Curriculum Vitae Last Updated: 24/1/2024

PERSONAL DATA

Name: Behrad Noudoost
Birth Place: Iran
Citizenship: Iranian
DOB: 9/6/1976

EDUCATION

1994-2002	M.D.	Isfahan University of Medical Sciences Tehran, Iran
2002-2006	Ph.D.	Institute for Research in Fundamental Sciences (Cognitive Neuroscience) Tehran, Iran
2006-2010	Postdoctoral Fellow	Stanford University (Neurobiology) Stanford, CA, USA

ACADEMIC HISTORY

Department of Neurobiology, Stanford University and Howard Hughes Medical Institute
07/01/2010-06/2013 Research Associate

Department of Cell Biology and Neuroscience, Montana State University
07/01/2013-07/2017 Assistant Professor

Department of Ophthalmology and Visual Sciences, University of Utah
08/01/2017- present Associate Professor

Department of Neurobiology and Anatomy, University of Utah
08/12/2017- present Adjunct Associate Professor

Department of Biomedical Engineering, University of Utah
03/01/2018- present Adjunct Associate Professor

FUNDING

Active Grants: **Total= $1,120,542 per year**

09/20/2022-05/31/2026 R01EY026924, Prefrontal contributions to phase-dependent representation of visual information
Direct Costs: $250,000, Indirect: $134,896, Total: $384,896 per year.
National Institutes of Health- NEI, PI: Behrad Noudoost
Role: Principal Investigator

08/01/2019-05/31/2024 R01NS113073, Sensory recruitment by working memory: neuronal basis and neural circuitry
Direct Costs: $230,000, Indirect: 120,750, Total: $350,750 per year.
National Institutes of Health- NINDS, PI: Behrad Noudoost
Role: Principal Investigator

04/01/2020-03/31/2025 R01EY031477, Extrastriate mechanisms of visuospatial perception during eye movements
Direct Costs: $250,000, Indirect: $134,896, Total: $384,896 per year.
National Institutes of Health- NEI, PI: Neda Nategh
Role: Co-Investigator

Pending Grants: **Total= $19,077,313**

NIH- NIMH 1R01MH132624-01A1, Testing a recruitment through coherence theory of working memory
Begin Date: 09/01/2023
End Date: 08/31/2028
Total Requested Budget: $2,439,504.00
Role: Principal Investigator
Status: Council completed, possibility of funding pending NIH budget approval; resubmitting in February 2024.

NIH- Brain Initiative 1R01NS137962-01, Prefrontal recruitment of sensory areas through coherence
Begin Date: 09/01/2024
End Date: 08/31/2029
Total Requested Budget: $2,497,195.00
Role: Principal Investigator
Status: Pending IRG Review in March 2024.

NIH- Brain Initiative 1R61DC021927-01, The causal role of oscillatory coherence in human working memory
Begin Date: 07/01/2024
End Date: 06/30/2027
Total Requested Budget: $ 3,135,728.00
Role: Principal Investigator, Multi-PI grant (Noudoost, Rahimpour, Kundu)
Status: Pending IRG Review in March 2024.

NIH- Brain Initiative 1U01NS136229-01, Identifying the functional circuitry and computational principles underlying feedback-induced coherent oscillations
Begin Date: 04/01/2024
End Date: 03/31/2027
Total Requested Budget: $ 3,804,179.00
Role: Principal Investigator, Multi-PI grant (Noudoost, Angelucci, Bressloff)
Status: Impact score: 36, unlikely to be funded, resubmitting in May 2024.

NIH- Brain Initiative	1UG3MH133036-01A1, Integrated optogenetic device and viral tools for the study of interareal circuit function in the non-human primate brain Begin Date: 04/01/2024 End Date: 03/31/2027 Total Requested Budget: $ 6,230,189.00 Role: Principal Investigator, Multi-PI grant (Blair, Angelucci, Noudoost) Status: Impact score: 38, unlikely to be funded, resubmitting in February 2024.
DOD- Air Force	Deciphering neural representations of sensory information by cracking the neural phase code Begin Date: 09/01/2024 End Date: 08/31/2027 Total Requested Budget: $870,518 .00 Role: Principal Investigator, Multi-PI grant (Noudoost, Nategh) Status: To be reviewed in March 2024.

Selected Past Grants

06/01/14-05/31/17	#2104-05-18, Prefrontal contributions to synchronous and correlated activity within visual cortex Direct Costs: $219,000 Whitehall Foundation, PI: Behrad Noudoost Role: Principal Investigator
08/15/14-07/31/18	#BCS14322, Determining the neurons and neuromodulatory pathways underlying the prefrontal control of visual signals Direct Costs: $290,663 National Science Foundation- BCS, PI: Behrad Noudoost Role: Principal Investigator
09/01/2016-08/31/2020	#1632738, RII Track-2 FEC: Neural basis of attention Direct Costs: $60,000 (not available in Utah) National Science Foundation, PI: Peter Tse Role: Co-Investigator
12/02/2019-11/30/2020	R01MH121435, Understanding the neural basis for recruitment of visual areas by working memory Direct Costs: $125,000. National Institutes of Health- NIMH, PI: Behrad Noudoost Role: Principal Investigator

PEER-REVIEWED JOURNAL ARTICLES
(Corresponding author in Bold)

1. Weng G, Akbarian A, Clark K, Noudoost B, Nategh N. Neural correlates of perisaccadic visual mislocalization in extrastriate cortex. Nat Comm (under revision)

2. Roshanaei M, Bahmani Z, Clark K, Daliri MR, **Noudoost B**. Working memory expedites the processing of visual signals within the extrastriate cortex. iScience (under revision).

3. Weng G, Clark K, Noudoost B, Nategh N. Time-Varying Generalized Linear Models: Characterizing and Decoding Neuronal Dynamics in Higher Visual Areas. Front. Neurosci (2024).

4. Nesse WH, Clark K, Noudoost B. Information Representation in an Oscillating Neural Field Model Modulated by Working Memory Signals. Front Comp Neurosci (2024).

5. Jonikaitis D, Noudoost B, Moore T. Dissociating the Contributions of Frontal Eye Field Activity to Spatial Working Memory and Motor Preparation. J Neurosci (2023).

6. Comeaux P, Clark K, **Noudoost B**. A recruitment through coherence theory of working memory. Prog Neurobiol (2023).

7. Rezayat E, Clark K, Dehaqani MA, **Noudoost B**. Dependence of working memory on coordinated activity across brain areas. *Front Syst Neurosci* (2022).

8. Akbarian A, Clark K, **Noudoost B, Nategh N**. A sensory memory to preserve visual representations across eye movements. *Nat Commun* (2021).

9. Merrikhi Y, Shams-Ahmar M, Karimi-Rouzbahani H, Clark K, Ebrahimpour R, **Noudoost B**. Dissociable contribution of extrastriate responses to representational enhancement of gaze targets. *J Cogn Neurosci* (2021).

10. **Noudoost B**, Clark KL, Moore T. Working memory gates visual input to primate prefrontal neurons. *Elife* (2021).

11. Nesse WH, Bahmani Z, Clark K, **Noudoost B**. Differential Contributions of Inhibitory Subnetwork to Visual Cortical Modulations Identified via Computational Model of Working Memory. *Front Comput Neurosci* (2021).

12. Rezayat E, Dehaqani MA, Clark K, Bahmani Z, Moore T, **Noudoost B**. Frontotemporal coordination predicts working memory performance and its local neural signatures. *Nat Commun* (2021).

13. Salehi S, Dehaqani MR, Noudoost B, Esteky H. Distinct mechanisms of face representation by enhancive and suppressive neurons of the inferior temporal cortex. *Journal of Neurophysiology (2020).*

14. Vanegas MI, Hubbard KR, Esfandyarpour R, **Noudoost B.** Microinjectrode System for Combined Drug Infusion and Electrophysiology. *Journal of Visualized Experiments (2019).*

15. Niknam K, Akbarian A, Clark K, Noudoost B, Nategh N. Characterizing and dissociating multiple time-varying modulatory computations influencing neuronal activity. *PLoS Computational Biology (2019).*

16. Bahmani Z, Clark K, Merrikhi Y, Mueller A, Pettine W, Vanegas MI, Moore T, **Noudoost B.** Prefrontal contributions to attention and working memory. *Current Topics in Behavioral Neuroscience (2019).*

17. Merrikhi Y, Clark K, **Noudoost B.** Concurrent influence of top-down and bottom-up inputs on correlated activity of Macaque extrastriate neurons. *Nature Communications (2018).*

18. Bahmani Z, Daliri MR, Merrikhi Y, Clark KL, **Noudoost B.** Working memory enhances cortical representations via spatially specific coordination of spike times. *Neuron (2018).*

19. Dehaqani MRA, Vahabie A, Parsa MB, **Noudoost B,** Soltani A. Selective reduction in noise correlations contributes to an enhanced representation of saccadic targets in prefrontal neuronal ensembles. *Cerebral Cortex (2018).*

20. Akbarian A, Niknam K, Parsa M, Clark K, Noudoost B, Nategh N. Developing a Nonstationary Computational Framework with Application to Modeling Dynamic Modulations in Neural Spiking Responses. *IEEE Transactions on Biomedical Engineering (2018).*

21. Merrikhi Y, Clark K, Albarran E, Parsa M, Zirnsak M, Moore T, **Noudoost B.** Spatial Working Memory Alters the Efficacy of Input to Visual Cortex. *Nature Communications (2017).*

22. Curry M, Zimmerman A, Parsa M, Abolghasemi-Dehaqani M, Clark K, **Noudoost B.** A Cage-Based Training System for Non-Human Primates. *AIMS Neuroscience (2017).*

23. **Noudoost B**, Nategh N, Clark KL, Esteky H. Stimulus context alters neural representations of faces in inferotemporal cortex. *Journal of Neurophysiology (2017).*

24. Hu M, Clark KL, Gong X, Noudoost B, Li M, Moore T, Liang H. Copula regression analysis of simultaneously recorded frontal eye field and inferotemporal spiking activity during object-based working memory. *Journal of Neuroscience (2015)*.

25. Zirnsak M, Steinmetz NA, Noudoost B, Xu K, Moore T. Visual space is compressed in prefrontal cortex before eye movements. *Nature (2014)*.

26. Clark KL, Noudoost B, Moore T. Persistent spatial information in the frontal eye field during object-based short-term memory does not contribute to task performance. *Journal of Cognitive Neuroscience (2014)*.

27. **Noudoost B**, Clark KL, Moore T. A distinct contribution of the frontal eye field to the visual representation of saccadic targets**.** *Journal of Neuroscience (2014).*

28. Soltani A, Noudoost B, Moore T. Dissociable dopaminergic control of saccadic target selection and its implications for reward modulation. *Proceedings of National Academy of Sciences (2013)*.

29. **Noudoost B,** Esteky H. Neuronal correlates of view representation revealed by face view aftereffect. *Journal of Neuroscience (2013)*.

30. Clark KL, Noudoost B, Moore T. Persistent spatial information in the frontal eye field during object-based short-term memory. *Journal of Neuroscience (2012)*.

31. **Noudoost B,** Moore T. Control of visual cortical signals by prefrontal dopamine. *Nature (2011).*

32. **Noudoost B,** Moore T. A reliable microinjectrode system for use in behaving monkeys. *Journal of Neuroscience Methods (2011).*

33. Nilipour R, Saber GT, Noudoost B. Different profiles of verbal and nonverbal auditory impairment in cortical and subcortical lesions. *Basic and Clinical Neuroscience (2010).*

34. **Noudoost B**, Afraz SR, Vaziri-Pashkam M, Esteky H. Visual spatial integrity in the absence of splenium. Brain Research (2006).

35. Noudoost B, Adibi M, Moeeny A, Esteky H. Configural and analytical processing of familiar and unfamiliar objects. Brain Research (2005).

36. Nilipour R, Clarke S, Noudoost B, Saber GT, Najlerahim A. Response time as an index for selective auditory cognitive deficits. *Acta Neurobiologiae Experimentalis (2004).*

REVIEW ARTICLES AND COMMENTARIES

1. Clark KL, Squire RF, Merrikhi Y, **Noudoost B.** Visual attention: Linking prefrontal sources to neuronal and behavioral correlates. *Progress in Neurobiology (2015).*
2. Clark KL, **Noudoost B.** The role of prefrontal catecholamines in attention and working memory. *Frontiers in Neural Circuits (2014).*
3. Noudoost B, Moore T. Parietal and prefrontal neurons driven to distraction. *Nature Neuroscience (2013).*

4. Squire RF, Noudoost B, Schafer RJ, Moore T. Prefrontal contributions to visual selective attention. *Annual Review of Neuroscience (2013)*.
5. Noudoost B, Moore T. The role of neuromodulators in selective visual attention. *Trends in Cognitive Sciences (2011)*.
6. Noudoost B, Chang MC, Steinmetz NA, Moore T. Top-down control of visual attention. *Current Opinion in Neurobiology (2010).*

BOOK CHAPTERS

1. **Noudoost B**, Albarran E, Moore T. (2014). Neural signatures, circuitry, and modulators of visual selective attention. In: *The Cognitive Neurosciences-Fifth Edition*. The MIT Press, Cambridge, MA, USA.
2. Clark KL, **Noudoost B**, Schafer RJ, Moore T. (2014). Neuronal mechanisms of attentional control: Frontal cortex. In: *Handbook of Attention*. Oxford, UK.
3. Moore T, Schafer RJ, **Noudoost B**. (2010). Circuits of visual attention. In: *Primate Neuroethology*. Elsevier, Cambridge, MA, USA.
4. Moore T, **Noudoost B**. (2008). Sensorimotor integration: Attention, premotor theory of. In: *The New Encyclopedia of Neuroscience*. Elsevier, Cambridge, MA, USA.

SELECTED REVIEWER ROLES:

Review panels:
ZRG1 F01B-J Fellowship panel: Learning, Memory, Language, Comm., and Related Neuroscience (eight times)
ZRG1 IFCN-T BRAIN Initiative panel: Targeted BRAIN Circuits Projects (one time)
ZNS1 SRB-P(08) NINDS Special Emphasis Panel (one time)
BRAIN K99 Study Section (two times)
ZNS1 SRB-K(37) R13 (to serve in Nov. 2022).

Journal reviews:
Journal of Neuroscience Journal of Neurophysiology, PLOS Biology, Neuron, eNeuro, Cell Reports, Cerebral Cortex, Current Biology, Frontiers, Journal of Cognitive Neuroscience, Journal of Visual Experiments, Nature Communications, Scientific Reports, PNAS, etc.

SELECTED INVITED TALKS

2013	Princeton University. Princeton, NJ, USA.
2013	Riken Brain Science Institute. Skype presentation.
2013	Montana State University. Bozeman, MT, USA.
2014	University of California, Santa Barbara. Santa Barbara, CA, USA.
2016	Carnegie Mellon University. Pittsburgh, PA, USA.
2016	University of Utah. Salt Lake City, UT, USA.
2016	Albert Einstein Institute. Bronx, NY, USA.
2017	Yale University. New Haven, CT, USA.
2017	Johns Hopkins University. Baltimore, MD, USA.

2017 Drexel University. Philadelphia, PA, USA.
2017 McGill University. Quebec, Canada (Online presentation).
2020 Sharif University. Tehran, Iran (Online presentation).
2021 IPM. Tehran, Iran (Online presentation).
2022 University of Washington, Seattle, WA (Online presentation).