Michelle Oraa Ali *Curriculum Vitae*

Massachusetts Institute of Technology
Brain and Cognitive Sciences

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Education

Mount Holyoke College, South Hadley, MA, USA
Bachelor of Arts, 2017. *Magna Cum Laude* with High Honors; *Phi Beta Kappa*.
Major: Neuroscience & Behavior. Minor: Graphic Narrative & Visual Storytelling
Thesis: *Prosody, Poetry and Processing:an ERP Investigation of Auditory Imagery*

Research

Brain and Cognitive Sciences, Massachusetts Institute of Technology
Research Support Associate, LanguageLab. P.I. **Edward A Gibson**.
• Investigated prosody as a candidate for a cross-linguistic universal in collaboration with **Leon Bergen** (UCSD).

May 2017-Present
• Assisted visiting researcher, **Paula Rubio-Fernandez** (University of Oslo), in investigating referential communication, Theory of Mind & lexical pragmatics.
• Assisted in data collection via event related potential (ERP) and functional magnetic resonance imaging (fMRI) for **Ev Fedorenko** (MIT, Harvard, MGH).
• Collected and analyzed data for **Project Prakash**, in New Delhi, India - an initiative from the **Sinha Lab** for Vision Research (MIT).
• Prepared and illustrated stimuli for a referential communication task in collaboration with **Hannah Rohde & Maddie Long** (University of Edinburgh) and **Marta Bialecka-Pikul** (Jagiellonian University).

Neuroscience and Behavior, Mount Holyoke College

Feb 2015-Present
Senior Thesis Research Assistant. P.I. **Mara Breen**.
• Employed ERP to investigate the role of rhythm in implicit prosody during silent reading of limericks.

Neuroscience & Behavior and Biological Sciences, Mount Holyoke College

Oct 2016-Oct 2017
Research Assistant. P.I. **Renae Brodie**.
• Behavioural ecology research on the effect of unmanned aerial vehicles (drones) on urban avian populations.

Independent Research – MuSyC: Music, Synaesthesia, Color

Jan 2016-Present
• Using electrical engineering, signal processing, fabrication, data visualization and design to create a device which simulates chromesthetic synaesthesia.

Janelia Research Campus, Howard Hughes Medical Institute.

Summer 2016
Undergraduate Research Scholar. P.I. **Stephen Huston**.
• Studied sensorimotor integration and context dependent behavior in *Drosophila melanogaster* using optogenetics, immunohistochemistry and confocal microscopy.

Biological Sciences, Mount Holyoke College
Research Assistant. P.I. **Craig Woodard**.

Jan 2015-Dec 2016
• Investigated role of orphan nuclear receptor, ßFTZ-F1, and neuropeptide secretion of steroid hormone, 20-hydroxyecdysone in development during the metamorphosis of *Drosophila melanogaster*.
• Utilized genetic engineering and molecular biology techniques in conjunction with light and fluorescence microscopy.

Center for Cognitive Neuroscience, University of Pennsylvania

Summer 2015
Undergraduate Research Fellow. P.I. **Dr Anjan Chatterjee**.
• In collaboration with **Children's Hospital of Pennsylvania** and **Center for Human Appearance**, conducted an independent research project on the social responses to facial appearance, specifically focusing on disfigurement.
• Constructed corpus of images of individuals with craniofacial surgeries, experimental design via Qualtrics, data collection via Amazon Mechanical Turk and data visualization.

March 2014-May 2015
Neuroscience and Behavior, Mount Holyoke College
Research Assistant. P.I. **Jared Schwartzer**.
• Investigated mice models of autism spectrum disorder with neuroimmunological and behavioral neuroscience techniques with a focus on maternal immune asthma using social approach tasks in BTBR and C57 mice.

Papers

Jamrozik, A.; **Oraa Ali, M.**; Sarwer, D. & Chatterjee, A.(2017). More than skin deep: Judgments of individuals with facial disfigurement. *Journal of Psychology of Aesthetics, Creativity and the Arts.*

Rubio-Fernández, P.; Mollica, F.; **Oraa Ali, M.** & Gibson, E.A.(2018) How do you know that? Automatic belief inferences in passing conversation. *Submitted; in review.*

In Preparation
Oraa Ali, M.; Fitzroy, A.B. & Breen, M.(2018) Prosody, Poetry and Processing: ERP Evidence for Rhythmic Structure in Silent Reading. *Manuscript in preparation.*

Awards

Fall 2018
Diversity Enhancement Award, 43rd Annual Boston University Conference on Language Development.

Spring 2018
Student Travel Award, 31st Annual CUNY Sentence Processing Conference

Sue Barry Award, Mount Holyoke College

2017
• Awarded to one graduating senior every year for demonstrating *"vision, joy and curiosity"* in the pursuit of research in science.

2017
Phi Beta Kappa, Mount Holyoke College

2017
Mary Lyon Scholar, Mount Holyoke College

2016, 2017
Award of Academic Excellence: Neuroscience & Behaviour, Mount Holyoke College, USA

Nov 2016	**Finalist, Hacking Arts Hackathon**, MIT Media Lab, USA
Aug 2016	**Robert Frances Award - Outstanding Student Research Contribution** International Association of Empirical Aesthetics, Vienna, Austria
July 2016	**President and Dean of College Fund**, Mount Holyoke College
May 2016	**NIDCR Building Bridges Travel Award**, National Institute of Health, USA
May 2016	**Student Caucus Travel Award**, Association of Psychological Science, USA
Feb 2016	**Most Interdisciplinary Project: MuSyC**, across themes of Brain & Development, Artificial Intelligence, Life Hacks and Environment. Hampshire Hackathon, Hampshire College, USA

Grants & Fellowships

	Harap Fund Grant for Independent Research, Mount Holyoke College • Four time recipient (May 2018, Feb 2018, Jan 2017, May 2016) for pursuit of independent research and travel.
2013 - 2017	**21st Century Scholarship for Academic Excellence,** Mount Holyoke College
2016-2017	**Five College Digital Humanities Student Fellowship**, The Andrew W. Mellon Foundation, MA
Oct 2016, Jan 2016	**MakerSpace Grant** for the development of MuSyC, Mount Holyoke College • Two time recipient for development of MuSyC prototype.
Summer 2015	**Five College Digital Humanities Microgrant**, Five College Consortium, MA
Summer 2015	**LYNK-UAF Grant - Pursuit of Scientific Research**, Mount Holyoke College

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Conference Talks

Presenting Author Indicated with *

July 2018	**Oraa Ali, M**., Fitzroy, A.B., & *Breen, M. Prosody, Poetry and Processing: ERP Evidence for Hierarchical Metrical Structure in Silent Reading. *15th International Conference on Music Perception and Cognition and 10th triennial conference of the European Society for the Cognitive Sciences of Music.* Montreal, Canada.
March 2018	**Oraa Ali, M.**, Fitzroy, A.B., & *Breen, M. Prosody, Poetry and Processing: ERP Evidence for Rhythmic Structure in Silent Reading. *31st Annual CUNY Conference on Human Sentence Processing*, University of California, Davis, CA.
May 2017	***Oraa Ali, M.** MuSyC: Music, Synaesthesia and Art. *Digital Humanities Fellows Showcase, Five College Digital Humanities*, Amherst, MA, USA.
Aug 2016	***Oraa Ali, M.**; McCune, C.; Sano, K. MuSyC: Music, Synaesthesia, Colour. *Art and Science symposium at the 24th Conference of the International Association of Empirical Aesthetics.* Universität Wien, Vienna, Austria.

Posters

March 2018	*Rubio-Fernández, P.; ***Oraa Ali, M.,** Gibson, E.A. Epistemic inferences in passing conversation: Pragmatics as a test of Theory of Mind accounts. *31st CUNY Sentence Processing Conference.* University of California, Davis, USA.
April 2017	***Oraa Ali, M.**; Fitzroy, A.B. & Breen, M. Prosody, Poetry and Processing: ERP Evidence for Rhythmic Structure in Silent Reading. *11th Cornell Undergraduate Linguistics Colloquium.* Cornell University, Ithaca, NY. [absent due to illness]

Aug 2016	***Oraa Ali, M.**;Jamrozik, A.;Sarwer, D. & Chatterjee, A. Interpersonal judgments of individuals with facial disfigurement before & after treatment. *24th Conference of the International Association of Empirical Aesthetics.* Universität Wien, Austria. • Recipient, **Third Best Poster prize**.
Aug 2016	***Oraa Ali, M.** & Huston, S.J. Behavioral Effects of Single Visual Neuron Stimulation. *Janelia Research Symposium, Janelia Research Center,* Ashburn, VA.
May 2016	***Oraa Ali, M.**;Jamrozik, A.;Sarwer, D. & Chatterjee, A. Interpersonal judgments of individuals with facial disfigurement before and after treatment. *28th Annual Convention of the Association for Psychological Science.* Chicago, IL. • Winner, **Building Bridges Poster Award**, National Institute of Dental & Craniofacial Research, National Institute of Health, USA.
Feb 2016	***Oraa Ali, M.**;Jamrozik, A.;Sarwer, D. & Chatterjee, A. Interpersonal judgments of individuals with facial disfigurement before and after treatment. *Northeast Undergraduate Research on Neuroscience (NEURON).* Quinnipiac University, CT.
Feb 2015	*Nanda, P.;Emerson, F.;Schwartz, A.;**Oraa Ali, M.**;Steffens, E. & Schwartzer J.J. Maternal Immune Activation & Social Cognition:A model for environment effects on the development of social behavioral deficits in autism spectrum disorders.*Northeast Undergraduate Research on Neuroscience (NEURON).* Quinnipiac University, CT.

Demos

Nov 2016	***Oraa Ali, M.** MuSyC: Music, Synaesthesia, Color. *Remixing Senses, Tech Expo, Hacking Arts Conference,* Massachusetts Institute of Technology, Cambridge, USA.
Aug 2015	*Hafri,A.,*McQuire M.,***Oraa Ali, M.** Using eye tracker technology to understand the perception of visual art. *ART+SCIENCE: Science After Hours*, The Franklin Institute, Philadelphia, PA.

Teaching

	English, Africana Studies and Critical Social Thought, Mount Holyoke College
Spring 2017	Teaching Assistant, **Visual Culture of Protest**. • Provided technical, design and research support for the course.
Fall 2014- Spring 2015	**Neuroscience and Behavior, Mount Holyoke College** Tutor, **Introduction to Neuroscience and Behavior**. • Mentored a class of 27 students and offered one on one tutoring sessions.
Spring 2016	**Biological Sciences, Mount Holyoke College** Teaching Assistant, **Cell Biology**. • Taught scientific techniques such as epifluorescence microscopy, protein purification and polymer chain reaction to group of 50 students.
Fall 2014, Spring 2015	**Psychology and Education, Mount Holyoke College** Teaching Assistant, **Statistics for Psychology**. • Taught fundamental statistical concepts and provided academic support to a class of 72 students.

Service & Outreach

	Student Liaison, Neuroscience and Behavior, Mount Holyoke College
2016-2017	• Provided mentorship to peers about pursuing research in neuroscience, course planning and academic strategies.

2014-2017	**Student Resource, AccessAbility Services, Mount Holyoke College in Organic Chemistry, Research Methods in Psychology, Cognitive Psychology, Evolution and Neurobiology.** • Provided peer academic support for students in AccessAbility Services.
2015-2016	**Co-President, Neuroscience Student Forum, Mount Holyoke College** • Helped organize regular meetings to discuss topics and themes in neuroscience. • Curated a collaborative neuroscience related art exhibition for Brain Awareness week entitled:*"Synapse: Bridging the Gap Between Art and Science"*.

Professional Experience	**Student Archivist, Archives & Special Collections**, Mount Holyoke College
2015-2017	• Curated an exhibition for the 40^{th} anniversary of LGBTQ+ college organizations. • Catalogued the feminist zine collection followed by digital data visualization.
Summer 2016	**Summer Student Fellow,** Five College Digital Humanities • Created and curated a digital archive and directory of courses related to digital humanities in the Five College network.
2012-2013	**Journalist, Science & Technology,** Deccan Chronicle, India • Wrote articles about contemporary issues in science & tech for a national newspaper.
2006-Present	**Freelance Illustrator** • Illustrated literary journals, designed covers for programs & magazines.

Technical Skills

Programming:
Most Experience with R, JavaScript, HTML + CSS
Some Experience with Python, UNIX, EPrime, Arduino, MATLAB, LaTeX
Software: Amazon Mechanical Turk, Praat, GEPHI, Photoshop, SPSS, Excel, Adobe Illustrator, StoryMap JS, Qualtrics, Mesquite, ImageJ^{++}FIJI, Ethovision
Cognitive Neuroscience: Event-related potential(ERP), corpus construction. Basic experience with eye-tracking, functional magnetic resonance imaging (fMRI).
Other Skills: Sound engineering, illustration, graphic design, game design fabrication (3-D printing and lasercutting)
