

James F. Cavanagh, PhD

Curriculum Vitae 01/29/2026

Google Scholar Stats: Citations=13,2626 H=42 M=2.1

Biographical

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Education & Training

2025 - present	University of New Mexico	Professor
2019 - 2025	University of New Mexico	Associate Professor
2013 - 2019	University of New Mexico	Assistant Professor
2010 - 2013	Brown University	Post-Doc
2010	University of Amsterdam	Visiting Scholar
2005 - 2010	University of Arizona	Ph.D. Psychology
2002 - 2004	San Francisco State University	M.A. Psychology
1996 - 2000	Western Michigan University	B.A. Sociology

Research Interests

Oscillations: The brain processes information with oscillations of neuronal populations. I use EEG to measure these oscillations, particularly when the frontal cortex processes error or conflict information in order to adapt behavior.

Computations: Oscillations gate the timing, location, and intensity of neuronal calculations. I integrate abstract and neural network modeling with EEG to understand the computational functions of fronto-striatal systems during adaptive behavior.

& Implications: These perspectives combine into a powerful approach for understanding brain function, and may reveal the manner of compromised fronto-striatal functioning in neurological and psychiatric disorders.

Under Review

Dalton, S.G., Lavelle, M., **Cavanagh, J.F.** & Richardson, J.D. Advancing ERP-Based Tools for Language Monitoring in Aphasia: Psychometric and Clinical Utility of the Word-Level N400

Lavelle, M. & **Cavanagh J.F.** Post-error attention control: Posterior alpha/beta activity is reflexive whereas frontal theta is strategic.

Publications

Cavanagh, J.F. & Holroyd, C.B. (2026) The Reward Positivity signals a goal prediction error. *Trends in Cognitive Science*

Topel, S., Kortink, E.D., Liu, H., **Cavanagh, J.F.**, & van der Molen, M.J.W. (2025) Frontal-midline theta promotes context-dependent risk aversion in social anxiety. *Journal of Cognitive Neuroscience*.

Cole, R.C., Ging-Jehli, N.R., Vivanco Suarez, J., Greenlee, J.D., Wessel, J.R., Espinoza, A.I., Zhang, J., **Cavanagh, J.F.** & Narayanan, N.S. (2025) Subthalamic nucleus theta frequency stimulation boosts decision threshold. *Brain Stimulation*, 18(4), 1021-1027.

Plonsky, O., Apel, R., Ert, E., Tennenholtz, Bourgin, M.D., Peterson, J.C., Reichman, D., Griffiths, T.L., Russell, S.J., Carter, E.C., **Cavanagh, J.F.**, Erev, I. (2025) Predicting human decisions with behavioral theories and machine learning. *Nature Human Behavior*, 1-14.

Ging-Jehli, N.R., **Cavanagh, J.F.**, Ahn, M., Segar, D.J., Asaad, W.F. & Frank, M.J. (2025) Basal ganglia components have distinct computational roles in decision-making under conflict and uncertainty. *PLoS Biology*, 23(1), e3002978.

Pirrung, C.J.H., Singh, G., Hogeveen, J., Quinn, D. & **Cavanagh, J.F.** (2024) Hypoactivation of ventromedial frontal cortex in major depressive disorder: an MEG study of the Reward Positivity. *Biological Psychiatry: Cognitive Neuroscience and Neuroimaging*, 10(7), 750-758.

Fox, N.A., ... **Cavanagh, J.F.** ... and the HBCD EEG Workgroup. (2024) The development and structure of the HEALthy Brain and Child Development (HBCD) Study EEG protocol. *Developmental Cognitive Neuroscience*, 69, 101447.

Narayanan, N.S., Jourahmad, Z., Cole, R.C. & **Cavanagh, J.F.** (2024) Cortical low frequency failures underlie cognitive dysfunction in Parkinson's disease. *Trends in Cognitive Science*, 28(9), 789-791.

Hogeveen, J., Campbell, E.M., Mullins, T.S., Quinn, D.K., Mayer, A.R. & **Cavanagh, J.F.** (2024) Neural response to monetary incentives in acquired adolescent depression. *Brain Communications*, 6(5).

- Hawkins, G.E., **Cavanagh, J.F.**, Brown, S.D. & Steyvers, M. (2024) Cognitive Models as a Tool to Link Decision Behavior with EEG Signals. In: *An Introduction to Model-Based Cognitive Neuroscience* Second Edition. Springer press. Eds: Foorstmann, B.U. & Turner, B.M.
- Nwakamma, M.C., Stillman, A.M., Gabard-Durnam, L.J., **Cavanagh, J.F.**, Hillman, C.H. & Morris, T.P. (2024) Slowing of Parameterized Resting-State Electroencephalography After Mild Traumatic Brain Injury. *Neurotrauma Reports*, 5.1, 448-461.
- Noback, M., Bhakta, S.G., Talledo, J.A., Kotz, J.E., Benster, L., Roberts, B.Z., Nungaray, J.A., Light, G.A., Swerdlow, N.R., Brigman, J.L., **Cavanagh, J.F.** & Young, J.W. (2024) Amphetamine increases motivation of humans and mice as measured by breakpoint, but does not affect a putative EEG biomarker. *Cognitive, Affective, and Behavioral Neuroscience*, 24(2), 269-278.
- Kehrer, P., Brigman, J.L. & **Cavanagh, J.F.** (2024) Depth recordings of the mouse homologue of the Reward Positivity. *Cognitive, Affective, and Behavioral Neuroscience*, 24(2), 292-301.
- McKeown, D.J., Schinazi, V.R., Baumann, O., Moustafa, A.A., Finley, A., Kelley, N., **Cavanagh, J.F.**, Keage, H. & Angus, D.J. (2024) Test-retest reliability of spectral parameterization by 1/f characterization using Specparam. *Cerebral Cortex*, 34(1), 1-11.
- McKeown, D.J., Jones, M., Pihl, C., Finley, A., Kelley, N., Baumann, O., Schinazi, V.R., Moustafa, A.A., **Cavanagh, J.F.** & Angus, D.J. (2023) Medication-invariant resting aperiodic and periodic neural activity in Parkinson's disease. *Psychophysiology*, 61(4)
- Cavanagh, J.F.** (2023) Frontal theta helps to explain etiological variability. *Biological Psychiatry*, 94:767-768. [Invited Commentary]
- Singh, G., Campbell, E., Hogeveen, J., Witkiewitz, K., Claus, E.D. & **Cavanagh, J.F.** (2023) Affective imagery boosts the reward related delta power in heavy drinkers. *Psychiatry Research: Neuroimaging*, 334, 111685.
- Campbell, E.M., Singh, G.S., Claus, E.D., Witkiewitz, K., Costa, V.D., Hogeveen, J. & **Cavanagh, J.F.** (2023) Electrophysiological markers of aberrant cue-specific exploration in heavy drinkers. *Computational Psychiatry*, 7(1).
- Olguin, S.L., **Cavanagh, J.F.**, Young, J.W. & Brigman, J.L. (2023) Impaired cognitive control after moderate prenatal alcohol exposure corresponds to increased power in neurophysiological recordings during rodent touchscreen measures. *Neuropharmacology*, 236, 109599.
- Singh, A., Cole, R.C., Espinoza, A.I., Wessel, J.R., **Cavanagh, J.F.** & Narayanan, N.S. (2023) Evoked midfrontal activity predicts cognitive deficits in Parkinson's disease. *Journal of Neurology, Neurosurgery, and Psychiatry*, 94: 945-953.
- Jackson, T.J. & **Cavanagh, J.F.** (2023) Reduced positive affect alters reward learning via reduced information encoding in the Reward Positivity. *Psychophysiology*, 1-16

Fink, B., Claus, E., **Cavanagh, J.F.**, Hamilton, D.A. & Biesen, J.N. (2023) Heart rate variability may index emotion dysregulation in alcohol-related intimate partner violence. *Frontiers in Psychiatry*, doi.org/10.3389/fpsy.2023.1017306

Wong, J.K., ... **Cavanagh J.F.**, ... Okun, M.S. (2023) Proceedings of the 10th annual deep brain stimulation think tank. *Frontiers in Human Neuroscience*, 10.3389/fnhum.2022.1084782

Cole, R.C., Espinoza, A.I., Singh, A., Berger, J.I., **Cavanagh, J.F.**, Greenlee, J.D. & Narayanan, N.S. (2023) Novelty-induced frontal-STN networks in Parkinson's disease. *Cerebral Cortex*, 33, 469-485.

Biernacki, K., Myers, C.E., Cole, S., **Cavanagh, J.F.** & Baker, T.E. (2022) Prefrontal transcranial magnetic stimulation boosts response vigour during reinforcement learning in healthy adults. *European Journal of Neuroscience*, 57, 680-691.

Cavanagh, J.F. & Cohen, M. X. (2022) Frontal midline theta as a model specimen of cortical theta. In: *The Handbook of EEG Frequency*. Oxford press, Eds: Gable, P.A., Miller, M. & Bernat, E.B.

Cavanagh, J.F., Olguin, S., Talledo, J.A., Kotz, J.E., Roberts, B.Z., Nungaray, J.A., Sprock, J., Gregg, D., Bhakta, S.G., Light, G.A., Swerdlow, N.R., Young, J.W. & Brigman, J.L. (2022) Amphetamine alters an EEG feature of reward in humans and mice. *Psychopharmacology*, 239: 923-933.

Bhakta, S.G., **Cavanagh, J.F.**, Talledo, J.A., Kotz, J.E., Benster, L., Roberts, B.Z., Nungaray, J.A., Brigman, J.L, Gregg, D., Light, G.A., Swerdlow, N.R., & Young, J.W. (2022) EEG reveals that dextroamphetamine improves cognitive control through multiple processes in healthy participants. *Neuropsychopharmacology*, 47: 1029-1036.

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Brown, D.R., Jackson, T.J. & **Cavanagh, J.F.** (2022) The Reward Positivity is sensitive to affective liking. *Cognitive, Affective, and Behavioral Neuroscience*, 22, 258:267.

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Phillips, J., Pirrung, C.J., Weersinghe, I., Kanishka, G.K., Satharasinghe, Y., Lalitharatne, T., **Cavanagh, J.F.**, Kodituwakku, P. & Wanigasinghe, J. (2021) Portable acquisition of auditory ERPs: a pilot study of premature infants. *Pediatric Neurology*, 122, 84-88.

Hogeveen, J.R. Aragon, D.F., Rogge-Obando, K., Campbell, R.A., Yeo, R.A., Shuttleworth, C.W., Avila-Rieger, R.E., Wilson, J.K., Fratzke, V., Brandt, E., Story-Remer, J., Gill, D., Mayer, A.R., **Cavanagh, J.F.** & Quinn, D. (2021) Ventromedial prefrontal-anterior cingulate hyperconnectivity scales with apathy in Traumatic Brain

Injury. *Journal of Neurotrauma*, 38, 2264-2274.

Dalton, S.G.H., **Cavanagh, J.F.** & Richardson, J.D. (2021) Spectral resting-state EEG (rs-EEG) in chronic aphasia is reliable, sensitive, and correlates with functional behavior. *Frontiers in Human Neuroscience*, 15, #624660

Singh, A., Cole, R.C., Espinoza, A.I., Evans, A., Cao, S., **Cavanagh, J.F.** & Narayanan, N.S. (2021) Timing variability and midfrontal ~4Hz rhythms correlate with cognitive dysfunction in Parkinson's disease. *NP: Parkinson's Disease*, 7, 14, 1-8.

Gershman, S.J., Guitart-Masip, M. & **Cavanagh, J.F.** (2021) Neural signatures of arbitration between Pavlovian and instrumental action selection. *PLoS Computational Biology*, 1-16.

Anjum, Md Fahim, Dasgupta, S., Mudumbai, R., Singh, A., **Cavanagh, J.F.** & Narayanan, N. (2020) Linear predictive coding distinguishes spectral EEG features of Parkinson's disease. *Parkinsonism & Related Disorders*, 79, 79-85.

Brandt, E., Wilson, K.W., Rieger, R.E., Gill, D., Mayer, A.W. & **Cavanagh, J.F.** (2020) Respiratory sinus arrhythmia correlates with depressive symptoms following mild traumatic brain injury. *Journal of Psychophysiology*, 35(3), 1-13.

Brown, D.R. & **Cavanagh, J.F.** (2020) Novel rewards occlude the reward positivity, and what to do about it. *Biological Psychology*, 151, 107841.

Singh, A. Cole, R.A., Espinoza, A.I., Brown, D.R., **Cavanagh, J.F.** & Narayanan, N. (2020) Frontal theta and beta oscillations during lower-limb movement in Parkinson's Disease. *Clinical Neurophysiology*, 131, 694-702.

Brown, D.R., Pirio Richardson, S. & **Cavanagh, J.F.** (2020) An EEG marker of reward processing is sensitive to Parkinson's disease duration. *Brain Research*, 1727, 146541.

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Cavanagh, J.F., Rieger, R.E, Wilson, K.W., Gill, D., Brandt, E. & Mayer, A. (2020) Joint analysis of frontal theta synchrony and white matter following mild traumatic brain injury. *Brain Imaging and Behavior*, 14:2210-2223.

Fink, B.C., Howell, B.C., Salway, S., **Cavanagh, J.F.**, Hamilton, D.A., Claus, E.D. & Frost, M.E. (2019) Frontal alpha asymmetry in alcohol-related intimate partner violence. *Social, Cognitive, and Affective Neuroscience*, 1209-1217.

Broadway, J.M., Rieger, R.E., Wilson, K.W., Gill, D., Quinn, D., Mayer, A.W. & **Cavanagh, J.F.** (2019) Executive function predictors of delayed memory deficits after mild traumatic brain injury. *Cortex*, 120, 240-248.

Cavanagh, J.F., Wilson, K., Reiger, R., Gill, D., Broadway, J.M., Story Remer, J.H.,

Fratzke, V., Mayer, A.R. & Quinn, D.K. (2019) ERPs predict symptomatic distress and recovery in sub-acute mild traumatic brain injury. *Neuropsychologia*, 132, 107125.

Kane, J., **Cavanagh, J.F.** & Dillon, D.G. (2019) Reduced theta power during memory retrieval in depressed adults. *Biological Psychiatry: Cognitive Neuroscience and Neuroimaging*, 4(7), 636-643.

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Cooper, P.S. Karayanidis, F., McKewen, M., McLellan-Hall, S., Wong, A.S.W., Skippen, P. & **Cavanagh, J.F.** (2019) Frontal theta predicts specific cognitive control-induced behavioral changes beyond general reaction time slowing. *NeuroImage*, 189, 130-140.

Janowich, J.R. & **Cavanagh, J.F.** (2019) Immediate vs. delayed control demands elicit distinct mechanisms for instantiating proactive control. *Cognitive, Affective, and Behavioral Neuroscience*, 19(4), 910-926.

Cavanagh, J.F. (2019) Early Career Award 2018: Electrophysiology as a theoretical and methodological hub in the neural sciences. *Psychophysiology*, 56(2), 1-13.

Albrecht, M.A., Waltz, J., **Cavanagh, J.F.**, Frank, M.J. & Gold, J.M. (2019) Increased conflict-induced slowing, but no differences in conflict-induced positive or negative prediction error learning in patients with schizophrenia. *Neuropsychologia*, 123, 131-140.

Cavanagh, J.F., Bismark, A.W., Frank, M.J. & Allen, J.J.B. (2019) Multiple dissociations between co-morbid depression and anxiety on reward and punishment processing: Evidence from computationally-informed EEG. *Computational Psychiatry*, https://doi.org/10.1162/cpsy_a_00024

Janowich, J.R. & **Cavanagh, J.F.** (2018) Delay Knowledge and Trial Set Count Modulate Use of Proactive vs. Reactive Control: A Meta-Analytic Review, *Psychonomic Bulletin and Review*, 25(4), 1249-1268.

Singh, A. Pirio Richardson, S. Narayanan, N, **Cavanagh, J.F.** (2018) Frontal midline theta is diminished during cognitive control in Parkinson's disease. *Neuropsychologia*, 117, 113-122.

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Cavanagh, J.F., Kumar, P., Mueller, A.A., Pirio Richardson, S. & Mueen, A. (2018). Diminished EEG habituation to novel events effectively classifies Parkinson's patients. *Clinical Neurophysiology*, 129, 409-418.

Cavanagh, J.F., Napolitano, A., Wu, C. & Mueen, A. (2017). The Patient Repository for EEG Data + Computational Tools. *Frontiers in Neuroinformatics*, 11, 67.

Smith, E.E., **Cavanagh, J.F.** & Allen, J.J.B. (2017) Intracranial source activity (eLORETA) related to scalp-level asymmetry scores and depression status. *Psychophysiology* 55(1),

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van de Vijver, I., Ridderinkhof, K.R., Harsay, H.A., Reneman, L., **Cavanagh, J.F.** Buitengeweg, J. & Cohen, M.X. (2016) Frontostriatal anatomical connections predict age- and difficulty-related differences in reinforcement learning. *Neurobiology of Aging*, 46, 1-12.

Albrecht, M.A., Waltz, J., **Cavanagh, J.F.**, Frank, M.J. & Gold, J.M. (2016) Reduction of Pavlovian bias in schizophrenia: Enhanced effects in clozapine-administered patients. *PLoS ONE*, 11(4), <http://dx.doi.org/10.1371/journal.pone.0152781>

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Cavanagh, J.F. & Shackman, A.J. (2015) Frontal theta reflects dispositional anxiety and cognitive control: Evidence from meta analyses. *Journal of Physiology – Paris*, 109, 3-15.

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Frank, M.J., Gagne, C. Nyhus, E., Masters, S.E., Wiecki, T.V., **Cavanagh, J.F.** & Badre, D. (2015) fMRI and EEG correlates of dynamic decision parameters during reinforcement learning. *Journal of Neuroscience*. 35, 484-494.

Parker, K.L., Chen, K-H., Kingyon, J., **Cavanagh, J.F.** & Narayanan, N.S. (2015) Prefrontal D1 dopamine signaling is essential for temporal control during interval timing. *Journal of Neuroscience*, 34(50), 16774-16783.

Cavanagh, J.F., Masters, S.E., Bath, K. & Frank, M.J. (2014) Conflict acts as an implicit cost in reinforcement learning. *Nature Communications* 5:5394.

Cavanagh, J.F. & Frank, M.J. (2014) Frontal theta as a mechanism for cognitive control. *Trends in Cognitive Science*, 18(8), 414-421.

Cavanagh, J.F., Sanguinetti, J.L., Allen, J.J.B., Sherman, S.J. & Frank, M.J. (2014). The subthalamic nucleus contributes to post-error slowing. *Journal of Cognitive Neuroscience*, 26(100), 2637-2644.

Cavanagh, J.F., Wiecki, T.V., Kochar, A., & Frank, M.J. (2014) Eye tracking and pupillometry reflect dissociable indices of latent cognitive processes. *Journal of Experimental Psychology: General*, 143(4), 1476-1488.

Collins, A.G.E., **Cavanagh, J.F.**, & Frank, M.J. (2014) Human EEG uncovers latent, generalizable rule structure during learning. *Journal of Neuroscience*, 34(13), 4677-4685.

Narayanan, N.S.*, **Cavanagh, J.F.***, Frank, M.J. & Laubach, M. (2013) A common low frequency oscillatory mechanism for adaptive control in rats and humans. *Nature Neuroscience*, 16(12), 1888-1895.

Cavanagh, J.F. (2013) The Where and When of “What-If”. *Neuron*, 79(6), 1040-1041.
[Invited Commentary]

Cavanagh, J.F., Eisenberg, I., Guitart-Masip, M., Huys, Q. & Frank, M.J. (2013) Frontal theta overrides Pavlovian learning biases. *Journal of Neuroscience*, 33(19), 8541-8548.

- Cavanagh, J.F.** & Frank M.J. (2013) Stop! Stay tuned for more information. *Experimental Neurology*. [Invited Commentary]
- Cavanagh, J.F.**, Figueroa, C.M., Cohen, M.X & Frank, M.J. (2012) Frontal theta reflects uncertainty and unexpectedness in exploration and exploitation. *Cerebral Cortex*, *11*, 2575-2586
- Cavanagh, J.F.**, Neville, D., Cohen, M.X, van de Vijver, I., Harsay, H., Watson, P., Buitengeweg, J., & Ridderinkhof, K.R. (2012). Individual differences in risky decision-making among seniors correlates with increased reward sensitivity. *Frontiers in Decision Science*, *6*(111), 1-7
- Cavanagh, J.F.**, Zambrano-Vazquez, L., & Allen, J.J.B. (2012) Theta lingua franca: A common mid-frontal substrate for action monitoring processes. *Psychophysiology*, *49*(2), 220-238
- Kemeny, M.E., Foltz, C.A, **Cavanagh, J.F.**, Giese-Davis, J., Jennings, P., Rosenberg, E.L., Gillath, O., Shaver, P., Wallace, A. & Ekman, P. (2012) Contemplative/emotion training enhances emotional behavior. *Emotion*, *12*(2), 338-350
- Cavanagh, J.F.**, Bismark, A., Frank, M.J., & Allen, J.J.B. (2011) Larger error signals in depression are associated with better avoidance learning. *Frontiers in Psychology: Cognition*, *2*, 331, 1-6.
- Cavanagh, J.F.**, Wiecki, T.V., Cohen, M.X, Figueroa, C.M., Samanta, J., Sherman S.J., Frank, M.J. (2011) Subthalamic nucleus stimulation reverses mediofrontal influence over decision threshold. *Nature Neuroscience*, *14*(11), 1462-1467
- Cohen, M.X, **Cavanagh, J.F.** & Slagter, H.A. (2011) Commentary on Foti et al. *Human Brain Mapping*, *32*(12), 2270-2271
- Cohen, M.X, **Cavanagh, J.F.** (2011). Single trial regression elucidates the role of prefrontal theta oscillations in response conflict. *Frontiers in Psychology: Perception Science*, *2*, 30, 1-12
- Cavanagh, J.F.**, Frank, M.J., & Allen, J.J.B. (2011). Social stress reactivity alters reward and punishment learning. *Social, Cognitive, and Affective Neuroscience*, *6*(3), 311-320
- Cavanagh, J.F.**, Gründler, T.O.J., Frank, M.J. & Allen, J.J.B. (2010). Altered cingulate sub-region activation accounts for task related dissociation in ERN amplitude as a function of obsessive – compulsive symptoms. *Neuropsychologia*, *48*(7), 2098-2109
- Cavanagh, J.F.**, Frank, M.J., Klein, T.J. & Allen, J.J.B. (2010). Frontal theta links prediction error to behavioral adaptation in reinforcement learning. *NeuroImage*, *49*(4), 3198-3209

Completed Funding

- NIMH RO1MH119382-01 Dates: 04/01/2019 – 01/31/2024
 PI: James F. Cavanagh
“A Novel Bench-to-Bedside Translational Model of Anhedonia”
 Direct Costs: \$1,262,551
 Role: PI 50%
- NIGMS P30GM122734 Dates: 05/01/2022 – 06/31/2023
 PI: James F. Cavanagh
“Causal Dissociation of Value Contributions to the Reward Positivity”
 Direct Costs: \$24,860
 Role: Pilot project PI
- NINDS P20NS123151-01 Dates: 07/01/2021 – 06/30/2023
 PI: Nandakumar S. Narayanan
“Prefrontal Cortex, Cognition, and Speech Symptoms in PD (PRECIS-PD)”
 Direct Costs: \$926,740
 Role: Co- Investigator 10%
- NIMH UH3MH109168-01 Dates: 09/04/2018 – 12/31/2020
 PI: Jared Young
“Neurophysiological biomarkers of behavioral dimensions from cross-species paradigms”
 Direct Costs: \$1,307,090
 Role: Co-Investigator 12%
- UNM Grand Challenge Dates: 09/01/2019 – 08/31/2020
 PI: James F. Cavanagh
“Biomarkers of Aberrant Control and Reward Processing in Individuals with an Alcohol Use Disorder”
 Direct Costs: \$10,000
 Role: PI
- UNM Grice Award Dates: 03/01/2019 – 08/31/2020
 PI: James F. Cavanagh
“Role of the Infralimbic Cortex in Reinforcement Learning”
 Direct Costs: \$3,000
 Role: PI
- NIGMS P20GM109089-01A1 Dates: 09/15/2015 – 12/31/2018
 PI: Bill Shuttleworth
UNM Center for Brain Recovery and Repair
 Direct costs: \$11,357,000
 Subcomponent direct costs: \$885,499
 Role: Project PI 50%

Professional Memberships and Service Activities

- 2024-2027 Consulting Editor: *Psychophysiology*
- 2016-2026 Consulting Editor: *Cognitive, Affective, and Behavioral Neurosciences*
- 2016-2024 Consulting Editor: *Brain Research*
- 2018 Program Chair: *New Mexico EEG and Behavior Conference*, Albuquerque
- 2009 Co-Organizer: *Opinions and Discussions on Cognitive Neuro.*, Amsterdam
- Society for Psychophysiological Research:
 - Poster Judge (2015, 2016, 2017, 2022)
 - Early Careers Panelist (2015)
 - Program Committee (2017, 2019-2023)
 - Public Relations Committee (2021-2023)
 - Chair: Member Awards and Recognition Committee (2023)
 - Board of Directors (2023-2026)
 - Early Career Award Committee (2026-2029)
- 2025 Ad Hoc Member: NIH *Neural Basis Psychopathol., Add. & Sleep* Study Section
- 2025 Ad Hoc Member: NIH *Adult Lifespan Psychopathology* Study Section
- 2024 Ad Hoc Member: NIH *Biobeh. Mech. Of Emo., Stress & Health* Study Section
- 2023 Ad Hoc Member: NIMH *Conte Center* Study Section
- 2023 Ad Hoc Member: NIH *Human Complex Mental Functions* Study Section
- 2022 Ad Hoc Member: NIH *BRAIN F32* Study Section
- 2022 Panel Member: NSF *Science & Technology Centers* Program P221783
- 2022 Ad Hoc Member: NIH *TBI, Hemorrhage & Fluid Dyn. SEP (chaired 2 proposal)*
- 2022 Ad Hoc Member: NIH *Human Complex Mental Functions* Study Section
- 2021 Ad Hoc Member: NIMH *Conte Center* Study Section
- 2021 Ad Hoc Member: NIH *Member Conflict: Human Complex Mental Functions*
- 2021 Ad Hoc Member: NIMH *Computational Psychiatry* Study Section
- 2021 Ad Hoc Member: NIH *Human Complex Mental Functions* Study Section
- 2020 Ad Hoc Member: NIMH *Computational Psychiatry* Study Section
- 2020 Ad Hoc Member: NIMH *Conte Center* Study Section
- 2019 Ad Hoc Member: NIH *Cognition and Perception* Study Section

Awards & Recognitions

2025	Research Works Award	UNM VPR
2018	Early Career Award	Society for Psychophysiological Research
2013	Travel Award	COSYNE conference, Salt Lake City UT
2011	Travel Award	DEFD conference, Boulder CO
2010	Scholarship Award	UA Grad Council for College of Science
2010	Scholarship Award	UA Psychology Dept
2009	Tursky (Top Student Poster) Award	Society for Psychophysiological Research
2008	Travel Award	UA Graduate Student Council
2006	Travel Award	UA Graduate Student Council
2005	Pre-Doctoral Research Grant	UA Social & Behavioral Research Institute
2000	Graduated Cum Laude	Western Michigan University

Invited Colloquia Presentations

- 2025 University of Florida, Dept of Psychology
- 2024 University of Maryland, Child Development Lab
- 2023 University of South Dakota, Department of Neuroscience
- 2022 University of Iowa, Department of Psychology
- 2022 Cambridge University, Department of Psychiatry
- 2022 McLean Hospital, P50 Speaker Series
- 2019 Rutgers, Center for Molecular and Behavioral Neuroscience
- 2017 University of Maryland, Department of Psychology
- 2015 Columbia University, Department of Neurosurgery
- 2014 Yale University, J.B. Pearce Labs
- 2014 University of Iowa, Department of Neurology Grand Rounds

Conference Talks

Cavanagh, J.F. (2025) Free data & what to do about it. *Presented at the Delay Diffusion Analysis conference, 08/25.*

Cavanagh, J.F. (2024) Hedonic and motivational influences on the Reward Positivity: From Circuits to Behavior. *Presented at the Society for Psychophysiological Research, 10/24.*

Pirrung, C.J.H., Singh, G., Hogeveen, J., Quinn, D. & **Cavanagh, J.F.** (2023) MEG source estimation of the Reward Positivity. *Presented at the Society for Psychophysiological Research, 09/23.*

Cavanagh, J.F. (2023) Event-related EEG reflects prediction errors across the cortical hierarchy. *Presented at Breaking Expectations, Marburg Germany, 07/23.*

Cavanagh, J.F. (2022) The Reward Positivity is a nexus of multidimensional value. *Presented at the Society for Psychophysiological Research, 09/22.*

Singh, G., Campbell, E., Hogeveen, J., Witkiewitz, K., Claus, E. & **Cavanagh, J.F.** (2022) Alcohol imagery evokes a larger Reward Positivity in heavy drinkers. *Presented at the Society for Psychophysiological Research, 09/22.*

Cavanagh, J.F. (2022) A novel, fast, inexpensive biomarker of the ventral reward system. *Presented at the 10th conference of the Deep Brain Stimulation society, 08/22.*

Cavanagh, J.F. (2021) Using reinforcement prediction errors as a filter for information content in EEG recordings. *Presented at the Society for Psychophysiological Research, Virtual Conference, 10/21.*

Cavanagh, J.F. (2021) Best experiment ever! Puppies, milkshakes, and the neurobiology of anhedonia. *Presented at the Society for Affective Science, Virtual Conference, 04/21.*

Cavanagh, J.F., Coffman, B. & Dillon, D.E. (2019) Memento malum: Mistakes boost memory via fronto-hippocampal theta synchrony. *Presented at the Society for Psychophysiological Research, Washington, DC, 09/19.*

Cavanagh, J.F. (2019) Frontal theta as a mechanism for cognitive control: Application to psychiatric and neurological populations. *Presented at the Iowa Neuroscience Institute Workshop, Iowa City, IA, 09/19*

Cavanagh, J.F. (2018) Early Career Award: Electrophysiology as a theoretical and methodological hub in the neural sciences. *Presented at the Society for Psychophysiological Research, Quebec City, CA, 10/18*

Cavanagh, J.F. (2017) Open tools for EEG-based pattern classification of psychiatric and neurological disease. *Presented at the Society for Psychophysiological Research, Vienna, Austria, 10/17*

Cavanagh, J.F., Meyer, A. & Hajcak, G. (2017) Error-specific cognitive control alterations in General Anxiety Disorder. *Presented at the Society for Psychophysiological Research, Vienna, Austria, 10/17.*

Smith, E.E., **Cavanagh, J.F.** & Allen, J.J.B. (2017) Intracranial source activity related to scalp-level asymmetry scores and depression status. *Presented at the Society for Psychophysiological Research, Vienna, Austria, 10/17.*

Cavanagh, J.F., Coffman, B. & Dillon, D.E. (2017) Memento malum: Mistakes boost memory via fronto-hippocampal theta synchrony. *Presented at the Organization for Human Brain Mapping, Vancouver, Canada, 06/17.*

Cavanagh, J.F. (2016). Dissociated Circuit Motifs: Multiple Mechanisms for Control. *Presentation at the Computational and Systems Neuroscience Society (Workshop: "Computations of the Dorsomedial Prefrontal Cortex"), Salt Lake City, UT, 03/16.*

Cavanagh, J.F. (2015). E-Phys is the Basis: A Translational Model of Adaptive Control. *Presentation at Society for Psychophysiological Research, Seattle, WA, 09/15.*

Cavanagh, J.F. (2015). Is There a General Theory for PFC/ACC Function? *Presentation at the 4th Workshop on Computational Properties of Prefrontal Cortex, Washington, DC, 05/15.*

Cavanagh, J.F. (2015). Dynamic Thresholds in Decision Making. *Presentation at the Computational and Systems Neuroscience Society (Workshop: "Random Walk Models Across Decision-Making Domains"), Salt Lake City, UT, 03/15.*

Cavanagh, J.F. (2014). Frontal Theta as a Mechanism for Cognitive Control. *Presentation at the 3rd Workshop on Computational Properties of Prefrontal Cortex, Whistler, BC, Canada, 10/14.*

Cavanagh, J.F. (2014). Frontal Theta as a Mechanism for Affective and Effective Control. *Presentation at the Society for Psychophysiological Research, Atlanta, GA, 09/14.*

Cavanagh, J.F. (2014). Synchrony in the Subthalamic Nucleus: Adaptive and Maladaptive Patterns in Health and Disease. *Presentation at the Computational and Systems Neuroscience Society (Workshop: "Rogue States: Altered Dynamics of Neural Circuit Activity in Brain Disorders")*, Salt Lake City, UT, 03/14.

Cavanagh, J.F. (2013). Theta as a Common Language for Mediofrontal Cortical Operations. *Presentation at Neural Circuits for Adaptive Control of Behavior, Paris, France, 9/13.*

Cavanagh, J.F. (2009). Allostatic Load and the Brain. *Presentation at the Opinions and Discussions on Cognitive Neuroscience: Amsterdam workshop, Amsterdam, Netherlands, 10/09.*

Cavanagh, J.F., Gründler, T.O.J., Frank, M.J. & Allen, J.J.B. (2009). Damned if you do, Damned if you don't: Dissociating Error Monitoring Systems in OCD. *Presentation at the Society for Psychophysiological Research, Berlin, Germany, 10/09.*

Cavanagh, J.F., Frank, M.J. & Allen, J.J.B. (2008). Social Stress Alters Cognitive Control in Vulnerable Individuals: Implications for Reinforcement Learning. *Presentation at the Action Monitoring and Behavioral Adjustment workshop, Aachen, Germany, 03/08*

Kemeny, M.E., **Cavanagh, J.F.,** & Foltz, C.A. (2008). Cognitive Response Determines Autonomic and Endocrine Response to Social Threat. *Presentation at the Society for Personality and Social Psychology, Albuquerque, NM, 01/08*

Ad-Hoc Reviewer - Grants

- | | |
|---|-------------------------|
| 1. Army Research Laboratory | (ARL – USA) |
| 2. Austrian Science Fund | (FWF – Austria) |
| 3. Binational Science Foundation | (BSF – US / Israel) |
| 4. Deutsche Forschungsgemeinschaft | (Germany) |
| 5. European Research Council | (ERC – Europe) |
| 6. Health Research Council of New Zealand | (HRC – NZ) |
| 7. Medical Research Council | (MRC – UK) |
| 8. National Institute of Health | (NIH - USA) |
| 9. National Research Agency | (ANR - France) |
| 10. National Science Center | (NCN – Poland) |
| 11. National Science Foundation | (NSF – USA) |
| 12. National Sciences and Engineering Res. Council | (NSERC - Canada) |
| 13. Netherlands Org. for Health Research and Devel. | (ZonMw - Netherlands) |
| 14. Netherlands Organization for Sci. Research | (NWO – Netherlands) |
| 15. Research Foundation – Flanders | (FWO - Belgium) |
| 16. Swiss National Science Foundation | (FNSNF - Switzerland) |
| 17. UK Research and Innovation | (UKRI – United Kingdom) |
| 18. Wellcome Trust | (United Kingdom) |

Ad-Hoc Reviewer - Journals

- 1 Advances in Medical Sciences
- 2 Acta Psychologica
- 3 American Journal of Psychiatry
- 4 Annals of General Psychiatry
- 5 Behavioural Brain Research
- 6 Behavioral Neuroscience
- 7 Biological Psychology
- 8 Biological Psychiatry
- 9 Biological Psychiatry: CNNI
- 10 Biomedical Signal Processing & Control
- 11 BMC Biology
- 12 Brain
- 13 Brain and Cognition
- 14 Brain Communications
- 15 Brain Imaging and Behavior
- 16 Brain Research
- 17 Brain Stimulation
- 18 Brain Structure & Function
- 19 Cell
- 20 Cell Reports
- 21 Cerebral Cortex
- 22 Clinical Neurophysiology
- 23 Cog., Aff. & Beh. Neuroscience
- 24 Cognition
- 25 Cognition and Emotion
- 26 Cognitive Neurodynamics
- 27 Communications Biology
- 28 Communications Psychology
- 29 Comp. Methods and Prog. in Biomed.
- 30 Computational Psychiatry
- 31 Cortex
- 32 Current Biology
- 33 Current Opinion in Behavioral Sciences
- 34 Drug & Alcohol Dependence
- 35 European Journal of Neuroscience
- 36 European Neuropsychopharmacology
- 37 eLife
- 38 Emotion
- 39 eNeuro
- 40 Frontiers in Cognition
- 41 Frontiers in Decision Neuroscience
- 42 Frontiers in Human Neuroscience
- 43 Frontiers in Neuroscience
- 44 Human Brain Mapping
- 45 iScience
- 46 Imaging Neuroscience
- 47 International J. of Psychophysiology
- 48 Journal of Cognitive Neuroscience
- 49 Journal of Child Psychiatry and Psychol.
- 50 Journal of Econ. in Psych. And Neuro.
- 51 JEP: General
- 52 JEP: Learning, Memory & Cognition
- 53 JEP: Human Perception & Performance
- 54 Journal of the Int'l Neuropsych. Society
- 55 Journal of Mathematical Psychology
- 56 Journal of Neural Engineering
- 57 Journal of Neuropharmacology
- 58 Journal of Neurophysiology
- 59 Journal of Neuroscience
- 60 Journal of Neurotrauma
- 61 Journal of Neurosci., Psychol. & Economics
- 62 Journal of Personality
- 63 Journal of Psychopathol. and Clin. Science
- 64 Journal of Psychophysiology
- 65 Journal of Physiology (Paris)
- 66 Learning and Memory
- 67 Movement Disorders
- 68 npj Parkinson's Disease
- 69 Nature Communications
- 70 Nature Human Behavior
- 71 Nature Mental Health
- 72 Nature Neuroscience
- 73 Neuron
- 74 Neuroscience
- 75 NeuroImage
- 76 NeuroImage: Clinical
- 77 Neuropharmacology
- 78 Neuropsychopharmacology
- 79 Neuropsychologia
- 80 Neuroscience & Biobehavioral Reviews
- 81 Peer Community in Registered Reports
- 82 PNAS
- 83 PLoS Computational Biology
- 84 PLoS One
- 85 Prog NeuroPsychPharm & Bio Psychi
- 86 Psychiatry Research: Neuroimaging
- 87 Psychological Medicine
- 88 Psychological Review
- 89 Psychological Science
- 90 Psychology and Aging
- 91 Psychoneuroendocrinology
- 92 Psychopharmacology
- 93 Psychophysiology
- 94 Scientific Reports
- 95 Schizophrenia Bulletin
- 96 Social, Cognitive & Affective Neurosci.
- 97 Social Neuroscience
- 98 Translational Psychiatry
- 99 Trends in Cognitive Science

Teaching Experience

- Instructor:
- Psy 641: Cognition, Brain & Behavior Seminar, *UNM*
 - Psy 650: Human Decision Making, *UNM*
 - Psy 450: Principles of Psychophysiology, *UNM*
 - Psy 650: Functions of Prefrontal Cortex, *UNM*
 - Psy 644: Advanced EEG Analysis in Matlab, *UNM*
 - Psy 240: Brain and Behavior, *UNM*
 - Psy 443: Psychobiology of Emotion, *UNM*
 - LAEL-LE94: Psychobiology of Emotion, *RI School of Design*
 - Psy 200: Intro to Psychology, *SFSU*
 - Psy 371: Intro to Statistics, *SFSU*
 - Psy 400: Research Methods, *SFSU*
- Lab Instructor:
- Psy 501b: Psychophysiology Lab, *University of Arizona*
 - Psy 297a: Research Methods, *University of Arizona*
 - Psy 571: Psychophysiology Lab, *SFSU*
 - Psy 400: Research Methods, *SFSU*
 - Psy 371: Intro to Statistics, *SFSU*