

Meagan E. Curtis

Curriculum Vitae

Department of Psychology
Tufts University
E-mail: meagan.curtis@tufts.edu

EDUCATION

- Ph.D. Dartmouth College, Hanover, New Hampshire
Psychological and Brain Sciences, 2007
Graduate Advisor: Jamshed Bharucha
Ph.D. Committee: Jamshed Bharucha, Howard Hughes, Jay Hull, George Wolford
Dissertation: *Investigating the role of pitch contours in the expression of emotion: Do prosody and music share a code for communicating emotion?*
- B.A. Hampshire College, Amherst, Massachusetts
Cognitive Science and Music, 2001
Thesis Advisors: Joanna Morris and Neil Stillings
Thesis: *Investigations of prosodic contour in subjects with differing emotional states*

RESEARCH EXPERIENCE

Postdoctoral Associate, Tufts University, Medford, MA, 2007 to present
Mentor: Jamshed Bharucha

Conducted investigations on the communication of emotion in the domains of speech and music. Investigated the interaction between the processing of musical phrase structures and linguistic syntax. Investigated the influence of culture on musical behaviors in Indian and Western musicians. Utilized behavioral methodology, electroencephalography and event-related potentials (EEG & ERP), facial electromyography (fEMG), skin conductance levels (SCL), neural network models, acoustic analyses, and statistical modeling. Formally trained in fMRI at the Martinos Center for Biomedical Imaging.

Senior Research Technician, Tufts University, Medford, MA, 2003-2006

Advisor: Jamshed Bharucha

Conducted investigations of music perception within and across cultures. Investigated the possibility of shared neural substrates for the processing of musical and syntactic phrases. Investigated emotional communication in the domains of speech and music. Investigated the influence of auditory expectancy violations on the perception of visual stimuli. Utilized behavioral methodology,

electroencephalography and event-related potentials (EEG & ERP), neural network models, acoustic analyses, and statistical modeling.

Graduate Student Fellow, Dartmouth College, Hanover, New Hampshire, 2001-2006
Advisors: Jamshed Bharucha (primary, 2001-2006), Michael Gazzaniga (2002-2003), and George Wolford (2003-2006)

Investigations included the lines of research listed above, as well as investigations of musical processing and recognition memory. Received introductory training in functional magnetic resonance imaging (fMRI).

Undergraduate Student, Hampshire College, Amherst, Massachusetts, 1999-2001

Advisors: Joanna Morris and Neil Stillings

Investigated the vocal communication of emotion, absolute memory for musical pitch, and music perception. Utilized behavioral methodology, electroencephalography and event-related potentials (EEG & ERP), acoustic analyses, and statistical modeling.

PUBLICATIONS

Bharucha, J. J., **Curtis, M.**, & Paroo, K. (In press). Musical communication as alignment of non-propositional brain states. In Rohrmeier, M., Rebuschat, P., Hawkins, J. & Cross, I. (Eds.), *Music and Language as Cognitive Systems*. Oxford: Oxford University Press.

Bharucha, J. J., **Curtis, M.**, & Paroo, K. (In press). Alignment of brain states: Response to commentaries. In Rohrmeier, M., Rebuschat, P., Hawkins, J. & Cross, I. (Eds.), *Music and Language as Cognitive Systems*. Oxford: Oxford University Press.

Curtis, M. E. & Bharucha, J. J. (In press). The minor third communicates sadness in speech, mirroring its use in music. *Emotion*.

Curtis, M. E. & Bharucha, J. J. (2009). Memory and musical expectation for tones in cultural context. *Music Perception*, 26 (4), 365-375.

Bharucha, J. J. & **Curtis, M.** (2008). Affective spectra, synchronization and motion: Aspects of emotional response to music. *Behavioral and Brain Sciences*, 31 (5), 579.

Bharucha, J. J., **Curtis, M.**, & Paroo, K. (2006). Varieties of musical experience. *Cognition*, 100, 131-172.

MANUSCRIPTS IN PREPARATION

Bharucha, J. J. & **Curtis, M. E.** (In preparation). The many facets of musical

communication.

Curtis, M. E. & Bharucha, J. J. (In preparation). Auditory expectancy violations enhance the processing of unexpected visual events.

Curtis, M. E. & Bharucha, J. J. (In preparation). Decoding emotion in speech: Fundamental frequency interacts with the size of prosodic intervals.

Curtis, M. E., Hegde, S., & Bharucha, J. J. (In preparation). Musical behaviors are shaped by culture: Evidence from Indian and Western singers.

Curtis, M. E., Paroo, K., Holcomb, P., & Bharucha, J. J. (In preparation). Musical structure influences the processing of linguistic syntax.

CONFERENCE PRESENTATIONS

Curtis, M. E. & Bharucha, J. (2009, September). *The minor 3rd conveys sadness in speech prosody and interacts with pitch height*. Paper presented at the Music and Emotion conference, Durham, England.

Curtis, M. E. & Bharucha, J. (2009, August). *The minor 3rd conveys sadness in speech prosody, but interacts with pitch height*. Poster presented at the annual conference of the Society for Music Perception and Cognition, Indianapolis, Indiana.

Curtis, M. E. & Bharucha, J. (2009, June). *Emotional prosody uses musical intervals to communicate emotion*. Poster presented at the Neuroscience of Emotion conference, Tufts University, Medford, Massachusetts.

Curtis, M. E. & Bharucha, J. (2008, August). *The minor third communicates sadness in speech and music*. Paper presented at the 10th International Conference for Music Perception and Cognition, Sapporo, Japan.

Curtis, M. E. & Bharucha, J. (2008, July). *Emotional perception of melodic musical intervals*. Poster presented at the conference Music, Language, and the Mind, Tufts University, Medford, Massachusetts.

Curtis, M. E. & Bharucha, J. (2008, July). *The minor third communicates sadness in prosody and music*. Paper presented at the conference Music, Language, and the Mind, Tufts University, Medford, Massachusetts.

Bharucha, J. & Curtis, M. E. (2008, July). *Communication and synchronization of brain states via music and language*. Paper presented at the conference Music, Language and the Mind, Tufts University, Medford, Massachusetts.

Bharucha, J., Curtis, M. E. & Paroo, K. (2007, August). *Musical communication as*

aligned of neural state vectors. Paper presented at the annual conference of the Society for Music Perception and Cognition, Montreal, Canada.

Curtis, M. E. (2007, August). *Prosody is a possible mapping source for the musical association between the minor third and sadness: Evidence from bi-syllabic speech samples*. Paper presented at the annual conference of the Society for Music Perception and Cognition, Montreal, Canada.

Bharucha, J., **Curtis, M. E.** & Paroo, K. (2007, June). *The many facets of musical communication*. Paper presented at conference on Music and Evolutionary Thought, Durham University, Durham, England.

Bharucha, J., **Curtis, M. E.** & Paroo, K. (2007, May). *Musical communication as alignment of non-propositional brain states*. Paper presented at the Language and Music as Cognitive Systems Conference, University of Cambridge, Cambridge, England.

Bharucha, J., **Curtis, M. E.**, & Paroo, K. (2006, March). *Modeling the acquisition and perception of harmony*. Paper presented at the Music and Mind Symposium, Harvard University, Cambridge, Massachusetts.

Curtis, M. E. & Bharucha, J. (2005, May). *Culture-specific tonal knowledge drives judgments about an unfamiliar tonality: A probe-tone study*. Poster presented at The Neurosciences and Music II Conference, Leipzig, Germany.

Curtis, M. E., Paroo, K. I., Holcomb, P. J. & Bharucha, J. (2005, April). *Music influences the processing of syntax*. Poster presented at the annual conference of the Cognitive Neuroscience Society, New York, New York.

Curtis, M. E. & Bharucha, J. (2004, July). *Expecting the unexpected: Cross-modal priming of low-probability stimuli*. Poster presented at the annual conference of the American Psychological Association, Honolulu, Hawaii.

Curtis, M. (2004, January). *Cultural adaptation to music*. Paper presented at the annual conference of the Society for Personality and Social Psychology, Austin, Texas.

Curtis, M. E. & Bharucha, J. (2003, June). *Tonal violations interact with lexical processing: Evidence from cross-modal priming*. Paper presented at the annual conference of the Society for Music Perception and Cognition, Las Vegas, Nevada.

Curtis, M. & Morris, J. (2000, November) *Investigations of pitch contour in subjects with differing emotional states*. Poster presented at the annual conference of the Psychonomic Society, New Orleans, Louisiana.

PUBLIC COMMENTARY, FEATURES, AND MEDIA COVERAGE

World Science Festival, New York, NY, “Notes and Neurons: In Search of the Common Chorus”, June 13, 2009:

<http://www.worldsciencefestival.com/video/notes-neurons-full>

This program featured documentary footage of my research on cross-cultural music perception and performance. My research on emotional prosody was also discussed.

WNYC, New York, NY, “Soundcheck: The Universal Mystery of Music” (John Schaefer), June 12, 2009:

<http://www.wnyc.org/shows/soundcheck/episodes/2009/06/12>

Topics of discussion included my research on emotional prosody as well as my research on cross-cultural music perception and performance

The Eagle Tribune, “The Makings of a Virtuoso” (Roger Darrigrand), May, 2008:

http://www.eagletribune.com/archivesearch/local_story_131200954.html

Consulted as an expert on music cognition.

HONORS AND AWARDS

Summer Institute of Cognitive Neuroscience Fellow, Dartmouth College, 2002

PROFESSIONAL SOCIETIES AND MEMBERSHIPS

Cognitive Neuroscience Society

Eastern Psychological Association

Mensa

Society for Music Perception and Cognition

AD HOC REVIEWER

Cognitive, Affective, & Behavioral Neuroscience

Emotion

Music Perception

National Science Foundation

Psychophysiology

TEACHING EXPERIENCE

Tufts University, Medford, MA

Visiting Lecturer, Department of Psychology and Department of Music, 2004 to 2005

Psychology of Music (Music 16/Psych 80)

Dartmouth College, Hanover, NH

Teaching Assistant, Department of Psychological and Brain Sciences, 2002 to 2003

Introduction to Research Methods (Psych 11)

Managed a section of students while giving weekly lectures and laboratory demonstrations.

Introduction to Statistics (Psych 10)

Worked individually with students who sought extra help.

Independent Undergraduate Research (Psych 88)

Advised students as they conducted independent research projects in preparation for their senior theses.

Hampshire College, Amherst, MA

Teaching Assistant, School of Cognitive Science, 2000

Child Language

GUEST LECTURES

Boston University, Boston, MA

Department of Psychology, 2008

“Introduction to Auditory Perception”

“Musical Communication of Ideas”

INVITED LECTURES

Hampshire College Faculty Seminar, “Assessing the Varieties of Musical Experience”,
October 22, 2007