Eshin Jolly

Dartmouth College
Dept of Psychological and Brain Sciences
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website | github | twitter | linkedin

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). Multivariate spatial feature selection in fMRI. Social Cognitive and Affective Neuroscience, 16(8), 795-806. [Link]

Jolly, E. & Chang, L.J. (2021). Gossip drives vicarious learning and facilitates social connections. Current Biology, 31, 1-11. [Link] [data & materials] [press - New York Times] [press - VPR News] [press - 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. Science Advances, 7(17), 1-17. [Link] [data & materials]

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] [data & materials]

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]

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] [data & materials]

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]

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.

2016

Field experiments on human prosociality using Mechanical Turk.
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

2021

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

2020

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

2019

Jolly, E. & Chang, L.J. (2019). Gossip drives vicarious learning and facilitates

robust social connections.
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.

2018

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.
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.

2017

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

2016

Jolly, E. & Chang, L.J (2016). Groups, gossip and social dilemmas.
Poster at the International Conference on Computational Social Science, Evanston, IL.

2015

Jolly, E., Tamir, D.I. & Mitchell, J.P. (2015). The social value of sharing experiences.*
*Winner, SANS Poster Award
Poster at the Annual Meeting of the Social and Affective Neuroscience Society, Boston, MA.

2012

Moran, J.M., **Jolly, E.**, & Mitchell, J.P. (2012). Spontaneous mentalizing supports the fundamental attribution error.
Poster the Annual Meeting of the Cognitive Neuroscience Society, Chicago, IL.

2010

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

Awards

2020

Scientific Computing with Python Scholarship Award

Social Affective Neuroscience Society Poster Award

2019

Kavli Summer Institute in Cognitive Neuroscience

Dartmouth Thayer Consulting Case Competition 1st Place

Hack Dartmouth Finalist

2018

Hack Dartmouth Best Community Hack

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

2017

Dartmouth Graduate Alumni Research Award

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

2016

Hack Dartmouth 2nd Place project award

Neurohackweek Summer School

2015

Social Affective Neuroscience Society Poster Award

Dartmouth PBS Graduate Travel Award

2013-2016

National Science Foundation Graduate Research Fellowship

2010

University of Rochester BCS Dept: Highest Honors in research

2006-2010

University of Rochester Wilde-Trustee Scholarship

Teaching

2019

Methods in Neuroscience Computational Summer School (TA)
Dartmouth College

2018

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

Methods in Neuroscience Computational Summer School (TA)
Dartmouth College

2017

Methods in Neuroscience Computational Summer School (TA)
Dartmouth College

Experimental Study of Social Behavior (Guest Lecturer)
Dartmouth College

2016

Experimental Study of Social Behavior (Guest Lecturer)
Dartmouth College

Social Psychology (Guest Lecturer)
Dartmouth College

2015

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

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

2014

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

2013

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

2011

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

Mind Perception (ad-hoc workshop)
Harvard University

Mentorship

2017-2021

Maryam Iqbal '21
Presidential Scholar/Honors Thesis
Dartmouth College

2020-2021

Liza Begunova '21
Honors Thesis
Dartmouth College

2019-2020

Max Farrens '20
Full-time Research Assistant
Dartmouth College

2017-2019

Nathan P. Greenstein '19
Presidential Scholar
Dartmouth College

Sushmita Sadhukua '18
Full-time Research Assistant
Dartmouth College

2015-2018

Arati A. Gangadharan '18
Honors Thesis
Dartmouth College

2015-2017

Hirsh Elhence '17
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
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

2020-Present

Neighbors
Core Maintainer, Open Source Software

SvelteTurk
Project Author, Open Source Software

2019-Present

Inclusivity, Diversity, and Culture Advisory Committee
Member, Dartmouth College

Code for America
Project Manager, Code for Upper Valley Brigade

2017-Present

Pymer4
Project Author, Open Source Software

Web and Desktop Application Development
Freelance Software Developer

2016-Present

Nltools
Core Maintainer, Open Source Software

Introductory data analysis with Python
Private Tutor

2020-2021

Dartmouth College Postdoctoral Association
Board Member, Dartmouth College

2017-2020

Line@ Project
Co-Founder, Dartmouth College

2017

Dartmouth Brainhack
Organizing committee member, Dartmouth College

2014

GWISE Science day for local middle schools

Station Leader, Dartmouth College

2013-2015

Social Brain Sciences Symposium talk series
Primary Organizer, Dartmouth College

Social Area Graduate Student Representative
Graduate Representative, Dartmouth College

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Last updated: August 2021