Eshin Jolly

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

Currently

Postdoctoral Fellow 2019-
Center for Interacting Minds
Center for Cognitive Neuroscience
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

Scientific Advisor 2021-
Parsnip.ai

Food and Ed-tech startup

Co-Founder & CTO 2020-2021
Parsnip.ai

Food and Ed-tech startup

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

Funding

2019-

Co-PI
National Science Foundation, Career Award 1848370 ($886,457, Co-PI: Luke Chang)
Neural and computational basis of guilt in decision-making

2013-2016

Fellow

National Science Foundation, Graduate Research Fellowship ($90,000)
Uncovering the represention of self: A multivariate approach

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., Sadhukha, S., Iqbal, M., Molani, Z. & Chang, L.J. (in prep). The structure of social memory.

Jolly, E., Ranger, M.S. & Chang, L.J. (in prep). The neural basis of guilt diffusion in interpersonal harm-minimization.

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

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

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.*, Cheong, J.H.*, Xie, T. Byrne, S. Kenny, M. & Change, L.J. (under revision). Py-Feat: Python Facial Expression Analysis Toolbox. arXiv preprint [toolbox]
*Equal contribution

Jolly, E., Farrens, M., Greenstein, N., Eisenbarth, H., Reddan, M.C., Andrew, E., Wager, T.D. & Chang, L.J. (under revision). Recovering individual emotional states from sparse ratings using collaborative filtering. [arXiv preprint] [toolbox]

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. & Chang, L.J. (2021). Multivariate spatial feature selection in fMRI. Social Cognitive and Affective Neuroscience, 16(8), 795-806. [Link] 2021

Jolly, E. & Chang, L.J. (2021). Gossip drives vicarious learning and facilitates social connections. Current Biology, 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. 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]

Open Scientific Software

2022-Present

Py-feat
Core Developer, [Documentation] [Slides] [Github]


2020-Present

Neighbors
Core Developer, [Documentation] [Github]


SvelteTurk
Project Author, [Documentation] [Github]

2017-Present

Pymer4
Project Author, [Documentation] [Github]


2016-Present

Nltools
Core Developer, [Documentation] [Video Talk] [Github]


Talks & Presentations

2022

Spontaneous Neural Representations of Social Relationships in Naturalistic Contexts.
Syposium talk at International Society for Research on Emotion, USC, Los Angeles, CA.

Emotion and Social Perception in Naturalistic Contexts: Perspectives from Affective Computing and Affective Neuroscience.
Syposium organizer at International Society for Research on Emotion, USC, Los Angeles, CA.

Introduction to Facial Expression Analysis with Py-Feat. [Slides]
Talk at Center for Interacting Minds, Dartmouth College, Hanover, NH.

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. [Video]
Symposium talk at Scientific Computing with Python Virtual conference.

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, NH

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

2022

Complex Systems Summer School (CSSS)
Santa Fe Institute

2021

Mistletoe Research Fellowship finalist
Dartmouth College

2020

Scientific Computing with Python Scholarship Award
Scipy

Poster Award
SANS

2019

Kavli Summer Institute in Cognitive Neuroscience
UC Santa Barbara

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

Hack Dartmouth Finalist
Dartmouth College

2018

Hack Dartmouth Best Community Hack
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

2017

Graduate Alumni Research Award
Dartmouth College

PBS Graduate Travel Award
Dartmouth College

Methods in Neuroscience Computational Summer School
Dartmouth College

Summer School in Social Neuroscience and Neuroeconomics
Duke University

Social Affective Neuroscience Society Trainee Data Blitz Award
SANS

Human Neuroimaging Methods Travel Award
OHBM

2016

Hack Dartmouth 2nd Place project award
Dartmouth College

Neurohackweek Summer School
University of Washington eScience Institute

2015

Social Affective Neuroscience Society Poster Award
SANS

PBS Graduate Travel Award
Dartmouth College

2013-2016

National Science Foundation Graduate Research Fellowship
Dartmouth College

2010

BCS Dept: Highest Honors in research
University of Rochester

2006-2010

Wilder-Trustee Scholarship
University of Rochester

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

Online research methods for the experimental study of social behavior (Guest Lecturer)
Dartmouth College

2016

Online research methods for the experimental study of social behavior (Guest Lecturer)
Dartmouth College

Social Psychology (Guest Lecturer)
Dartmouth College

2015

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

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

2014

Experimental Design and Methodology (TA and Lecturer)

Dartmouth College

2013

Laboratory in Psychological Science (TA and Lecturer)
Dartmouth College

2011

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

Mind Perception (ad-hoc workshop)
Harvard University

Mentorship

2021-2022

Maxwell Ranger ‘22
Honors Thesis
Dartmouth College

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, JOSS
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, Society for Personality and Social Psychology

Leadership & Community

2022-

Technical Lead
Rural Internet Project
Code for Upper Valley (Local C4A Brigade), Bradford, VT

2019-2022

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

Project Manager
Rural Internet Project
Code for Upper Valley (Local C4A Brigade), Bradford, VT

2018-2020

VP of Client Outreach
Dartmouth Graduate Consulting Group, Hanover, NH

2020-2021

Board Member
Dartmouth College Postdoctoral Association, Hanover NH

2017-2020

Co-Founder
Line@ Project
Dartmouth College, Hanover, NH

2017

Organizing committee member
Dartmouth Brainhack, Hanover, NH

2014

Station Leader
GWISE Science day for local middle schools
Dartmouth College, Hanover, NH

2013-2015

Primary Organizer

Social Brain Sciences Symposium talk series
Dartmouth College, Hanover, NH

Graduate Representative
Social Area Graduate Student Representative
Dartmouth College, Hanover, NH

2019-

Freelance Software Developer
Web and Desktop Application Development

Private Tutor
Introductory data analysis with Python

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Last updated: September 2022