

Eshin Jolly

Dartmouth College
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Currently **Postdoctoral Fellow** 2019-
Center for Cognitive Neuroscience
Center for Interacting Minds
Cosan Lab, Dartmouth College, Hanover, NH
PI: Luke J. Chang

Education **Dartmouth College**, Hanover, NH 2012-2019
PhD, Cognitive Neuroscience
NSF Graduate Fellow
Thesis: Social Cognitive Maps: A Relational
Account of Person Representation and Memory
University of Rochester, Rochester, NY 2006-2010
BA, Brain and Cognitive Science/Psychology
Minor, Music
Thesis: Testing Domain Specificity: Conceptual
Knowledge of Living and Non-living Things

Employment **PhD Research Intern** summer 2016
Microsoft Research, New York City, NY
Computational Social Science Group
PIs: Duncan Watts & Sid Suri
Lab Manager 2010-2012
Harvard University, Cambridge, MA
PI: Jason P. Mitchell

Research Experience **University of Rochester**, Rochester, NY 2009-2010
PIs: Jessica F. Cantlon & Bradford Z. Mahon
Honors Thesis Student
Baruch College, New York City, NY 2008-2010
PI: Jennifer Mangels
Research Assistant
Mt Hope Family Center, University of Rochester, Rochester, NY 2008-2010
PI: Sheree Toth; Mentor: Jack Peltz
Research Assistant

Manuscripts

In Prep **Jolly, E.**, Farrens, M., Greenstein, N., Eisenbarth, H., Reddan, M.C., Andrew, E., Wager, T.D. & Chang, L.J. (in prep). Recovering individual emotional states from sparse ratings using collaborative filtering. [\[toolbox\]](#)

Jolly, E. (in prep). SvelteTurk: An open-source graphical application to simplify data collection via Amazon Mechanical Turk. [[documentation site](#)]

Jolly, E., Chang, L.J. (in prep). Social cognitive maps: Encoding and reinstatement of neural patterns that reflect beliefs about social relationships.

Jolly, E., Cheong, J.C. & Chang, L.J. (in prep). Social relationships not impression formation: Comparing neural models of the social brain during naturalistic neuroimaging.

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

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. [[Preprint](#)]

Published

2021

Jolly, E. & Chang, L.J. (2021). Gossip drives vicarious learning and facilitates social connections. *Current Biology*, 31, 1-11. [[Link](#)]

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. *Science Advances*, 7(17), 1-17. [[Link](#)] [[PDF](#)]

Jolly, E. & Chang, L.J. (in press). Multivariate spatial feature selection in fMRI. *Social Cognitive and Affective Neuroscience*. [[Preprint](#)]

2020

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](#)]

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](#)]

2019

Chen, P.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](#)]

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](#)]

*Equal contribution

Jolly, E., & Chang, L.J. (2019). The Flatland Fallacy: Moving Beyond Low Dimensional Thinking. *Topics in Cognitive Science*, 1-22. [[PDF](#)]

2018

Jolly, E. (2018). Pymer4: Connecting R and Python for linear mixed modeling. *Journal of Open Source Software*, 3(31), 862. [[PDF](#)] [[documentation site](#)]

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](#)]

2017

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](#)]

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

2011-2016

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](#)]

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](#)]

Talks & Presentations

2020

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

Invited talk at Harvard University, Cambridge, MA.

Why Design Abstractions Matters for Analytics Tools: Neuroimaging analysis with Neuro-Learn.

Symposium talk at Scientific Computing with Python Virtual conference ([virtual talk](#)).

Spontaneous Neural Representations of Social Relationships in Naturalistic Contexts.

Symposium talk at Society for Affective Science, San Francisco, CA. (conference cancelled).

Methodological challenges in contemporary fMRI studies.

Invited talk at Neuroimaging Analysis Methods meeting, Princeton University, Princeton, NJ.

Introduction to Git and Github.

2019

Lecture at Methods in Neuroscience Computational Summer School, Dartmouth College, Hanover, NH.

Introduction to Git and Github.

2018

Lecture at Methods in Neuroscience Computational Summer School, Dartmouth College, Hanover, NH.

Introduction to Jupyter Notebooks for Interactive Data Analysis.

Lecture at Methods in Neuroscience Computational Summer School, Dartmouth College, Hanover, NH.

Introduction to functional alignment methods for fMRI.

Lecture at 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, Stanford University, Stanford, CA.

The Social Benefits of Gossip

Presentation at the New England Research on Decision-Making conference, Brown University, Providence, RI.

Computational tools for neuroscience: Containers and Jupyter Notebooks.

Lecture at Methods in Neuroscience Computational Summer School, Dartmouth College, Hanover, NH.

Introduction to Singularity: Running containers on a HPC.
 Tutorial at Graduate research roundtable workshop, Dartmouth College, Hanover, NH.

Introduction to git and github for psychologists.
 Presentation 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.
 Presentation at the Boston Area Moral Cognition Group, Boston, MA.

Interpersonal dynamics and the inelasticity of social guilt.
 Presentation at Affectiva, Boston, MA.

Spontaneous impression-formation about parasocial relationships.
 Presentation at the Annual Meeting of the Social and Affective Neuroscience Society, Los Angeles, CA.

Introduction to Jupyter Notebooks (and why you should love them!).
 Tutorial at Brainhack Dartmouth College, Hanover, N.H.

Research Methods for Conducting Synchronous Online Experiments.
 Guest Lecture at Dartmouth College, Hanover, NH.

Contemporary fMRI pre-processing: Introduction to Nipype and Docker.
 Tutorial at Dartmouth College, Hanover, NH.

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, NY.

Research Methods for Conducting Synchronous Online Experiments.
 Guest Lecture at Dartmouth College, Hanover, NH.

The Social Benefits of Gossip.
 Guest Lecture at Dartmouth College, Hanover, NH.

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

Posters & Conference Proceedings

Jolly, E. & Chang, L.J. (2021). Spontaneous Neural Representations of Social Relationships in Naturalistic Contexts.* 2021
 Poster at Social Affective Neuroscience Society meeting (online conference; in-person cancelled due to COVID-19)
 *Winner, SANS Poster Award

Jolly, E. (2020). Pymer4: Bringing R's Powerful Mixed-modeling to Python.* 2020
 Virtual poster at Scientific Computing with Python Virtual Conference. (in-person cancelled).
 *Winner, Scipy Scholarship

Jolly, E. & Chang, L.J. (2019). Gossip drives vicarious learning and facilitates robust social connections. 2019
 Poster at Social and Affective Neuroscience Society meeting, Miami, FL.

Cheong, J.C., Chen, P.A., **Jolly, E.**, Elhence, H., Wager, T.D., Chang, L.J. (2019). Socially transmitted placebo effects.
 Poster at Society for Affective Science meeting, Boston, MA.

Jolly, E., Reddan, M.C., Gianaros, P.J., Manuck, S.M. Chang, L.J., Wager, T.D. 2018
 (2018). NeuroLIME: A novel tool for explaining the predictions of complex

brain models.

Poster at Social and Affective Neuroscience Society meeting, New York, NY.

Reddan, M.C., **Jolly, E.**, Wager, T.D. (2018). NeuroLIME: A novel tool for explaining the predictions of nonlinear neuroimaging classifiers.

Poster at the Organization for Human Brain Mapping meeting, Singapore, Singapore.

Reddan, M.C., **Jolly, E.**, Wager, T.D. (2018). NeuroLIME: A novel tool for explaining the predictions of nonlinear neuroimaging classifiers.

Poster at the Computational and Systems Neuroscience meeting, Denver, CO.

Jolly, E. & Chang, L.J. (2017). Gossip drives vicarious learning and facilitates robust social connections.

2017

Poster at the Annual Meeting of the Association for Psychological Science, Boston, MA.

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.

Poster the Annual Meeting of the Social and Affective Neuroscience Society, Los Angeles, CA.

Jolly, E. & Chang, L.J (2016). Groups, gossip and social dilemmas.

2016

Poster at the International Conference on Computational Social Science, Evanston, IL.

Jolly, E., Tamir, D.I. & Mitchell, J.P. (2015). The social value of sharing experiences.*

2015

*Winner, SANS Poster Award

Poster at the Annual Meeting of the Social and Affective Neuroscience Society, Boston, MA.

Moran, J.M., **Jolly, E.**, & Mitchell, J.P. (2012). Spontaneous mentalizing supports the fundamental attribution error.

2012

Poster the Annual Meeting of the Cognitive Neuroscience Society, Chicago, IL.

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.

2010

Poster at the Annual Meeting of the Association for Psychological Science, Boston, MA.

Awards

Scientific Computing with Python Scholarship Award

2020

Social Affective Neuroscience Society Poster Award

Kavli Summer Institute in Cognitive Neuroscience

2019

Dartmouth Thayer Consulting Case Competition 1st Place

Hack Dartmouth Finalist

Hack Dartmouth Best Community Hack

2018

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

Dartmouth Graduate Arts and Science Travel Award

Dartmouth PBS Graduate Travel Award

Neukom Institute Travel Award

Dartmouth Graduate Alumni Research Award

2017

Dartmouth PBS Graduate Travel Award

Methods in Neuroscience Computational Summer School

	Summer School in Social Neuroscience and Neuroeconomics	
	Social Affective Neuroscience Society Trainee Data Blitz Award	
	Human Neuroimaging Methods Travel Award	
	Hack Dartmouth 2nd Place project award	2016
	Neurohackweek Summer School	
	Social Affective Neuroscience Society Poster Award	2015
	Dartmouth PBS Graduate Travel Award	
	National Science Foundation Graduate Research Fellowship	2013-2016
	University of Rochester BCS Dept: Highest Honors in research	2010
	University of Rochester Wilde-Trustee Scholarship	2006-2010
Teaching	Methods in Neuroscience Computational Summer School (TA) Dartmouth College	2019
	Functional Alignment Techniques in fMRI (Guest Lecturer) Mackenzie Presbyterian University, SPSAN, Sao Paulo, Brazil	2018
	Methods in Neuroscience Computational Summer School (TA) Dartmouth College	
	Methods in Neuroscience Computational Summer School (TA) Dartmouth College	2017
	Experimental Study of Social Behavior (Guest Lecturer) Dartmouth College	
	Experimental Study of Social Behavior (Guest Lecturer) Dartmouth College	2016
	Social Psychology (Guest Lecturer) Dartmouth College	
	Brain Mapping with functional MRI (TA and Guest Lecturer) Dartmouth College	2015
	Laboratory in Psychological Science* (TA and Guest Lecturer) *Mentored award winning undergraduate group Dartmouth College	
	Experimental Design and Methodology (TA and Guest Lecturer) Dartmouth College	2014
	Laboratory in Psychological Science (TA and Guest Lecturer) Dartmouth College	2013
	Introduction to MATLAB for Behavioral Research (ad-hoc workshop) Harvard University	2011
	Mind Perception (ad-hoc workshop) Harvard University	
Mentorship	Maryam Iqbal '21 Presidential Scholar/Honors Thesis Dartmouth College	2017-2021
	Liza Begunova '21 Honors Thesis Dartmouth College	2020-2021
	Max Farrens '20 Full-time Research Assistant Dartmouth College	2019-2020

Nathan P. Greenstein '19 Presidential Scholar Dartmouth College	2017-2019
Sushmita Sadhukua '18 Full-time Research Assistant Dartmouth College	2017-2019
Arati A. Gangadharan '18 Honors Thesis Dartmouth College	2015-2018
Hirsh Elhence '17 Presidential Scholar Dartmouth College	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
ad-hoc: Nature Communications, SIGCHI, Frontiers in Psych, JPSP

Society Memberships

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

Leadership & Community

Dartmouth College Postdoctoral Association

Board Member, Dartmouth College

SvelteTurk

Project Author, Open Source Software

Inclusivity, Diversity, and Culture Committee

Member, Dartmouth College

Code for America

Project Manager, Code for Upper Valley Brigade

Line@ Project

Co-Founder, Dartmouth College

2020-Present

2019-Present

2017-2020

<u>Pymer4</u>	2017-Present
Project Author , Open Source Software	
<u>Neuro-learn</u>	2016-Present
Core Contributor , Open Source Software	
Web and Desktop Application Development	2017-Present
Freelance Software Developer	
Introductory data analysis with Python	2016-Present
Private Tutor	
Dartmouth Brainhack	2017
Organizing committee member , Dartmouth College	
Social Brain Sciences Symposium talk series	2013-2015
Primary Organizer , Dartmouth College	
Social Area Graduate Student Representative	2013-2015
Graduate Representative , Dartmouth College	
GWISE Science day for local middle schools	2014
Station Leader , Dartmouth College	

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