

Michelle Oraa Ali

Curriculum vitae

CONTACT INFORMATION	Massachusetts Institute of Technology Brain and Cognitive Sciences Cambridge, MA, USA 02136	ali26m@mholyoke.edu Phone: +1(413)437-3151 michelleoraaali.mit.edu
EDUCATION	Mount Holyoke College , South Hadley, MA Bachelor of Arts, Neuroscience and Behavior, Graphic Narrative and Visual Storytelling <ul style="list-style-type: none">• <i>Phi Beta Kappa; Magna cum Laude</i> with High Honors in Neuroscience & Behavior• Thesis: <i>Prosody, Poetry and Processing:an ERP Investigation of Auditory Imagery</i>	2013-17
RESEARCH EXPERIENCE	Massachusetts Institute of Technology <i>Research Support Associate, Brain and Cognitive Sciences</i> <ul style="list-style-type: none">• Under supervision of Dr Edward Gibson• Investigated prosody as a candidate for a cross-linguistic universal in collaboration with Leon Bergen (UCSD).• Assisted in data collection via event related potential (ERP) and functional magnetic resonance imaging (fMRI) for Ev Fedorenko (MIT, Harvard, MGH).• Assisted visiting researcher, Paula Rubio-Fernandez (University of Oslo) in investigating referential communication, Theory of Mind & lexical pragmatics.• Collected and analyzed data for Project Prakash, in New Delhi, India - an initiative from the Sinha Lab for Vision Research (MIT).• Prepared stimuli and processed data for a referential communication task in collaboration with Hannah Rohde & Maddie Long (University of Edinburgh), Marta Bialecka-Pikul (Jagiellonian University) and Julian Jara-Ettinger (Yale University). Janelia Research Campus , Howard Hughes Medical Institute <i>Undergraduate Research Scholar</i> <ul style="list-style-type: none">• Under supervision of Dr Stephen Huston• Studied sensorimotor integration and context dependent behavior in <i>Drosophila melanogaster</i> using optogenetics, immunohistochemistry and confocal microscopy. Mount Holyoke College , South Hadley, MA	2017-Present
	[1] <i>Lead Student Investigator, Neuroscience & Behavior</i> <ul style="list-style-type: none">• Under supervision of Dr Mara Breen• Employed ERP to investigate the role of rhythm and metrical structure in implicit prosody during silent reading of poetry.<ul style="list-style-type: none">– Three-time recipient of Harap Fund Grant for Independent Research	2015-Present
	[2] <i>Research Assistant, Neuroscience & Behavior</i> <ul style="list-style-type: none">• Under supervision of Dr Renae Brodie• Behavioural ecology research on the effect of unmanned aerial vehicles (drones) on urban avian populations.	2016-Present
	[3] <i>Research Assistant, Biological Sciences</i> <ul style="list-style-type: none">• Under supervision of Dr Craig Woodard• 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.	2015-16
	[4] <i>Research Assistant, Neuroscience & Behavior</i> <ul style="list-style-type: none">• Under supervision of Dr Jared Schwartzer	2014-15

- 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.

University of Pennsylvania,

Summer 2015

Undergraduate Research Fellow, Center for Cognitive Neuroscience

- Under supervision of **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 craniofacial disfigurement.
 - Constructed corpus of images of patients who underwent reconstructive surgeries, experimental design via Qualtrics, data collection via Amazon Mechanical Turk and data visualization
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- Recipient of Harap Fund Grant for Independent Research

JOURNAL
PUBLICATIONS

- [1] 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*.
- [2] Rubio-Fernandez, P.; Mollica, F.; **Oraa Ali, M.** & Gibson, E.A.(2018) How do you know that? Automatic belief inferences in passing conversation. *Submitted; in review*.

PUBLICATIONS IN
PREPARATION

- [3] **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

- [1] **Diversity Enhancement Award**, 43rd Boston University Conference on Language Development. 2018
- [2] **Student Travel Award**, 31st CUNY Sentence Processing Conference. 2018
- [3] **Finalist, Hacking Arts Hackathon**, MIT Media Lab 2016
- [4] **Robert Frances Award (Outstanding Student Research Contribution)** International Association of Empirical Aesthetics, Vienna, Austria 2016
- [5] **NIDCR Building Bridges Travel Award**, National Institute of Health 2016
- [6] **Student Caucus Travel Award**, Association of Psychological Science 2016
- [7] **Most Interdisciplinary Project: MuSyC**, Hampshire Hackathon 2016
 - Across themes of Brain & Development, Artificial Intelligence, Life Hacks and Environment.

Mount Holyoke College:

- [8] **Sue Barry Award**, 2017
 - Awarded to one graduating senior every year for demonstrating "*vision, joy and curiosity*" in the pursuit of research in science.
- [9] **Phi Beta Kappa** 2017
- [10] **Mary Lyon Scholar** 2017
- [11] **Academic Excellence Award**, Neuroscience & Behavior 2017, 2016
- [12] **President and Dean of College Fund** 2016

GRANTS AND
FELLOWSHIPS

- Five College Digital Humanities**, Five College Consortium & The Andrew W. Mellon Foundation
- [13] **Five College Digital Humanities Student Fellowship** 2016-17
 - [14] **Five College Digital Humanities Summer Student Fellowship** 2016
 - [15] **Five College Digital Humanities Microgrant** 2016
- Mount Holyoke College**
- [16] **Harap Fund Grant for Independent Research** 2016, 2017, (2018 x 2)
 - For pursuit of independent research and travel (*four time recipient*).
 - [17] **21st Century Scholarship for Academic Excellence** 2013-17
 - [18] **MakerSpace Grant** 2016 x 2
 - For the development of MuSyC (*two time recipient*).
 - [19] **Laurel Fellowship** 2015-16
 - For pursuit of study in *Cognitive Neuroscience and Evolutionary Biopoetics* at the **University of Maastricht, The Netherlands** [*Declined due to pursuit of on-campus research opportunities*]
 - [20] **LYNK-UAF Grant - Pursuit of Scientific Research** 2015
 - For pursuit of independent research anywhere of one's choosing.

CONFERENCE
TALKS

Presenting Author Indicated with *

- [1] **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. 23-28 July 2018.
- [2] **Oraa Ali, M.**, Fitzroy, A.B., & *Breen, M. Prosody, Poetry and Processing: ERP Evidence for Rhythmic Structure in Silent Reading. *31st CUNY Conference on Human Sentence Processing*, University of California, Davis, CA. 15-17 March 2018.
- [3] ***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*. Universitat Wien, Vienna, Austria. 29 August - 1 September 2016.

CONFERENCE
POSTERS

- [4] *Rubio-Fernandez, 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. 15-17 March 2018.
- [5] ***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. 29-30 April 2017. [*absent due to illness*]
- [6] ***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*. Universitat Wien, Austria. 29 August - 1 September 2016.
 - Recipient, **Robert Frances Award** and **Third Best Poster prize**.

[7] ***Oraa Ali, M.** & Huston, S.J. Behavioral Effects of Single Visual Neuron Stimulation. *Janelia Research Symposium, Janelia Research Center*, Ashburn, VA. 3 August 2016.

[8] ***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. 26-29 May 2016.
 – Winner, **Building Bridges Poster Award**, National Institute of Dental & Craniofacial Research, National Institute of Health, USA.

[9] ***Oraa Ali, M.**; Jamrozik, A.; Sarwer, D. & Chatterjee, A. Interpersonal judgments of individuals with facial disfigurement before and after treatment. *North-east Undergraduate Research on Neuroscience (NEURON)*. Quinnipiac University, CT, UAA. 28 February 2016.

[10] ***Nanda, P.**; Emerson, F.; Schwartz, A.; **Oraa Ali, M.**; Steffens, E. & Schwartz 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, USA. 22 February 2015.

DEMOS

[11] ***Oraa Ali, M.** MuSyC: Music, Synaesthesia and Art. *4th Digital Humanities Symposium and Fellows Showcase*, Five College Digital Humanities, Amherst College, MA, USA. 6 May 2017.

[12] ***Oraa Ali, M.** MuSyC: Music, Synaesthesia, Color. *Remixing Senses, Tech Expo, Hacking Arts Conference*, MIT Media Lab, Cambridge, MA, USA. 19 November 2016.

[13] ***Oraa Ali, M.** MuSyC: Integrating Art and Science. *3rd Digital Humanities Symposium and Fellows Showcase*, Five College Digital Humanities, Amherst College, MA, USA. 30 April 2017.

TEACHING

Mount Holyoke College, South Hadley, MA

[1] **Teaching Assistant, Visual Culture of Protest** Spring 2017
English, Africana Studies and Critical Social Thought

- Provided technical and research support for advanced seminar of 27 students.
- Facilitated discussion about visual archives of protest and revolution from second half of the 20th century.
- Responsible for curating content for course related social media and outreach.

[2] **Laboratory Teaching Assistant, Cell Biology** Spring 2016
Biological Sciences

- Taught scientific techniques such as epifluorescence microscopy, protein purification and polymer chain reaction to group of 50 students.

[3] **Teaching Assistant, Statistics for Psychology** 2014-15
Psychology & Education

- Taught fundamental statistical concepts and SPSS, and provided academic support to a class of 72 students.

[4] **Tutor, Introduction to Neuroscience & Behavior** 2014-15
Neuroscience & Behavior

- Provided one on one tutoring for students in introductory neuroscience course.

SERVICE

- [1] **Judge, Massachusetts State Science & Engineering Fair**, MIT 2018
 - Evaluated projects of high school students in the theme of Behavioral Science.
- [2] **Student Liaison, Neuroscience & Behavior**, Mount Holyoke College 2016-17
 - Provided mentorship to peers about pursuing research in neuroscience, course planning and academic strategies.
- [3] **Student Resource, AccessAbility Services**, Mount Holyoke College 2014-17
 - Provided peer academic support for students in AccessAbility Services for several courses: **Organic Chemistry, Research Methods in Psychology, Cognitive Psychology, Evolution and Neurobiology.**
- [4] **Mentor, Mount Holyoke Girls in Technology Conference** 2017
 - Volunteer. MHCGIT invites high school girls from all over Massachusetts to a one-day immersive experience, as they learn more about technology and its pervasiveness in almost every field. Through hands-on workshops, talks, bonding, and mentorship, it aims to break stereotypes, and highlight the importance of women in tech-related fields. (*absent due to illness*)
- [5] **Zine Coordinator, OUTreach**, Mount Holyoke College 2015-16
 - Curated the 3rd annual Gender & Sexuality Zine "*What is Pride?*" [\[PDF\]](#)
 - Facilitated panel about experiences of queer international students at the first Mount Holyoke Queer Alum conference.
 - Helped organize events about intersectional feminism, activism and inter-group solidarity and provide support for LGBT students on campus.
- [6] **Co-President, Neuroscience Student Forum**, Mount Holyoke College 2015-16
 - Helped student-led journal club to discuss different topics in neuroscience.
 - Curated a collaborative neuroscience related art exhibition for Brain Awareness week entitled: "*Synapse: Bridging the Gap Between Art and Science*".
- [7] **Volunteer Presenter, The Franklin Institute**, Philadelphia, PA 2015
 - Showcased eye tracker technology in the perception of visual art at *Science After Hours* event in "ART + SCIENCE".

NON-ACADEMIC POSITIONS

- [1] **Archives & Special Collections**, Mount Holyoke College, USA 2015-17
Student Archivist
 - Curated an exhibition for the 40th anniversary of LGBTQ college organizations and in honor of the "The Astronomer".
 - Catalogued the feminist zine collection followed by digital data visualization.
- [2] **Science & Technology, Deccan Chronicle**, India 2011-13
Journalist
 - Wrote articles about the representation of women, LGBTQ and disabled individuals for a weekly segment for a national newspaper.
- [3] **Freelance Illustrator** 2006-Present
 - Illustrated literary journals, designed covers for programs & magazines, created logos for organizations and fundraising events.

OTHER INDEPENDENT PROJECTS

- [1] **Radio DJ and Sound Engineer** 2014-Present
 - *DJ and Engineer* for **4 seasons** on WMBR 88.1 FM, Massachusetts Institute of Technology, Cambridge, MA
 - Show Name: Colourless Green Ideas Sleep Furiously
 - *DJ* for **7 seasons** on WMHC 91.5 FM, Mount Holyoke College, South Hadley, MA
 - Show Names: Darling Mermaid Darlings, Swag Hags, The Cinnamon Nuns

	<p>[2] MuSyC: Music, Synaesthesia, Color 2016-Present</p> <ul style="list-style-type: none"> • Used electrical engineering, signal processing, fabrication, data visualization, rapid prototyping and design to create a device which simulates chromesthetic synaesthesia. • Currently developing a real-time music visualizer for the WMBR (MIT Radio) website. [Link to Current Beta version]
SKILLS	<hr/> <p>Programming:</p> <ul style="list-style-type: none"> • Most Experience with R, JavaScript, HTML, CSS • Basic Experience with Python, UNIX, EPrime, Arduino, MATLAB, L^AT_EX <p>Software and Platforms:</p> <ul style="list-style-type: none"> • Amazon Mechanical Turk, PsiTurk, IbexFarms, GEPHI, Praat, SPSS, Adobe Photoshop and Illustrator, StoryMap^{JS}, Qualtrics, Mesquite, ImageJ⁺⁺, FIJI, Ethovision, AutoCAD <p>Neuroscience:</p> <ul style="list-style-type: none"> • 3 years of experience with Event-related potential(<i>ERP</i>) -BioSemi ActiView system • Basic experience with <i>eye-tracking</i>, functional magnetic resonance imaging (<i>fMRI</i>) corpus construction, rodent behavioral testing and stereotaxic surgery, optogenetics. <p>Other:</p> <ul style="list-style-type: none"> • Proficient at Drone piloting, surveillance • Proficient at illustration and graphic design (digital and traditional media) • Basic experience with sound engineering and radio broadcast engineering • Basic experience with fabrication (3D printing and laser cutting) <hr/>
ART SHOWS	<p>Solo Shows</p> <p>[1] Experimental Art Gallery, India Habitat Centre, New Delhi, India 2016 - Title: "Curiouser & Curiouser: An Experimental Exhibition about Paintbrushes & Petridishes"</p> <p>[2] Blanchard Student Art Gallery, South Hadley, MA, USA 2016 - Title: "Curiouser & Curiouser: Integrating Art and Science"</p> <p>[3] Convention Centre, India Habitat Centre, New Delhi, India 2007 - Title: "More Than Meets The Eye"</p> <p>Group Shows</p> <p>[4] Blanchard Student Art Gallery, South Hadley, MA 2016 - Title: "Synapse: Bridging the Gap Between Art and Science"</p> <p>[5] Olympia Art Collective, Northampton, MA, USA 2016 - Title: "<i>Women Artists for Women Artists</i>".</p> <p>[6] Olympia Art Collective, Mount Holyoke Art Studio, South Hadley, MA, USA 2016 - Title: "<i>Presenting Olympia</i>". Mount Holyoke Art Studio, South Hadley.</p> <p>[7] KRITI + Alliance Francaise de Delhi, New Delhi, India 2011 - Title: "EcoFestival, Exhibition by Professional Artists".</p> <p>[8] Bienal Izmir, Izmir, Turkey 2011 - Title: "1.International Izmir Modern Arts"</p> <p>[9] Biennale Chianciano, Museo d'Arte, Chianciano Terme, Italy 2009 - Title: "International Exhibition of Contemporary Arts"</p> <p>[10] HelpAge India, The Oberoi, New Delhi, India 2008 - Title: "Art for Aged"</p> <hr/>