

## Jason W. Bohland, Ph.D.

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### Professional Employment:

2017 – Present Associate Director / Senior Research Scientist, Cognitive Neuroimaging Center  
Rajen Kilachand Center for Integrated Life Sciences and Engineering  
Boston University, Boston, MA

2009 – 2017 Assistant Professor, Department of Health Sciences  
College of Health & Rehabilitation Sciences: Sargent College  
Boston University, Boston, MA

#### Additional affiliations at Boston University:

Assistant Professor, Department of Speech, Language & Hearing Sciences  
Joint Programmatic Appointment, Undergraduate Program in Neuroscience  
Faculty, Graduate Program for Neuroscience  
Junior Faculty Fellow, Rafik B. Hariri Institute for Computational Science and Engineering  
Faculty, Center for Research in Sensory Communication & Emerging Neural Technology  
Faculty, Center for Systems Neuroscience  
Faculty, Center for Computational Neuroscience and Neural Technology  
Faculty, Center of Excellence for Learning in Education, Science and Technology

2009 – 2013 Paid Research Consultant, Brain Architecture Project  
Cold Spring Harbor Laboratory, Cold Spring Harbor, NY

2007 – 2009 Scientific Informatics Manager, Brain Architecture Project  
Cold Spring Harbor Laboratory, Cold Spring Harbor, NY

2007 Postdoctoral Fellow, Brain Architecture Project  
Cold Spring Harbor Laboratory, Cold Spring Harbor, NY

### Education:

**Cold Spring Harbor Laboratory**, Cold Spring Harbor, NY  
Postdoctoral advisor: Partha P. Mitra, Ph.D.  
March 2007 – August 2009

**Boston University**, Boston, MA  
Doctor of Philosophy, Cognitive and Neural Systems  
Dissertation: *Neuroimaging and computational modeling of syllable sequence production*  
Dissertation advisor: Frank H. Guenther, Ph.D.  
January, 2007

**University of Cincinnati**, Cincinnati, OH  
Master of Science, Electrical Engineering, Systems Engineering specialization (*Honors*)  
Thesis: *Associative memory on small-world networks*  
Thesis advisor: Ali A. Minai, Ph.D.  
June, 2000

**University of Cincinnati**, Cincinnati, OH  
Bachelor of Science, Computer Engineering (*Cum Laude*)  
June, 1998

## **Academic and Professional Honors:**

2015	Whitney R. Powers Award for Teaching Excellence, Boston University College of Health and Rehabilitation Sciences: Sargent College
2013	Organization for Human Brain Mapping Hackathon Winner (“MNI Mashup” challenge; member of team Mindboggle-102)
2012	Competitively selected as Junior Faculty Fellow, Rafik B. Hariri Institute for Computing and Computational Science and Engineering, Boston University
2012	Competitively selected for participation in ASHA/NIDCD Lessons for Success Workshop, Rockville, MD (fully funded fellowship)
2011	Nominated for Alfred P. Sloan Foundation Sloan Research Fellowship in Neuroscience (not selected)
2011	Featured Speech Science Lecturer, American Speech Language Hearing Association (ASHA) Convention, November 2011, San Diego, CA.
2011	Commencement Speaker, Boston University Undergraduate Program in Neuroscience (selected by student body)
2004	Organization for Human Brain Mapping Travel Award
2000	Presidential University Graduate Fellowship, Boston University
2000	Electrical Engineering Special Service Award, University of Cincinnati
1998 – 2000	M.S. Honors Program, Electrical Engineering, University of Cincinnati
1994 – 1998	University Honors Scholarship, University of Cincinnati

## **Peer-reviewed articles:** (asterisks indicate a student co-author)

Google Scholar: <https://goo.gl/frghfA>

19. Cler MJ\*, Lee JC\*, Mittelman T\*, Stepp CE, and Bohland JW (accepted). Kinematic analysis of speech sound sequencing errors induced by delayed auditory feedback. *Journal of Speech, Language, and Hearing Research*.
18. Markiewicz CJ\* and Bohland JW (2016). Mapping the cortical representation of speech sounds in a syllable repetition task. *NeuroImage*, 141: 174-190.
17. Bohland JW (2016). Toward a multimodal, multiscale understanding of white matter abnormalities in autism spectrum disorder. *Biological Psychiatry*, 79(8): e47-48.
16. Sandberg CW\*, Bohland JW, Kiran S (2015). Changes in functional connectivity related to direct training and generalization effects of a word finding treatment in chronic aphasia. *Brain and Language*, 150:103-116.
15. Myers EM\*, Bartlett CW, Machiraju R, Bohland JW (2015). An integrative analysis of regional gene expression profiles in the human brain. *Methods*, 73: 54-70.
14. Grange P, Bohland JW, Okaty BW, Sugino K, Bokil H, Nelson SB, Ng L, Hawrylycz M, Mitra PP (2014). Cell-type based model explaining co-expression patterns of genes in the brain. *Proceedings of the National Academy of Sciences of the United States of America*, 111(14): 5397-402.
13. Bohland JW, Myers EM\*, Kim E\* (2014). An informatics approach to integrating genetic and neurological data in speech and language neuroscience. *Neuroinformatics*, 12(1): 1109-19.
12. Wolock S, Yates A, Petri SA, Bohland JW, Blair C, Li N, Machiraju R, Huang K, Bartlett C (2013). Gene × smoking interactions on human brain gene expression: finding common mechanisms in adolescents and adults. *Journal of Child Psychology and Psychiatry*, 54(10):1109-19
11. Bohland JW, Saperstein S\*, Pereira F, Grady L (2012). Network, anatomical, and non-imaging measures for the prediction of ADHD diagnosis in individual subjects. *Frontiers in Systems Neuroscience*, 6: 78.
10. Golfinopoulos E, Tourville JA, Bohland JW, Ghosh SS, Nieto-Castanon A, Guenther FH (2011). fMRI investigation of unexpected somatosensory feedback perturbation during speech. *NeuroImage*. 55(3): 1324-39.

9. [Bohland JW](#), Bokil H, Pathak SD, Lee CK, Ng L, Lau C, Kuan C, Hawrylycz M, Mitra PP (2010). Clustering of spatial gene expression patterns in the mouse brain and comparison with classical neuroanatomy. *Methods*, 50(2), 105-112.
8. [Bohland JW](#), Bullock D, Guenther FH (2010). Neural representations and mechanisms for the performance of simple speech sequences. *Journal of Cognitive Neuroscience*, 22(7), 1504-1529.
7. [Bohland JW](#), Bokil H, Allen CB, Mitra PP (2009). The brain atlas concordance problem: quantitative comparison of anatomical parcellations. *PLoS ONE*, 4(9), e7200.
6. [Bohland JW](#), Wu C, Barbas H, Bokil H, Bota M, Breiter HC, Cline HT, Doyle JC, Freed PJ, Greenspan RJ, Haber SN, Hawrylycz M, Herrera DG, Hilgetag CC, Huang ZJ, Jones A, Jones EG, Karten HJ, Kleinfeld D, Kötter R, Lester HA, Lin JM, Mensh BD, Mikula S, Panksepp J, Price JL, Safdieh J, Saper CB, Schiff ND, Schmahmann JD, Stillman BW, Svoboda K, Swanson LW, Toga AW, Van Essen DC, Watson JD, Mitra PP (2009). A proposal for a coordinated effort for the determination of brainwide neuroanatomical connectivity in model organisms at a mesoscopic scale. *PLoS Computational Biology*, 5(3), e1000334.
5. Ng L, Bernard A, Lau C, Overly CC, Dong HW, Kuan C, Pathak S, Sunkin SM, Dang C, [Bohland JW](#), Bokil H, Mitra PP, Puelles L, Hohmann J, Anderson DJ, Lein ES, Jones AR, Hawrylycz M (2009). An anatomic gene expression atlas of the adult mouse brain. *Nature Neuroscience*, 12(3), 356-62.
4. Lin JM, [Bohland JW](#), Andrews P, Burns GA, Allen CB, and Mitra PP (2008). An analysis of the abstracts presented at the annual meetings of the Society for Neuroscience from 2001 to 2006. *PLoS ONE*, 3(4), e2052.
3. [Bohland JW](#) and Guenther FH (2006). An fMRI investigation of syllable sequence production. *NeuroImage*, 32 (2), 821-841.
2. Guenther FH and [Bohland JW](#) (2002). Learning sound categories: a neural model and supporting experiments. *Acoustical Science and Technology*, 23(4): 213-220.
1. [Bohland JW](#) and Minai AA (2001). Efficient associative memory using small-world architecture. *Neurocomputing*, 38-40, 489-496.

#### **Book chapters:**

- Guenther FH, Tourville JA, and [Bohland JW](#) (2014). Speech production. In Toga AW and Poldrack RA (eds.). *Brain Mapping: An Encyclopedic Reference*. Amsterdam: Elsevier.
- “PET and fMRI”. In Mitra PP and Bokil H (2007). *Observed Brain Dynamics* (2007). Oxford University Press, USA (primary author of book chapter).

#### **Other publications:**

- Grange P, [Bohland JW](#), Hawrylycz M, Mitra PP. Brain gene expression analysis: A MATLAB toolbox for the analysis of brain-wide gene-expression data. arXiv:1211.6177 [q-bio.NC].
- Guenther FH, Ghosh SS, Nieto-Castanon A, Tourville JA, and [Bohland JW](#) (2002). ‘Holes’ in the brain help us sort out sounds. “Lay language” press paper for the 143<sup>rd</sup> Meeting of the Acoustical Society of America, Pittsburgh, PA.

#### **Conference abstracts:** (asterisks indicate a student co-author, † indicates presenter)

- Cler MJ<sup>\*†</sup>, Lee JC<sup>\*</sup>, Mittelman T<sup>\*</sup>, Stepp CE, and [Bohland JW](#) (July 2017). Multivariate analyses for large articulatory datasets of speech and induced speech errors. 7<sup>th</sup> International Conference on Speech Motor Control, Groningen, The Netherlands. (oral presentation).
- Markiewicz CJ<sup>\*</sup> and [Bohland JW](#)<sup>†</sup> (July 2017). Dissociating input- and output-related representations of speech in syllable repetition. 7<sup>th</sup> International Conference on Speech Motor Control, Groningen, The Netherlands.
- Myers EM<sup>\*</sup> and [Bohland JW](#)<sup>†</sup> (March 2017). The transcriptional landscape of genes implicated in stuttering. Boston Speech Motor Control Mini-Symposium, Boston, MA.
- [Bohland JW](#)<sup>†</sup> and Myers EM<sup>\*</sup> (November 2016). The transcriptional landscape of genes implicated in speech and language disorders. American Speech-Language-Hearing Convention, Philadelphia. (oral presentation).
- Markiewicz CJ<sup>\*</sup>, Kroshian GS<sup>\*</sup>, You J<sup>\*</sup>, and [Bohland JW](#)<sup>†</sup> (June 2016). Multivariate analysis of input and output representations in speech. Organization for Human Brain Mapping Annual Meeting, Geneva.

Bohland JW<sup>†</sup>, Novin D<sup>\*</sup>, Kapse K, and Kiran S (June 2016). Graph-theoretic comparison of resting-state networks in patients with aphasia and healthy controls. Organization for Human Brain Mapping Annual Meeting, Geneva.

Poline JB<sup>†</sup>, Bohland JW<sup>†</sup>, Evans A, Feng D, Flandin G, Fonov V, Ghosh S, Janke A, Jenkinson M, Kennedy D, Lerch J, Ng L, Tourville J, Vincent R, and Zollei L (June 2016). Standardizing neuroimaging atlas formats. Organization for Human Brain Mapping Annual Meeting, Geneva.

Cler MJ<sup>\*†</sup>, Lee JC<sup>\*</sup>, Mittelman T<sup>\*</sup>, Stapp CE, and Bohland JW. (Mar 2016). Electromagnetic articulographic analysis of speech sound sequencing errors induced by delayed auditory feedback. Conference on Motor Speech, Newport Beach, CA.

Bohland JW<sup>†</sup>, Eden UT, and Kramer MA (Nov 2015). An open, online course in neuronal data analysis for the practicing neuroscientist. NIH BD2K All Hands Meeting, Bethesda, MD.

Beal D<sup>†</sup>, Bohland JW, and Bartlett, CW (Nov 2015). Family aggregation of developmental stuttering. 2015 American Speech-Language-Hearing Association Convention, Denver, CO.

Markiewicz CJ<sup>\*†</sup> and Bohland JW (Jun 2015). Localizing categorical speech representations in perception and production. Neural Processing in Humans, Animals, and Man, Boston, MA.

Myers EM<sup>\*†</sup>, Feng D, Hawrylycz M, and Bohland JW (Jun 2015). Regional molecular homologies in the mouse and human brain. Neural Processing in Humans, Animals, and Man, Boston, MA.

Johnson CJ<sup>\*†</sup> and Bohland JW (Nov 2014). Localizing categorical speech representations in perception and production. 44<sup>th</sup> Annual Meeting of the Society for Neuroscience, Washington D.C. (oral presentation).

Myers EM<sup>\*†</sup> and Bohland JW (Nov 2014). Comparison of regional and brain-wide gene coexpression relationships in the human and mouse. 44<sup>th</sup> Annual Meeting of the Society for Neuroscience, Washington D.C.

Yan R<sup>\*†</sup>, Myers EM<sup>\*</sup>, and Bohland, JW (Nov 2014). A survey of gene expression across cortical areas in the adult mouse and human brains. 44<sup>th</sup> Annual Meeting of the Society for Neuroscience, Washington D.C.

Saperstein S<sup>\*†</sup>, Sekuler R, and Bohland JW (Nov 2014). Topography and temporal dynamics of resting state network signatures in high-density EEG. 44<sup>th</sup> Annual Meeting of the Society for Neuroscience, Washington D.C.

Bohland JW<sup>†</sup>, Kapse K, and Kiran S (Oct 2014). Graph analytic characterization of resting state networks in post-stroke aphasia. Academy of Aphasia 52<sup>nd</sup> Annual Meeting, Miami, FL. (oral platform presentation).

Saperstein S<sup>\*†</sup>, Sekuler R, and Bohland JW (Sep 2014). Network signatures of resting state in high-density EEG. 4<sup>th</sup> Biennial Conference on Resting State Brain Connectivity, Cambridge, MA.

Bohland JW<sup>†</sup>, Kapse K, and Kiran S (Sep 2014). Graph-theoretic analysis of resting state brain networks in post-stroke aphasia. 4<sup>th</sup> Biennial Conference on Resting State Brain Connectivity, Cambridge, MA.

Johnson CJ<sup>\*</sup> and Bohland JW<sup>†</sup> (Aug 2014). Mapping the cortical representation of speech sounds during syllable repetition. 6<sup>th</sup> Annual Meeting of the Society for the Neurobiology of Language, Amsterdam, NL.

Bohland JW<sup>†</sup>, Kapse K, and Kiran S (Aug 2014). Graph-theoretic analysis of resting state brain networks in post-stroke aphasia. 6<sup>th</sup> Annual Meeting of the Society for the Neurobiology of Language, Amsterdam, NL.

Yan R<sup>\*</sup> and Bohland JW<sup>†</sup> (Aug 2014). Classification of cortical areas using gene expression profiles. 7<sup>th</sup> International Neuroinformatics Coordinating Facility (INCF) Neuroinformatics Congress. Leiden, NL.

Yan R<sup>\*†</sup> and Bohland JW (Jul 2014). Classification of cortical areas from gene expression profiles in the mouse brain. 22<sup>nd</sup> Annual Conference on Intelligent Systems for Molecular Biology, Boston, MA.

Myers E<sup>\*†</sup> and Bohland JW (Jul 2014). Region-specific molecular signatures in the human and mouse brain. 22<sup>nd</sup> Annual Conference on Intelligent Systems for Molecular Biology, Boston, MA.

Malloy JR<sup>\*†</sup>, Nistal D<sup>\*</sup>, and Bohland JW (Mar 2014). A study of speech sound sequencing errors due to delayed auditory feedback. Motor Speech Conference, Sarasota, FL.

Johnson CJ<sup>\*†</sup> and Bohland JW (Mar 2014). Localizing speech sound representations in a syllable repetition task. 6<sup>th</sup> Annual inter-Science of Learning Center Student and Post-Doc Conference, Pittsburgh, PA.

Beal DS<sup>†</sup>, Bohland JW, and Bartlett CW (Nov 2013) Pathway to a cure: A strategic research plan to identify the genetic and neural underpinnings of developmental stuttering. 12<sup>th</sup> Annual New Principal Investigators Meeting for the Institutes of Genetics and Neurosciences, Mental Health and Addiction, Canadian Institutes of Health Research, Montreal, QC, Canada. (oral presentation)

Myers EM<sup>\*†</sup> and Bohland JW (Jun 2013). A data-driven study of comparative molecular neuroanatomy. 17<sup>th</sup> International Conference on Cognitive and Neural Systems, Boston, MA. (oral presentation).

- Myers EM\*<sup>†</sup> and Bohland JW (Oct 2012). A database and analyses of gene expression patterns related to heritable disorders of speech and language. 42<sup>nd</sup> Annual Meeting of the Society for Neuroscience, New Orleans, LA.
- Grange P<sup>†</sup>, Bohland JW, Hawrylycz M, and Mitra PP (Oct 2012). A toolbox for computational molecular neuroanatomy. 42<sup>nd</sup> Annual Meeting of the Society for Neuroscience, New Orleans, LA.
- Galbraith BV\*<sup>†</sup>, Bohland JW, Jakimo N\*, Havkin GZ, Pinskiy V\*, Mitra PP (Oct 2012). The mouse brain architecture project web portal. 42<sup>nd</sup> Annual Meeting of the Society for Neuroscience, New Orleans, LA.
- Johnson CJ\*<sup>†</sup>, Mitra PP, Bohland JW (Oct 2012). The online brain atlas reconciliation tool: A web application for MRI atlas exploration and multi-atlas labeling. 42<sup>nd</sup> Annual Meeting of the Society for Neuroscience, New Orleans, LA.
- Bohland JW<sup>†</sup>, Saperstein S\*, Kim E\*, Zeid O\*, Hawrylycz M (Nov 2010). Towards a knowledgebase for the architecture of speech and language brain systems. 2<sup>nd</sup> Annual Neurobiology of Language Conference, San Diego, CA. (oral presentation).
- Wang H<sup>†</sup>, Grange P, Bohland JW, Pinsky V\*, Germann J, Khabbaz AN, Henkelman RM, Mitra PP (Nov 2010). A digital reference atlas guiding semi-automated stereotaxic surgery. 40<sup>th</sup> Annual Meeting of the Society for Neuroscience, San Diego, CA.
- Wang H, Bohland JW, Grange P, Svoboda K, and Mitra PP<sup>†</sup> (May 2010). A digital reference atlas for brainwide connectivity data in mouse. Turning Images to Knowledge, HHMI Janelia Farm Meeting, Ashburn, VA.
- Bohland JW<sup>†</sup>, Bokil H, Pathak S, Lin JM, Lee CK, Ng L, Osorio-Duque F, Lau C, Herrera DG, Hawrylycz M, Mitra PP (2008). Clustering of spatial gene expression patterns in the mouse brain and comparison with classical neuroanatomy. 38<sup>th</sup> Meeting of the Society for Neuroscience, Washington, DC.
- Bokil H<sup>†</sup>, Bohland JW, Pathak S, Lin JM, Lee CK, Ng L, Osorio-Duque F, Lau C, Herrera DG, Hawrylycz M, Mitra PP (2008). Spatial correlation and localization patterns of gene expression in the mouse brain. 38<sup>th</sup> Annual Meeting of the Society for Neuroscience, Washington DC.
- Lin JM<sup>†</sup>, Bohland JW, Wu C, Berwick RC, Di Sciuillo AM, Mitra PP (2008). A literature mining and curation system for neuroscience knowledge discovery. 38<sup>th</sup> Annual Meeting of the Society for Neuroscience, Washington D.C.
- Bohland JW<sup>†</sup>, Bokil H, Wu C, Breiter HC, Makris N, Kennedy DN, Allen CB, and Mitra PP (2007). Quantitative comparison of anatomical parcellation schemes for MRI. 37<sup>th</sup> Annual Meeting of the Society for Neuroscience, San Diego, CA.
- Lin JM<sup>†</sup>, Andrews PA, Burns GA, Bohland JW, Allen CB, and Mitra PP (2007). Community structure of neuroscience research: inferences from a co-authorship graph of Society for Neuroscience meeting abstracts. 37<sup>th</sup> Annual Meeting of the Society for Neuroscience, San Diego, CA.
- Reilly KJ<sup>†</sup>, Guenther FH, Tourville JA, and Bohland JW (2007). A neuroimaging investigation of auditory-motor learning. *Journal of the Acoustical Society of America* (154<sup>th</sup> Meeting of the Acoustical Society of America, New Orleans), 122 (5 Pt 2): 3087.
- Bohland JW<sup>†</sup>, Guenther FH, and Bullock D (2006). Modeling and imaging of sequencing in speech production. 10<sup>th</sup> International Conference on Cognitive & Neural Systems, Boston (oral presentation).
- Reilly KJ<sup>†</sup>, Guenther FH, Tourville JA, and Bohland JW (2006). Brain activations during learning of a novel speech sensorimotor mapping. *Conference on Motor Speech*, Austin, TX.
- Ghosh SS and Bohland JW (2005). A speech recording setup for fMRI with online reduction of scanner noise. *NeuroImage* (11<sup>th</sup> Annual Meeting of the Organization for Human Brain Mapping, Toronto), 26 (S1): S42.
- Tourville JA, Guenther FH, Ghosh SS, Reilly KJ, Bohland JW, and Nieto-Castanon A (2005). Effects of acoustic and articulatory perturbation on cortical activity during speech production. *NeuroImage* (11<sup>th</sup> Annual Meeting of the Organization for Human Brain Mapping, Toronto), 26 (S1): S49.
- Tourville JA, Guenther FH, Ghosh SS, and Bohland JW (2004). Effects of jaw perturbation on cortical activity during speech production. *Journal of the Acoustical Society of America* (75<sup>th</sup> Meeting of the Acoustical Society of America, San Diego), 116 (4): 2631.
- Bohland JW and Guenther FH (2004). An fMRI investigation of the neural bases of sequential organization for speech production. *NeuroImage* (10<sup>th</sup> Annual Meeting of the Organization for Human Brain Mapping, Budapest, Hungary), 22 (S1): S41.
- Ghosh SS, Bohland JW, and Guenther FH (2003). Comparisons of brain regions involved in overt production of elementary phonetic units. *NeuroImage* (9<sup>th</sup> Annual Meeting of the Organization for Human Brain Mapping, New York), 19 (2): S57.

**Invited presentations:**

- “Dissociating input- and output-related representations of speech in syllable repetition”. Cognitive Neuroscience Society Satellite Symposium: Neural Bases of Speech Production, San Francisco, March 2017.
- “The role of auditory feedback in serial speech.” 2017 Boston Speech Motor Control Mini-Symposium, Boston University, March 2017.
- “A comparative study of gene expression in the mouse and human brain.” Delft Bioinformatics Lab, Technical University of Delft, The Netherlands, June 2016.
- “Unraveling the multimodal architecture of neural systems for speech and language.” Boston University Research Computing Governance Committee, April 2016.
- “Mining gene expression data in the mouse and human brain.” Boston University Data Science Day, January 2016.
- “Behavioral and brain imaging studies of speech ‘input’ and ‘output’ representations.” Boston University Department of Psychological and Brain Sciences Brain, Behavior, and Cognition Seminar Series, April 2015.
- “Data Contest: Similarity of resting-state functional brain networks.” 4<sup>th</sup> Symposium on Biological Data Visualization, Boston, MA, July 2014.
- “Encoding of speech sequences during repetition tasks: neural correlates and effects of delayed feedback.” Boston University Department of Speech, Language, & Hearing Sciences Colloquium Series, April 2014.
- “From genes to neural systems: the transcriptome as an intermediate phenotype.” Boston University Rafik B. Hariri Institute for Computing and Computational Science & Engineering Seminar, March 2014.
- “Multivariate investigations of neuroanatomically-linked gene expression atlases in mouse and human.” Brandeis University Computational Neuroscience, Waltham, MA, December 2013.
- “Multivariate investigations of neuroanatomically-linked gene expression atlases in mouse and human.” Pfizer Computational Neurology Working Group, Cambridge, MA, December 2013.
- “fMRI resting state networks: overview and analysis challenges.” Domain expert invited talk. 3<sup>rd</sup> IEEE Symposium on Biological Data Visualization, Atlanta, GA, October 2013.
- “Mining brain images for diagnosis and disease understanding.” Sargent Alumni Weekend Technology Expert Panel, Boston, MA, October 2013.
- “Data-driven studies of the large-scale molecular architecture of the mouse and human brain.” Boston University Systems Biology Seminar Series, October 2012.
- “The GODIVA model.” Workshop on The syllable as an emerging unit of information, processing, and production. Neukom Institute for Computational Science; Linguistics and Cognitive Science, Dartmouth College, Dartmouth, NH, September, 2012.
- “Data-driven studies of large-scale molecular and circuit architecture of the brain.” Martinos Center for Biomedical Imaging, Massachusetts General Hospital, BrainMap Seminar Series, Charlestown, MA, May 2012.
- “Brain architecture and neuroinformatics: applications for speech and language systems.” Speech Science Featured Lecture, American Speech-Language-Hearing Association Convention, San Diego, CA, November, 2011.
- “Informatics efforts linking gene expression data to speech / language brain systems.” USC International Workshop on Action, Language, and Neuroinformatics, Los Angeles, CA, July, 2011.
- “Large-scale, data driven approaches to understanding brain architecture.” Boston University Program in Neuroscience Seminar Series, December, 2009.
- “Neuroanatomy 2.0: Large scale approaches to understanding the organization of the brain.” Cold Spring Harbor Laboratory Seminar Series, Cold Spring Harbor, NY, March, 2009.
- “Reverse engineering the brain.” Strongsville High School Science Club, Strongsville, OH, November 2006.
- “An fMRI investigation of syllable sequence production.” Massachusetts Institute of Technology Neurolinguistics Group, Cambridge, MA, April, 2006.

“Neural substrates for syllable sequence planning and production.” Massachusetts Institute of Technology Speech Communication Group Seminar Series, Cambridge, MA, March, 2006.

“Modeling the representation of speech sounds in auditory cortical areas.” 145<sup>th</sup> Meeting of the Acoustical Society of America, Nashville, TN, April 29, 2003.

### **Research Funding:**

#### **Grants Funded (Active):**

NIH R25 GM11-01A1: *An open, online course in neuronal data analysis for the practicing neuroscientist*, PIs: Jason W. Bohland, Uri T. Eden, and Mark A. Kramer, 09/15/2015 – 06/30/2018.

NSF BCS 1655287: *The effects of delayed auditory feedback on speech sequencing: acoustics, physiology, and computational modeling*. PI: Jason W. Bohland, 03/2017 – 02/2020.

#### **Grants Funded (Completed):**

American Speech-Language-Hearing Foundation New Century Scholars Award: *The transcriptional landscape of genes implicated in speech and language disorders*. 01/2016 – 12/31/2016. PI: Jason W. Bohland

Rafik B. Hariri Institute for Computing and Computational Science & Engineering Research Award: *Computational neuroimaging analysis of language and cognitive control networks: Mining the Human Connectome Project data set*, PIs: Jason W. Bohland and David Somers, 07/2014 – 05/2016.

Women’s and Children’s Health Research Institute Innovation Award: *Genetic contributions to developmental stuttering*, PI: Deryk Beal (University of Alberta). 2013-2014. Role: co-investigator.

Dudley Allen Sargent Research Fund: *Classification of cortical areas using gene expression profiles*, PI: Jason W. Bohland, 06/2013 – 11/2014.

Dudley Allen Sargent Research Fund: *Understanding the nature of resting state connectivity in individuals with post-stroke aphasia*, co-PIs: Swathi Kiran and Jason W. Bohland, 06/2013 – 11/2014.

NSF SMA-0835976: *CELEST: A Center of Excellence for Learning in Education, Science, and Technology*, PI: Barbara Shinn-Cunningham (Boston University), 3/1/2010 – 2/28/2015. Prof. Bohland received competitive funding for graduate student stipends and other expenses on two CELEST-sponsored projects.

R01 MH084802-01: *The Online Brain Atlas Reconciliation Tool*, PI: Partha P. Mitra (Cold Spring Harbor Laboratory), 08/01/2010 – 05/31/2013. Role: Co-investigator (subcontract to Boston University).

### **Research Mentoring Experience:**

#### *Postdoctoral fellows:*

Samantha Michalka, PhD, 2016, Currently an Assistant Professor at Olin College, Needham, MA.

Emma Myers, PhD, 2017, Currently Postdoctoral Associate at Brandeis University, Waltham, MA.

#### *PhD students:*

Christopher Markiewicz (Boston University, Cognitive & Neural Systems, 2011 – 2016, Primary Mentor / First Reader)

Emma Myers (Boston University, Graduate Program for Neuroscience, 2010 – 2017, Primary Mentor / First Reader)

Meredith Cler (Boston University, Graduate Program for Neuroscience, 2014 – Present, 2014 Lab Rotation, Committee Chair)

Sara Saperstein (Boston University, Graduate Program for Neuroscience, 2010 – 2015, Primary Mentor)

Omar Zeid (Boston University, Cognitive & Neural Systems, 2010 – 2012, Primary Mentor)

Marissa Simms (Boston University, Anatomy & Neurobiology, 2009 – 2010, Lab Rotation)  
Chris Watson (Boston University, Graduate Program for Neuroscience, 2015 - 2016, Committee Member and Chair)  
Erin Meier (Boston University, Speech, Language, & Hearing Sciences, 2015 – Present, Committee Member)  
Ahmed Mahfouz (Delft University of Technology, 2016, External Committee Member)  
Madhura Baxi (Boston University, Graduate Program for Neuroscience, 2016, Lab Rotation)  
Chaleece Sandberg (Boston University, Speech, Language, and Hearing Sciences, 2014, Reader)  
Samantha Michalka (Boston University, Graduate Program for Neuroscience, 2014, Reader)  
Lingqiang Kong (Boston University, Cognitive & Neural Systems, 2012, Committee Member)  
Melissa St. Hilaire (Boston University, Cognitive & Neural Systems, 2012, Committee Member)  
Elisa Golfopoulos (Boston University, Cognitive & Neural Systems, 2012, Committee Member)  
Alex Storer (Boston University, Cognitive & Neural Systems, 2010, Committee Member)

*Master's students:*

Timothy Farrell (Boston University, Bioinformatics, 2015 – 2016, Primary research advisor)  
Kaitlin Dempsey (Boston University, Human Physiology, 2016, Mentor for critical review paper)  
Raymond Yan (Boston University, Bioinformatics, 2013 – 2015, Primary research advisor)  
Emily Franz (Boston University, Human Physiology, 2015, Mentor for critical review paper)  
Hannah Rutherford (Boston University, Human Physiology, 2014, Mentor for critical review paper)  
Christine Mitchell (Boston University, Human Physiology, 2013, Mentor for critical review paper)  
Margaux Canevari (Boston University, Human Physiology, 2011 – 2012, Thesis reader)  
Deepika Cattray (Boston University, Human Physiology, 2011, Mentor for critical review paper)

*Undergraduate students:*

Grace Michnovicz (Boston University, Neuroscience, 2017)  
Vincent Pennetti (Boston University, Human Physiology, 2017, Dean's Scholars Program)  
Anant Gupta (Boston University, Biomedical Engineering, 2017, Paid Research Assistant)  
Delaney Moran (Middlebury College, 2016, Undergraduate Summer Program in Neuroscience)  
Garen Kroshian (Boston University, Human Physiology, 2015-2016, Thesis mentor)  
Deana Novin (Boston University, Neuroscience, 2014-2016, Computational Neuroscience trainee, Thesis mentor)  
Jackson Lee (Boston University, Neuroscience, 2015-2016)  
Nishmar Cestero (Boston University, Psychological and Brain Sciences, Thesis committee member)  
Jacqueline You (Boston University, Computer Science, 2014-2015)  
Jake Uminski (Boston University, Neuroscience, 2014-2015, Thesis mentor)  
Mengyuan Xu (Boston University, Psychological and Brain Sciences, 2015, Thesis committee member)  
Aparna Panja (Boston University, Neuroscience, 2015, Thesis committee member)  
Talia Rainey (Boston University, Neuroscience, 2014, Thesis committee member)  
Dominic Nistal (Johns Hopkins University, Neuroscience, 2013, CELEST summer internship program)  
Jessica Malloy (Boston University, Neuroscience, 2012-2013, Thesis mentor)  
Noah Kelley (Boston University, Neuroscience, 2011)  
Krhystyne Pablo (Boston University, Neuroscience, 2011)  
Marlee McDonald (Boston University, Physics and Music, 2011)  
Alexander Vera (Boston University, Neuroscience and Music Composition, 2010, CELEST summer internship program)  
Esther Kim (University of Maryland, Biological Sciences, 2010, CELEST summer internship program)

*High School students:*

Johan Girgenrath (Medway High School, 2015, summer volunteer)

**Teaching Experience:**

**Courses taught or developed at Boston University:**



SAR HP151 (2 credits) *Introduction to Health Professions (Spring 2010-2017)*  
SAR HS361 / CAS NE360 (4 credits) *Introduction to Computational Neuroscience of Speech, Language, and Hearing (Fall 2010-2016)*  
CAS NE202 (4 credits) *Introduction to Cognitive Neuroscience (Spring 2017)*

*An Open, Online Course in Neuronal Data Analysis (edX online course currently in development)*

*Guest Lectures: Topics in the Theory of Biological Networks (Spring 2011-2012)*  
*Speech, Language, and Hearing Sciences Doctoral Seminar (Fall 2013, Spring 2017)*  
*Frontiers in Neuroscience (Fall 2011 and 2013-2014)*  
*Neural Systems: Functional Circuit Analysis (Spring 2016, 2017)*

### **Additional teaching experience:**

- 2007 – 2012 *Faculty*, Neuroinformatics Summer Course  
Marine Biological Laboratory, Woods Hole, MA  
Topics: Human brain atlases, fMRI analysis, Databases and web programming, image processing
- 2010 – 2011 *Faculty*, Workshop on Circuit and Molecular Architecture of the Vertebrate Brain  
Cold Spring Harbor Laboratory, Cold Spring Harbor, NY  
Topics: Computational neuroanatomy, image processing
- 2002 – 2003 *Teaching Assistant*, Department of Cognitive and Neural Systems  
Boston University, Boston, MA  
Courses: Principles and Methods of Cognitive and Neural Modeling II and Neural and Computational Models of Recognition, Memory and Attention
- 1999 - 2000 *Instructor*, College of Engineering and College of Continuing Education  
University of Cincinnati, Cincinnati, OH  
Courses: Introduction to C++, Introduction to Java and Web Programming, Data Structures and Discrete Math, and Computer Architecture and Organization.
- 1998 – 1999 *Teaching Assistant*, Department of Electrical and Computer Engineering  
University of Cincinnati, Cincinnati, OH  
Courses: Measurements Lab, Electronics Lab, Intro to UNIX, Compiler Theory.

### **Professional Memberships:**

Society for Neuroscience (SFN)  
Organization for Human Brain Mapping (OHBM)  
Society for the Neurobiology of Language (SNL)  
Institute for Electrical and Electronics Engineers (IEEE)  
Society of Biological Psychiatry (SBP)

### **Service:**

#### **Boston University:**

Member, Boston University Premedical and Pre dental Advisory Board, 2017  
Faculty Adviser, Human Physiology students (120+ unique undergraduates, 7 graduate students), 2009 – 2017  
Member, Human Physiology Graduate Admissions Committee, 2009 – 2017  
Rehabilitation Engineering Task Force, Sargent College, 2017

Sargent College Representative, BU Interdisciplinary Computational Neuroimaging Collective, 2013 – 2017  
Chair, Sargent College Undergraduate Education Committee, 2012 – 2016  
Member, Sargent College Faculty Council, 2012 – 2016  
Member, Center for Computational Neuroscience and Neural Technology Travel Award Committee, 2012 – 2016  
Faculty Representative and Presenter, Human Physiology Program Open Houses, 2012 – 2016  
Participant, Psychological and Brain Sciences Academic Program Review (departmental collaborator), 2015  
Member, Sargent College Undergraduate Education Committee, 2010 - 2012  
Member, Human Physiology Faculty Search Committee, 2014 – 2015  
Faculty Moderator, BU IBM Watson Jeopardy Challenge Watch Event and Discussion, 2011  
Poster Judge, BU Science and Engineering Day, 2010 – 2012  
Member, BU MRI Strategic Planning Task Force, 2010  
Member, BU Systems Biology / Quantitative Biology Task Force, 2010  
Member, Speech, Language, & Hearing Sciences Faculty Search Committee, 2009 – 2010

### **Professional Service:**

Speech and Language Science Topic Committee, American Speech Language Hearing Association Convention, 2016.  
Human Atlas Working Group, International Neuroinformatics Coordinating Facility (INCF), 2015 – Present.  
Session Chair (“Integrative Data Analysis in Neuroscience”), *Neural Processing in Humans, Animals, and Machines [NeuroHAM]* conference (2015)  
Contest Chair and Organizing Committee Member, Symposium on Biological Data Visualization [*biovis*] (2014-2015)  
Reviewer, Society for Neurobiology of Language Meeting, 2010.

### **Grant Reviewer:**

Canada Foundation for Innovation (CFI), 2015, 2016  
Ohio Supercomputer Center, 2013  
Dudley Allen Sargent Research Fund (Boston University), 2010 – 2017

### **Editorial Positions:**

Review Editor, *Frontiers in Brain Imaging Methods* (2012 – Present)  
North American Book Review Editor, *Neural Networks* (2010 – 2013)

### **Manuscript Reviewer:**

*BMC Bioinformatics*  
*Bioinformatics*  
*Brain and Language*  
*Brain Structure and Function*  
*Cerebral Cortex*  
*European Journal of Neuroscience*  
*Frontiers in Genetics*  
*Frontiers in Human Neuroscience*  
*Frontiers in Neuroinformatics*  
*Frontiers in Systems Neuroscience*  
*Human Brain Mapping*  
*IEEE Scientific Visualization (SciVis)*  
*IEEE Transactions on Neural Networks*  
*Journal of Cognitive Neuroscience*

*Journal of Neural Engineering*  
*Journal of Neuroscience*  
*Methods*  
*Neural Networks*  
*NeuroImage*  
*Neuron*  
*Neuropsychologia*  
*Neuroscience*  
*PLoS Computational Biology*  
*PLoS ONE*  
*Scientific Reports*