MARIANNE C. REDDAN, PHD

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Interests

cognitive neuroscience, neuroimaging, social cognition, pain, health equity, machine learning, emotion, affective computing, dyadic interaction, predictive coding, threat, socioeconomic influence, grounded cognition, psychophysiology, clinical & policy translation

Education

2019 **Triple Ph.D., Psychology,[1] Neuroscience, [1] and Cognitive Science[2]**
with a certificate in Quantitative Methods in Behavioral Sciences
[1]Department of Psychology and Neuroscience and the [2]Institute of Cognitive Science
University of Colorado at Boulder
Faculty Advisor: Tor Wager, PhD
Committee: Drs. McKell Carter, Sidney D'Mello, Rafael Frongillo, June Gruber

2016 **M.A., Psychology and Neuroscience**
Department of Psychology and Neuroscience
University of Colorado at Boulder

2010 **B.A., Psychology** *with Honors*
Lewis Rudin Scholar
College of Arts and Sciences, New York University

Research Experience

2024 – Assistant Professor, Socioecological Cognitive Neuroscience Lab
Department of Psychiatry & Behavioral Sciences
CTSA K12 Scholar, Institute for Clinical and Translational Research (ICTR)
Albert Einstein College of Medicine, The Bronx, NY

Fall 2024 Visiting Scholar, Cognitive and Affective Neuroscience Lab
Department of Psychological and Brain Sciences, Dartmouth College, Hanover, NH
Faculty Sponsor: Tor D. Wager, PhD

2022 – 24 Instructor, Department of Psychiatry & Behavioral Sciences
CTSA K12 Scholar in the Institute for Clinical and Translational Research (ICTR)
Albert Einstein College of Medicine, The Bronx, NY
Faculty Mentors: Hector Perez, MD & Earle Chambers, PhD

2019 – 22 Postdoctoral Fellow, Stanford Social Neuroscience Lab
Department of Psychology, Stanford University, Stanford, CA
Faculty Advisor: Jamil Zaki, PhD

2013 – 19 Graduate Student, Cognitive and Affective Neuroscience Lab
Department of Psychology and Neuroscience, Institute for Cognitive Science (ICS)
University of Colorado Boulder, Boulder, CO
Faculty Advisor: Tor Wager, PhD

2010 – 13 Lab Manager, Affective Neuroscience Lab
Department of Psychiatry, Icahn School of Medicine at Mount Sinai, New York, NY
Faculty Advisor: Daniela Schiller, PhD

2009 – 10 Undergraduate Research Assistant, Phelps Lab
Department of Psychology, New York University, New York, NY
Faculty Advisor: Elizabeth Phelps, PhD Project Mentor: Catherine Hartley, PhD

Publications (1082 citations, h-index 11)

Selected Peer Reviewed Publications

Reddan, M.C., Ong, D., Wager T.D., Mattek, A., Kahhale, I., & Zaki, J. (under revision at *Nature Communications*) Neural signatures of emotion intent and inference align during social consensus. Preprint: https://www.researchsquare.com/article/rs-3487248/v1

Reddan, M.C., Garcia, S., Golijeh, G., Eberhardt, J., & Zaki, J. (2024) Film intervention increases empathic understanding of formerly incarcerated people and support for criminal justice reform. *Proceedings of the National Academy of Sciences of the United States of America (PNAS)*. https://www.pnas.org/doi/epub/10.1073/pnas.2322819121

Reddan, M.C. (2021). Recommendations for the development of socioeconomically-situated and clinically-relevant neuroimaging models of pain. *Frontiers in Neurology*, 12, 1529 – 1531.

Reddan, M.C., Young, H., Falkner, J., López-Solà, M., & Wager, T.D. (2020). Touch and social support influence interpersonal synchrony and pain. *Social Cognitive Affective Neuroscience*,*15* (10): 1064-1075. doi:10.1093/scan/nsaa048.

Kragel, P.A., **Reddan, M.C.**, LaBar, K.S., & Wager, T.D. (2019). Emotion schemas are embedded in the human visual cortex. *Science Advances*, *5* (7), https://doi.org/10.1126/sciadv.aaw4358.

Reddan, M.C., Wager, T.D., & Schiller, D. (2018). Attenuating Neural Threat Expression with Imagination. *Neuron, 100*, 994-1005.

Reddan, M.C. & Wager, T.D. (2018). Brain systems at the intersection of chronic pain and self-regulation. *Neuroscience Letters*, *702*, 24-33.

Reddan, M.C. & Wager, T.D. (2017). Modeling Pain Using fMRI: From Regions to Biomarkers. *Neuroscience Bulletin,* 1-8.

Reddan, M.C., Lindquist, M.A., & Wager, T.D. (2017). Effect Size Estimation in Neuroimaging. *JAMA Psychiatry.* doi:10.1001/jamapsychiatry.2016.3356.

Additional Peer Reviewed Publications

Ong, D. C., Jospe, K., **Reddan, M. C.**, Wu, Z., Kahhale, I., Chen, P., Perry, A., Zaki, J. (2023). People optimally and flexibly process emotional information across multiple modalities. https://doi.org/10.31234/osf.io/5pr6w

Jolly, E., Farrens, M, Greenstein, N., Eisenbarth, H., **Reddan, M.C.**, Andrews, E.A., Wager, T.D., & Chang, L.J. (2022). Recovering individual emotional states from sparse ratings using collaborative filtering. *Affective Science*. 3 (4), 799-817

van't Hof, S.R., Van Oudenhove, L., Klein, S., **Reddan, M.C.**, Kragel, P.A., Stark, R., & Wager, T.D. (2022). The Brain Activation-based Sexual Image Classifier (BASIC): A sensitive and specific fMRI activity pattern for sexual image perception. *Cerebral Cortex*.

Ong, D. C., Wu, Z., Zhi-Xuan, T., **Reddan, M.**, Kahhale, I., Mattek, A., & Zaki, J. (2021). Modeling emotion in complex stories: the Stanford Emotional Narratives Dataset. *IEEE Transactions on Affective Computing*. 12 (3): 579-594.

Matthewson, G., Woo, C.W., **Reddan, M.C.**, & Wager, T.D. (2019). Cognitive self-regulation influences pain-related physiology. *PAIN*, *160* (10), 2338–2349.

Homan, P., **Reddan, M.C.**, Brosch, T., Koenigsberg, H.W., Schiller, D. (2017). Aberrant link between empathy and social attribution style in borderline personality disorder. *Journal of Psychiatric Research (94)*: 163-171.

Reddan, M. (2016). The Neural Embodiment of Human Emotion. University of Colorado at Boulder Master's Thesis. URL: https://scholar.colorado.edu/concern/graduate_thesis_or_dissertations/5712m690j

Chang, L.J., **Reddan M.**, Ashar, Y.K., Eisenbarth H., & Wager, T.D. (2015). The Challenges of Forecasting Resilience. *Behavioral and Brain Sciences Commentary, 38*: 26-27.

Hildebrandt, T., Grotzinger, A., **Reddan, M.**, Greif, R., Levy, I., Goodman, W., & Schiller, D. (2015). Testing the Disgust Conditioning Theory of Food-Avoidance in Adolescents with Recent Onset Anorexia Nervosa. *Behaviour Research and Therapy, 71*,131-138.

Hartley, C.A., Gorun, A., **Reddan, M.C.**, Ramirez, F., Phelps, E.A. (2013). Stressor controllability modulates fear extinction in humans. *Neurobiology of Learning & Memory, 113*,149-56.

Reddan, M. (2015). Developing Neural Signatures for Discrete Emotional States. *CU STEMinar Journal* 1(1)23-29.

Earl E, Demeter D., Mills K., Mihai G., Ruzic L., Ketz N., Reineberg A., **Reddan, M.**, Goddings A., Gonzalez-Castillo J., Krzysztof G. (2015). Human Connectomes Project Minimal Preprocessing Pipelines to Nipype. *Brainhack Project Report from OHBM Hackathon*. Project URL: https://github.com/ericearl/hcp2nipype-hack2015.

Book Chapters

Dutra, S. J., **Reddan, M.**, Purcell, J. R., Devlin, H.C., & Welker, K. M. (2018). Indices and correlates of positive emotion in psychopathology: Methodological and design considerations In Gruber, J. (Ed.), *The Oxford Handbook of Positive Emotion and Psychopathology*. New York, NY: Oxford University Press.

Manuscripts In Preparation and Preprints

Reddan, M.C., Garcia, S., Eberhardt, J. & Zaki, J. (in prep) Narrative stories reduce bias against incarcerated people: A longitudinal study of beliefs and behavior.

Reddan, M.C., Richard J., Petre, B., Ceko., M, Friedman, N., Wager, T.D. (in prep) Neighborhood-level socioeconomic factors reshape brain circuits that drive pain sensitivity: A study of adult twins.

Reddan, M.C., Chang, L., Kragel, P.A., & Wager, T.D. (in preprint) Somatosensory and motor contributions to emotion representation. *Arxiv, Quantitative Biology, Neurons and Cognition*, https://arxiv.org/abs/2411.08973

Presentations

Invited Talks

Reddan, M.C. Towards a socioecological understanding of human cognition. **Cognitive and Comparative Psychology Colloquium**, Department of Psychology, The City University of New York, Brooklyn, NY. Mar 14, 2023.

Reddan, M.C. Self, social, and societal contributions to neural differences in pain. **Computational Neuroscience Department of Research & Development**, Advanced Telecommunications Research Institute (ATR), Nara, Japan. June 28, 2024.

Reddan, M.C. Understanding patient stories with topic modeling (LDA). **Substance Use and Addiction Group (SUAG)** Biweekly Meetings, Albert Einstein College of Medicine, The Bronx. NY. May 30, 2024. slides

Reddan, M.C., Structural inequities determine the personal experience of pain. **PRIME Research Day**, Albert Einstein College of Medicine, The Bronx. NY. May 16, 2024

Reddan, M.C. Mental imagery, social support, and socioeconomic environments reshape pain and fear. **Department of Biobehavioral Health**, Pennsylvania State University, State College, Pennsylvania. Nov 13, 2023.

Reddan, M.C. Self, social, and societal determinants of pain: fMRI models with clinical implication. Department of Psychology, Brooklyn College, Brooklyn, NY. Mar 14, 2023.

Reddan, M.C. Methodological considerations for the development of neuroimaging models with clinical and political impact. Department of Psychology & Neuroscience, University of North Carolina Chapel Hill. Virtual, Oct 12, 2022. slides

Reddan, M.C. SVM applications to task-based neuroimaging. Computational Neuroimaging Workshops, **Department of Psychiatry and Neuroscience**, Albert Einstein College of Medicine. Oct 6, 2022. slides code

Reddan, M.C. A social neuroscience approach to pain treatment and prevention at Psychiatry Grand Rounds, **Department of Psychiatry and Behavioral Sciences**, Albert Einstein College of Medicine. Virtual, Sept 29, 2022. *This is an accredited series*. slides

Reddan, M.C. A social epidemiologic approach to pain neuroimaging at **PRIME's Division of General and Internal Medicine Seminar**, Albert Einstein College of Medicine, June 2022.

Reddan, M.C. Socioemotional inference can be predicted from human brain activity at **Affective Seminar (ASEM)**, Department of Psychology, Stanford University, Virtual, Feb 2022.

Reddan, M.C. Interpersonal support and society modulate the brain representation of pain at *Columbia University,* **Social Cognitive and Affective Neuroscience Lab Meeting (PI: Kevin Ochsner)**, Virtual, September 2021.

Reddan, M.C. Brain mechanisms for the attenuation of fear and pain through self-regulation and social support at **Lab Meeting of Dr. Vilma Gabbay (Director of Psychiatry Research)**, Albert Einstein College of Medicine, New York, NY, Virtual, August 2021.

Reddan, M.C. Recommendations for the Development of Socially-Situated and Clinically-Relevant Neuroimaging Models of Pain at **Affective Seminar (ASEM)**, Department of Psychology, Stanford University. Virtual, April 2021.

Reddan, M.C., Young, H., Falkner, J., López-Solà, M., & Wager, T.D. Touch and social support influence interpersonal synchrony and pain at **University of California San Diego Empathy and Compassion Journal Club**. Virtual, February 2021.

Reddan, M.C., Schiller, D., Wager, T. Attenuating Threat Expression with Imagined Extinction at the **43rd Annual Meeting of the Japanese Neuroscience Society** at the Kobe Convention Center in Japan, Virtual, July 2020.

Reddan, M.C. & Zaki, J. Predicting Empathic Accuracy from Brain Activity. **Departmental Colloquium Flash Talk**, Department of Psychology, Stanford University, Stanford, CA, March 2020. [Cancelled due to COVID-19 pandemic]

Reddan, M.C. & Zaki, J. Predicting emotion inference from observer brain states at **Causality and Cognition Lab Meeting (PI: Tobias Gerstenberg)**, Stanford University, Stanford, CA, February 2020.

Reddan, M.C. & Zaki, J. Modal and Supramodal Representations of Emotion at **Affective Seminar (ASEM)**, Department of Psychology, Stanford University, Stanford, CA, December 2019.

Reddan, M. Behavioral and Neural Evidence for Social- & Self-Regulation of Pain, **Cognitive Lunch Lecture Series**, Cognitive Psychology Department CU-Boulder, Boulder, CO, Apr 2019.

Reddan, M. A Neural Basis for Embodied Emotion. **Cognitive Lunch Lecture Series**, Cognitive Psychology Department CU-Boulder, Boulder, CO, Apr 2018.

Reddan, M. The Practical Significance of Psychological Classifiers. **Cognitive Lunch Lecture Series**, Cognitive Psychology Department CU-Boulder, Boulder, CO, Sept 2017.

Reddan, M. The Prediction and Modification of the Neural Representation of Threat. **Cognitive Lunch Lecture Series**, Cognitive Psychology Department CU-Boulder, Boulder, CO, Feb 2016.

Reddan, M. 'Decoding' Emotion: How Machine Learning and Representational Similarity Analysis are Reshaping Psychology, **Positive Emotion Psychology Lab Meeting (PI: June Gruber)**, University of Colorado-Boulder, CO. Feb 2016.

Reddan, M., Wager, T.D., & Schiller D. Influence of Imagined Extinction on Real-life Threat Expression. **CASL: Colorado Affective Science Laboratories Symposium**. University of Colorado-Denver, Denver, CO. April 2015.

Reddan, M., Chang L, & Wager, T. The Development of Neural Signatures of Nuanced Emotional Events. **Interdisciplinary Science Short: Physics in Medicine**, University of Colorado-Boulder, Boulder, CO. November 2014.

Reddan, M, Chang L, & Wager, T. Application of Machine Learning Techniques to the Neural Processing of Human Emotion. **STEMinar**, University of Colorado-Boulder, Boulder, CO. November 2014.

Conference Talks

Reddan, M.C. Neural signatures of emotion inference and experience align during social consensus. **Social Affective Neuroscience Society (SANS)**, Blitz Topics Presentation, Toronto, Canada. Apr 11, 2024.

Reddan, M.C., Mattek, A., Kahale, I., Ong, D, & Zaki, J. Brain representations of socioemotional information: the separation of input and inference at **International Society for Research on Emotion**, Los Angeles, CA, July 2022. recording

Reddan, M.C., Mattek, A., Kahale, I., Ong, D, & Zaki, J. Socioemotional inference can be predicted from human brain activity at **Society for Personality and Social Psychology (SPSP)**, Virtual Symposium, February 2022.

Reddan, M.C., Ong, D, & Zaki, J. Human and AI Emotion Inference in Naturalistic Environments at **Society for Personality and Social Psychology (SPSP)**, Virtual Symposium, February 2021.

Reddan, M.C., Ong, D, & Zaki, J. Multisensory information yields more abstract neural representations of emotion inference at **Social Affective Science (SAS)**. San Francisco, CA, March 2020 [rescheduled due to COVID-19 pandemic]

Reddan, M.C., Wager TD, & Schiller D. Attenuating Neural Threat Expression with Imagination. **Organization of Human Brain Mapping (OHBM)**, Rome, Italy, June 2019.

Reddan, M., Chang, L, & Wager, TD. A Neural Basis for Embodied Emotion. **Social Affective Neuroscience Society (SANS)**, Brooklyn, NY, May 2018.

Reddan, M. Neurolime: A tool for interpreting nonlinear predictions in neuroimaging. **Organization of Human Brain Mapping Hackathon *Unconference***, Vancouver, CA, June 2017.

Reddan, M. WTF is Deep Learning? **Organization of Human Brain Mapping Hackathon *Unconference***, Vancouver, CA, June 2017.

Reddan, M., Schiller D., & Wager, T.D. Imagined Extinction Reduces Real-life Threat Expression. Emotion and Motivation Session, **Organization of Human Brain Mapping (OHBM)**, Honolulu, HI, June 2015.

Reddan, M., & Wager, T.D. Neural Patterns of Embodied Emotion. **34th Annual Ekstrand Mini-Convention.** University of Colorado-Boulder, Boulder, CO. April 2015.

Reddan, M., Schiller D., & Wager, T.D. Imagined Extinction Training Influences Fear Recovery. **33rd Annual Ekstrand Mini-Convention**. University of Colorado, Boulder, CO. April 2014.

Reddan, M., Brosch T., Koenigsberg H., Schiller D. Emotion Dysregulation and the fundamental attribution error in borderline personality disorder. Nanosymposium: Fear, Stress, and Social Networks. **Society for Neuroscience Annual Meeting (SFN)**, San Diego, CA, November 2013.

Reddan, M., Levy D., Schiller D. The effects of imagination on fear extinction. Nanosymposium on Emotion: Neural Mechanisms of Regulation. **Society for Neuroscience Annual Meeting (SFN)**, New Orleans, LA, October 2012.

Reddan, M., Schiller, D. The effects of imagination on fear extinction. **Friedman Brain Institute Annual Neuroscience Retreat**, New York, NY. April 2012. Best Talk Award.

Poster Presentations

Reddan, M.C., Ong, D., Wager T.D., Mattek, A., Kahhale, I., & Zaki, J. Neural signatures of emotion inference and experience align during social consensus. **Organization of Human Brain Mapping (OHBM)**, Seoul, South Korea. June 2024.

Reddan, M.C., Ong, D., Wager T.D., Mattek, A., Kahhale, I., & Zaki, J. Neural signatures of emotional inference and experience align during social consensus at **Social Affective Neuroscience Society (SANS)**, Toronto, Canada, April 2024.

Reddan, M.C., Richard, J., Petre, B., Ceko, M., Friedman, N., Wager, T.D. Brain-based socioeconomic determinants of pain: an exploratory analysis at **Organization of Human Brain Mapping (OHBM)**, Montreal, CA, July 2023.

Reddan, M.C., Mattek, A., Kahale, I., Ong, D, & Zaki, J. Brain representations of socioemotional information: the separation of input and inference at **Organization of Human Brain Mapping (OHBM)**, Virtual, June 2022.

Reddan, M.C., Mattek, A., Kahale, I., Ong, D, & Zaki, J. Socioemotional inference can be predicted from human brain activity at **Social Affective Neuroscience Society (SANS)**, Virtual Symposium, May 2022.

Reddan, M.C., Ong, D., & Zaki, J. A Comparison of Human and AI Emotion Inference in Naturalistic Social Environments. **Organization of Human Brain Mapping (OHBM)**, Virtual, June 2021.

Reddan, M.C., Ong, D., & Zaki, J. Modal and Supramodal Representations of Emotion Inference. **Social Affective Neuroscience Society (SANS)**, Virtual, May 2021.

Reddan, M., Chang, L., & Wager, T.D. A Neural Basis for Embodied Emotion. **Organization of Human Brain Mapping (OHBM)**, Rome, Italy, June 2019.

Kragel, P.A., **Reddan, M.C.**, LaBar, K.S., & Wager, T.D. Decoding convolutional neural network representations of emotion schemas from distributed patterns of brain activity in the human visual system. **Social Affective Neuroscience Society (SANS)**, Miami, FL, May 2019.

Reddan, M., Jolly, E., & Wager, T.D. NeuroLIME: A novel tool for explaining the predictions of nonlinear neuroimaging classifiers. **Organization of Human Brain Mapping (OHBM)**, Singapore, Singapore, June 2018.

Reddan, M., Jolly, E., & Wager, T.D. NeuroLIME: A novel tool for explaining the predictions of nonlinear neuroimaging classifiers. **Computational and Systems Neuroscience Conference (COSYNE)**, Denver, CO, March 2018.

Reddan, M., Lindquist, M. & Wager, T.D. Understanding Bias in Neuroimaging Effect Sizes. **Organization of Human Brain Mapping (OHBM)**, Vancouver, CA, June 2017.

Reddan, M., Young, H. & Wager T.D. Supportive Touch Induces Interpersonal Physiological Synchrony and Reduces Perceived Pain. **Social Affective Neuroscience Society (SANS)**, Los Angeles, CA, March 2017.

Reddan, M. & Wager T.D. The Neural Basis of Embodied Emotion. **Human and Animal Emotions Conference**, Erice, Sicily, May 2016.

Reddan, M., Wager, T.D., Schiller, D. Imagine That! Simulated Extinction Training Reduces the Expression of Fear in the Brain and Body. **Social Affective Neuroscience Society (SANS)**, New York, NY, April 2016.

Reddan, M., Levy, D., Schiller, D. The Efficacy and Neural Correlates of Imagined Extinction. **Wisconsin Symposium on Emotion**, Madison, WI, April 2013.

Schiller, D., Manson, K., **Reddan, M.**, Jackson, E., Levy, I., Harpaz-Rotem, I. Reversal of fear and safety in PTSD patients. Nanosymposium on Emotion: Neural Mechanisms of Regulation, **Society of Neuroscience Annual Meeting (SFN)**, New Orleans, LA, October 2012.

Reddan, M., Levy, D., Schiller, D. Extinguishing learned fear by imagination. **The Pavlovian Society Annual Meeting**, Jersey City, NJ, September 2012.

Reddan, M., Thompson, C., Schiller, D. The "Positive" Role of the Negative System. **Translational and Molecular Imaging Institute Conference (TMII)**. Icahn School of Medicine at Mount Sinai. New York, NY. May 2011

Hartley, C.A., Gorun, A., **Reddan, M.**, Phelps, E.A. The Influence of Stressor Controllability on Conditioned Fear Expression in Humans. **The Pavlovian Society Annual Meeting**, Baltimore, MD. October 2010

Teaching Experience

VARIOUS INSTITUTIONS

INSTRUCTOR

2024 *Built environment affects the neural construction of pain*, 1 day workshop at Brooklyn College. 40 students.

2024 *Structural Analysis with Freesurfer on the Cluster,* 1 day workshop at Psychiatry Research Institute Montefiore Einstein. 4

students.

2024 *Linear Mixed Effects Models in R*, 1 day workshop at Psychiatry Research Institute Montefiore Einstein. 5 students.

2024 *Multivariate Modeling of fMRI Data with Machine Learning*, 1 day workshop at CUNY Advanced Research Center. 8 students. Course materials.

2024 *Pain, Neuroscience, & Society.* Cambridge Centre for International Research. 6 students.

2023 *Pain, Neuroscience, & Society.* Cambridge Centre for International Research. 5 students.

2019 *fMRI Club: Neuroimaging Workshop for Beginners*, Stanford University. 7 attendees.

UNIVERSITY OF COLORADO-BOULDER

LAB INSTRUCTOR

2018 *Cognitive Neuroscience,* Professor: **Tim Curran, PhD.** 50 students.

2016 *Rapid Prototyping; Lasting Lessons,* Science Discovery Program. 20 students.

2016 *Interactive Circuits & Wearable Technology,* Science Discovery Program. 20 students.

2015 *STEM Academy: 3D Printing and Design*, Science Discovery Program. 20 students.

GUEST LECTURER

2017 *Affective Neuroscience*, Professor: **Tor Wager, PhD**. 30 students.
"The Social and Basic Neuroscience of Touch"

2015 *Affective Science*, Professor: **June Gruber, PhD**. 30 students.
"Affective Computing and Wearable Technology"

TEACHING ASSISTANT

2017 *Human Emotion*, Professor: **June Gruber, PhD**. 80 students.

2017 *fMRI Acquisition & Analysis 3-Day Training Course*, Instructors: **Tor Wager, Kent Kiehl, & Vince Calhoun**. 40 attendees.

2016 *Introduction to Psychology,* Professor: **Joseph Berta, PhD**. 200 students.

2016 *Personality*, Professor: **Chelsea Pierotti, PhD**. 200 students.

2015 *Human Emotion*, Professor: **June Gruber, PhD**. 80 students.

2014 *Psychological Statistics*, Professor: **Diane Martichuski, PhD**. 200 students.

2014 *Cognitive Psychology*, Professor: **Joseph Berta, PhD**. 200 students.

NEW YORK UNIVERSITY

2009 – 2010 Teaching Assistant / Recitation Leader
Introduction to Psychology, Professor: **Ted Edgar Coons, PhD**. 300 students.

Mentoring Experience

2024 - now

Sydney Gilmore, Medical Student, **Albert Einstein College of Medicine**, Bronx, NY. Project: Measuring the internalization of socioeconomic conditions in relation to pain: a survey validation in brain and behavior

2023 - now

Joyce Lei, Medical Student, **Albert Einstein College of Medicine,** Bronx, NY. Project: The effect of socioeconomic hardship on pain endurance

Lucy Liu, Medical Student, **Albert Einstein College of Medicine**, Bronx, NY. Project: Early Life Attachment Influences Pain Reactivity in Adulthood

Michael Irving, Medical Student, **Albert Einstein College of Medicine**, Bronx, NY. Project: Social Needs Medical Questionnaire & Pain Catastrophizing

Oreoluwa Amosu, Medical Student, **Albert Einstein College of Medicine**, Bronx, NY. Project: Proximity to major highways influences chronic pain status and pain-related brain activity

2023 - 2024

Hamza Zahurullah, Medical Student, **Albert Einstein College of Medicine**, Bronx, NY. Project: Chronic pain prevalence and global income inequality: A meta-analysis

Jasmin Richard, Research Assistant, **Albert Einstein College of Medicine**, Bronx, NY. Project: Neighborhood-level deprivation influences pain-related brain activity

2019 - 2022

Sydney Garcia, Research Assistant, Stanford University, Stanford, CA. Project: Changing implicit and explicit biases against the formerly incarcerated with narrative storytelling

Ayomide Olu-Odumosu, Undergraduate, University of California Berkeley, Berkeley, CA.
Project: Changing beliefs about racial bias in the US prison system with narrative storytelling

Isabel Dibble, Undergraduate, Stanford University, Stanford, CA.
Project: Increasing empathy for the incarcerated with narrative storytelling
2021 Stanford Psychology Department Summer Research Fair

Layo Laniya, Undergraduate, Stanford University, Stanford, CA.
Project: Emotion Granularity in the Stanford Emotional Narratives Dataset
2020 Stanford Psychology Department Summer Research Fair

2015 - 2019

Gigi Keziah, Fairview High School, Boulder, CO.
Project: Feature Weighting in Multimodal Affect Prediction and Emotion Inference
2019 Boulder Valley Science Fair
2019 Intel Science Engineering Fair, 3rd Place in Behavioral & Social Sciences at CSEF

Huilin Han, Monarch High School, Louisville, CO.
Project: Neural Evidence for Embodied Emotion: A Neuroimaging Study
2018 Boulder Valley Science Fair

Kate Nakasato & Madison Risi, Monarch High School, Louisville, CO
Project: Meta-Analysis of Brain and Immune Interactions during Anger
2017 Boulder Valley Science Fair

Natalie 'LeeJay' Guyton, Nederland High School, Nederland, CO.
Project: Genetic and Environmental Contributions to Misaphonia
2016 Boulder Valley Science Fair

Emily Tarbush, University of Colorado, Boulder, CO.

Project: Gender Effects in Touch Analgesia
2016 Boulder Valley Science Fair

Hannah Young, University of Colorado, Boulder, CO.
Project: Analgesic Effects of Gentle Touch and Social Support
2015 CU Boulder Undergraduate Research Conference
Julia Falkner & Tess Rudd, Monarch High School, Louisville, CO.
Project: Influence of Interpersonal Interactions on Pain Perception
2015 ISEF special award from the American Psychological Association

2011 - 2013

Abigail Orlando, East Chester High School, Eastchester, NY.
Project: The cognitive and psychological effects of the emoticon.
2013 Intel Science Talent Search: Report Badge
2013 Intel International Science and Engineering Fair finalist
1st Place Behavior Category
1st Place American Psychological Association Competition
2nd Place Psi Chi Honor Society
2013 Junior Humanities and Science Symposium
2013 Westchester Science and Engineering Fair

May Yuan, Great Neck South High School , Long Island, NY.
Project: How disgust influences social decision making.
2012 Long Island Science and Engineering Fair
2012 Social & Affective Neuroscience Annual Meeting. Poster

Awards & Recognitions

Grants & Fellowships

Mentored Career Development Award (K12; 95% of salary plus $1500 yearly)	2023 - 2026
Beverly Sears Graduate Student Grant ($1000)	2018
NSF Graduate Research Fellowship Honorable Mention	2014
STEMinar Graduate Research Grant ($500)	2014
NYU Collegiate Research Scholar ($1000)	2010

Academic Recognition & Certificates

Social Determinants of Health Specialization, Course Certificate, U Michigan via Coursera	2024
Assessing Neighborhoods in Epidemiology, Course Certificate, epi-Summer@Columbia	2023
Quantitative Methods in Behavioral Sciences Certificate, CU Boulder	2018
Dosier/Muenzinger Award for Teaching, CU Boulder	2018
fMRI Acquisition and Analysis Certificate	2016
Psi Chi the New York University Chapter	2009-10
New York University Lewis Rudin Scholarship	2006-10

Travel and Poster Awards

Social Affective Neuroscience Society (SANS) Poster Award ($200)	2021
Institute for Cognitive Science Travel Award ($500)	2017
Social Affective Neuroscience Conference Registration Award (Design)	2016

CU Boulder Graduate School Travel Award. ($500)	2016
University of Wisconsin-Madison Emotion Symposium Travel Award ($300)	2013
Friedman Brain Institute Neuroscience Retreat: 'Best Presentation' Award	2012
NYU Undergraduate Research Conference: 'Best Poster' Award	2010

Memberships

Affective Neuroimaging Consortium (ANiC)	2023 - Present
Organization of Human Brain Mapping (OHBM)	2013 - Present
Social and Affective Neuroscience Society (SANS)	2011 - Present
Society for Personality and Social Psychology (SPSP)	2020 - 2022
Society for Affective Science (SAS)	2020 - 2022

Science Community Service & Outreach

Reviewing

Nature Scientific Reports
Nature Human Behavior
Neuroimage
Neuroscience and Biobehavioral Reviews
PAIN
PLOS One
Journal of Neuroscience
Psychological Medicine
Social Cognitive Affective Neuroscience
Cerebral Cortex
Cognition and Emotion
Cognitive Affective and Behavioral Neuroscience
American Psychological Association (APA) -Conference Abstracts
Organization of Human Brain Mapping (OHBM) -Conference Abstracts

Coding Tutorials & Analysis Walkthroughs

SVM Prediction with Task-based fMRI: https://github.com/mariannnne/SVM_neuroimaging_workshop_2022

CANLab Repos Guide: http://www.appliedmarianne.com/canlab-repos-guide.html

I wrote an extensive (50 pg) walkthrough to imaging analysis with Tor Wager's MATLAB Package "CANLab"

CANLab Help Examples: https://github.com/canlab/CANlab_help_examples

I contributed to code-based walkthrough guides & example scripts for neuroimaging analysis

How to 3D Print Your Brain: http://www.appliedmarianne.com/how-to-3d-print-your-brain.html

Elementary & High School Special Lectures on the Brain

Watershed School — Boulder, CO
8th Grade Class: The Neuroscience of Controlling Fear — Feb 15, 2018

Academy of St. Dorothy's — Staten Island, NY
3rd Grade Class: Brain anatomy, learning, memory, and sleep — *yearly* 2013 - 2017

Bay Ridge Preparatory High School — Brooklyn, NY
Special Education Seniors: Learning, Memory, and Neuroplasticity — Dec 19, 2013
Advanced Seniors: Current Research on Threat Learning and Fear — Dec 19, 2013

Northern Manhattan Public Schools: Brain Awareness Week
Mount Sinai School of Medicine — New York, NY — March 2013
K – High School Students attended an event I co-organized, where our laboratory and others hosted interactive booths demonstrating neurophysiological recording techniques, and played games that revealed principles of learning and memory

Community Presentations & Workshops

Speaker. Good Brain Science & Comedy Event. Topic: Pain, Neuroscience, & Society.

Caveat New York, NY Aug 1, 2023

Podcast Guest on:

Smooth Brain Society:

Episode 19: Poverty is Painful: Pain perception and socioeconomics Oct 2023.

Stanford Psychology Podcast:

Episode 26: Richard Wilkinson: Inequality, Health, and Positive Psychology. Dec 2021

End of the Road Podcast:

Episode 107: Dr. Marianne Reddan: Neuroscience/Imagination/Extinction Therapy Feb 2020

Episode 129: Dr. Marianne Reddan: The Neuroscience of Touch/Pain Amelioration/Empathy/Synchrony June 2020

Speaker. **Moving towards a culture of transformative justice**: a discussion of alternatives to policing to reduce harm to marginalized communities

Denver Art Society	Denver, CO	June 2018
The Base	Brooklyn, NY	June 2018

Speaker. **Structural Socioeconomic Contributions to Chronic Pain and Anxiety**

ISO Community Meetings Denver, CO June 10, 2017

Organizer. **CU Boulder Graduate STEMinar**: seminar series for STEM grad students. 2014 - 17

Founder & Speaker: **Brain Hacks & a Movie Series**

Solid State Depot Boulder, CO Monthly, 2014

Speaker. **'Hacking' Your Brain**: a computational perspective on learning and memory

Make Staten Island Staten Island, NY May 16, 2013

Diversity, Equity, Inclusion, & Service Commitments

Science is Service, Co-founder 2023, multimedia project and volunteer coalition of people in New York City who want to increase the positive impact scientific research has on our communities.

Stanford Postdoc Association, *Member*, 2019 - 2022

Women in Computing (WIC) at CU Boulder, *Member*, 2016-19

Women in Science and Engineering (WiSE) at CU Boulder, *Member*, 2016-19

Committee on Rights & Compensation (CRC) at CU Boulder, *Board Member,* 2016-19

Grad Action: a Social Justice Mobilization Network at CU Boulder, *Founder*, 2016-19

#MeToo in Higher Education, Coalition of Graduate Employees Conference, *Panelist*, 2018

Reducing the Silencing Role of Harassment in Online Feminism Discussions, *Co-Author* with J. Nathan Matias & Tyler Simko, Citizens & Technology Lab, 2020

Solid State Depot Makerspace in Boulder, Colorado, *Board Member*, 2013 – 14

Media Coverage

Study: **Reddan, M.C.**, Garcia, S., Golijeh, G., Eberhardt, J., & Zaki, J. (2024) Film intervention increases empathic understanding of formerly incarcerated people and support for criminal justice reform. *PNAS*.

Einstein StanfordReport Deutsche Welle Frontline

Study: Reddan, M.C., Wager, T.D., & Schiller, D. (2018) Attenuating Neural Threat Expression with Imagination. *Neuron*.

EurekaAlert from AAAS Elemental Daily Camera

Thrive Global Science Daily CU Boulder Today

Study: Kragel, P.A., Reddan, M.C., LaBar, K.S., & Wager, T.D. (2019). Emotion schemas are embedded in the human visual cortex. *Science Advances*.

The Daily Beast

Topic: Pain Empathy

The American Scholar