

Eshin Jolly

Dartmouth College

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Currently

Postdoctoral Fellow

2020-Present

Consortium for Interacting Minds

Center for Cognitive Neuroscience

Dartmouth College (Hanover, NH)

Mentors: [Luke Chang](#), [Thalia Wheatley](#), [Emily Finn](#), [Jeremy Manning](#)

Education & Training

PhD, Cognitive Neuroscience

2012-2019

NSF Graduate Fellow

Dartmouth College (Hanover, NH)

Thesis: Social Cognitive Maps: A Relational Account of Person Representation and Memory

Committee: [Luke Chang](#), [Thalia Wheatley](#), [Jeremy Manning](#), [Janice Chen](#)

BA, Brain and Cognitive Science; Psychology

2006-2010

Minor: Music & Jazz Performance

University of Rochester (Rochester, NY)

Thesis: Testing Domain Specificity: Conceptual Knowledge of Living and Non-living Things

Committee: [Jessica Cantlon](#), [Brad Mahon](#), [Elissa Newport](#)

Microsoft Research PhD Intern

2016

MSR Computational Social Science Group (NYC, NY)

PIs: [Duncan Watts](#) & [Sid Suri](#)

Lab Manager

2010-2012

Harvard University (Cambridge, MA)

PI: [Jason Mitchell](#)

Research Assistant

2008-2010

Baruch College (NYC, NY)

PI: [Jennifer Mangels](#)

Research Assistant

Mt Hope Family Center, University of Rochester (Rochester, NY)

PIs: [Sheree Toth](#) & [Jack Peltz](#)

Industry Consulting

Senior UX/UI Engineer & Designer

2023-Present

[MoreMore AI](#)

Film & media arts startup

Co-Founder & CTO; Scientific Advisor

2020-Present

[Parsnip.ai](#)

Food and ed-tech startup

	Scientific Advisor <u>The Sukhi Project</u> <i>Employee well-being and mental health startup</i>	2020
	Project Manager; Technical Support Lead <u>Code for America (Upper Valley Brigade)</u> <i>Rural Internet Project</i>	2019–Present
Funding	Postdoctoral Fellow <i>National Science Foundation</i> , Career Award 1848370 (\$886,457, PI: Luke Chang) Neural and computational basis of guilt in decision-making (co-written)	2019–Present
	Graduate Fellow <i>National Science Foundation</i> , Graduate Research Fellowship (\$90,000) Uncovering the representation of self: A multivariate approach	2013–2016
Manuscripts In Prep	Jolly, E. , Chang, L.J. (in prep). Neural encoding and reinstatement of social motifs. Jolly, E. , Ranger, M.S. & Chang, L.J. (in prep). The neural basis of guilt diffusion in interpersonal harm-minimization. Jolly, E. , Smith A., Gangadharan, A.A., Hoidal, A.S. & Chang, L.J. (in prep). Guilt-aversion motivates harm-minimization in surrogate decision-making.	
Under review/revision	Jolly, E. , Sadhukha, S., Iqbal, M., Molani, Z., Walsh, T.M., Manning, J.R., & Chang, L.J. (under review). People are represented and remembered through their relationships with others. [psyarxiv preprint] Gao, X., Jolly, E. , Yu, H., Liu, H., Zhou, X., & Chang, L.J. (under revision). The hidden cost of receiving favors: A theory of indebtedness. [bioRxiv preprint]	
Published	Jolly, E.* , Cheong, J.H.*, Xie, T.*, Byrne, S. Kenny, M., & Chang, L.J. (2023). Py-Feat: Python Facial Expression Analysis Toolbox. <i>Affective Science</i> . [Link] [toolbox] *Equal contribution	2023
	Jolly, E. , Farrens, M., Greenstein, N., Eisenbarth, H., Reddan, M.C., Andrew, E., Wager, T.D., & Chang, L.J. (2022). Recovering individual emotional states from sparse ratings using collaborative filtering. <i>Affective Science</i> . [Link] [toolbox] [data & materials]	2022
	Jolly, E. & Chang, L.J. (2021). Multivariate spatial feature selection in fMRI. <i>Social Cognitive and Affective Neuroscience</i> , 16(8), 795-806. [Link]	2021
	Jolly, E. & Chang, L.J. (2021). Gossip drives vicarious learning and facilitates social connections. <i>Current Biology</i> , 31, 1-11. [Link] [data & materials] Coverage: New York Times , VPR News , PNAS Journal Club	
	Chang, L.J., Jolly, E. , Cheong, J.H., Rapuano, K., Greenstein, N., Chen, P.A., & Manning, J.R. (2021). Endogenous variation in ventromedial prefrontal cortex state dynamics during naturalistic viewing reflects affective experience. <i>Science Advances</i> , 7(17), 1-17. [Link] [data & materials]	

- Jolly, E.***, Sadhukha, S.*, & Chang, L.J. (2020). Response to Lynch et al: On measuring head motion and effects of head molds during fMRI. *NeuroImage*, 117484. [[Link](#)] [[data & materials](#)] 2020
- Jolly, E.***, Sadhukha, S.*, & Chang, L.J. (2020). Custom-molded headcases have limited efficacy in reducing head motion during naturalistic fMRI experiments. *NeuroImage*, 117207. [[Link](#)] [[data & materials](#)]
- *Equal contribution
- Chen, P.H.A., **Jolly, E.**, Cheong, J.H., & Chang, L.J. (2020). Intersubject representational similarity analysis reveals individual variations in affective experience when watching erotic movies. *NeuroImage*, 116851. [[PDF](#)] [[data & materials](#)]
- Chen, P.H.A., Cheong, J.H., **Jolly, E.**, Elhence, H., Wager, T.D., & Chang, L.J. (2019). Socially transmitted placebo effects. *Nature Human Behavior*, 3, 1295-1305. [[PDF](#)] [[data & materials](#)] 2019
- Jolly, E.***, Tamir, D.I.*, Burum, B.A., & Mitchell, J.P. (2019). Wanting without enjoying: The social value of sharing experiences. *PLoS One*, 14(4), e0215318. [[PDF](#)] [[data & materials](#)] *Equal contribution
- Jolly, E.**, & Chang, L.J. (2019). The Flatland Fallacy: Moving Beyond Low Dimensional Thinking. *Topics in Cognitive Science*, 1-22. [[PDF](#)] [[figure & simulation code](#)]
- Jolly, E.** (2018). Pymer4: Connecting R and Python for linear mixed modeling. *Journal of Open Source Software*, 3(31), 862. [[PDF](#)] [[documentation site](#)] 2018
- Chang, L. J. & **Jolly E.** (2018). Emotions as computational signals of goal error. In A. Fox, R. Lapate, A. Shackman & R. Davidson (Eds), *The Nature of Emotion* (343-351). Oxford University Press. [[PDF](#)]
- Cheong, J.C., **Jolly, E.**, Sul, S., & Chang, L.J. (2017). Computational Models in Social and Affective Neuroscience in Moustafa, A. (Eds), *Computational Models of Brain and Behavior* (229-245). Hoboken, NJ: Wiley. [[Link](#)] 2017
- Rane, S.*, **Jolly, E.***, Park, A.*, Jang, H*, & Craddock, R.C. (2017). Developing predictive biomarkers using whole-brain classifiers: Application to the ABIDE I dataset. *Research Ideas and Outcomes*, 3:e12733. [[PDF](#)].
- *Equal contribution
- Moran, J.M., **Jolly, E.**, & Mitchell, J.P. (2014). Spontaneous mentalizing predicts the fundamental attribution error. *Journal of Cognitive Neuroscience*, 26(3), 569-576. [[PDF](#)] 2011-2016
- Moran, J.M., **Jolly, E.**, & Mitchell, J.P. (2012). Social-cognitive deficits in normal aging. *Journal of Neuroscience*, 32(16), 5553-5561. [[PDF](#)]
- Jolly, E.** (2011). Testing domain specificity: Conceptual knowledge of living and non-living things. *The Yale Review of Undergraduate Research in Psychology*, 2, 94-118. [[PDF](#)]

[\[Documentation\]](#) [\[Slides\]](#) [\[Github\]](#)

downloads 33k

Neighbors

2020–Present

Predicting affective responses from sparse measurement data, (Project Author)

[\[Documentation\]](#) [\[Github\]](#)

downloads 10k

SvelteTurk

Graphical User Interface for managing experiments on Mturk, (Project Author)

[\[Documentation\]](#) [\[Github\]](#)

Pymer4

2017–Present

Statistics library for estimating linear mixed-effects models, (Project Author)

[\[Documentation\]](#) [\[Github\]](#)

downloads 113k

Nltools

2016–Present

Toolbox for intuitively analyzing neuroimaging data, (Core Developer)

[\[Documentation\]](#) [\[Video Talk\]](#) [\[Github\]](#)

downloads 159k

Invited Talks & Presentations

Representing and remembering people through their relationships.

2023

Invited talk at the MIND Summer School, Dartmouth College (Hanover, NH)

The structure of social memory: People as contexts.

Presentation at the Social and Affective Neuroscience Society conference (Santa Barbara, CA)

Navigating the social world: A relational account of how we represent, remember, and talk about people.

Invited talk at Stanford University (Stanford, CA)

People as contexts: A relational account of person representation and memory.

Invited talk for Innovators in Cognitive Neuroscience (virtual). [\[Video\]](#)

Methodological considerations in social and affective neuroscience.

2021

Invited talk at NYU Freeman Lab (NYC, NY)

Spontaneous Neural Representations of Social Relationships in Naturalistic Contexts.

2022

Symposium presentation at the International Society for Research on Emotion, USC (Los Angeles, CA)

Emotion and Social Perception in Naturalistic Contexts: Perspectives from Affective Computing and Affective Neuroscience.

Symposium organizer at the International Society for Research on Emotion, USC (Los Angeles, CA)

Social Cognitive Maps: A Relational Account of Person Representation and Memory.

2020

Invited talk at Harvard University (Cambridge, MA)

Why Design Abstractions Matters for Analytics Tools: Neuroimaging analysis with Neuro-Learn. [\[Video\]](#)

Symposium presentation at the Scientific Computing with Python conference (virtual)

Spontaneous Neural Representations of Social Relationships in Naturalistic Contexts.
Symposium presentation at the Society for Affective Science conference (San Francisco, CA; cancelled due to COVID-19).

Methodological challenges in contemporary fMRI studies.
Invited talk at the Neuroimaging Analysis Methods meeting, Princeton University (Princeton, NJ)

Introduction to functional alignment methods for fMRI. 2018
Invited lecture at the Sao Paulo School of Advanced Science on Social and Affective Neuroscience (Sao Paulo, Brazil)

Naturalistic approaches towards an understanding of social reasoning and communication. 2017
Invited talk at Stanford University (Stanford, CA)

The social benefits of gossip
Presentation at the New England Research on Decision-Making conference, Brown University (Providence, RI)

Introduction to Git and Github for psychologists.
Invited talk at the Reproducible Psychological Science workshop at the Annual Meeting for the Association for Psychological Science (Boston, MA)

Interpersonal dynamics and the inelasticity of social guilt.
Invited talk at the Boston Area Moral Cognition Group (Boston, MA)

Interpersonal dynamics and the inelasticity of social guilt.
Invited talk at Affectiva Inc (Boston, MA)

Spontaneous impression-formation about parasocial relationships.
Presentation at the Social and Affective Neuroscience Society conference (Los Angeles, CA)

State of the Data: Annual Dartmouth Brain Imaging Center Quality Assurance Report.
Presentation at Dartmouth College (Hanover, NH)

Field experiments on human prosociality using Mechanical Turk. 2016
Presentation at Microsoft Research (New York City, NY)

The Social Benefits of Gossip.
Presentation at the Social Brain Sciences Brown Bag (Dartmouth College, NH)

Posters & Conference Proceedings

Jolly, E., Sadhukha, S., Iqbal, M., Molani, Z., Walsh, T.M., Manning, J.R., & Chang, L.J. 2023
(2023). The structure of social memory: People as contexts. 2023
Poster at the Social and Affective Neuroscience Society conference (Santa Barbara, CA)

Kwon, D., **Jolly, E.**, Chang, L.J., & Shim, W.M. (2023). Neural representations of dynamic social interactions.
Poster at the 26th Annual Meeting of the Korean Society for Brain and Neural Sciences (Busan, Korea)

Jolly, E., Farrens, M., Greenstein, N., Eisenbarth, H., Reddan, M.C., Andrew, E., Wager, T.D., & Chang, L.J. (2022). Recovering individual emotional states from sparse ratings using collaborative filtering. 2022
Poster at the Society for Affective Science conference (virtual)

	<p>Jolly, E. & Chang, L.J. (2021). Spontaneous Neural Representations of Social Relationships in Naturalistic Contexts.</p> <p><i>Poster at the Social and Affective Neuroscience Society conference (virtual)</i></p> <p>Winner Poster Award</p>	2021
	<p>Jolly, E. (2020). Pymer4: Bringing R's Powerful Mixed-modeling to Python.</p> <p><i>Poster at the Scientific Computing with Python conference (virtual)</i></p> <p>Winner Scipy Scholarship</p>	2020
	<p>Jolly, E. & Chang, L.J. (2019). Gossip drives vicarious learning and facilitates robust social connections.</p> <p><i>Poster at the Social and Affective Neuroscience Society conference (Miami, FL)</i></p> <p>Cheong, J.C., Chen, P.A., Jolly, E., Elhence, H., Wager, T.D., & Chang, L.J. (2019). Socially transmitted placebo effects.</p> <p><i>Poster at the Society for Affective Science conference (Boston, MA)</i></p>	2019
	<p>Jolly, E., Reddan, M.C., Gianaros, P.J., Manuck, S.M. Chang, L.J., & Wager, T.D. (2018). NeuroLIME: A novel tool for explaining the predictions of complex brain models.</p> <p><i>Poster at the Social and Affective Neuroscience Society conference (New York, NY)</i></p> <p>Reddan, M.C., Jolly, E., & Wager, T.D. (2018). NeuroLIME: A novel tool for explaining the predictions of nonlinear neuroimaging classifiers.</p> <p><i>Poster at the Organization for Human Brain Mapping conference (Singapore, Singapore)</i></p> <p>Reddan, M.C., Jolly, E., & Wager, T.D. (2018). NeuroLIME: A novel tool for explaining the predictions of nonlinear neuroimaging classifiers.</p> <p><i>Poster at the Computational and Systems Neuroscience conference (Denver, CO)</i></p>	2018
	<p>Jolly, E. & Chang, L.J. (2017). Gossip drives vicarious learning and facilitates robust social connections.</p> <p><i>Poster at the Annual Meeting of the Association for Psychological Science (Boston, MA)</i></p> <p>Cheong, J.H., Jolly, E., & Chang, L.J. (2017). A window into the mind: A computational approach to measuring emotions in response to naturalistic stimuli.</p> <p><i>Poster the Social and Affective Neuroscience Society conference (Los Angeles, CA)</i></p>	2017
	<p>Jolly, E. & Chang, L.J. (2016). Groups, gossip and social dilemmas.</p> <p><i>Poster at the International Conference on Computational Social Science (Evanston, IL)</i></p>	2016
	<p>Jolly, E., Tamir, D.I., & Mitchell, J.P. (2015). The social value of sharing experiences.</p> <p><i>Poster at the Social and Affective Neuroscience Society conference (Boston, MA)</i></p> <p>Winner Poster Award</p>	2015
	<p>Moran, J.M., Jolly, E., & Mitchell, J.P. (2012). Spontaneous mentalizing supports the fundamental attribution error.</p> <p><i>Poster at the Cognitive Neuroscience Society conference (Chicago, IL)</i></p>	2012
	<p>Peltz, J.S. Toth, S.L., Rogosch, F.A., Jolly, E., & Cicchetti, D. (2010). Paternal emotional availability's effects on children's socioemotional functioning in maternal depression contexts.</p> <p><i>Poster at the Annual Meeting of the Association for Psychological Science (Boston, MA)</i></p>	2010
Teaching	<p>Methods in Neuroscience at Dartmouth Summer School</p> <p>Invited Faculty</p> <p>Dartmouth College (Hanover, NH) [Resources]</p>	2023

Introduction to facial expression analysis with py-feat

Tutorial at the Consortium for Interacting Minds

Dartmouth College (Hanover, NH) [[Slides](#)]

Introduction to version control for neuroscientists

2019

Lecturer and TA at MIND Summer School

Dartmouth College (Hanover, NH) [[Resources](#)] [[Video](#)]

Introduction to version control for neuroscientists

2018

Lecturer and TA at MIND Summer School

Dartmouth College (Hanover, NH) [[Resources](#)] [[Video](#)]

Computational tools for neuroscience: Jupyter notebooks

Lecturer and TA at MIND Summer School

Dartmouth College (Hanover, NH) [[Resources](#)] [[Video](#)]

Functional Alignment Techniques in fMRI

Lecture at Sao Paulo Summer School on Social and Affective Neuroscience (SPSAN)

Mackenzie Presbyterian University (Sao Paulo, Brazil)

Computational tools for neuroscience: Jupyter notebooks

2017

Lecturer and TA at MIND Summer School

Dartmouth College (Hanover, NH) [[Resources](#)] [[Video](#)]

Introduction to containers for reproducible research

Lecturer and TA at MIND Summer School

Dartmouth College (Hanover, NH) [[Resources](#)]

Introduction to Git and Github for social psychologists

Lecture at the Reproducible Psychological Science workshop

Annual Meeting for the Association for Psychological Science (Boston, MA)

Introduction to jupyter notebooks (and why you should love them!)

Tutorial at BrainHack Local

Dartmouth College (Hanover, NH)

Online research methods for the experimental study of social behavior

Research Methods, Guest Lecturer

Dartmouth College (Hanover, NH)

Online research methods for the experimental study of social behavior

2016

Research Methods, Guest Lecturer

Dartmouth College (Hanover, NH)

The social benefits of gossip

Social Psychology, Guest Lecturer

Dartmouth College (Hanover, NH)

Contemporary fMRI pre-processing: Introduction to Nipype and Docker

fMRI Methods, Guest Lecturer

Dartmouth College (Hanover, NH)

fMRI Methods: Brain Mapping with functional MRI

2015

Course TA and Guest Lecturer

Dartmouth College (Hanover, NH)

Research Methods: Laboratory in Psychological Science*

Course TA and Guest Lecturer

*Mentored award winning undergraduate group
Dartmouth College (Hanover, NH)

Introductory Statistics: Experimental Design and Methodology 2014
Course TA and Guest Lecturer
Dartmouth College (Hanover, NH)

Research Methods: Laboratory in Psychological Science 2013
Course TA and Guest Lecturer
Dartmouth College (Hanover, NH)

Introduction to MATLAB for Behavioral Research 2011
Workshop organizer
Harvard University (Cambridge, MA)

Mind Perception
Workshop organizer
Harvard University (Cambridge, MA)

Awards

ICN Talk Award 2023
Innovators in Cognitive Neuroscience

Trainee Data Blitz Award
Social and Affective Neuroscience Society

Complex Systems Summer School (CSSS) 2022
Santa Fe Institute

Mistletoe Research Fellowship finalist 2021
Dartmouth College

SciPy Scholarship Award 2020
Scientific Computing with Python Conference

Poster Award
Social and Affective Neuroscience Society

Kavli Summer Institute in Cognitive Neuroscience 2019
UC Santa Barbara

Thayer Consulting Case Competition 1st Place
Thayer School of Engineering, Dartmouth College

Hack Dartmouth Finalist
Dartmouth College

Hack Dartmouth Best Community Hack 2018
Dartmouth College

Sao Paulo Summer School on Social and Affective Neuroscience (SPSAN)
Mackenzie Presbyterian University, Sao Paulo

Graduate Arts and Science Travel Award
Dartmouth College

PBS Graduate Travel Award
Dartmouth College

Neukom Institute Travel Award
Dartmouth College

Graduate Alumni Research Award <i>Dartmouth College</i>	2017
PBS Graduate Travel Award <i>Dartmouth College</i>	
Methods in Neuroscience Computational Summer School <i>Dartmouth College</i>	
Summer School in Social Neuroscience and Neuroeconomics <i>Duke University</i>	
Trainee Data Blitz Award <i>Social and Affective Neuroscience Society</i>	
Human Neuroimaging Methods Travel Award <i>Organization for Human Brain Mapping</i>	
Hack Dartmouth 2nd Place project award <i>Dartmouth College, Thayer School of Engineering</i>	2016
Neurohackweek Summer School <i>University of Washington eScience Institute</i>	
Social Affective Neuroscience Society Poster Award <i>Social and Affective Neuroscience Society</i>	2015
PBS Graduate Travel Award <i>Dartmouth College</i>	
National Science Foundation Graduate Research Fellowship <i>Dartmouth College</i>	2013-2016
BCS Dept: Highest Honors in research <i>University of Rochester</i>	2010
Wilder-Trustee Scholarship <i>University of Rochester</i>	2006-2010

Mentorship

Wasita Mahaphanit Graduate Student <i>Dartmouth College</i>	2022-Present
Sushmita Sadhukha Graduate Student <i>Dartmouth College</i>	
Maxwell Ranger '22 Honors Thesis <i>Dartmouth College</i>	2021-2022
Maryam Iqbal '21 Presidential Scholar/Honors Thesis <i>Dartmouth College</i>	2017-2021
Liza Begunova '21 Honors Thesis <i>Dartmouth College</i>	2020-2021

Max Farrens '20 Full-time Research Assistant <i>Dartmouth College</i>	2019-2020
Nathan P. Greenstein '19 Presidential Scholar <i>Dartmouth College</i>	2017-2019
Sushmita Sadhukha '18 Full-time Research Assistant <i>Dartmouth College</i>	
Arati A. Gangadharan '18 Honors Thesis <i>Dartmouth College</i>	2015-2018
Hirsh Elhence '17 Presidential Scholar <i>Dartmouth College</i>	2015-2017

Technical Skills

Programming Languages

Python, Javascript, Matlab, R, Bash

Frontend Web Development

HTML, CSS, Svelte, Vue

Backend/Fullstack/App Development

Node, Express, Meteor, MongoDB, Firebase, Flask, Electron

Stimulus Presentation

Psychopy, Psychophysics toolbox, E-prime, Presentation

Data Analysis

Scientific-Python, Statsmodels, Scikit-learn, Lme4

Neuroimaging Analysis

FSL, AFNI, SPM, Nipype, Nilearn

Data Visualization

Seaborn/Matplotlib, D3, Dash/Plotly, ggplot

Dev Ops

Git/Github, TravisCI, Tox, Pytest, Moab-Torque

Professional Activities

Reviewer

Cerebral Cortex, Neuroimage, Human Brain Mapping, SCAN, Neuropsychologia, Cognition and Emotion, JESP, PLoS One, GigaScience, JOSS, Nature Communications, SIGCHI, Frontiers in Psych, JPSP, JEP:G, Journal of Neuroscience, Scientific Reports

Society Memberships

Social and Affective Neuroscience Society, Society for Affective Science, Organization for Human Brain Mapping, Cognitive Neuroscience Society, Society for Personality and Social Psychology

Leadership & Community

Committee Member <u>Inclusivity, Diversity, and Culture Advisory Committee</u> <i>Dartmouth College, Hanover, NH</i>	2019-2022
Board Member <u>Dartmouth College Postdoctoral Association</u> <i>Dartmouth College, Hanover NH</i>	2020-2021
VP of Client Outreach <u>Dartmouth Graduate Consulting Group</u> <i>Dartmouth College, Hanover, NH</i>	2018-2020
Co-Founder <u>Line@ Project</u> <i>Dartmouth College, Hanover, NH</i>	2017-2020
Organizing committee member <i>Dartmouth Brainhack, Hanover, NH</i>	2017
Station Leader GWISE Science day for local middle schools <i>Dartmouth College, Hanover, NH</i>	2014
Primary Organizer Social Brain Sciences Symposium talk series <i>Dartmouth College, Hanover, NH</i>	2013-2015
Graduate Representative Social Area Graduate Student Representative <i>Dartmouth College, Hanover, NH</i>	

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Last updated: August 2023