

Nanthia A. Suthana, Ph.D.

Assistant Professor-in-Residence
Department of Psychiatry & Biobehavioral Sciences
Department of Neurosurgery • Department of Bioengineering
300 Stein Plaza, Suite 562 • University of California, Los Angeles 90095

EDUCATION

- 2005-2009 **University of California, Los Angeles**
Ph.D., Neuroscience
Dissertation: *Investigating Medial Temporal Representations of Episodic Information: A Multi-modal Approach*
- 2003-2005 **University of California, Los Angeles**
B.S., Neuroscience
Honors Thesis: *Circadian Regulation of Long-term Potentiation*
- 1999-2002 **University of California, Berkeley**
Molecular and Cell Biology

PROFESSIONAL EXPERIENCE

- 2016- Ruth and Raymond Stotter Endowed Chair, Department of Neurosurgery, UCLA
- 2016- Associate Director for Neuroscience Outreach, Brain Research Institute, UCLA
- 2015- Assistant Professor-in-Residence, Department of Psychiatry & Biobehavioral Sciences, UCLA
- 2015- Associate Director, Neuromodulation Division, Jane and Terry Semel Institute of Neuroscience and Human Behavior, UCLA
- 2015- Assistant Director of Postdoctoral Outreach and Educational Programs, Brain Research Institute, UCLA
- 2015- Vice President, Society for Neuroscience UCLA Chapter
- 2012-2015 Assistant Researcher, Department of Neurosurgery, UCLA
Lecturer, Department of Psychology, UCLA

- 2009-2012 Postdoctoral scholar, Department of Neurosurgery, Department of Psychology, UCLA
- 2005-2009 Graduate student researcher, Neuroscience Interdepartmental Ph.D. Program, UCLA

AWARDS & GRANTS***Awards***

- 2016-2021 Ruth and Raymond Stotter Endowed Chair, Department of Neurosurgery, UCLA
- 2015 Excellence in Translational Research Award, Department of Neurosurgery, UCLA
- 2015-2017 Joseph Drown Friends Scholar Award, Friends of the Semel Institute of Neuroscience and Human Behavior, UCLA
- 2015 AAMC Early Women in Medicine Awardee, Early Career Women Faculty Professional Development Seminar, Denver, CO
- 2012 UCLA Brain Research Institute Travel Award, Society for Neuroscience
- 2012 Summer Institute in Cognitive Neuroscience Fellowship
- 2011 Society for Neuroscience Postdoctoral Travel Award
- 2011 UCLA Chancellor's Award for Postdoctoral Research, Finalist
- 2009-2011 Neural Repair Postdoctoral Fellowship, UCLA NIH grant 5T32NS007449
- 2009 Achievement Award, National Science Foundation GK-12 Conference
- 2008, 2009 UCLA Brain Research Institute Travel Award, Society for Neuroscience
- 2008 UCLA Jeffrey L. Hanson Award for Distinguished Service
- 2007, 2008, 2011 Organization for Human Brain Mapping Travel Award
- 2007-2008 Neuroimaging Fellowship, UCLA NIMH grant 5T90DA022768-08
- 2006-2007 Behavioral Neuroscience Fellowship, UCLA NIMH grant 5T32MH015795

2005 UCLA Neuroscience Undergraduate Honors

Current Funding

NIH UO1 NS103802, National Institute of Neurological Disorders and Stroke
Purpose: Neurostimulation and recording of real world spatial navigation in humans
Role: Principal Investigator
Funding term: 2017-2020

NIH UO1 NS103802-Supplement, National Institute of Neurological Disorders and Stroke
Purpose: Data sharing
Role: Principal Investigator
Funding term: 2018-2019

Ruth and Raymond Stotter Chair, Department of Neurosurgery, UCLA
Funding term: 2016-2021

Neurotechnology Affinity Group, Brain Research Institute, UCLA
Purpose: To encourage transdisciplinary research and to train pre- and postdoctoral students in neuroengineering.
Role: Co-Director
Funding term: 2017-2019

Completed Grants and Fellowships

Joseph Drown Friends Scholar Award, Jane and Terry Semel Institute for Neuroscience & Human Behavior, UCLA
Purpose: To develop a treatment for memory impairment in patients with amnesic Mild Cognitive Impairment at risk for Alzheimer's disease using functional MRI-guided transcranial magnetic stimulation.
Role: Principal Investigator
Funding term: 2015-2017

UCLA Startup Funds, Department of Neurosurgery, Department of Psychiatry and Biobehavioral Sciences, Semel Institute for Neuroscience & Human Behavior, UCLA
Role: Principal Investigator
Funding term: 2015- 2017

NIH RO1, National Institute of Neurological Disorders and Stroke
Purpose: Memory Enhancement by deep brain stimulation of entorhinal-hippocampal circuitry in Humans
Role: Co-Investigator, co-authored grant proposal (PI: Dr. Itzhak Fried)
Funding term: 2013-2018

DOD, Defense Advance Research Projects Agency, Restoring Active Memory Program
Purpose: To develop an implantable wireless neuromodulation device to restore

memory in patients with memory disorders

Role: Co-Investigator, co-authored grant proposal (PIs: Dr. Itzhak Fried and Dejan Markovic)

Funding term: 2014-2018

NIH T32, National Institute of General Medical Sciences

Title: Neuropsychopharmacology Postdoctoral Research Training Program (NPRTP)

Role: Co-Principal Investigator

Funding term: 2015-2016

American College of Neuropsychopharmacology Educational Outreach Initiative

Purpose: To develop educational programs for 500 visiting K-12 Los Angeles students during Brain Awareness Week at the UCLA Brain Research Institute.

Role: Co-authored grant proposal (Faculty: Drs. London, Evans, and Iguchi)

Funding term: March 2009

Neural Repair Postdoctoral Fellowship, UCLA NIH grant 5T32NS007449

Purpose: To enhance memory using deep brain stimulation.

Role: Graduate fellow (PI: Marie-Francoise Chesselet)

Funding term: 2009-2011

National Science Foundation GK-12 Fellowship, UCLA GK-12 NSF grant 0742410

Purpose: To develop inquiry-based neuroscience related lesson plans for Los Angeles High School science classrooms.

Role: Graduate fellow (PI: Mark Moldwin)

Funding term: 2008-2009

Neuroimaging Fellowship, UCLA NIMH grant 5T90DA022768-08

Purpose: To determine the role of medial temporal regions in episodic learning and memory using high-resolution Neuroimaging techniques.

Role: Graduate fellow (PI: Mark Cohen)

Funding term: 2007-2008

Behavioral Neuroscience Fellowship, UCLA NIMH grant 5T32MH015795

Purpose: To determine changes in hippocampal subregion activity in individuals genetically at-risk for Alzheimer's disease.

Role: Graduate fellow (PI: Michael Fanselow)

Funding term: 2006-2007

TEACHING EXPERIENCE

Course Instructor

Winter 2019 Introduction to Signal Processing for Neuroscientists (Neuro 260)

Summer 2013-18 Competitive Edge Course for women and minority PhD Graduate Students in STEM fields (Topic: Presentation skills), UCLA

- Winter 2017 Human Single Neuron and Oscillatory Mechanisms of Cognition (*Psychology 207b*), UCLA
- Winter & Spring 2017 Project Brainstorm (*Neuroscience 192B*), UCLA
- Summer 2015 Behavioral Neuroscience (*Psychology 115*), UCLA
- Spring 2015 Medical Neurosciences, David Geffen School of Medicine, UCLA
- Summer 2013,2014 & Fall 2012 Cognitive Neuroscience (*Psychology 119C*), UCLA
- Summer, Fall 2013 & Summer 2012 Behavioral Neuroscience Laboratory (*Psychology 116*), UCLA
- Spring 2013 Introduction to Psychobiology (*Psychology 15*), UCLA
- Spring 2013 Physiological Psychology of Learning (*Psychology 119M*), UCLA
- Winter 2013 & Fall 2012 Introduction to Psychology (*Psychology 10*), UCLA
- Guest Lecturer**
- Spring, 2017, 2018 Undergraduate Course: Computational Methods for Medical Imaging (*Computer Science 188*), UCLA
- Spring, 2017, 2018 Graduate Course: Dynamics of Neural Microcircuits (*Neuroscience M287*), UCLA
- Fall, 2017 Undergraduate Course: Neurobionics-Past, Present, and Future at UCLA and Beyond (*Neuroscience 19*), UCLA
- Fall 2009, 2015 & 2017 Graduate course: Functional Neuroanatomy (*Psychology 292*), UCLA
- Fall, 2016 & Spring 2009 Graduate Course: Principles of Neuroimaging (*Neuroscience M284A*), UCLA
- Fall 2015 Undergraduate course: Mind Reading and Manipulation: Brain and Computer Interface (*Neuroscience 19*), UCLA
- Spring 2011, 2013 Graduate course: Biology of Learning & Memory (*Neurobio M200*), UCLA

INVITED PRESENTATIONS

- November 2018 Wayne State University, Detroit, MI
Title: *Understanding and Modulating Real World Episodic Memory using Neuroprosthetics and Virtual Reality*
- November 2018 Neural Prosthesis Seminar Series, Cleveland FES Center, Case Western Reserve University
Title: *Brain implants, virtual reality and treatment of neuropsychiatric disorders*
- November 2018 Human Single-unit Meeting, California Institute of Technology
Title: *Single neuron and oscillatory correlates of real world spatial navigation in humans*
- October 2018 Psychiatry Grand Rounds, Dartmouth-Hitchcock Medical Ctr, NH
Title: *Characterization of human episodic memory using intracranial recordings, deep brain stimulation and virtual reality*
- October 2018 The Science of Dreams, UCLA
Title: *Novel Approaches for characterization and modulation of deep brain activity during real world human behaviors*
- June 2018 iNAV Symposium, Mont Tremblanc, Quebec
Title: *Medial temporal theta dynamics during ambulatory spatial navigation in humans*
- June 2018 Center for Neural Science and Medicine, Cedars-Sinai
Title: *Combining virtual reality, intracranial recordings and neurostimulation to study human episodic memory*
- May 2018 Dementia Colloquium, UCLA
Title: *Neuromodulation and Enhancement of Human Declarative Memory*
- May 2018 Brain Injury Research Center, UCLA
Title: *Restoring real world human memory using novel neurotechnologies and virtual reality*
- April 2018 International Learning and Memory Symposium, Huntington Beach, CA
Title: *Memory related oscillatory dynamics in the human medial temporal lobe during freely moving behavior*
- April 2018 NIH Brain Initiative Meeting, Bethesda, MD
Title: *Neurostimulation and Recording of Real World Spatial Navigation in Humans*
- March 2018 Cognitive Neuroscience Society Annual Meeting, Boston, MA

- Title: *Advancements in intracranial stimulation of the entorhinal area for enhancement of episodic memory*
- March 2018 Virtual Reality and Healthcare Symposium, Harvard University
Title: *Combining neuroprosthetics and virtual reality to restore memory*
- January 2018 Wagner Laboratory, Stanford University
Title: *Single neuron and oscillatory mechanisms of human episodic memory*
- January 2018 NIH Neuroethics Division Meeting, Stanford University
Title: *Neuroprosthetics, virtual reality, and memory modulation*
- December 2017 Brain Mapping Center, UCLA,
Title: *Neuroimaging-guided approaches for invasive and non-invasive stimulation of human episodic memory*
- November 2017 Underrepresented Graduate Students in Psychology (UGSP) Brown Bag, UCLA
Title: *Navigating Neuroscience and Academia: A personal and scientific journey*
- November 2017 Ephys Lounge, Blackrock booth, SfN, Washington D.C.
Title: *Human Episodic Memory*
- October 2017 Workshop on Memory Consolidation, Restoration, and Augmentation, HRL Laboratories, Malibu, CA
Title: *Optimization of deep brain stimulation for episodic memory*
- October 2017 Neurosurgery Grand Rounds, UCLA
Title: *Intracranial recording and stimulation of human episodic memory*
- June 2017 Neural Microcircuits Brown Bag, UCLA
Title: *Medial temporal circuits underlying human episodic memory*
- June 2017 Meet the Experts, UCLA Neurosurgery
Title: *Understanding and Improving Memory using Virtual Reality and Novel Brain Prosthetics*
- April 2017 UT Austin Conference on Learning and Memory, UT Austin
Chair and speaker
Title: *Optimization of intracranial stimulation for enhancement of episodic memory*

- March 2017 Neurosurgery Education Day, UCLA
Title: *Current Research Projects*
- March 2017 Behavioral Neuroscience Perception Journal Club, UCLA
Title: *Concept or Memory Cells? Insight from single-unit recordings in the human medial temporal lobe*
- November 2016 Human Single-unit Meeting, California Institute of Technology
Title: *Neuronal characterization and Modulation of Human Episodic Memory*
- September 2016 Neuroscience Interdepartmental Ph.D. Program Retreat, UCLA
Title: *Theta Oscillations in the Human Medial Temporal Lobe during Real World Ambulatory Movement*
- July 2016 International Conference on Memory, Budapest, Hungary
Title: *A high-resolution imaging investigation of hippocampal subfield oscillatory correlates of human episodic memory*
- April 2016 Clinical and Translational Neuroscience Workshop, University of Illinois, Urbana Champaign
Title: *Novel approaches for targeted recording and stimulation of human learning and memory*
- March 2016 Neuromodulation Division, Jane and Terry Semel Institute of Neuroscience and Human Behavior, UCLA
Title: *Using High-resolution Neuroimaging to Target Neuromodulation of Human Episodic Memory*
- February 2016 Cognitive Forum, UCLA Department of Psychology
Title: *Selectivity of Hippocampal Neurons during Episodic Memory*
- February 2016 Winter Conference in Neural Plasticity, Maui, HI
Title: *Optimizing deep brain stimulation for enhancement of human episodic memory*
- December 2015 Integrative Center for Learning and Memory, UCLA
Title: *Theta-gamma coupling in human hippocampal CA1 during learning of subsequently recollected items*
- December 2015 Integrative Center for Neural Repair Seminar, UCLA
Title: *Understanding and Improving Human Episodic Memory using Single-unit, Oscillations, and Deep Brain Stimulation*
- October 2015 Neurology Grand Rounds, UC Irvine

- Title: *Understanding and improving human episodic memory using single cells, oscillations and deep brain stimulation*
- October 2015 Neuroscience and Society Conference, UCLA
Title: *Rewiring the Brain: Science and Ethics of Brain Stimulation*
- October 2015 Neural Interfaces for Therapeutic Interventions, Los Angeles, CA
Title: *Targeting Memory Circuits: The current state of the art*
- June 2015 Brain-computer Interfaces Workshop, UCLA
Title: *Restoring Neurophysiological Activity and Memory Functions using Deep Brain Stimulation*
- March 2015 Society for Brain Mapping and Therapeutics, Los Angeles, CA
Title: *High-resolution Neuroimaging of Genetic Risk for Alzheimer's Disease*
- March 2015 Neuropace, Inc., Mountainview, CA
Title: *Improving Human Episodic Memory using Deep Brain Stimulation*
- January 2015 Center for Molecular and Behavioral Neuroscience, Rutgers University, Newark, NJ
Title: *A Multi-modal Approach to Understanding and Improving Human Episodic Memory*
- November 2014 Minisymposium, Society for Neuroscience, Washington D.C.
Title: *High-resolution functional MRI methods for investigating the role of the hippocampus in human memory*
- November 2013 Women and Brain Science and Technology Seminar, UCLA
Title: *Navigating Neuroscience: A Personal and Scientific Journey*
- September 2013 Neurobionics and Neuromodulation Symposium, UCLA
Title: *Neuromodulation for Memory Restoration*
- June 2013 Southern California Learning and Memory Symposium, UCLA
Title: *Deep Brain Stimulation, Memory Enhancement, and Hippocampal Theta-gamma Coupling*
- October 2012 Cognitive Lecture Series, Department of Psychology, UC Riverside
Title: *Deep Brain Stimulation, Memory Enhancement, and Hippocampal Theta-gamma Coupling*
- May 2012 Behavioral Neuroscience Learning & Memory Journal Club, UCLA
Title: *Pattern Separation in the Hippocampus*

- August 2011 Learning and Memory Colloquium, UC Davis
Title: *Hippocampal CA3 and Learning Novel Associations: a 7 Tesla fMRI Study*
- May 2011 Neural Repair Colloquium, UCLA
Title: *Deep Brain Stimulation of Human Entorhinal Area Enhances Memory*
- May 2010 Neural Repair Colloquium, UCLA
Title: *Memory Enhancement with Intracranial Stimulation of the Human Medial Temporal Lobe*
- March 2009 Neuroscience Undergraduate Annual Research Symposium, UCLA
Title: *Investigating Human Medial Temporal Representations of Episodic Information: A Multi-modal Approach*
- November 2007 Neuroscience Interdepartmental Ph.D. Program Retreat, UCLA
Title: *Hippocampal Subregional Involvement in Allocentric vs. Egocentric Spatial Processing*

COMMITTEES & SERVICE

- July 2015, 2018 Grant Reviewer, UCLA CTSI NIH K/CDA Workshop
- December 2017 Chair, Admissions Committee, UCLA Neuroscience Ph.D. Program
- May-June 2016 Co-Chair, Brain Research Institute / Semel Travel Awards Selection Committee, UCLA
- Fall, 2016- Associate Director of Outreach, Brain Research Institute, UCLA
Faculty advisor for Neuroscience outreach events including Los Angeles Brain Bee, Brain Awareness Week, LA and CA Science fairs, Project Brainstorm, Project Synapse, Neurocamp, and Interaxon
- Fall, 2016- Member, Postdoctoral Scholars Advisory Council, Graduate Division, UCLA
- May-June 2016 Member, Brain Research Institute / Semel Travel Awards Selection Committee, UCLA
- 2015- Faculty Director, Project Synapse,
Organize monthly workshops on Career Development and supervise postdoctoral scholars in K-12 outreach
- December 2015 Faculty member, Admissions Committee, UCLA Neuroscience Ph.D. Program

- 2015- Faculty member, Brain Research Institute Steering Committee, UCLA
- 2009-2013 Advisor, Project Brainstorm, UCLA Neuroscience Outreach Program
- 2009 Student member, Admissions Committee, UCLA Neuroscience Ph.D. Program
- 2008-2009 Neuroscience student representative, Biological Sciences Council, UCLA
- Spring, 2008, 2009 Student Coordinator, Brain Awareness Week, UCLA Brain Research Institute
- 2008 Student member, Curriculum Committee, UCLA Neuroscience Interdepartmental Ph.D. Program
- 2007-2009 K-12 Outreach Student Coordinator, UCLA Brain Research Institute
- 2006-2008 Director of Publications, UCLA Graduate Students Association

PROFESSIONAL SOCIETIES & AFFILIATIONS

- 2015- Member, AAMC Group on Women in Medicine and Science
- 2011- Member, Cognitive Neuroscience Society
- 2006- Member, Organization for Human Brain Mapping
- 2005- Member, Society for Neuroscience
- 2003-2005 Member, Neuroscience Undergraduate Society

MENTORSHIP EXPERIENCE

High School research

Garrett Nastarin, Agoura Hills High School
 Chloe Silverman, Buckley High School
 James Miller, Long Beach Polytechnic High School
 Lindsey Camel, Mira Costa High School

Undergraduate research

Allison Krupa*, UCLA, Major: Neuroscience
 Kyle Kern*, UCLA, Major: Neuroscience
 Saba Moshirvaziri*, UCLA, Major: Neuroscience
 Kirsten Zinman, Santa Monica College
 Wesley Wong, UCLA, Major: Neuroscience
 Nicole Yap, Major: Neuroscience
 Mostafa El-Kalliny, Major: Neuroscience
 Dylan Kirsch, Major: Psychobiology

Sameed Siddiqui*, Major: Electrical Engineering
 Rebecca Baron, Watson Fellow, Major: Neuroscience
 Nathanael Warner*, UC-HBCU Fellow, Major: Chemistry

Graduate research

Laurel Martin-Harris*, UCLA, Neuroscience, Ph.D.
 Neelroop Parikshak*, UCLA, M.D. / Neuroscience Ph.D.
 Dana Wagshal*, UCLA, Psychology, Ph.D.
 Michael Cohen*, UCLA, Psychology, Ph.D.
 Natalia Tchemodanov*, **,***, UCLA, BioEngineering, Ph.D.
 Tyler Wishard*, UCLA, Neuroscience, Ph.D.

Postdoctoral research

Zahra Aghajan*, **,*** UCLA, Department of Psychiatry and Biobehavioral Sciences
 Emily Mankin*,*** UCLA, Department of Neurosurgery
 Ali Titiz*, UCLA, Department of Neurosurgery
 Leonardo Christov-Moore*, UCLA, Department of Psychiatry & Biobehavioral Sciences
 Juliane Corlier, UCLA, Department of Psychiatry and Biobehavioral Sciences

* *Student received publication authorship(s) for supervised work completed*

** *Student was awarded a Travel award for supervised work completed*

*** *Student was awarded a fellowship award for supervised work completed*

* *Underrepresented minority (URM)*

2013- National Science Foundation Alliances for Graduate Education and the Professoriate (NSF AGEPE), UCLA Competitive Edge Program. Mentored incoming women and minority graduate STEM students during a 6-week summer journal club on presentation skills.

2011-2015 American Film Institute, Sloan Foundation. Spring quarter each year mentored and advised 1-3 students with film scripts that addressed topics of science, scientists, or the scientific method.

GRADUATE PH.D. DISSERTATION COMMITTEES

Committee Member, Ahmed Alzuhair. 2018-present, UCLA Department of Electrical Engineering

Committee Member, Souroush Niketeghad. 2017-present, UCLA Department of Bioengineering

Committee Member, Nicco Reggente. 2016-present, UCLA Department of Psychology

Committee Member, Alireza Yousefi. 2016-present, UCLA Department of Electrical Engineering

Committee Member, Natalie De Shetler. 2014-2016, UCLA Department of Psychology

Committee Member, Dejan Rozgic. 2014-2017, UCLA Department of Electrical Engineering

Committee Member, Andrew O'keefe. 2015-present, UCLA Department of Neurosurgery / Neuroscience Interdepartmental Ph.D. Program

Committee Member, Jin Hon Park. 2014-present, UCLA Department of Chemistry

Committee Member, Wenlong Jiang. 2014-2017, UCLA Department of Electrical Engineering

Committee Member, Sina Basir-Kazeruni. 2014-2017, UCLA Department of Electrical Engineering

Committee Member, Vahagn Hokhikyan. 2014-2017, UCLA Department of Electrical Engineering

Committee Member, Hariprasad Chandrakumar. 2014-2018, UCLA Department of Electrical Engineering

EDITORIAL SERVICE

Nature Neuroscience (2018), Reviewer

Neuron (2018), Reviewer

eLife (2017, 2018), Reviewer

Hippocampus (2017), Reviewer

Journal of Cognitive Neuroscience (2011, 2013, 2017), Reviewer

Journal of Neuroscience (2013, 2016, 2017), Reviewer

New England Journal of Medicine (2016, 2017), Reviewer

Neuroimage (2016), Reviewer

Cortex (2014, 2016), Reviewer

Mayo Clinic Proceedings (2016), Reviewer

IEEE Design and Test (2015), Reviewer

Brain Structure and Function (2015), Reviewer

Journal of Neuroscience Research (2015), Reviewer

Proceedings of the National Academy of Sciences (2014), Reviewer

Brain (2014), Reviewer

Trends in Cognitive Science (2013), Reviewer

Journal of the American Medical Association (2013), Reviewer

Neurobiology of Aging (2013), Reviewer

American Journal of Neuroradiology (2012), Reviewer

Brain Stimulation (2012), Reviewer

Human Brain Mapping (2012), Reviewer

Journal of Neurology, Neurosurgery, and Psychiatry (2012), Reviewer

Cerebral Cortex (2011), Reviewer

Textbooks

Gluck, Mercado, and Myers. Learning and Memory, From Brain to Behavior, 2nd Edition, (2015), Reviewer

Grants

National Institute of Health (2017), RO1, Special emphasis panel: Pilot Clinical Trials for the Spectrum of Alzheimer's Disease and Age-Related Cognitive Decline, Reviewer

Neurological Foundation of New Zealand (2012), Reviewer

Netherlands Organization for Scientific Research (2015), Reviewer

PUBLICATIONS

1. Wang, L.M., **Suthana, N.**, Chaudhury D, Weaver, D.R., Colwell, C.S. (2005) Melatonin inhibits hippocampal long-term potentiation. European Journal of Neuroscience 22:2231-7
2. Ekstrom, A., **Suthana, N.**, Salamon, N., Behnke, E., Bookheimer, S.Y., Fried, I. (2008) High-Resolution Depth Electrode Localization and Imaging in Patients with Pharmacologically Intractable Epilepsy. Journal of Neurosurgery 108:812-5

3. **Suthana, N.**, Ekstrom, A., Moshirvaziri, S., Knowlton B., Bookheimer, S.Y. (2009) Human hippocampal CA1 involvement during allocentric encoding of spatial information. Journal of Neuroscience 29:10512-9
4. Ekstrom, A.D., **Suthana, N.**, Millet, D., Fried I., Bookheimer S.Y. (2009) Correlation Between BOLD fMRI and Theta-band Local Field Potentials In the Human Hippocampal Area. Journal of Neurophysiology, 101:2668-78
5. Ekstrom A.D., Bazih, A., **Suthana, N.**, Al-Hakim, R., Ogura, K., Zeineh, M., Burggren, A., Bookheimer S.Y. (2009) Advances in High-resolution Imaging and Computational Unfolding of the Human Hippocampus. Neuroimage, 47:42-9.
6. Donix, M., Burggren, A.B., **Suthana, N.**, Siddarth, P., Ekstrom, A.D., Krupa, A., Jones, M. *, Martin-Harris, L. *, Ercoli, L.M., Miller, K.J., Small, G.W., Bookheimer, S.Y. (2010) Family History of Alzheimer's Disease and Hippocampal Structure in Healthy People. American Journal of Psychiatry, 167:1399-406
7. **Suthana, N.**, Krupa, A., Donix, M., Burggren, A.B., Ekstrom, A.D., Jones, M., Ercoli, L.M., Miller, K.J., Siddarth, P., Small, G.W., Bookheimer, S.Y. (2010) Reduced hippocampal CA2, CA3, and dentate gyrus activity in asymptomatic people at genetic risk for Alzheimer's disease. Neuroimage, 53:1077-84
8. Donix, M., Burggren, A.B., **Suthana, N.**, Siddarth, P., Ekstrom, A.D., Krupa, A., Jones, M., Rao, A., Martin-Harris, L. *, Ercoli, L.M., Miller, K.J., Small, G.W., Bookheimer, S.Y. (2010) Longitudinal Changes in Medial Temporal Cortical Thickness in Normal Subjects with the APOE-4 polymorphism. Neuroimage, 53:37-43
9. Burggren, A.C., Renner, B., Jones, M., Donix M., **Suthana, N.**, Martin-Harris L., Ercoli L.M., Miller K.J., Siddarth P., Small G.W., Bookheimer S.Y. (2011) Cortical thinning in entorhinal and subicular cortex predicts decline in episodic memory performance in subjects with mild cognitive impairment. International Journal of Alzheimer's Disease, 956053, PMID: 21559183
10. **Suthana, N.**, Ekstrom, A., Moshirvaziri, S., Knowlton B., Bookheimer, S.Y. (2011) Dissociations within Human Hippocampal Subregions during Encoding and Retrieval of Spatial Information. Hippocampus, 21:694-701
11. Staba, R., Ekstrom, A., **Suthana, N.**, Burggren, A., Fried, I, Engel, J. Jr., Bookheimer, S. (2012) Gray matter loss correlates with mesial temporal lobe neuronal hyperexcitability inside the human seizure onset zone. Epilepsia, 53:25-34
12. **Suthana, N.**, Haneef, Z., Stern, J., Mukamel, R., Behnke, E., Knowlton, B., Fried, I. (2012) Memory Enhancement and Deep Brain Stimulation of Entorhinal Area. New England Journal of Medicine, 366:502-510

Also see Letters to Editor Correspondence: **Suthana, N.** and Fried, I. (2012)

Memory Enhancement and Deep Brain Stimulation of Entorhinal Area. New England Journal of Medicine, 366:1945-1946

Also, see related editorial written by: Black SE. Brain stimulation, learning, and memory. New England Journal of Medicine, 366:563-5

13. Kern, K., Ekstrom, A., **Suthana, N.**, Giesser, B., Montag, M., Arshanapalli, A., Bookheimer, S., Sicotte, N. (2012) Fornix damage limits verbal memory. Neuroimage, 59:2932-40
14. Romero-Calderón, R., O'Hare, E., **Suthana, N.**, Scott-Van Zeeland, A., Rizk-Jackson, A., Attar, A., Madsen, S., Ghiani, C., Evans, C., Watson, J. (2012) Project Brainstorm: Using Neuroscience To Connect College Students with Local Schools. PLoS Biology 10:e1001310
15. **Suthana, N.**, Fried, I. (2012) Percepts to recollections: Insight from single neuron recordings in the human brain. Trends in Cognitive Science, 16:427-36, Review
16. Jacobs, J., Weidemann, C., Miller, J., Solway, A., Burke, J., Wei, X., **Suthana, N.**, Sperling, M., Sharan, A., Fried, I., Kahana, M. (2013) Direct recordings of grid-like neuronal activity in human spatial navigation. Nature Neuroscience 16:1188-90
17. Donix, M., Burggren, A., Scharf, M., Marschner, K., **Suthana, N.**, Siddarth, P., Krupa, A., Jones, M., Martin-Harris, L., Ercoli, L., Miller, K., Werner, A., Kummer, R., Sauer, C., Small, G., Holthoff, A. and Bookheimer, S. (2013) APOE associated hemispheric asymmetry of entorhinal cortical thickness in aging and Alzheimer's disease. Psychiatry Research: Neuroimaging 214:212-20
18. **Suthana, N.** and Fried, I. (2014) Deep Brain Stimulation for Enhancement of Learning and Memory. Review. Neuroimage 85:996-1002, Review
19. Wagshal, D., Knowlton, B., **Suthana, N.**, Cohen, J., Poldrack, R., Bookheimer, S., Bilder, B., Asarnow, R. (2014) Evidence for corticostriatal dysfunction during cognitive skill learning in adolescent siblings of patients with childhood-onset schizophrenia. Schizophrenia Bulletin. 40:1030-9
20. Cohen, M.S., Rissman, J., **Suthana, N.**, Castel, A.D., Knowlton, B.J. (2014) Memory selectivity is associated with greater engagement of areas involved in deep semantic encoding for high-value items. Cognitive Affect Behav Neuroscience. 14:578-92
21. **Suthana, N.**, Donix, M., Wozny, D., Bazih, A., Jones, M., Heidemann, R., Trampel, R., Ekstrom, A.D., Scharf, M., Knowlton, B., Turner, R., Bookheimer, S.Y. (2015) High-resolution 7-Tesla fMRI of Human Hippocampal Subregions during Associative Learning. Journal of Cognitive Neuroscience, 27:1194-206, PMID: 25514656
22. Yushkevich, P., Augustinack, J., Bender A., Bernstein, J., Boccardi, M., Bocchetta,

- M., Burggren, A., Carr V., Chakravarty, M.M. Chetelat, G., Daugherty, A., Davachi, L., Ding, S., Ekstrom, A., Geerlings, M., Hassan, A., Huang, Y., Iglesias, J., LaJoie, R., Kerchner, G., LaRocque, K., Libby, L., Malykhin, N., Mueller, S., Olsen, R., Palombo, D., Parekh, M., Pluta, J., Preston, A., Pruessner, J., Ranganath, C. Raz, C., Schlichting, M., Schoemaker, D., Singh, S., Stark, C., **Suthana, N.**, Tomparly, A., Turowski, M., Leemput, K., Wagner, A., Wang, L., Winterburn, J., Wisse, L., Yassa, M., Zeineh, M. (2015) Quantitative Comparison of 21 Protocols for Labeling Hippocampal Subfields and Parahippocampal Cortical Subregions in In Vivo MRI: Towards Developing a Harmonized Segmentation Protocol. *Neuroimage*, 111: 526-41, PMID: 25596463
23. Miller, J., **Suthana, N.**, Fried, I., Jacobs, J. (2015) Repeating spatial activations in human entorhinal cortex. *Current Biology*, 25:1080-5, PMID: 25843029
24. **Suthana, N.**, Parikshak, N., Ekstrom A.D., Ison, M., Knowlton, B., Bookheimer S.Y., Fried, I. (2015) Specific responses of human hippocampal neurons are associated with better memory. *Proceedings of the National Academy of Sciences*, 112:10503-8, PMID: 26240357
25. Cohen, M.S., Rissman, J., **Suthana, N.**, Castel, A.D., Knowlton, B.J. (2016) Effects of aging on value-directed modulation of semantic network activity during verbal learning. *Neuroimage* 125:1046:52, PMID: 26244278
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