

JORDAN P. HAMM

jhamm1@gsu.edu

CURRENT POSITION

2018- current Assistant Professor
Neuroscience Institute
College of Arts and Sciences
Georgia State University

EDUCATION and TRAINING

2008 B.A. University of Georgia, Philosophy
2010 M.S. University of Georgia, Psychology
2013 Ph.D. University of Georgia, Neuroscience
Mentor: Brett A. Clementz, Ph.D.
2014 – 2018 Postdoctoral Research Fellow
Columbia University
Department of Biological Sciences
Mentor: Rafael Yuste, M.D., Ph.D.

SCHOLARSHIP and PROFESSIONAL DEVELOPMENT

FUNDING

Current:

2022-27 “Circuits for deviance detection in V1”, National Institutes of Health.
R01EY033950, **PI: J.P. Hamm.** Co-I: D.S. Peterka (Columbia University) (5
years; \$250,000 per year direct).
2021-26 “Sex differences in microglia-neuron-circuit interactions in adolescence”,
National Institutes of Health. R01MH128176, **PI: J.P. Hamm.** Co-I: J. Stern, A.
Murphy (5 years; \$250,000 per year direct)
2021-26 “Inverse neurovascular coupling in the hypothalamus and its role in positive
feedback regulation of vasopressin neurons in health and disease”, National
Institutes of Health. R01HL162575, PI: J. Stern, A. **Co-I: J.P. Hamm.** (5 years;
\$772,000 per year total)
2022-23 “Transcriptomic Profiling of a Novel Subtype of Cortical Neurons Selective for
Sensory Prediction Errors”, Brain and Behavior Research Foundation (BBRF)
Young Investigator Grant (NARSAD). 30149, **PI: J.P. Hamm** (2 years; \$35,000
per year, direct).

2019-23 “Mapping the role of basal forebrain projections to visual cortex in novelty processing”, Whitehall Foundation. 2019-05-443, **PI: J.P. Hamm** (years; \$75,000 per year direct)

Mentored:

2021-24 “Large-scale monitoring of circuits for adaptation and novelty detection in primary visual cortex”, National Institutes of Health. F32MH125445, PI: J.M. Ross (Hamm lab postdoc), **Mentor: J.P. Hamm**; Co-sponsors: H.E. Albers, Y. Molkov (3 years; \$71,000 per year direct)

Pending:

Feb 2023 “Providing New Insight Into Adolescent Dendritic Development”. Submitted Feb 2023 to National Institutes of Health., P.I.: M. Grubisha Co-I: **J.P. Hamm.**

Completed:

External:

2014-17 “Two-photon analysis of circuit-level mechanisms of schizophrenia biomarkers”, National Institutes of Health. F32MH106265, **PI: J.P. Hamm.** Mentor: R. Yuste. Co-sponsors: D. Javitt, J. Gordon. (3 years. \$53,000 per year direct)

2017-21 “Fronto-sensory circuit mechanisms of perceptual novelty processing”, National Institutes of Health. K99/R00MH115082, **PI: J.P. Hamm.** Sponsor: R. Yuste. Consultants: A. Churchland; J. Gogos (5 years; \$100,000-\$250,000 per year total)

Internal:

2021-21 “Adolescent and sex-specific effects of cortical microglia hyperactivation on biomarkers of schizophrenia” Seed grant, Center for Neuroinflammation and Cardiometabolic Diseases, Georgia State University. PI: J.P. Hamm (\$15,000 Direct)

2020-21 “Parallel studies of novelty-processing circuits in humans and mice”, Brains and Behavior seed grant, Georgia State University. PI: J.P. Hamm; Co-PI: J. Malins; V. Calhoun (\$30,000 Direct)

AWARDS

2022 Dean’s Early Career Award, Georgia State University

2018 American College of Neuropsychopharmacology (ACNP) Travel Award

2018 Gordon Research Conference Travel Award for “Thalamocortical Interactions”

2017 International Congress on Schizophrenia Research (ICOSR) Young Investigator award

2013 Herbert Zimmer Award, University of Georgia

2010-12 Paul D. Coverdell Franklin Foundation Fellowship in Neuroimaging

2008 Travel Award, University of Georgia

PUBLICATIONS

(peer-reviewed journal articles)

*Hamm as corresponding author

Roy, R.K., Althammer, F., Seymour, J.A., Du, W., Biancardi, V.C., **Hamm, J.P.**, Filosa, J.A., Brown, C.H., Stern, J.E. (2021) Inverse neurovascular coupling contributes to positive feedback excitation of vasopressin neurons during a systemic homeostatic challenge. *Cell Reports*. DOI: 10.1016/j.celrep.2021.109925

***Hamm, J.P.**, Shymkiv, Y., Han, S., Yang, W. Yuste, R. Cortical ensembles selective for context. (2021). *Proceedings of the National Academy of Sciences of the United States of America (PNAS)*. 118(14):e2026179118. DOI: 10.1073/pnas.2026179118.

Van Derveer, A.B, Bastos, G, Ferrell. A.D., Gallimore, C.G., Greene, M.L., Holmes, J.T., Kubricka, V., Ross, J.M., ***Hamm, J.P.** (2020) A role for somatostatin-positive interneurons in neuro-oscillatory and information processing deficits in schizophrenia. *Schizophrenia Bulletin*. DOI: 10.1093/schbul/sbaa184

Wenzel, M., **Hamm, J.P.** (2020) Identification and quantification of neuronal ensembles in optical imaging experiments. *Journal of Neuroscience Methods*. 351, 109046. DOI: 10.1016/j.jneumeth.2020.109046

Ross, J.M., ***Hamm, J.P.** (2020) Cortical Microcircuit Mechanisms of Mismatch Negativity and Its Underlying Subcomponents. *Front Neural Circuits*. 14:13. DOI: 10.3389/fncir.2020.00013

Zhou ZC, Huang WA, Yu Y, Negahbani, E., Stitt, I.M., Alexander, M.L., **Hamm, J.P.**, Kato, H.K., Frölich, F. (2020). Stimulus-specific regulation of visual oddball differentiation in posterior parietal cortex. *Scientific Reports*. 10(1):13973. DOI: 10.1038/s41598-020-70448-6

***Hamm, J.P.**, Shymkiv, Y., Gogos, J.A., Yuste, R. (2020). Aberrant cortical ensembles and schizophrenia-like sensory phenotypes in *setd1a* mice. *Biological Psychiatry*. 88(3):215-223. DOI: 10.1016/j.biopsych.2020.01.004

Wenzel, M., **Hamm, J.P.**, Peterka, D.S., Yuste, R. (2019) Acute focal seizures start as local synchronizations of neuronal ensembles. *Journal of Neuroscience*. 39(43);8562-75. DOI: 10.1523/JNEUROSCI.3176-18.2019

Bobilev, A.M., Hudgens-Haney, M.E., **Hamm, J.P.**, Oliver, W.T., McDowell, J.E., Lauderdale, J.D., Clementz, B.A (2019) Early and late auditory information processing show opposing deviations in aniridia. *Brain Research*. 1720:146307. DOI: 10.1016/j.brainres.2019.146307

Parker, D.P., **Hamm, J.P.**, McDowell, J.E., Keedy, S.K., Gershon, E.S., Ivleva, E.I., Pearlson, G.D., Keshavan, M.S., Tamminga, C. A., Sweeney, J.A., Clementz, B.A (2019) Auditory steady-state EEG response across the schizo-bipolar spectrum. *Schizophrenia Research*. 209: 218-226. DOI: 10.1016/j.schres.2019.04.014

- Jayant, K., Wenzel, M., Bando, Y., **Hamm, J.P.**, Owen, J.S., Sahin, O., Shepard, K.L., Yuste, R. (2019). Targeted intracellular recordings from deep-layer cortical neurons *in vivo*. *Cell Reports*. 26 (1): 266-278. DOI: 10.1016/j.celrep.2018.12.019
- Agetsuma, M., **Hamm, J.P.**, Tao, K., Fujisawa, S., Yuste, R. (2018) Parvalbumin-positive interneurons regulate neuronal ensembles in visual cortex. *Cerebral Cortex*. 28(5):1831:45. doi: 10.1093/cercor/bhx169.
- Hamm, J.P.**, Peterka, D.S., Gogos, J.A., Yuste, R. (2017) Altered cortical ensembles in mouse models of schizophrenia. *Neuron*. 94, 1, 153–167. doi: 10.1016/j.neuron.2017.03.019.
- Wenzel, M., **Hamm, J.P.**, Peterka, D.S., Yuste, R. (2017) Reliable and elastic propagation of cortical seizures *in vivo*. *Cell Reports*. 27;19 (13): 2681-2693. doi: 10.1016/j.celrep.2017.05.090.
- Hamm, J.P.**, Yuste, R. (2016). Somatostatin Interneurons Control a Key Component of Mismatch Negativity in Mouse Visual Cortex. *Cell Reports*. 16, 407–420. doi: 10.1016/j.celrep.2016.06.037.
- Clementz, B.A., Sweeney, J.A., **Hamm, J.P.**, Ivleva, E.I., Ethridge, L.E., Pearlson, G.D., Keshavan, M.S., Tamminga, C.A. (2016). Identification of Distinct Psychosis Biotypes Using Brain-Based Biomarkers. *American Journal of Psychiatry*. 173(4):373-84. doi: 10.1176/appi.ajp.2015.14091200.
- Hayrynen, L.K., **Hamm, J.P.**, Sponheim, S.R., Clementz, B.A. (2016) Frequency-specific disruptions of neuronal oscillations reveal aberrant auditory processing in schizophrenia. *Psychophysiology*. 53(6):786-95. doi: 10.1111/psyp.12635.
- Mokhtari, M., Narayanan, B., **Hamm, J.P.**, Soh, P., Calhoun, V.D., Ruaño, G., Kocherla, M., Windemuth, A., Clementz, B.A., Tamminga, C.A., Sweeney, J.A., Keshavan, M.S., Pearlson, G.D. (2015) Multivariate Genetic Correlates of the Auditory Paired Stimuli-Based P2 Event-Related Potential in the Psychosis Dimension From the BSNIP Study. *Schizophrenia Bulletin*. 42(3):851-62. doi: 10.1093/schbul/sbv147.
- Carrillo-Reid L., Miller J.E., **Hamm, J.P.**, Jackson J., Yuste, R. (2015). Endogenous Sequential Cortical Activity Evoked by Visual Stimuli. *Journal of Neuroscience*. 35(23):8813-28. doi: 10.1523/JNEUROSCI.5214-14.2015.
- Hamm, J.P.**, Oliver, W.T., Hudgens-Haney, M., Bobilev, A., McDowell, J.E., Buckley, P.F., Clementz, B.A. (2015). Stimulus Train Duration but Not Attention Moderates γ -band Entrainment Abnormalities in Schizophrenia. *Schizophrenia Research*. 165(1):97-102. doi: 10.1016/j.schres.2015.02.016.
- Ethridge, L.E., **Hamm, J.P.**, Pearlson, G.D., Tamminga, C.A., Sweeney, J.A., Keshavan, M.S., Clementz, B.A. (2015). Event-related Potential and Time-frequency Endophenotypes for Schizophrenia and Psychotic Bipolar Disorder. *Biological Psychiatry*. 77(2):127-36. doi: 10.1016/j.biopsych.2014.03.032.

- Hamm, J.P.**, Ethridge, L.E., Boutros, N.N., Keshavan, M.S., Sweeney, J.A., Pearlson, G.D., Tamminga, C.A., Clementz, B.A. (2014). Diagnostic Specificity and Familiarity of Early versus Late Evoked Potentials to Auditory Paired-Stimuli across the Schizophrenia-Bipolar Psychosis Spectrum. *Psychophysiology*. 51(4):348-57. doi: 10.1111/psyp.12185.
- Hamm, J.P.**, Ethridge L.E., Shapiro J.R., Pearlson, G.D., Tamminga, C.A., Sweeney, J.A., Keshavan, M.S., Thaker, G., Clementz, B.A. (2013). Family History of Psychosis Moderates Early Auditory Cortical Response Abnormalities in Non-psychotic Bipolar Disorder. *Bipolar Disorders*. 15(7):774-86. doi: 10.1111/bdi.12110.
- Ivleva, E.I., Moates, A.F., **Hamm, J.P.**, Bernstein, I.H., Cole, D., Clementz B.A., Thaker, G., Tamminga C.A. (2013). Smooth Pursuit Eye Tracking, Prepulse Inhibition, and Auditory ERP Endophenotypes across the Schizophrenia - Bipolar Disorder Psychosis Dimension. *Schizophrenia Bulletin*. 40(3):642-52. doi: 10.1093/schbul/sbt047.
- Hudgens-Haney, M.E., **Hamm, J.P.**, Goodie, A.S., Krusemark, E.A., McDowell, J.E., Clementz, B.A. (2013). Neural Correlates of the Impact of Control on Decision Making in Pathological Gamblers. *Biological Psychology*. 92(2):365-72. doi: 10.1016/j.biopsycho.2012.11.015.
- Hamm, J.P.**, Sabatinelli, D., Clementz, B.A. (2012) Alpha Oscillations and the Control of Voluntary Saccadic Behavior. *Experimental Brain Research*. 221(2): 123-128. doi: 10.1007/s00221-012-3167-8.
- Hamm, J.P.**, Gilmore, C.S., Clementz, B.A. (2012) Augmented Gamma Band Auditory Steady-State Responses: Support for NMDA Hypofunction in Schizophrenia. *Schizophrenia Research*. 138(1): 1-7. doi: 10.1016/j.schres.2012.04.003.
- Ethridge, L.E., **Hamm, J.P.**, Shapiro, J.R., Summerfelt, A.T., Keedy, S.K., Stevens, M.C., Pearlson, G., Tamminga, C.A., Boutros, N.N., Sweeney, J.A., Keshavan, M.S., Thaker, G., Clementz, B.A. (2012). Neural Activations During Auditory Oddball Processing Discriminating Schizophrenia and Psychotic Bipolar Disorder. *Biological Psychiatry*. 72(9):766-74. doi: 10.1016/j.biopsych.2012.03.034.
- Hamm, J.P.**, Dyckman, K.A., McDowell, J.E., Clementz, B.A. (2012) Pre-cue Fronto-Occipital Alpha Phase and Distributed Cortical Oscillations Predict Failures of Cognitive Control. *Journal of Neuroscience*. 32(20):7034-41. doi: 10.1523/JNEUROSCI.5198-11.2012.
- Hamm J.P.**, Ethridge L.E., Shapiro J.R., Stevens M.C., Boutros N.N., Pearlson, G., Tamminga, C.A., Boutros, N.N., Sweeney, J.A., Keshavan, M.S., Thaker, G., Clementz, B.A. (2012) Spatiotemporal and Frequency Domain Analysis of Auditory Paired Stimuli Processing in Schizophrenia and Psychotic Bipolar Disorder. *Psychophysiology*. 49(4):522-30. doi: 10.1111/j.1469-8986.2011.01327.x.
- Hamm, J.P.**, Gilmore, C.S., Picchetti, N, Sponheim, S.R., and Clementz, B.A. (2011). Abnormalities of Neuronal Oscillations and Temporal Integration to Low and High Frequency Auditory Stimulation in Schizophrenia. *Biological Psychiatry*. 69(10):989-96. doi: 10.1016/j.biopsych.2010.11.021.

Hamm, J.P., Dyckman, K.A., Ethridge, L.E, McDowell, J.E., and Clementz, B.A. (2010). Preparatory activations across a distributed cortical network determine express saccade production. *Journal of Neuroscience*. 30(21):7350-7. doi: 10.1523/JNEUROSCI.0785-10.2010.

MANUSCRIPTS pending

Gallimore, C.G., Ricci, D., **Hamm, J.P***. Spatiotemporal dynamics across a neocortical column support a predictive coding framework for interpreting visual mismatch responses. *Under review. Submitted April 2023. BioRxiv - doi: 10.1101/2023.04.17.537173*

Bastos, B., Holmes, J., Ross, J.M., Rader, A.M., Gallimore, C.G., Peterka, D.S., **Hamm, J.P***. A frontosensory circuit for visual context processing is synchronous in the theta/alpha band. *Under review. Submitted March 2023. BioRxiv - doi: 10.1101/2023.02.25.530044.*

Van Derveer, A., **Hamm, J.P***. Multisensory mismatch responses in associative but not primary visual cortex lend support for a predictive coding framework. *Under review. Submitted April 2023. BioRxiv - doi: 10.1101/2023.04.12.536573.*

BOOK CHAPTERS

Rader, A.M., Gallimore, C.G., **Hamm, J.P.** * (in press). Modern methods for unraveling cell- and circuit-level mechanisms of neurophysiological biomarkers in psychiatry. In Editors Javitt, D.J, and McPartland, J., *Neurophysiologic Biomarkers in Neuropsychiatric Disorders: Etiologic and Treatment Considerations* Springer Nature.

INVITED SEMINARS

Hamm, J.P., “Cortical integration of sensory stimuli in context: cells, circuits, oscillations, and neuropathology” Talk given at Columbia University, New York, NY April 19th, 2023

Hamm, J.P., “Cortical circuits for predictive processing” Talk given at University of Illinois Chicago, Chicago, IL March 2nd, 2023

Hamm, J.P., “Cortical circuits for predictive processing in the mouse visual system” Talk given at Vanderbilt University, Nashville, TN June 3rd, 2022

Hamm, J.P., “Cortical circuits for predictive processing and novelty detection in the visual system” Talk given for the Frontiers in Neuroscience Seminar, Emory University, Atlanta, G.A.. Oct 15th, 2021

Hamm, J.P., “Circuits for sensory prediction error in visual cortex” Talk given for the Symposium on Hierarchical Processing in the Cerebral Cortex, USCD/Salk/Scripps, San Diego, C.A.. July 10th, 2021

Hamm, J.P., “Integrating stimuli in context in the cerebral cortex: cells, circuits, and oscillations.” Talk given for the Neuroscience Seminar Series, University of Georgia, Athens, GA. May 6th 2021

Hamm, J.P., “Novel Inroads to the Neuropathology of Schizophrenia Through Optical Interrogation of Neural Circuits.” Talk given for the Center for Diagnostics and Therapeutics, Georgia State University, Atlanta, GA, Nov 17th 2020

Hamm, J.P., “Cortical subnetworks encode sensory context” Talk given at University of Pittsburgh, Pittsburgh, PA. Dec 7th 2018

Hamm, J.P., “Distinct neuronal ensembles encode sensory stimulus context in the neocortex” Talk given at Georgia Tech, Atlanta, GA. Nov 17th, 2018

Hamm, J.P., “Two-photon Interrogation of Cortical Circuit Dynamics and Pathophysiology” Talk given at Childrens Hospital of Philadelphia (CHOP) and University of Pennsylvania (PENN). Philadelphia, PA. Oct 5th 2017

Hamm, J.P. "Unreliable neocortical ensemble activity in pharmacological and genetic mouse models supports an attractor pathophysiology of schizophrenia" Talk given at Rutgers University, Oct 4th, 2017

Hamm, J.P. "Two-photon interrogation of cortical circuit pathophysiology in a translational neuropsychiatric framework". Talk given at Emory University, Atlanta, GA. Aug 15th 2017

Hamm, J.P., "Leveraging two-photon and optogenetic neurotechnologies in a translational neuropsychiatric framework". Talk given at University of Georgia, Athens, GA. Jun 20th 2017

CONFERENCE PRESENTATIONS

(last 5 years. #presenting author. *Talks in italics*)

Rader, A.M. #, Sutton, T.J., Ross, J.M., Sweet, R.A., Grubisha, M.J., **Hamm, J.P.** (2023). Perturbing the dendritic arbor in adolescence impairs long-range cortical synchrony and predictive processing. Poster presented at 2023 Gordon Research Conference on Dendrites.

Ross, J.M., Rader, A.M., **Hamm, J.P.** # (2022). Adolescent development of cortical circuits for predictive coding is sex-dependent and relates to maturation of prefrontal cortex. Poster presented at 2022 American College of Neuropsychopharmacology (ACNP) meeting.

Ross, J.M.#, **Hamm, J.P.** (2022). Sensory prediction error in cortical circuits develops across adolescence in a sex-specific manner. Poster presented at 2022 Society for Neuroscience (SfN) Conference, San Diego, CA.

Bastos, G. #, Holmes, J.T., Rader, A.M., **Hamm, J.P.** (2022). Pre-frontal influence in context processing in early visual cortex in mice. Poster presented at 2022 Society for Neuroscience (SfN) Conference, San Diego, CA.

- Rader, A.M. #, Ferrell, A.D., Gallimore, C.G, Sutton, T.J., Sweet, R.A., Grubisha, M.J., **Hamm, J.P.** (2022). Reduced predictive processing mimics schizophrenia-like deficits in a genetic model of adolescent dendrite loss. Poster presented at 2022 Society for Neuroscience (SfN) Conference, San Diego, CA.
- Van Derveer, A.B. #, **Hamm, J.P.** (2022). Evidence of a Multisensory Predictive Coding Ensemble in Mammalian Posterior Parietal Cortex. Poster presented at 2022 Society for Neuroscience (SfN) Conference, San Diego, CA.
- Hamm, J.P.** # (2022). Cortical microcircuit mechanisms of mismatch negativity and its underlying subcomponents. Invited talk for symposium at the 9th meeting for mismatch negativity research, MMN2022, Fukushima Medical University, Japan, Sept 22nd 2022.
- Hamm, J.P.** # (2022). Adolescent development of top-down circuits for bottom-up novelty detection. Invited talk for symposium at NEURO2022, 45th annual meeting for the Japan Neuroscience Society, Okinawa, Japan, July 2nd 2022.
- Bastos, G[#], Holmes, J.T., Gallimore, C.G., Ross, J.M., **Hamm, J.P.** (2022). Cell-Type and Frequency-Specific Circuit for Mismatch Negativity in Mice. Poster presented at 2022 Society for Biological Psychiatry Conference (SOBP), New Orleans, LA, May 2022.
- Ferrell, A.D. #, Rader, A.M., Nisseau-Bey, Z., Sweet, R.A., Grubisha, M.J., **Hamm, J.P.** (2022). Mutations in Kalrn Disrupt Gamma-Band Oscillations in the Auditory Cortex of Adult Mice. Poster presented at 2022 Society for Biological Psychiatry Conference (SOBP), New Orleans, LA, May 2022.
- Rader, A.M. #, Ferrell, A.D., Sweet, R.A., Grubisha, M.J., **Hamm, J.P.** (2022). Kalrn Mutation Identified in Individuals with Schizophrenia Recapitulates Disease-relevant Neuro-oscillatory Aberrations in the Mouse Visual and Prefrontal Cortices. Poster presented at 2022 Society for Biological Psychiatry Conference (SOBP), New Orleans, LA, May 2022.
- Gallimore, C.G. #, **Hamm, J.P.** (2022). A sensory oddball paradigm evokes rhythmic signatures across neocortical layers consistent with predictive coding Poster presented at 2022 Cold Spring Harbor Laboratory Conference on Neural Circuits (CSHL), Cold Spring Harbor, N.Y. March 2022.
- Gallimore, C.G. #, **Hamm, J.P.** (2021). Local field potential signatures of context-specific processing in the mouse cortical column during visual oddball. Poster presented at 2021 Society for Neuroscience (SfN) Conference, virtual.
- Bastos, G. #, Holmes, J.T., Rader, A.M., **Hamm, J.P.** (2021). Chemogenetic suppression of VIP interneurons disrupts top-down alpha-band synchrony during visual oddball paradigm. Poster presented at 2021 Society for Neuroscience (SfN) Conference, virtual.
- Ross, J.M. # & **Hamm, J.P.** (2021). Characterizing the development of sensory prediction error in cortical circuits. Poster presented at 2021 Society for Neuroscience (SfN) Conference, virtual.

- Van Derveer, A.B. #, Gallimore, C.G., **Hamm, J.P.** (2021). Deviance-detection to multisensory mismatch in posterior parietal cortex of mice. Poster presented at 2021 Society for Neuroscience (SfN) Conference, virtual.
- Rader, A.M. #, Ferrell, A.D. #, Nisseau-Bey, Z., Sweet, R.A., Grubisha, M.J., **Hamm, J.P.** (2021). Schizophrenia-relevant mutation in Kalrn yields neurooscillatory aberrations in mouse sensory cortices. Poster presented at 2021 Society for Neuroscience (SfN) Conference, virtual.
- Hamm, J.P.** #, Bastos, G., Holmes, J., Gallimore, C.G., Ferrell, A., Ross, J.M. (2021). Long-range synchronization in the alpha-band differentially engages VIP and SST interneurons in visual cortex to support novelty detection during an oddball paradigm. Poster presented at 2021 American College of Neuropsychopharmacology (ACNP) meeting in San Juan, Puerto Rico.
- Ross, J.M., **Hamm, J.P.** # (2021), Emergence of Coordinated Neuronal Ensembles Across Adolescence in Neocortical Microcircuits. Talk given in a symposium at 2021 Society for Biological Psychiatry conference, virtual.*
- Bastos, G. #, Gallimore, C.G., **Hamm, J.P.** (2021) Frequency-specific driving of frontal cortical feedback differentially engages V1 microcircuits. Poster presented at 2021 Society for Neuroscience (SFN) global connectome conference, virtual
- Gallimore, C.G. #, Ross, J.M., Holmes, J., Ferrell, A., **Hamm, J.P.** (2021) Differential responses to novel sensory stimuli among cortical neuron subtypes. Poster presented at 2021 Society for Neuroscience (SFN) global connectome conference, virtual
- Ross, J.M., Bastos, B., Ferrell, A., Gallimore, C.G., Holmes, J., **Hamm, J.P.** # (2020) Three non-overlapping cortical interneuron subtypes relate to distinct EEG biomarkers in Neuropsychiatry. Poster presented at 2020 American College of Neuropsychopharmacology (ACNP), virtual.
- Hamm, J.P.** # Aberrant cortical ensembles underlie schizophrenia-like phenotypes in setd1a deficiency. Poster presented at 2019 American College of Neuropsychopharmacology (ACNP) meeting in Orlando, FL.
- Van Derveer, A.B. #, Ferrell, A.D., Greene, M.L., Holmes, J.T., Kubricka, V., Ross, J.M., **Hamm, J.P.** (2019) Neuronal ensembles for auditory and visual novelty detection in posterior parietal cortex. Society for Neuroscience conference, Chicago, IL * presenter is mentee of Hamm. J.P.
- Hamm, J.P.** #, Organizer and chair of minisymposium: “Expecting the unexpected: cortical circuits for novelty detection”, Society for Neuroscience conference in Chicago, IL, Oct 2019.*
- Hamm, J.P.** # Three-dimensional calcium imaging of cortical subnetworks encoding novel stimuli. Sculpted Light in the Brain conference, London, UK. June 2019

Hamm, J.P. #, Gogos, J.A. Yuste, Two-photon interrogation of a sensory biomarker of schizophrenia. Poster presented at 2018 American College of Neuropsychopharmacology (ACNP) meeting in Hollywood, FL.

Hamm, J.P. #, Shymkiv, Y., Han, S., Yang, W. Yuste, R. Distinct cortical ensembles process redundant and deviant sensory stimuli. Poster presented Nov 2018 at the Society for Neuroscience conference in San Diego, CA.

Hamm, J.P. #, Shymkiv, Y., Yuste, R. *The role of prefrontal inputs to visual cortex in biomarkers of sensoricognitive processing deficits. Talk given as a symposium at 2018 Society for Biological Psychiatry conference in New York, New York. Co-Chair of session.*

TEACHING

COURSES TAUGHT

2020 - present **Instructor of record**, Georgia State University
NEUR 8020- Systems Neuroscience (Spring 2020)
NEUR 8000- Principles of Neuroscience (Fall 2020)
NEUR 8000- Principles of Neuroscience (Fall 2021)
NEUR 8020- Systems Neuroscience (Spring 2022)

Guest lectures, Georgia State University
NEUR 6040-Sensation and Perception (Spring 2022)
“Central visual pathways and circuits”

2010 - 2013 **Instructor of record**, University of Georgia
PSYC 3980- Research design (Fall 2010)
PSYC 3990- Research methods lab (Fall 2013)

2008 – 2011 **Graduate Teaching Assistant**, University of Georgia
PSYC 6430 – Applied Regression (Fall 2011)
PSYC 3230 – Abnormal Psychology (Spring 2009 and Fall 2009)
PSYC 2101 – Psychology of Adjustment (Fall 2008)

STUDENTS MENTORED

Current-postdoctoral trainees:

Dr. Ross, J.M. (2019-current)- Ph.D. in Neuroscience, University of Tennessee Health Science Center, 2019

Dr. Prah, J.D. (2022-current)- Ph.D. in Cell and Molecular Biology, Van Andel Institute, 2022.

Current-graduate students:

Van Derveer, A. (2019-current). Ph.D. student, Neuroscience, GSU

Bastos, G. (2020-current). Ph.D. student, Neuroscience, GSU

Gallimore, C.G. (2020-current). Ph.D. student, Neuroscience, GSU

Rader, A. (2021-current). Ph.D. student, Neuroscience, GSU

West, C. (2022-current). Ph.D. student, Neuroscience, GSU (co-mentored)

Ricci, D. (2022-current). M.S. student, Neuroscience, GSU

Sutton, T. (starting M.S. fall 2023). Neuroscience, GSU

Current-undergraduate:

Sutton, T. (2021-current). Neuroscience Major, GSU

Dalwai, H. (2022-current). Neuroscience Major, GSU

Wargo, J. (2023-current). Neuroscience Major, GSU

Dissertation committee member:

Ghane, M.A. (2020-2022). Ph.D. defended November 2022, Neuroscience.

Bourahmah, J. (2020-current). Ph.D. defended April 2023, Neuroscience

Moon, D. (2021-current). Ph.D. student, Neuroscience

Donaldson, K. (2022-current). Ph.D. student, Neuroscience

External Dissertation committee member:

Shymkiv, Y. (2021-2022). Ph.D. defended December 2022, Neuroscience, Columbia University

Non-thesis reader:

Martinez Otiz, G. (2020). M.S. Neuroscience, GSU. Apathy and Striatal Gray Matter Patterns in Schizophrenia and Huntington's Disease

Past-students-primary mentor:

Holmes, J.T. (2020-2022). M.S. student, Neuroscience, GSU. Masters non-thesis:
Chemicogenetic inhibition of VIP interneurons decreases deviance detection in V1.

Holmes, J.T. (2018-2020). B.S. Neuroscience with distinction, GSU. Honors thesis: Neocortical Somatostatin-Positive Interneurons Show Context Dependent Activity in a Classic Visual Oddball Paradigm.

Nsiangani, A.Y.T., (2019-2020). M.S. Biology, GSU. Masters non-thesis: Systems and methods to quantify and improve intrinsic signal imaging of the mouse visual cortex.

Greene, M. (2018-2020). Attending nursing school.

Kubricka, V. (2019-2021). B.S. Neuroscience with distinction, GSU. Attending graduate school for a Masters in Medical Science.

Nisseau-Bey, Z. (2020-2021). B.S. in Neuroscience, GSU. Attending Medical School at Morehouse.

SERVICE

Department Service

Committee Chair, Research Facilities Committee. (August 2019 - Present).

Committee Member, New full-time lecturer search committee. (March 2021- May 2021).

Committee Member, New tenure-track faculty search committee (September 2019 - May 2020).

Committee Member, Undergraduate Program Committee. (August 2019 – May 2021).

University/College Service

Committee Chair, Brains and Behavior internal grant review panel. (2022).

Committee Member, Internal Grants Peer Review Committee. (January 2022-2025).

Committee Member, Laboratory Safety Committee. (July 2021-Present).

Committee Member, Laboratory Safety Committee: Chemical Safety Subcommittee. (July 2021-Present).

Committee Member, Brains and Behavior internal grant review panel. (2019, 2021).

Committee Member, Brains and Behavior graduate fellowship review panel. (2019, 2021).

Presenter for the Neuroscience Major at the Honors College Student Mini-fair (2023)

Beckman Scholars Program Applicant Reviewer (2021, 2022).

Panel Moderator, Scientific Computing Day symposium. (2022).

Poster Judge, GSU Postdoctoral Research symposium. (2022).

Panel member, GSU panel on “NIH Grants: Tips on Winning NIH Funding”, 2/25/22 (2022).

Ad-hoc committee member, for evaluating CNCD 2CI fellowship candidates (2023)

PROFESSIONAL ACTIVITIES

Professional Organizations:

2009-Present: Society for Neuroscience

2021-Present: Society for Biological Psychiatry

2011-2013: Society for Psychophysiology

Invited Manuscript Peer Reviewer for: *Science, Nature Neuroscience, Biological Psychiatry, Brain, Neuropsychopharmacology, Journal of Neuroscience, Cerebral Cortex, Science Advances, Scientific Reports, Cell Reports, Schizophrenia Bulletin, Schizophrenia Research, Neuroimage: Clinical, PLOS ONE, Frontiers in Systems Neuroscience, Frontiers in Neural Circuits, Biological Psychology, Psychophysiology, International Journal of Psychophysiology, European Journal of Neuroscience, Translational Psychiatry, Experimental Brain Research, Neurobiology of Disease.*

Invited Grant Reviewer (external):

National Institutes of Health- ZDA1 SXC-N (O1) R study section, June 2023;
National Institutes of Health- ZGM1 TWD-A(PR) study section, March 2023;
Moorfields Eye Charity, University College London, October 2022;
External Grant Reviewer, University of Rochester, June 2022;
National Institutes of Health- NVBP study section, February 2022;