

# Alison M. Mattek

Department of Psychology, Stanford University  
420 Serra Mall, Stanford, CA 94305

Email: amattek@stanford.edu

## EDUCATION & EMPLOYMENT

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- 2017-present      **Postdoctoral Fellow, Stanford University**  
Department of Psychology  
  
Lab: *Stanford Social Neuroscience Laboratory*
- 2017                **Ph.D., Dartmouth College**  
Psychological and Brain Sciences  
  
Dissertation: *Modeling Affective States: Applications for Psychology and Neuroscience Research*
- 2012                **M.A., Dartmouth College**  
Digital Musics  
  
Thesis: *The Effects of Positive and Negative Music on the Perception and Evaluation of Affective Events*
- 2010                **B.S., University of Miami, FL**  
Music Engineering (Summa Cum Laude)  
  
Minors: Computer Engineering, Electrical Engineering  
Instrument: Classical Piano  
  
Senior Project: *Computational Methods for Portraying Emotion in Generative Music Composition*

## FELLOWSHIPS & AWARDS

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- 2016                Neukom Prize for Outstanding Research in Computational Science, Neukom Institute
- 2015                Travel Award, 2015 Wisconsin Symposium on Emotion
- 2014                Marie A. Center 1982 Award for Research Excellence, Dartmouth College
- 2014                Graduate Travel Award, Dartmouth College
- 2012                Graduate Fellowship, Dartmouth College
- 2011                Graduate Research Fellowship Honorable Mention, National Science Foundation
- 2010                Graduate Fellowship, Dartmouth College

2009-2010 President's Honor Roll, University of Miami (FL)  
 2006, 2008 Provost's Honor Roll, University of Miami (FL)

## **PUBLICATIONS**

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**Mattek, A. M.**, Wolford, G., & Whalen, P. J. (2017). A mathematical model captures the structure of subjective affect. *Perspectives on Psychological Science*, 12(3), 508-526.

Kim, M.J., **Mattek, A. M.**, Bennett, R. H., Solomon, K. M., Shin, J., & Whalen, P. J. (2017). Human amygdala tracks feature-based affective valence of emotionally ambiguous facial expressions. *Journal of Neuroscience*, 37(39), 9510-9518.

Kim, M. J., Shin, J., Taylor J. M., **Mattek, A.M.**, Chavez, S. J. & Whalen, P. J. (in press). Intolerance of uncertainty predicts increased striatal volume. *Emotion*.

**Mattek, A. M.**, Whalen, P. J., Berkowitz, J. L., Freeman, J. B. (2016). Differential effects of cognitive load on subjective versus motor responses to ambiguously valenced facial expressions. *Emotion*, 16, 929-936.

Kim, M.J., Brown, A.C., **Mattek, A.M.**, Chavez, S.J., Taylor, J.M., Palmer, A.L., Wu, Y-C. & Whalen, P.J. (2016). The inverse relationship between the microstructure variability of amygdala-prefrontal pathways and trait anxiety is moderated by sex. *Frontiers in Systems Neuroscience*, 10, 93. doi: 10.3389/fnsys.2016.00093

Whalen, P. J., Raila, H., Bennett, R., **Mattek, A.**, Brown, A., Taylor, J., et al. (2013). Neuroscience and facial expressions of emotion: The role of amygdala—prefrontal interactions. *Emotion Review*, 5(1), 78-83.

**Mattek, A.** & Casey, M. (2011). Cross-modal aesthetics from a feature-extraction perspective: a pilot study. *Proceedings of the 12<sup>th</sup> International Society for Music Information Retrieval Conference*.

**Mattek, A.**, Freeman, M., & Humphrey, E. (2010). Revisiting Cagan composition methodology with a modern computational implementation. *Proceedings of the 2010 Conference on New Interfaces for Musical Expression*.

## **MANUSCRIPTS IN PREPARATION**

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**Mattek, A. M.**, Kim, M. J., Burr, D. A., & Whalen, P. J. (in prep). Testing psychological models of affect with fMRI data: how you look at the data dictates what you find.

**Mattek, A. M.**, Berkowitz, J. L., Chavez, S. L., Gobbini, M. I., & Whalen, P. J. (in prep). A standardized stimulus set of faces expressing emotion.

## **PRESENTATIONS**

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### ***Conference Posters***

**Mattek, A. M.**, Berkowitz, J. L., Chavez, S. N., d'Arbeloff, T., Mayer, M., & Whalen, P. J. (2017). Trait anxiety influences the expression of surprise. Social Affective Neuroscience Society 2017 Annual Meeting, April 2017, Los Angeles, CA.

**Mattek, A. M.**, Wolford, G., Whalen, P. J. (2015). A model for capturing the relationship between valence and arousal in subjective report. Society for Social Neuroscience 2015 Annual Meeting, October 2015, Chicago, IL.

**Mattek, A. M.**, Wolford, G., Whalen, P. J. (2015). The geometry of affective space: A revised framework for representing the relationship between valence and arousal. The 8<sup>th</sup> Annual Meeting of the Social and Affective Neuroscience Society, April 2015, Boston, MA.

**Mattek, A. M.**, Wolford, G., Whalen, P. J. (2015). A model for capturing the relationship between valence and arousal in subjective report. 2015 Wisconsin Symposium on Emotion, April 2015, Madison, WI.

**Mattek, A. M.**, Berkowitz, J. L., Ingbreton, Z. A., & Freeman, J. B. (2014). Mouse tracking captures positivity-negativity bias when processing ambiguous facial expressions under cognitive load. 15<sup>th</sup> Annual Meeting of The Society for Personality and Social Psychology, February 2014, Austin, TX.

**Mattek, A. M.** & Whalen, P. J. (2013). An eye color fixation task mitigates amygdala responses to fearful faces. 19<sup>th</sup> Annual Meeting of the Organization for Human Brain Mapping, June 2013, Seattle, WA.

**Mattek, A. M.**, Palmer, A. L., & Whalen, P. J. (2013). Negative music modulates amygdala activity to surprised faces. Cognitive Neuroscience Society Conference, April 2013, San Francisco, CA.

### ***Departmental Talks***

2017	Affective Seminar, Stanford University
2014	Social Brain Sciences Talk Series, Dartmouth College
2013	Guardians of Social Neuroscience, Dartmouth College
2013	Social Brain Sciences Talk Series, Dartmouth College

## **Conference Talks**

**Mattek, A. M.** (2011). Emotional Communication in Computer-Generated Music: Experimenting with Affective Algorithms. Society for Electro-Acoustic Music in the United States 2011 Conference, January 2011, Miami, FL.

## **TEACHING & MENTORING**

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### **Teaching**

2016 Teaching Assistant & Guest Lecturer, *Emotion*, Dartmouth College  
Class Instructor: Professor Paul J. Whalen

2014 Teaching Assistant, *Experimental Design, Methodology, & Data Analysis Procedures*, Dartmouth College  
Class Instructor: Professor Jay G. Hull

2014 Lab Instructor, *Laboratory In Psychological Science*, Dartmouth College  
Class Instructor: Assistant Professor Jonathan B. Freeman

2014 Guest Lecturer, *Emotion*, Dartmouth College  
Class Instructor: Professor Paul J. Whalen

2013 Lab Instructor, *Laboratory In Psychological Science*, Dartmouth College  
Class Instructor: Associate Professor Bradley C. Duchaine

2011 Teaching Assistant & Weekly Lecturer, *Digital Music, Sonic Arts, & the Internet*, Dartmouth College  
Class Instructor: Professor Michael A. Casey

2010 Teaching Assistant & Weekly Lecturer, *Music & Technology*, Dartmouth College  
Class Instructor: Assistant Professor David Plans Casal

### **Mentoring**

2012-present Supervised 12 undergraduate research assistants

2015 Supervised 1 undergraduate Sophomore Science Scholar

2013-2014 Supervised 3 undergraduate Honors theses

## **ADDITIONAL TRAINING & WORK EXPERIENCE**

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### **Department Service and Outreach**

2015-2017 Co-organizer, Social Brain Sciences talk series, Dartmouth College

2014, 2015 Volunteer, Science Day, Dartmouth College

### **Workshop Attendance**

- 2017 “Tools of Trade: Human Neuroimaging Methods and Best Practices”  
University of California, Los Angeles
- 2014 “Decoding Population Responses”, Center for Cognitive Neuroscience at  
Dartmouth College
- 2011, 2014 “Analysis of Functional NeuroImaging (AFNI) Workshop”, Center for  
Cognitive Neuroscience at Dartmouth College
- 2012 “Biology of Social Cognition”, Cold Springs Harbor Laboratory

### **Software/Programming Skills**

Proficient: MATLAB, R, AFNI, E-Prime  
Experience with: Python, SPM, PyMVPA, SPSS, C++, Assembly

### **Professional Affiliations**

Social and Affective Neuroscience Society (SANS)  
Society for Social Neuroscience (S4SN)  
Society for Affective Science (SAS)  
Society for Neuroscience (SFN)

### **Ad-hoc Reviewer**

Social, Cognitive, and Affective Neuroscience (SCAN)  
Emotion

### **Piano/Keyboard Performance**

- 2010-2011 Keyboardist, <https://gravies.bandcamp.com/>  
2010-2011 Keyboard/Piano, *Dartmouth Contemporary Music Lab*

### **Music Recording & Live Sound**

- 2006-2010 Studio Recording Engineer, *Weeks Center for Performance and  
Recording*, University of Miami (FL)
- 2008 Audio Engineering Fellow, *Boston Symphony Orchestra*, Tanglewood
- 2006-2008 Live Sound Engineer, *Recording Services*, University of Miami (FL)