MARK A ORLOFF

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EDUCATION:

PhD, Translational Biology, Medicine, and Health, May 2015–August 2021
Dissertation Working Title: *The Role of Social Influence in Risky Decision-Making*
Virginia Tech—Roanoke, VA
Advisor: Dr. Pearl Chiu

BS in Psychology, *magna cum laude*, May 2015
Virginia Tech—Blacksburg, VA
GPA: 3.7/4.0
Study Abroad Participant: University of Kent, Canterbury, England, Fall 2013

Fall 2013, Classes in history, sociology, and theology
University of Kent—Canterbury, UK

RESEARCH EXPERIENCE:

Learning and Decision-Making Lab, Fall 2021–Present
UC Davis—Davis, CA
Postdoctoral Researcher
Advisor: Dr. Erie Boorman

- Using uni- and multi-variate fMRI and intracranial EEG to understand how value-based information is organized and represented in the brain

Chiu Lab, Fall 2015–Fall 2021
Virginia Tech—Roanoke, VA
Graduate Research Assistant
Advisor: Dr. Pearl Chiu

- Used neuroeconomic tasks, computational modeling, and uni- and multi-variate fMRI, along with analysis of human lesion patients, to investigate risky decision-making under social influence.

Social Clinical Affective Neuroscience Laboratory, Fall 2012–Spring 2015
Virginia Tech—Blacksburg, VA
Research Assistant
Advisor: Dr. John Richey

- Recruited and screened research participants, administered neuropsychological assessments, and analyzed fMRI data on emotion recognition.

Schizophrenia Education and Training Program, Summer 2014
University of Colorado Anschutz Medical Campus—Aurora, CO
Research Trainee
Advisor: Dr. Randal Ross

- Analyzed longitudinal EEG and neuropsychological data to examine the efficacy of a prenatal dietary supplement (choline) on measures of attention and inhibition.

Summer Internship Program in Biomedical Research, Summer 2013
National Institutes of Health Clinical Center, Pharmacy Department—Bethesda, MD
Summer Intern
Advisor: Dr. Gerald Overman
- Analyzed antipsychotic drug (clozapine) dosage across adolescents with childhood-onset schizophrenia.

Summer Internship Program in Biomedical Research, Summer 2012
National Institute of Mental Health, Clinical Brain Disorders Branch—Bethesda, MD
Summer Intern
Advisor: Dr. Mary Herman
- Learned microscopy, tissue staining (immunohistochemistry) techniques, and dissection and preservation of post-mortem human brain tissue.

PAPERS:

1. **Orloff MA**, Chung D, Delattre B, King-Casas B, Chiu PH. (In preparation) Having agency in acquiring social information increases the value of social information in risky decision-making.
2. **Orloff MA** & Boorman ED. (2025) Off task map-making: Give it a rest! Neuron.
3. **Orloff MA***, Chung D*, Gu X*, Gao Z, Song G, Tatineni C, Wang X, Xu S, King-Casas B, & Chiu PH. (2024) Social conformity emerges as a heuristic during risky decision-making in humans with insula lesions. PLOS Computational Biology.
4. **Orloff MA** & Boorman ED. (2023) Cognitive maps: Constructing a route with your snout. Current Biology.
5. Chung D*, **Orloff MA***, Lauharatanahirun N, King-Casas B, & Chiu PH. (2020) Valuation of peers' safe choices is associated with substance-naïveté in adolescents. Proceedings of the National Academy of Sciences, USA.

*co–first author

PRESENTATIONS:

Posters

1. **Orloff MA**, Park SA, Blumwald J, Domenech P, and Boorman ED. A cognitive map of a subjective value space. Consumer Neuroscience Symposium, October 2025, Boston, Massachusetts, USA.
2. **Orloff MA**, Park SA, Blumwald J, Domenech P, and Boorman ED. A cognitive map of a subjective value space. Curiosity, Information Seeking, & Exploration, September 2025, Providence, Rhode Island, USA.
3. **Orloff MA**, Park SA, Blumwald J, Domenech P, and Boorman ED. A cognitive map of a subjective value space. Cognitive Computational Neuroscience, August 2025, Amsterdam, The Netherlands.
4. **Orloff MA***, Park SA, Blumwald J*, Domenech P, and Boorman ED. A cognitive map encodes decision vectors in subjective value space. Cognitive Neuroscience Society, March 2025, Boston, Massachusetts, USA.
5. **Orloff MA**, Park SA, Blumwald J, Domenech P, and Boorman ED. A cognitive map encodes decision vectors in subjective value space. Winter Brain, January 2025, Lake Tahoe, California, USA.

6. **Orloff MA**, Park SA, Blumwald J, Domenech P, and Boorman ED. A grid code for value-based decision-making. Organization for Human Brain Mapping, June 2024, Seoul, South Korea.
7. **Orloff MA**, Park SA, Blumwald J, Domenech P, and Boorman ED. A grid code for value-based decision-making. Orbitofrontal Cortex (OFC), April 2024. Paris, France.
8. **Orloff MA**, Park SA, Blumwald J, Domenech P, and Boorman ED. A grid code for value-based decision-making. Cosyne, March, 2024. Lisbon, Portugal.
9. **Orloff MA**, Park SA, Blumwald J, Domenech P, and Boorman ED. A grid code for value-based decision-making. Neuroeconomics Consumer Neuroscience Symposium, October 2023, Vancouver, Canada.
10. **Orloff MA**, Park SA, Blumwald J, Domenech P, and Boorman ED. A grid code for value-based decision-making. Symposium on Biology of Decision-Making, June 2023, Paris, France.
11. **Orloff MA**, Park SA, Blumwald J, Domenech P, and Boorman ED. A grid code for value-based decision-making. NeuroFrance, May 2023, Lyon, France.
12. **Orloff MA**, Park SA, Blumwald J, Domenech P, and Boorman ED. A grid code for value-based decision-making. Society for Neuroscience, November 2022, San Diego, California, USA.
13. **Orloff MA**, Soldate J, Lisinski J, LaConte S, King-Casas B, and Chiu PH. Online decoding for rtfMRI neurofeedback via group classification models of a decision-making task. Organization for Human Brain Mapping; June 2020, Montreal, Québec, Canada.
14. **Orloff MA**, Soldate J, Lisinski J, LaConte S, King-Casas B, and Chiu PH. Toward group classification models for rtfMRI neurofeedback using data from a decision-making task. Organization for Human Brain Mapping; June 2019; Rome, Italy.
15. **Orloff MA**, Chung D, Delattre B, Lee J, King-Casas B, Chiu PH. Having agency in acquiring social information increases social influence. International Convention of Psychological Science; March 2019; Paris, France.
16. **Orloff MA**, Chung D, Gu X, Gao Z, Song G, Tatineni C, Wang X, Xu S, King-Casas B, & Chiu PH. Insula, but not dACC, is necessary for risky decision-making under social influence. Virginia-Nordic Precision Neuroscience; September 2018; Oslo, Norway.
17. **Orloff MA**, Chung D, Delattre B, Lee J, King-Casas B, Chiu PH. Having agency in acquiring social information increases social influence. Organization for Human Brain Mapping; June 2018, Singapore.
18. **Orloff MA,** Chung D, Gu X, Gao Z, Song G, Tatineni C, Wang X, Xu S, King-Casas B, & Chiu PH. Dissociating the roles of insula and dorsal anterior cingulate cortex in risk evaluation. Organization for Human Brain Mapping; June 2017; Vancouver, British Columbia, Canada.
19. **Orloff M**, Chung D, King-Casas B, & Chiu PH. Influence from safe others in adolescence is associated with substance abstinence. Virginia-Nordic Precision Neuroscience; September 2016; Roanoke, Virginia, USA.
20. **Orloff MA**, Coffman MC, Trubanova A, Ruloff M, White SW, Gracanin D, Kim I, Bell MA, LaConte SM, & Richey JA. Increased dorsomedial prefrontal cortex and precuneus activation precede correct emotion identification. Society for Neuroscience; October 2015; Chicago, Illinois, USA.
21. **Orloff MA** & Ross RG. Mismatch Negativity at One Month Predicts Perception Deficits at Four Years. University of Colorado Anschutz Medical Campus; August 2014; Aurora, Colorado, USA.
22. **Orloff MA**, Gogtay N, Penzak SR, Overman G. The Effect of Blood Plasma Clozapine Levels on Specific Measures of Behavior in Childhood Onset Schizophrenia. National Institutes of Health; August 2013; Bethesda, Maryland, USA.

*co-presenter

Talks

1. **Cognitive maps and theta oscillations in medial temporal lobe and prefrontal cortex during risky decision-making.** Society for Neuroeconomics; October 2025; Boston, Massachusetts, USA.
2. **A grid-like code for value-based decision making.** National Institute of Drug Abuse; October 2024, Baltimore, MD, USA.
3. **A grid-like code for value-based decision making.** Society for Neuroeconomics; October 2023; Vancouver, Canada.
4. **A grid code for value-based decision-making.** Bay Area Memory Meeting; August 2023; Stanford University.
5. **Peers' safe choices influence substance-naïve adolescents.** Human Development and Psychology Joint Seminar Series; October 2021; UC Davis.
6. **Valuation of peers' safe choices is associated with substance-naïveté in adolescents.** Teen Experiences, Emotions & Neurodevelopment (Teen) Lab Guest Speaker; October 2021; UC Davis.
7. **Risky Decision-Making Under Social Influence.** Affective Brain Lab Seminar Series; February 2021; University College of London.
8. **Risky Decision-Making Under Social Influence.** Research in Progress Seminar Series; October 2020; Fralin Biomedical Research Institute.
9. **Risky Decision-Making Under Social Influence.** Fralin Biomedical Research Institute Advisory Board; Fall 2020; Fralin Biomedical Research Institute.
10. **Using Machine Learning to Predict Behavior From Brain Activity.** Translational Biology, Medicine, and Health Research Symposium; Fall 2019; Virginia Tech.
11. **Toward group classification models for rtfMRI neurofeedback using data from a decision-making task.** Organization for Human Brain Mapping; June 2019; Rome, Italy.
12. **Insula, but not dACC, is necessary for risky decision-making under social influence.** Virginia-Nordic Precision Neuroscience; September 2018; Oslo, Norway.
13. **How Do Social Others Influence Our Decisions? A Neuroscience Approach.** Translational Biology, Medicine, and Health Research Symposium; Fall 2017; Virginia Tech.

TEACHING EXPERIENCE:

Advising

Undergraduate student advisor Winter 2022–Present
Graduate student advisor Spring 2020–Fall 2021
Post-baccalaureate advisor Fall 2018 (2); Fall 2017–Spring 2020

Lecturing

Neuroeconomics, Virginia Tech, Blacksburg, VA. Course director: Dr. Sheryl Ball, Fall 2018
Physical Activity Research and Community Implementation Lab Summer Undergraduate Seminar Series, Virginia Tech, Blacksburg, VA. Organizer: Dr. Thomas Strayer, Summer 2018
Learning and Memory, Virginia Tech, Blacksburg, VA. Course director: John Wang, Fall 2017

LEADERSHIP EXPERIENCE:

Roanoke Graduate Student Association Executive Board, Fall 2019–Spring 2020

AWARDS/HONORS:

Graduate Student Assembly Travel Award, Spring 2020
TBMH Research Symposium Outstanding Abstract, Fall 2019
Virginia-Nordic Precision Neuroscience Conference Travel Award, Spring 2018
Graduate Student Assembly Travel Award, Spring 2018
Graduate Student Assembly Travel Award, Spring 2017
Graduate Student Assembly Travel Award, Fall 2015
Dean's List, Fall 2011–Spring 2015

EDUCATIONAL COURSES:

Kavli Summer Institute in Cognitive Neuroscience, Santa Barbara, California, USA. Organizer: George R. Mangun, Summer 2022
SPM for MEG Tutorial, Roanoke, Virginia, USA. Organizer: Rosalyn Moran, Spring 2021
Deep Learning for Human Brain Mapping, Rome, Italy. Organizers: Ariel Rokem and Andrew Doyle, Summer 2019
Deep Learning with PyTorch, Roanoke, Virginia, USA. Organizer: Advanced Research Computing at Virginia Tech, Summer 2018
BrainIAK Hackathon, Roanoke, Virginia, USA. Organizers: Intel and Princeton Neuroscience Institute, Summer 2018
Advanced fMRI Course, Vancouver, British Columbia, Canada. Organizers: Tor Wager and Niko Kriegeskorte, Summer 2017
Real-time fMRI Course, Roanoke, Virginia, USA. Organizer: Stephen LaConte, Summer 2017

RESEARCH/ACADEMIC SKILLS:

- Uni- and multivariate analysis of intracranial EEG (iEEG) data
- Uni- and multivariate analysis of functional neuroimaging data using SPM, AFNI, and FSL.
- Computational modeling of decision-making using customized scripts in MATLAB, R, and Stan to implement maximum likelihood, maximum a-posteriori, and various MCMC methods (Gibbs sampling, Hamiltonian/Hybrid, Metropolis-Hastings).
- Programming in MATLAB, R, Python, and Bash.
- Real-time fMRI neurofeedback experimental design and set-up using AFNI, PsychoPy, and custom Bash/Python scripts.
- Task design using PsychoPy and PsychToolbox.

SCIENTIFIC INVOLVEMENT, OUTREACH, AND MEDIA:

Ad hoc reviewer: Journal of Neuroscience**,** Scientific Data, Nature Communications (×2), PLOS Biology, eLife
Round Table Discussion Leader at Society for Neuroeconomics: How to Find a Postdoc, October 2025
Poster Judge for Society for Neuroeconomics, October 2025

Undergraduate Research, Scholarship, and Creative Activities Conference Moderator, Spring 2023
NeuroSURF and Molecular Visualization SURF Summer Symposium Poster Judge, Summer 2021
(Peer) Pressure, Pushing Down on Me, Big Lick of Science Podcast, Fall 2020
New Study Shows How Risk-Averse Teens Sway Peers to Make Safer Choices, Virginia Tech Daily, Fall 2020
State Science Fair Grand Prize Judge, Fall 2020
Grandin Court Elementary School Brain Day, Spring 2019
High School Science Fair Judge, Fall 2019, 2021
State Science Fair Judge, Fall 2018, 2019
Regional Science Fair Judge, Fall 2018, 2019, 2020, 2021
West Salem Elementary STEM Night, Spring 2017, 2018

PROFESSIONAL MEMBERSHIPS:

2023–2025 Society for Neuroeconomics
2023 French Neuroscience Society
2022, 2025 Cognitive Neuroscience Society
2017–2020, 2024 Organization for Human Brain Mapping
2015–2016, 2022, 2025 Society for Neuroscience
Fall 2012–Spring 2015 Psi Chi Honor Society