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Clinical, Academic, and Forensic Services

PEYMAN GOLSHANI, MD, PhD
BOARD CERTIFIED NEUROLOGIST

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Dr. Peyman Golshani is a dual-trained neurologist and neuroscientist with over 20 years of clinical and research experience. He earned his BA from UC Berkeley and his MD/PhD from UC Irvine, followed by residency training at UCLA, where he currently serves as a Professor in Residence in the Department of Neurology.

As a board-certified neurologist at the Greater Los Angeles VA Medical Center and director of an NIH-funded research laboratory, Dr. Golshani bridges the gap between cutting-edge neuroscience and frontline clinical care. He possesses extensive expertise in the treatment of epilepsy, chronic headaches, and diverse neurological disorders in both inpatient and outpatient settings.

Dr. Golshani has a distinguished track record in managing complex cases of head trauma and Traumatic Brain Injury (TBI). Throughout his two decades of practice, he has remained dedicated to medical education, mentoring the next generation of medical students and residents at UCLA. His deep integration of clinical neurology and advanced research makes him a vital asset for complex medical-legal evaluations and neurodiagnostic consultations.

Education

1990-1994	B.A., University of California, Berkeley, Molecular Biology
1990-1994	B.A., University of California, Berkeley, English
1996-2000	Ph.D., (Neuroscience), University of California, Davis
1994-2002	M.D., University of California, Irvine
2002-2003	Intern in Medicine, West Los Angeles VA Medical Center, Los Angeles, CA
2003-2006	Resident in Neurology, DGSOM UCLA, Los Angeles, CA
2004-2006	Postdoctoral fellowship: laboratories of Dr. Felix Schweizer and Dr. Guoping Fan

Licensure

The Medical Board of California: Physician and Surgeon, Expiration: 2/28/2028
Certificate Number: A85166

Board Certification

Neurology, American Board of Psychiatry and Neurology (2008), recertified 2018.

Professional Experience

Present Positions:

2019-Present:	Professor in Residence, Departments of Neurology and Psychiatry, David Geffen School of Medicine, UCLA
2015-2019:	Associate Professor in Residence, Departments of Neurology and Psychiatry, David Geffen School of Medicine, UCLA

2006-2014	Assistant Professor in Residence, Department of Neurology, David Geffen School of Medicine, UCLA
2006-Present:	Attending Neurologist: West Los Angeles VA Medical Center

Professional Associations and Scholarly Societies:

1996-2000	Society for Neuroscience, Member
2006-	Society for Neuroscience, Member
2005-2009	American Association of Neurology
2010-	American Epilepsy Society
2017-	American Epilepsy Society Awards Committee Member
2017-2019	American Epilepsy Society Basic Science Taskforce Member
2018-2020	American Epilepsy Society Basic Science Awards Committee Chair
2021-	American Society for Clinical Investigations Member

Editorial Services:

2006-	Ad-hoc reviewer for *Cell*, *Nature*, *Nature Neuroscience*, *Science*, *Neuron, Nature Methods*, *Proceedings of the National Academy of Science*s, *Science Translational Medicine*, *Science Advances*, *Current Biology*, *Journal of Neuroscience*, *E-Life*, *Nature Communications, Cell Reports, Cerebral Cortex, Molecular Psychiatry, Journal of Neurophysiology*, *Neuropharmacology*, *Neurobiology of Disease*, *Neuroscience*, *Journal of Physiology*, *Biological Psychiatry*, *Experimental Neurology*, *Physiological Genomics, Behavioral and Brain Functions*, *National Science Review*, *Epilepsia, Journal of Visualized Experiments*
2012-2016	Editorial Board Member for *Scientific Reports (Open Access Nature Publication),*
2012-2020	Review Editor for *Frontiers in Molecular Neuroscience*
2016-2020	Review Editor for *Frontiers in Neuroanatomy*
2017-2020	Advisory Editor for *Jasper's Basic Mechanisms of Epilepsy*

Grant Review Committees*:*

2011, 2012:	Epilepsy Foundation Grant Review Committee
2012, 2015	CURE Epilepsy Foundation Grant Review Committee
2012:	Ad-hoc/remote grant reviewer for the Portuguese Foundation of Science and Technology (FCT).

2013-2016:	Ad-hoc member of NIH Clinical Neuroplasticity and Neurotransmitters (CNNT) Study Section.
2013-2014:	Ad-hoc reviewer for UCLA CTSI Grant, Oppenheimer Award.
2013:	Ad-hoc grant reviewer for NIH special emphasis panel BDCN-N.
2014:	Ad-hoc grant reviewer for NIH/NINDS BRAIN initiative: "Integrated approaches for understanding circuit function in the nervous system." July 14-15 2014.
2014:	Expert Reviewer for the French National Research Agency Grant on Autism.
2014-2020:	Ad-hoc reviewer for UCLA CART pilot grant.
2014, 2015:	Ad-hoc reviewer for the Medical Research Council (UK).
2015:	Ad hoc grant reviewer for NIMH ZMH1 ERB-L-02 RFA-MH-15-600, Biobehavioral Research Awards for Innovative New Scientists (BRAINS)
2015:	Ad-hoc grant reviewer for Netherlands Organization for Scientific Research (NWO)
2015-2016:	Ad-hoc grant reviewer for the The Research Foundation- Flanders (Belgium).
2015:	Ad-hoc grant reviewer for the Polish National Science Center.
2015:	Ad-hoc grant reviewer for NIH ZRG1 IFCN-T Special Emphasis Panel (Sensory Processing)
2015:	Ad-hoc grant reviewer for the NIH ZRG1 OTC-K (55) R Special Emphasis Panel (Lasker Clinical Prize)
2015:	Ad-hoc grant reviewer for the US-Israel Binational Science Foundation.
2016-2017:	Ad-hoc grant reviewer for the American Epilepsy Society.
2016-2017:	Ad-hoc grant reviewer for NIH Molecular and Cellular Substrates of Complex Brain Disorders Special Emphasis Panel ZRG1 MDCN-P(57)
2016:	Ad-hoc grant reviewer for the National Health Medical Research Council Australia
2018-2019	Ad-hoc grant reviewer for the Dup15q Alliance
2017-2022	**Standing study-section member NIH CNNT study section.**
2018, 2020:	Ad-hoc grant reviewer for the NSF.
2018:	Ad-hoc grant reviewer for the Human Frontiers Science Project.
2018:	Reviewer for the Paul and Daisy Soros Fellowship for New Americans.
2019-2025:	Ad-hoc grant reviewer for the Israel Science Foundation.
2020:	Ad-hoc grant reviewer for the Medical Research Council, UK.
2020:	Ad-hoc reviewer for the Weill Neurohub Grant.
2021:	Ad-hoc reviewer for the Wellcome Trust Joint Investigator Award.
2021:	Ad-hoc reviewer for the Avery CNSI grant.

2022:	Ad-hoc reviewer for the US Israel Binational Science Foundation Grant.
2022:	Abstract reviewer for ASCI meeting
2022:	Ad-hoc reviewer for the European Research Council (ERC) grant.
2024:	Ad-hoc reviewer for the Israel Science Foundation.

Grant Advisory Boards:

2018-2023	Expert advisory board for UCSB NeuroNex Center
2019-2024	Expert advisory board for Robert Datta's U24 award for Dissemination of MoSeq for Behavioral Analysis
2021-	Expert advisory board for NIDA P30 University of Minnesota Center for Neural Circuits of Addiction (Mark Thomas, PI)

Symposiums Organized:

2014:	Co-chaired the "*Imaging molecular activity in the brain symposium."* with Dr. Sotiris Masmanidis. This symposium was part of Monitoring Molecules in Neuroscience Meeting, chaired by Dr. Anne Andrews and Dr. Nigel Maidment. (August 3-7, 2014).
2016-2019:	In Jan, March, April, November 2016, Jan, April, May, November 2017, November 2018, November 2019 in collaboration with Alcino Silva organized 10 workshops on assembling open source miniaturized microscopes. Most workshops attended 20 postdoctoral fellows, graduate students, or faculty attended each workshop from labs in the US, as well as labs in as well as Portugal, Israel, Switzerland, Mexico, South Korea. The May 2017 workshop was in Munich, Germany at the invitation of the University of Munich. The November workshops were one day sessions and was attended by 200-300 investigators.
2017:	Led a session on neural plasticity and neurodevelopmental disorders during the Winter Conference in Neural Plasticity (Grenada). Feb 2017.
2017:	Organized an AES conference investigator's workshop (Dec 2017) on the use of imaging to understand functional changes in models of epilepsy.
2017-2019:	Organizing the Jasper's Basic Mechanisms of Epilepsy Course (Yosemite 2019)
2024:	Co-organized a 2-day miniscope tutoral workshop with Dr. Kiki Sidiropolou in Crete

Honors and Special Awards

1994	Undergraduate Research Excellence Award, UC Berkeley
1994	University-Wide Poetry Competition Winner, UC Berkeley
1995	American Heart Association Graduate Student Fellowship
1998	Cajal Club Cortical Scholar Prize
2005	Department of Neurology, Research Award
2006	John Louis Rhiel Award for Excellence in Research
2012	Oppenheimer Research Prize
2016	BRI Carol Moss Spivak Scholar in Neuroscience
2018	John Mazziotta Endowed Chair in Neurology
2021	American Society for Clinical Investigations Member
2020	VA Certificate of Excellence: Service during the COVID crisis
2021	Magoun Distinguished Lectureship

Teaching

Non-Didactic Teaching:

2006-present: Every week, I teach medical students, and residents in medicine, psychiatry, and neurology, as they present their patients to me in the West LA VA Neurology clinic. In addition, I participate in teaching the Neurophysiology fellows, one day per month, when I staff the West LA VA seizure clinic. One month per year, I am the inpatient neurology attending at the WLA VA, where I teach medical students, and neurology and psychiatry residents.

Research Grants and Fellowships Received

Completed:

1. NS-056210
Project Title: *Epigenetic Modulation of Epileptogenesis*
Agency: NINDS, KO8 Mentored Clinical Scientist Development Award
Role: Principal Investigator
Amount: $729,000.00
Dates: 7/2006-6/2011

2. Project Title: *Functional cortical microcircuit changes in the NLGN-3 model of autism.*
Agency: NIH/NICHD Autism Center of Excellence (ACE) grant to the UCLA CART.
Role: Pilot Grant Awardee

Amount: $23,000
Date 8/2011-7/2012.

3. Project Title: *Imaging PTEN induced changes in adult cortical structure and function in vivo.*
Agency: NIMH, RO1 award
Role: Co-investigator (PI: Trachtenberg)
Amount: $836,058
Date: 4/2010-1/2013

4. Project Title: *Hippocampal network mechanisms underlying enhanced cognition in a model of autism spectrum disorder.*
Agency: Stein-Oppenheimer Seed Award
Role: PI
Amount: $30,000
Date: 4/1/12-3/31/13

5. Project Title: *Hippocampal interneuron network dynamics after epileptogenesis.*
Agency: VA Merit Review Award.
Role: PI
Amount: $500,000
Date: 7/1/12-6/30/15

6. Project Title: *Alterations in inhibitory synaptic input during decision making in mice navigating a virtual reality task.*
Agency: Whitehall Foundation
Role: PI
Amount: $225,000
Date: 7/1/12-6/30/15

7. Project Title: *"Circuit mechanisms underlying cerebellar movement control and motor learning."*
1R56NS086076-01A1
PI: Tom Otis
Total Direct Funding: $245,000
Total Funding Golshani Lab: $11,481
Date: 7/15/2014-6/15/2015

8. Project Title; "*Imaging pathological network dynamics in Huntington's Disease*."
Role: PI
UCLA CTSI/BRI Pilot Grant for Study of Neurodegenerative Disease.
Amount: $50,000
Date: : 7/1/2014-6/30/2015

9. Project Title: "*Building the next generation of miniaturized microscopes for freely moving mice."*
Role: PI (Co-PI's Alcino Silva and Baljit Khakh)
DGSOM Dean of Research Fund and Departmental Funds
Amount: $200,000
Date: 9/1/2013-8/31/2015

10. Project Title: *"Linking network dysfunction & abnormal behavior in genetic autism spectrum disorder mouse models"*
Role: Co-PI
Other PI: Dr. Carlos Portera-Cailliau
Simons Foundation
Amount: $526,762
Date: 3/1/2014-1/31/2016

11. Project Title: *"Mechanisms underlying epilepsy-associated depression"*
Role: PI (Multiple-PI grant with Dr. Andrey Mazarati)
NIH: NINDS R21
Amount: $423,000
Date: 7/1/2014-6/30/2016

12. Project Title, "*Analysis of Cortical Circuit Interactions in Mouse Models of Huntington's Disease*."
Role: Co-PI
Other PI: Michael Levine
CHDI Foundation
Amount: $411,306
Total Direct Funding to Golshani Lab: $48,328
Date: 09/01/14-08/31/16

13. Project Title*: Systems level electrophysiology for addiction and reward research.*
Role: Co-investigator
NIMH (RO1DA034178)
PI: Dr. Sotiris Masmanidis.
Amount: $1,531,261
Amount to Golshani Lab: $100,000
Date: 7/1/2012-6/30/2017

14. Project Title*:* "*Organoid Modeling of Human Brain Development and Disease*",
Research Award from the UCLA BSCRC
PI: Novitch
Total Direct Funding: $100,000
Total Direct Funds to Golshani Lab: $2,000

Date: 8/1/16-7/31/17

15. Project Title, "*Novel Genetic Strategy for Sparse Labeling and Manipulation of Mammalian Neurons*"
U01MH106008
Role: Co-Investigator
PI: William Yang
NIH (NINDS) Brain Initiative Grant
Total Direct Funding to Golshani Lab: $103, 270
Date: 09/01/14-08/31/17

16. Project Title: "*Building the next generation of wireless, two-channel miniaturized microscopes for imaging freely moving mice."*
3U01NS094286-02:S1 (Supplement for workshops to teach miniature microscope assembly, use, and analysis.)
PI: Golshani, Khakh, Silva (Golshani wasss the Communicating PI)
Date: 7/1/2016 - 6/30/2017
Total Direct Funding: $72,156
Total Direct Funding to Golshani Lab: $45,000

17. Project Title: "*Integrating flexible neural probes with a giant cranial window for electrophysiology and 2-photon calcium imaging of cortex hippocampal interactions.*"
R03MH111241
PI: Peyman Golshani and Vanessa Tolosa
Total Direct Funding: $133,653
Total Direct Funding to Golshani Lab: $60,000
Date: 9/1/2016-8/31/2017

18. Project Title: "*Transcriptomic and epigenetic approaches to accelerate neuronal maturation and aging*"
Role: Co-investigator.
PI: Daniel Geschwind
Paul G. Allen Foundation
Total Direct Funding: $1,200,000
Total Direct Funding to Golshani Lab: $100,000
Date: 7/2015-6/2018

19. Project Title: *"Building the next generation of wireless, two-channel miniaturized microscopes for imaging freely moving mice."*
U01NS094286 (NIH BRAIN Initiative Grant)
PIs: Golshani, Markovic, Khakh and Silva. (Golshani is the Communicating PI)
Total Direct Funding: $1,665,000
Total Direct Funding to Golshani Lab: $1,350,000

Date: 9/31/2015-9/30/2018

20. Project Title: "*Organoid modeling of human cortical microcircuits",*
CIRM grant DISC1-08819,
PI: Novitch
Total Direct Funding: $300,000
Total Direct funds to Golshani Lab: $7,000
Date:9/1/2016-8/31/2018

21. Project Title: "*Optogenetic treatment of social behavior in autism."*
Role: PI
NIMH (RO1MH101198-1)
Amount: $1,250,000
Date: 6/1/2013-5/31/2018
NCTE: 6/1/2018-5/31/2019

22. Project Title: *"Cerebellar contributions to movement explored with patterned optical manipulation."*
1R01NS090930-01
PI: Peyman Golshani (originally Otis)
Total Direct Funding: $1,065,000
Total Direct Funding to Golshani Lab: $660,000
Date: 9/15/14-8/01/19

23. Carol Moss Spivak Scholar in Neuroscience
Role: Awardee
UCLA Brain Research Institute
Amount: $60,000
Total Direct Funding to Golshani Lab: $60,000
Date: 10/1/16-9/31/19

24. Project Title: "*Inhibitory neuron circuit organization and function in prefrontal cortex."*
1R01MH105427-01A1
PIs: Peyman Golshani and Xiangmin Xu
Total Direct Funding: $ 1,705,664
Total Direct Funding Golshani: $410,000
Date: 7/1/2015-6/30/2020

25. Project Title: "*UCLA Center for Translational Research in Neurodevelopment (UC-TRaN)*"
NIH/NICHD: U54 (Bookheimer)
Roles: Dup15q Project PI (with Jeste), Visualization Core Co-Director (with Butler)
Date: 9/1/2015-8/30/2020

Main Project Title: "Neurophysiological biomarkers of cognition in Dup15 syndrome: From mouse models to patients."
Total Direct Funding Golshani Lab: $625,000

26. Project Title: "*GABA Receptor Plasticity and Tonic Inhibition in Epilepsy*"
NIH/NINDS 2 R01 NS075245-06A1
PI: Houser
Total Direct Funding: $1,192,230.
Total Direct Funds to Golshani Lab: $65,400
Date: 02/01/2017 – 01/31/2021

27. Project Title: "*Fusion of evidence and expectation: untangling stimulus and prior information in the visual cortex."*
Human Frontiers Science Program Grant
PIs: Golshani, Orban, Lengyel, and Singer.
Date: 6/1/2018-5/31/2021
Total direct funding: $1,380,000
Total direct funds to Golshani Lab: $345,000

28. Project Title: '*CSORDA pilot project: Nucleus Accumbens Activation by Social Reward in Models of Autism'.*
DA-005010
Pilot Award PI: Golshani
Parent Grant PI: Evans
Date: 9/20/2019-9/19/2020
Total direct funds to Golshani Lab: $22,000

29. Project Title: *"Cortical pathophysiology in Huntington's Disease."*
1R01NS096994-01A1
PI: Michael Levine
Total Direct Funding: $1,700,000
Total Direct Funding to Golshani Lab: $250,000
Date: 7/1/2016-6/30/2021

30. Project Title: *'An open source, wireless, miniature microscope for monitoring neuronal activity.'*
U01NS107668
PIs: Basso, Golshani, and others
Date: 7/1/2018-6/31/2021 (now on extension)
Total Direct Funding: $3,978,000
Total direct funds to Golshani Lab: $596,000

31. Project Title: *'Mapping the ontogeny of prefrontal circuits: role of neuron-glia interactions and early life experience.*'

DGSOM Seed Grant
PIs: DeNardo and De Biase
Date: 11/01/20-10/31/21
Role: Co-investigator
Total Direct funding to Golshani Lab: $30,364

32. Project Title: "*Epilepsy related cell loss and cognitive dysfunction*."
NIH/NINDS R01NS099137
PIs: Golshani and Houser
Total Direct Funding: $1,750,000
Total Direct Funds to Golshani Lab: $875,000
Date: 7/1/17-6/30/22

33. Project Title: *Center for Study of Opioid Receptors and Drugs of Abuse (CSORDA) -- NIDA P50 Renewal*"
DA-005010
PI: Evans with Golshani as PI of the Technology Advancement Core
Date: 7/1/17 - 6/30/22

34. Project Title: "*Miniaturized open source devices for calcium imaging, electrophysiology, and real-time control of neural activity*."
NSF Neurotech hub
PI: Golshani (communicating PI)
Date: 9/1/17 – 8/31/22, NCE till 8/31/23
Total direct funding: $6,500,000
Total direct funds to Golshani Lab: $1,500,000

35. Project Title: '*VA Collaborative Merit Award: Neural dynamics underlying epileptogenesis'*
I01 BX005202-01
PI: Golshani
Date: 4/1/2020-3/31/2024
Role: PI
Total direct funds to Golshani lab: $600,000

36. Project Title: *"Hippocampal neural dynamics driving affiliation and attachment."*
U01 NS122124 NIH BRAIN Initiative
Role: Contact PI
Other PIs: Hong, Yartsev, Donaldson
Dates: 4/1/2021-3/31/2024
Total Direct Costs: $3,838,174
Total Direct Costs to Golshani Lab: $675,000

37. Project Title: '*Understandings the mechanisms and preventing the unique neuropathology of arginase deficiency'*.
R01
PI: Lipshutz
Date: 7/1/2019-6/30/2024
Total direct funds to Golshani Lab: $63,785

38. Project Title: *'Functional Dissection of Neural Circuitry Underlying Parenting Behavior'*
R01NS113124-01
PI: Hong
Date: 8/15/2019-8/14/2024
Total direct funds to Golshani Lab: $63,785

39. Project Title: "*The power of positivity: a novel class of voltage indicators for high-fidelity brain activity imaging*."
R01NS123681 NIH BRAIN Initiative
Role: Co-investigator
PI: Lin, Michael (Stanford)
Dates: 06/01/2021-05/31/2024
Total Direct Costs: $2,429,963
Total Direct Costs to Golshani Lab: $135,000

40. Project Title, "*Noble Reach NSF Pilot Commercialization Award*"
20242225
Sponsor: NobleReach Foundation
Role: PI
Other PIs: Aharoni
Dates: 2/28/2024 - 10/25/2024
Total Direct Costs of project: $300,000
Total Direct Costs to Golshani Lab: $50,000

41. Project Title: '*Multiplexing working memory and timing: Encoding retrospective and prospective information in transient neural trajectories."*
R01NS116589
PIs: Golshani and Buonomano
Date: 4/1/2020-3/31/2025
Role: PI
Total direct funds to Golshani Lab: $1,250,000

42. Project Title: '*Two-Photon Calcium Imaging of Human Brain Activity: The Next Frontier in Neuroscience'* (M21PL3487)
UC Multicampus Research Programs and Initiatives (UC MRPI) competition
PI: Shtrahman

Role: Co-Investigator
Date: 1/1/2021 – 12/31/2022
Total funding: $285,000
Total funding to Golshani Lab: $0

43. Project Title: "*An Interneuron-based Cell Therapy for Epilepsy*"
R01 NS071785-13
Dates: 06/01/2022-05/31/2025
Total Direct Costs to Golshani Lab: $105,000
Role: Co-Investigator
PI: Baraban, Scott (UCSF)

44. Project Title: '*Integrative Modeling of HIV-Associated Neurocognitive Disorder in Human Brain Organoids'*
1R01DA051897-01
PIs: Bennett G. Novitch and Oliver I. Fregoso
Date: 6/1/2020-5/31/2025
Role: Co-investigator
Total direct funds to Golshani Lab: $110,000

45. Project Title: '*UCLA Intellectual Developmental Disabilities Research Center (UCLA IDDRC)*'
1P50HD103557-01, NICHD
PIs: (Bookheimer/Kornblum)
Date: 07/01/2020-06/30/2025
Roles: Main Project PI (with Jeste, Novitch),
Main Project Title: "Neurophysiological biomarkers of sleep dysfunction in neurodevelopmental disorders: From mouse models to patients."
Total Direct Funding Golshani Lab: $700,000

Ongoing (total direct funding for all years):

1. Project Title: '*Marie Curie RISE proposal neuronsXnets on Network Analysis in Neocortex during Passive and Active Learning'*
PI: Papadopouli
Date: 09/01/2020-08/31/2025
Role: Co-investigator
Total Direct funding to Golshani Lab: $0.00

2. Project Title: "*Closed-loop systems for large scale spatiotemporal imaging and actuation of neural activity in freely behaving animals.*"

U01NS126050 BRAIN Initiative
Role: PI
Other PIs: Aharoni (contact PI), Blair, Churchland, Silva
Dates: 8/1/2022 – 7/31/2026
Total Direct Costs to Golshani Lab: $400,000
Total Direct Costs of Project: $1,950,000

3. Project Title, *"Open-source 2-photon miniaturized microscopes for large field of view and volumetric imaging."*
U01NS128664
Role: Contact PI
Other PIs: Vaziri, Aharoni, Blair, Silva, Shtrahman, Churchland
Dates: 8/1/2022-7/31/2026
Total Direct Costs to Golshani Lab:
Total Direct Costs of Project: $4,000,000

4. Project Title: "*Kilohertz volumetric imaging of neuronal action potentials in awake behaving mice*."
1RF1NS128488-01
Role: PI
Other PIs: Gao, Liang
Dates: 08/1/2022-07/31/2025
Total Direct Costs to Golshani Lab: $600,000
Total Direct Costs of Project: $1,810,000

5. Project Title, "*UCLA High-Throughput Neuropsychiatric Disorder Phenotyping Center (UCLA HT-NPC)*"
1RM1MH132651-01
Role: Co-Investigator
PIs: Geschwind, Novitch
Total Direct Costs of Project: $5,133,132
Total Direct Costs to Golshani Lab:

6. Project Title, "*Unstable nucleus accumbens social representations underlying decreased social motivation in models of autism.*"
1R01MH132736-A1
Role: Contact PI
PIs: Golshani, Hong
Total Direct Costs of Project: $2,450,025
Total Direct Costs to Golshani lab: $1,225,012

7. Project Title, "*A modular, cost-efficient and integrated platform for electrophysiological network analysis of brain organoids*."
UCLA BSCRC Transformative Technology Pilot

PI: Ranmal Samarsinghe
Role: Co-investigator
Dates: 7/1/2024-6/30/2025
Total Direct Costs of Project: $100,000
Total Direct Costs to Golshani Lab: $8,000

10. Project Title: "*Defining the molecular spectrum of white matter vascular lesions.*"
NINDS RF1 NS139972
Role: Co-investigator
PIs: Hinman and Carmichael
Dates: 9/17/24-8/31/2027
Total Direct Costs of the Project: $3,160, 016
Total Direct Costs for Golshani Lab:

11. Project Title: "*STIMscope-Powered Drug Discovery in Neuropsychiatric iPSC Models*"
Ressler Award for Technology Development
Role: Co-PI
Other PI: Aharoni
Dates: 2/1/25-1/31/28 (first half of award)
Total Direct Costs of the Project: $300,000
Total Direct Costs for Golshani Lab: $150,000

12. Project Title: "*Dysfunctional neural dynamics of dentate gyrus granule cells in temporal lobe epilepsy*
VA Merit Award
I01 BX007149-01
Role: PI
Dates: 4/1/2025-3/31/2029
Total Direct Costs of the Project: $709,520
Total Direct Costs for Golshani Lab: $709,520

13. Project Title: '*UCLA Intellectual Developmental Disabilities Research Center (UCLA IDDRC)*' 1-year Extension
1P50HD103557S1 ,
NICHD
PIs: (Kornblum/ Golshani/ Jacob)
Date: 07/01/2020-06/30/2025
Total Direct Funding Golshani Lab: $120,000

14. Project Title: '*Molecular, Cellular and Circuit Mechanisms for Age-Related Deficits in Memory-Linking*'
2RF1AG013622

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NEURORADIOLOGY MEDICAL LEGAL FIRM

National Institute of Aging
PI: Golshani
Date: 7/1/2025-6/30/2027
Total direct funding to Golshani Lab: $974,000

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Lectures and Presentations

1998: Cajal Club Meeting, "Functional Development of the Corticothalamic Synapse", Washington DC

2007: West Los Angeles VA Department of Neurology Grand Rounds. "Developmental Decorrelation of Neocortical Networks.", Los Angeles, CA

2008: West Los Angeles VA Department of Neurology Grand Rounds "Developmental Decorrelation of Neuronal Network Activity in Layer 2/3 of Unanesthetized Mice", Los Angeles, CA

2008: Baylor College of Medicine, Department of Neurology Grand Rounds: "Experience-independent developmental decorrelation of neocortical networks.", Houston, TX

2008: UC Davis School of Medicine, Dept. of Neurology Grand Rounds: "Experience-independent developmental decorrelation of neocortical networks.", Davis, CA

2009: West Los Angeles VA Department of Neurology Grand Rounds: "Experience-independent developmental decorrelation of neocortical networks." Los Angeles, CA

2010: UCSF Keck Center for Systems Neuroscience: "Internally mediated developmental desynchronization of neocortical networks." San Francisco, CA.

2010: UC Irvine College of Medicine: "Bridging the gap between synaptic physiology and behavior: cortical network dysfunction in models of neurodevelopmental diseases." Irvine, CA

2011: UC San Diego School of Medicine, Department of Neurology Grand Rounds: ""Bridging the gap between synaptic physiology and behavior: cortical network dysfunction in models of neurodevelopmental diseases." San Diego, CA

2011: Occidental College, Department of Biology Lecture: "Bridging the gap between synaptic physiology and behavior: cortical network dysfunction in models of neurodevelopmental diseases." Eagle Rock, California

2011: West LA VA Medical Center: "Bridging the gap between synaptic physiology and behavior: cortical network dysfunction in models of neurodevelopmental diseases." Los Angeles, California.

2012: Janelia Farms Meeting on Dendrites: "Membrane potential modulations underlying dendritic processing of visual input." Ashburn, Virginia.

2012: Gordon Conference on Neuronal Synchronization and Epilepsy: ""Membrane potential modulations underlying dendritic processing of visual input." Waterville, New Hampshire.

2012: UCLA Department of Neurology Grand Rounds: "Brain state-dependent cortical network dynamics. Studies in normal development and in models of neurodevelopmental disease.

2012: University of Utah, Department of Neurology Grand Rounds: "Brain-state dependent changes in cortical network dynamics in models of neurodevelopmental disease." Salt Lake City, Utah

2013: XII WONOEP, *New Technologies to Study the Epileptic Brain:* "Combined in-vivo whole-cell recordings, calcium imaging and optogenetics in epileptic mice performing a virtual reality based working memory task." Esterel, Quebec, Canada.

2013: NINDS: Curing the epilepsies: "In-vivo whole-cell recordings in epileptic mice performing a virtual reality based working memory task." Bethesda, Maryland.

2013: Southern California Learning and Memory Symposium: "Brain-state dependent changes in membrane potential dynamics of awake behaving mice." Los Angeles, California.

2013: Mount Sinai Dept. of Neurology, Grand Rounds: "Brain state-dependent cortical network dynamics. Studies in normal development and in models of neurodevelopmental disease." New York, New York. (Scheduled Sep. 11, 2013.)

2013: UCLA MSTP Lecture Series: "How the cortex adjust sensitivity to sensory input: attention, arousal states, and neuromodulation." Los Angeles, California.

2013: Joint Symposium for Neuronal Computation, Caltech. "Brain state dependent cortical network dynamics". Los Angeles, CA.

2013: Occidental College, Dept. of Biology Lecture: "Brain state dependent cortical network dynamics." Eagle Rock, California (Oct. 2nd, 2013)

2013: UCLA Neurobehavioral Genetics Lecture: "Cell-specific cortical intrinsic excitability and connectivity alterations in a model of autism. Los Angeles, CA. (October 10th, 2013)

2013: West LA VA Grand Rounds "Cell-specific cortical intrinsic excitability and connectivity alterations in a model of autism." Los Angeles, CA

2014: University of Southern California, Zilkha Neurogenetics Institute Seminar. "Brain state dependent cortical network dynamics." Los Angeles, CA (Jan 29th, 2013)

2014: University of Bonn Life and Brain Center. "Brain-state dependent changes in membrane potential dynamics of awake behaving mice." Bonn, Germany (March 28th, 2014).

2014: Max Plank Institute in Tubingen, Germany: " Brain-state dependent changes in membrane potential dynamics of awake behaving mice." Tubingen, Germany, (March 24th, 2014)

2014: Erasmus University, Neurobiological Psychiatry Center Grand Rounds, ""Brain-state dependent changes in membrane potential dynamics of awake behaving mice." Rotterdam, Netherlands. (March 25th, 2014).

2014: Toronto Western Reserve Research Institute: "Brain-state dependent membrane potential and cortical network dynamics in health and disease." Toronto, Canada (Jan 17th, 2014).

2014: University of Maryland, Dept. of Psychiatry: "Brain-state dependent membrane potential and cortical network dynamics in health and disease." Baltimore, Maryland. (Scheduled September 2nd, 2014).

2014: University of California, Irvine. Dept. of Anatomy and Neurobiology Grad Day Keynote Speaker. "Brain-state dependent membrane potential and cortical network dynamics in health and disease." (June 2014 20th, 2014).

2014: University of California, Los Angeles, Dept. of Psychiatry Lecture. "Brain-state dependent membrane potential and cortical network dynamics in health and disease." (April 9th 2014)

2014: Baylor College of Medicine, "Brain-state dependent membrane potential and cortical network dynamics in health and disease." (Scheduled, October 2014).

2014: University of California, Los Angeles, Neural Microcircuit Training Grant Lecture "Cortical Sequences". (May 6th, 2014).

2014: University of California, Los Angeles, Monitoring Molecules in

Neuroscience Symposium, "Brain-state dependent neuromodulation of membrane potential dynamics." (August 7th, 2014).

2014: University of California, Los Angeles, Center for Autism Research and Treatment Retreat, "Excitatory Synapse Loss in the CNTNAP2 model of autism." (May 20th, 2014)

2014: Salk Institute, "Brain state dependent membrane potential dynamics in visual cortex." La Jolla, CA, September 5th, 2014.

2014: University of California, Los Angeles, BRI-SURE (Summer Science Program for under-represented minorities) Lecture. "Brain-state dependent membrane potential and cortical network dynamics in health and disease." July 8th, 2014

2014: Purdue University, Biological Sciences Seminar Speaker. "Brain state dependent membrane potential dynamics in visual cortex." Scheduled October 15th, 2014

2014: SFARI Circuit Dynamics Working Group, NY, NY. "Circuit dynamics in models of autism during decision making." Scheduled Dec 9th, 2014.

2014: West LA VA Medical Center, Los Angeles, CA. "Brain-state dependent membrane potential and cortical network dynamics in health and disease." Scheduled October 24th, 2014.

2014: Occidental College: "Brain-state dependent membrane potential and cortical network dynamics in health and disease." Los Angeles, CA, Scheduled October 1st, 2014.

2015: Cosyne Meeting: Cortical Circuits in Action Symposium: "Brain-state dependent membrane potential and cortical network dynamics." Snowbird, Utah, March 9-10, 2015.

2015: Columbia University: "Brain-state dependent membrane potential dynamics during decision making." New York, New York, Feb 3, 2015

2015: Dup15Q Foundation Conference: "New technologies to explore neuronal population dynamics in neurodevelopmental disorders." Orlando, Florida, July 29th, 2015

2015: Ohio State University, Dept. of Neurology Grand Rounds: "Membrane potential dynamics during locomotion and decision making." Columbus, Ohio, Aug 18, 2015

2015: Tulane University, Dept. of Pharmacology, “Membrane potential dynamics during locomotion and decision making.” New Orleans, Louisiana; September 30th, 2015

2015: Janelia Farms Symposium: "Emerging Tools for Acquisition and Interpretation of Whole-Brain Functional Data". Talk title: “New tools for recording large-scale cortical activation patterns during decision-making.” Ashburn, Virginia Nov 2, 2015

2015: University of Pennsylvania, Vision Seminar, “Brain state and attentional modulation of membrane potential dynamics in visual cortex.” Philadelphia, Pennsylvania; December 7th, 2015

2015: UC Davis MIND Institute, IDDRC Director’s Meeting, “Network dynamic signatures of intellectual disability in 2 models of Dup15q Syndrome.” Sacramento, California; November 12th, 2015

2015: NIH BRAIN Initiative Meeting, “Building the next generation of miniaturized microscopes”. Bethesda, Maryland; Dec 9th, 2015

2016: Boston University, Dept. of Biology Seminar Series, “Membrane potential dynamics during locomotion and decision making.” Boston, MA Feb 8th, 2016

2016: UCLA BRI/IDDRC Semel Institute Seminar, “Neural network dynamics in neurodevelopmental disorders.” Los Angeles, CA March 2nd, 2016

2016: Hoffman La-Roche Invited Speaker: “Bridging the gap between synaptic connectivity and network dynamics in models of autism”. Basel, Switzerland. June 6, 2016.

2016: Pecs University Symposium: “Brain-state and attention-dependent network dynamics in visual cortex.” Pecs, Hungary. June 3, 2016

2016: University of Bonn Medical Center: “Interneuron desynchronization in epilepsy.” Bonn, Germany. June 8, 2016.

2016: Angelman and Dup15q conference: Two Sides of a Coin: Deletions and Duplications on Chromosome 15q. “Cortical network dynamic biomarkers of Dup15q Syndrome.” Silver Springs, Maryland. July 28-29, 2016

2016: VA National ECOE invited speaker: “Dentate gyrus interneuron desynchronization in chronic epilepsy.”

2016: Gordon Research Conference, Epilepsy and Neuronal Synchronization, "Cortical and hippocampal network dynamics in epilepsy." Girona, Spain. Scheduled Aug 21-26, 2016

2016: UC Berkeley, Dept. of Bioengineering Seminar, "Bridging the gap between network dynamics and network connectivity with new imaging tools." Berkeley, CA, October 19th, 2016

2016: Society for Neuroscience, Meet the Expert Session, Invited Speaker. "Open-source new generation miniaturized microscopes." San Diego, California, November 12th, 2016.

2016: Merritt-Putnam Symposium, American Epilepsy Society, Multiscale imaging of seizures and epilepsy meeting. "Imaging hippocampal network dysfunction in epilepsy." Houston, Texas. December 6, 2016.

2016: University of Virginia, "Imaging hippocampal network dysfunction in epilepsy." Charlottesville, Virginia. December 20th, 2016

2017: University of California, Los Angeles, Bite Science Lecture to High School and Middle School Teachers, Los Angeles, California. February 25th, 2017

2017: UC Riverside Dept. of Neuroscience Departmental Seminar. Bridging the gap between network dynamics and network connectivity with new imaging tools." Riverside, California. March 6th, 2017

2017: Labroots Neuroscience 2017 Symposium Speaker. Bridging the gap between network dynamics and network connectivity with new imaging tools. Online talk. March 15th, 2017.

2017: Mayo Clinic BRAIN initiative meeting, speaker. "New generation miniaturized microscopes." Rochester, Minnesota. April 1st, 2017

2017: MIT Simons Center for the Social Brain, "Bridging synaptic connectivity and network dynamics in models of neurodevelopmental syndromes." Cambridge, Massachusetts, April 12th, 2017.

2017: Puerto Rico Center for Neuroplasticity Annual Retreat, "Bridging the gap between network dynamics and network connectivity with new imaging tools." San Juan, Puerto Rico April 20th, 2017

2017: UCLA Center for Autism Research and Treatment Seminar Series: Bridging the gap between network dynamics and network connectivity with new imaging tools." Los Angeles, CA April 28th , 2017

2017: USC Stevens Center for Neuroimaging Seminar, "Bridging the gap between network dynamics and network connectivity with new imaging tools." Los Angeles, CA May 8th, 2017

2017: Ludwig Maximillian Universitat Munchen, "Bridging the gap between network dynamics and network connectivity with new imaging tools." Munich, Germany May 23th, 2017

2017: University of Zurich, "Bridging the gap between network dynamics and network connectivity with new imaging tools." Zurich, Switzerland, May 29th, 2017.

2017: UCLA Center for Neurotechnology, "Building the next generation of miniature microscope for recording network dynamics in freely behaving mice." Los Angeles, CA June 2nd, 2017

2017: University of California, Irvine, Dept. of Anatomy and Neurobiology Grad Day Keynote Speaker, "Bridging the gap between network dynamics and network connectivity with new imaging tools." Irvine, California June 12th, 2017

2017: University of California, San Diego, Dept. of Neurology Grand Rounds: "Bridging the gap between network dynamics and network connectivity with new imaging tools." San Diego, California July 14th, 2017

2017: Japanese Society for Neuroscience Symposium Speaker, "Bridging the gap between network dynamics and network connectivity with new imaging tools." Chiba-City Japan, July 2017

2017: Seoul National University "Bridging the gap between network dynamics and network connectivity with new imaging tools." Seoul, South Korea. July 2017

2017: Seoul National University School of Medicine, "Bridging the gap between network dynamics and network connectivity with new imaging tools." Seoul, South Korea. July 2017

2017: Duplication 15q Foundation Meeting, "Electrophysiological biomarkers of Dup15q Syndrome." Los Angeles, CA. July 27th, 2017

2017: Cold Spring Harbor Course on the Neurobiology of Addiction, "Bridging the gap between network dynamics and network connectivity with new imaging tools." Cold Spring Harbor, New York, August 8th, 2017.

2017: WONOEP Meeting, ILAE, "Network dynamic changes underlying cognitive deficits in epilepsy." Mont Sant Benet, Barcelona, Spain. August 2017

2017: Center for Autism Research and Treatment, UCLA Distinguished Lecture Series, "Bridging synaptic connectivity and network dynamics in models of neurodevelopmental syndromes." Los Angeles, CA November 3rd, 2017

2017: University of Minnesota, "Bridging synaptic connectivity and network dynamics in models of neurodevelopmental syndromes." Minneapolis, MN October 6th, 2017

2017: University of California, Irvine (Faculty Recruitment Seminar for Director of Epilepsy Research) "Network dynamic changes underlying cognitive deficits in epilepsy." Irvine, CA October 30th, 2017

2017: Society for Neuroscience Open-Source Symposium, "New generation open source miniaturized microscopes for imaging during behavior." Washington DC, November 13th, 2017

2017: American Epilepsy Society Investigator's Workshop, "Imaging Network Dynamics in Epilepsy." Washington DC, December 4th.

2017: Weizmann Institute Department of Neuroscience: "Bridging the gap between synaptic physiology and behavior using new tools to image network dynamics." Rehovot, Israel, December 7th, 2017

2017: TelAviv University: "Bridging the gap between synaptic physiology and behavior using new tools to image network dynamics." TelAviv, Israel, December 8h, 2017

2017: Israel Neuroscience Society, "Bridging the gap between synaptic physiology and behavior using new tools to image network dynamics." Eilat, Israel. December 11h, 2017

2017: Cedars Sinai Medical Center: "Bridging the gap between synaptic physiology and behavior using new tools to image network dynamics." Los Angeles, CA December 18th, 2017

2018: University of Tennessee Health Sciences Center, "Bridging the gap between synaptic physiology and behavior using new tools to image network dynamics." Memphis, Tennessee Jan 23, 2018

2018: University of Tennessee Health Science Center, "A workshop on

implanting, using, and analyzing data from miniature microscopes." Memphis, Tennessee Jan 24, 2018.

2018: Oregon Health Sciences University, "Bridging the gap between synaptic physiology and behavior using new tools to image network dynamics." Portland Oregon, Jan 29th, 2018

2018: West Los Angeles VA Medical Center Grand Rounds, "Bridging the gap between synaptic physiology and behavior using new tools to image network dynamics." Los Angeles, CA February 16th, 2018

2018: University of Pennsylvania, "Bridging the gap between network dynamics and network connectivity with new imaging tools." Philadelphia, Pennsylvania. March 14, 2018

2018: International Winter Neuroscience Meeting, "Bridging the gap between network dynamics and network connectivity with new imaging tools." Soleoden, Austria, April 11, 2018

2018: International Conference for Learning and Memory, "Bridging the gap between network dynamics and network connectivity with new imaging tools." Huntington Beach, California, April 20th, 2018

2018: California Institute of Technology, Computation and Neural Systems Program, "Bridging the gap between network dynamics and network connectivity with new imaging tools." Pasadena, California,; April 23, 2018

2018: UCLA Center for Neurotechnology, "New generation miniature microscopes for imaging network dynamics in health and disease." Los Angeles, CA April 27, 2018

2018: Albert Einstein Department of Neuroscience Seminar, , "New generation miniature microscopes for imaging network dynamics in health and disease." New York, New York, May 2nd, 2018

2018: 25th Joint Symposium for Neural Computation, Caltech, "New generation miniature microscopes for imaging network dynamics in health and disease." Pasadena, CA May 5th 2018

2018: University of Colorado, "Bridging the gap between network dynamics and network connectivity with new imaging tools." Denver, Colorado May 10, 2018

2018: Shanghai Jiao Tong University, "New tools to image network dynamics in

models of disease." Shanghai, China, May 23rd, 2018

2018: National Institute of Drug Addiction: "New tools to image network dynamics in models of disease." Baltimore, Maryland, June 19th, 2018

2018: FENS Forum, Motor action and perception symposium, "Locomotion and attention-dependent membrane potential dynamics in visual cortex." Berlin, Germany July 7th, 2018

2018: Gordon Research Conference: Optogenetics and Imaging: Technology Development, Novel Applications, and Closing the Loop Between Models and Experiments. Invited Speaker, "New tools for imaging networks dynamics in freely behaving mice." Newry, Maine, July 16th, 2018

2018: Cold Spring Harbor Imaging Course, "New tools to image network dynamics in freely behaving mice." Cold Spring Harbor, NY August 6, 2018.

2018: Wyoming Sensory Biology Symposium, "Locomotion and attention-dependent membrane potential dynamics in visual cortex.", Grand Teton National Park, Wyoming, August 31st, 2018

2018: University of Illinois Urbana Champagne, Neuroscience Grand Rounds, "Imaging hippocampal network dysfunction in epilepsy." Urbana-Champagne, Illinois, Sep 25th, 2018

2018: University of Bordeaux, Cajal Advanced Course: Linking Neural Circuits and Behavior. "Bridging the gap between network dynamics and network connectivity with new imaging tools." Keynote Lecture: Bordeaux, France, October 9, 2018.

2018: Italian Institute of Technology Neural Circuits Seminar Series, "Bridging the gap between network dynamics and network connectivity with new imaging tools.". Genova, Italy, October 15th 2018

2018: Kavli Futures Symposium, "New generation open-source miniaturized microscopes." Santa Monica, California, Oct 27, 2018

2018: NSF NeuroNex PI Meeting, "New tools to image network dynamics in freely behaving mice." San Diego, CA November 8th, 2018

2019: Jasper's Basic Mechanisms of Epilepsy Meeting, "Synaptic loss in the CNTNAP2 model of autism." Yosemite, California, March 6th, 2019

2019: Brain Mapping Conference, Nano-Neuroscience Symposium: "New

generation miniaturized microscopes to image network dynamics in freely behaving mice." Los Angeles, California, March 17th, 2019

2019: University of Oregon, "Bridging the gap between network dynamics and network connectivity with new imaging tools." Eugene, Oregon, April 2019

2019: Netherlands Institute for Neuroscience, "New tools to image network dynamics in freely behaving mice." Amsterdam, Netherlands, May 2019.

2019: Paris Spring School, Optical Imaging and Electrophysiology in Neuroscience, "New tools to image network dynamics in freely behaving mice." Paris, France, May 17th, 2019

2019. University of Alabama at Birmingham: Keynote speaker National Enhancement of Under Represented Academic Leaders Conference (NEURAL). Birmingham, Alabama, June 20th 2019

2019: Tokyo University of Science, Department of Applied Biological Science, "Bridging the gap between network dynamics and network connectivity with new imaging tools." Chiba, Japan. July 11th, 2019

2019: Marine Biological Labs at Woods Hole Invited Lecture, "New tools to image network dynamics in freely behaving mice." July 17th, 2019

2019: Champalimaud Institute: Cajal Advanced Course: Linking Neural Circuits and Behavior. "Bridging the gap between network dynamics and network connectivity with new imaging tools." Keynote Lecture: Lisbon, Portugal, July 2019.

2019: Cornell/ NeuroNex Conference: "Bridging the gap between network dynamics and network connectivity with new imaging tools." Ithaca, NY, Aug 14, 2019

2019: Pecs University, "Bridging the gap between network dynamics and network connectivity with new imaging tools." Pecs, Hungary, September 5th, 2019

2019: Institute for Experimental Medicine, Budapest, "Bridging the gap between network dynamics and network connectivity with new imaging tools." Budapest, Hungary, September 8th, 2019

2019: University of Montreal, "Bridging the gap between network dynamics and network connectivity with new imaging tools." Montreal, Canada, September 27,

2019: NSF NeuroNex Meeting, " New open-source tools for combining

miniaturized microscopy and electrophysiology." Chicago, Illinois, October 2019

2019: Society for Neuroscience Nanosymposium, "Reduced prefrontal synaptic connectivity and disturbed oscillatory population dynamics in the CNTNAP2 model of autism." Chicago, Illinois, October 2019

2019: Northwestern University, "Bridging the gap between network dynamics and network connectivity with new imaging tools." Chicago, Illinois, November 2019

2019: Optogen Conference, "Bridging the gap between network dynamics and network connectivity with new imaging tools." Venice, Italy, December 14th, 2019

2020: Weizmann Institute UCLA/Weizmann Symposium: "Bridging the gap between synaptic physiology and behavior using new tools to image network dynamics." Rehovot, Israel, January 20th, 2020

2020: Winter Conference in Neural Plasticity: "Bridging the gap between synaptic physiology and behavior using new tools to image network dynamics." St. Kitts, February 10th, 2020

2020: Yale University Department of Neuroscience Lecture, "Bridging the gap between network dynamics and network connectivity with new imaging tools." New Haven, Connecticut

2020: Center for Domain Specific Computing Keynote Address: "Bridging the gap between synaptic physiology and behavior using new tools to image network dynamics." Los Angeles, CA, Feb 27th, 2020

2020: VA Epilepsy Centers of Excellence Seminar, "Development of place cell instability in temporal lobe epilepsy." Virtual Talk, June 17th, 2020

2020: UCLA Brain Research Institute Neuroscience Lecture, "Development of place cell instability in temporal lobe epilepsy." Virtual Talk, June 30th, 2020

2020: University of College London, "Interneuron desynchronization and break down of long-term place cell stability in epilepsy." Online talk. August 2020.

2020: University of Texas, San Antonio, "New tools for recording neural dynamics in freely behaving animals." San Antonio, Texas Online talk September 2020

2020: Sainsbury-Wellcome Center, "Bridging the gap between synaptic physiology and behaviors using new tools to image network dynamics." London, England. Online Talk

2020: Purdue University, "New tools for deciphering neural dynamic alterations in models of neurological disease." Online talk, Sep 2020

2020: Cedars Sinai Neuroscience Seminar, "New tools for deciphering neural dynamic alterations in models of neurological disease." Online talk, Oct 23, 2020

2020: Hebrew University, Dept. of Neuroscience, "New tools for recording neural dynamics in freely behaving animals." Jerusalem, Israel. Online talk. October 2020

2020: NSF NeuroNex Project Talks, "UCLA NSF NeuroNex Center." Online talk. October 2020

2020: West Los Angeles VA Grand Rounds, "New tools for deciphering neural dynamic alterations in models of neurological disease." Online talk. Jan 2021.

2021: University of Utah, Neuromodulation Lecture Series, "New tools for deciphering neuronal population dynamics in models of neurological disease." Salt Lake City, Utah; Virtual Talk.

2021: Oxford University Cortex Club, "New tools for deciphering neuronal population dynamics in models of neurological disease." Oxford, England. Virtual Talk.

2021: Icahn School of Medicine, Mount Sinai: "Stability of working memory representations in hippocampus and cortex." New York City, NY July 13th, 2021

2021: West LA VA Medical Center: "New tools to study epileptogenesis and cognitive deficits in epilepsy." Festchrift for Dr. Claude Wasterlain. Los Angeles, CA July 30th, 2021.

2021: Stanford University Department of Neurology Grand Rounds, "Interneuron desynchronization drives places cell imprecision and instability in temporal lobe epilepsy." Palo Alto, California, September 2nd, 2021

2021: UCLA Magoun Lecture, "Neural network dynamics driving arousal, attention and memory." Los Angeles, October 19, 2021

2021: NeuronsXNets Center Grant Symposium, "New tools to record network dynamicsi in freely behaving animals." Crete, Greece, online lecture.

2021: West Los Angeles VA Neurology Grand Rounds, "Prefrontal and accumbens representations of social interactions in a model of autism." Los Angeles, CA October 2021

2022: Durham University Neuraclin Seminar, "Interneuron desynchronization drives places cell imprecision and instability in temporal lobe epilepsy." Durham, UK (Online talk). Jan 17th, 2022

2022: Brown Neuroscience Program, "Interneuron desynchronization drives places cell imprecision and instability in temporal lobe epilepsy." Providence, RI Jan 27, 2022

2022: UCLA Neurotechnology Symposium, "Open-source large field-of-view 2P miniaturized microscopes."

2022: Gordon Research Conference, Epilepsy and Neuronal Synchronization, "Interneuron desynchronization drives places cell imprecision and instability in temporal lobe epilepsy." Barcelona, Spain July 2022

2022: University of Minnesota, "Bridging the gap between synaptic physiology and behaviors using new tools to image network dynamics." Minneapolis, MN, Sep 13, 2022

2022: UCLA NSIDP Keynote Speech, "Bridging the gap between synaptic physiology and behaviors using new tools to image network dynamics." Los Angeles, CA September 29th, 2022

2022: UCLA Neuroendocrinology Talk Series, "Accumbens social representation instability in a model of autism."
2022: UC Irvine Center for Neural Circuits, "Bridging the gap between synaptic physiology and behaviors using new tools to image network dynamics." Irvine, CA September 28, 2022

2022: West Los Angeles VA Grand Rounds, "Bridging the gap between synaptic physiology and behaviors using new tools to image network dynamics." Los Angeles, CA September 30th, 2022

2022: Cedars Sinai Department of Neurology Grand Rounds, "Unstable nucleus accumbens representations of social interaction in a model of autism." Los Angeles, CA October, 2022

2023: UCLA, Department of Neurology, Science Day Keynote lecture, "Bridging the gap between synaptic physiology and behaviors using new tools to image network dynamics." Los Angeles, CA May 8th, 2023

2023: Rice University, InterRice Neurotechnology Conference, "Bridging the gap between synaptic physiology and behaviors using new tools to image network dynamics." Houston, Texas. May 2023

2023: Westlake University-Science Magazine Joint Online Symposium, "Open-source large field-of-view 2-photon miniaturized microscopes for imaging large scale neural dynamics". Zoom Seminar. May 2023.

2023: Weizmann Institute, "Bridging the gap between synaptic physiology and behaviors using new tools to image network dynamics." Rehovot, Israel. May 2023

2023: Hebrew University, "Bridging the gap between synaptic physiology and behaviors using new tools to image network dynamics." Jerusalem, Israel, May 2023

2023: UCLA, Neural Repair Conference, "Stabilization of working memory representations." Los Angeles, CA June 9 2023.

2023: Gordon Research Conference, Inhibition in the CNS, "Interneuron desynchronization drives places cell imprecision and instability in temporal lobe epilepsy." Les Diablerets, Switzerland, July 2023

2023: Johns Hopkins University, Cerebellum Seminar Series, "Correlated signatures of social interaction in cerebellum and anterior cingulate cortex." Zoom meeting, October 24th, 2023

2023: UCLA Neurobehavioral Genetics Lecture Series, ""Unstable nucleus accumbens representations of social interaction in a model of autism." October 2023

2023: FAOPS Conference, "Correlated signatures of social interaction in cerebellum and anterior cingulate cortex." Daegu Korea, November 2023

2023: Seoul National University, "Stabilization of working memory representations." Seoul, S. Korea November 2023

2023: Korea Brain Research Institute, "Stabilization of working memory representations." Daegu, S. Korea, November 2023

2023: KAIST, "Stabilization of working memory representations." Daejeon, S. Korea, November 2023

2023: IBS Center for Cognition and Sociality, "Stabilization of working memory representations." Daejeon, S. Korea, November 2023

2023: University of California, Irvine, MSTP Distinguished Speaker, "Practice makes perfect: Stabilization of working memory representations." Irvine, California November 2023

2024: Symposium in honor of Ivan Soltesz, "Practice makes perfect: Stabilization of working memory representations." Santa Cruz, CA. January 2024

2024: Baylor College of Medicine, "Practice makes perfect: Stabilization of working memory representations." Houston, Texas March 2024

2024: UCLA, SYNAPSE Undergraduate Brain Injury Talk, "New tools to discover neural dynamic changes in epilepsy." Los Angeles, CA March 2024.

2024: University of Minnesota, "Crystallization of volatile working memory representations with practice." Minneapolis, Minnesota April 2024.

2024: UCLA, MD/PhD Seminar, "Unstable nucleus accumbens representations of social interaction in a model of autism." Los Angeles, CA May 2024

2024: UC Riverside, Department of Neuroscience, "Crystallization of volatile working memory representations with practice." Riverside, CA May 2024

2024: IBANGS Symposium, "Unstable nucleus accumbens representations of social interaction in a model of autism." London, Ontario, Canada June 2024.

2024: University of Toronto/ Sick Kids Hospital, "Crystallization of volatile working memory representations with practice." Toronto, Canada June 2024

2024: Institute of Science and Technology, Austria, "Crystallization of volatile working memory representations with practice." Vienna, Austria June 2024.

2024: Hungarian Institute of Experimental Medicine, "Crystallization of volatile working memory representations with practice." Budapest, Hungary, June 2024

2024: FORTH MSCA neuronsXnet computational network neuroscience, "Volatile working memory representations crystalize with practice." Heraklion, Greece.

2025: Winter Conference in Neural Plasticity, "Volatile working memory representations crystalize with practice." Fiji. February 2025

2025: University of Southern California, "Crystallization of volatile working memory representations with practice." Los Angeles, California. February 2025

2025: West Los Angeles VA Medical Center, Grand Rounds. "Volatile working memory representations crystalize with practice." Los Angeles, California. March 2025

2025: McGill University, "Crystallization of volatile working memory representations with practice." Montreal, Canada. April 2025

2025: University of California Los Angeles, VA Centers of Excellence Symposium "New tools for studying epileptogenesis". Los Angeles, California July 2025

Invited talks (yet to be completed).

2025: Sainsbury-Wellcome Center, "Crystallization of volatile working memory representations with practice." London, UK, September 2025

2025: University of Colorado**,** "Crystallization of volatile working memory representations with practice." Denver, Colorado 2025

Media/Outreach Presentations:

2021: Jaam-e-Jaan Persian TV show on Health: "Saving your life with COVID vaccines." 02/05/2021

2021: Health Lectures Seminar Series (Persian): "Saving your life with COVID vaccines." 02/07/2021

2021: KIRN 670AM Health Talk (Persian) "Saving your life with COVID vaccines." 02/07/2021

2021: Rancho Park Rotary Club (Persian) online talk: "Saving your life with COVID vaccines." 02/24/2021

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2024: Neurostronger Podcast Interview. 04/02/2024

Publications

RESEARCH PAPERS:

RESEARCH PAPERS (PEER REVIEWED):

A. RESEARCH PAPERS (PEER REVIEWED):

1. **Golshani P**, Truong, H, and Jones, EG; Developmental expression of GABA(A) receptor subunit and GAD genes in mouse somatosensory barrel cortex. *J Comp Neurol.* 1997 Jun 30;383(2):199-219.

2. Warren RA, **Golshani P**, and Jones EG; GABA(B)-receptor-mediated inhibition in developing mouse ventral posterior thalamic nucleus. *J Neurophysiol*. 1997 Jul;78(1):550-3.

3. **Golshani P**, Warren RA, and Jones EG; Progression of change in NMDA, non-NMDA, and metabotropic glutamate receptor function at the developing corticothalamic synapse. *J Neurophysiol*. 1998 Jul;80(1):143-54.

4. **Golshani P**, and Jones EG; Synchronized paroxysmal activity in the developing thalamocortical network mediated by corticothalamic projections and "silent" synapses. *J Neurosci*. 1999 Apr 15;19(8):2865-75.

5. **Golshani P**, Liu X, and Jones EG; Differences in quantal amplitude reflect GluR4- subunit number at corticothalamic synapses on two populations of thalamic neurons. *Proc Natl Acad Sci U S A*. 2001 Mar 27;98(7):4172-7.

6. Liu X-B, S Bolea, **Golshani P**, and Jones EG; Differentiation of corticothalamic and collateral thalamocortical synapses on mouse reticular nucleus neurons by EPSC amplitude and AMPA receptor subunit composition. *Thalamus and Related Systems*. 2001 (1 29)

7. **Golshani P**, Hutnick L, Schweizer F, and Fan G; Conditional Dnmt1 deletion in dorsal forebrain disrupts development of somatosensory barrel cortex and thalamocortical long-term potentiation. *Thalamus Related Systems*. 2007 March

7th. (Note: the date pdf of manuscript, and on Pubmed is a publisher's error.) Documentation of this provided in the dossier.

8. Ranaparkhi R, Lawless GM, Schweizer F, **Golshani P**, and Jackson GR; A drosophila model of the ALS8-associated mutation of VAPB identifies a dominant negative mechanism. *PLOS One* 2008 Jun 4;3(6):e2334.

9. Hutnick LK, **Golshani P**, Namihira M, Xue Z, Matynia A, Yang XW, Silva AJ, Schweizer FE, Fan G; DNA hypomethylation restricted to the murine forebrain induces cortical degeneration and impairs postnatal neuronal maturation. *Human Molecular Genetics* 2009; doi: 10.1093/hmg/ddp222

10. **Golshani P**, Goncalves JT, Khoshkhoo S, Mostany R, and Smirnakis S, and Portera-Cailliau C; Internally mediated developmental desynchronization of neocortical network activity. *Journal of Neuroscience*; Sep 2 ; 29 (35):10890-9, 2009

11. Cheng A, Goncalves JT, **Golshani P**, Arisaka K, and Portera-Cailliau C; Simultaneous multifocal 2-photon calcium imaging at different cortical depths in vivo with spatiotemporal multiplexing, *Nature Methods* Feb;8(2):139-42 2011

12. Peñagarikano O, Abrahams BS, Herman EI, Winden KC, Gdalyahu A, Dong H, Sonnenblick LI, Gruver R, , Almajano J, Bragin, A, **Golshani, P,** Trachtenberg JT , Peles E, and Geschwind DH Absence of CNTNAP2 in mice leads to epileptic seizures, ASD-related behavior and atypical neuronal network functioning. *Cell.* 147(1):235-46, 2011

13. Gdalyahu A , Tring E , Polack PO , Gruver R, **Golshani P**, Fanselow M , Silva A, Trachtenberg J. How associative learning alters stimulus encoding in primary sensory cortex. *Neuron* 75(1):121-32, 2012

14. Varga C, **Golshani P*,** and Soltesz I***.** Entrainment of identified hippocampal interneurons by network oscillations in the awake behaving mouse. ***Equal Last Author Contribution.** *PNAS 2012, Sept. Early Online edition*

15. Goncalves JT, Anstey JA, **Golshani P**, and Portera-Cailliau C. Circuit level defects in the developing neocortex of fragile X mice. *Nature Neuroscience,* June 3rd, 2013.

16. Polack PO, Friedman J, and **Golshani P.** Cellular mechanisms of brain-state-dependent gain modulation in visual cortex. *Nature Neuroscience,* AOP: July 21st, 2013.

17. Junco-Clemente P, Chow D, and Tring E, Lazaro, M, Trachtenberg JT, and **Golshani P**. Overexpression of calcium-activated potassium channels underlies cortical dysfunction in a model of autism spectrum disorder. *PNAS.* Published online October 21st, 2013. ***(Featured by the Simons Foundation Blog).***

18. Cowansage K; Shuman T, Chang A, **Golshani P**, Mayford M Top-down manipulation of a natural memory by optogenetic control of cortical circuits. *Neuron.* Published online October 10th, 2014.

19. Varga C, Oijala M, Lish J, Szabo G, Bezaire M, Marchionni I**, Golshani P**, Soltesz I Functional Fission of Parvalbumin Interneuron Classes During Fast Network Events. Published online on November 6th, 2014 *ELife.*

20. Sano Y, Shobe J, Zhou M, Huang S, Shuman T, Cai D, **Golshani P**, Kamata M, Silva AJ Creb regulates memory allocation in the insular cortex. *Current Biology*. Published online Oct 2014.

21. Peñagarikano O Lazaro MT, Lu XH, Gordon A, Dong H, Lam HA, Peles E, Maidment N, Murphy NP, Yang XW, **Golshani P**, and Geschwind DH. Exogenous and evoked oxytocin restores social behavior in the *Cntnap2* mouse model of autism. (2015) *Science Translational Medicine* 7 (271)

22. Srinivasan R, Huang B, Venugopal S, Johnston AD, Chai H, Zeng H, **Golshani P** & Khakh BS (2015) Physiological Ca^{2+} signaling in astrocytes from $IP3R2^{-/-}$ mice in brain slices and during startle responses *in vivo*. *Nature Neuroscience***,** Published on-line April 20th, 2015.

23. Gdalyahu A, Lazaro M, Penagarikano O, **Golshani P**, Trachtenberg J, and Geschwind D: The autism related protein Contactin-Associated Protein-Like 2 (CNTNAP2) is required for stabilization of new spines. *PLOS One*, Published on-line May 7th, 2015.

24. Bakhurin KI, Mac V, **Golshani P,** and Masmanidis S. Temporal correlations among functionally specialized striatal neural ensembles in reward conditioned mice. *J Neurophysiology* Published online: Jan 14th, 2016

25. Cai D, Aharoni D[1,2*], Shuman T[*], Shobe J[*], Biane J, Lou J, Kim I, Cowansage K, Levenstain A, Tuszynski M, Mayford M, **Golshani P**** and Silva AJ** A shared neural ensemble links distinct contextual memories encoded close in time. ****Co-Corresponding Author.** *Nature* 534(7605):115-8, 2016

26. Cantero G, Liu XB, Mervis R, Zajd S, Misir A , Patel S, Hernandez J, Pena A, Cederbaum SD, **Golshani P***, Lipshutz G* Rescue of the Functional Alterations of Motor Cortical Circuits in Arginase Deficiency by Neonatal Gene Therapy**,** *Journal of Neuroscience* (2016) *Co-last authors.

27. Prevedel R, Verhoef AJ, Pernia-Andrade AJ, Huang B, Nobauer T, Fernandez A, Delcour JE, **Golshani P**, Baltuska A, Vaziri A high-speed 3D calcium imaging across a cortical column using sculpted light. Epub Nov 2016 *Nature Methods*.

28. Srinivasan R, Lu TY, Chai H, Xu J, Huang BS, Coppola G, **Golshani P**, and Khakh BS. New transgenic mouse lines for selectively targeting astrocytes and for studying calcium signals in astrocyte processes *in situ* and *in vivo.* Published online 12/11/16 in *Neuron*.

29. Frohlich J, Senturk D, **Golshani** P, Reiter LT, Sankar R, Thibert RL, DiStefano C, Cook EH, Jeste SS. Spontaneous beta oscillations are a biomarker of duplication 15q11.1-q13.1 syndrome. Published online in *PLOS One* 12/17/2016.

30. Einstein M, Polack PO, and Tran D, and **Golshani P** Visually-evoked 3-5 Hz membrane potential oscillations reduce the responsiveness of visual cortex neurons in awake behaving mice. *Journal of Neuroscience* early release on 4/21/17.

31. Watanabe W, Buth JE, Vishlaghi N, de la Torre-Ubieta L, Taxidis, J, Khakh B, Coppola G, Pearson CA, Yamauchi K, Gong D, Dai X, Damoiseaux R, Aliyari R, Liebscher S, Schenke-Layland K, Caneda C, Huang EJ, Zhang Y, Cheng G, Geschwind D, **Golshani P**, Sun R, Novitch B. Self-organized cerebral organoids with human specific features predict specific drugs to combat Zika virus infection. *Cell Reports*. 10;21(2):517-532 2017

32. Mayer J, **Golshani P**, and Smirnakis S The effect of single pyramidal neuron firing across and within layers in mouse V1, *Frontiers in Neural Circuits.* April 18th, 2018

33. Skocek O, Nobauer T, Weilguny L, Traub F, Xia C, Molodtsov M, Aharoni D, **Golshani P** and Vaziri A High-speed volumetric Ca^{2+}-imaging in freely moving rodent. *Nature Methods,* 15(6):429-432, 2018.

34. Yu X, Taylor A, Lu TY, Diaz-Castro B, **Golshani P**, Evans CJ, and Khakh B. Silencing striatal astrocyte calcium signalling alters neuron properties and mouse behaviour. *Neuron*, 99(6):1170-1187, 2018

.

35. Howe JR, Bear MF, **Golshani P**, Klann E, Lipton SA, Mucke L, Sahin M, Silva AJ. The mouse as a model for neuropsychiatric drug development. *Current Biology*, Published online 09/2018

36. Arac A, Zhao P, Dobkin B, Carmichael S, **Golshani P** DeepBehavior: A deep learning toolbox for automated analysis of animal and human behavior imaging data. *Frontiers in Systems Neuroscience*. 13:20, 2019

37. Lazaro, M, Taxidis J, Shuman T, Bachmutsky I, Ikrar T, Santos R, Marcello GM, Myalavarapu A, Chandra S, Foreman A, Goli R, Tran D, Sharma N, Azhdam M, Dong H, Penagarikano O, Masmanidis S, Racz B, Xu X, Geschwind D, and **Golshani P**: Reduced prefrontal synaptic connectivity and disturbed oscillatory population dynamics in the Cntnap2 model of autism. *Cell Reports* 27(9): 2567-2578, 2019.

38. Octeau C, Gangwani M, Allam SL, Huang S, Tran D, **Golshani P**, Rumbell TH, Kozloski JR, Khakh BS Transient consequential extracellular hyperkalemia accompanies Channelrhodopsin2 (ChR2) excitation. *Cell Reports* 27(8): 2249-2261, 2019

39. Kingsbury L, Huang S, Wang J, Gu K, **Golshani P**, Wu YE, Hong W Correlated neural activity and encoding of social behavioral decisions across brains of reciprocally interacting animals. *Cell*, 178(2):429-446, 2019

40. Frohlich J, Reiter LT, Saravanapandian V, DiStefano C, Huberty S, Hyde C, Chamberlain SJ, Bearden C, **Golshani P**, Irimia A, Olsen RW, Hipp JF, Jeste SS Mechanisms underlying the EEG biomarker in Dup15 syndrome. *Molecular Autism* 10:29, 2019

41. Gaspar ME, Polack PO, **Golshani P**, Lengyal M, Orban G. Representational untangling of the firing rate nonlinearity in V1 simple cells. *E-Life*, 8:e43625, 2019

42. Sun, Y, Jin S, Zhou P, Johnston KG, **Golshani P**, Nie Q, Holmes TC, Nitz DA, Xu X. A Novel Cortico-Hippocampal Pathway Facilitates Object-Place Learning. *Nature Neuroscience* 22(11):1857-1870, 2019

43. Donzis EJ, Estrada-Sanchez AM, Indersmitten T, Tran CH, Wang C, Latifi S, **Golshani P**, Cepeda C, Levine MS Neuronal calcium dynamics are altered in the cerebral cortex of Huntington's Disease model mice. *Cerebral Cortex* 30(4): 2372-2388, 2019.

44. Shuman T, Aharoni D, Cai DJ, Lee CR, Chavlis S, Taxidis J, Flores SE, Cheng K, Javaherian M, Kaba CC, Shtrahman M, Bakhurin KI, Masmanidis S, Khakh BS, Poirazi P, Silva AJ, **Golshani P** Breakdown of spatial coding and neuronal synchronization in epilepsy. *Nature Neuroscience* 23(2):229-238, 2020

45. Latifi, S, Levine M, **Golshani P**, Carmichael ST. In vivo calcium imaging reveals disruption of neuronal network topology after stroke. *Cerebral Cortex* 30(12): 6363-6375, 2020

46. Saravanapandian V, Frohlich J, Hipp JF, Hyde C; Scheffler AW, **Golshani P**, Cook EH, Reiter LT, Senturk D, Jeste SS Properties of beta oscillations in Dup15q syndrome. *Journal of Neurodevelopmental Disorders* 12(1): 22, 2020.

47. Taxidis J, Pnevmatikakis EA, Dorian CC, Mylavarapu A, Arora JS, Samadian KD, Hoffberg EA , **Golshani P**. Differential Emergence and Stability of Sensory and Temporal Representations in Context-Specific Hippocampal Sequences. *Neuron*. 2020 Dec 9;108(5):984-998.e9.

48. Hintiryan, Fanselow M, **Golshani P**, ….Dong HW Connectivity characterization of the mouse basolateral amygdalar complex. *Nature Communications* 12(1): 2859, 2021

49. Nagai J, Bellafard A, Zhe Q, Yu X, Diaz-Castro B, Coppola G, SMS Bass, **Golshani P**, Gradinaru V, Khakh BS Genetically targeted, pathway-specific, and effective attenuation of astrocyte G_q GPCR signaling *in vivo. Neuron* 109 (14): 2256-2274, 2021

50. Saravandanpian, V, Nadkarni D, Hsu S, Hussain SA, Maski K, **Golshani P**, Colwell C, Balasubramanian S, Dixon A, Geschwind DH, Jeste S Abnormal sleep physiology in children with 15q11.2-13.1 duplication (Dup15q) syndrome. *Molecular Autism* 12(1):54, 2021

51. Samarasinghe R, Miranda OA, Mitchell S, Ferando I, Watanabe M, Buth JE, Kurdian A, **Golshani P**, Plath K, Lowry WE, Mody I, and Novitch BG. Identification of neural oscillations and epileptiform changes in human brain organoids. Published online *Nature Neuroscience* 8/23/2021.

52. Choe, K.Y., Bethlehem, R., Safrin, M., Dong, H., Salman, E., Li, Y., Grinevich, V., **Golshani, P.**, Denardo, L., Penagarikano, O.,Harris, N.G., and Geschwind, D.H. Oxytocin normalizes altered social circuit connectivity in the Cntnap2 knock-aout mouse. Published online in *Neuron* in 2022.

53. Barry J, Oikonomou K, Peng A, Yu D, Yang C, **Golshani P**, Evans CJ, Levine MS, Cepeda C Dissociable Effects of Opioids on Behavior, Calcium Transient Activity, and Excitability of Dorsolateral Striatal Neurons. Published online in *Frontiers in Neural Circuits,* 10/26/22

54. Chen Z, Blair GJ, Guo C, Izquirdo A, **Golshani P**, Cong J, Aharoni D, Blair HT A hardware system for real-time decoding of *in-vivo* calcium imaging data. Published online *E-Life*, 01/23/23.

55. Zhou S, Seay M, Taxidis J, **Golshani P**, Buonomano D Multiplexing working memory and time with dynamic attractors. Published online *Nature Human Behavior,* April 20th, 2023.

56. Chen Z, Blair GJ, Guo C, **Golshani P**, Cong J, Aharoni D, Blair HT "FPGA-Based In-Vivo Calcium Image Decoding for Closed-Loop Feedback Applications" IEEE Transactions on Biomedical Circuits and Systems. Published online April 20th, 2023

57. Guo C, Blair GJ, Sehgal M, Sangiuliano J, Bellafard A, Silva J, **Golshani P**, Basso M, Blair HT, Aharoni D. Miniscope-LFOV: A large field of view, single cell resolution miniature microscope for wired and wire-free imaging of neural dynamics in freely behaving animals. Published online in *Science Advances* April 22nd, 2023.

58. Kostin A, Alam A, Saevskiy A, Yang C, **Golshani P**, and Alam A Calcium^{2+} dynamics of the ventrolateral preoptic GABAergic neurons during spontaneous sleep-waking and in response to changing homeostatic sleep regulatory demands. Published online *International Journal of Medical Sciences* on May 5th, 2023.

59. Evans S, ….., Taxidis J, Madruga B, Dorian C…**Golshani, P**…Lin, M. Simultaneous imaging of calcium and electrical activity in the brain with a positively tuned voltage indicator. Published online in *Nature Methods* July 6th , 2023

60. Blair GJ, Aharoni D, **Golshani P**, Blair HT Muscarinic acetylcholine receptors are necessary for learning-induced remapping of hippocampal place cells. Accepted at *E-Life* June 22nd, 2023

61. Hur SW, Safaryan K, Yang L, Blair HT, Masmanidis SC, Mathews PJ, Aharoni D, **Golshani P** Correlated signatures of social behavior in cerebellum and anterior cingulate cortex. *E-Life*. Version of Record: 10/10/23

62. Hajnal, MA, Tran D, Einstein M, Vallejo-Martello M, Safaryan K, Polack PO*, **Golshani P***, Orban G* (*co-last authors) Continuous multiplexed population representations of task context in the mouse primary visual cortex. Published online *Nature Communications* in Oct 2023.

63. Bellafard A, Namvar G, Kao J, Vaziri A, and **Golshani P**. Volatile working memory representations crystallize with practice. Published in *Nature* May 15th , 2024.

64. Hajnal MA, Tran D, Szabó Z, Albert A, Safaryan K, Einstein M, Vallejo MM; Polack PO, **Golshani P***, Orban G* (*co-last authors) Shifts in attention drive

context-dependent subspace encoding in anterior cingulate cortex during decision making. Published in *Nature Communications*, July 3rd, 2024

65. Saravanapandian V, Madani M, Nichols I, Vincent S, Dover M, Dikeman D, Benjamin D. Philpot BD, Takumi T, Colwell CS, Jeste S, Paul KN, **Golshani P** Sleep EEG signatures in mouse models of 15q11.2-13.1 duplication (Dup15q) syndrome. *Journal of Neurodevelopmental Disorders*, published online July 17th, 2024

66. Hao YA, Lee S, Roth RH, Natale S, Gomez L, Sheng M, Lu D, Taxidis J, Wang Z, Zhang G, Boyden E, **Golshani P**, Wernig M, Feldman DF, Ji N, Ding J, Thomas C. Sudhof TC, Clandinin TR, Lin M**.** A fast and responsive voltage indicator with enhanced sensitivity for unitary synaptic events. Published in *Neuron* 09/22/24.

67. Zhao P, Aharoni D, **Golshani P**. GRIN lens implantation strategies for in-vivo calcium imaging using miniaturized microscopy. PLOS One. 20(5):e0323256 Published 5/2025.

68. Zhao P, Guo C, Xie M, Chen L, **Golshani P**, Aharoni A MiniXL: An open-source, large field-of-view epifluorescence miniature microscope for mice capable of single-cell resolution and multi-brain region imaging. *Science Advances*. Jun 13;11(24):eads4995 2025

69. Taxidis J, Madruga B, Melin MD, Lin MZ, **Golshani P**. Voltage imaging reveals that hippocampal interneurons tune memory-encoding pyramidal sequences. *Nature Neuroscience*, Published Online 7/22/25

B. RESEARCH PAPERS-PEER REVIEWED (IN-PRESS or accepted-in-principle):

1. Hintirayan H, …, Miller S,..., Zhao P, …, **Golshani P**, …, Dong HW Neural networks of the mouse primary visceromotor cortex. Accepted at *Nature,* March 2025.

2. …, Espino D, Sheintuch L, **Golshani P**, … Guo L. Kilohertz volumetric imaging of in-vivo dynamics using squeezed light field microscopy. Accepted in principle at *Nature Methods*.

3. Madruga B, Dorian C, Shtrahman M, Aharoni D, **Golshani P**. Open-source, high performance miniature multiphoton microscopy systems for freely behaving animals. Accepted in principle at *Nature Communications*. June 2025

C. RESEARCH PAPERS- PEER REVIEWED (SUBMITTED):

1. Zhao P, Chen X, Bellafard A, Murugesan A, Quan J, Aharoni D, **Golshani P** Accelerated social representational drift in the nucleus accumbens in autism. Being revised for *Neuron.*

2. Dorian C, Taxidis J, and Arac A, and **Golshani P**. Non-spatial hippocampal behavioral timescale synaptic plasticity during working memory is gated by entorhinal inputs. Submitted to *Nature Communications*.

3. Dorian C, Taxidis J, Buonomano D, and **Golshani P** Hippocampal sequences represent working memory and implicit timing. Resubmitted to *Cell Reports*.

D. RESEARCH PAPERS-PEER REVIEWED (IN PREPARATION)

RESEARCH PAPERS – NON-PEER REVIEWED:

D. RESEARCH PAPERS – NON-PEER REVIEWED:

1. **Golshani P** and Portera-Cailliau C; In-vivo 2-photon calcium imaging in layer 2/3 of mice. Journal of Visualized Experiments, March 13th, 2008

E. RESEARCH PAPERS – NON-PEER REVIEWED (IN PRESS):

F. RESEARCH PAPERS – NON-PEER REVIEWED (SUBMITTED): NONE

CHAPTERS:

Golshani P and Trachtenberg JT Experience-dependent plasticity and autism spectrum disorders, *Encyclopedia of Autism Spectrum Disorders*, 2011

Aharoni D and **Golshani P** Miniaturized microscopy as a tool to track neuronal population dynamics in epilepsy models. *Epilepsy: A comprehensive textbook,* 2022

Golshani P What rodent models teach us about the association of autism and epilepsy, *Jasper Textbook of Epilepsy*, 2022

CHAPTERS (In Review):

LETTERS TO THE EDITOR: NONE

REVIEWS:

A. REVIEWS :

1. Mehta S, and **Golshani P**: Autism Spectrum Disorders. Neurology Clinics Reviews. October 2013.

2. Junco-Clemente P and **Golshani P***:* PTEN, a master regulator of neuronal structure, function, and plasticity. Communication and Integrative Biology. 2014 Jan 1;7(1):e28358. Epub 2014 Mar 5. Review.

3. Ritter LM, **Golshani P**, Takahashi K, Dufour S, Valiente T, and Kokaia M. New technologies to study the epileptic brain: Optogenetic tools to suppress seizure and explore the mechanisms of epileptogenesis**.** Epilepsia Oct 2014

4. Lazaro M and **Golshani P** The utility of mouse models of autism. Current Opinions in Neurology. Available on-line Feb 23rd, 2015.

5. Shuman, T, Amendolara B, and **Golshani P** Theta rhythmopathies as a cause of cognitive dysfunction in temporal lobe epilepsy. Epilepsy Currents. 17(2) 107-12, 2017

6. Aharoni D, Khakh B, Silva A, and **Golshani P** All the light that we can see: a new era in miniaturized microscopy. *Nature Methods*, 16(1): 11-13, 2019

7. Wykes, R, Khoo HM, Caciagli L, Blumenfeld H, **Golshani P**, Kapur J, Stern JM, Bernasconi A, Deduerwaerdere S, Bernasconi N WONOEP Appraisal: Network concept from an imaging perspective. *Epilepsia*, 60(7):1293-1305, 2019

B. REVIEWS (in Press):

C. REVIEWS (Submitted):

EDITORIALS: NONE