Society of Biological Psychiatry

**FUNDING**

**Active Grants**

06/01/15 - Present Investigating the Gut Microbiome in Opioid Dependence  
Principal Investigator(s): Amy Bohnert; Tiffany Love  
University of Michigan  
Role: Principal Investigator

07/01/15 - Present 1 K01 AA024167-01  
Defining and manipulating social neural systems in alcohol use disorder  
Principal Investigator: Tiffany Love  
National Institute on Alcohol Abuse and Alcoholism  
Role: Principal Investigator

**Past Grants**

01/01/14 - 07/01/15 R21/R33 DA020677  
Development and Use of rtfMRI for Self-Control of Nicotine Craving  
Principal Investigator: Jon-Kar Zubieta  
National Institute on Drug Abuse  
Role: Co-Investigator

01/01/10 - 07/01/15 R01 DA027494  
Interaction of Smoking and Chronic Pain in Neurochemical and Phenotypic Levels  
Principal Investigator: Jon-Kar Zubieta  
National Institute on Drug Abuse  
Role: Co-Investigator

07/01/11 - 07/01/13 UL1RR024986  
Postdoctoral Translational Scholars Program  
Michigan Institute for Clinical and Health Research  
Principal Investigator: Tiffany Love  
National Center for Research Resources  
Role: Principal Investigator

07/01/06 - 07/01/08 T32 DA007267-12  
Interdisciplinary Training Grant in Substance Abuse  
Neurobiology of Vulnerability for Substance Abuse in Clinical Pain Patients  
National Institute on Drug Abuse  
Role: Doctoral Trainee

## **TEACHING RESPONSIBILITIES/ASSIGNMENTS**

### **Course Lectures**

2005 Graduate Student Instructor, Cognitive Psychology, University of Michigan, Department of Psychology  
2010 - 2015 Invited Class Lecturer, Neural Basis of Orofacial Pain and Function, University of Michigan, School of Dentistry  
2014 Lecturer, Neuropsychopharmacology, University of Michigan, Neuroscience Graduate Program  
2014 - 2015 Invited Class Lecturer, Sex Differences in Brain, Behavior and Disease, University of Michigan, Department of Psychology  
2015 Invited Class Lecturer, Alcohol and Other Behavior Disorders in Community Settings, University of Michigan

### **Educational Lectures**

#### Department/Division Conferences

2006 Impact of Serotonin on Learning and Reinforcement in Caenorhabditis Elegans, Neuroscience Seminar Series, University of Michigan  
2006 Risky Personality and mu-Opioid Neurotransmission: a Link, Annual Neuroscience Retreat, University of Michigan  
2006 Oh so that's what that does: Introduction to Functional Neuroanatomy, University of Michigan Substance Abuse Research Center  
2007 Scanning Susceptibility: The Link between Stress, Risky Personality and Neurotransmission, University of Michigan Substance Abuse Research Center  
2007 Stress, Sex and Dopamine Neurotransmission, Annual Neuroscience Retreat, University of Michigan  
2009 The Neurochemical Correlates of Risky Personality, Neuroscience Seminar Series, University of Michigan  
2012 Neuroscience of Free Will, Annual Neuroscience Retreat, University of Michigan

## **PEER-REVIEWED JOURNAL ARTICLES**

1. Jung RE, Yeo RA, **Love TM**, Petropoulos H, Sibbitt WL Jr, Brooks WM (2002). Biochemical markers of mood: a proton magnetic resonance spectroscopy study of normal human brain. *Biol Psychiatry*, 51(3), 224-9.
2. Smith YR, **Love T**, Persad CC, Tkaczyk A, Nichols TE, Zubieta JK (2006). Impact of combined estradiol and norethindrone therapy on visuospatial working memory assessed by functional magnetic resonance imaging. *J Clin Endocrinol Metab*, 91(11), 4476-81.
3. Hutsler JJ, **Love T**, Zhang H (2007). Histological and magnetic resonance imaging assessment of cortical layering and thickness in autism spectrum disorders. *Biol Psychiatry*, 61(4), 449-57.
4. Persad CC, Zubieta JK, **Love T**, Wang H, Tkaczyk A, Smith YR (2009). Enhanced neuroactivation during verbal memory processing in postmenopausal women receiving short-term hormone therapy. *Fertil Steril*, 92(1), 197-204.
5. **Love TM**, Stohler CS, Zubieta JK (2009). Positron emission tomography measures of endogenous opioid neurotransmission and impulsiveness traits in humans. *Arch Gen Psychiatry*, 66(10), 1124-34.
6. **Love T**, Smith YR, Persad CC, Tkaczyk A, Zubieta JK (2010). Short-term hormone treatment modulates emotion response circuitry in postmenopausal women. *Fertil Steril*, 93(6), 1929-37.
7. Berent-Spillson A, Persad CC, **Love T**, Tkaczyk A, Wang H, Reame NK, Frey KA, Zubieta JK, Smith YR (2010). Early menopausal hormone use influences brain regions used for visual working memory. *Menopause*, 17(4), 692-9.

8. Prossin AR, **Love TM**, Koeppe RA, Zubieta JK, Silk KR (2010). Dysregulation of regional endogenous opioid function in borderline personality disorder. *Am J Psychiatry*, 167(8), 925-33.
9. Mickey BJ, Zhou Z, Heitzeg MM, Heinz E, Hodgkinson CA, Hsu DT, Langenecker SA, **Love TM**, Pecina M, Shafir T, Stohler CS, Goldman D, Zubieta JK (2011). Emotion processing, major depression, and functional genetic variation of neuropeptide Y. *Arch Gen Psychiatry*, 68(2), 158-66.
10. Berent-Spillson A, **Love T**, Pop-Busui R, Sowers M, Persad CC, Pennington KP, Eyvazaddeh AD, Padmanabhan V, Zubieta JK, Smith YR (2011). Insulin resistance influences central opioid activity in polycystic ovary syndrome. *Fertil Steril*, 95(8), 2494-8.
11. Smith YR, Bowen L, **Love TM**, Berent-Spillson A, Frey KA, Persad CC, Reame NK, Koeppe RA, Zubieta JK (2011). Early initiation of hormone therapy in menopausal women is associated with increased hippocampal and posterior cingulate cholinergic activity. *J Clin Endocrinol Metab*, 96(11), E1761-70.
12. DosSantos MF, **Love TM**, Martikainen IK, Nascimento TD, Fregni F, Cummiford C, Deboer MD, Zubieta JK, Dasilva AF (2012). Immediate effects of tDCS on the mu-opioid system of a chronic pain patient. *Front Psychiatry*, 3, 93.
13. Shafir T, **Love T**, Berent-Spillson A, Persad CC, Wang H, Reame NK, Frey KA, Zubieta JK, Smith YR (2012). Postmenopausal hormone use impact on emotion processing circuitry. *Behav Brain Res*, 226(1), 147-53.
14. DosSantos MF, Martikainen IK, Nascimento TD, **Love TM**, Deboer MD, Maslowski EC, Monteiro AA, Vincent MB, Zubieta JK, DaSilva AF (2012). Reduced basal ganglia mu-opioid receptor availability in trigeminal neuropathic pain: a pilot study. *Molecular Pain*, 8, 74.
15. Hsu DT, Mickey BJ, Langenecker SA, Heitzeg MM, **Love TM**, Wang H, Kennedy SE, Pecina M, Shafir T, Hodgkinson CA, Enoch MA, Goldman D, Zubieta JK (2012). Variation in the corticotropin-releasing hormone receptor 1 (CRHR1) gene influences fMRI signal responses during emotional stimulus processing. *J Neurosci (online)*, 32(9), 3253-60.
16. Mickey BJ, Sanford BJ, **Love TM**, Shen PH, Hodgkinson CA, Stohler CS, Goldman D, Zubieta JK (2012). Striatal dopamine release and genetic variation of the serotonin 2C receptor in humans. *J Neurosci (online)*, 32(27), 9344-50.
17. **Love TM**, Enoch MA, Hodgkinson CA, Pecina M, Mickey B, Koeppe RA, Stohler CS, Goldman D, Zubieta JK (2012). Oxytocin gene polymorphisms influence human dopaminergic function in a sex-dependent manner. *Biol Psychiatry*, 72(3), 198-206.
18. Berent-Spillson A, Persad CC, **Love T**, Sowers M, Randolph JF, Zubieta JK, Smith YR (2012). Hormonal environment affects cognition independent of age during the menopause transition. *J Clin Endocrinol Metab*, 97(9), E1686-94.
19. Burghardt PR, **Love TM**, Stohler CS, Hodgkinson C, Shen PH, Enoch MA, Goldman D, Zubieta JK (2012). Leptin regulates dopamine responses to sustained stress in humans. *J Neurosci (online)*, 32(44), 15369-76.
20. Pecina M, Mickey BJ, **Love T**, Wang H, Langenecker SA, Hodgkinson C, Shen PH, Villafuerte S, Hsu D, Weisenbach SL, Stohler CS, Goldman D, Zubieta JK (2013). DRD2 polymorphisms modulate reward and emotion processing, dopamine neurotransmission and openness to experience. *Cortex*, 49(3), 877-90.
21. Pecina M, Azhar H, **Love TM**, Lu T, Fredrickson BL, Stohler CS, Zubieta JK (2013). Personality trait predictors of placebo analgesia and neurobiological correlates. *Neuropsychopharmacology*, 38(4), 639-46.
22. Marsh CA, Berent-Spillson A, **Love T**, Persad CC, Pop-Busui R, Zubieta JK, Smith YR (2013). Functional neuroimaging of emotional processing in women with polycystic ovary syndrome: a case-control pilot study. *Fertil Steril*, 100(1), 200-7.e1.
23. Martikainen IK, Pecina M, **Love TM**, Nuechterlein EB, Cummiford CM, Green CR, Harris RE, Stohler CS, Zubieta JK (2013). Alterations in endogenous opioid functional measures in chronic back pain. *J Neurosci (online)*, 33(37), 14729-37.
24. Hsu DT, Sanford BJ, Meyers KK, **Love TM**, Hazlett KE, Wang H, Ni L, Walker SJ, Mickey BJ, Korycinski ST, Koeppe RA, Crocker JK, Langenecker SA, Zubieta JK (2013). Response of the mu-opioid system to social rejection and acceptance. *Mol Psychiatry*, 18(11), 1211-7.
25. DosSantos MF, Martikainen IK, Nascimento TD, **Love TM**, DeBoer MD, Schambra HM, Bikson M, Zubieta JK, DaSilva AF (2014). Building up analgesia in humans via the endogenous mu-opioid system by combining placebo and active tDCS: a preliminary report. *PLoS ONE*, 9(7), e102350.
26. Pecina M, Martinez-Jauand M, **Love T**, Heffernan J, Montoya P, Hodgkinson C, Stohler CS, Goldman D, Zubieta JK (2014). Valence-specific effects of BDNF Val66Met polymorphism on dopaminergic stress and reward processing in humans. *J Neurosci (online)*, 34(17), 5874-81.

27. Nascimento TD, DosSantos MF, Lucas S, van Holsbeeck H, DeBoer M, Maslowski E, **Love T**, Martikainen IK, Koeppe RA, Smith YR, Zubieta JK, DaSilva AF (2014). mu-Opioid activation in the midbrain during migraine allodynia - brief report II. *Ann Clin Transl Neurol*, 1(6), 445-50.
28. DaSilva AF, Nascimento TD, DosSantos MF, Lucas S, van Holsbeeck H, DeBoer M, Maslowski E, **Love T**, Martikainen IK, Koeppe RA, Smith YR, Zubieta JK (2014). Association of mu-Opioid Activation in the Prefrontal Cortex with Spontaneous Migraine Attacks - Brief Report I. *Ann Clin Transl Neurol*, 1(6), 439-444.
29. Weiland BJ, Heitzeg MM, Zald D, Cummiford C, **Love T**, Zucker RA, Zubieta JK (2014). Relationship between impulsivity, prefrontal anticipatory activation, and striatal dopamine release during rewarded task performance. *Psychiatry Res*, 223(3), 244-52.
30. Hsu DT, Sanford BJ, Meyers KK, **Love TM**, Hazlett KE, Walker SJ, Mickey BJ, Koeppe RA, Langenecker SA, Zubieta JK (2015). It still hurts: altered endogenous opioid activity in the brain during social rejection and acceptance in major depressive disorder. *Mol Psychiatry*, 20(2), 193-200.
31. Pecina M, **Love T**, Stohler CS, Goldman D, Zubieta JK (2015). Effects of the Mu opioid receptor polymorphism (OPRM1 A118G) on pain regulation, placebo effects and associated personality trait measures. *Neuropsychopharmacology*, 40(4), 957-65.
32. Martikainen IK, Nuechterlein EB, Pecina M, **Love TM**, Cummiford CM, Green CR, Stohler CS, Zubieta JK (2015). Chronic Back Pain Is Associated with Alterations in Dopamine Neurotransmission in the Ventral Striatum. *J Neurosci (online)*, 35(27), 9957-65.

### **REVIEW ARTICLES**

1. **Love TM** (2014). Oxytocin, motivation and the role of dopamine. [Review]. *Pharmacol Biochem Behav*, 119, 49-60.

### **OTHER (Commentary/Letters/Editorials/Case Reports/Video/Film)**

#### **Case Reports**

1. DaSilva AF, Nascimento TD, **Love T**, DosSantos MF, Martikainen IK, Cummiford CM, DeBoer M, Lucas SR, Bender MA, Koeppe RA, Hall T, Petty S, Maslowski E, Smith YR, Zubieta JK (2014). 3D-neuronavigation in vivo through a patient's brain during a spontaneous migraine headache. LID - 10.3791/50682 [doi]. *J Vis Exp*, (88).

### **RECENTLY PUBLISHED ABSTRACTS (Last 3 Years)**

1. Nuechterlein, Martikainen I, **Love TM**, Cummiford CM, Zubieta JK (2013). *Differences in endogenous opioid system function in chronic pain patients receiving opioid medication* [Abstract]. *68th Society of Biological Psychiatry Meeting*.
2. **Love TM**, Enoch MA, Goldman D, Hodgkinson C, Zubieta JK (2013). *OXY genotype predicts anticipatory responses to reward* [Abstract]. *68th Society of Biological Psychiatry Meeting*.
3. **Love TM**, Cranford J, Zucker RA, Brower K (2014). *Oxytocin genotype moderates the relationship between social support and psychiatry symptom severity* [Abstract]. *69th Society of Biological Psychiatry Meeting*.
4. **Love TM**, Heffernan J, Mickey B, Heisel C, Pecina M, Hsu DT, Zubieta JK (2014). *Oxytocin administration modulates mesoaccumbal activity in response to non-social reward* [Abstract]. *53rd Annual American College of Neuropsychopharmacology Conference*.

### **ORAL PRESENTATIONS**

#### **Invited/Visiting Professor Presentations**

##### International

- |      |   |
|------|---|
| 2010 | <b>Love T</b> . Individual Differences in Dopaminergic Stress Responsiveness in Humans: Impact of Sex and Genetic Variation. 43rd Annual Winter Conference on Brain Research, Breckenridge, CO                        |
| 2010 | Zubieta JK, <b>Love T</b> . Dopamine-Opioid Interactions in Attachment Style & Impulsivity Traits. Presented on behalf of Dr. Zubieta at the 65th Annual Society of Biological Psychiatry Conference, New Orleans, LA |
| 2014 | <b>Love T</b> . Neuroimaging Database Implementation. 2014 Brainhack Conference, Ann Arbor, MI  |

Local/Regional

- 2012 **Love T**, Heisel E. Neuroimaging Studies in Pain in Borderline Personality Disorder. Center for Forensic Psychiatry, Ann Arbor, MI
- 2013 **Love T**. Deciphering the role of oxytocin in social motivation. Cognitive Neuroscience Series, University of Illinois at Chicago, Chicago, IL

**Grand Rounds Presentations**

- 2015 Love, T. Translating from Basic Circuitries to Psychopathology: Studies in Attachment, Motivation, and Addiction. University of Utah, Salt Lake City, UT, USA

**Outreach Presentations**

- 2013 Presenter, University of Michigan, Neurobiology of Addiction, Psychiatry Medical Student Interest Group (PsychSIGN)