Eshin Jolly

Dartmouth College
Dept of Psychological and Brain Sciences
6207 Moore Hall, Hanover, NH, 03755
(917) 376 3340
eshin.jolly@gmail.com

website | github | twitter | linkedin

Currently

Postdoctoral Fellow 2019-
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

Under review/revision

Jolly, E. & Chang, L.J. (under revision). Gossip drives vicarious learning and facilitates social connections. Current Biology. [Preprint]

Chang, L.J., **Jolly, E.**, Cheong, J.H., Rapuano, K., Greenstein, N., Chen, P.A. & Manning, J.R. (under revision). Endogenous variation in ventromedial

prefrontal cortex state dynamic during naturalistic viewing reflects affective experience. Science Advances. [Preprint]

Gao, X., **Jolly, E.**, Yu, H., Liu, H., Zhou, X., Chang, L. J. (submitted). The hidden cost of receiving favors: A theory of indebtedness. [Preprint]

In Prep

Jolly, E., 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.

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.

Published

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]

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.

2019

Introduction to Git and Github.
Lecture at Methods in Neuroscience Computational Summer School, Dartmouth College, Hanover, NH.

2018

Introduction to Git and Github.
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.

2017

Naturalistic approaches towards an understanding of social reasoning and communication.
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. (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. (2020). Spontaneous Neural Representations of Social Relationships in Naturalistic Contexts.*
Poster at Social Affective Neuroscience Society meeting, Santa Barbara, CA. (conference cancelled).
*Winner, SANS Poster Award

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). NeuroLIME: A novel tool for explaining the predictions of complex brain models. 2018
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

Functional Alignment Techniques in fMRI (Guest Lecturer) 2018
Mackenzie Presbyterian University, SPSAN, Sao Paulo, Brazil

Methods in Neuroscience Computational Summer School (TA)
Dartmouth College

Methods in Neuroscience Computational Summer School (TA) 2017
Dartmouth College

Experimental Study of Social Behavior (Guest Lecturer)
Dartmouth College

Experimental Study of Social Behavior (Guest Lecturer) 2016
Dartmouth College

Social Psychology (Guest Lecturer)
Dartmouth College

Brain Mapping with functional MRI (TA and Guest Lecturer) 2015
Dartmouth College

Laboratory in Psychological Science* (TA and Guest Lecturer)
*Mentored award winning undergraduate group
Dartmouth College

Experimental Design and Methodology (TA and Guest Lecturer) 2014
Dartmouth College

Laboratory in Psychological Science (TA and Guest Lecturer) 2013
Dartmouth College

Introduction to MATLAB for Behavioral Research (ad-hoc workshop) 2011
Harvard University

Mind Perception (ad-hoc workshop)
Harvard University

Mentorship

Max Farrens '20 2019-
Full-time Research Assistant
Dartmouth College

Maryam Iqbal '21 2017-
Presidential Scholar/Honors Thesis
Dartmouth College

Nathan P. Greenstein '19 2017-2019
Presidential Scholar
Dartmouth College

Sushmita Sadhukua '18 2017-2019
Full-time Research Assistant
Dartmouth College

Arati A. Gangadharan '18 2015-2018
Honors Thesis
Dartmouth College

Hirsh Elhence '17 2015-2017
Presidential Scholar

Dartmouth College

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
SCAN, JOSS, NeuroImage, PLoS One
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

2020-Present
Dartmouth College Postdoctoral Association
Board Member, Dartmouth College

SvelteTurk

2019-Present
Inclusivity, Diversity, and Culture Committee
Member, Dartmouth College

Code for America
Project Manager, Code for Upper Valley Brigade

2017-Present
Line@ Project
Co-Founder, Dartmouth College

2017-Present
Pymer4
Project Lead, Open Source Software

2016-Present
Neuro-learn
Core Contributor, Open Source Software

2017-Present
Web and Desktop Application Development
Freelance Software Developer

2016-Present
Introductory data analysis with Python
Private Tutor

2017
Dartmouth Brainhack
Organizing committee member, Dartmouth College

2013-2015
Social Brain Sciences Symposium talk series
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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