
Massachusetts Institute of Technology
Brain and Cognitive Sciences

ali26m@mtholyoke.edu
Phone: +1 (413)437-3151

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 using PsiTurk, Hidden Markov Model Speech Recognition Toolkits for forced alignment, acoustic analyses via Praat and data analyses in R.
May 2017-
Present • Assisted visiting researcher, **Paula Rubio-Fernandez**, in investigating referential communication, Theory of Mind and lexical pragmatics.
• Collected data via Amazon Mechanical Turk and assisted in data collection via event related potential (ERP) and functional magnetic resonance imaging (fMRI).
• 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 researchers at **University of Edinburgh**

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

Oct 2016-
Oct 2017 **Neuroscience & Behavior and Biological Sciences, Mount Holyoke College**
Research Assistant. P.I. **Renae Brodie**.
• Behavioural ecology research on the effect of unmanned aerial vehicles (drones) on urban avian populations.

Jan 2016-
Present **Independent Research – MuSyC: Music, Synaesthesia, Color**
• Using electrical engineering, signal processing, fabrication, data visualization and design to create a device which simulates chromesthetic synaesthesia.

Summer 2016 **Janelia Research Campus, Howard Hughes Medical Institute**.
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	<ul style="list-style-type: none"> • Investigated role of orphan nuclear receptor, βFTZ-F1, and neuropeptide secretion of steroid hormone, 20-hydroxyecdysone in development during the metamorphosis of <i>Drosophila melanogaster</i>. • Utilized genetic engineering and molecular biology techniques in conjunction with light and fluorescence microscopy.
Summer 2015	Center for Cognitive Neuroscience, University of Pennsylvania Undergraduate Research Fellow. P.I. Dr Anjan Chatterjee . <ul style="list-style-type: none"> • 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 . <ul style="list-style-type: none"> • 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.
<hr/>	
Papers	<p>Jamrozik, A.; Oraa Ali, M.; Sarwer, D. & Chatterjee, A.(2017). More than skin deep: Judgments of individuals with facial disfigurement. <i>Journal of Psychology of Aesthetics, Creativity and the Arts</i>.</p> <p>Oraa Ali, M.; Fitzroy, A.B. & Breen, M.(2018) Prosody, Poetry and Processing: ERP Evidence for Rhythmic Structure in Silent Reading. <i>Manuscript in preparation</i>.</p> <p>Rubio-Fernández, P.; Mollica, F.; Oraa Ali, M. & Gibson, E.A.(2018) How do you know that? Automatic belief inferences in passing conversation. <i>Manuscript in preparation</i>.</p>
<hr/>	
Talks	<p>Oraa Ali, M., Fitzroy, A.B., & *Breen, M. Prosody, Poetry and Processing: ERP Evidence for Hierarchical Metrical Structure in Silent Reading. <i>15th International Conference on Music Perception and Cognition and 10th triennial conference of the European Society for the Cognitive Sciences of Music</i>. Montreal, Canada.</p>
July 2018	
March 2018	<p>Oraa Ali, M., Fitzroy, A.B., & *Breen, M. Prosody, Poetry and Processing: ERP Evidence for Rhythmic Structure in Silent Reading. <i>31st Annual CUNY Conference on Human Sentence Processing</i>, University of California, Davis, CA.</p>

May 2017	*Oraa Ali, M. MuSyC: Music, Synaesthesia and Art. <i>Digital Humanities Fellows Showcase, Five College Digital Humanities</i> , Amherst, MA, USA.
Aug 2016	*Oraa Ali, M. ; McCune, C.; Sano, K. MuSyC: Music, Synaesthesia, Colour. <i>Art and Science symposium at the 24th Conference of the International Association of Empirical Aesthetics</i> . Universität Wien, Vienna, Austria.
<hr/>	
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. <i>31st Annual CUNY Sentence Processing Conference</i> . 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. <i>11th Cornell Undergraduate Linguistics Colloquium</i> . 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 and after treatment. <i>24th Conference of the International Association of Empirical Aesthetics</i> . Universität Wien, Vienna, Austria. ● Recipient, Third Best Poster prize .
Aug 2016	*Oraa Ali, M. & Huston, S.J. Behavioral Effects of Single Visual Neuron Stimulation. <i>Undergraduate Scholar Research Symposium, Janelia Research Center</i> , Ashburn, VA.
May 2016	*Oraa Ali, M. , Jamrozik, A., Sarwer, D. & Chatterjee, A. Interpersonal judgments of individuals with facial disfigurement before and after treatment. <i>28th Annual Convention of the Association for Psychological Science</i> . 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. <i>Northeast Undergraduate Research on Neuroscience (NEURON)</i> . Quinnipiac University, CT.
Feb 2015	*Nanda, P. ; Emerson, F.; Schwartz, A.; Oraa Ali, M. ; Steffens, E. & Schwartz J. J. Maternal Immune Activation and Social Cognition: A model for environment effects on the development of social behavioral deficits in autism spectrum disorders. <i>Northeast Undergraduate Research on Neuroscience (NEURON)</i> . Quinnipiac University, CT.
Demos	
Nov 2016	Oraa Ali, M. MuSyC: Music, Synaesthesia, Color. <i>Remixing Senses, Tech Expo, Hacking Arts Conference</i> , 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. <i>ART+SCIENCE: Science After Hours</i> , The Franklin Institute, Philadelphia, PA.

Awards

2017	Sue Barry Award , Mount Holyoke College <ul style="list-style-type: none">• Awarded to one graduating senior every year for demonstrating "<i>vision, joy and curiosity</i>" 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
May 2016	NIDCR Building Bridges Travel Award , National Institute of Health, USA
May 2016	Margaret Chambers Gould Award , Mount Holyoke College <ul style="list-style-type: none">• Awarded to one senior every year for outstanding pursuit of independent research in biological sciences.
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 <ul style="list-style-type: none">• 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
2013 - 2017	Mary Lyon Grant for Leadership and Achievement , Mount Holyoke College
2016-2017	Five College Digital Humanities Student Fellowship , The Andrew W. Mellon Foundation, MA
Oct 2016, Jan 2016	MakerSpace Grant , Mount Holyoke College <ul style="list-style-type: none">• Two time recipient for development of MuSyC prototype.
Summer 2015	Five College Digital Humanities Microgrant , Five College Consortium, MA
Summer 2015	LYNK-UAF Grant for Pursuit of Scientific Research , Mount Holyoke College

Teaching	English, Africana Studies and Critical Social Thought, Mount Holyoke College
	Spring 2017 Teaching Assistant, Visual Culture of Protest. <ul style="list-style-type: none"> • 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. <ul style="list-style-type: none"> • Mentored a class of 27 students and offered one on one tutoring sessions.
	Spring 2016 Biological Sciences, Mount Holyoke College Teaching Assistant, Cell Biology. <ul style="list-style-type: none"> • 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. <ul style="list-style-type: none"> • Taught fundamental statistical concepts and provided academic support to a class of 72 students.
<hr/>	
Service & Outreach	Student Liaison, Neuroscience and Behavior, Mount Holyoke College <ul style="list-style-type: none"> • 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. <ul style="list-style-type: none"> • Provided peer academic support to students with AccessAbility needs.
	2015-2016 Co-President, Neuroscience Student Forum, Mount Holyoke College <ul style="list-style-type: none"> • Helped organize regular meetings to discuss topics and themes in neuroscience. • Curated a collaborative neuroscience related art exhibition for Brain Awareness week entitled: "<i>Synapse: Bridging the Gap Between Art and Science</i>".
<hr/>	
Professional Experience	Student Archivist, Archives & Special Collections, Mount Holyoke College <ul style="list-style-type: none"> • Curated an exhibition for the 40th anniversary of LGBTQ+ college organizations. • Catalogued the feminist zine collection followed by digital data visualization.
	Summer 2016 Summer Student Fellow, Five College Digital Humanities <ul style="list-style-type: none"> • 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

Languages English (native), Hindi (native), Urdu(fluent), Sanskrit(reading), French(reading)
Spanish(basic), German(basic)

Technical Skills **Programming:**
Most Experience with R, JavaScript, L^AT_EX, HTML
Some Experience with Python, Bash, EPrime, Arduino, MATLAB, CSS

Software: Amazon Mechanical Turk, Praat, Adobe 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).

Molecular Neuroscience: Basic experience with optogenetics, stereotaxic surgery for neurotoxin lesioning, immunohistochemistry, quantitative polymerase chain reaction (qPCR).

Art Shows **”Curiouser and Curiouser:An Experimental Exhibition about Paintbrushes & Petridishes”**. (2016). Solo Exhibition, Experimental Art Gallery, Delhi, India.

“Synapse: Bridging the Gap Between Art and Science”. (2016). Group Exhibition, Blanchard Art Gallery, South Hadley, MA, USA.

“Women Artists for Women Artists” - Olympia Art Collective. (2016). Group Exhibition, Northampton, MA, USA.

“Curiouser and Curiouser: Integrating Art and Science”. (2016). Solo Exhibition, Blanchard Art Gallery, South Hadley, MA, USA.

“Presenting Olympia” - Olympia Art Collective. (2015). Group Exhibition, Mount Holyoke Art Studio, South Hadley, MA, USA.

“EcoFestival, Exhibition by Professional Artists” - Kriti. (2011). Alliance Francaise de Delhi, New Delhi, India.

“1.International Izmir Modern Arts” - Bienal Izmir. (2011). Izmir, Turkey.

“International Exhibition of Contemporary Arts” - Biennale Chianciano. (2009). Museo d’Arte, Chianciano Terme, Italy.

“More Than Meets The Eye”. (2007). Solo Exhibition, Convention Centre Foyer, India Habitat Center, Delhi, India.