Ignacio Saez, PhD

Associate Professor, Departments of Neuroscience, Neurosurgery & Neurology
Icahn School of Medicine at Mount Sinai | Friedman Brain Institute
ignacio.saez@mssm.edu | Laboratory Website

PROFESSIONAL APPOINTMENTS

2024 – Present **Associate Professor**, Icahn School of Medicine at Mount Sinai (ISMMS)
Department of Neuroscience, Department of Neurosurgery, Department of Neurology, Friedman Brain Institute

2021 – 2023 **Assistant Professor**, Icahn School of Medicine at Mount Sinai (ISMMS)
Department of Neuroscience, Department of Neurosurgery, Department of Neurology, Friedman Brain Institute

2018 – 2021 **Assistant Professor**, University of California, Davis
Department of Neurological Surgery, Center for Neuroscience

EDUCATION

2013 – 2018 **Postdoctoral Researcher**, University of California, Berkeley
Department of Neuroscience
Advisors: Drs. Robert T. Knight and Ming Hsu

2010 – 2012 **Postdoctoral Researcher**, Virginia Tech
Department of Neuroscience
Advisor: Dr. P. Read Montague

2003 – 2010 **PhD, Neuroscience**, Baylor College of Medicine
Postdoctoral Researcher, Baylor College of Medicine
Department of Neuroscience
Advisor: Dr. Michael J. Friedlander

1999 – 2002 **BS, Clinical and Molecular Biology**, University of Navarra, Pamplona, Spain

1997 – 2001 **BS, Biochemistry**, University of Navarra, Pamplona, Spain

GRANTS & FELLOWSHIPS

Current Funding

2024 – 2029 R01 – NIH/NIDA
Examining craving-choice interaction using computational modeling and intracranial recording
Role: MPI – Total Budget: $4,175,703

2024 – 2026 One Mind Russ and Stephanie Deyo Rising Star Award
Role: PI – Total Budget: $300,000

2023 – 2026 NSF – Integrative Strategies for Understanding Neural and Cognitive Systems (NCS)
Understanding the computations the brain performs during choice
Role: Co-PI – Total Budget: $1,093,987

2022 – 2025 R21 – NIH/NIMH
Electrophysiological read-out of interoceptive processing in the insula
Role: Co-I – Total Budget: $459,230

2021 – 2026 R01 – NIH BRAIN Initiative/NIMH
Invasive decoding and stimulation of altered reward computations in depression
Role: PI – Total Budget: $3,617,935

Pending Funding

2025 – 2030 R01 – NIH/NIMH
Ensemble and single neuron level representation of spatial and abstract navigation in the human brain
Role: MPI – Total Budget: $4,145,592

Past Funding

2021 – 2023 Wellcome Trust Leap Fund
Computational Roles of Dopamine and Serotonin Transients in Anhedonia in Humans with Treatment Resistant Depression
Role: Co-I – Total Budget: $4,768,080

2020 – 2023 Office of Naval Research
Dynamic Episodic - Semantic Memory Interactions for Flexible Goal-Driven Agents
Role: Co-I – Total Budget: $2,250,000

2020 – 2023 K01 – NIH/NIMH Career Development Grant
Electrocorticography of human prefrontal cortex during value-based decision-making
Role: PI – Total Budget: $752,544

2019 – 2021 Learning and Memory Program Seed Grant
University of California, Davis
Role: PI – Total Budget: $25,000

AWARDS, HONORS & RECOGNITIONS

2023 One Mind–Russ and Stephanie Deyo Rising Star Award
2020 Edwin Boldrey Award, San Francisco Neurological Society
2013 – 2015 Dean's Office Award, UC Berkeley, Haas School of Business
2011 Travel Award, National Institute on Drug Abuse
2003 – 2005 Fellowship for Postgraduate Studies, La Caixa Foundation
2002 – 2003 Marie Curie Fellowship, European Union

PUBLICATIONS

Preprints and/or Under Review

46. Gray S, Dede A, Rivera Y, Yin Q, Vahidi P, Rau E, Cyr C, Holubecki A, Asano E, Lin J, Kim-McManus O, Sattar S, **Saez I**, Girgis F, King-Stephens D, Weber P, Laxer K, Schuele S, Rosenow J, Wu J, Kam S, Raskin J, Chang E, Shaikhouni A, Brunner P, Roland J, Braga R, Knight R, Ofen N, Johnson E. The development of aperiodic neural activity in the human brain. Under review at *Nature Communications*.
45. Dede AJO, Cross ZR, Gray SM, Kelly JP, Yin Q, Vahidi P, Asano E, Schuele SU, Rosenow JM, Wu JY, Lam SK, Raskin JS, Lin JJ, McManus OK, Sattar S, Shaikhouni A, King-Stephens D, Weber PB, Laxer KD, Brunner P, Rolan JL, Saez I, Girgis F, Knight RT, Ofen N, Johnson EL (2025) Declarative Memory Through the Lens of Single-Trial Peaks in High-Frequency Power. bioRxiv, doi: 10.1101/2025.01.02.631123
44. Vettleson-Trutza SA, El-Gohary MM, Karanovic U, Scheitler KM, Juan JM Rojas-Cabrera, Tsai S, Kwak Y, Pons-Monnier GK, Blaha C, Shin H, Cukor M, Kato A, **Saez I**, Oh Y, Lee KH (2025). Fabrication of carbon-fiber microelectrode for tonic neurotransmitter measurements in a large animal (Pig) model and human deep brain stimulation using Multifunctional Apparatus for Voltammetry, Electrophysiology, and Neuromodulation (MAVEN). Under review at *Frontiers in Neuroengineering*.
43. Hachisuka A, Shor J, Liu X, Friedman D, Dugan P, **Saez I**, Panov F, Wang Y, Doyle W, Devinsky O, Oermann E, He

B. Neural and computational mechanisms underlying one-shot perceptual learning in humans. Under review at *Nature Communications*.

42. Imtiaz Z, Kato A, Kopell B, Qasim S, Gu X, **Saez I**. (2024) Human substantia nigra neurons encode reward expectations. *bioRxiv*, doi: 10.1101/2024.05.10.593406. Under review at *iScience*.

41. Skular A^, Jin L^, Overton JA, **Saez I**. Neuromodulation of risk preferences encoded in human orbitofrontal cortex activity. Under review at *Nature Communications*.
^co-first authors

40. Kopell B, Kaji D, Liharska L, Vornholt E, Valentine A, Lund A, Hashemi A, Thompson R, Lohrenz T, Johnson J, Bussola N, Cheng E, Park YJ, Shah P, Ma W, Searfoss R, Qasim S, Miller G, Chand N, Aristel A, Humphrey J, Wilkins L, Ziafat K, Silk H, Linares L, Sullivan B, Feng C, Batten S, Bang D, Barbosa L, Twomey T, White J, Vannucci M, Hadj-Amar B, Cohen V, Kota P, Moya E, Rieder MK, Figee M, Nadkarni G, Breen M, Kishida K, Scarpa J, Ruderfer D, Narain N, Wang P, Kiebish M, Schadt E, **Saez I**, Montague R, Beckmann N, Charney A (2024). Multiomic foundations of human prefrontal cortex tissue function. medRxiv, 2024.05.17.24307537; doi: 10.1101/2024.05.17.24307537. Under review at *Nature Human Behaviour*.

39. Neal-Davis A, Kopell B, Qasim S, Imtiaz Z, **Saez I***, Gu X*. Social learning signals in human substantia nigra neurons. Under review at *Nature Comms*.
*co-senior authors

38. Geya-Sagiv M, Jun S, Kim K, Luo C, Lin JJ, O'Reilly R, Ranganath R, **Saez I** (2024). Hippocampal sharp-wave ripples and cortico-hippocampal interactions during goal-directed navigation. *In preparation*.

37. **Saez I**, Lin J, Chang E, Parvizi J, Knight RT, Hsu M (2021). Dissociable oscillatory networks support gain and loss processing in human orbitofrontal cortex. *bioRxiv*, doi:10.1101/2021.02.25.432874. *Under review at Cell Reports*.

Peer-Reviewed

36. Peters LM, Roadarmel A, Overton JA, Stickle MP, Lin JJ, Chang EF, Knight RT, Hsu M, **Saez I***, Moxon KA*. Neural dynamics encoding risky choices during deliberation reveal separate choice subspaces. *Progress in Neurobiology, 250*, 102776. doi: 10.1016/j.pneurobio.2025.102776 *co-senior author

35. Cross ZR, Gray SM, Dede AJO, Rivera YM, Yin Q, Vahidi P, Rau EMB, Cyr C, Holubecki AM, Asano E, Lin JJ, McManus OK, Sattar S, **Saez I**, Girgis F, King-Stephens D, Weber PB, Laxer KD, Schuele SU, Rosenow JM, Wu JY, Lam SK, Raskin JS, Chang EF, Shaikhouni A, Brunner P, Roland JL, Braga RM, Knight RT, Ofen N, Johnson EL. (2024) The development of aperiodic neural activity in the human brain. *Nature Human Behaviour*, doi: 10.1038/s41562-025-02270-x

34. Marcuse LV, Langan M, Hof P, Panov F, **Saez I**, Jimenez JH, Figee M, Mayberg H, Yoo JY, Ghatan S, Balchandani P, Fields MC (2025). The Thalamus: Structure, Function, and Neurotherapeutics. *Neurotherapeutics*, Volume 22, Issue 2, March 2025, e00550. doi: 10.1016/j.neurot.2025.e00550.

33. Overton J, Moxon K, Stickle MP, Peters LM, Lin JJ, Chang EF, Knight RT, Hsu M, **Saez I** (2025) Distributed intracranial activity underlying human decision-making behavior. *Journal of Neuroscience* doi: 10.1523/JNEUROSCI.0572-24.2024.

32. Maher C, Tortolero L, Cummins DD, Saad A, Young J, Nunez Martinez L, Schulman Z, Marcuse L, Waters A, Mayberg HS, Davidson RJ, Panov F, **Saez I** (2025). Intracranial substrates of meditation-induced neuromodulation in amygdala and hippocampus. *Proceedings of the National Academy of Sciences*. doi:10.1073/pnas.2409423122.

31. Rossell D, Seong AK, **Saez I**, Guindani M (2024). Semi-parametric local variable selection under misspecification (2024). *Biometrika*, doi: 10.1093/biomet/asae068.

30. Cummins DD, Schulman Z, Maher C, Tortolero L, Saad A, Nunez Martinez L, Davidson RJ, Marcuse LV, **Saez I**, Panov F (2024). Influence of mindfulness meditation on intracranial EEG parameters in epileptic and non-epileptic brain areas. *Epilepsy & Behavior*. doi: 10.1016/j.yebeh.2024.110150.

29. Qasim SE, Dewal S, **Saez I**, Gu X (2024). Positive affect modulates memory by regulating the influence of reward prediction errors. *Communications Psychology.* 2, 52. doi: 10.1038/s44271-024-00106-4

28. Young JJ, Jette N, Bender HA, Saad AE, **Saez I**, Panov F, Ghatan S, Yoo JY, Singh A, Fields MC, Marcuse LV, Mayberg HS (2024). Elevated Phase Amplitude Coupling as a Depression Biomarker in Epilepsy*. Epilepsy & Behavior.* doi:10.1016/j.yebeh.2024.109659

27. Soni S, Overton J, Kam J, Pexman P, Prabhu P, Garza N, **Saez I**, Girgis F (2024). High-frequency activity in the human temporal-parietal cortex supports non-literal language processing. *Frontiers in Neuroscience.* doi:10.3389/fnins.2023.1304031

26. Batten SR, Bang D, Kopell BH, Neal AB, Heflin M, Ziafat K, Hashemi A, **Saez I**, Barbosa LS, Lohrenz T, White JP, Dayan P, Charney AW, Figee M, Mayberg H, Kishida KT, Gu X & Montague PR (2024). Dopamine and serotonin in human substantia nigra track context and value during social exchange. *Nature Human Behavior*, doi:10.1038/s41562-024-01831-w

25. Marciano D, Staveland BR, Lin J, **Saez I***, Hsu M*, Knight RT* (2023). Electrophysiological signatures of inequity-dependent reward encoding in the human OFC. *Cell Reports,* 42(8):112865. doi:10.1016/j.celrep.2023.112865

    *Co-senior authors

24. Johnson EL, Lin JJ, King-Stephens D, Weber PB, Laxer KD, **Saez I**, Girgis F, D'Esposito M, Knight RT, Badre D (2023). A rapid theta network mechanism for flexible information encoding. *Nature Communications,* 14, 2872. doi: 10.1038/s41467-023-38574-7

23. **Saez I**, Gu X (2022). Invasive Computational Psychiatry. *Biological Psychiatry*, 93(8), 661–670. doi:10.1016/j.biopsych.2022.09.032

22. Far R, **Saez I**, Sardo A, Ovruchesky E, Sperry L, Zhang L, Shahlaie K, Girgis F (2022). Subthalamic nucleus deep brain stimulation programming settings do not correlate with Parkinson's disease severity. *Acta Neurochirurgica*, 164(9), 2271–2278. doi:10.1007/s00701-022-05279-7

21. Clark A, Samuel R, **Saez I**, Kennedy J, Seyal M, Shahlaie K, Girgis F (2021). The impact of sub specialization within functional neurosurgery on patient outcomes in a comprehensive epilepsy center. *Clinical Neurology and Neurosurgery*, 205, 106636. doi:10.1016/j.clineuro.2021.106636

20. Llorens A, Tzovara A, Bellier L, Bhaya-Grossman I, Bidet-Caulet A, Chang WK, Cross ZR, Dominguez-Faus R, Flinker A, Fonken Y, Gorenstein MA, Holdgraf C, Hoy CW, Ivanova MV, Jimenez RT, Jun S, Kam JWY, Kidd C, Marcelle E, Marciano D, Martin S, Myers NE, Ojala K, Perry A, Pinheiro-Chagas P, Riès SK, **Saez I**, Skelin I, Slama K, Staveland B, Bassett DS, Buffalo EA, Fairhall AL, Kopell NJ, Kray LJ, Lin JJ, Nobre AC, Riley D, Solbakk AK, Wallis JD, Wang XJ, Yuval-Greenberg S, Kastner S, Knight RT, Dronkers NF (2021). Gender bias in academia: A lifetime problem that needs solutions. *Neuron*, 109(13), 2047–2074. doi:10.1016/j.neuron.2021.06.002

19. Girgis F, Zarabi H, Said M, Zhang L, Shahlaie K, **Saez I** (2020). Comparison of Intraoperative Computed Tomography Scan with Postoperative Magnetic Resonance Imaging for Determining Deep Brain Stimulation Electrode Coordinates*. World Neurosurgery*, 138, e330–e335. doi:10.1016/j.wneu.2020.02.108

18. Girgis F, Ovruchesky E, Kennedy J, Seyal M, Shahlaie K, **Saez I** (2020). Superior accuracy and precision of SEEG electrode insertion with frame-based vs. frameless stereotaxy methods. *Acta Neurochirurgica*, 162(10), 2527–2532. doi:10.1007/s00701-020-04427-1

17. **Saez I**, Berry AS, Elie JE, Santacruz SR (2020). Making the jump: Expert guidance on transitioning to academic independence. *European Journal of Neuroscience*, 51(7), 1515–1525. doi:10.1111/ejn.14484

16. Moxon KA, Shahlaie K, Girgis F, **Saez I**, Kennedy J, Gurkoff GG (2019). From adagio to allegretto: The changing tempo of theta frequencies in epilepsy and its relation to interneuron function. *Neurobiology of Disease*, 129, 169–181. doi:10.1016/j.nbd.2019.02.009

15. **Saez I**, Lin J, Stolk A, Chang EF, Parvizi J, Schalk G, Knight RT, Hsu M (2018). Encoding of multiple reward-related factors in transient and sustained high-frequency activity in human OFC. *Current Biology*, 28(18), 2889–2899.e3. doi:10.1016/j.cub.2018.07.045

14. Gao X, Yu H, **Saez I**, Blue PR, Zhu L, Hsu M, Zhou X (2018). Distinguishing neural correlates of context-dependent advantageous and disadvantageous inequity aversion. *Proceedings of the National Academy of Sciences*,

115(33), E7680–E7689. doi:10.1073/pnas.1802523115

13. Stolk A, Griffin SM, van der Meij R, Dewar C, **Saez I**, Lin J, Piantadosi ST, Hayden BY, Chang EF, Hsu M (2018). Integrated analysis of anatomical and electrophysiological human intracranial data. *Nature Protocols*, 13(7), 1699–1723. doi:10.1038/s41596-018-0009-6
12. Moran R, Kishida KT, Lohrenz T*, **Saez I**, Laxton A, Witcher M, Tatter S, Ellis T, Phillips P, Dayan P, Montague PR (2018). The protective action encoding of serotonin transients in the human brain. *Neuropsychopharmacology*, 43, 1425–1435. doi:10.1038/npp.2017.304
11. Hetu S, Luo Y, **Saez I**, D'Ardenne K, Lohrenz T, Montague PR (2016). Asymmetry in Functional Connectivity of the Human Habenula Revealed by High-Resolution Cardiac-Gated Resting State Imaging. *Human Brain Mapping*, 37(7), 2602–2615. doi:10.1002/hbm.23194
10. **Saez I**, Friedlander MJ (2016). Role of GABAA-mediated inhibition and functional assortment of synapses onto individual layer 4 neurons in regulating plasticity expression in visual cortex. *PLoS One*, 11(2), e0147642. doi:10.1371/journal.pone.0147642
9. Kishida KT, **Saez I**, Lohrenz T, Witcher MR, Laxton AW, Tatter SB, White JP, Ellis TL, Phillips PEM, Montague PR (2016). Sub-second dopamine fluctuations in human striatum encode superposed error signals about actual and counterfactual reward. *Proceedings of the National Academy of Sciences*, 113(1), 200–205. doi:10.1073/pnas.1513619112
8. **Saez I**, Zhu L, Set E, Kayser A, Hsu M (2015). Dopamine modulates egalitarian behavior in humans. *Current Biology*, 25(7), 912–919. doi:10.1016/j.cub.2015.01.071
7. **Saez I**, Set E, Hsu M (2014). From genes to behavior: placing cognitive models in the context of biological pathways. *Frontiers in Neuroscience*, 8, 336. doi:10.3389/fnins.2014.00336
6. Set E, **Saez I**, Zhu L, Houser D, Myung N, Zhong S, Ebstein R, Chew SH, Hsu M (2014). Dissociable contribution of prefrontal and striatal dopaminergic genes to learning in economic games. *Proceedings of the National Academy of Sciences*, 111(26), 9615–9620. doi:10.1073/pnas.1316259111
5. Kishida KT, Sandberg S, Lohrenz T, Comair YG, **Saez I**, Phillips PEM, Montague PR (2011). Sub-second dopamine detection in human striatum. *PLoS One*, 6(8), e23291. doi:10.1371/journal.pone.0023291
4. **Saez I**, Friedlander MJ (2009). Plasticity between neuronal pairs in layer 4 of visual cortex varies with synapse state. *Journal of Neuroscience*, 29(48), 15286–15298. doi:10.1523/JNEUROSCI.2980-09.2009
3. **Saez I**, Friedlander MJ (2009). Synaptic output of individual layer 4 neurons in guinea pig visual cortex. *Journal of Neuroscience*, 29(15), 4930–4944. doi:10.1523/JNEUROSCI.0046-09.2009
2. Argence M, **Saez I**, Sassu R, Vassias I, Vidal PP, de Waele C (2006). Modulation of inhibitory and excitatory synaptic transmission in rat inferior colliculus after unilateral cochleectomy: an in situ and immunofluorescence study. *Neuroscience*, 141(3), 1193–1207. doi:10.1016/j.neuroscience.2006.04.058

Commentaries

1. **Saez I**, Rudebeck P, Rich E, Gu X, Balchandani P, Kopell BH, & Mayberg HS. Circuit-based therapies for brain disorders. *Science* supplement.

INVITED TALKS & SEMINARS

2025 *Title and Topic TBD*
University of Alicante

2025 *Title and Topic TBD*
University of Amsterdam, Holland

2025 *Title and Topic TBD*
University of Calgary, Canada

2025 *Title and Topic TBD*
University of Florida

2025 *Title and Topic TBD*

Cedars-Sinai Medical Center

2025 Neuronet revolution: BCIs and their realistic application
Digital Enterprise Show (DES) Conference

2025 *Intracranial recording and modulation of human decision-making behavior*
Computational and Systems Neuroscience (COSYNE) Conference

2025 *Intracranial recording and modulation of human decision-making behavior*
Sciences of the Mind PhD program invited presentation

2025 *Intracranial recording and modulation of human decision-making behavior*
NIDA Neuroscience and Behavior Division – Science Friday seminar series

2025 *Intracranial recording and modulation of human decision-making behavior*
Rice University Neuro Engineering Initiative

2024 *Developing Cognitive BCI*
NY Brain-Computer Interface symposium

2024 *Risky waves: Neurophysiological basis of decision-making under uncertainty in the human brain*
Ecusa & Cajal: USA & Spain Bridge For The Neurosciences, NYU Espacio de Culturas

2024 *Impact of Aging on Memory*
Yale Club Roundtable

2024 *Risky waves: Neurophysiological basis of decision-making under uncertainty in the human brain*
Lipschultz Center for Cognitive Neuroscience Symposium

2024 *How can theory/modeling be best integrated with perturbations to understand how brain structure, function and dynamics subserve behavior? (Panelist)*
Advancing Human Neuroscience through Neural Stimulation and Recording Workshop, NIH

2024 *Brain Awareness Booth*
12th Annual Mount Sinai Brain Fair, Icahn School of Medicine at Mount Sinai

2023 *Developing personalized therapies for treatment-resistant depression*
One Mind Science and Innovation Symposium

2023 *New Paths to Treat and Prevent Brain Disease*
Aspen Ideas Festival, The Aspen Institute

2023 *Intracranial recordings of value: leveraging intracranial interventions for cognitive neuroscience research*
Rutgers-Princeton Center for Computational Cognitive Neuropsychiatry
Department of Psychiatry, Columbia University

2022 *Leveraging intracranial interventions for cognitive neuroscience research*
Friedman Brain Institute Retreat, ISMMS

2021 *Basic neuroscience research in clinical settings: leveraging invasive interventions*
Grand Rounds, Department of Neurology, ISMMS

Neuroeconomía: cómo nuestro cerebro decide por nosotros
Fundación Tatiana Pérez de Guzmán el Bueno, Madrid, Spain

2020 *Studying and modulating human decision-making with invasive recordings*
Center for Mind and Brain Kickoff Meeting, UC Davis

2019 *Unveiling the computational substrates of human decision-making with intracranial recordings*
Biological psychology seminar series, Department of Psychology, UC Davis

2018 *Neuroeconomics: insights into the neural basis of human decision-making*.
Behavioral economics seminar series, Department of Economics, UC Davis

Research in functional neurosurgery: unveiling the neurobiological basis of human cognition.
Neurology research forum, UC Davis

Research in functional neurosurgery: unveiling the neurobiological basis of human cognition
1st Annual Wagner Symposium, UC Davis

Neuroscience graduate bootcamp, UC Davis

2017 *Estudiando las bases neurofisiológicas de la toma de decisiones con registros intracraneales*
University of Navarre, Pamplona, Spain

2016 *Fast value-based computations in the human brain revealed by intracranial recording techniques*
Cognitive Neuroscience Colloquium Series, UC Berkeley

Coordinated activation of value-related computations across human orbitofrontal cortex.
HWNI Retreat, UC Berkeley

Fast value-based computations in the human brain revealed by intracranial recording techniques
UC Davis
Basque Center on Cognition and Language, San Sebastian, Spain
Academic Medical Center, Amsterdam, Netherlands
PsychoEconomics workshop, DFG Research Unit, Konstanz, Germany
Bonn University, Bonn, Germany
Otto-von-Guericke University, Magdeburg, Germany
Clinical University Hamburg-Eppendorf, Hamburg, Germany
University Aix Marseille, Marseille, France

2014 *Molecular and genetic bases of human social behavior*
UC Berkeley

A pathway analysis approach to the study of the genetic basis of decision-making
National University of Singapore, Queenstown, Singapore
Nanyang Technological University, Singapore

Genetic and neurochemical basis of pro-social decision making
Institute for Integrative Social Sciences, UC Berkeley

2013 *Sub-second measurements of dopamine concentration in the human brain*
Department of Neurosurgery, UCSF

2012 *Sub-second measurements of dopamine concentration during deep-brain stimulation*
Neuroscience School for Advanced Studies, Tuscany, Italy

2008 *Properties and plasticity of connections within visual cortex layer*
Brain Research Institute, Zürich, Switzerland

2007 *Plasticity of synaptic connections in visual cortex layer 4*
9th Rush Record Symposium, Galveston, TX

2006 *Synaptic outputs of individual layer 4 neurons in guinea pig visual cortex*
8th Rush Record Symposium, Galveston, TX

PROFESSIONAL SERVICE

Grant Review

2025 NIH Study Section, NIDCD
2024 UK ARIA, Precision Neurotechnologies
2024 NIH Study Section, NINDS
2024 NIH Study Section, NPAS Neural Basis of Psychopathology, Addictions and Sleep Disorders (R01)
2024 NIH Study Section, ZMH1 Mental Health Emphasis Panel
2023 NIH Study Section, Targeted BRAIN Circuits Projects (R01)
NIH Study Section, ZRG1 Sensory and Motor Neurosciences, Cognition and Perception (F30/F31/F32)
2022 NIH Study Section, Behavioral Neuroscience (F02A)
2021 NIH Study Section, BRAIN Initiative NRSA (F32)
NIH Study Section, HCMF (Human Complex Mental Function)

Journal Review

Ad Hoc *Nature Neuroscience, Neuron, Nature Human Behavior, Nature Communications, Journal of Neuroscience, Cerebral Cortex, Neuroscience, Journal of Neurophysiology, PLoS One, Micromachines, European Journal of Neuroscience, Biological Psychiatry*

Institutional Service

2025 Co-Director, Neuroscience Core 3 Course, ISMMS
2023 – pres. Member, MD-PhD Admissions Committee, Icahn School of Medicine at Mount Sinai
2022 – pres. Co-Chair, Faculty Search Committee, Friedman Brain Institute, ISMMS
2022 – pres. Mentor, Women in Science, ISMMS
2022 – pres. Member, Postdoc Advisory Committee (PAC), ISMMS
2020 – 2021 Co-Chair, Faculty Search Committee, Department of Neurology, UC Davis
2020 – 2021 Member, Faculty Search Committee, Center for Neuroscience and Department of Neurology, UC Davis
2020 Member, Faculty Search Committee, Department of Neurological Surgery, UC Davis
2018 – 2021 Member, Neuroengineering and Medicine Steering Committee, UC Davis

Other Service

2019 – pres. International Advisory Board, Centro Internacional de Neurociencia y Ética (CINET), Fundación Tatiana Pérez de Guzmán el Bueno, Madrid, Spain
2018 – pres. Editorial Board, *Frontiers in Neuroscience*

TEACHING

2025 **Lecturer**, MD/PhD program Neuroscience block, Lecture: Neural Basis of Decision Making, ISMMS
2024 – 2025 **Co-Director**, Neuro Core Unit 3: Behavioral and Cognitive Neuroscience Graduate Course
2023 – 2025 **Lecturer**, Neuro Core Unit 3: Behavioral and Cognitive Neuroscience Graduate Course, Lectures: Value & Flexibility in Decision-making, ISMMS
2018 – 2020 **Instructor of Record**, Design to Data: Statistics for Modern Neuroscience Graduate Course, UC Davis
2019 – 2020 **Co-Director**, Postdoctoral Career Development Seminar Series, UC Davis
2017 – 2019 **Co-Director**, Postdoctoral Career Development Seminar Series, UC Berkeley
2019 **Director**, 1st Fieldtrip Bootcamp for Analysis of iEEG Data, UC Davis
2017 – 2018 **Instructor**, Clinical Neuroscience Undergraduate Course, Decision-Making Section, UC Berkeley
2017 **Instructor**, Neuropsychology Undergraduate Course, Decision-Making Section, UC Berkeley
2006 – 2008 **Teaching Assistant**, Introduction to Methods in Neuroscience Graduate Course, Baylor College of Medicine

RESEARCH ADVISING & MENTORSHIP

Postdoctoral Fellows & Residents

2024 – pres. Ella Podvalny, Postdoctoral Researcher, ISMMS
2023 – pres. Parul Jain, Postdoctoral Researcher, ISMMS
2023 – 2025 Ayaka Kato, Postdoctoral Researcher, ISMMS
2022 – 2024 Salman E. Qasim, Postdoctoral Researcher, ISMMS
2022 – 2024 Lu Jin, Research Track Psychiatry Resident, ISMMS
2022 – 2024 Soyeon Jun, Postdoctoral Researcher, ISMMS
2018 – 2023 Jacqueline Overton, Postdoctoral Researcher, UC Davis & ISMMS

Graduate Students

2025 – pres. Henry Asher, PhD Student, ISMMS
2024 – pres. Manny Coleman, PhD Student, ISMMS
2024 – pres. Maren Cukor, MS Student, ISMMS
2024 – pres. Gelana Tostaeva, PhD Student, ISMMS
2023 – pres. Cristina Banuelos, MD/PhD Student, ISMMS
2022 – pres. Alexandra Fink, PhD Student, ISMMS
2022 – pres. Christina Maher, PhD Student, ISMMS
2021 – pres. Qixiu Fu, PhD Student, ISMMS
2021 – 2025 Arianna Neal Davis, MD/PhD Student, ISMMS
2021 – 2023 Zarghona Imtiaz, MS Student, ISMMS
2021 – 2022 Rozalyn Wood, MS Student, ISMMS

Postbaccalaureate Researchers & Undergraduate Students

2018 – 2020 Tarun Devesetti, Undergraduate Research Student, UC Davis
2018 – 2020 Katie Nunn, Undergraduate Research Student, UC Davis
2018 – 2019 Margaret Sit, Undergraduate Research Student, UC Davis
2016 Matthew Joerke, Undergraduate Research Student, UC Berkeley
2016 – 2018 Lili Karaschuk, Undergraduate Research Student, UC Berkeley
2014 – 2016 Joshua Moller-Mara, Undergraduate Research Student, UC Berkeley
2010 – 2011 Samun Khalilian, Undergraduate Research Student, Virginia Tech

Thesis Committees

2024 – pres. Komal Kainth, PhD committee member, ISMMS
2022 – pres. Alessandra Yu, PhD Committee Member, ISMMS
Paul Philipsberg, PhD Committee Member, ISMMS
Sam McConnell, PhD Committee Member, ISMMS
2022 – 2023 Furqan Afzal, PhD Committee Member, ISMMS
Kaustubah Kulkarni, PhD Committee Member, ISMMA
2019 – 2020 Jordan Crivelli-Decker, PhD Committee Member, UC Davis

Rotation Students

2022 Alissa Valentine, PhD Student Rotation, ISMMS
2022 Alessandra Yu, PhD Student Rotation, ISMMS
2019 Tanner Stephenson, PhD Student Rotation, UC Davis
2019 Savannah Maw, PhD Student Rotation, UC Davis
2019 Arianna Moghbel, MD/PhD Student Rotation, UC Davis
2020 Rebecca Wilson, PhD Student Rotation, UC Davis
2018 Carlos Carrasco, PhD Student Rotation, UC Davis
2018 Gregory Disse, MD/PhD Student Rotation, UC Davis
2017 Zuzanna Balewski, PhD Student Rotation, UC Berkeley

MEMBERSHIP IN PROFESSIONAL SOCIETIES

Biological Psychiatry Society
Society for Neuroeconomics
Human Brain Mapping Organization
American Association for the Advancement of Science
Cognitive Neuroscience Society
Society for Neuroscience
Federation of European Neuroscience Societies

OTHER MEDIA & PRESS COVERAGE

2025 "Surprisingly widespread brain activity supports economic decision-making, new study finds" Psypost, May 19

"Meditation Changes Your Brain Structure in a Good Way", Discover Magazine, March 17

"New Research Reveals that Meditation Induces Changes In Deep Brain Areas Associated With Memory And Emotional Regulation", Medical Dialogues, February 16

"This Simple Practice Can Boost Memory & Emotional Regulation, According To Research", MindBodyGreen, February 16

"You can actually change the brain waves involved in depression and anxiety with this trick", New York Post, February 14

2024 "Utilizing recordings from human brain to understand brain function", Mount Sinai Icahn Medical School, November 15

"How Mount Sinai has become the leading center for studying and monitoring conscious human thought", Mount Sinai Icahn Medical School, November 15

"Treating psychiatric disorders with neuromodulation: the third way", Neuro Central, September 24

"Here's what it's like inside the operating room when someone gets a brain implant," CNBC, May 25

"A Cerebro Abierto, con Ignacio Saez," El Lado Malo de la Historia, May 21

"Precision Neuroscience launches new BCI study sites," MassDevice, March 25

"Inside the Operating Room: Doctors Test a Revolutionary Brain-Computer Implant," Wall Street Journal, March 22

"Mount Sinai Is First in New York to Study a Brain-Computer Interface Designed to Record and Map the Brain's Activity in Unprecedented Detail," Mount Sinai Health System, March 22

2023 "A macroproject publishes a brain atlas, a map for understanding what makes us human," El País, October 12

"Ignacio Sáez, neurocientífico: 'Nuestra capacidad de prever el future y revisar el pasado nos predispone a la enfermedad mental,'" El País, Spain, September 6

"A Conversation on Depression with Dr. Ignacio Saez," Mount Sinai Health System and The Aspen Institute, July 5

2021 "¿Puede ser provechoso el diálogo entre la neurociencia y la filosofía?," CINET, Fundación Tatiana Pérez de Guzmán el Bueno, December 1

2020 "Cerebrum Mind Over Matter: Cognitive Neuroengineering," Dana Foundation, June 5

2015 BBC2 Newsnight (TV), BBC, March 20

"One pill makes you compassionate," Science Today (Radio), University of California

"¿Un fármaco para ser más justos?," La Rioja, May 10

"La pastilla de la generosidad," El Mundo, March 24

"There Could Soon Be a Pill to Make Us More Compassionate," TIME Magazine, March 21

"People could become more compassionate by taking a drug that prolongs dopamine's effects on the brain," The Independent, March 20

"The pill that lets you sense other people's pain," The Daily Mail, March 19

"Una pastilla para el párkinson hace más sensible a la desigualdad," El País

2014 "Choosy Genes: How DNA affects decision-making," Berkeley Science Review, November 19

"Risk-taking is linked to chemicals controlled by our genes," The Daily Mail, June 16

"Genes and gambling: UC Berkeley study shows genes affect how people bet," San Francisco Business Times, June 16

"Your genes affect your betting behavior," Berkeley News Center, June 16

2011 "Dopamine release in human brain tracked at microsecond timescale reveals decision making," Science Daily, November 2