CORY S. INMAN

Assistant Professor
Department of Psychology
University of Utah
380 1530 E, Salt Lake City, UT 84112
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cory.inman@psych.utah.edu

EDUCATION

EMORY UNIVERSITY
Ph.D. in Psychology, Cognition and Development (2014)
Advised by Stephan Hamann, PhD
Dissertation: Dynamic neural connectivity of autobiographical memory retrieval processes

EMORY UNIVERSITY
M.A. in Psychology, Cognition and Development (2011)
Advised by Stephan Hamann
Thesis: Prediction of recollective experience with attention and emotional arousal

GEORGIA STATE UNIVERSITY
B.A. in Psychology with High Honors (2006)
Advised by Tricia Z. King, PhD

PROFESSIONAL EXPERIENCE

UNIVERSITY OF UTAH
Assistant Professor, Department of Psychology (2021-)

UNIVERSITY OF CALIFORNIA, LOS ANGELES
Assistant Researcher, Department of Psychiatry (2019-2020)

EMORY UNIVERSITY
Postdoctoral Fellow, Department of Neurosurgery (2014-2019)

GRANTS

*New in 2021

R01MH120194-01A1, NIMH (2021-2026) - $750,347 (Utah Sub-award)
Mechanisms of Amygdala-Mediated Memory Enhancement in Human, **Role: Site PI** and Co-Investigator

NSF 2124252 (2021-2024) - $500,000
Enhancing Episodic Memory through Real-world Integration of Brain Recording and Stimulation with Semantic Alignment of Human and IoT Perception, **Role: Principle Investigator**

NIH UO1 NS117838, NINDS (2020-2025) – In Transfer Process – 10% Effort
Neurostimulation and Recording of Real World Spatial Navigation in Humans, Role: Co-Investigator

U01 NS121472, NIMH (2021-2026) – In Transfer Process – 10% Effort
Mapping Algorithmic State Space in the Human Brain, Role: Co-Investigator

R01 1R01MH124761-01A1 (2021-2026) – In Transfer Process – 10% Effort
Intracranial Neurophysiological Signatures of Fear and Anxiety in Humans, Role: Co-Investigator

Friends of Semel Research Scholar Grant (2019-2021) - $50,000
Cognitive Neuroscience of Navigation and Episodic Memory in the Wild, **Role: Principle Investigator**

SELECT PUBLICATIONS

*Contributed equally

Stangl, M., Topalovic, U., **Inman, C.S.**, Hiller, S., Villaroman, D., Aghajan, Z.M., Moore, L.C., Hasulak, N.R., Rao, V.R., Halpern, C.H., Eliashiv, D., Fried, I., Suthana, N. (2021). Boundary-anchored neural mechanisms of location-encoding for self and others. *Nature*, 589, 420–425.

Hanslmayr, S., Axmacher, N., & **Inman, C. S.** (2019). Modulating Human Memory via Entrainment of Brain Oscillations. Trends in Neurosciences, 42(7), 485–499.

Riva Posse, P.*, **Inman, C.S.***, Choi, K., Crowell, A., Hamann, S., Mayberg, H. (2019). Autonomic arousal elicited by subcallosal cingulate stimulation is explained by white matter connectivity. *Brain Stimulation,* 12(3), 743-751.

Bijanki, K.R., Manns, J.R., **Inman, C.S.**, Choi, K.S., Harati, S, Pedersen, N.P., Drane, D., Waters, A., Fasano, R.E., Mayberg, H.S., Willie, J.T. (2019). Cingulum stimulation enhances positive affect and anxiolysis, facilitating awake craniotomy. *Journal of Clinical Investigation*, 129(3), 1152-1166.

Inman, C.S., Bijanki, K.R., Bass, D.I., Gross, R.E., Hamann, S.*, Willie, J.T.* (2018). Human amygdala stimulation effects on emotion physiology and emotional experience. *Neuropsychologia*, 145, 106722.

Inman, C.S.*, Manns, J.R.*, Bijanki, K.R., Bass, D.I., Hamann, S., Drane, D.L., Fasano, R., Kovach, C.K., Gross, R.E., , Willie, J.T. (2018). Direct Electrical Stimulation of the Amygdala Enhances Declarative Memory in Humans. *Proceedings of the National Academy of Science USA*, 115(1), 98-103.

Inman, C.S., James, G.A., Watts, K., Hamann, S. (2018). Dynamic changes in large-scale functional network organization during autobiographical memory retrieval. *Neuropsychologia,* 110, 208-224.

Inman, C.S., James, G.A., Hamann, S., Rajendra, J., Pagnoni, G., Butler, A. (2012). Altered resting-state effective connectivity of fronto-parietal motor control systems on the primary motor network following stroke. NeuroImage, 59, 227-237.

PUBLICATIONS

Bijanki, K.R., van Rooij, S.J.H., Ely, T.D., Stevens, J.S., **Inman, C.S.**, … Willie, J.T. (2021). Case series: Unilateral amygdala ablation ameliorates post-traumatic stress disorder symptoms and biomarkers. *Neurosurgery*, nyaa051.

Topalovic, U., Aghajan, Z. M., Villaroman, D., Hiller, S., Christov-Moore, L., Wishard, T. J., Stangl, M., Hasulak, N. R., **Inman, C.**, …, Fried, I., & Suthana, N. (2020). Wireless Programmable Recording and Stimulation of Deep Brain Activity in Freely Moving Humans. *Neuron*.

Sendi, M.S.E., Kanta, V., Inman, C.S., Manns, J.R., Hamann, S., Gross, R.E., Willie, J.T., Mahmoudi, B. (2020). Amygdala Stimulation Leads to Functional Network Connectivity State Transitions in the Hippocampus. 42nd Annual International Conference of the IEEE Engineering in Medicine & Biology Society (EMBC), 3625-3628. doi: 10.1109/EMBC44109.2020.9176742.

Goyal, A., Miller, J., Qasim, S. E., Watrous, A. J., Zhang, H., Stein, J. M., **Inman, C. S.**, Gross, R. E., Willie, J. T., Lega, B., Lin, J.-J., Sharan, A., Wu, C., Sperling, M. R., Sheth, S. A., McKhann, G. M., Smith, E. H., Schevon, C., & Jacobs, J. (2020). Functionally distinct high and low theta oscillations in the human hippocampus. Nature Communications, 11(1), 2469.

Tsitsiklis, M., Miller, J., Qasim, S.E., **Inman, C.S.**, … Jacobs, J. (2020). Single-Neuron Representations of Spatial Targets in Humans. *Current Biology,* 30(2), 245-253.e4.

Qasim, S. E., Miller, J., **Inman, C. S.**, Gross, R., Willie, J. T., Lega, B., … Jacobs, J. (2019). Memory retrieval modulates spatial tuning of single neurons in the human entorhinal cortex. *Nature Neuroscience*, 22, 2078–2086.

Solomon, E., Kragel, K., Gross, R., Lega, B., Sperling, M., Worrell, G., Sheth, S., Zaghloul, K., Jobst, B., Stein, J., Das, S., Gorniak, R., **Inman, C.**, Seger, S., Rizzuto, D., and Kahana, M. (2018). Medial temporal lobe functional connectivity predicts stimulation-induced theta power. *Nature Communications,* 9(1), 4437.

Kucewicz, M.T., Saboo, K., Berry, B.M., Kremen, V., Miller, L.R., Khadjevand, F., Wanda, P., Sperling, M.R., Gorniak, R., Davis, K., Jobst, B.C., **Inman, C.S.**, Lega, B., … Worrell, G. (2019). Human Verbal Memory Encoding Is Hierarchically Distributed in a Continuous Processing Stream. *eNeuro,* 6(1), ENEURO.0214-18.2018.

Waldman, Z., Chervenova, I., Berry, B., Kucewicz, M., Ganne, C., He, X-S., Elahian, B., Shimamoto, S., Davis, L.A., Stein, J., Das, S., Gorniak, R., Sharan, A.D., Gross, R.E., **Inman, C.S.**, …. Worrell, G., Sperling, M., Weiss, S.A. (2018). Ripple oscillations in the intracranial electroencephalogram can disrupt verbal episodic memory encoding. *Epilepsy and Behavior,* 88, 33-40.

Miller, J., Watrous, A.J., Tsitsiklis, M., Lee, S.A., Sheth, S., Schevon, C., Smith, E., Sperling, M.R., Sharan, A., Asadi-Pooya, A.A., Worrell, G.A., Jobst, B.C., **Inman, C.S.**, Davis, K.A., Lega, B., Das, S.R., Stein, J.M., Gorniak, R., Rizzuto, D., Jacobs, J. (In Press). Lateralized hippocampal oscillations underlie distinct aspects of human spatial memory and navigation. *Nature Communications, 9.*

Goyal, A., Millier, J., Watrous, A.J., Lee, S.A., Coffey, T., Sperling, M.R., Sharan, A., Worrell, G., Berry, B., Lega, B., Jobst, B., Davis, K.A., **Inman, C.**, Sheth, S.A., Ezzyat, Y., Das, S.R., Stein, J., Gorniak, R., Rizzuto, D., Jacobs, J. (2018). Electrical stimulation in hippocampus and entorhinal cortex impairs spatial and temporal memory. *Journal of Neuroscience, 3049-17.*

Ezzyat, Y., Wanda, P.A., Levy, D.F., Kadel, A., Aka, A, Pedisich, I., Sperling, M.R., Sharan, A.D., Lega, B.C., Burks, A., Gross, R.E., **Inman, C.S.**, Jobst, B.C., Gorenstein, M.A., Davis, K.A., Worrell, G.A., Kucewicz, M.T., Stein, J.M., Gorniak, R., Das, S.R., Rizzuto, D.S., Kahana, M.J. (2018). Closed-loop stimulation of temporal cortex rescues functional networks and improves memory. *Nature Communications, 9(1), 365.*

Bush, K.A., **Inman, C.S.,** Hamann, S., Kilts, C.D., James, G.A. (2017). Distributed Neural Processing Predictors of Multi-dimensional Properties of Affective Signals. *Frontiers in Human Neuroscience*, 11.

Solomon, E., Kragel, J., Sperling, M., Sharan, A., Worrell, G., Kucewicz, M., **Inman, C.**, Lega, B., Davis, K., Stein, J., Jobst, B., Zaghloul, K., Sheth, S., Rizzuto, D., Kahana, M. (2017). Widespread theta synchrony and high-frequency desynchronization underlies enhanced cognition. *Nature Communications*, 8(1), 1704.

Ezzyat, Y., Kragel, J.E., Burke, J.F., Levy, D.F., Lyalenko, A., Wanda, P., O'Sullivan, L., Hurley, K.B., Busygin, S., Pedisich, I., Sperling, M.R., Worrell, G.A., Kucewicz, M.T., Davis, K.A., Lucas, T.H., **Inman, C.S.**, …, Rizzuto, D.S., and Kahana, M.J. (2017). Direct brain stimulation modulates encoding states and memory performance in humans. *Current Biology*, 27(9), 1251-1258.

Kragel, J.E., Ezzyat, Y., Sperling, M.R., Gorniak, R., Worrell, G.A., Berry, B.M., **Inman, C.S.**, Lin, J-J, Davis, K.A., Das, S.R., Stein, J.M., Jobst, B.J., Zaghloul, K.A., Sheth, S.A., Rizzuto, D.R., Kahana, M.J.

(2017). Similar patterns of neural activity predict memory function during encoding and retrieval. *Neuroimage, 155, 60-71.*

Bauer, P. J., Pathman, T., **Inman, C.**, Campanella, C., & Hamann, S. (2017). Neural correlates of autobiographical memory retrieval in children and adults. *Memory*, 25(4), 450–466.

Reidy, B. L., Hamann, S., **Inman, C.,** Johnson, K. C., & Brennan, P. A. (2016). Decreased sleep duration is associated with increased fMRI responses to emotional faces in children. *Neuropsychologia*, *84*, 54–62.

Google Scholar Page: https://scholar.google.com/citations?user=y07SI50AAAAJ&hl=en

AWARDS

Friends of Semel Research Scholar Award, UCLA (2019)

American Society of Stereotactic and Functional Neurosurgeons Meeting, Best Oral Presentation (2018)

International Conference on Learning and Memory, NIH Travel Award (2018)

Blackrock Microsystems, Society for Neuroscience Travel Award (2016)

Helmsley Charitable Trust, Travel Grant, Cold Spring Harbor Laboratory (2015)

Emory University, Facility for Education and Research in Neuroscience Pilot Grant, $10,000 (2014)

Most Outstanding Psychology Student, Georgia State University (2007)

Brains and Behavior Fellowship, Georgia State University (2006)

PATENTS

U.S. Patent App. No. 16121599 (pending). A method of electrically stimulating the dorsal anterior cingulum bundle to reduce anxiety, reduce pain, facilitate cognitive performance, and elicit spontaneous laughter, smiling, and euphoria. Inventors: Bijanki, K.R., Willie, J.T., **Inman, C.S.**, Pedersen, N.P.

SELECTED INVITED TALKS

*Presentation award received

2021

- University College London, Welcomme Center for Human Neuroimaging,
- University of Freiburg, Freiburg Epilepsy Center, Department of Neurosurgery
- University of Utah, Department of Neurobiology
- Neurosciences Seminar Series, University of New Mexico
- Providence College, Department of Psychology
- University of Utah, Department of Health and Kinesiology
- University of Utah, Behavioral Neuroscience Journal Club

2020

- Neuromatch 2.0
- Emotion and Social Cognition Lab, California Institute of Technology
- UCLA Integrative Center for Learning and Memory Journal Club

2019

- McGill University, Montreal Neurological Institute, Cognition and Circuits Seminar
- Stanford University, Department of Neurology and Neursurgery Seminar
- UCLA, Lerning and Behavior Seminar

- Neurobiology of Learning and Memory, Symposium on "How the Amygdala Modulates Memory Consolidation," ***Chair***

2018

- Cognitive Neuroscience Society, Symposium on "Memory Modulation via Direct Brain Stimulation in Humans," ***Chair***
- University of California, Irvine, Department of Neurology Grand Rounds
- Virginia Tech Carilion Research Institute, Biomedical Research Institute Symposium
- University of Texas, Houston, Department of Neurosurgery Symposium
- American Society of Stereotaxic and Functional Neurosurgeons Meeting, Oral Presentation*
- University of California, Los Angeles, Department of Neurosurgery Symposium
- International Conference on Learning and Memory, Huntington Beach, California*
- Georgia Institute of Technology, Cognition and Brain Science Symposium

2017

- Georgia State University, Psychology Department Symposium
- World Society for Stereotactic and Functional Neurosurgery, Berlin, Germany
- American Association of Neurological Surgeons Annual Scientific Meeting
- Dartmouth Hitchcock Epilepsy Retreat, Mount Snow, Vermont
- Emory University Neuroethics Program, Neuroethics and Neuroscience in the News
- Neurobiology of Learning and Memory, Park City, Utah

2016

- North Georgia Regional Annual Memory Meeting
- Emory University, Psychology Department Annual Symposium
- Emory University School of Medicine, Neurosurgery Grand Rounds
- American Society of Stereotaxic and Functional Neurosurgeons Meeting, Oral Presentation

2014

- Computational Memory Seminar, University of Pennsylvania

2013

- Emory University, Psychology Department, 50th Year Anniversary symposium

GUEST EDITOR

PLOS Computational Biology

AD-HOC REVIEWING

Neuron, Journal of Neuroscience, eLife, Journal of Cognitive Neuroscience, Neuroimage, Human Brain Mapping, Neuroscience and Biobehavioral Reviews, Network Neuroscience, Neurobiology of Learning and Memory, Neuromodulation, American Journal of Neuroradiology, Psychosomatic Medicine

SELECTED CONFERENCE POSTERS

Inman, C.S., Manns, J.R., Bijanki, K.R., Bass, D.I., Gross, R.E., Hamann, S., Willie, J.T. Tuning direct electrical amygdala stimulation parameters for declarative memory enhancement in humans. Poster presented at the annual Society for Neuroscience meeting (2017).

Inman, C.S., Bijanki, K.R., Bass, D.I., Manns, J.R., Gross, R.E., Hamann, S., Willie, J.T. Brief electrical stimulation to the human amygdala enhances recognition memory for neutral images. Poster presented at the annual Society for Neuroscience meeting (2016).

Inman, C.S., Jutras, M.J., Willie, J.T., Jobst, B.C., Sperling, M.R., Sharan, A.D., Lucas, T.H., Davis, K.A., Rizzuto, D.S., Gross, R.E. Frequency-specific network connectivity during encoding predicts subsequent free recall. Poster presented at the annual Society for Neuroscience meeting (2015).

Inman, C.S., Willie, J.T., Bass, D., Gross, R.E., Hamann, S. Changes in autonomic arousal elicited by human amygdala stimulation are parameter-dependent. Poster presented at the annual Society for Neuroscience meeting (2015).

Inman, C.S., James, G.A., Watts, K., Hamann, S. Large-scale functional network organization dynamically changes across autobiographical memory retrieval processes. Poster presented at the annual Cognitive Neuroscience Society meeting (2015).

Inman, C.S., Riva Posse, P., Choi, K., Crowell, A., Danielson, S., Garlow, S., Mayberg, H., Hamann, S. Changes in autonomic arousal elicited by subcallosal cingulate DBS are associated with white matter connectivity to the mid-cingulate cortex. Poster presented at the annual Society for Neuroscience meeting (2014).

Inman, C.S., James, G.A., Campanella, C., Pathman, T., Fivush, R., Bauer, P., Hamann, S. Dynamic neural connectivity of autobiographical memory processes. Poster presented at the annual Cognitive Neuroscience Society meeting (2013).

Inman, C.S. & Hamann, S. Eye movements and pupil dilation predict interactions of valence and memory. Poster presented at the annual Cognitive Neuroscience Society meeting (2012).

Inman, C.S. & Hamann, S. Experience-related eye movements reflect declarative memory for emotional and neutral pictures. Poster presented at the annual Cognitive Neuroscience Society meeting (2011).

Inman, C.S., James, G.A., Hamann, S., Rajendra, J., Pagnoni, G., Butler, A. Exploratory SEM reveals altered resting-state motor control network connectivity following stroke. Poster presented at the 16th annual Organization for Human Brain Mapping meeting (2010).

Inman, C.S., James, G.A., Hamann, S., Rajendra, J., Pagnoni, G., Butler, A. Altered resting-state effective connectivity of fronto-parietal motor control systems on the primary motor network following stroke. Poster presented at the annual Cognitive Neuroscience Society meeting (2010).

Inman, C., Mumaw, M., & King, T. Emotional awareness and psychophysiological markers of performance on the Iowa Gambling Task. Poster presented at the annual meeting of the Association for Psychological Sciences (2007).

ADVISING

University of Utah

- Martina Hollearn (University of Utah Ph.D. Mentee; NSF GRFP Honorable Mention 2021)
- Wyatt Wilson (Independent study research assistant)
- Emily Woolsey (Independent study research assistant)

UCLA

- Jay Gill (M.D., Ph.D. Mentee)
- Sabrina Levy (M.D., Ph.D. Mentee)
- 4 independent study research assistants

Emory University

- Lou Blanpain (M.D., Ph.D. Mentee)
- Charles Ferris, Ph.D. (Ph.D Mentee)
- I also directly supervised and advised 1 M.A. student, 3 Honors Thesis students, and 10 independent study students.

TEACHING

- Instructor, Neuropsychology (PSY5700/6700), University of Utah (2021)
- Instructor, Brain and Behavior (PSY2710), University of Utah (2021)
- Guest Lecturer, Developmental Cognitive Neuroscience, University of Utah (2021)
- Neuromatch Academy Mentor (2020-2021)
- Instructor, Competitive Edge Journal Club for underrepresented scientists, UCLA (2019-2020)
- Guest lecturer, Human Learning and Memory, Emory University (2017)
- Guest lecturer, Neuroethics, Emory University (2017)
- Instructor, Introduction to Outdoor Recreation, Emory University (2015-2018)
- Instructor, Lifeguarding, Emory University (2012-2018)
- Teaching Assistant, Biomedical Engineering, Georgia Institute of Technology, Core course in Experimental Design (2014)
- Teacher, Brainy Days elementary school neuroscience program (2012-2013)
- Lecture writer for Emory-Tibet Science Initiative (2011-2014)
- Guest lecturer, Undergraduate course in Cognition, Emory University (2010)
- Teaching Associate, Experimental Methods in Psychology, Emory University (2010)
- Teaching Assistant, Applied Statistics for Psychology, Emory University (2009)

SERVICE

- Community outreach, My path from AP Psychology to Professor, Northview High School, GA (2021)
- Faculty member, Diversity Committee, Department of Psychology, University of Utah (2021-2022)
- Faculty member, Graduate Committee, Department of Psychology, University of Utah (2021)
- Founder and President, Emory Graduate Students in Psychology and Neuroscience (GSPN; 2012-2014)
- Leadership Coach, Georgia Institute of Technology, Leading Edge Program (2017-2018)
- President, Graduate Research Interdisciplenary Team of Scholars (GRITS; 2009-2011)
- Member, Emory Graduate Student Council (2009-2012)

PRIOR FUNDING

Postdoctoral Fellow (2014-2019)
BRAIN Initiative, DARPA Restoring Active Memory
Site PI: Robert Gross, MD, PhD; Project PI: Michael Kahana, PhD (N66001-14-2-4032)

Postdoctoral Fellow (2015-2019)
The role of place and grid cells in human spatial navigation and memory
Site PI: Robert Gross, MD, PhD; Project PI: Joshua Jacobs, PhD (R01MH104606)

PROFESSIONAL TRAINING

- Blackrock Microsystems Hands-On Electrophysiology Workshop (2019)
- Data Science for Neuroscientists, Society for Neuroscience, San Diego, CA (2016)
- Responsible Conduct of Research Ethics Course (2016)
- Neural Data Science Course, Cold Spring Harbor, Lloyd Harbor, New York (2015)

COMPUTER AND TECHNICAL SKILLS

- Python, MATLAB, SPM, Brain Connectivity Toolbox, BIOPAC, Acqknowledge, SPSS, Psyscope, Eprime, Psychtoolbox, LISREL
- Expert in use of multiple clinical and research neurophysiology systems: Natus Neuro FS128 and Quantum, Nihon-Kohden Neurofax, Blackrock Microsystems Cerestim and Neuroport
- Trained Seimens 3T MRI scanner Operator
- Eye tracking data collection and analysis: Tobii, Applied Sciences Laboratory, EyeLink
- Clinical assessment: SCID, HAM-D, CAPS PTSD assessment

PROFESSIONAL SOCIETY MEMBERSHIPS

Society for Neuroscience, Cognitive Neuroscience Society, Organization for Human Brain Mapping

ACADEMIC REFERENCES

Nanthia Suthana, Ph.D., Assitant Proffesor of Psychiatry, Neurosurgery, and Bioengineering, UCLA, nsuthana@mednet.ucla.edu

Jon T. Willie, M.D., Ph.D., Assistant Professor of Neurosurgery and Neurology, Emory University, jon.t.willie@emory.edu

Joseph Manns, Ph.D., Associate Professor of Psychology, Emory University, jmanns@emory.edu

Helen Mayberg, M.D, Professor of Neurosurgery, Neurology, and Psychiatry, Mount Sinai Health System, helen.mayberg@mssm.edu

Robert E. Gross, M.D., Ph.D., Professor of Neurosurgery, Neurology, Biomedical Engineering, and Neuroscience, Emory University, rgross@emory.edu

Stephan Hamann, Ph.D., Professor of Psychology, Emory University, shamann@emory.edu