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Education

BA 1991	The Johns Hopkins University Baltimore MD 21218	Double major: Computer Science (honors) The Writing Seminars (honors)
MS 1995	Carnegie Mellon University Pittsburgh PA 15213	Computer Science
PhD 1997	Carnegie Mellon University Pittsburgh PA 15213	Computer Science, Advisor: Dr. D. S. Touretzky
Oct 1997 - Jul 2000	University of Arizona Tucson AZ 85724	Post-doctoral research associate with Dr. C. A. Barnes

Employment history

2000-2006 Assistant Professor, Department of Neuroscience, University of Minnesota
2006-2012 Associate Professor with Tenure, Department of Neuroscience, University of Minnesota
2012-present Professor with Tenure, Department of Neuroscience, University of Minnesota
2014-present Distinguished McKnight University Professor, Department of Neuroscience, University of Minnesota
2014-2019 Director of Graduate Studies, Graduate Program in Neuroscience, University of Minnesota
2016-present J. B. Johnston Land Grant Endowed Chair in Neuroscience, University of Minnesota

Current Status

Distinguished McKnight University Professor,
J. B. Johnston Land Grant Endowed Chair in Neuroscience,
Department of Neuroscience
University of Minnesota.

Full member, Neuroscience Graduate Training Faculty
Full member, Biomedical Engineering Training Faculty

Full member, Psychology Graduate Training Faculty
Full Member, Center for Cognitive Science
Core Member, Center for Neuroengineering
Member, Biomedical Engineering Institute
Member, Workgroup on Reproducibility
Adjunct professor, Department of Psychology
Member, NIDA Training Grant Training Faculty
Member, MIDB

Co-director **NeuroPRMSH (NeuroPlasticity Research in Support of Mental Health) Center**
with Dr. Sophia Vinogradov.

Awards and Fellowships

2021 Academy of Excellence, University of Minnesota
2018 Visiting Scholar, Dept of Finance (Brain, Minds, Markets group), University of Melbourne, Melbourne Australia.
2018 Dean's Distinguished Research Lectureship, University of Minnesota
2018 Roger Loucks Lecture, University of Washington
2016 J. B. Johnston Chair in Neuroscience
2015 Hebb Lecturer, McGill University
2014 Distinguished McKnight University Professorship
2011 Outstanding Postdoctoral Mentor Award (UMN)
2010-2013 Human Frontiers Science Program Project Award
2005-2007 TTURC [Transdisciplinary Tobacco Use Research Center] Career Development Award
2004-2006 McKnight Land-Grant Professorship
2003-2005 Alfred P. Sloan Fellow
2002-2004 McKnight Technology Innovation in Neuroscience Award
2002 Young investigator award, Spring Brain Conference

1997-2000 NIH National Research Service Award (NRSA)
1998 Distinguished Thesis Award: Computer Science Department, Carnegie Mellon University
1994 Participated in NSF Telluride Workshop
1991-1993 National Science Foundation Fellowship,
1991 IBM Outstanding Achievement award: Computer Science Department, Johns Hopkins University

Technical Publications

Books

A. D. Redish (2022) *Changing how we choose: the new science of morality*, MIT Press.

A. D. Redish, J. A. Gordon [eds] (2016) *Computational Psychiatry: New Perspectives on Mental Illness. A Strungmann Forum Report.* MIT Press.

A. D. Redish (2013) *The Mind within the Brain: How we make decisions and how those decisions go wrong*, Oxford University Press.

A.D. Redish (1999) *Beyond the Cognitive Map: From Place Cells to Episodic Memory*, MIT Press.

Journal Articles

- D. Levenstein, V. A. Alvarez, A. Amarasingham, H. Azab, Z. S. Chen, R. C. Gerkin, A. Hasenstaub, R. Iyer, R. B. Jolivet, S. Marzen, J. D. Monaco, A. A. Prinz, S. Quraishi, F. Santamaria, S. Shivkumar, M. F. Singh, R. Traub, H. G. Rotstein, F. Nadim, A. D. Redish (in press) On the role of theory and modeling in neuroscience. *Journal of Neuroscience*.
- E.B. Lind, B.M. Sweis, A.J. Asp, M. Esgeurra, K.A. Silvis, A.D. Redish, M.J. Thomas (in press) A quadruple dissociation of reward-related behavior across excitatory inputs to the nucleus Accumbens shell. *Communications Biology*.
- C. F. Runge, J. A. Johnson, E. A. Nelson, A. D. Redish (In press) A neuroscience-based analysis of impacts of disaster memory on economic valuation. *Journal of Neuroscience, Psychology, and Economics*.
- G. W. Diehl, A. D. Redish (2023) Differential processing of decision information in subregions of rodent medial prefrontal cortex. *eLife* **12**:e82833. <https://doi.org/10.7554/eLife.82833>
- A.D. Redish, S.V. Abram, P.J. Cunningham, A.A. Duin, R. Durand-de Cuttoli, R. Kazinka, A. Kocharian, A.W. MacDonald III, B. Schmidt. N. Schmitzer-Torbert, M.J. Thomas, B.M. Sweis (2022) Sunk cost sensitivity during change-of-mind decisions is informed by both the spent and remaining costs. *Communications Biology* 5:1337. <https://www.nature.com/articles/s42003-022-04235-6>
- S. Vinogradov, A. A. Hamid, A. D. Redish (2022) Etiopathogenic models of psychosis spectrum illnesses must resolve four key features. *Biological Psychiatry* 92(6):514-522. <https://www.sciencedirect.com/science/article/abs/pii/S0006322322013737>
- A.F. Haynos, A.S. Widge, L.M. Anderson, A. D. Redish (2022) Beyond Description and Deficits: How Computational Psychiatry Can Enhance an Understanding of Decision-Making in Anorexia Nervosa. *Current Psychiatry Reports*. <https://doi.org/10.1007/s11920-022-01320-9>
- A.D. Redish, A. Kepecs, L. M. Anderson, O. Calvin, N. Grissom, A.F. Haynos, S. R. Heilbronner, A.B. Herman, S. Jacob, S. Ma, I. Vilares, S. Vinogradov, C.J. Walters, A.S. Widge, J.L. Zick, A. Zilverstand (2022) "Computational Validity: Using Computation to translate behaviors across species". *Philosophical Transactions of the Royal Society B* 377:20200525.
- P.J. Cunningham, P.S. Regier, A.D. Redish (2021) "Dorsolateral striatal task-initiation bursts represent past experiences more than future action plans" *Journal of Neuroscience* 41(38):8051-8064.
- L. T. Hunt, N. D. Daw, P. Kaanders, M. A. MacIver, U. Mugan, E. Procyk, A. D. Redish, E. Russo, J. Scholl, K. Stachenfeld, C. R. E. Wilson, N. Kolling (2021) "Formalising planning and information search in naturalistic decision-making" *Nature Neuroscience*.

- B. Schmidt, A. D. Redish (2021) "Disrupting the medial prefrontal cortex with DREADDs alters hippocampal sharp-wave ripples and their associated cognitive processes" *Hippocampus*. 31(10):1051-1067.
- O. L. Calvin, A. D. Redish (2021) "Global Disruption in Excitation-Inhibition Balance Can Cause Localized Network Dysfunction and Schizophrenia-Like Context-Integration Deficits" *PLoS Computational Biology* 17(5): e1008985. <https://doi.org/10.1371/journal.pcbi.1008985>.
- C. Conelea, S. Jacob, A. D. Redish, I. S. Ramsay (2021) "Considerations for pairing Cognitive Behavioral Therapies and Noninvasive Brain Stimulation: Ignore at your own risk" *Frontiers in Psychiatry* 12:660180. doi: 10.3389/fpsyt.2021.660180.
- S. Kalhan, A. D. Redish, R. Hester, M. I. Garrido (2021) "A salience misattribution model for addictive-like behaviors" *Neuroscience and Biobehavioral Reviews* 125:466-477.
- A. A. Duin, L. Aman, B. Schmidt, A. D. Redish (2021) "Certainty and uncertainty of the future changes planning and sunk costs" *Behavioral Neuroscience*. 135(4):469-486. <https://doi.org/10.1037/bne000460>
- R. Kazinka, A. W. MacDonald III, A. D. Redish (2021) "Sensitivity to sunk costs depends on attention to the delay" *Frontiers in Psychology* 12:373. DOI: 10.3389/fpsyg.2021.604843.
- A.E. McLaughlin, G.W. Diehl, A.D. Redish (2021) [Potential roles of the rodent medial prefrontal cortex in conflict resolution between multiple decision-making systems](#). *International Review of Neurobiology* 158:249-281.
- C.S.J. Chen, R.B. Ebitz, S. Bindas, A.D. Redish, B. Hayden, N.M. Grissom. (2021) Divergent strategies for learning in males and females. *Current Biology* 31:1-12
- B. M. Hasz, A. D. Redish (2020) Spatial encoding in dorsomedial prefrontal cortex and hippocampus is related during deliberation. *Hippocampus* 30:1194-1208.
- E. Kummerfeld, S. Ma, R. K. Blackman, A. L. DeNicola, A. D. Redish, S. Vinogradov, D. A. Crowe, M. V. Chafee (2020) Cognitive control errors in nonhuman primates resembling those in schizophrenia reflect opposing effects of NMDAR blockade on causal interactions between cells and circuits in prefrontal and parietal cortex. *Biological Psychiatry: Cognitive Neuroscience and Neuroimaging* 5(7):705-714.
- B. M. Hasz, A. D. Redish (2020) Dorsomedial prefrontal cortex and hippocampus represent strategic context even while simultaneously changing representation throughout a task session. *Neurobiology of Learning and Memory* 171:107215.
- A. D. Redish (2020) Beyond Replay: Introduction to the special issue on hippocampal replay *Hippocampus* 30(1):3-5.
- S. V. Abram, M. Hanke, A. D. Redish, A. W. MacDonald (2019) Neural signatures underlying deliberation in human foraging decisions. *Cognitive, Affective, & Behavioral Neuroscience*, 19(6):1492-1508.

- S. V. Abram, A. D. Redish, A. W. MacDonald (2019) "Learning from loss after risk: Dissociating reward pursuit and reward valuation in a naturalistic foraging task" *Frontiers in Psychiatry* 10.3389/fpsy.2019.00359.
- B. Schmidt, A. A. Duin, A. D. Redish (2019) "Disrupting the medial prefrontal cortex alters hippocampal sequences during deliberative decision making" *Journal of Neurophysiology* 121(6):1981-2000.
- A. D. Redish, R. Kazinka, A. B. Herman (2019) "Taking an engineer's view: Implications of network analysis for computational psychiatry", *Behavioral and Brain Sciences* 42:36-47. Commentary on Borsboom et al. "Brain disorders? Not really: why network structures block reductionism in psychopathology research" *Behavioral and Brain Sciences* 42:1-11.
- C. J. Walters, J. Jubran, A. Sheehan, M. T. Erickson, A. D. Redish (2019) "Avoid-approach conflict behaviors differentially affected by anxiolytics: implications for a computational model of risky decision-making" *Psychopharmacology* 236(8):2513-2525.
- B. M. Sweis, M. J. Thomas, A. D. Redish (2018) "Beyond simple tests of value: Measuring addiction as a heterogeneous disease of computation-specific valuation processes" *Learning and Memory* 25:501-512.
- B. M. Sweis, S. V. Abram, B. J. Schmidt, K. D. Seeland, A. W. MacDonald, M. J. Thomas, A. D. Redish (2018) "Sensitivity to 'sunk costs' in mice, rats, and humans" *Science* 361:178-181.
- B. M. Hasz, A. D. Redish (2018) "Deliberation and Procedural Automation on a Two-Step Task for Rats" *Frontiers in Integrative Neuroscience* doi: 10.3389/fnint.2018.00030.
- B. M. Sweis, A. D. Redish, M. J. Thomas (2018) "Prolonged abstinence from cocaine or morphine disrupts separable valuations during decision conflict" *Nature Communications* 9(1):2521.
- A. D. Redish, E. Kummerfeld, R. L. Morris, A. Love (2018) "Opinion: Reproducibility failures are essential to scientific inquiry" *PNAS* 115(20):5042-5046.
- B. M. Sweis, E. B. Larson, A. D. Redish, M. J. Thomas (2018) "Altering gain of the infralimbic to accumbens shell circuit alters economically dissociable decision-making algorithms" *PNAS* 115(27):E6347-6355.
- L. K. McLoon, A. D. Redish (2018) "Demystifying graduate school: Navigating a PhD in neuroscience and beyond" *Journal of Undergraduate Neuroscience Education* 16(3):A203-A209.
- B. Sweis, M. J. Thomas, A. D. Redish (2018) "Mice learn to avoid regret" *PLoS Biology* 16(6): e2005853.
- A. D. Redish, M. W. Howard (2018) "The legacy of Adam Johnson". *Hippocampus* 28(6):453-454.
- M. Ferrante, A. D. Redish, M. Oquendo, B. Averbeck, M. Kinnane, J. Gordon (in press) "Computational Psychiatry: A report from the 2017 NIMH Workshop on opportunities and challenges". *Molecular Psychiatry*.

- S. Amemiya, A. D. Redish (2018) "Hippocampal theta-gamma coupling reflects state-dependent information processing in decision making". *Cell Reports* 22(12):3328-3338.
- J. Lisman, G. Buzsáki, H. Eichenbaum, L. Nadel, C. Ranganath, A. D. Redish (2017) "Viewpoints: how the hippocampus contributes to memory, navigation and cognition" *Nature Neuroscience* 20:1434-1447.
- K. J. Friston, A. D. Redish, J. A. Gordon (2017) "Computational Nosology and Precision Psychiatry" *Computational Psychiatry*. doi: 10.1162/CPSY_a_00001.
- Z. Kurth-Nelson, A. D. Redish (2017) "Precommitment: A way around temptation" *Frontiers for Young Minds* 5:26. doi:10.3389/frym.2017.00026.
- A. E. Papale, M. C. Zielinski, L. Frank, S. Jadhav, A. D. Redish (2016) "Interplay between hippocampal sharp wave ripple events and vicarious trial and error behaviors in decision making" *Neuron* 92(5):975-982.
- N. J. Powell, A. D. Redish (2016) "Representational changes of latent strategies in rat medial prefrontal cortex precede changes in behavior" *Nature Communications* 7:12830.
- E. C. Carter, A. D. Redish (2016) "Rats value time differently on equivalent foraging and delay-discounting tasks" *Journal of Experimental Psychology: General* 145(9):1093-1101.
- S. V. Abram, Y. A. Breton, B. Schmidt, A. D. Redish, A. W. MacDonald III (2016) "The Web-Surf Task: A translational model of human decision-making" *Cognitive, Affective, and Behavioral Neuroscience* 16(1):37-50.
- A. D. Redish (2016) "Vicarious Trial and Error" *Nature Reviews Neuroscience* 17:147-159.
- S. Amemiya, A. D. Redish (2016) "Manipulating Decisiveness in Decision Making - Effects of Clonidine on Hippocampal Search Strategies" *The Journal of Neuroscience* 36(3):814-827.
- P. S. Regier, S. Amemiya, A. D. Redish (2015) "Hippocampus and subregions of the dorsal striatum respond differently to a behavioral strategy change on a spatial navigation task" *Journal of Neurophysiology* 114(3):1399-1416.
- A. D. Redish, N. W. Schultheiss, E. C. Carter (2015) "The computational complexity of valuation and motivational forces in decision-making processes", *Current Topics in Behavioral Neuroscience*.
- J. J. Stott, A. D. Redish (2015) "Representations of value in the brain: an embarrassment of riches?" *PLOS Biology* 13(6):e1002174.
- P. S. Regier, A. D. Redish (2015) "Contingency Management and deliberative decision-making processes" *Frontiers in Psychiatry* 6:0076 doi:10.3389/fpsy.2015.00076
- N. W. Schultheiss, A. D. Redish (2015) "The compass within" *Nature Neuroscience*, 18:482-483. [Commentary on Peyrache & Buzsáki 2015 *Neurosci.*]

- Y. A. Breton, K. D. Seeland, A. D. Redish (2015) "Aging impairs deliberation and behavioral flexibility in inter-temporal choice" *Frontiers in Aging Neuroscience* 10.3389/fnagi.2015.00041.
- A. M. Wikenheiser, A. D. Redish (2015) "Hippocampal theta sequences reflect current goals" *Nature Neuroscience* 18:289-294.
- A. D. Redish, S. J. Y. Mizumori (2015) "Memory and Decision Making" *Neurobiology of Learning and Memory* 117:1-3. (Introductory article to special issue on Memory and Decision Making, edited by SJYM and ADR.)
- T. T. Hills, P. M. Todd, D. Lazer, A. D. Redish, I. D. Couzin, and the Cognitive Search Research Group* (*M. Bateson, R. Cools, R. Dukas, L. Giraldeau, M. W. Macy, S. E. Page, R. M. Shiffrin, D. W. Stephens, B. Uzzi, J. W. Wolfe) (2015) "Exploration versus Exploitation in Space, Mind, and Society" *Trends in Cognitive Sciences*. 19(1):46-54.
- A. M. Wikenheiser, A. D. Redish (2015) "Decoding the cognitive map: ensemble hippocampal sequences and decision making" *Current Opinion in Neurobiology* 32:8-15.
- W. Bickel, R. D. Landes, Z. Kurth-Nelson, A. D. Redish (2014) "A Quantitative Signature Of Self-Control Repair: Rate-Dependent Effects Of Successful Addiction Treatment" *Clinical Psychological Science* 2(6):685-695.
- J. J. Stott, A. D. Redish (2014) "A functional difference in information processing between orbitofrontal cortex and ventral striatum during decision-making behavior" *Philosophical Transactions of the Royal Society B* 2013.0472.
- M. Takahashi, H. Nishida, A. D. Redish, J. Lauwereyns (2014) "Theta Phase Shift in Spike Timing and Modulation of Gamma Oscillation: A Dynamic Code for Spatial Alternation during Fixation in Rat Hippocampal Area CA1" *J. Neurophysiology* 111:1601-1614.
- A. P. Steiner, A. D. Redish (2014) "Behavioral and neurophysiological correlates of regret in rat decision-making on a neuroeconomic task" *Nature Neuroscience* 17:995-1002.
- N. J. Powell, A. D. Redish (2014) "Complex neural codes in rat prelimbic cortex are stable across days on a spatial decision task" *Frontiers in Behavioral Neuroscience* 8:00120.
- A. D. Redish (2013) "The Dangers of Dualism: Implications of the multiple decision-making system theory for Free Will and Responsibility" *Cognitive Critique* 7:1-28.
- B. J. Schmidt, A. D. Redish (2013) "Navigation with a cognitive map" *Nature* 497:42-43. [Commentary on Pfeiffer & Foster 2013 *Nature*.]
- A. M. Wikenheiser, D. W. Stephens, A. D. Redish (2013) "Subjective costs drive overly-patient foraging strategies in rats on an intertemporal foraging task" *PNAS* 110(20):8308-8313.
- B. J. Schmidt, A. E. Papale, A. D. Redish, E. J. Markus (2013) "Conflict between Place and Response Navigation Strategies: Effects on Vicarious Trial and Error (VTE) Behaviors" *Learning and Memory* 20:130-138.

- A. M. Wikenheiser, A. D. Redish (2013) "The balance of forward and backward hippocampal sequences shifts across behavioral states" *Hippocampus* 23:22-29.
- Z. Kurth-Nelson and A. D. Redish (2012) "Don't let me do that! – models of precommitment" *Frontiers in Neuroscience* 6:138. doi: 10.3389/fnins.2012.00138.
- A. P. Steiner, A. D. Redish (2012) "The road not taken: neural correlates of decision making in orbitofrontal cortex" *Frontiers in Decision Neuroscience* 6:131 doi:10.3389/fnins.2012.00131.
- A.E. Papale, J. J. Stott, N. J. Powell, P. S. Regier, A. D. Redish (2012) "Interactions between Deliberation and Delay-Discounting in Rats" *Cognitive, Affective, and Behavioral Neuroscience* 12(3):513-526.
- M. A. A. van der Meer, Z. Kurth-Nelson, A. D. Redish (2012) "Information processing in decision-making systems" *The Neuroscientist* 18(4):342-359.
- Z. Kurth-Nelson, W. K. Bickel, A. D. Redish (2012) "A theoretical account of cognitive effects in delay discounting" *European Journal of Neuroscience* 35:1052-1064,
- A.S. Gupta, M.A.A. van der Meer, D.S.Touretzky, A.D. Redish (2012) "Segmentation of spatial experience by hippocampal theta sequences" *Nature Neuroscience* 15:1032-1039.
- J. E. Ferguson, C. Boldt, J. G. Puhl, T. W. Stigen, J. C. Jackson, K. M. Crisp, K. A. Mesce, T. I. Netoff, A. D. Redish (2012) "Nanowires precisely grown on the ends of microwire electrodes permit the recording of intracellular action potentials within deeper neural structures" *Nanomedicine* 7(6):847-854.
- A. M. Wikenheiser, A. D. Redish (2012) "Hippocampal sequences link past, present and future" *TICS* (Spotlight).
- A. M. Wikenheiser, A. D. Redish (2011) "Changes in reward contingency modulate the trial to trial variability of hippocampal place cells" *J Neurophysiology* 106(2):589-598.
- J. E. Ferguson, A. D. Redish (2011) "Wireless communication with implanted medical devices using the conductive properties of the body" *Expert Reviews of Medical Devices* 8(4):427-33.
- W. Bickel, R. Landes, D. Christensen, L. Jackson, B. Jones, Z. Kurth-Nelson, A. D. Redish (2011) "Single- and Cross-Commodity Discounting Among Cocaine Addicts: The Commodity and Its Temporal Location Determine Discounting Rate" *Psychopharmacology* 217(2):177-187.
- M. A. A. van der Meer, A. D. Redish (2011) "Ventral striatum: a critical look at models of learning and evaluation" *Current Opinion in Neurobiology* 21(3):387-392
- J. E. Ferguson, J. C. Jackson, A. D. Redish (2011) "An inside look at hippocampal silent cells" *Neuron* 70:3-5.
- A. Blumenthal, A. P. Steiner, K. D. Seeland, A. D. Redish (2011) "Effects of pharmacological manipulations of NMDA-receptors on deliberation in the Multiple-T task" *Neurobiology of Learning and Memory* 95:376-384.

- M. A. A. van der Meer, A. D. Redish (2011) "Theta phase precession in rat ventral striatum links place and reward information" *Journal of Neuroscience* 31(8):2843-2854.
- Z. Kurth-Nelson, A. D. Redish (2010) "A Reinforcement Learning Model of Precommitment in Decision Making" *Frontiers in Behavioral Neuroscience* 4:184. doi: 10.3389/fnbeh.2010.00184
- M. A. A. van der Meer, T. Kalensher, C. S. Lansink, C. M. A. Pennartz, J. Berke, A. D. Redish (2010) "Integrating early results on ventral striatal gamma oscillations in the rat" *Frontiers in Neuroscience* 4(28):1-12.
- M. A. A. van der Meer, A. Johnson, N. C. Schmitzer-Torbert, A. D. Redish (2010) "Triple dissociation of information processing in dorsal striatum, ventral striatum, and hippocampus on a learned spatial decision task" *Neuron* 67:25-32.
- M. A. A. van der Meer, A. D. Redish (2010) "Expectancies in decision making, reinforcement learning, and ventral striatum" *Frontiers in Neuroscience* doi:10.3389/neuro.01.006.2010.
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- J. E. Ferguson, C. Boldt, A. D. Redish (2009) "Creating low-impedance tetrodes by electroplating with additives" *Sensors and Actuators: A. Physical* 156:338-393.
- C. Pennartz, J. D. Berke, A. Graybiel, R. Ito, C. Lansink, M. van der Meer, A. D. Redish, K. Smith, and P. Voorn (2009) "Cortico-striatal Interactions during Learning, Memory Processing, and Decision Making." *Journal of Neuroscience*. 29(41):12831-12838.
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- M. A. A. van der Meer, A. D. Redish (2009) "Covert expectation-of-reward in rat ventral striatum at decision points" *Frontiers in Integrative Neuroscience* 3(1):1-15.
- A. Johnson, A. Fenton, C. Kentros, A. D. Redish (2009) "Looking for cognition in the structure in the noise" *Trends in Cognitive Sciences* 13(2):55-64.
- A. D. Redish, S. Jensen, A. Johnson (2008) "A unified framework for addiction: vulnerabilities in the decision process" *Behavioral and Brain Sciences* 31:415-437 with discussion pp. 437-487.

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- A. Johnson, M. A. A. van der Meer, A. D. Redish (2007) "Integrating hippocampus and striatum in decision making" *Current Opinion in Neurobiology* 17(6):692-697.
- A. Johnson, A. D. Redish (2007) "Neural ensembles in CA3 transiently encode paths forward of the animal at a decision point" *Journal of Neuroscience* 27(45):12176-12189.
- J. C. Jackson, A. D. Redish (2007) "Network dynamics of hippocampal cell-assemblies resemble multiple spatial maps within single tasks" *Hippocampus* 17:1209-1229.
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- A. D. Redish, A. Johnson (2007) "A computational model of craving and obsession" *Annals of the New York Academy of Sciences* 1104: 324-339. doi:10.1196/annals.1390.014
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- A. D. Redish (2005) "Implications of the Temporal Difference Reinforcement Learning Model for Addiction and Relapse" *Neuropsychopharmacology* 30(Suppl 1):S27-28.
- G.P. Cortese, M. Little, A. Johnson, A.D. Redish (2005) "Opposite effects of inactivations of dorsal hippocampus or dorsal striatum on maze learning" *Society for Neuroscience Abstracts* 30.
- N.C. Schmitzer-Torbert, A.D. Redish (2005) "Identification and behavioral correlates of putative striatal interneurons in rodents" *Society for Neuroscience Abstracts* 30.
- A.D. Redish, S. Jensen, A. Johnson, Z. Kurth-Nelson (2005) "Reward loss does not produce unlearning: Implications for TDRL" *Society for Neuroscience Abstracts* 30.
- A. Johnson, N.C. Schmitzer-Torbert, J.C. Jackson, A.D. Redish (2005) "Differential changes in neural activity in the dorsal hippocampus and dorsal striatum during performance of a Multiple-T task" *Society for Neuroscience Abstracts* 30.
- J.C. Jackson, A. Johnson, A.D. Redish (2005) "Sharp-wave events and correlated neuronal activity increase during behavior" *Society for Neuroscience Abstracts* 30.
- A.D. Redish, A. Johnson, S. Jensen, J. Jackson (2005) "Latent Learning requires multiple value functions within TDRL" *Computational Neural Systems*2005*.
- A. Johnson, A.D. Redish (2005) "Hippocampal replay contributes to within session learning in a temporal difference reinforcement learning model" *Computational Neural Systems*2005*.
- J.C. Jackson, A. Johnson, A.D. Redish (2005) "Hippocampal sharp wave events increase during behavior with experience within session" *Computational Neural Systems*2005*.
- N.C. Schmitzer-Torbert, A.D. Redish (2004) "Task-dependent spatial encoding in the dorsal striatum" *Society for Neuroscience Abstracts* 30.
- B. Masimore, N.C. Schmitzer-Torbert, J.C. Jackson, J. Kakalios, A.D. Redish (2004) "Synchronous oscillations in striatal local field potentials correlate with movement initiation" *Society for Neuroscience Abstracts* 30.
- A.D. Redish (2004) "The addiction process: a computational process gone awry" *Society for Neuroscience Abstracts* 30.
- Z. Kurth-Nelson, A.D. Redish (2004) "uAgents: Action-selection in temporally-dependent phenomena using temporal difference learning over a collective belief structure" *Society for Neuroscience Abstracts* 30.
- A. Johnson, K.D. Seeland, A.D. Redish (2003) "Head-direction ensembles recorded from awake, behaving rats in an open field under cue-conflict situations" *Society for Neuroscience Abstracts* 29.

- N.C. Schmitzer-Torbert, S. Rao, J.C. Jackson, A.D. Redish (2003) "Changes in patterns of neural firing in the rodent dorsal striatum precede development of a regular route" *Society for Neuroscience Abstracts* 29.
- B. Masimore, J. Kakalios, A.D. Redish (2003) "Correlations between frequencies of local field potential oscillations indicate specific components in the theta, gamma, and high frequency (hfo) ranges in dorsocentral striatum" *Society for Neuroscience Abstracts* 29.
- J.C. Jackson, N.C. Schmitzer-Torbert K.D. Harris, A.D. Redish (2003) "Quantitative assessment of extracellular multichannel recording quality using measures of cluster separation" *Society for Neuroscience Abstracts* 29.
- A. D. Redish, N. C. Schmitzer-Torbert, and J. C. Jackson (2002) "Classification of dorsal striatal neurons from extracellular recordings in awake behaving rats" *Society for Neuroscience Abstracts* 28.
- N. C. Schmitzer-Torbert, J. C. Jackson, A. D. Redish (2002) "Behavioral correlates of neuronal activity in the rodent dorsal striatum: The Multiple-T task" *Society for Neuroscience Abstracts* 28.
- J. C. Jackson, N. C. Schmitzer-Torbert, A. D. Redish (2002) "Behavioral correlates of neuronal ensemble in dorsal striatum on a conditioned response task" *Society for Neuroscience Abstracts* 28.
- E.S. Rosenzweig, A.D. Redish, B.L. McNaughton, and C.A. Barnes (2002) "Age-related changes in hippocampal map realignment" *Society for Neuroscience Abstracts* 28.
- J.L. Gerrard, H.K. Kudrimoti, S.L. Cowen, A.D. Redish, E.S. Rosenzweig, C.A. Barnes, and B.L. McNaughton (2002) "Dissociation of pattern and sequence reactivation efficiency in the aged rat hippocampus" *Society for Neuroscience Abstracts* 28.
- A. D. Redish, F. P. Battaglia, A. D. Ekstrom, J. L. Gerrard, P. Lipa, E. S. Rosenzweig, B. L. McNaughton, C. A. Barnes (2000) "Hippocampal pyramidal cells located near each other anatomically do not show related spatial firing correlates", *Society for Neuroscience Abstracts* 26:982
- E. S. Rosenzweig, A. D. Ekstrom, A. D. Redish, B. L. McNaughton, C. A. Barnes (2000) "Phase precession as an experience-independent process: Hippocampal pyramidal cell phase precession in a novel environment and under NMDA-receptor blockade", *Society for Neuroscience Abstracts* 26:982.
- J. L. Gerrard, S. L. Cowen, H. S. Kudrimoti, E. S. Rosenzweig, A. D. Redish, B. L. McNaughton, C. A. Barnes (2000) "Equivalent reactivation of hippocampal memory traces for a novel experience in young adult and aged rats", *Society for Neuroscience Abstracts* 26:981.
- A.D. Redish, E.S. Rosenzweig, J.D. Bohanick, B.L. McNaughton, and C.A. Barnes (1999) "Dynamics of Hippocampal Map Realignment", *Society for Neuroscience Abstracts* 25:2165.

- E.S. Rosenzweig, A.D. Redish, J.D. Bohanick, B.L. McNaughton, and C.A. Barnes (1999) “Behavioral Correlates of Hippocampal Map Realignment”, *Society for Neuroscience Abstracts* 25:2165.
- M.C. Fuhs, A.D. Redish, and D.S. Touretzky (1997) “Place Cell-like Location Specific Activity may be Generated without Complex Landmark Identification Processes”, *Society for Neuroscience Abstracts*, 23:502.
- J.P. Goodridge, A.D. Redish, H.T. Blair, P.E. Sharp, and D.S. Touretzky (1997) “Lateral Mamillary Input Explains Distortions in Tuning Curve Shapes of Anterior Thalamic Head Direction Cells”, *Society for Neuroscience Abstracts*, 23:503
- A.D. Redish and D.S. Touretzky (1997) “Implications of Attractor Networks for Cue Conflict Situations”, *Society for Neuroscience Abstracts*, 23:1601
- A.D. Redish and D.S. Touretzky (1996) “Details of a comprehensive theory of rodent navigation”, *Society for Neuroscience Abstracts* 22:678.
- D.S. Touretzky, S.J.C. Gaulin, and A.D. Redish (1996) “Gerbils regularly return to their entry point when exploring a novel environment”, *Society for Neuroscience Abstracts* 22:449.
- A.D. Redish and D.S. Touretzky (1995) “Revisiting the Papez Circuit: The Role of Hippocampus and its Afferent and Efferent Structures in Rodent Navigation”, *Society for Neuroscience Abstracts* 21:942.
- L.M. Saksida, A.D. Redish, C.R. Milberg, S.J.C. Gaulin, and D.S. Touretzky (1995) “Landmark-based Navigation in Gerbils Supports Vector Voting”, *Society for Neuroscience Abstracts* 21:1939.
- H.S. Wan, D.S. Touretzky, and A.D. Redish (1994) “A Rodent Navigation Model that Combines Place Code, Head Direction, and Path Integration Information”, *Society for Neuroscience Abstracts* 20:1205.
- D.S. Touretzky, A.D. Redish, H.S. Wan, and B.L. McNaughton (1993) “Sinusoidal Arrays: A theory of representation in parietal and motor cortices”, *Society for Neuroscience Abstracts* 19:794.

Products

A. D. Redish (version 2.0, 2000; version 3.0, 2002, version 3.2–3.4, 2003, version 3.5, 2008; version 4.0, 2013, **still maintained**) “MClust: A spike-sorting toolbox”, available from <http://umn.edu/~redish/MClust>, available on github as of 12 October 2019.

Ongoing blogs

Brain and the Poetic Mind (Psychology Today)

- A new blog 31 Oct 2013
- Putting the Neuro into Economics 5 Nov 2013

- Morality and Tribalism: The Problem with Utilitarianism 12 Dec 2013
- We are all Commander Data, now 11 April 2014
- Post-modern anthropomorphism 9 June 2014
- The Neuroscience of Football 14 Aug 2014
- The Action on the Field 14 Aug 2014
- The Perceptual Arms Race 21 Aug 2014
- Separating Strategy from the Execution on the Field 28 Aug 2014
- Learning the Playbook and Learning from Tape 4 Sept 2014
- Peacemaking among Primates 11 Sept 2014
- Process and Normative 30 July 2015
- Morality and Community 9 November 2019

Watching out for ol' Doc Murphy (Scientopia)

- Ol' doc who now? 28 October 2019
- Peer review is not commentary. 2 November 2019
- Who pays for the paper? 9 November 2019
- Papers should move up, not down. 23 November 2019
- Why I won't publish in bioRxiv 3 December 2019

Invited talks, presentations, and participations in conferences

External

2022 **Keynote** Cognitive Computational Neuroscience Conference (San Francisco)
 2022 Methods in Computational Neuroscience, MBL, Woods Hole MA
 2022 APA (Psychology) [Minneapolis MN] – Organized symposium]
 2022 Freiburg GERMANY [ONLINE]
 2022 Purdue [ONLINE]
 2022 U Maryland School of Medicine [P50 group presentation w/ Sophia Vinogradov, ONLINE]
 2021 iSCAN [invited presenter], Magdeburg GERMANY, ONLINE]
 2021 Special StoryTelling Session presenter [50th Society for Neuroscience conference, ONLINE]
 2021 Minisymposium presenter [50th Society for Neuroscience conference, ONLINE]
 2021 IU Bloomington [Bloomington IN, ONLINE]
 2021 Methods in Computational Neuroscience, MBL, Woods Hole MA
 2021 UIUC [Urbana-Champaign, ONLINE]
 2020 Northwestern [Chicago IL, ONLINE]
 2020 IU School of Medicine [Indianapolis IN, ONLINE]
 2020 Mayo Clinic [Rochester MN, ONLINE]
 2020 IPAM / UCLA, Los Angeles CA
 2019 ACNP, Orlando FL
 2019 Columbia University, NYC
 2019 Brandeis, Waltham MA
 2019 **External Keynote**, Eating Disorders Research Society, Chicago IL

2019 Lisman Memorial Workshop, Woods Hole MA
2019 Methods in Computational Neuroscience, MBL, Woods Hole MA
2019 Dartmouth MIND Summer Workshop, Dartmouth College, Hanover NH
2019 Sloan-Nomis Meeting on Attention (Neuroeconomics), Vitznau SWITZERLAND
2019 **External Keynote**, Fetal Alcohol Syndrome Disorders Annual Meeting, Minneapolis MN
2019 Dusseldorf decision making symposium, Dusseldorf GERMANY
2019 Society for Quantitative Analysis of Behavior, Chicago IL
2019 Conference on learning and memory, UT Austin, Austin TX
2019 NYU, NY NY
2019 Loyola, Chicago IL
2019 CSHL, New York NY
2019 UCSF, San Francisco CA
2019 Cosyne Workshop on foraging, Lisbon PORTUGAL
2019 Marquette University, Milwaukee WI
2018 Dept Psychology, UniMelbourne, Melbourne AUSTRALIA
2018 Dept Finance, UniMelbourne, Melbourne AUSTRALIA
2018 LSU Health Sciences Center, New Orleans LA
2018 Hamline University, St. Paul MN
2018 Macalester, St. Paul MN
2018 NIH ACD BRAIN Initiative Working Group 2.0 Workshop #2, Chicago IL
2018 Neuroeconomics department, ETH, Zurich SWITZERLAND
2018 Computational Psychiatry Summer School, ETH, Zurich SWITZERLAND
2018 Methods in Computational Neuroscience, Woods Hole MBL
2018 EBPS Workshop: Using Computational approaches to build a two-way bridge, Downing College, Cambridge, UK
2018 **Keynote** talk for Computational Psychiatry Summer Course, University College London, London UK
2018 DeepMind, London, UK
2018 Sloan-Nomis Meeting on Attention (Neuroeconomics), Vitznau SWITZERLAND
2018 **Keynote** talk for NeuroFutures Conference, University of Washington, Seattle WA
2018 Roger Loucks Lecture, University of Washington, Seattle WA
2018 UCLA, LA CA
2018 University of MD School of Medicine, Baltimore MD
2018 Bodian seminar, Johns Hopkins Univ, Baltimore MD
2018 Sloan-Nomis Meeting on Attention (Neuroeconomics), NYU, New York NY.
2018 LMU, Munich GERMANY
2017 Washington University, St. Louis MO
2017 Howard University, Washington DC
2017 Faculty for Undergraduate Neuroscience Workshop, Dominican University Chicago IL
2017 UTSA Symposium on Neural Codes for Navigation (gave 30 minute intro + 50 minute full talk), University of Texas San Antonio, San Antonio TX.
2017 OIST Okinawa, JAPAN
2017 University of Alabama MSTP Retreat Keynote speaker
2017 Ruhr-Universitat Bochum, GERMANY
2017 MetroState University, St. Paul MN
2017 University of MD for the EFRedish Symposium and Celebration
2017 UCSD, San Diego CA

2017 University of Toronto, Toronto CANADA
2017 NIMH
2016 Arrowhead + 10 years, Workshop on Decision-Making, Sydney AUSTRALIA
2016 Invited Speaker, Workshop on Internally Generated Sequences in Hippocampus, Ariccia ITALY
2016 Invited Speaker, EBPS Workshop on Computing with Neural Ensembles, Amsterdam NETHERLANDS
2016 Invited Kavli Workshop Speaker, Society for Neuroeconomics 2016 Meeting, Berlin GERMANY
2016 BCNI, Downing College, University of Cambridge, Cambridge UK
2016 “Addiction, In Theory” Meeting, University College London, London UK
2016 38th GRSNC, Université de Montréal, Montreal QB CANADA
2016 NYU, New York NY
2016 Cornell University, Ithaca NY
2016 UChicago, Chicago, IL
2015 Rutgers-Newark, Newark NJ.
2015 International Symposium on Prediction and Decision Making, Tokyo JAPAN.
2015 NIMH RDOC Unit, NIMH, NIH, Bethesda MD
2015 George Mason University, Fairfax VA
2015 Dresden Symposium on Cognitive Control (invited speaker), Dresden GERMANY
2015 UC Davis, Davis CA
2015 Baylor College of Medicine, Houston TX
2015 Hebb Lecture, McGill University, Montreal Canada
2014 CNBC 20th anniversary celebration (alumni speaker)
2014 PFC conference, Whistler Canada
2014 Hamline University, St. Paul MN
2014 Behavior, Cognition, Computation, and Technology Course, Barcelona Spain
2014 Methods in Computational Neuroscience Course, Woods Hole MA
2014 Emory University, Atlanta GA
2014 Neurobiology of Learning and Memory Conference, Park City UT
2013 Institute Champalimaud, Lisbon, Portugal
2013 HFSP Meeting, Strasbourg, France.
2013 University of Washington Addiction Symposium, Seattle WA
2013 University of Washington (Psychology Department), Seattle WA
2013 Caltech, Pasadena CA
2013 Eastern Psychological Association, New York NY
2013 Georgia Regents University, Augusta GA
2012 University of St. Thomas, Minneapolis MN.
2012 Gordon Research Conference, Il Ciocco, Lucca, Italy.
2012 Symposium on Biology of Decision-Making, Institut du Cerveau et de la Moelle Epiniere (ICM), Hopital Pitie-Salpetriere, Paris, France.
2012 Ecole Normale Superieure, Paris France
2012 College de France, Paris France
2012 Northwestern, Chicago IL
2012 CEAR, Georgia State University, Atlanta GA
2012 University of British Columbia, Vancouver CA
2012 Boston University

2012 Brandeis University
2011 International Symposium on Learning, Memory and Cognitive Function. Mechanisms, Pathology and Therapeutics, Valencia Spain
2011 Dynamic Brain Forum (Part of ICCNN, Hokkaido, Japan)
2011 Summer School in Computational & Cognitive Neuroscience, China
2011 Concordia University, Montreal Canada [Keynote speaker for workshop on the interpretation of electrophysiological data as a function of behavior]
2011 Janelia Farm workshop: Neural Circuits and Decision-Making in Rodents II
2011 Ernst Struengmann Forum, Frankfurt Germany
2010 Yale University Schwartz Symposium, New Haven CT
2010 APA meeting, New Orleans LA
2010, Janelia Farm workshop: Challenges in Extracellular Electrophysiology: Data Extraction, Janelia Farm VA
2010, Midbrains, Northfield MN
2009, Goal-Directed Decision Making: Behavior, Neuroscience and Computation (Princeton NJ).
2009, ICARUS project, Intelligence Advanced Research Projects Agency (IARPA).
2009 Okinawa Computational Neuroscience Course (Okinawa Japan).
2009 Princeton University, Princeton NJ.
2009 Dynamic Brain Forum (Atami, Japan)
2009 University of Pennsylvania, Philadelphia PA
2008 University of Michigan, Ann Arbor MI
2008 University of Arkansas, Little Rock AR
2008 MBL, WoodsHole MA. [Neural Systems & Behavior, Scholar in Residence]
2008 Conference on Learning and Memory, Spitsbergen Norway [Session chair]
2008 Brandeis University, Waltham MA
2008 Conference on Cognitive and Neural Systems [Invited Speaker]
2008 University of Waterloo, Waterloo Canada
2008 Janelia Farm, Washington DC.
2008 Yale
2008 NIDA Conference on Addiction
2007 Okinawa Institute of Science and Technology, Okinawa Japan
2007 Mechanism of Mind and Brain Workshop, Sapporo Hokkaido Japan [Invited speaker, Special English section, Annual Meeting of Japanese Physiology Society,]
2007 Columbia University
2007 Mind and World Conference on Addiction
2007 MidBrains Conferences
2007 NYAS Symposium on Orbitofrontal Function [Session chair]
2007 University of Chicago
2007 Baylor College of Medicine
2006 Center for the Neural Basis of Cognition, Carnegie Mellon University & Univ Pittsburgh, Alumni Lecture
2006 University of Texas, San Antonio
2006 Conference on Decision Making Systems, Lake Arrowhead, UCLA
2006 University of Edinburgh, Edinburgh UK
2006 Mathematical Biosciences Institute, Ohio State Univ, Columbus OH
2006 Knox college, Galesburg IL
2006 Macalaster college, St. Paul MN

2005 (ACNP) American College of Neuropsychopharmacology, Waikoloa, HI
2005 University of Oregon, Eugene OR
2005 McKnight Endowment Fund for Neuroscience annual meeting, Aspen CO
2005 Cold Spring Harbor, NY
2005 CRCNS PI meeting, NSF, Washington DC
2004 Methods in Computational Neuroscience (MCN) @ Marine Biological Laboratory (MBL)
2004 Minnesota State University, Mankato.
2003 Design of Medical Devices conference, Minneapolis MN [Session chair]
2003 Joint UMN-Karolinska conference, Karolinska, Stockholm, Sweden
2002 UCSD, San Diego CA
2002 Spring Brain, Sedona AZ [Session chair]
2002 NSMA, Univ AZ
2001 Conference in memory of Carlo Terzuolo, Brainerd MN
2001 Joint Karolinska-UMN conference, Minnesuing acres MN
2000 University of Illinois, Urbana-Champaign IL
2000 Univeristy of Wisconsin, Madison WI
2000 Brandeis University, Boston MA
2000 Brown Univeristy, Providence RI
2000 University of Minnesota, Minneapolis MN
1999 University of Iowa, Iowa City IA
1999 Memory Disorders Research Symposium, Tucson AZ
1999 Computational Neural Systems conference, Pittsburgh PA
1999 Carnegie Mellon University (Distinguished dissertation award talk), Pittsburgh PA
1998 University of New Mexico, Albuquerque NM
1997 Dartmouth, Hannover NH
1997 NSMA, University of Arizona, Tucson AZ
1996 NIPS Workshop, Snowmass CO
1994 NSF Telluride Workshop, Telluride CO
1994 NSMA, University of Arizona, Tucson AZ
1992 ConnectFest, Bloomington IN

Internal

2023 Minnesota Center for the Philosophy of Science: Annual Science Symposium (U MN)
2021 EEB Behavior Group (Univ Minnesota)
2019 CCS Symposium (Univ Minnesota)
2019 Applied Economics Department (Univ Minnesota)
2017 Psychiatry Review CME (Univ Minnesota)
2017 MINDS (Univ Minnesota)
2016 CCS Fall Symposium (Univ Minnesota)
2016 Psychiatry Grand Rounds (Univ Minnesota)
2014 UMN MD/PhD Students (Univ Minnesota)
2014 Library BootCamp (Univ Minnesota)
2014 TEDx UMN (Univ Minnesota)
2014 Institute for Advanced Study (Univ Minnesota)
2012 Consortium on Law and Values in the Health, Environment, and Life Sciences (Univ Minnesota)
2012 Medical Device Center (Univ Minnesota)

2012 Center for Cognitive Sciences (Univ Minnesota)
2011 Center for Neuroengineering Symposium (Univ Minnesota)
2009 Center for Cognitive Sciences (Univ Minnesota)
2009 Center for Neuroengineering Symposium (Univ Minnesota)
2009 UMN MD/PhD program noon seminars (Univ Minnesota)
2006 Neurosci Graduate Program (Univ Minnesota)
2005 TTURC (Univ Minnesota)
2005 Pharmaceuticals (Univ Minnesota)
2005 NIDA Training Grant Retreat (Univ Minnesota)
2004 Graduate Program in Neuroscience (Univ Minnesota)
2003 Center for NeuroBehavioral Development (Univ Minnesota)
2002 Graduate Program in Neuroscience (Univ Minnesota)
2002 Center for Cognitive Science (Univ Minnesota)
2002 Mathematics Department (Univ Minnesota)
2002 Neuroscience Graduate Retreat (Univ Minnesota)
2001 BME lecture series (Univ Minnesota)
2001 Itasca summer program (Univ Minnesota)
2001 EEB (Univ. Minnesota)
2001 Psychology Dept (Univ. Minnesota)
2000 Itasca summer program (Univ. Minnesota)

Professional Activities

2019 Edited special issue, *Hippocampus* on Sharp-Wave-Ripples, published 2020
2018-2021 Member, Executive Board of the Society for Neuroeconomics
2017-present Co-director **NeuroPRMSH (NeuroPlasticity Research in Support of Mental Health) Center** with Dr. Sophia Vinogradov.
2017-2019 Member, NIH NST-2 study section (K99)
2014-present, Editorial Board, *Neural Computation*
2014-present, Review Editor, *Frontiers in Neuropharmacology*
2014-present, Editorial Board, *Neurobiology of Learning and Memory*
2014 Edited special issue, *Neurobiology of Learning and Memory* on Memory and Decision Making with SJYM.
2012-present, Editorial Board, *JEAB (Journal of the Experimental Analysis of Behavior)*
2012-present, Member, Canadian College of Reviewers
2012-2013, 2019-2022 Member Program Committee, *Society for Neuroeconomics*
2012-present, Editorial Board, *Frontiers in Decision Neuroscience* (Review Editor)
2011-2021, Editorial Board, *Network: Computation in Neural Systems*
2011-2015 Member, NIH LAM study section (R01/R21)
2011 Ad-hoc Member, NIH LAM study section (R01/R21)
2011 Member, NIDA BSTART SEP study section (R03)
2010 Member, NIDA CEBRA study section (R21)
2010 Ad-hoc Member, NIH LAM study section (R01/R21).
2008, 2009, 2010 Ad-hoc Member, NIH ZRG01 F02A study section (NRSA)
2009 Mail-in Reviewer, NIH ZRG1 ETTN-A study section (RC1)
2008 Ad-hoc Member, NIH SEP study section ZRG1 IFCN-L
2007- *Frontiers in Integrative Neuroscience*, (Review Editor)

2007- *Frontiers in Behavioral Neuroscience*, Review Board (identified referee)
 2005-2008 Member, board of directors, *Computational Neural Systems (CNS)* conference
 2003-present Editorial board, *Hippocampus* (reviewing editor).
 2006 Member, NSF Computational Neuroscience Panel
 2005-2006 Ad-hoc member, NIH ZRG1 F02B NIH Study Section
 2004 Ad-hoc member, SEP ZMH1 ERB-S 03S NIH Study Section
 2003 Member, NASA review panel for NRA 03-OBPR-04

2020-present Member, Executive Committee, Society for Neuroeconomics
 2020-2021 Program co-chair, 2022 Program chair
 2017 Organized NIMH Meeting on *Computational Psychiatry: Opportunities and Challenges*
 2015 Organized Strungmann Forum on *Computational Psychiatry*
 2014-2019 Director of Graduate Studies (DGS), Graduate Program in Neuroscience (GPN)
 2014-2019 Member, Basic Sciences Graduate Research Council (BSGC, UMN)
 2010-2012 Member, Executive Committee, Center for Cognitive Sciences, UMN
 2008-2013 Chair, Admissions committee, Graduate Training Program in Neuroscience, UMN
 2006 Member, Ford Foundation lecture series selection committee
 2006 Admissions committee, Graduate Training Program in Biomedical Engineering, UMN
 2005-2006 Member, Presidential Symposium on Neuroscience planning committee
 2004- Admissions committee, Graduate Training Program in Neuroscience, UMN
 2002 UMN Academic Health Center Seed Grant review committee

2007- Member, MIMTeC, Minimally Invasive Medical Technologies Center (U Minnesota and U. Cincinnati)
 2007- Member, Spatial Intelligence and Learning Center, wider network

2010- Member, Society for Neuroeconomics
 2006- Member, American Physiological Society
 2006- Member, Sigma Xi
 2006- Member, Faculty for Undergraduate Neuroscience
 1994- member Society for Neuroscience
 1992-1997 Center for the Neural Basis of Cognition (CNBC) Graduate Training Program (originally Neural Processes in Cognition Graduate Training Program (NPC))
 WebMaster, NPC 1993-1995 CNBC 1994-1997
 1994-1997 Maintainer, Cognitive Neuroscience sites on the Internet
 1996 Neural Information Processing Systems (NIPS) Organizing Committee
 1994-1997 WebMaster, NIPS
 1992-1994 Co-Maintainer, Connectionists Mailing List
 Journal paper reviews (1 in 1995, 3 in 1998, 3 in 1999, 6 in 2000, 8 in 2001, 14 in 2002, 7 in 2003, 21 in 2004, 15 in 2005, 33 in 2006, 24 in 2007, 27 in 2008, 48 in 2009, 28 in 2010, 22 in 2011, 21 in 2012, 20 in 2013, 16 in 2014, 19 in 2015, 20 in 2016, 22 in 2017, 20 in 2018, 26 in 2019, 12 in 2020, 5 in 2021, 7 in 2022).

Ad-hoc and study section grant reviews (1 in 1997, 3 in 1998, 2 in 2000, 8 in 2003, 5 in 2004, 12 in 2005, 24 in 2006, 4 in 2007, 11 in 2008 [attended 2 study sections], 20 in 2009 [attended 3 study sections], 29 in 2010 [attended 3 study sections], 18 in 2011 [attended 3 study sections], 22 in 2012 [attended 3 study sections], 25 in 2013 [attended 2 study sections], 20 in 2014 [attended 2 study sections], 33 in 2015 [attended 2 study sections], 20 in 2016 [attended 3 study sections], 19 in 2017 [attended 3 study sections] 18 in 2018 [attended 2 study sections], 19 in 2019 [attended 1 study section], 2021 [attended 2 study sections], 2022 [attended 1 study section])

TEACHING AND MENTORING ACTIVITIES

Teaching

2021- Itasca Computational Week (Module director [2021 2022])

2014-2018, 2020-2021 Mind and Brain (Nsci 3100 / Nsci 3505, writing-intensive as of 2021)

2004-2005 Supervisor, Advanced design (ME 4054)

2001-2013 Theoretical Neuroscience (Nsc 5202, course-director)

2001-present

Learning and Memory (Psychiatry Residents, ADPY7975)

Behavioral Neuroscience Journal Club

Behavioral Neuroscience (Nsc 5661)

Principles of Drug Abuse (Nsci 5461)

Neurostatistics (Nsci 8320)

2001-2006,2020 Itasca Sensorimotor Neurobiology Laboratory (Nsc 5551)

Mentoring (directly advised students)

Post-doc

2022-present Avishek Chatterjee (post-doc)

2022-present Chelsey Damphousse (post-doc)

2020-present Ugurcan Mugan (post-doc)

2020-present Paul Cunningham (post-doc)

2019-present Olivia Calvin (post-doc)

2018-2019 Rachel Anderson (post-doc, co-mentored with Mark Thomas)

[Current position : assistant professor, Bethel University]

2018-present Geoffrey Diehl (Post-doc)

2013-2016 Evan C. Carter (Post-doc, co-advised with David Stephens)
[Current position: postdoc, Army Research Laboratory, Aberdeen MD]

2013-2015 Nathan Schultheiss (Post-doc)
[Current position: Research Scientist, Florida International University]

2012-2016 Yannick Breton (Post-doc)
[Current position: Senior Advisor, Metrics and Reporting for the Healthy Brains, Healthy Lives initiative, McGill.]

2012-2016 Seiichiro Amemiya (Post-doc)
[Current position: Research Scientist, Lab for Circuit and Behavioral Physiology, RIKEN CBS (Center for Brain Science)]

2012-present Brandy Schmidt (Post-doc)
[Current position: researcher 6, University of Minnesota]

2010-2011 Jadin Jackson (Post-doc)
[Current position: Principal Algorithm Scientist, Medtronic]

2009-2011 Zeb Kurth-Nelson (Post-doc)
[Current position: Senior Research Scientist, DeepMind]

2007-2010 Matthijs van der Meer PhD (Post-doc)
[Current position: Assistant Professor, Dartmouth]

2001 Pratibha Aia MD (Health Informatics, postdoc)
[Current position: Assistant Professor of Neurology, Emory University Hospital]

PhD Students

2019-present Adrina Kocharian (Graduate Program in Neuroscience, co-advised with Patrick Rothwell)

2017-2018 Megan Monko (Graduate Program in Neuroscience)

2017-2021 Rebecca Kazinka (Psychology, co-advised with Angus MacDonald)

2016-2021 Cody Walters (Graduate Program in Neuroscience)
[Current Position: Associate Editor, Nature Communications]

2014-2020 Brendan Hasz (Graduate Program in Neuroscience)
[Current Position: Data Scientist, C. H. Richardson Company]

2014-2019 Caitlin Durkee (Graduate Program in Neuroscience, co-advised with Alfonso Araque)
[Current position, Postdoc, UCSF]

2014-2018 Brian Sweis (MD/PhD, Neuroscience, co-advised with Mark Thomas)
[Current position, Research-Track Resident, Icahn School of Medicine, Mount Sinai Hospital, NYC]

- 2012-2017 Samantha Abram (Psychology [CCS], co-advised with Angus MacDonald)
[Current position: Assistant Professor, UCSF]
- 2010-2015 Paul Regier (Graduate Program in Neuroscience)
[Current position: postdoc with Anna-Rose Childress, UPenn]
- 2009-2014 Andrew Wikenheiser (Graduate Program in Neuroscience)
[Current position: Assistant Professor, UCLA]
- 2009-2015 Andrew Papale (Graduate Program in Neuroscience)
[Current position: postdoc with Alex Dombrovski, University of Pittsburgh]
- 2009-2015 Nate Powell (Graduate Program in Neuroscience)
[Current position: postdoc with Jeremy Seamans, UBC]
- 2009-2010 Adam Vogel (Graduate Program in Neuroscience)
- 2008-2015 Adam Steiner (Graduate Program in Neuroscience)
[Current position: postdoc with Francis Shen, UMN law school]
- 2008-2011 Anoopum Gupta (Robotics, PhD, Carnegie Mellon University,
primary advisor: David Touretzky)
[Current position: Neurology Resident, Harvard/Mass General Hospital and Brigham and
Woman's Hospital, Boston MA]
- 2007, 2009-2015 Jeffrey Stott (Graduate Program in Neuroscience)
[Current position: postdoc with Kyle Smith, Dartmouth College, Hanover NH]
- 2006-2011 John Ferguson (BME, PhD)
[Current position: Research Associate, Minnesota VA]
- 2003-2008 Beth Masimore (Physics, primary advisor: Jim Kakalios, PhD)
[current position, Technical Scientist, AVIAN Engineering]
- 2002-2005 Jayant Parthasarathy (ECE, PhD, primary advisor: Babak Ziaie)
[current position, Director, Innovation and R&D, United Health Group]
- 2002-2008 Adam Johnson (Graduate Program in Neuroscience, PhD)
[current position, Professor with Tenure, Bethel University]
- 2001-2006 Jadin Jackson (Graduate Program in Neuroscience, PhD)
- 2000-2005 Neil Schmitzer-Torbert (Graduate Program in Neuroscience, PhD)
[Current position, Associate Professor with Tenure (Chair), Wabash College, Crawford IN]

Masters Students

- 2002-2005 Rahul Venkateswaran (MechE, Masters student, primary advisor: Art Erdman)
[current position, researcher, Hutchinson Technical Institute]

2002-2004 Saumya Rao (ECE, Masters student)
[Current position.]

Post-bac students

2019-2022 Samantha Hoffman (Undergraduate, Postbac)
[Current position: NIH postbac]

2019-2022 Amber McLaughlin
[Current position: graduate student, Mt Sinai]

2017, 2018, 2019-2021 Matthew Erickson (Undergraduate, postbac)
[current position, graduate student, IUPUI]

2017-2021 Anneke Duin (Undergraduate, postbac)
[current position, Research Manager, EPIC systems]

2017-2019 Michael Adkins (post-bac)

2017-2018 Carrie Bell (Undergraduate, then post-bac)

Undergraduate, rotation, and non-degree track students

2022 Henri Chastain (undergraduate)

2022 Ian Acheson (undergraduate)

2022-present Tori Lawrence (undergraduate)

2022-present Noah Zimmerman (undergraduate)

2021-present Olivia Patterson (undergraduate).

2021 Ross Armand (GPN, rotation)

2021 Chris Apgar (GPN, rotation)

2021 Jonathan Williams (LSSURP, undergraduate)

2021, 2022 Georgia Cannan (Macalester, undergraduate)

2020 Amelia Schneider (GPN, rotation)

2020 Madison Merfeld (GPN, rotation)

2019-2022 Kevin Singh (Undergraduate)

2019-2021 Grant Noble (Undergraduate)

2019-2021 Samantha Hoffman (Undergraduate)

2019 David Maisson (GPN, rotation)

2019 Sabra Sisler (LSSURP, Undergraduate)

2018-2021 London Aman (Undergraduate, Summa Cum Laude Thesis)

2018 Adrina Kocharian (GPN, rotation)

2017-2018 Onni Rauhala (Undergraduate)

2017-2018 Matthew Cortese (Undergraduate)

2017-2019 Elizabeth Dean (Undergraduate)

2017 Emily Semaya (GPN, rotation)

2017-2020 Daniel Min (Undergraduate)

2017 Roberto Lopez-Cervera (MD/PhD rotation)

2016-2017 Sophie Sampson (Undergraduate)

2015-2017 Jerrius Jubran (Undergraduate)

2013 Brian Sweis (MD/PhD, rotation, co-with Mark Thomas)

2013 Chris Cline (BME, rotation)

2013-present Ayaka Sheehan (Undergraduate, Macalaster, currently full-time technician)

2013 Joseph Griffin (Undergraduate)

2013-2014 Patrick Crowe (Undergraduate)

2013 Vadim Petruk (Graduate Program in Neuroscience, rotation)

2012 Nate Pasmarter (CCS REU)

2012 Soren Knutson (undergraduate, St. Olaf)

2012 Christopher Weeks (undergraduate, St. Olaf)

2011 Brittini Peterson (Graduate Program in Neuroscience, rotation)

2011 Vivek Nagaraj (Graduate Program in Neuroscience, rotation)

2010 Abbey Holt (Graduate Program in Neuroscience, rotation)

2009 Anna Blumenthal (CCS REU, from Drew University)

2009 Katrina Schrode (Graduate Program in Neuroscience, rotation)

2009 Nancy Staffend (Graduate Program in Neuroscience, rotation)

2006-2007 Meghan Masrud (undergraduate, directed study 2006)

2006 Kristin Bohnhorst (undergraduate)

2006 Seth Mastous (undergraduate)

2005 Daniel Smith (undergraduate, LSSURP 2005, UROP 2006)

2005-2006 Morgan Little (undergraduate, UROP 2005, 2006)

2005 Alex Colvin (undergraduate)

2005 Maniezheh Firouzi (undergraduate)

2005-2006 Mandy Huber (undergraduate)

2005-2006 Sarah Jutila (undergraduate)

2005 Josh Puhl (Graduate Program in Neuroscience, rotation)

2005 Patrick Rothwell (Graduate Program in Neuroscience, rotation)

2004 Zeb Kurth-Nelson (Graduate Program in Neuroscience, rotation)

2004-2006 Giuseppe Cortese (undergraduate, UROP 2005)

2004-2005 Monica Kumar (undergraduate)

2003-2004 Susan Nwoke (undergraduate)

2002 Chris Baker (Biomedical Engineering, rotation)

2002 Jon Waataja (Graduate Program in Neuroscience, rotation)

2000-2004 Mallika Arudi (undergraduate, UROP 2004)

2000-2005 Deborah Bang (undergraduate, MFA Music)

2000-2006 Dan Bernal (undergraduate, directed research 2003)

2000-present Chris Boldt (ug 2000-2005, directed research 2003, currently full-time technician)

000-2003, 2009-2022 Kelsey Seeland (ug 2000-2003, full-time technician 2009-2022)

Community Outreach

2001 Written up in Palmer, K. "Meeting of the Minds", Minnesota Medicine, 84(5):20ff.

2003 Showed lab to Governor Pawlenty.

2001 BrainU: 24 Middle School Teachers shown lab.

2003 Showed lab to 24 eighth graders.

2003 Showed lab to Public-Relations companies (for D. Zorn, AHC Dean's office) (Colle & McVoy, Padilla Speer Beardsley, Weber-Shandwick).

2003 Showed lab to State Senators (for AHC Dean's office).

2004 "Cracking the neural code", to venture capitalists through Venture-Med.\

2004 BrainU tours.

2004 Discussion and demo to Fairview-University Marketing group (for AHC Dean's office).

2004 Showed lab and tour Julie Philp, aide to Congressman Gil Gutknecht.

2004 Discussion and demo to Fairview-University Executive group (including CEO David Page [Dan Anderson, Mark Larson, Loie Lenarz, David Page, Heather Swenson, Carol Bouillard]) (for AHC Dean's office).

2004 Presented lab tour to State Senators (Sen. Wes Skoglund, Sen. Geoff Michel, Sen. Cal Larson, Sen. Michelle Fischbach, Alicia Spencer, staffer for Sen. Koering).

2004 Interviewed by CBS radio (WCCO AM 830, also sent to CBS radio in NY).

2004 Presented lab tour to Lobbyists (for AHC Dean's office).

2004 Presented lab tour to PR office (for AHC Dean's office).

2005 Written up in Pictures of Health "Triggering addiction".

2005 Presented lab tour to Members of Mark Dayton's staff .

2005 BrainU tours.

2005 Written up in *Discovery: The Graduate School Magazine* (U of M) article by Kate Tyler.

2006 Did interview/video for Wes Thomsen doing a project on memory and scrapbooking. Included in his documentary movie *Scrapped* (2006).

2007 Presented first grade class (Falcon Heights Elem School, Ms. Nelson and Ms. Plath).

2007 "Through the Grid, a Window on Cognition" Redish, 23 January 2007, Scientific American Mind <http://blog.sciam.com/>

2008 Participated in Steve Kelley/Elizabeth Wilson Outreach Course, including visiting Legislature, encounters with TV, Radio, and News reporters.

2008 Presented to second grade class (Falcon Heights Elem School, Ms. Kakaloris).

2008 Presented lab tour to Andover High School seniors.

2008 Presented lab tour to Augsburg College Biopsychology class.

2009 Continuing Education (150 local doctors, addiction social workers) "Addictions and Co-occurring Disorders: Recent Advances in Research and Practice" *U of M College of Continuing Education and the Addiction Studies Certificate Program*.

2009 ADR presented lab tour to students from St. Olaf

2009 BrainU tours

2010 ADR presented outreach talk to Ms. Kakalouris' 2nd grade class

2010 ADR written up in Center for Neuroengineering newsletter ("Of Rats and Math")

2010 Presented talk with brains and demos to ISD #271 Dimensions Academy from Ridgeview Elementary in Bloomington

2010 BrainU tours

2010 Interviewed for "Found in Space" episode of "Are we alone?" [NPR, podcast]

presented talk ("Vulnerabilities in the decision-making machinery... understanding addiction and problem gambling" 1 hr) plus answered questions (+2 hrs) to 40 people at *Gambler's Relief*

2010 Interviewed for "Found in Space" episode of "Are we alone?" [NPR, podcast]

2010 BrainU remote presentation to Duluth

2011 presented as part of the Science Museum of Minnesota's Beaker and Brush program titled "Creative Memory" w/ Chris Faust (photographer). At the Black Dog Cafe, St. Paul MN

2012 Written up as part of article on the Wallin Fund (Jim Walsh, *Star Tribune*)

2012 Presented talk, brains, and demos to ISD #271 Dimensions Academy from Ridgeview Elementary in Bloomington

2012 Presented lab tours and presentations to BrainU program

2012 Participated in MMF Discovery Showcase

2013 Interviewed by BBC 2 for *Science Club*

2013 Written up in discussion in *Science*, "Can animals envision the future? Scientists spar over new data" (Michael Balter, *Science*)

2013 Presented talk to Oak Grove Middle School students

2013 Interviewed for AHC Health Talk Blog Post <http://www.health.umn.edu/healthtalk/2013/07/15/new-book-peers-deep-into-the-brain-to-understand-how-we-make-decisions/>

2013 Presented lab tour to BrainU

2013 Joined art/science roster of "The Gymnasium"

2013 Book Reading/Discussion/Signing at UMN Bookstore

2014 Presented TEDx talk as part of University of Minnesota's TEDx symposium
 2014 TEDx talk is available at <https://www.youtube.com/watch?v=0luc5ufbirM>
 2014 Interviewed by Sports Illustrated for article on why playbooks are so hard to memorize: "Your Brain on Playbooks: The neuroscience of bringing X's and O's to life" by Dan Treadway.
 2014 Presented talk to BehaviorMN Meetup group
 2015 Interviewed for University of Minnesota Medical School video "Exploring Mental Time Travel". Won 2nd place AAMC Basic Science Research Video Awards.
<https://youtu.be/WYkdX5qoy84>
 2015 Skype discussion with students at St. Nicholas International School, Sao Paulo, Brazil.
 2016 Camp Neuro ("Meet a neuroscientist")
 2016 CBS Undergraduate tours
 2017 LearningLifeSampler https://www.youtube.com/watch?v=CJFI7Sm2P_s
 2017 LearningLife [UMN]
 2017 McKnight Foundation
 2017 MetroState Neuroscience
 2017 Medical Bulletin, University of Minnesota "A well-balanced brain" by Kristine Mortensen
<https://www.med.umn.edu/news-events/medical-bulletin/well-balanced-brain>
 2017 Neuroscience News, University of Minnesota "Neuroscientist-playwright"
<https://give.umn.edu/stories/neuroscientist-playwright>
 2017 Dimensions Academy kids and teachers
 2017 Minneapolis Federal Reserve
 2017 Minneapolis Psychoanalytic Initiative working group
 2018 Loucks Lecture, University of Washington
 2018 GSN podcast released: <https://itunes.apple.com/nl/podcast/state-of-minds-podcast/id1373595195?l=en>
 2018 UMN Inquiry: No Simple Decisions <https://research.umn.edu/inquiry/post/no-simple-decisions>
 2018 Inside Science quoted and interviewed <https://www.insidescience.org/news/why-making-decisions-game-speed-can-lead-penalties-nfl-players>
 2019 Behavioral Grooves Lecture, Q/A, and Discussion
 2019 Interviewed for *The upgrade podcast* <https://podcasts.apple.com/us/podcast/how-to-be-better-decision-maker-neuroscientist-david/id508117781?i=1000449929703>
 2021 UMN Legacy: *Meeting of the Minds* <https://legacy.umn.edu/stories/meeting-of-the-minds>
 2021 UMN Building a large center: NeuroPRSMH
<https://www.youtube.com/watch?v=PN9kjWZl6j8>
<https://www.youtube.com/watch?v=JUWyMM5eagl>
 2021 Interviewed by Amy Day for Clarity4Action ([Interview](#))
 2021 Participated in Diversifying CNS (PMermelstein & RMeisel)
 2022 Anselm house: Are we really free? A discussion on free will and moral responsibility with Bill Newsome and David Redish.

Non-technical publications, awards, etc.

Poetry

untitled poem ("Our relationship is stretched thin...")
 published 1989 *Late Knocking*.

Standing on an unsafe balcony, night and morning
published 1991 *Baltimore City Paper*.

Plays

Beth (one-act)

1988 (full production), produced by E. Albee, directed by M. Kupritz.

Kalypso (one-act)

1989 (full production), produced and directed by E. Albee.

1992 (reading), directed by A. Eaves.

In the Balance (full-length)

1994 (reading), directed by T. Bannister.

1998 (full production), *Changing Scene Theater*, Denver CO
produced by A. Brooks, directed by T. Oakley.

2001 (reading), *Playwright's Roundtable*.

2016 (full production), *Collaborative Artists Ensemble*, Los Angeles CA
directed by Steve Jarrard

The Pilate Dialogues (full-length)

1995 (reading), produced by S. Sickles.

Medea (full-length)

1998 (reading), directed by V. Baugh.

The Stone at the Heart (full-length)

1999 (reading), directed by K. Kellner.

2000 (staged reading), directed by D. Sewell

Modern Art (short work)

1999 (staged reading), *GOCAIA*, Tucson AZ

Produced by the Old Pueblo Playwrights, directed by L. Andresano.

Professional Activities

Member, Dramatists Guild, (New York NY) 1996-2002

Member, Old Pueblo Playwrights, (Tucson AZ) 1998-2000

Member, Playwright's Center, (Minneapolis MN) 2000-2005