

Julian Jenkins III, Ph.D.

EDUCATION

- 2005-2011 University of Maryland, College Park. Ph.D., Biology. Advisor: David Poeppel. Title: MEG, Psychophysical and Computational Studies of Loudness, Timbre and Audiovisual Integration. *Defended April 2011. Graduated August 2011.*
- 2007 University of Maryland, College Park. M.S., Biology.
- 2001-2005 Rutgers University, B.A. Biology. Minor: Mathematics

RESEARCH EXPERIENCE

- 2012-present Department of Radiology, The Children's Hospital of Philadelphia, Philadelphia, PA.
Non-invasive functional imaging using magnetoencephalography (MEG) and functional Magnetic Resonance Imaging (fMRI). Research focuses on auditory and audiovisual processing differences between autistic (clinical) and control populations. Signal processing, advanced statistical analysis, classification techniques and image processing are used in order to characterize responses between clinical and control populations.
- 2005-2011 Cognitive Neuroscience of Language Laboratory, University of Maryland, College Park.
Non-invasive functional cortical imaging using magnetoencephalography (MEG). Research focused on using signals of an intermediate nature between simple stimuli and ecological signals to probe cortical parsing and computation, along with cognition. Signal processing techniques (e.g. Fourier and wavelet transforms) along with advanced statistics (e.g., Linear Mixed Models) are used to analyze and evaluate the responses generated.
- 2005 Undergraduate laboratory assistant, Rutgers University. Used high-pressure liquid chromatography (HPLC) to analyze thyroid level hormones taken from rat thyroid extract.

HONORS

- 2005: Rutgers-Camden College of Arts and Sciences Alumni Association Award, Rutgers University–Camden.
- 2005: Athenaeum, Rutgers University – Camden.
- 2009-2011: CEBH Predoctoral Fellowship, Training Grant support from NIDCD (DC-00046).
- 2005-2007: Biology Department Fellowship, University of Maryland, College Park.
- 2007: Ford Foundation Fellowship Honorable Mention.

COMMUNITY INVOLVEMENT

- 2011 Graduate student representative, Department of Biology, Sensory Neurobiology Search Committee.
- 2010 *Ad hoc* reviewer for the *Journal of Neurophysiology*.

PEER-REVIEWED PUBLICATIONS

- Julian Jenkins III**, Vivian Chow, Lisa Blaskey, Emily Kushner, J. Christopher Edgar, Pratik Mukherjee, Randall Buckner, Srikantan Nagarajan, Wendy K. Chung, John Spiro, Elliott Sherr, Jeffrey I. Berman, Timothy P.L. Roberts. Auditory evoked M100 response latency is delayed in children with 16p11.2 deletion but not 16p11.2 duplication. *In press*.
- Julian Jenkins III**, Kory F. Heiken, Matthew Lanza, John W. Dell, Lidia M. Nagae, Deborah M. Zarnow, Susan E. Levy, Emily S. Kushner, J. Christopher Edgar, Timothy P.L. Roberts. Structural and functional correlates of language capability using MRI and MEG in autism. *In preparation*.
- Julian Jenkins III**, William J. Idsardi, Jonathan Z. Simon and David Poeppel. Neurophysiological characterization of timbre in speech: synthesized vowels. *In preparation*.
- Julian Jenkins III**, William J. Idsardi, Jonathan Z. Simon and David Poeppel. Psychophysical discrimination of timbre in speech using synthesized vowels. *Submitted*.
- Julian Jenkins III**, Ariane E. Rhone, William J. Idsardi, Jonathan Z. Simon and David Poeppel. The Elicitation of Audiovisual Steady-State Responses: Multi-Sensory Signal Congruity and Phase Effects. *Brain Topography*. 24 (2): 134-148, June 2011.
- Julian Jenkins III**, William J. Idsardi and David Poeppel. The Analysis of Simple and Complex Signals in Human Auditory Cortex: MEG evidence from M100 Modulation. *Ear and Hearing*. 31(4):491-504, August 2010.

CONFERENCE PRESENTATIONS

- Julian Jenkins III**, Matthew Lanza, Kory F. Heiken, Jeffrey I. Berman, Timothy P.L. Roberts. Correlations between white matter structure and neuronal processing delays using diffusion tensor imaging (DTI) and magnetic mismatch fields MMF). Poster: presented at *Society for Neuroscience*. San Diego, CA, November 9-13, 2013.
- Julian Jenkins III**, Kory F. Heiken, Lauren A. Cornew, Lisa Blaskey, Susan E. Levy, Saba A. Qasmieh, Katelyn M. Cannon, J. Christopher Edgar, Timothy P. L. Roberts. Vowel and tone processing asymmetries in autistic and typically developing children. Poster: presented at *Society for Neuroscience*. New Orleans, LA, October 13-17, 2012.
- Ariane E. Rhone; **Jenkins, Julian III**; Idsardi, William J.; Simon, Jonathan Z. and Poeppel, David. Audiovisual entrainment to pseudo-speech signals. Poster: presented at *Society for Neuroscience*. Washington DC, November 12-16, 2011.
- Julian Jenkins III**; Simon, Jonathan Z.; Poeppel, David and Idsardi, William J. Psychophysical and MEG studies of the timbre of synthesized approximations to vowels. Poster: presented at *Society for Neuroscience*. Washington DC, November 12-16, 2011.
- Julian Jenkins III**; Simon, Jonathan Z.; Poeppel, David and Idsardi, William J. Psychophysical and physiological studies of synthetic vowel harmonic structure. Poster: presented at *Neurobiology of Language*. Annapolis MD, November 10-11, 2011.
- Julian Jenkins III**; Rhone, Ariane E; Grant, Ken W; Idsardi, William J and Poeppel, David. Steady-state responses index congruence in audio-visual integration. Poster: presented at *Society for Neuroscience*. Washington DC, November 15-19, 2008.
- Julian Jenkins III** and David Poeppel. The analysis of loudness in simple and complex sinusoidal tones: MEG evidence from human auditory cortex. Poster presented at *Society for Neuroscience*. San Diego, California, November 3-7, 2007.

INVITED TALKS

Computational, Psychophysical and Physiological Timbre Evaluation. University of Pennsylvania.

Philadelphia, Pennsylvania, February 2012.

MEG Studies of Loudness, Audiovisual Integration and Timbre Perception. Children's Hospital. Philadelphia, Pennsylvania, August 2011.

Computational, Psychophysical and Physiological Timbre Evaluation. University of Texas Houston Medical Center. Houston, Texas, July 2011.

The elicitation of audiovisual steady-state responses: multisensory congruity and phase effects. Center for Comparative Biology of Hearing(C-CEBH) – National Institutes of Health, National Institute for Deafness and other Communication Disorders (NIDCD) Joint Meeting. University of Maryland, College Park, April 2010.

The elicitation of audiovisual steady-state responses: multisensory congruity and phase effects. Success Strategies for Emerging Faculty. University of Delaware, September 2010.

The elicitation of audiovisual steady-state responses: multisensory congruity and phase effects. University of Delaware, December 2010.

TEACHING EXPERIENCE

Lecturer, College of Computer, Mathematical and Natural Sciences, University of Maryland. BSCI 330: Cell Biology and Physiology, summer 2011. Duties: lecture development and presentation, grading and student assessment, oversight of TAs.

Teaching Assistant, College of Computer, Mathematical and Natural Sciences, University of Maryland. BSCI 440: Mammalian Physiology, summer 2011. Duties: led discussion section, office hours, grading.

Teaching Assistant, College of Chemical and Life Sciences, University of Maryland. BSCI 440: Mammalian Physiology, summer 2009. Duties: led discussion section, office hours, grading.

Guest Lecturer, BSCI 440: Mammalian Physiology, spring 2009.

Guest Lecturer, BSCI 440: Mammalian Physiology, spring 2008.

Teaching Assistant, College of Chemical and Life Sciences, University of Maryland. BSCI 440: Mammalian Physiology, spring 2008. Duties: led discussion section, office hours, grading.

Mentor, Academic Support and Career Development Unit, Athletic Department, University of Maryland, 2007-pres. Duties: tutors student athletes in Life Science and Mathematics courses.

Teaching Assistant, College of Chemical and Life Sciences, University of Maryland, BSCI 454: Neurobiology Laboratory, fall 2007. Duties: taught laboratory section, grading, office hours.

Teaching Assistant, College of Chemical and Life Sciences, University of Maryland BSCI 222: Genetics, summer 2007. Duties: discussion section, office hours, grading.

Lecture Teaching Assistant, College of Chemical and Life Sciences, University of Maryland BSCI 222: Genetics, fall 2006. Duties: grading.

Teaching Assistant, College of Chemical and Life Sciences, University of Maryland, BSCI 440: Mammalian Physiology, summer 2006. Duties: discussion section, office hours, grading.

Teaching Assistant, College of Chemical and Life Sciences, University of Maryland, BSCI 440: Mammalian Physiology, spring 2006. Duties: discussion section, office hours, grading.

Lecture Teaching Assistant, College of Chemical and Life Sciences, University of Maryland, BSCI 222: Genetics, fall 2005. Duties: grading.

PROFESSIONAL MEMBERSHIP

2007-present Member, *Society for Neuroscience*.

TECHNICAL SKILLS

- Scripting and data visualization for basic and advanced statistical analysis in R and Python.
- Numerical analysis and statistical model creation in R, MATLAB, Python, and Julia.
- Scripting and basic text analysis in Python.
- Basic knowledge of SQL.
- Use of interactive dashboards and Adobe Illustrator to visualize and summarize data.
- Familiarity with Microsoft Windows, Mac OS X, Unix-alike operating systems.
- Proficiency with Microsoft Office suite.