Curriculum Vitae

John H. Freeman

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Address

Department of Psychological and Brain Sciences
The University of Iowa
379 Psychological and Brain Sciences Building
Iowa City, Iowa 52242
Phone: 319-335-3243
E-mail: john-freeman@uiowa.edu

Educational and Professional History

Higher Education

1994	Ph.D., Psychology, University of North Carolina at Chapel Hill
1989	B.A., Psychology, University of California at Berkeley

Professional and Academic Positions

2019-	Reviews Editor, *Neurobiology of Learning and Memory*
2017-	Associate DEO, Department of Psychological and Brain Sciences, University of Iowa
2017-	Professor, Iowa Neuroscience Institute
2007-	Professor, Department of Psychological and Brain Sciences, University of Iowa
2007-2013	Associate Editor, *Behavioral Neuroscience*
2002-2007	Associate Professor, Department of Psychological and Brain Sciences, University of Iowa
1998-2002	Assistant Professor, Department of Psychological and Brain Sciences, University of Iowa
1997-1998	Postdoctoral Fellow, National Institutes of Health
1995-1997	Postdoctoral Fellow, University of Illinois at Urbana/Champaign

Honors and Awards

Stuit Faculty Fellow, 2010-
Pavlovian Research Award, Pavlovian Society, 2009
Career Development Award, 2009, 2016
Developmental Leave Award, 2003
David Kucharski Young Investigator Award, International Society for Developmental Psychobiology, 2000.
Old Gold Fellowship, University of Iowa, 1998
NIH Intramural Research Training Award, 97-98
New Investigator Award from the Neurobehavioral Teratology Society**,** 1996
NRSA predoctoral fellowship 92-94

Memberships

Society for Neuroscience (Society Journal = *The Journal of Neuroscience*)
International Society for Developmental Psychobiology (Society Journal = *Developmental Psychobiology*)
Pavlovian Society (Society Journal = *Integrative Physiological & Behavioral Science*)
Cognitive Science Society
American Association for the Advancement of Science

Research

Publications

A. Refereed (* = grad student, # = postdoc, ^ = undergrad)

104) Freeman, J.H., Farley, S.J.*, & Pierson, S.R.^ (2020). Amygdala central nucleus modulation of cerebellar learning in female rats. *Behavioral Neuroscience*, in press.
103) Brown, K.L.#, Sodoma, M.^, & Freeman, J.H. (2020). Factors influencing developmental differences in retention of Pavlovian fear conditioning. *Behavioral Neuroscience*, in press.
102) Broschard, M.B.*, Kim, J.#, Love, B.C., & Freeman, J.H. (2020). Category learning in rodents using touchscreen-based tasks. *Genes, Brain and Behavior*, e12665. doi: 10.1111/gbb.12665.
101) Steinmetz, A.B.*, & Freeman, J.H. (2020). Intracerebellar cannabinoid administration impairs delay but not trace eyeblink conditioning. *Behavioural Brain Research*, 378, 112258. doi: 10.1016/j.bbr.2019.112258. PMC6930804
100) Steinmetz, A.B.*, & Freeman, J.H. (2020). Cannabinoid agonist administration within the cerebellar cortex impairs motor learning. *Neurobiology of Learning and Memory, 170*, 106896. doi: 10.1016/j.nlm.2018.06.015.* PMC6311437
99) Broschard, M.B.*, Kim, J.#, Love, B.C., Wasserman, E.A., & Freeman, J.H. (2019). Selective attention in rat visual category learning. *Learning & Memory*, 26, 84-92.* PMC6380202
98) Farley, S.J.*, Albazboz, H.*, De Corte, B.J.*, Radley, J.J., & Freeman, J.H. (2018). Amygdala central nucleus modulation of cerebellar learning with a visual conditioned stimulus. *Neurobiology of Learning and Memory*, 150, 84-92. * PMC5893399
97) Kim, J.#, Castro, L., Wasserman, E.A., & Freeman, J.H. (2018). Dorsal hippocampus is necessary for visual categorization in rats. *Hippocampus*, 28, 392-405. * PMC5992064
96) Wahlstrom, K.L.*, Huff, M.L.*, Emmons, E.B.*, Freeman, J.H., Narayanan, N.S., McIntyre, C.K., & LaLumiere, R.T. (2018). Basolateral amygdala inputs to the medial entorhinal cortex selectively modulate the consolidation of spatial and contextual learning. *The Journal of Neuroscience*, 38, 2698-2712. **** PMC5852655
95) Steinmetz, A.B.*, Ng, K.H., & Freeman, J.H. (2017). Memory consolidation within the central amygdala is not necessary for modulation of cerebellar learning. *Learning & Memory*, 24, 225-230. * PMC5435882
94) Goldsberry, M.E.*, Kim, J.#, & Freeman, J.H. (2017). Sensory system development influences the ontogeny of hippocampal associative coding and trace eyeblink

conditioning. *Neurobiology of Learning and Memory*, 143, 67-76. * PMC5540736

93) Goldsberry, M.E.*, & Freeman, J.H. (2017). Sensory system development influences the ontogeny of trace eyeblink conditioning. *Developmental Psychobiology*, 59, 70-76. *

92) Steinmetz, A.B.*, & Freeman, J.H. (2016). Cannabinoid modulation of memory consolidation within the cerebellum. *Neurobiology of Learning and Memory*, 136, 228-235. * PMC5124493

91) Kim, J.#, Goldsberry, M.E.*, Harmon, T.C.^, & Freeman, J.H. (2016). Developmental changes in hippocampal CA1 single neuron firing and theta activity during associative learning. *PloS One*, 11, 1-22. * PMC5072650

90) Brown, K.L.#, & Freeman, J.H. (2016). Retention of eyeblink conditioning in periweanling and adult rats. *Developmental Psychobiology*, 58, 1055-1065. *

89) Farley, S.J.*, Radley, J.J., & Freeman, J.H. (2016). Amygdala modulation of cerebellar learning. *The Journal of Neuroscience, 36*, 2190 –2201. * PMC4756154

88) Kim, J.#, Wasserman, E.A., Castro, L., & Freeman, J.H. (2016). Anterior cingulate cortex inactivation impairs rodent visual selective attention and prospective memory. *Behavioral Neuroscience*, 130, 75-90. * PMC4738143

87) Campolattaro, M.M.*, Buss, E.W.^, & Freeman, J.H. (2015). Cross-modal savings in the contralateral eyelid conditioned response. *Behavioral Neuroscience*, 129, 683-691. * PMC4658293

86) Halverson, H.E.* , Poremba, A., & Freeman, J.H. (2015) Medial auditory thalamus is necessary for acquisition and retention of eyeblink conditioning to cochlear nucleus stimulation. *Learning & Memory, 22,* 258-266. * PMC4408770

85) Goldsberry, M.E.*, Kim, J.#, & Freeman, J.H. (2015). Developmental changes in hippocampal associative coding. *The Journal of Neuroscience, 35*, 4238-4247.* PMC4355197

84) Harmon, T.C.^, & Freeman, J.H. (2015). Ontogeny of septohippocampal modulation of delay eyeblink conditioning. *Developmental Psychobiology, 57*, 168-176. * PMC4336210

83) Freeman, J.H. (2015). Cerebellar learning mechanisms. *Brain Research Special Issue. Brain and Memory: Old Arguments and New Perspectives. Brain Research, 1621*, 260-269. * PMC4385749

82) Brown, K.L.#, & Freeman, J.H. (2014). Extinction, reacquisition, and rapid forgetting of eyeblink conditioning in developing rats. *Learning & Memory, 21*, 696-708. * PMC4236410

81) Kashef, A.#, Campolattaro, M.M.*, & Freeman, J.H. (2014). Learning-related neuronal activity in the ventral lateral geniculate nucleus during associative cerebellar learning. *Journal of Neurophysiology*, 112, 2234-2250. * PMC4274918

80) Steinmetz, A.B.*, & Freeman, J.H. (2014). Localization of the cerebellar cortical zone mediating acquisition of eyeblink conditioning in rats. *Neurobiology of Learning and Memory*, 114, 148-154. * PMC4143471

79) Freeman, J.H. (2014). The ontogeny of associative cerebellar learning. *International Review of Neurobiology, 117*, 53-72. * PMID: 25172629

78) Goldsberry, M.E.*, Elkin, M.E., & Freeman, J.H. (2014). Sensory system developmental influences the ontogeny of eyeblink conditioning. *Developmental Psychobiology*, 56, 1244-1251. * PMC4119521

77) Ng, K., & Freeman, J.H. (2014). Amygdala inactivation impairs eyeblink conditioning in

developing rats. *Developmental Psychobiology*, 56, 999-1007. * PMC4032812
76) Parker, K.L., Andreasen, N.C., Liu, D., Freeman, J.H., & O'Leary, D.S. (2013). Eyeblink conditioning in unmedicated schizophrenia patients: A positron emission tomography study. *Psychiatry Research*, 214, 402-409. ** PMC3980571
75) Steinmetz, A.B.*, Harmon, T.C.^, & Freeman, J.H. (2013). Visual cortical contributions to associative cerebellar learning. *Neurobiology of Learning and Memory*, 104, 103-109. * PMC3753663
74) Steinmetz, A.B.*, Buss, E.W.^, & Freeman, J.H. (2013). Inactivation of the ventral lateral geniculate and nucleus of the optic tract impairs retention of visual eyeblink conditioning. *Behavioral Neuroscience*, 127, 690-693. * PMC3967585
73) Steinmetz, A.B.*, & Freeman, J.H. (2013). Differential effects of the cannabinoid agonist WIN55,212-2 on delay and trace eyeblink conditioning. *Behavioral Neuroscience*, 127, 694-702. * PMC3963426
72) Brooks, D.I.*, Ng, K.H.^, Buss, E.W.^, Marshall, A.T.^, Freeman, J.H., & Wasserman, E.A. (2013). Categorization of photographic images by rats using shape-based image dimensions. *Journal of Experimental Psychology Animal Behavior Processes*, 39, 85-92. *
71) Ng, K.^, & Freeman, J.H. (2012). Developmental changes in medial auditory thalamic contributions to associative motor learning. *The Journal of Neuroscience*, 32, 6841-6850. * PMC3362655
70) Parker, K.L., Andreasen, N.C., Liu, D., Freeman, J.H., Boles Ponto, L.L., & O'Leary, D.S. (2012). Eyeblink conditioning in healthy adults: a positron emission tomography study. *The Cerebellum*, 11, 946-956. ** PMC3835594
69) Wasserman, E.A., Castro, L., & Freeman, J.H. (2012). Same-different categorization in rats. *Learning & Memory*, 19, 142-145. ***
68) Freeman, J.H., and Steinmetz, A.B.* (2011). Neural circuitry and plasticity mechanisms underlying delay eyeblink conditioning. *Learning & Memory*, 18, 666–677. * PMC3861981
67) Steinmetz, A.B.*, & Freeman, J.H. (2011). Retention and extinction of delay eyeblink conditioning are modulated by central cannabinoids. *Learning & Memory*, 18, 634–638. * PMC3256566
66) Campolattaro, M.M.*, Kashef, A.#, Lee, I., & Freeman, J.H. (2011). Neuronal correlates of cross-modal transfer in the cerebellum and pontine nuclei. *The Journal of Neuroscience*, 31, 4051– 4062. * PMC3069920
65) Steinmetz, A.B.*, & Freeman, J.H. (2010). Central cannabinoid receptors modulate acquisition of eyeblink conditioning. *Learning & Memory*, 17, 571-576. * PMC2981415
64) Halverson, H.E.*, Lee, I., & Freeman, J.H. (2010). Associative plasticity in the medial auditory thalamus and cerebellar interpositus nucleus during eyeblink conditioning. *The Journal of Neuroscience*, 30, 8787-8796. * PMC2914487
63) Halverson, H.E.*, & Freeman, J.H. (2010).Ventral lateral geniculate input to the medial pons is necessary for visual eyeblink conditioning in rats. *Learning & Memory*, 17, 80-85. * PMC2825698
62) Halverson, H.E.*, Poremba, A. & Freeman, J.H. (2010). Medial auditory thalamic input to the lateral pontine nuclei is necessary for auditory eyeblink conditioning. *Neurobiology of*

Learning and Memory, 93, 92-98. * PMC2815143
61) Campolattaro, M.M.*, & Freeman, J.H. (2009). Examination of bilateral eyeblink conditioning in rats. *Behavioral Neuroscience*, 123, 1346-1352. * PMC2830096
60) Halverson, H.E.*, Hubbard, E.M.^, & Freeman, J.H. (2009). Stimulation of the lateral geniculate, superior colliculus, or visual cortex is sufficient for eyeblink conditioning in rats. *Learning & Memory*, 16, 300-307. * PMC2683004
59) Plakke, B.*, Freeman, J.H., & Poremba, A. (2009). Metabolic mapping of the rat forebrain and midbrain during delay and trace eyeblink conditioning. *Neurobiology of Learning and Memory*, 92, 335-344. * PMC3630995
58) Campolattaro, M.M.*, & Freeman, J.H. (2009). Cerebellar inactivation impairs cross modal savings of eyeblink conditioning. *Behavioral Neuroscience*, 123, 292-302. * PMC2679372
57) Freeman, J.H., & Campolattaro, M.M.* (2008). Ontogenetic change in the auditory conditioned stimulus pathway for eyeblink conditioning. *Learning & Memory*, 15, 823-828. * PMC2632811
56) Freeman, J.H., & Duffel, J. (2008). Eyeblink conditioning using cochlear nucleus stimulation as a conditioned stimulus in developing rats. *Developmental Psychobiology*, 50, 640-646. * PMC2637147
55) Campolattaro, M.M.*, & Freeman, J.H. (2008). Eyeblink conditioning in 12-day-old-rats using pontine stimulation as the conditioned stimulus. *Proceedings of the National Academy of Sciences (USA)*, 105, 8120-8123. * PMC2430369
54) Halverson, H.E.*, Poremba, A., & Freeman, J.H. (2008). Medial auditory thalamus inactivation prevents acquisition and retention of eyeblink conditioning. *Learning & Memory*, 15, 532-538. * PMC2505321
53) Campolattaro, M.M.*, Schnitker, K.M., & Freeman, J.H. (2008). Changes in inhibition during differential eyeblink conditioning with increased training. *Learning & Behavior*, 36, 158-164. * PMC2556363
52) Freeman, J.H., Halverson, H.E.*, & Hubbard, E.M.^ (2007). Inferior colliculus lesions impair eyeblink conditioning in rats. *Learning & Memory*, 14, 842-846. * PMC2151021
51) Plakke, B.*, Freeman, J.H., & Poremba, A. (2007). Metabolic mapping of the rat cerebellum during delay and trace eyeblink conditioning. *Neurobiology of Learning and Memory*, 88, 11-18. * PMC2556373
50) Campolattaro, M.M.*, Halverson, H.E.*, & Freeman, J.H. (2007). Medial auditory thalamic stimulation as a conditioned stimulus for eyeblink conditioning in rats. *Learning & Memory*, 14, 152-159. * PMC1838556
49) Hunt, P.S., Fanselow, M.S., Richardson, R., Mauk, M.D., Freeman, J.H., and Stanton, M.E. (2007). Synapses, Circuits and the Ontogeny of Learning. *Developmental Psychobiology*, 49, 649-663. ***
48) Campolattaro, M.M.*, & Freeman, J.H. (2006). Perirhinal cortex lesions impair feature-negative discrimination. *Neurobiology of Learning and Memory*, 86, 205-213. * PMC2556371
47) Halverson, H.E.*, & Freeman, J.H. (2006). Medial auditory thalamic nuclei are necessary for eyeblink conditioning. *Behavioral Neuroscience*, 120, 880-887. * PMC2556365
46) Campolattaro, M.M.*, & Freeman, J.H. (2006). Perirhinal cortex lesions impair simultaneous but not serial feature-positive discrimination learning. *Behavioral Neuroscience*, 120, 970-975. * PMC2556364

45) Nolan, B.C.*, & Freeman, J.H. (2006). Purkinje cell loss by OX7-saporin impairs acquisition and extinction of eyeblink conditioning. *Learning & Memory*, 13, 359-365. * PMC1475818
44) Freeman, J.H., Jr., Rabinak, C.A.^, & Campolattaro, M.M.* (2005). Pontine stimulation overcomes developmental limitations in the neural mechanisms of eyeblink conditioning. *Learning & Memory*, 12, 255-259. * PMC1142453
43) Nolan, B.C.*, & Freeman, J.H., Jr. (2005). Purkinje cell loss by OX7-saporin impairs excitatory and inhibitory eyeblink conditioning. *Behavioral Neuroscience*, 119, 190-201. * PMC1393287
42) Freeman, J.H., Jr., Halverson, H.E.*, & Poremba, A. (2005). Differential effects of cerebellar inactivation on eyeblink conditioned excitation and inhibition. *The Journal of Neuroscience*, 25, 889-895. * PMC1249522
41) Freeman, J.H., Jr., & Rabinak, C.A.^ (2004). Eyeblink conditioning in rats using pontine stimulation as a conditioned stimulus. *Integrative Physiological & Behavioral Science*, 39, 180-191. * PMC1249521
40) Lim, R., Zaheer, A., Khosravi, H., Freeman, J.H., Jr., Halverson, H.E.*, Wemmie, J.A., & Yang, B. (2004). Impaired motor performance and learning in glia maturation factor-knockout mice. *Brain Research*, 1024, 225-232. **
39) Nicholson, D.A.*, & Freeman, J.H., Jr. (2004). Selective developmental increase in the climbing fiber input to the cerebellar interpositus nucleus in rats. *Behavioral Neuroscience*, 118, 1111-1116. * PMC2546608
38) Freeman, J.H., Jr., & Nicholson, D.A.* (2004). Developmental changes in the neural mechanisms of eyeblink conditioning. *Behavioral and Cognitive Neuroscience Reviews*, 3, 3-13. * PMC2556367
37) Nicholson, D.A.*, & Freeman, J.H., Jr. (2004). Developmental changes in eyeblink conditioning and simple spike activity in the cerebellar cortex. *Developmental Psychobiology*, 44, 45-57. *
36) Freeman, J.H., Jr., & Muckler, A.S.^ (2003). Developmental changes in eyeblink conditioning and neuronal activity in the pontine nuclei. *Learning & Memory*, 10, 337-345.
35) Nicholson, D.A.*, & Freeman, J.H., Jr. (2003). Developmental changes in evoked Purkinje cell complex spike responses. *Journal of Neurophysiology*, 90, 2349-2357. *
34) Wemmie, J.A., Askwith, C.C., Lamani, E., Cassell, M.D., Freeman, J.H., Jr., & Welsh, M.J. (2003). Acid-sensing ion channel 1 is localized in brain regions with high synaptic density and contributes to fear conditioning. *The Journal of Neuroscience*, 23, 5496-5502. **
33) Nicholson, D.A.*, Sweet, J.A.^, & Freeman, J.H., Jr. (2003). Long-term retention of the classically conditioned eyeblink response in rats. *Behavioral Neuroscience*, 117, 871-875.*
32) Nicholson, D.A.*, & Freeman, J.H. Jr. (2003). Addition of inhibition in the olivocerebellar system and the ontogeny of a motor memory. *Nature Neuroscience*, 6, 532-537. *
31) Freeman, J.H. Jr., Nicholson, D.A.*, Muckler, A.^, Rabinak, C.^, & DiPietro, N.T.* (2003). Ontogeny of eyeblink conditioned response timing in rats. *Behavioral Neuroscience*, 117, 283-291. *
30) Nolan, B.C.*, Nicholson, D.A.*, & Freeman, J.H., Jr. (2002). Blockade of $GABA_A$ receptors in the interpositus nucleus modulates expression of conditioned excitation but not

conditioned inhibition of the eyeblink response. *Integrative Physiological & Behavioral Science*, 37, 293-310. *

29) Kleim, J.A., Freeman, J.H., Jr., Bruneau, R., Nolan, B.C.*, Cooper, N.R., Zook, A., & Walters, D. (2002). Synapse formation is associated with memory storage in the cerebellum. *Proceedings of the National Academy of Sciences (USA)*, 99, 13228-13231. ***

28) Smith, D.M.*, Freeman, J.H., Jr., Nicholson, D.A.*, & Gabriel, M. (2002). Limbic thalamic lesions, appetitively motivated discrimination learning, and training-induced neuronal activity in rabbits. *The Journal of Neuroscience*, 22, 8212-8221. **

27) Wemmie, J.A., Chen, J., Askwith, C.C., Hruska-Hageman, A.M., Price, M.P., Nolan, B.C.*, Yoder, P.G., Lamani, E., Hoshi, T., Freeman, J.H., Jr., & Welsh, M.J. (2002). The acid-activated ion channel ASIC contributes to synaptic plasticity, learning, and memory. *Neuron*, 34, 463-477. **

26) Nicholson, D.A.*, & Freeman, J.H., Jr. (2002). Medial dorsal thalamic lesions impair latent inhibition and blocking of the conditioned eyeblink response in rats. *Behavioral Neuroscience*, 116, 276-285. *

25) Nicholson, D.A.*, & Freeman, J.H., Jr. (2002). Neuronal correlates of conditioned inhibition of the eyeblink response in the anterior interpositus nucleus. *Behavioral Neuroscience*, 116, 22-36. *

24) Smith, D.M.*, Monteverde, J., Schwartz, E., Freeman, J.H., Jr., & Gabriel, M. (2001). Lesions in the central nucleus of the amygdala: effects on discriminative avoidance learning, discriminative approach learning and cingulothalamic training-induced neuronal activity. *Neurobiology of Learning & Memory*, 76, 403-425. **

23) Freeman, J.H., Jr., & Nicholson, D.A.* (2001). Ontogenetic changes in the neural mechanisms of eyeblink conditioning. *Integrative Physiological and Behavioral Science*, 36, 15-35. *

22) Nicholson, D.A.* & Freeman, J.H., Jr. (2000). Developmental changes in eye-blink conditioning and neuronal activity in the inferior olive. *The Journal of Neuroscience*, 20, 8218-8226. *

21) Freeman, J.H., Jr., & Nicholson, D.A.* (2000). Developmental changes in eye-blink conditioning and neuronal activity in the cerebellar interpositus nucleus. *The Journal of Neuroscience*, 20, 813-819. *

20) Nicholson, D.A.*, & Freeman, J.H., Jr. (2000). Lesions of the perirhinal cortex impair sensory preconditioning in rats. *Behavioural Brain Research*, 112, 69-75. *

19) Stanton, M.E. & Freeman, J.H., Jr. (2000). Developmental studies of eyeblink conditioning in a rat model. In D.S. Woodruff-Pak and J.E. Steinmetz (Eds.) Eyeblink classical conditioning: Animal. Amsterdam: Kluwer Academic Publishers. ***

18) Freeman, J.H., Jr., & Nicholson, D.A.* (1999). Neuronal activity in the cerebellar interpositus and lateral pontine nuclei during inhibitory classical conditioning of the eyeblink response. *Brain Research*, 833, 225-233. *

17) Freeman, J.H., Jr., & Gabriel, M. (1999). Changes of cingulothalamic topographic excitation patterns and avoidance response incubation over time following initial discriminative conditioning in rabbits. *Neurobiology of Learning and Memory*, 72, 259-272. *

16) Taylor, C.L., Freeman, J.H., Jr., Holt, W., & Gabriel, M. (1999). Impairment of cingulothalamic learning-related neuronal coding in rabbits exposed to cocaine *in utero*: general and sex-specific effects. *Behavioral Neuroscience*, 113, 62-77. **

15) Freeman, J.H., Jr., Shi, T., & Schreurs, B.G. (1998). Pairing-specific long-term depression prevented by blockade of PKC or intracellular CA^{2+}. *NeuroReport,* 9, 2237-2241. *

14) Freeman, J.H., Jr., Scharenberg, A.M., Olds, J.L., & Schreurs, B.G. (1998). Classical Conditioning increases membrane-bound protein kinase C in rabbit cerebellum. *NeuroReport, 9,* 2669-2673. *

13) Freeman, J.H., Jr., Weible, A.^, Rossi, J.^, & Gabriel, M. (1997). Lesions of the entorhinal cortex disrupt behavioral and neuronal responses to context change during extinction of discriminative avoidance behavior. *Experimental Brain Research,* 115, 445-457. *

12) Freeman, J.H., Jr., Cuppernell, C., Flannery, K., & Gabriel, M. (1996). Limbic thalamic, cingulate cortical and hippocampal neuronal correlates of discriminative approach learning in rabbits. *Behavioural Brain Research,* 80, 123-136. *

11) Freeman, J.H., Jr., Cuppernell, C., Flannery, K., & Gabriel, M. (1996). Context-specific multi-site cingulate cortical, limbic thalamic and hippocampal neuronal activity during concurrent discriminative approach and avoidance training in rabbits. *The Journal of Neuroscience,* 16, 1538-1549. *

10) Freeman, J.H., Jr., Barone, S., Jr., & Stanton, M.E. (1995). Disruption of cerebellar maturation by an antimitotic agent impairs the ontogeny of eyeblink conditioning in rats. *The Journal of Neuroscience,* 15, 7301-7314. *

9) Freeman, J.H., Jr., Carter, C.S., & Stanton, M.E. (1995). Early cerebellar lesions impair eyeblink conditioning in developing rats: differential effects of unilateral lesions on postnatal day 10 or 20. *Behavioral Neuroscience,*109, 893-902. *

8) Andrews, S.J.^, Freeman, J.H, Jr., Carter, C.S., & Stanton, M.E. (1995). Ontogeny of eyeblink conditioning in the rat: Auditory frequency and discrimination learning effects. *Developmental Psychobiology,* 28, 307-320. ***

7) Carter, C.S., Freeman, J.H., Jr., & Stanton, M.E. (1995). Neonatal medial prefrontal lesions and recovery of spatial delayed alternation in the rat: effects of delay interval. *Developmental Psychobiology,* 28, 269-279. **

6) Freeman, J.H., Jr., Barone, S., Jr., & Stanton, M.E. (1994). Cognitive and neuroanatomical effects of triethyltin in developing rats: role of age of exposure. *Brain Research,* 634, 85-95. *

5) Stanton, M.E., & Freeman, J.H., Jr. (1994). Eyeblink conditioning in the developing rat: an animal model of learning in developmental neurotoxicology. *Environmental Health Perspectives,* 102, 131-139. *

4) Freeman, J.H., Jr., Spencer, C.O.^, Skelton, R.W., & Stanton, M.E. (1993). Ontogeny of eyeblink conditioning in the rat: effects of US intensity and interstimulus interval on delay conditioning. *Psychobiology,* 21, 233-242. *

3) Stanton, M.E., Freeman, J.H., Jr., & Skelton, R.W. (1992). Eyeblink conditioning in the developing rat. *Behavioral Neuroscience,* 106, 657-665. *

2) Freeman, J.H., Jr., & Stanton, M.E. (1992). Medial prefrontal cortex lesions and spatial delayed alternation in the developing rat: recovery or sparing? *Behavioral Neuroscience,* 106, 924-932. *

1) Freeman, J.H., Jr., & Stanton, M.E. (1991). Fimbria-fornix transections disrupt the ontogeny of delayed alternation but not position discrimination in the rat. *Behavioral Neuroscience,* 105, 386-395. *

Peer Reviewed Proceedings

Freeman, J.H., Broschard, M.B.*, Kim, J.#, Castro, L., Wasserman, E.A., & Sloutsky, V.M. (2017). Comparative analysis of visual category learning. *Proceedings of the Annual Conference of the Cognitive Science Society*, 1453-1454. London, UK.*

McMurray, B., Chiu, S., and Freeman, J. (2019). Reinforced statistical learning of auditory categories: A preliminary report of cognitive, cortical and computational mechanisms. *Proceedings of the 23rd International Congress on Acoustics*. Aachen, Germany.**

Book Chapters

Freeman, J.H. (2010). Developmental neurobiology of cerebellar learning. In Blumberg, M.S., Freeman, J.H., & Robinson, S.R. (Eds.). *Oxford Handbook of Developmental Behavioral Neuroscience*. Oxford University Press. *

Freeman, J.H. (2015). Eye-blink Conditioning. In Jung, R., & Jaeger, D. (Eds.), *Encyclopedia of Computational Neuroscience.* Springer-Verlag. *

Brown, K.L., & Freeman, J.H. (2015). Eyeblink Classical Conditioning. Kolb, B. (Ed.). *International Encyclopedia of Social and Behavioral Sciences, 2nd Edition*. Elsevier Press. *

Freeman, J.H. (2019). Eye-blink Conditioning. In Jaeger, D. & Jung, R. (Eds.), *Encyclopedia of Computational Neuroscience.* Springer-Verlag. * https://doi.org/10.1007/978-1-4614-7320-6_474-1

Edited Volumes

Blumberg, M.S., Freeman, J.H., & Robinson, S.R. (Eds.). *Oxford Handbook of Developmental Behavioral Neuroscience*. Oxford University Press, 2010.

Parker, K. & Freeman J.H. (Eds.). Cerebellar Function: Introduction to Special Issue. *Neurobiology of Learning and Memory 170*, 107212. 2020.

Grants

Principal Investigator, NIH R01: *Cerebellar Interactions with the Amygdala and Prefrontal Cortex during Learning*. (2R01-NS088567, $1,892,031 total costs). Grant period: 02/01/2015 - 1/31/2025

Co-Investigator (PI, Krystal Parker), NIH R01: *Cerebellar circuits, timing, and cognition* (1R01-MH118240, $1,457,270 total direct costs). Grant period: 12/01/2018 - 11/30/2023

Principal Investigator (with Krystal Parker) Iowa Neuroscience Institute Accelerator Grant: *Cognitive Functions of the Posterior Cerebellum*. ($75,000 total direct costs). Grant period: 01/15/2019 - 01/14/2021

Principal Investigator (with Ed Wasserman) NIH P01 Project II: *Comparative and Neurobiological Influences on Categorization Behavior*. (P01-HD080679, $1,337,945 total

direct costs for Project II). Grant period: 05/25/2016 - 04/30/2021

Co-Investigator (PIs, John Wemmie, Vince Magnotta), Roy J. Carver Charitable Trust, Bipolar Disorder Research Program of Excellence ($750,000 total direct costs) Grant period: 06/01/2017 – 05/31/2022.

Principal Investigator, NIH R01: *Neural Pathways for Conditioned Stimuli in Eyeblink Conditioning* (2R01-MH080005, $750,000 total direct costs for renewal). Grant period: 04/01/2007 – 04/30/2016.

Principal Investigator, NIH R01: *Neural Basis of the Ontogeny of Eyeblink Conditioning* (3R01-NS038890, $1,093,750 total direct costs for 2nd renewal). Grant period: 04/01/2000 – 04/30/2015.

Co-Investigator (PI, N.C. Andreasen), NIH R01: Brain Imaging in the Major Psychoses: Functional Imaging Studies (R01-MH060990, $2,127,800 total direct costs). Grant period: 03/05/2005 – 02/28/2010.

Principal Investigator, NIH R01: *Neural Mechanisms of Inhibitory Classical Conditioning* (1R01-MH065483, $500,000 total direct costs). Grant period: 12/01/2002 – 11/30/2007.

Invited lectures and conference presentations (since 2005)

Halverson, H.E., & Freeman, J.H. *Medial Geniculate Lesions Impair Eyeblink Conditioning*. Pavlovian Society, 2005.

Freeman, J.H., Jr. *Auditory Conditioned Stimulus Pathways in Eyeblink Conditioning*. Iowa State University, 2005.

Freeman, J.H. *Developmental Changes in the Neural Circuitry Underlying Eyeblink Conditioning.* Symposium, "Developmental Psychobiology of Pavlovian Conditioning." Pavlovian Society, 2006.

Freeman, J. H. *Neural Pathways for Conditioned Stimuli in Eyeblink Conditioning*. The University of Iowa, SpenceFest, 2007.

Freeman, J.H. *Sensory Inputs to the Pontine Nuclei that are Necessary for Cerebellar Learning.* International Symposium on Learning, Memory, and Cognitive Function, Valencia, Spain, 2008.

Freeman, J.H. *Development of Cerebellar Learning*. Winter Conference on Neural Plasticity, 2009.

Freeman, J.H. *Sensory Inputs to the Pontine Nuclei that are Necessary for Cerebellar Learning*. University of Medicine and Dentistry of New Jersey, 2010.

Freeman, J.H. *Sensory Inputs to the Cerebellum that are Necessary for Eyeblink Conditioning*. Symposium, "Recent Advances in the Neurobiology of Associative Learning", APA, 2010.

Freeman, J.H. *Neural Circuitry Underlying Associative Motor Learning.* West Virginia University, Neuroscience Program, 2011.

Freeman, J.H. *Neural Mechanisms Underlying Associative Motor Learning*. The University of Iowa, Neuroscience Program, 2011.

Freeman, J.H. *Distributed Plasticity in the Neural Circuitry Underlying Cerebellar Learning*. Northwestern University, Department of Physiology, 2011.

Freeman, J.H. *Neural Circuitry Underlying Eyeblink Conditioning*. International Symposium on Learning, Memory, and Cognitive Function, Valencia, Spain, 2011.

Freeman, J.H. *Distributed Plasticity in the Neural Circuitry underlying Associative Motor Learning*. Cornell University, Department of Psychology, 2012.

Freeman, J.H. *Development of Eyeblink Conditioning*. Chair and speaker for symposium at the Pavlovian Society Conference, 2012.

Freeman, J.H. *Cerebellar Learning Mechanisms*. Chair and speaker for symposium at the Winter Conference on Neural Plasticity, 2013.

Freeman, J.H. *The Learning Brain*. Keynote speaker for DeLTA Day, 2014.

Freeman, J.H., *Role of Cerebellar Feedback in Associative Learning*. Gordon Research Conference – Cerebellum, 2015.

Freeman, J.H., *Cannabinoid Agonist Administration within a Critical Microzone of the Cerebellar Cortex Impairs Motor Learning and Purkinje Cell Plasticity.* NIH Marijuana and Cannabinoids: A Neuroscience Research Summit, 2016.

Freeman, J.H., *Neurobiology of Associative Learning*. Neuroscience Program, Loras College, 2016.

Freeman, J.H. *Amygdala-Cerebellum Interactions*. Speaker for symposium at the Pavlovian Society Conference, 2016.

Freeman, J.H. C*erebellar Learning*. Neurosurgery Research Conference, University of Iowa, 2016.

Freeman, J.H. *Cerebellar Learning Mechanisms*. Molecular Psychiatry, University of Iowa, 2017.

Freeman, J.H. et al. *Comparative Analysis of Visual Category Learning.* Cognitive Science Society, London, 2017.

Freeman, J.H. Comparative and Neurobiological Analysis of Visual Category Learning. P01 Advisory Board meeting, The Alan Turing Institute, London, 2017.

Freeman, J.H. *Neural Mechanisms Underlying Visual Categorization in Rats*. MidBrains Conference, St. Thomas University, 2017.

Freeman, J.H. *Amygdala Modulation of Cerebellar Learning Mechanisms.* Winter Conference on Neurobiology of Learning and Memory, Utah, 2018.

Freeman, J.H. *Neural Circuits Underlying Learning and Memory*. University of Alabama at Birmingham, Neurobiology, 2018.

Freeman, J.H. *Cerebellar Learning*: *Interactions with the Forebrain.* Iowa Neuroscience Institute Workshop on Cerebellum, Iowa, 2018.

Freeman, J.H. *Developmental Neurobiology of Cerebellar Learning.* Winter Conference on Neurobiology of Learning and Memory, Utah, 2019.

Freeman, J.H. *Roles of the hippocampus and prefrontal cortex in category learning in rats.* International Convention of Psychological Science (ICPS), Paris, 2019.

Freeman, J.H. *Neural Mechanisms of Visual Category Learning in Rats*. Pavlovian Society, Vancouver, 2019.

Freeman, J.H. *Cerebellar Interactions with the Amygdala and Prefrontal Cortex during Learning*. University of Wisconsin at Milwaukee, 2019.

Freeman, J.H. *Memory Research*. Northwestern Medical/Dental Association, Sun Valley, 2020.

Broschard, M.B., & Freeman, J.H. *Roles of the prelimbic area and hippocampus in rat category*

learning. Touchscreen Virtual Conference, 2020.

Service

Department of Psychological and Brain Sciences

Chair, Animal Care and Use Committee (1999-2010)
BCN Search Committee (2000)
Faculty Advisory Committee (2001-2003, 2013-2015)
Self-Study Committee (2001)
Coordinator, Behavioral and Cognitive Neuroscience Training Program (2002-2010)
Diversity Committee (2004-2006)
Chair, BCN Search Committee (2004-2005)
Security Contact (set up security system and procedures after break-in, 2004-2006)
C & P Promotion Committee (2005, 2014)
Chair, Facilities Committee (2006-2017, renovation projects in SLP, SSH, STH)
Chair, BCN Promotion Committee (2008-2009)
Self-Study Committee (2009)
Chair, BCN Search Committee (2009-2010)
Chair, Psychology-Neurology Human Neuroscience Search Committee (2014)
Developmental Science Promotion Committee (2015-2016)
Committee for Graduate Studies (2015-2017)
Extended Faculty Advisory Committee (2003-present)
Chair, Building Committee (2010-present)
Associate DEO (2017-present)
Chair, Learning and Neural Plasticity Search Committee (2017-2018)
Chair, Diversity Strategic Plan Committee (2019)
Interim Coordinator, Behavioral and Cognitive Neuroscience Training Program (2019)
Chair, Diversity, Equity, and Inclusion Committee (2019-present)

College

Faculty Assembly Unit Representative (2000-2003)
Speaker, New Faculty Orientation (2001)
Internal Reviewer, Department of Exercise Science (2004)
Neuroscience Major Steering Committee (2017-present)

University

Student Advisory Committee, Neuroscience Program (2000-2003, 2012-2016)
Recruitment & Admissions Committee, Neuroscience Program (2001-2003)
Curriculum Committee, Neuroscience Program (2002-2004)
Seminar Committee, Neuroscience Program (2003-2005)
Institutional Animal Care and Use Committee (2003-2008)
Animal Housing Facilities Task Force (2008)
Executive Committee, Neuroscience Program (2011-2013)

Faculty Compliance Committee (2015)
Neuroscience Program Admissions Committee (2014-2018)
Neuroscience Program faculty representative at MidBrains Conference (2017)
Chair, Institutional Animal Care and use Committee (2012-2018)
Iowa Neuroscience Institute Faculty Search Committee (2018-)
Institutional Animal Care and use Committee (2018-)
Office of Animal Resources/IACUC Advisory Committee (2018-)

Profession

President, Pavlovian Society, 2017-2018
Organizer, Pavlovian Society Social, Society for Neuroscience, 2017
Conference Organizer, Pavlovian Society, Iowa City, Oct. 4-6, 2018

Faculty, Neural Systems & Behavior Course, Marine Biological Laboratory, Woods Hole, MA (2009-2011)

Journal Reviewing

Behavioral Neuroscience, Behavioural Brain Research, Biological Cybernetics, Biological Psychiatry, Brain Research, The Cerebellum, Cerebral Cortex, , Developmental Cognitive Neuroscience, Developmental Neurobiology, Developmental Psychobiology, eLIFE, eNeuro, European Journal of Neuroscience, Hippocampus, Integrative Physiological & Behavioral Science, Journal of Comparative Neurology, Journal of Neurogenetics, Journal of Neurophysiology, Journal of Neuroscience, Journal of Psychiatric Research, Learning & Behavior, Learning & Memory, Mental Retardation and Developmental Disabilities Research Reviews, Nature, Nature Communications, Nature Neuroscience, Neurobiology of Learning and Memory, Psychoneuroendocrinology, PNAS, Science, Science Advances, Synapse, Translational Psychiatry, Trends in Neurosciences.

Editorships

Associate Editor, *Behavioral Neuroscience* (2007-2013)
Editor (with Krystal Parker), Special Issue on Cerebellar Function, *Neurobiology of Learning and Memory* (2018-2019)
Editor (with Mark Stanton), Special Issue on Pavlovian Society Conference, *Neurobiology of Learning and Memory* (2019-2020)
Reviews Editor, *Neurobiology of Learning and Memory* (2020-present)

Editorial Boards

Integrative Physiological & Behavioral Science (2001-2005)
Behavioral Neuroscience (2002-2007, 2014-present)
Frontiers in Behavioral Neuroscience (2009-present)
Developmental Psychobiology (2009-present)

Grant Reviewing

NIH Member - Biobehavioral Regulation, Learning and Ethology Study Section (BRLE)(2019-2023)
NIH Member - Neurobiology of Learning and Memory Study Section (LAM)(2006-2010)
NIH special emphasis panels (SEP)
NIH study section *ad hoc* reviewer for BRAIN Initiative, LAM, SMI, BRLE
NIH reviewer for Director's New Innovator Award 2018, 2020
NIH site visit for University of Rochester GCRC
NSF *ad hoc* reviewer
NSF reviewer for BRAIN Initiative
Society for Neuroscience Grant Mentoring Program (for URM new investigators)
Department of Veteran's Affairs
Natural Sciences and Engineering Research Council of Canada
Human Frontiers Science Program (France)
Biotechnology and Biological Sciences Research Council of the UK
Israel Science Foundation
The French National Research Agency (ANR)