
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).

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. **Rena 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.

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| | 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. |

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| 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> |
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| 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. <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. |
| March 2018 | 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. |

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| 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. |
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| Posters | *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 CUNY Sentence Processing Conference</i> . University of California, Davis, USA. |
| March 2018 | |
| 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 & after treatment. <i>24th Conference of the International Association of Empirical Aesthetics</i> . Universität Wien, Austria. ● Recipient, Third Best Poster prize . |
| Aug 2016 | *Oraa Ali, M. & Huston, S.J. Behavioral Effects of Single Visual Neuron Stimulation. <i>Janelia 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. & Schwartzer J.J. Maternal Immune Activation & 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 | *Oraa Ali, M. MuSyC: Music, Synaesthesia, Color. <i>Remixing Senses, Tech Expo, Hacking Arts Conference</i> , Massachusetts Institute of Technology, Cambridge, USA. |
| Nov 2016 | |
| 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

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| 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 - Pursuit of Scientific Research , Mount Holyoke College |

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| 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. |
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| Service & Outreach | Student Liaison, Neuroscience and Behavior, Mount Holyoke College |
| 2016-2017 | <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>". |
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| Professional Experience | Student Archivist, Archives & Special Collections, Mount Holyoke College |
| 2015-2017 | <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 <ul style="list-style-type: none"> • Wrote articles about contemporary issues in science & tech for a national newspaper. |

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

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

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 & 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.