

## Shannon Burns, Ph.D.

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### EMPLOYMENT & EDUCATION

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Assistant Professor	Pomona College	2022-present
Postdoctoral Scholar	Princeton University	2021-2022
Postdoctoral Scholar	Annenberg School of Communication, University of Pennsylvania	2020-2021
Ph.D., Social Psychology (minor: Quantitative Psychology)	University of California – Los Angeles	2020
M.A., Social Psychology	University of California – Los Angeles	2016
B.A., Psychology	Pomona College	2015

### PUBLICATIONS

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- Gao, S., Nash, R., **Burns, S.M.**, & Leong, Y.C. (2025). Predicting whole-brain neural dynamics from prefrontal cortex fNIRS signals during movie-watching. *Social Cognitive and Affective Neuroscience*, nsaf043. <https://doi.org/10.1093/scan/nsaf043>
- Burns, S.M.**, Tsoi, L., Falk, E.B., Speer, S.P.H., Mwilambwe-Tshilobo, L., & Tamir, D.I. (2025). Interdependent minds: Quantifying the dynamics of successful social interaction. *Current Directions in Psychological Science*. <https://doi.org/10.1177/09637214251323598>
- Speer, S.P.H., Mwilambwe-Tshilobo, L., Tsoi, L., **Burns, S.M.**, Falk, E.B., & Tamir, D.I. (2024). Hyperscanning shows friends explore and strangers converge in conversation. *Nature Communications*, 15, 7781. <https://doi.org/10.1038/s41467-024-51990-7>
- Cosme, D., Scholz, C., Chan, H.Y., Doré, B.P., Pandey, P., Carreras-Tartak, J., Cooper, N., Paul, A., **Burns, S.M.**, & Falk, E.B. (2023). Message self and social relevance increases intentions to share content: Correlational and causal evidence from six studies. *Journal of Experimental Psychology: General*, 152(1), 253-267. <https://doi.org/10.1037/xge0001270>
- Tsoi, L., **Burns, S.M.**, Falk, E.B., & Tamir, D. (2022). The promises and pitfalls of fMRI hyperscanning for social interaction research. *Social and Personality Psychology Compass*, 16(10), e12707. <https://doi.org/10.1111/spc3.12707>

- Sahi, R., Dieffenbach, M.A., Gan, S., Lee, M., Hazlett, L., **Burns, S.M.**, Lieberman, M.D., Shamay-Tsoory, S., & Eisenberger, N.I. (2021). The comfort in touch: Immediate and lasting effects of handholding on emotional pain. *PLoS One*, 16(2), e0246753. doi: <https://doi.org/10.1371/journal.pone.0246753>
- Dieffenbach, M.C., Gillespie, G.S.R., **Burns, S.M.**, McCulloh, I.A., Ames, D.L., Dagher, M.M., Falk, E.B., & Lieberman, M.D. (2021). Neural reference groups: A synchrony-based classification approach for predicting attitudes using fNIRS. *Social Cognitive and Affective Neuroscience*, 16(1), 117-128. doi: 10.1093/scan/nsaa115
- Burns, S.M.**, Barnes, L.N., McCulloh, I.A., Dagher, M.M., Falk, E.B., Storey, J.D., & Lieberman, M.D. (2019). Making social neuroscience less WEIRD: Using fNIRS to measure neural signatures of persuasive influence in a Middle East participant sample. *Journal of Personality and Social Psychology*, 116(3), e1-e11. doi: 10.1037/pspa0000144
- Burns, S.M.**, Barnes, L.N., Katzman, P.L., Ames, D.L., Falk, E.B., & Lieberman, M.D. (2018). A functional near infrared spectroscopy (fNIRS) replication of the sunscreen persuasion paradigm. *Social Cognitive and Affective Neuroscience*, 13(6), 628-636.
- Lieberman, M.D., **Burns, S.M.**, Torre, J.B., & Eisenberger, N.I. (2016). Reply to Wager et al: Pain and the dACC: The importance of hit rate-adjusted effects and posterior probabilities with fair priors. *Proceedings of the National Academy of Sciences*, 113, E2476-E2479.

## MANUSCRIPTS IN PRESS / REVIEW / PREPARATION

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\* = undergraduate mentee

+ = co-senior author

- Ma de Sousa, A.Q., Schwyck, M.E., \*Furtado Fernandes, L., \*Ford, E., Babür, B.G., Lu, C., Zimmerman, J.C., Yu, H., +**Burns, S.M.**, & +Baek, E.C. (in press). Loneliness is associated with unstable and distorted emotion transition predictions. *Communications Psychology*. Preprint: [https://osf.io/preprints/psyarxiv/6g4sc\\_v2](https://osf.io/preprints/psyarxiv/6g4sc_v2)
- Speer, S.P.H., **Burns, S.M.**, Falk, E.B., Mwilambwe-Tshilobo, L., Tsoi, L., & Tamir, D.I. (in press). From words to bonds: The science of meaningful conversations.
- Burns, S.M.** & Lieberman, M.D. (under review). The use of functional near infrared spectroscopy (fNIRS) for unique contributions to social and affective neuroscience. Preprint: <https://osf.io/preprints/psyarxiv/kygbm>
- \*Furtado Fernandes, L., \*Ford, E., & **Burns, S.M.** (in prep). The influence of emotion dynamics on interpersonal liking.
- \*Zimmerman, J.C., Tamir, D.I., Nastase, S.A., & **Burns, S.M.** (in prep). Evaluating the impact of head motion in naturalistic fMRI.

Goldstein, B.M., **Burns, S.M.**, Dieffenbach, M.C., Konkoly, C., Abramowitz, S., & Lieberman, M.D. (under review). Tell me you're overwhelmed at work without telling me you're overwhelmed: Detecting the neural predictors of hidden and persistent psychological states. Preprint: [https://osf.io/preprints/psyarxiv/u7g9a\\_v1](https://osf.io/preprints/psyarxiv/u7g9a_v1)

Zada, Z., Nastase, S.A., Speer, S., Mwilambwe-Tshilobo, L., Tsoi, L., **Burns, S.M.**, Falk, E., Hasson, U., & Tamir, D. (under review). Linguistic coupling between neural systems for speech production and comprehension during real-time dyadic conversations.

Mesquiti, S., Cosme, D., Nook, E., Falk, E.B., & **Burns, S.M.** (under review). Predicting psychological and subjective well-being through language-based assessment. Preprint: [https://osf.io/preprints/psyarxiv/rfq8p\\_v1](https://osf.io/preprints/psyarxiv/rfq8p_v1)

**Burns, S.M.**, Barnes, L.N., Dale, R., & Lieberman, M.D. (in prep). Empathic construal: How shared identity and experience structure inferences about others' emotions.

Speer, S.P.H., Sened, H., Mwilambwe-Tshilobo, L., Falk, E.B., Tsoi, L., <sup>+</sup>**Burns, S.M.**, & <sup>+</sup>Tamir, D.I. (under review). Finding agreement: fMRI-hyperscanning reveals that dyads explore in mental state space to align opinions.

## GRANT SUPPORT

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### Completed:

National Science Foundation – (PI: Burns)

9/16 – 6/19

*Graduate Research Fellowship*

Direct costs: \$102,000

Role: Primary Investigator

ONR – (PI: Lieberman)

8/14 – 9/18

*Neural bases of persuasion and social influence in the U.S. and the Middle East*

Direct costs: \$2,831,976

Role: UCLA site project coordinator

## INVITED TALKS

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**Burns, S.M.** (May 2025). Beyond synchrony: Quantifying the dynamics of interdependent minds. Invited talk presented at the UC – Irvine Cognitive Science Brown Bag.

**Burns, S.M.** (May 2025). Beyond synchrony: Quantifying the dynamics of interdependent minds. Invited talk at the *West Coast Neuroeconomics Symposium*. San Diego, CA.

**Burns, S.M.** (May 2025). Beyond synchrony: Quantifying the dynamics of interdependent minds. Invited talk at the Princeton Neuroscience Institute's Workshop on Naturalistic

Conversation.

**Burns, S.M.** (Apr 2025). Evaluating the impact of speaking motion on intersubject correlation measurement in naturalistic fMRI. Symposium talk at the *Annual Meeting for the Social and Affective Neuroscience Society*. Chicago, IL.

**Burns, S.M.** (Apr 2024). Coordinated neural states during joint decision-making. Symposium talk at the *Annual Meeting for the Social and Affective Neuroscience Society*. Toronto, ON, Canada.

**Burns, S.M.** (Mar 2024). Synchrony vs. divergence in mental state dynamics during interpersonal conversation. Invited talk presented at University of Southern California Psychology Brown Bag.

**Burns, S.M.** (Feb 2024). Breadth and complexity of spoken information during conversation relates to accurate mentalizing. Data-blitz talk at the Shared Reality Virtual Mini-Conference.

**Burns, S.M.** (Oct 2023). Synchrony vs. divergence in mental state dynamics during interpersonal conversation. Invited talk presented at UC - Riverside Psychology Brown Bag.

**Burns, S.M.** (May 2023). Synchrony vs. divergence in mental state dynamics during interpersonal conversation. Invited talk presented at UC – Los Angeles Social Psychology Brown Bag.

**Burns, S.M.** (Apr 2021). On the same page: Dynamics of sharing perspective during communication. Invited talk presented at Dartmouth University Social Psychology Brown Bag.

**Burns, S.M.** (Sep 2020). Variations in empathic understanding as a function of personal experience and identity. Invited talk presented at Princeton University Psychology Social Seminar.

**Burns, S.M., Barnes, L.N., Dale, R., & Lieberman, M.D.** (Sep 2019). Dynamic neural systems in natural social interaction. Invited talk presented at University of Pennsylvania & Princeton University.

**Burns, S.M.** (Feb 2018). Cross-cultural examination of brain indicators of persuasion. Symposium talk at the *Society for Personality and Social Psychology Annual Convention*. Atlanta, GA.

**Burns, S.M.** (May 2017). Neuroscience beyond the scanner: Social brain processes in real-world contexts. Invited talk presented at UC – Los Angeles Social Psychology Brown Bag.

## **OTHER INTELLECTUAL PRODUCTS**

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**Burns, S.M.** (2023). PreprocessingfNIRS [computer software]. Retrieved from <https://github.com/smburns47/preprocessingfNIRS>

- Automated preprocessing package for fNIRS data, in Matlab & Python

**Burns, S.M.** (2022). *Introduction to Statistics for Psychological Science*. Retrieved from <https://shannonmburns.com/Psyc158>

- Online interactive textbook on introductory statistics for psychological & cognitive science students. Emphasizes the use of R and building statistical models.

**Burns, S.M.** (2019). UCLA fNIRS Bootcamp [Video series]. Retrieved from <https://www.youtube.com/watch?v=TEMNe5ROsw4>

- 3-day workshop on fNIRS study design, data collection, preprocessing, and analysis. Videos from original workshop at UCLA in January 2019.

## AWARDS & HONORS

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Shelley Taylor Dissertation Award – for an outstanding doctoral dissertation in social psychology – UCLA Psychology Department 2020

UCLA Dissertation Year Fellowship (\$20,000) 2019

Collegium of University Teaching Fellowship – one of 20 graduate students across UCLA selected for teaching merit, awarded opportunity to design and teach own class 2019

Harold H. Kelley Award – for a meritorious research paper addressing basic issues or theory - UCLA Psychology Department 2018

Society for Personality and Social Psychology Student Travel Award (\$500) 2017

National Science Foundation Graduate Research Fellowship (\$34,000/year for 3 years) 2016

## TEACHING

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<b>Instructor of Record</b>	Emotion & Motivation w/ Lab (Pomona College)
	Neuroimaging with fMRI w/ Lab (Pomona College)
	Seminar in Group Dynamics (Pomona College)
	Introduction to Psychological Statistics (Pomona College)

	Psychology of the Mob (UCLA)
<b>Teaching Assistant</b>	Neuroscience of Social Perception (UCLA)
	Social Influence (UCLA)
	Intimate Relationships (UCLA)
	Social Psychology (UCLA)
	Human Brain Laboratory (Pomona College)
	Introduction to Psychology (Pomona College)

## **SPECIALIZED TRAINING & SKILLS**

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**Brain Imaging:** Functional near infrared spectroscopy; functional magnetic resonance imaging  
**Programming Languages:** Matlab, Python, R

Complexity Science Summer School at the Santa Fe Institute	2025
Summer School in Social Neuroscience and Neuroeconomics – Duke University	2019
São Paulo School of Advanced Science on Social and Affective Neuroscience - Universidade Presbiteriana Mackenzie – São Paulo, Brazil	2018
Methods in Neuroscience at Dartmouth Training Course - Dartmouth University	2017
Summer Training Course in fMRI - University of Michigan	2016
Functional Near Infrared Spectroscopy Intensive Course - MGH/HST Athinoula A. Martinos Center for Biomedical Imaging Massachusetts General Hospital	2015

## **CONSULTING**

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Lotic.ai	Advised on evidence-based product development, designed and executed research and analysis on how to predict well-being from text	2021-2024
Resonance, Inc.		2018-2020

	Create cognitive and neural tests for predicting optimal employee workgroup compositions	
ORB International & IIACSS	Use neural indicators of persuasion to develop personalized public health messaging in Amman, Jordan	2016-2017

## SERVICE & PROFESSIONAL ACTIVITIES

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Guest editor of special issue on fNIRS for social neuroscience at <i>Social, Cognitive, &amp; Affective Neuroscience</i>	2024-2025
Degree planning committee member & faculty advisor Pomona College Data Science Minor	2022-present
Ad-hoc reviewer for <i>Journal of Neuroscience; Social, Cognitive, &amp; Affective Neuroscience; Social Neuroscience; Emotion; IEEE; Psychosomatic Medicine; eLife; Society for Personality and Social Psychology Annual Conference; Social and Affective Neuroscience Society Annual Meeting</i>	2016-present
Trainee Mentor Society for Functional Near-Infrared Spectroscopy	2020-present
Writing & Reviewing Mentor Undergraduate Research Journal of Psychology UCLA	2018-2020
Social Area Speaker Event Coordinator UCLA Department of Psychology	2017
Social Area Student Representative UCLA Department of Psychology	2016-2017
Speaker Event Coordinator Association for Underrepresented Graduate Students in Psychology UCLA	2015-2016

## AFFILIATIONS

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Social & Affective Neuroscience Society (SANS)  
Society for Affective Science (SAS)  
Society for Personality and Social Psychology (SPSP)

## **REFERENCES**

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Dr. Matthew Lieberman – [lieber@ucla.edu](mailto:lieber@ucla.edu)

Dr. Diana Tamir – [dtamir@princeton.edu](mailto:dtamir@princeton.edu)

Dr. Emily Falk – [emily.falk@asc.upenn.edu](mailto:emily.falk@asc.upenn.edu)