

Roozbeh Kiani, M.D., Ph.D.

Professor

Neural Science and Psychology

Center for Neural Science
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Academic Positions

2024-present	Professor of Neural Science and Psychology, New York University
2019-2024	Associate Professor of Neural Science, New York University
2019-2024	Adjunct Associate Research Scientist, Mortimer B. Zuckerman Mind Brain Behavior Institute, Columbia University
2017-present	Associate Investigator, Neuroscience Institute at the NYU Medical Center
2014-2018	Assistant Professor of Psychology, New York University
2013-2018	Assistant Professor of Neural Science, New York University

Academic Training

06/2009-12/2012	Postdoctoral fellow, Newsome lab, Stanford University
03/2009-06/2009	Postdoctoral fellow, Shadlen lab, University of Washington
02/2009	Ph.D. (Thesis advisor: Michael Shadlen) Dissertation: <i>Bounded accumulation of evidence in parietal cortex: A flexible neural mechanism for making decisions and estimating certainty</i>
10/2004-02/2009	Graduate Program in Neurobiology and Behavior, University of Washington, Seattle
11/2002-08/2004	Research Fellow in the Laboratory of Brain and Cognitive Sciences, Shaheed Beheshti University, Tehran, Iran. Supervisors: Hossein Esteky and Keiji Tanaka
11/2002	M.D. (Thesis advisor: Hossein Esteky) Dissertation: <i>Electrophysiological investigation of the effect of C-fiber depletion on the accuracy of whisker discrimination by rat barrel cortex neurons</i>
09/1995-11/2002	Medical Student, Shaheed Beheshti University School of Medicine, Tehran, Iran

Awards and Honors

2023	Pew Innovation Fund Award
2022	Troland Award, National Academy of Sciences
2017	Simons Foundation Award for Collaboration on the Global Brain
2016	Pew Scholar in the Biomedical Sciences
2016	McKnight Scholar Award
2015	Cowan Young Investigator Award
2014	Whitehall Foundation Research Grant

2014	NARSAD Young Investigator Award
2014	Alfred P. Sloan Research Fellowship
2014	Simons Foundation Award for Collaboration on the Global Brain
2011-2012	Walter V. and Idun Berry Postdoctoral Fellowship at Stanford
2010	Donald B. Lindsley Prize in Behavioral Neuroscience
1995	Gold medal of the 27 th International Chemistry Olympiad and the special award of the competition for the top gold medalist, Beijing, China
1994	Gold medal of Iranian Chemistry Olympiad

Professional Activities

National Advisory Boards and Committees

2023-2025	National Eye Institute, Member of Board of Scientific Counselors
2020-2023	National Eye Institute, Member of Board of Scientific Counselors
2016-2018	Society for Neuroscience, International Travel Awards Selection Committee
2015	National Eye Institute, Ad hoc reviewer for Board of Scientific Counselors
2015-2017	Society for Neuroscience, Trainee Professional Development Awards Selection Committee

University and Departmental Service

2024-	Member of NYU Faculty Assembly
2024-	Member of CNS Community-Building Committee
2023-2025	Member of the Executive Committee of the Center for Neural Science
2023-2025	Member of Awards and Nominations Committee
2023-2025	Member of CNS IT Committee
2022	Faculty judge for CAS Undergraduate Conference
2022-2023	Vice chair of NYU IACUC
2021-2023	Faculty member of NYU IACUC
2021	Member of the Executive Committee of the Center for Neural Science
2021-2024	Member of the Center for Brain Imaging Oversight Committee
2019-2020	Member of 10-year Planning Committee of the Center for Neural Science
2019	Member of Ad-hoc Committee for Improving Admission and Open House
2019	Member of the NYU Neuroscience Retreat Committee
2018-2020	Member of the admission committee of the Neuroscience Graduate Program at NYU
2017	Faculty judge for CAS Undergraduate Conference
2016-2020	STEM committee member of the Dean's Undergraduate Research Fund (DURF)
2016-2020	Faculty member of the Center for Brain Imaging Oversight Committee (CBI Comm)
2013-2019	Co-organizer of the NYU Neuroscience Colloquium
2013	Faculty organizer of CNS Departmental Retreat

Editorial Experience

2020-	Editorial Board, Decision Neuroscience
2020-	Review Editor for Frontiers in Neuroscience
2020-	Review Editor for Frontiers in Psychology
2019	Guest Editor in eLife
2015-2016	Section Editor of the Current Opinion in Neurobiology

Manuscript Review

Cell / Cell Reports / Cerebral Cortex / Communications Biology / Current Biology / eLife / Frontiers in Decision Neuroscience / Journal of Cognitive Neuroscience / Journal of Computational Neuroscience / Journal of Neurophysiology / Journal of Neuroscience / Nature / Nature Communications / Nature Human Behaviour / Nature Neuroscience / Neural Networks / Neuron / Philosophical Transactions A / PLoS Biology / PLoS Computational Biology / PLoS One / PNAS / Psychological Science / Science / Vision Research

Grant Review

NIH BRAIN Initiative
National Science Foundation (NSF)
French National Funding Agency (ANR)
Austrian Science Fund (FWF)
US-Israel Bi-national Science Foundation (BSF)

Book Proposal Review

Springer

Society Memberships

2003- Society for Neuroscience
2007- Vision Sciences Society
2008- The American Physiological Society

Organized Meetings, Workshops and Summer Schools

2025	Co-organizer	Thalamus Workshop, NYU
2024-2028	Co-director	Methods in Computational Neuroscience, Marine Biology Lab, Woods Hole, MA
2023	Co-organizer	Non-Human Primate Research Consortium Workshop on “Inter-areal communication and causal interactions,” Simons Foundation, New York
2020	Co-organizer	Computational and System Neuroscience (Cosyne) Workshop on “Comparative decision making,” Breckenridge, Colorado
2019	Co-organizer	Sensory Adaptation Symposium, NYU
2018	Co-organizer	Computational and Systems Neuroscience (Cosyne) Workshop on “Model-Based Cognition: Hierarchical Reasoning and Sequential Planning,” Breckenridge, Colorado
2016	Co-organizer	Complexity of Neural Computation and Cognition, HHMI, Janelia Research Campus
2014	Co-organizer	Frontiers in Brain and Cognition, NYU-Weizmann Neuroscience Meeting
2014	Co-organizer	Computational and Systems Neuroscience (Cosyne) Workshop on “Cascaded Computations,” Snowbird, Utah
2014	Faculty organizer	CNS Departmental Retreat in Montauk, NY
2008	Co-organizer	Computational and Systems Neuroscience (Cosyne) Workshop on “Representational Similarity Analysis,” Snowbird, Utah

Teaching Experience

2022, 2024 What makes decision making flexible?, NYU

2020, 2022-2025	Course organizer for Behavioral & Cognitive Neuroscience, NYU
2020	Faculty mentor at Neuromatch Academy
2015-2019	Instructor and course organizer, Behavioral & Integrative Neuroscience, NYU
2015-2019	Instructor and course organizer, Behavioral & Integrative Neuroscience Lab, NYU
2015	Lecturer in Perception, NYU
2015	CPM: Nervous System lecture, NYU School of Medicine
2014	Instructor and course organizer, Neural Population Coding, NYU
2014-2017, 2019	Lecturer in Behavioral & Cognitive Neuroscience, NYU
2013-	Lecturer, Sensory & Motor Neural Science, NYU
2010	Lecturer, Diversity and cross-fertilization among approaches to memory, Yerevan, Armenia
2009, 2010, 2012	Lecturer, Methods in Computational Neuroscience, Marine Biological Laboratory

Trainees

Postdoctoral Fellows

9/2024-	Joseph Simon IV
12/2023-	Wenyi Zhang
7/2023-	Anandita De (co-mentor with Luca Mazzucato)
4/2023-8/2023	Subham Dey
5/2022-	Isaac Morán
3/2022-8/2022	Pavlos Kollias
11/2020-	Bianca Sieveritz
1/2018-6/2024	Dennis London (Assistant Professor of Neurosurgery, NYU Medical School)
4/2019-6/2021	Ting Wu (Assistant Professor, Chinese Brain Research Institute, Beijing)
6/2016-6/2021	Michael Waskom
9/2015-10/2019	John Sakon (Research Assistant Professor, UCLA)
1/2015-10/2021	Gouki Okazawa (Assistant Professor, Institute of Neuroscience, Shanghai)
4/2013-1/2018	Braden Purcell

Ph.D. Students

9/2023-	Isabella Rischall
9/2016-6/2023	Saleh Esteki (did not submit thesis)
9/2015-8/2019	Long Sha
10/2013-1/2022	Christina Hatch

Master Students

1/2023-5/2024	Chenghao Zhou
9/2019-5/2021	Yuki Minai

Collaborating Post-docs and Ph.D. Students

Yue Liu (2023-), Wang Lab, Center for Neural Science, NYU
 Jeff Johnston (2023-), Fusi Lab, Zuckerman Mind, Brain and Behavior Institute, Columbia University
 Jenelle Feather (2022-), Chung Lab, Center for Computational Neuroscience, Simons Foundation
 Rouchen Yang (2022-), Bogdan Lab, Electrical and Computer Engineering, USC
 Conner Carnahan (2022-), Mazzucato Lab, Physics, University of Oregon
 Ramon Nogueira (2021-2024), Fusi Lab, Columbia University
 Colin Bredenberg (2019-2022), Savin Lab, Center for Neural Science, NYU

Justin Yao (2019-2022), Sanes Lab, Center for Neural Science, NYU
Lee Lovejoy (2018-), Salzman Lab, Zuckerman Mind, Brain and Behavior Institute, Columbia University
Koosha Khalvati (2017-2021), Rao Lab, Computer Science, University of Washington
Udi Karpas (2017-2020), Schneidman Lab, Weizmann Institute
Gabriela Mochol (2016-2020), Moreno-Bote Lab, Pompeu Fabra University, Spain
Ori Maoz (2016-2020), Schnediman Lab, Weizmann Institute
Sajjad Zabbah (2016-2020), Ebrahimpour Lab, Institute for Research in Fundamental Sciences, Iran

Rotating Ph.D. Students

2024 (fall)	Andrew Aoun
2023 (summer)	Isabella Rischall
2022 (fall)	Amarachi Oleru
2019 (fall)	Saeed Karimimehr
2019 (spring)	Lark Tan
2018 (fall)	Lyndon Duong
2018 (summer)	Colin Bredenberg
2017 (summer)	Peiyuan Zhang
2016 (summer)	Paul Levy
2015 (fall)	Saleh Esteki
2014 (fall)	Long Sha
2013 (summer)	Christina Hatch

Undergraduate and High School Interns

2024-	Nathan Cohen
2024	Tate Kim
2023-2024	Skylar Zhao
2023	Mehrsa Hatami
2023	Amir Hossein Moqadam
2023	Maya Karri
2023-2024	Valeria Zhou
2022	Tyler Reese
2020-2022	Bowen Zhu
2020-2021	Lejia Hu
2019	Kyle Lefler (SURP student from the College of the Holy Cross)
2018	Maher Asfour (SURP student from NYU Abu Dhabi)
2018	Seoyoung Lee
2016	Elena Esch (SURP student from Lafayette College)
2015	Sarah Mousavi (Semi-finalist in the Intel Science Talent Search)
2015	Davena Zhang
2013	Matthew Hakimi
2013-2014	Janeen Waddah Asfour (SURP student from NYU Abu Dhabi)

Thesis Committees

Doctoral Thesis

2024-	Timothy Ma	Neuroscience, NYU
2023-	Elliott Capek	Neuroscience, NYU
2022-	Kevin Barber	Rockefeller University

2022-	Danilo Perez-Rivera	Neuroscience, NYU
2022-2024	Chengze Xu	Neuroscience, NYU Shanghai
2022-	Saeed Karimimehr	CNS, NYU
2022	Antonio Fernández	Psychology, NYU
2021-2024	Max Pensack	Neuroscience, Columbia
2021-	Jussi Tiihonen	Aalto University, Finland
2020	Mariel Roberts	Psychology, NYU
2019	Edoardo Cuniberto	Tandon School of Engineering, NYU
2019-2022	Colin Bredenberg	CNS, NYU
2019	Abigail Russo	Neuroscience, Columbia
2018	Ian Donovan	Psychology, NYU
2018	Olivier Henaff	CNS, NYU
2018	Hsin-Hung Li	Psychology, NYU
2018-2022	Caroline Haimerl	CNS, NYU
2017-2019	Koosha Khalvati	CS, University of Washington
2017-2023	Paul Levy	CNS, NYU
2017-2019	Ting Wu	Tandon School of Engineering, NYU
2016-2020	Tim Currier	CNS, NYU
2016-2023	Xingyu Ding	Neuroscience, NYU Shanghai
2016-2023	Saleh Esteki	CNS, NYU
2016-2018	Rishi Rajalingham	BCS, MIT
2015-2017	Yul Hyoung	Neuroscience, Columbia
2015-2020	EG Gaffin-Cahn	Psychology, NYU
2015-2019	Long Sha	CNS, NYU
2014-2018	Alex Berardino	CNS, NYU
2014-2018	Andra Mihali	CNS, NYU
2014-2019	Brittany Bushnell	CNS, NYU
2014-2021	Jonathan Gill	CNS, NYU
2014-2019	Kevin Brown	CNS, NYU
2014-2018	Will Adler	CNS, NYU
2014-2016	Corey Ziemba	CNS, NYU
2014-2018	Chris Wilson	Neuroscience Inst., NYU
2013-2021	Christina Hatch	CNS, NYU
2013	Chris Peck	Neuroscience, Columbia

Master Thesis

2020	Yuki Minai	Psychology, NYU
2016	Alok Patel	Tandon School of Engineering, NYU
2013	Michael Caruso	CNS, NYU

Grants

Funded

Pew Innovation Fund	Kiani (PI)	11/15/2023-10/31/2027
Neural computations and circuit mechanisms of changes of mind in the mouse and monkey		

Simons SCGB Culmination Award Culmination Award: Neural computations for visual form processing and form-based cognition	Kiani (co-PI)	07/01/2023-06/30/2025
Simons SCGB Culmination Award Culmination Award: Neural mechanisms of context dependent cognitive behavior	Kiani (co-PI)	07/01/2023-06/30/2025
Simons Foundation Award Neural mechanisms of goal directed behavior: Pilot fund for Non-Human Primate Neuroscience Consortium (NHPNC)	Kiani (PI)	06/01/2022 – 05/31/2024
R01 MH127375 Causal power of cortical neural ensembles: mechanisms and utility for brain perturbations	Kiani (PI)	04/01/2022 – 03/31/2027
Troland Awards, National Academy of Sciences	Kiani (PI)	05/01/2022
Simons Collaboration on the Global brain Neural computations for visual form processing and form-based cognition	Kiani (PI)	07/01/2017 – 06/30/2023
Simons Collaboration on the Global brain Neural mechanisms of context dependent cognitive behavior	Kiani (PI)	07/01/2017 – 06/30/2023
NYU School of Medicine and Tandon School of Engineering Collaborative Project Program High-resolution spatiotemporal recording of dopamine and neural signals in the brain	Kiani (co-PI)	07/10/2017 – 07/09/2019
Pew Scholarship in the Biomedical Sciences Adaptive regulation of behavior by frontoparietal networks	Kiani (PI)	08/01/2016 – 07/31/2021
McKnight Scholar Award Hierarchical decision processes that operate over distinct time scales underlie choice and changes of strategy	Kiani (PI)	07/01/2016 – 06/30/2020
Simons Collaboration on the Global Brain Catching fireflies: Dynamic neural computations for foraging	Kiani (CI)	07/01/2016 – 06/30/2018
R01 MH109180 CRCNS: Neural coding and computation in large ensembles in prefrontal cortex	Kiani (PI)	06/01/2015 – 05/31/2020
NARSAD Young Investigator Award Adaptive regulation of behavior by parietal and frontal neurons based on confidence about past decisions	Kiani (PI)	01/15/2015 – 01/15/2017
Whitehall Foundation Research Grant The role of corticocortical interactions in neural computation of certainty	Kiani (PI)	01/01/2015 – 12/31/2018
Simons Collaboration on the Global Brain Discovery of hidden states and functional subdivisions of fronto-parietal network in decision-making	Kiani (PI)	07/01/2014 – 06/30/2017

Sloan Research Fellowship

Kiani (PI)

09/01/2014 – 09/14/2018

Sponsored Training Fellowships for Lab Members

Funded

Joesph Simon	D-SPAN K00, NIMH	2025-2029
Saleh Esteki	Dean's Dissertation Fellowship	2020-2021
Michael Waskom	Post-doctoral fellowship Junior Fellowship of the Simons Society of Fellows	2017-2020
Long Sha	Samuel J. and Joan B. Williamson Fellowship	2018-2019
Braden Purcell	NIH pathway to independence award National Eye Institute K99/R00, EY028621	2017-2022
Gouki Okazawa	Post-doctoral fellowship Charles H. Revson Senior Fellowship in Biomedical Sciences	2017-2019
Long Sha	Pre-doctoral fellowship NRSA, Institutional Training Grant (T90/R90)	2016-2018
Braden Purcell	NRSA post-doctoral fellowship National Eye Institute, F-32	2015-2018
Gouki Okazawa	Post-doctoral fellowship Japan Society for the Promotion of Science	2015-2017
Braden Purcell	Post-doctoral fellowship Simons Collaboration on the Global Brain	2015-2018

Invited Talks

Upcoming:

Southern Methodist University, February 2025

Johns Hopkins, April 2025

National Institutes of Mental Health, May 2025

Gordon Research Conference on Thalamocortical Interactions, February 2026

Past

1. Johns Hopkins University, 4/7/2025

2. Southern Methodist University, 2/28/2025
3. University of Chicago, 2/4/2025
4. Clinical Cognitive Computational Neuroscience (C3N) seminar, Columbia University, 11/13/2024
5. Lipschultz Center for Cognitive Neuroscience Symposium, Mt Sinai, 9/17/2024
6. Festschrift for Bill Newsome, Stanford University, 9/15/2024
7. Methods in Computational Neuroscience, MBL, Woods Hole, 8/8/2024
8. Sharif University of Technology, Iran, virtual talk, 3/7/2024,
9. Cosyne Workshops “What controls evidence accumulation?”, Cascais, Portugal, 3/5/2024
10. ICERM, Brown University, 11/3/2023
11. Cornell University, Ithaca, 10/12/2023
12. NeuroBridges, Cluny, France, 9/4/2023
13. NYU Symposium on Cognition and Perception, New York, 6/29/2023
14. McKnight Annual Meeting, Aspen, 6/11/2023
15. Workshop on Internal States, Carnegie Mellon University, 5/10/2023
16. Pew Annual Meeting, Costa Rica, 12/9/2022
17. The 6th Human Single Neuron Meeting, UCLA, 11/11/2022
18. CSHL Computational Vision Course, 7/18/2022
19. SISSA, Italy, virtual talk, 7/13/2022
20. AREADNE Research in Encoding and Decoding, Santorini, Greece, 7/2/2022
21. University of Oregon, Eugene, Oregon, 4/28/2022
22. Simons Collaboration on the Global Brain, 3/7/2022
23. Monash University, virtual talk, 2/4/2022
24. CEBIST / ION virtual symposium, 10/21/2021
25. Oxford University, virtual talk, 10/19/2021
26. NIH Neuroscience Seminar Series, virtual talk, 4/19/2021
27. Pew Annual Meeting, virtual talk, 3/26/2021
28. Cognitive and Computational Neuroscience Competition, Iranian e-course, 10/16/2020
29. Bernstein Conference, Berlin, Germany, 9/29/2020
30. German Primate Center (DPZ), Gottingen, Germany, 7/23/2020
31. Cosyne Workshop on Comparative Decision Making, Breckenridge, Co, 3/3/2020
32. Cosyne Workshop on Structure Learning, Breckenridge, Co, 3/2/2020
33. University of Pennsylvania, Philadelphia, 12/4/2019
34. Columbia University, Center for Theoretical Neuroscience, 11/22/2019
35. California Institute of Technology (Caltech), Pasadena, 11/11/2019
36. Motivational and Cognitive Control Symposium (MCC), Berlin, Germany, 9/16/2019
37. Barcelona Computational and Systems Neuroscience (BARCCSYN), Spain, 5/30/2019
38. Pompeu Fabra University, Barcelona, Spain, 5/28/2019
39. University of Helsinki, Helsinki, Finland, 4/15/2019
40. Santa Fe Institute, 5/11/2018

41. Fordham College, New York, 4/26/2018
42. NYU-Weizmann Next Generation workshop, New York, 3/14/2018
43. Cosyne Workshop on Hierarchical Reasoning and Sequential Planning, 3/5/2018
44. NYU Psychology Colloquium, 1/25/2018
45. Columbia University, Center for Theoretical Neuroscience, New York, 10/13/2017
46. Keynote speaker of the Center for Neural Science Biennial Retreat, NYU, 9/24/2017
47. Eye Movements Gordon Research Conference, 7/11/2017
48. Ernst Strungmann Institute Cognitive Neuroscience Symposium, 5/4/2017
49. University of Washington, Seattle, 4/24/2017
50. NYU Scholars Lecture Series, New York, 3/29/2017
51. Pew Annual Meeting, 3/7/2017
52. Rockefeller University, New York, 1/26/2017
53. SfN Mini-Symposium on Neural Mechanisms of Confidence, 11/15/2016
54. Pew Aging Brain Symposium, Sausalito, 9/29/2016
55. Guest lecture in the Computational Neuroscience: Vision course, CSHL, 7/23/2016
56. CVS Symposium, Rochester University, 6/4/2016
57. Computational and Systems Neuroscience Workshop on Confidence, Snowbird, Utah 2/29/2016
58. Neuroscience Workshop Saclay (NeWS) conference, Gif-sur-Yvette, France, 1/29/2016
59. Cold Spring Harbor Laboratory, 11/9/2015
60. Johns Hopkins University, 11/2/2015
61. Carnegie Mellon University, 9/24/2015
62. Simons Collaboration on the Global Brain, 9/11/2015
63. Japan Neuroscience meeting, 7/28/2015
64. RIKEN Brain Science Institute Summer School, 7/23/2015
65. NYU Dental School, 5/8/2015
66. NYU Neuroscience Colloquium, NYU Medical School, 2/2/2015
67. Sloan Swartz Summer meeting, Seattle, 6/27/2014
68. Howard Hughes Medical Institute, Janelia Farm Research Campus, 6/18/2014
69. Yale School of Medicine, New Haven, 5/29/2014
70. Frontiers in Brain and Cognition, NYU-WIS Neuroscience meeting, New York, 3/18/2014
71. NYU Center for Neuroeconomics, New York, 5/7/2013
72. Princeton University, Princeton, 3/29/2012
73. NYU, New York, 2/13/2012
74. Duke University, Durham, 1/30/2012
75. Columbia University, New York, 1/19/2012
76. Santa Fe Institute, Santa Fe, 10/25/2011
77. Princeton University, Princeton, 6/6/2011
78. Center for Mind, Brain and Computation, Stanford, 5/16/2011
79. The University of Texas at Austin, Austin, 2/7/2011

80. Dartmouth College, Hanover, 1/24/2011
81. Vanderbilt University, Nashville, 1/10/2011
82. National Eye Institute, Bethesda, 12/14/2010
83. Johns Hopkins University, Baltimore, 11/1/2010
84. Rochester University, Rochester, 5/26/2010
85. RIKEN Brain Science Institute, Japan, 4/22/2010
86. IPM School of Cognitive Sciences, Tehran, Iran, 4/18/2010
87. German Primate Research Center, Gottingen, Germany, 3/4/2010
88. The Rank Prize Funds Symposium "Eye movements: What determines when and where we look?" England, 1/13/2010
89. ECVF symposium "Population encoding for high-dimensional visual representations" organized by Jim Haxby, Germany, 8/26/2009
90. Methods in Computational Neuroscience, Marine Biological Laboratory, 8/5/2009
91. SfN Minisymposium "How can perceptual decisions be predicted from the activity of sensory neurons" organized by Bruce Cumming and Hendrikje Nienborg, San Diego, 11/6/2007
92. Computational and Systems Neuroscience Workshop, organized by Anitha Pasupathy and Ed Connor, The Canyons, Utah, 02/26/2007
93. National Institute of Mental Health, Bethesda, 10/27/2006

Publications

For patents * indicates equal contribution. For manuscripts * indicates co-first and † indicates co-senior authors.

Patents

1. Kiani R, Shahrjerdi D, Nasri B. Systems and methods for in vivo detection of electrophysiological and electrochemical signals. U.S. Patent 11,103,168. **2021**.
2. Shahrjerdi D*, Kiani R*, Wu T. Engineering carbon-based structures for sensing applications. U.S. Patent App. 16/635,634. **2021**.
3. Wu T, Alharbi A, Kiani R*, Shahrjerdi D*. Engineering energy storage devices by controlling defects in carbon-based electrodes. U.S. Patent App. 16/220,743. **2020**.
4. Wu T, Alharbi A, Kiani R*, Shahrjerdi D*. Electrodes composed of graphitic films having zero-dimensional defects. U.S. Pending Patent Serial No. 62/599,303. **2017**.

Published Manuscripts

1. Bredenberg C, Savin S[†], Kiani R[†]. (2024). Recurrent neural circuits overcome partial inactivation by compensation and re-learning. *Journal of Neuroscience*. 44(16): e1635232024.
2. Nejatbakhsh A*, Fumarola F*, Esteki S, Toyozumi T, Kiani R[†], Mazzucato L[†]. (2023). Predicting perturbation effects from resting state activity using functional causal flow. *Physical Review Research*. 5(4): 043211.

3. Wickramasuriya DS, Khazaei S, Kiani R, Faghih RT. (2023). A Bayesian Filtering Approach for Tracking Sympathetic Arousal and Cortisol-related Energy from Marked Point Process and Continuous-valued Observations. *IEEE Access*. 11: 137204-137247.
4. Okazawa G, Kiani R. (2023). Flexible neural mechanisms for context-dependent perceptual decisions. *Annual Review of Physiology*. 85: 191-215.
5. Sakon JJ, Kiani R. (2022). Differences in memory for what, where, and when components of recently-formed episodes. *Journal of Neurophysiology*. 128(2): 310-325.
6. London D, Fazl A, Katlowitz K, Soula M, Pourfar MH, Mogilner AY[†], Kiani R[†]. (2021). Distinct population code for movement kinematics and changes of ongoing movements in human subthalamic nucleus. *eLife*. 10:e64893.
7. Okazawa G, Sha L, Kiani R. (2021). Linear integration of sensory evidence over space and time underlies face categorization. *Journal of Neuroscience*. 41(37): 7876-7893.
8. Okazawa G, Hatch CE, Mancoo A, Machens CK, Kiani R. (2021). Representational geometry of perceptual decisions in the monkey parietal cortex. *Cell*. 184(14): 3748-3761.
9. Mochol G, Kiani R[†], Moreno-Bote R[†]. (2020). Prefrontal cortex represents heuristics that shape choice bias and its integration into future behavior. *Current Biology*. 31(6): 1234-1244.
10. Khalvati K, Kiani R[†], Rao RPN[†]. (2020). Bayesian Inference with Incomplete Knowledge Explains Perceptual Confidence and its Deviations from Accuracy. *Nature Communications*. 12(1): 5704.
11. Peixoto D^{*}, Verhein JR^{*}, Kiani R, Kao JC, Nuyujukian P, Chandrasekaran C, Brown J, Fong S, Ryu SI, Shenoy KV, Newsome WT. (2021). Decoding and perturbing decision states in real time. *Nature*. 591(7851): 604-609.
12. Cuniberto E, You KD, Alharbi A, Huang Z, Wu T, Kiani R, Shahrjerdi D. (2021). Anomalous sensitivity enhancement of nano-graphitic electrochemical micro-sensors with reducing the operating voltage. *Biosensors and Bioelectronics*. 177: 112966. doi: 10.1016/j.bios.2021.112966.
13. Maoz O, Esteki S, Tkacik G, Kiani R[†], Schneidman E[†]. (2020). Learning probabilistic representations with randomly connected neural circuits. *PNAS*. 117(40): 25066-25073.
14. Cuniberto E, Alharbi A, Wu T, Huang Z, Sardashti K, You K, Kisslinger K, Taniguchi T, Watanabe K, Kiani R, Shahrjerdi D. (2020). Nano-engineering the material structure of preferentially oriented nano-graphitic carbon for making high-performance electrochemical micro-sensors. *Nature Scientific Reports*. 10(1): 9444.
15. Waskom ML, Okazawa G, Kiani R. (2019). Designing and Interpreting Psychophysical Investigations of Cognition. *Neuron*. 104(1): 100-112.
16. Wu T, Alharbi A, Kiani R, Shahrjerdi D. (2019). Quantitative principles for precise engineering of sensitivity in graphene electrochemical sensors. *Advanced Materials*. 31(6): e1805752.
17. Waskom ML, Kiani R. (2018). Decision-making through integration of sensory evidence at prolonged timescales. *Current Biology*. 28(23): 3850-3856.
18. Okazawa G, Sha L, Purcell BA, Kiani R. (2018). Psychophysical reverse correlation reflects both sensory and decision-making processes. *Nature Communications*. 9(1): 3479.
19. Waskom ML, Asfour J, Kiani R. (2018). Perceptual insensitivity to higher-order statistical moments of coherent random dot motion. *Journal of Vision*. 18(6): 9.
20. Witthoft N^{*}, Sha L^{*}, Winawer J[†], Kiani R[†]. (2018). Sensory and decision-making processes underlying perceptual adaptation. *Journal of Vision*. 18(8): 10.

21. Nasri B, Wu T, Alharbi A, Gupta M, Kiani R, Shahrjerdi D. (2017). A 4-channel hybrid CMOS-graphene sensing platform for dopamine detection. *IEEE Transactions on Biomedical Circuits and Systems*. 11(6):1192-1203.
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23. van den Berg R, Zylberberg A, Kiani R, Shadlen MN, Wolpert DM. (2016). Confidence is the bridge between multi-stage decisions. *Current Biology*. 26(23): 3157-3168.
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Abstract

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