

SHAUN PATEL

Instructor
Department of Neurology
Massachusetts General Hospital
Harvard Medical School
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education

- 2016–18 **M.M.Sc.** Biomedical Informatics
Thesis: Identifying Closed-Loop Signals for Neural Control
Advisors: Emad Eskandar, M.D.
Harvard Medical School
- 2009–15 **Ph.D.** Anatomy and Neurobiology
Dissertation: Single Neuron Computations of Cognition in the Human Brain
Advisors: Emad Eskandar, M.D. and Louis Toth, Ph.D.
Boston University School of Medicine
- 2007–09 **M.A.** Medical Sciences
Thesis: A Novel Method for Detecting Sleep Spindles Using Circular Statistics
Advisors: Emad Eskandar, M.D. and Louis Toth, Ph.D.
Boston University School of Medicine
- 2003–07 **B.A.** Psychology and Biochemistry
Indiana University

positions

- 2018– **Assistant in** Neurology
Massachusetts General Hospital
- 2018– **Instructor in** Neurology
Harvard Medical School
- 2015–18 **Research Fellow** Neurosurgery
Harvard Medical School
Massachusetts General Hospital
- 2015-16 **Visiting Scholar** Department of Neuroscience
Cleveland Clinic Foundation
- 2015-17 **Member** CNS Steering Committee
American Physiological Society

enterprise

- 2018- **General Partner** DRADS Capital, Inc
Lifesciences and healthcare venture fund
- 2017- **Cofounder** REACT Neuro, Inc
Brain health wearable

awards

- 2018 Harvard Distinction in Teaching Award - excellence in work with students and commitment to teaching; fall
- 2018 Harvard Distinction in Teaching Award - excellence in work with students and commitment to teaching; spring
- 2017 Harvard Distinction in Teaching Award - excellence in work with students and commitment to teaching; fall
- 2017 Harvard Distinction in Teaching Award - excellence in work with students and commitment to teaching; spring
- 2017 mHealth Scholar \$5,000 - selected as scholar for mHealth Institute at UCLA
- 2017 Understanding Biomarker Science Program - one week institute on biomarker science

2016 Harvard Distinction in Teaching Award - excellence in work with students and commitment to teaching; fall

2016 Harvard Distinction in Teaching Award - excellence in work with students and commitment to teaching; spring

2016 Partners Connected Health Innovation Challenge - top 6 finalists for innovative health technologies

2016 Kavli Summer Institute in Cognitive Neuroscience Fellowship - two week summer institute

2016 Harvard Distinction in Teaching Award - excellence in work with students and commitment to teaching; fall

2016 SFN-JNS Travel Award \$2,000 - for highest rated abstract

2016 ADAA Alies Muskin Career Development Leadership Program - intensive mentoring and professional development

2016 SOBP Early Career Investigator Fellowship \$2,000 - to attend Society of Biological Psychiatry

2015 National Research Mentoring Network \$2,000 - 6-month NIH supported K99 intensive writing and coaching workshop

2015 MGH Clinical Research Day Team Award \$2,500 - award for remarkable cross-disciplinary research

2015 Microsoft Research Grant \$20,000 - to apply machine learning algorithms to invasive neurophysiology data

2015 NCRG Travel Awards \$1,500 - to attend Biological Psychiatry Meeting

2015 Data Science Fellowship \$4,000 - to attend data science workshop

2015 SFN-IBRO World Congress Travel Award \$2,000 - to attend IBRO World Congress

2014 Human Single Unit Travel Award \$1,000 - abstract selected for oral presentation

2014 Society for Neuroscience Hot Topic - selected for hot topic publication at annual meeting

2014 NCRG Travel Award \$1,500 - to attend Society for Neuroscience

2014 Gordon Research Seminar Award \$1,250 - abstract selected for oral presentation

2014 FASEB/MARC Travel Award \$1,250 - to attend postdoctoral preparation institute

2014 Swartz Foundation Fellowship \$400 - to attend 79th Cold Spring Harbor Symposium

2014 Parkinson's Disease Foundation Travel Award \$1,000 - to attend Gordon Research Conference

2014 Cognitive Neuroscience Society Graduate Student Award \$500 - for highest rated abstract

2013 Insight Data Science Fellowship \$5,000 - data scientist incubator in tech sector [declined]

2013 FutureMed Student Scholarship \$2,000 - scholarship to attend conference

2013 Henry I. Russek Student Achievement Award 1st place: \$900 - for outstanding research and contribution

2013 Symposium on Decision Neuroscience Travel Award \$250 - for top scientific abstract

2013 TEDMED Front Line Scholar \$2,500 - scholarship to attend conference as a delegate

2012 Society for Neuroeconomics Travel Award \$300 - for highest rated abstract

2012 Society for Neuroscience Graduate Student Travel Award \$1,000 - for top scientific abstract

2012 Sackler Scholar in Psychobiology \$15,000 - for distinguished study of psychobiology related to human disease

2012 Henry I. Russek Student Achievement Award 2nd place: \$500 - for outstanding research and contribution

2012 CELSET/CompNet Award in Experimental and Systems Neuroscience \$500 - for top scientific poster

2012 Computational and Systems Neuroscience (COSYNE) Travel Award \$500 - for highest rated abstract

2011 Boston University Graduate Medical Sciences Travel Award \$250 - for conference travel

2011 Parkinson's Disease Foundation Fellowship \$3,000 for 10 weeks - for summer research on basal ganglia signals

2006 Dill Research Scholarship \$3,000 for 10 weeks - for summer research on nootropics

2004 Eli Lilly Summer Research Fellowship \$3,000 for 10 weeks - for summer research on medicinal chemistry

2003 Presidential Scholarship \$15,000/year for 4 years - merit based

2003 Multicultural Scholarship \$10,000/year for 4 years - merit based

2003 Honor Scholarship \$5,000/year for 4 years - merit based

published works

Published Works [17] - Book Chapters [2] • Review Papers [1] • Publications [14]

Cerebral Cortex | eLife | Frontiers in Systems Neuroscience | Journal of Natural Products | Journal of Neuroscience | Journal of Time Series Analysis | MIT Press | Nature | Nature Protocols | Nature Neuroscience | PLoS One | Scientific Reports | Springer International Press | World Neurosurgery

book chapters

- 2016 Striatal Mechanisms of Associative Learning
Shaun R. Patel, Jennifer Cheng, Arjun Kahanna, Rupen Desai, Emad Eskandar
Springer International Press
- 2014 Reward processing in the anterior cingulate cortex and basal ganglia
Shaun R. Patel, Demetrio Sierra-Mercado, Clarissa Martinez-Rubio, Emad Eskandar
MIT Press

review papers

- 2012 Lesion procedures in psychiatric neurosurgery
Shaun R. Patel, Josh Aronson, Sameer Sheth, Emad Eskandar
World Neurosurgery, doi: 10.1016/j.wneu.2012.11.038

publications

- 2019 Modulations in oscillatory activity of the globus pallidus internus neurons during a directed hand movement task - a primary mechanism for motor planning
Shreya Saxena, Sridevi Sarma, Shaun R. Patel, Sabato Santaniello, John Gale, Emad Eskandar
Frontiers in Systems Neuroscience,
- 2019 Neurons in the dorsal prefrontal cortex mediate human opinion
Mohsen Jamali, Ziev Moses, Keren Haroush, Emad Eskandar, Todd Herrington, Shaun R. Patel, Ziv Williams
Nature Neuroscience,
- 2018 Intermittent subthalamic nucleus deep brain stimulation induces risk-averse behavior in human subjects
Shaun R. Patel, Todd Herrington, Sameer Sheth, Matthew Mian, Sarah Bourne, Jimmy Yang, Alice Flaherty, Michael Frank, Alik Widge, Darin Dougherty, Emad Eskandar
eLife, doi: 10.7554/eLife.36460
- 2016 Dynamics of propofol-induced unconsciousness across primate neocortex
Yumiko Ishizawa, Omar Ahmed, Shaun R. Patel, John Gale, Demetrio Sierra, Emery Brown, Emad Eskandar
Journal of Neuroscience, doi: 10.1523/jneurosci.4577-15.2016
- 2016 Temporally coordinated deep brain stimulation in the dorsal and ventral striatum synergistically enhances associative learning
Shaun R. Patel*, Husam Katnani*, Churl-Su Kwon, Samer Abdel-Aziz, John Gale, Emad Eskandar
Scientific Reports, doi: 10.1038/srep18806
- 2015 Frequency-dependent representation of feedback-related information in the human medial and lateral prefrontal cortex
Elliot Smith, Garrett Banks, Chuck Mikell, Sydney Cash, Shaun R. Patel, Emad Eskandar, Sameer Sheth
Journal of Neuroscience, doi: 10.1523/jneurosci.1864-15.2015
- 2015 Sharp wave ripples during visual exploration in the primate hippocampus
Timothy Leonard, Jonathan Mikkila, Emad Eskandar, Jason Gerrard, Daniel Kaping, Shaun R. Patel, Thilo Womelsdorf, Kari Hoffman
Journal of Neuroscience, doi: 10.1523/jneurosci.0864-15.2015
- 2014 An open source 3-d printed modular micro-drive system for acute neurophysiology
Shaun R. Patel, Kaushik Ghose, Emad Eskandar
PLoS One, doi: 10.1371/journal.pone.0094262
- 2013 Studying task-related activity of individual neurons in the human brain
Shaun R. Patel, Sameer Sheth, Clarissa Martinez-Rubio, Matthew Mian, Wael Asaad, Jason Gerrard, Darin Dougherty, Alice Flaherty, Benjamin Greenberg, John Gale, Ziv Williams, Emad Eskandar
Nature Protocols, doi: 10.1038/nprot.2013.050
- 2012 Single-neuronal responses during tool selection in the human prefrontal cortex
Matthew Mian, Sameer Sheth, Shaun R. Patel, Kostas Spiliopoulos, Emad Eskandar
Cerebral Cortex, doi: 10.1093/cercor/bhs361
- 2012 Human dorsal anterior cingulate cortex neurons mediate ongoing behavioral adaptation
Sameer Sheth, Matthew Mian, Shaun R. Patel, Wael Asaad, Ziv Williams, Darin Dougherty, George Bush, Emad Eskandar
Nature, doi: 10.1038/nature11239
- 2012 Single neuron responses in the human nucleus accumbens during a financial decision-making task
Shaun R. Patel, Sameer Sheth, Matthew Mian, John Gale, Benjamin Greenberg, Darin Dougherty, Emad Eskandar
Journal of Neuroscience, doi: 10.1523/jneurosci.0027-12.2012

- 2011 Exploring dependence between brain signals in a monkey during learning
Cristina Gorrostieta, Hernado Ombao, Raquel Prado, Shaun R. Patel, Emad Eskandar
Journal of Time Series Analysis, doi: 10.1111/j.1467-9892.2011.00767.x
- 2009 Epiquinamide: A poison that wasn't from a frog that was
Richard Fitch, Gordon Sturgeon, Shaun R. Patel, Thomas Spande, Martin Garraffo, John Daly, Richard Blaauw
Journal of Natural Products, doi: 10.1021/np8005452

publications - under review

- 2018 Preferential pharmacological inhibition of nav1.6, but not nav1.1, abolishes epileptiform activity induced by 4-AP in mouse cortical brain slices
Reesha Patel, Xingjie Ping, Shaun R. Patel, Jeff McDermott, Jeffrey Krajewski, Xian Chi, Eric Nisenbaum, Xiaoming Jin, and Theodore Cummins
- 2018 Dynamics of recovery from anesthesia-induces unconsciousness across primate neocortex
Shaun R. Patel, Pamela Huang, Omar Ahmed, Jessica Briscoe, Emery Brown, Emad Eskandar, Yumiko Ishizawa
- 2018 Leveraging multisensory neurons and circuits in assessing consciousness theory
Jean-Paul Noel, Yumiko Ishizawa, Shaun R. Patel, Emery Brown, Emad Eskandar, Mark Wallace
- 2018 Caudate stimulation enhances learning
Sarah Bourne, Shaun R. Patel, Husam Katnani, Sydney Cash, Emad Eskandar
- 2018 The human periaqueductal gray modulates social perception
Keren Haroush, Akshay Sharma, Benjamin Grannan, Todd Herrington, Shaun R. Patel, Ziv Williams
- 2018 Prospects for precision electronic medicine in the brain
Shaun R. Patel, Charles Lieber

research presentations

Research Presentations [48] - Podium [18] • Poster [30]

American Association of Neurological Surgeons | Anesthesiology Annual Meeting | American Society of Anesthesiologists | American Society for Stereotactic and Functional Neurosurgery | Anxiety and Depression Association of America | Boston University CTSI Translational Research Symposium | Boston University McCahan Education Day | Boston University Neuroscience Day | Boston University Science and Engineering Symposium | Boston University Russek Student Achievement Day | Cognitive Neuroscience Society | Congress of Neurological Surgeons | Computational and Systems Neuroscience | Federation of European Neurosciences | Gordon Research Conference | Human Single Neuron Conference | Interdisciplinary Symposium on Decision Neuroscience | Society for Neuroeconomics | Society for Neuroscience | Society of Biological Psychiatry

research presentations - podium

- 2016 DARPA SUBNETS: What are we learning? Chicago, IL
Shaun R. Patel, Emad Eskandar
American Society for Stereotactic and Functional Neurosurgery
- 2016 Rapid intermittent subthalamic deep brain stimulation biases decisions under uncertainty Atlanta, GA
Shaun R. Patel, Todd Herrington, Sameer Sheth, Matthew Mian, Sarah Bourne, Thilo Deckersbach, Darin Dougherty, Emad Eskandar
Society of Biological Psychiatry
- 2015 Recovery of sensory processing in somatosensory versus higher-order cortices from propofol anesthesia in primates San Diego, CA
Yumiko Ishizawa, Shaun R. Patel, Omar Ahmed, Emery Brown, Emad Eskandar
American Society of Anesthesiologists
- 2015 Neural activity in the human subthalamic nucleus and globus pallidus during approach-avoidance decision making Chicago, IL
Todd Herrington, Shaun R. Patel, Darin Dougherty, Emad Eskandar
Society for Neuroscience

- 2015 Intermittent deep brain stimulation biases behavior in a financial decision-making task Cambridge, MA
Shaun R. Patel, Sameer Sheth, Matthew Mian, Sarah Bourne, Jimmy Yang, Alice Flaherty, Emad Eskandar
Interdisciplinary Symposium on Decision Neuroscience
- 2015 Intermittent deep brain stimulation biases behavior in a financial decision-making task Toronto, ON
Shaun R. Patel, Sameer Sheth, Matthew Mian, Sarah Bourne, Jimmy Yang, Alice Flaherty, Emad Eskandar
Society of Biological Psychiatry
- 2014 Rapid intermittent deep brain stimulation biases behavior in a financial decision-making task. Washington, DC
Shaun R. Patel, Sameer Sheth, Matthew Mian, Sarah Bourne, Jimmy Yang, Alice Flaherty, Emad Eskandar
Society for Neuroscience
- 2014 Rapid intermittent deep brain stimulation biases behavior in a financial decision-making task. Newry, ME
Shaun R. Patel, Sameer Sheth, Matthew Mian, Sarah Bourne, Jimmy Yang, Alice Flaherty, Emad Eskandar
Gordon Research Conference
- 2013 Synergistic effects of dual stimulation of the caudate and nucleus accumbens on learning San Diego, CA
Churl Su Kwon, Shaun R. Patel, John Gale, Emad Eskandar
Society for Neuroscience
- 2013 All bets are off: gambling and deep brain stimulation Boston, MA
Shaun R. Patel, Sameer Sheth, Matthew Mian, Jimmy Yang, Emad Eskandar
Boston University Russek Student Achievement Day
- 2013 Correlation and causation: understanding and altering decision-making in the human brain Philadelphia, PA
Shaun R. Patel, Sameer Sheth, Matthew Mian, Jimmy Yang, Emad Eskandar
Interdisciplinary Symposium on Decision Neuroscience
- 2012 All bets are off: gambling and deep brain stimulation Miami, FL
Shaun R. Patel, Sameer Sheth, Matthew Mian, Sarah Bourne, Matthew Thombs, Alice Flaherty, Emad Eskandar
Society for Neuroeconomics
- 2012 All bets are off: gambling and deep brain stimulation Salt Lake City, UT
Shaun R. Patel, Sameer Sheth, Matthew Mian, John Gale, Benjamin Greenberg, Darin Dougherty, Emad Eskandar
Computational and Systems Neuroscience (COSYNE)
- 2010 Human ventromedial subthalamic nucleus neurons are sensitive to reward contingency and expectation New York, NY
Matthew Mian, Sameer Sheth, Shaun R. Patel, John Gale, Emad Eskandar
American Society for Stereotactic and Functional Neurosurgery
- 2010 Distinct subpopulations of human dorsal anterior cingulate cortex neurons New York, NY
Sameer Sheth, Matthew Mian, John Gale, Shaun R. Patel, Emad Eskandar
American Society for Stereotactic and Functional Neurosurgery
- 2010 Human ventromedial subthalamic nucleus neurons are sensitive to reward contingency and expectation New York, NY
Sameer Sheth, Matthew Mian, John Gale, Shaun R. Patel, Emad Eskandar
American Society for Stereotactic and Functional Neurosurgery
- 2006 Examining effects of caffeine and adderall on spatial learning and memory in young rats St. Louis, MI
Shaun R. Patel, Nathan Bates, Robert Horton
Mid-american Undergraduate Psychology Research Conference
- 2004 Synthetic and biological activity of epiquinamide stereoisomers Terre Haute, IN
Karen Kipscomb, Richard Fitch, Shaun R. Patel
Indiana State University Research Showcase

research presentations - poster

- 2016 Neural activity in the human subthalamic nucleus and globus pallidus internus during approach-avoidance decision making. Philadelphia, PA
Shaun R. Patel, Todd Herrington, Sameer Sheth, Matthew Mian, Sarah Bourne, Thilo Deckersbach, Darin Dougherty, Emad Eskandar
Anxiety Depression Association of America

- 2015 Neural activity in the human subthalamic nucleus and globus pallidus internus during approach-avoidance decision making. Chicago, IL
Todd Herrington, Shaun R. Patel, Emad Eskandar
Society for Neuroscience
- 2015 Modulating fear via deep brain stimulation in non-human primates. Chicago, IL
Jennifer Chang, Angeliq Paulk, Clarissa Martinez-Rubio, Eric McDonald, Shaun R. Patel, Alik Widge, Emad Eskandar
Society for Neuroscience
- 2014 Rapid intermittent deep brain stimulation biases behavior in a financial decision-making task. Newry, ME
Shaun R. Patel, Sameer Sheth, Matthew Mian, Sarah Bourne, Jimmy Yang, Alice Flaherty, Emad Eskandar
Gordon Research Conference
- 2014 Rapid intermittent deep brain stimulation biases behavior in a financial decision-making task. Boston, MA
Shaun R. Patel, Sameer Sheth, Matthew Mian, Sarah Bourne, Jimmy Yang, Alice Flaherty, Emad Eskandar
Cognitive Neuroscience Society
- 2013 Imaging of temporal activation of nicotinic and dopaminergic receptor stimulation following nicotine challenge in non-human primates San Diego, CA
Clarissa Martinez-Rubio, Bruce Jenkins, Ji Choi, Shannon Luboyeski, Shaun R. Patel, Emad Eskandar
Society for Neuroscience
- 2013 Propofol differentially alters dynamics in somatosensory versus higher order cortices in primates San Francisco, CA
Yumi Ishizawa, Omar Ahmed, Demetrio Seirra-Mercado, Shaun R. Patel, Kaushik Ghose, Emery Brown, Emad Eskandar
Anesthesia Annual Meeting
- 2013 Correlation and causation: systems level understanding of decision-making signals at the single-neuronal level in the human brain San Francisco, CA
Shaun R. Patel, Sameer Sheth, Matthew Mian, Sarah Bourne, Emad Eskandar
Cognitive Neuroscience Society
- 2012 All bets are off: gambling and deep brain stimulation New Orleans, LA
Shaun R. Patel, Sameer Sheth, Matthew Mian, Sarah Bourne, Alice Flaherty, Emad Eskandar
Society for Neuroscience
- 2012 Effects of high and low microstimulation in the nucleus accumbens during associative learning New Orleans, LA
Clarissa Martinez-Rubio, Shaun R. Patel, Steve Fry, Emad Eskandar
Society for Neuroscience
- 2012 Effects of high and low microstimulation in the nucleus accumbens during associative learning Barcelona, Spain
Clarissa Martinez-Rubio, Shaun R. Patel, Steve Fry, Emad Eskandar
Federation of European Neurosciences
- 2012 Evaluating the effectiveness of group work Boston, MA
Shaun R. Patel, Louis Toth, Michael Cournoyer, Maryann McNeil
Boston University McCahan Education Day
- 2012 Neurophysiology of Education: lessons for students and teachers Boston, MA
Louis Toth, Shaun R. Patel, Michael Cournoyer, Maryann McNeil
Boston University McCahan Education Day
- 2012 The future of e-textbooks: e-teacher Boston, MA
Louis Toth, Shaun R. Patel, Michael Cournoyer, Maryann McNeil
Boston University McCahan Education Day
- 2012 All bets are off: gambling and deep brain stimulation Boston, MA
Shaun R. Patel, Sameer Sheth, Matthew Mian, Sarah Bourne, Alice Flaherty, Emad Eskandar
Boston University Russek Student Achievement Day
- 2012 All bets are off: gambling and deep brain stimulation Boston, MA
Shaun R. Patel, Sameer Sheth, Matthew Mian, Sarah Bourne, Alice Flaherty, Emad Eskandar
Boston University CTSI Third Annual Translational Research Symposium
- 2012 Single neuron responses in the human nucleus accumbens during a financial decision-making task Boston, MA
Shaun R. Patel, Sameer Sheth, Matthew Mian, John Gale, Darin Dougherty, Emad Eskandar
Boston University Science and Engineering Symposium

2011	Directional selectivity within the beta-band during a motor task in the primate basal ganglia John Gale, Shaun R. Patel, Shreya Saxena, Samer Abdel-Aziz, Sridevi Sarma, John Assad, Emad Eskandar <i>Society for Neuroscience</i>	Washington, DC
2011	Selective enhancement of associative learning by microstimulation of the anterior striatum Churl-Su Kwon, Shaun R. Patel, Samer Abdel-Aziz, John Gale, Emad Eskandar <i>Society for Neuroscience</i>	Washington, DC
2011	Single neuron responses in the human nucleus accumbens during a financial decision-making task Shaun R. Patel, Sameer Sheth, Matthew Mian, John Gale, Benjamin Greenberg, Darin Dougherty, Emad Eskandar <i>Society for Neuroscience</i>	Washington, DC
2011	Differential contributions of the nucleus basalis and orbital frontal cortex in associative learning Clarissa Martinez-Rubio, Shaun R. Patel, Louis Toth, Emad Eskandar <i>Society for Neuroscience</i>	Washington, DC
2011	Single neuron responses in the human nucleus accumbens during a financial decision-making task Shaun R. Patel, Sameer Sheth, Matthew Mian, John Gale, Benjamin Greenberg, Darin Dougherty, Emad Eskandar <i>Human Single Unit Conference</i>	New York, NY
2011	Human dorsal anterior cingulate cortex neurons mediate ongoing behavioral adaptation Sameer Sheth, Matthew Mian, Shaun R. Patel, Wael Asaad, Ziv Williams, Darin Dougherty, George Bush, Emad Eskandar <i>Human Single Unit Conference</i>	New York, NY
2011	Single-neuronal responses during tool selection in the human prefrontal cortex Matthew Mian, Sameer Sheth, Shaun R. Patel, Kostas Spiliopoulous, Emad Eskandar, Ziv Williams <i>Human Single Unit Conference</i>	New York, NY
2011	Single neuron responses in the human nucleus accumbens during a financial decision-making task Shaun R. Patel, Sameer Sheth, Matthew Mian, John Gale, Benjamin Greenberg, Darin Dougherty, Emad Eskandar <i>Boston University Neuroscience Day</i>	Boston, MA
2010	Modulation of primate hippocampal local-field potential during learning Shaun R. Patel, Jason Gerrard, Emad Eskandar <i>Society for Neuroscience</i>	San Diego, CA
2010	A virtual place cell? Virtual place cell related responses in the primate hippocampal complex spike cells Jason Gerrard, Shaun R. Patel, Emad Eskandar <i>Society for Neuroscience</i>	San Diego, CA
2010	Modulation of primate hippocampal local-field potential during learning Shaun R. Patel, Jason Gerrard, Emad Eskandar <i>Society for Neuroscience</i>	San Diego, CA
2010	Human ventral striatum neurons encode reward expectation Christian Camargo, Sameer Sheth, Shaun R. Patel, Matthew Mian, Alice Flaherty, Emad Eskandar <i>American Association of Neurological Surgeons</i>	Philadelphia, PA
2010	A visual-spatial task dependent oscillation in the primate hippocampus Jason Gerrard, Shaun R. Patel, John Gale, Emad Eskandar <i>Society for Neuroscience</i>	Chicago, IL

research support

2019-21	Harvard Mind Brain Behavior Inter-Faculty Initiative Title: Direct Recording of Human Reward Circuits in Real-World Settings Role: Principal Investigator Total: \$30,000
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- 2014-19 **DARPA SUBNETS Project**
 Title: Transdiagnostic restoration of affective networks by systematic, function-oriented real-time modeling and deep brain stimulation
 Role: Research Fellow (PI - Eskandar, Dougherty)
 Description: Key role in collecting and analyzing non-human primate and human intraoperative data
 Total: \$30,000,000
- 2017-19 **NIH - LRP**
 Title: Closed-loop Deep Brain Stimulation for OCD
 Role: Principal Investigator
 Total: \$90,000
- 2014-15 **Microsoft Research Grant**
 Title: Reading and Writing the Neural Code
 Role: Principal Investigator
 Total: \$20,000
- 2013-15 **Dana Foundation**
 Title: Identifying optimal targets and stimulation protocols for the treatment of psychiatric disorders
 Role: Research Associate (PI - Eskandar)
 Description: Key role in collecting preliminary data, preparing grant, and executing research plan
 Direct Costs: \$250,000
- 2013-15 **Sackler Foundation**
 Title: Single neuron responses in the human nucleus accumbens during a decision-making task
 Role: Principal Investigator
 Direct Costs: \$15,000
- 2011-12 **Parkinson's Disease Foundation**
 Title: Role of beta activity within the primate basal ganglia
 Role: Principal Investigator
 Direct Costs: \$3,000

invited talks

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|------|---|----------------|
| 2018 | Reading and Writing the Neural Code
<i>MIT Lincoln Labs</i> | Cambridge, MA |
| 2015 | Reading and Writing the Neural Code
<i>Harvard University</i> | Boston, MA |
| 2013 | Single neuron computations of decision-making in the human brain
<i>Boston University School of Medicine</i> | Boston, MA |
| 2013 | Decision-making signals: correlation and causation
<i>Harvard Business School</i> | Boston, MA |
| 2012 | Single neuron computations of decision-making in the human brain
<i>McLean Hospital</i> | Belmont, MA |
| 2011 | Modulation of primate hippocampal local-field potentials during learning
<i>Brown University</i> | Providence, RI |

patents

- 2019 System, apparatus, and method for measuring vestibulo-ocular motor behavior
 Shaun R. Patel, Husam Katnani, Daniel Bacher, Rudolph Tanzi
Pending
- 2012 Brain stimulation for enhancement of learning, motivation, and memory
 Shaun R. Patel, John Gale, Emad Eskandar
World Patent, WO/2012/006319
US Patent, US/2013/0184781

teaching

- 2018 Instructor, Reading and Writing the Neural Code
Harvard University
- 2018 Professor, Introduction to Neuroscience
National Student Leadership Conference
Harvard Medical School
- 2017 Instructor, Reading and Writing the Neural Code
Harvard University
- 2017 Professor, Introduction to Neuroscience
National Student Leadership Conference
Harvard Medical School
- 2017 Instructor, Introduction to Data Science
Harvard University
- 2017 Instructor, Introduction to Neuroscience
Harvard University
- 2016 Instructor, Reading and Writing the Neural Code
Harvard University
- 2016 Teaching Fellow, Brain and Behavior [MCB 80]
Harvard University
- 2016 Professor, Introduction to Neuroscience
National Student Leadership Conference
Harvard Medical School
- 2015 Instructor, Reading and Writing the Neural Code
Harvard University
- 2014 Co-Instructor, Educational Neurophysiology
Boston University School of Medicine
- 2014 Lecturer, Methods in Neuroscience, Single Unit Physiology
Boston University School of Medicine
- 2013 Teaching Assistant, Cognitive Neuroscience
Boston University School of Medicine
- 2012 Teaching Assistant, Medical Neuroscience
Boston University School of Medicine
- 2012 Teaching Assistant, Cellular Organization of Tissues
Boston University School of Medicine
- 2011 Teaching Assistant, Cognitive Neuroscience
Boston University School of Medicine
- 2010 Teaching Assistant, Medical Neuroscience
Boston University School of Medicine

society memberships

- 2012- Sigma Xi Society
- 2012- American Physiological Society
- 2012- Cognitive Neuroscience Society
- 2012- Society for Neuroeconomics
- 2009- Society for Neuroscience

mentorship

2018- Rebecca Soilson Undergraduate Student, Harvard University
2018- Trey Moore Undergraduate Student, Boston University School of Medicine
2018- Shen Ning MD/PhD Student, Boston University School of Medicine
2018- Shen Ning MD/PhD Student, Boston University School of Medicine
2017- Jessica Briscoe Medical Student, Geisinger Commonwealth School of Medicine, HHMI Fellow
2016-18 Andrew Hawkins Medical Student, Boston University School of Medicine
2016-18 Aarthi Minisandram Medical Student, Tufts University School of Medicine
2015-18 Eagon Meng Undergraduate Student, Harvard University
2016-17 Abhishek Desai Medical Student, Boston University School of Medicine
2016-16 Maria Lai Undergraduate Student, Harvard University
2015-16 Melissa Chua Medical Student, Boston University School of Medicine
2015-16 Pamela Huang Medical Student, Boston University School of Medicine
2015-16 Bohan Chen Undergraduate Student, Northeastern University
2015-16 Olga Menjivar-Garcia Undergraduate Student, Northeastern University
2014-15 Eric McDonald Postgraduate Student, Northeastern University
2013-14 Phillip Montenegro MD/PhD Student, Boston University School of Medicine
2012-12 Steve Fry Undergraduate Student, Northeastern University
2011-11 Vaness Swantic Undergraduate Student, Northeastern University
2010-11 Jonathan Neal Undergraduate Student, Northeastern University

adhoc grant review

Mind Science Foundation
NASA - Translational Research Institute for Space Health

adhoc journal review

Cerebral Cortex
Frontiers in Neuroscience
Journal of Economic Organization and Behavior
Journal of Neurophysiology
Nature Neuroscience
NeuroImage
Science Translational Medicine
Transactions on Neural Systems and Rehabilitation Engineering

technical

CODE Python, R, MATLAB, C, Objective-C, Swift, Javascript
DESIGN CAD, CSS, Adobe Illustrator, Adobe Photoshop
MARKUP HTML, Markdown, \LaTeX