

Adhikari, A., Topiwala, M.A. and Gordon, J.A. 2010. Synchronized Activity between the Ventral Hippocampus and the Medial Prefrontal Cortex during Anxiety. *Neuron* 65(2), pp. 257–269. doi: [10.1016/j.neuron.2009.12.002](https://doi.org/10.1016/j.neuron.2009.12.002).

Adler, R. 1946. A Study of Locking Phenomena in Oscillators. *Proceedings of the IRE* 34(6), pp. 351–357. doi: [10.1109/jrproc.1946.229930](https://doi.org/10.1109/jrproc.1946.229930).

Ahn, S., Mellin, J.M., Alagapan, S., Alexander, M.L., Gilmore, J.H., Jarskog, L.F. and Fröhlich, F. 2019. Targeting reduced neural oscillations in patients with schizophrenia by transcranial alternating current stimulation. *NeuroImage* 186, pp. 126–136. doi: [10.1016/j.neuroimage.2018.10.056](https://doi.org/10.1016/j.neuroimage.2018.10.056).

Aller, M.I. et al. 2005. Modifying the Subunit Composition of TASK Channels Alters the Modulation of a Leak Conductance in Cerebellar Granule Neurons. *The Journal of Neuroscience* 25(49), pp. 11455–11467. doi: [10.1523/jneurosci.3153-05.2005](https://doi.org/10.1523/jneurosci.3153-05.2005).

Aller, M.I. and Wisden, W. 2008. Changes in expression of some two-pore domain potassium channel genes (KCNK) in selected brain regions of developing mice. *Neuroscience* 151(4), pp. 1154–1172. doi: [10.1016/j.neuroscience.2007.12.011](https://doi.org/10.1016/j.neuroscience.2007.12.011).

Anacker, C. and Hen, R. 2017. Adult hippocampal neurogenesis and cognitive flexibility — linking memory and mood. *Nature Reviews Neuroscience* 18(6), pp. 335–346. doi: [10.1038/nrn.2017.45](https://doi.org/10.1038/nrn.2017.45).

Babayev, E.S. and Allahverdiyeva, A.A. 2007. Effects of geomagnetic activity variations on the physiological and psychological state of functionally healthy humans: Some results of Azerbaijani studies. *Advances in Space Research* 40(12), pp. 1941–1951. doi: [10.1016/j.asr.2007.02.099](https://doi.org/10.1016/j.asr.2007.02.099).

Benschop, L. et al. 2021. Electrophysiological scarring in remitted depressed patients: Elevated EEG functional connectivity between the posterior cingulate cortex and the subgenual prefrontal cortex as a neural marker for rumination. *Journal of Affective Disorders* 281, pp. 493–501. doi: [10.1016/j.jad.2020.12.081](https://doi.org/10.1016/j.jad.2020.12.081).

Ben-Shalom, R., Keeshen, C.M., Berrios, K.N., An, J.Y., Sanders, S.J. and Bender, K.J. 2017. Opposing Effects on Na V 1.2 Function Underlie Differences Between SCN2A Variants Observed in Individuals With Autism Spectrum Disorder or Infantile Seizures. *Biological Psychiatry* 82(3), pp. 224–232. doi: [10.1016/j.biopsych.2017.01.009](https://doi.org/10.1016/j.biopsych.2017.01.009).

Berk, M., Malhi, G.S., Gray, L.J. and Dean, O.M. 2013. The promise of N-acetylcysteine in neuropsychiatry. *Trends in Pharmacological Sciences* 34(3), pp. 167–177. doi: [10.1016/j.tips.2013.01.001](https://doi.org/10.1016/j.tips.2013.01.001).

Bigos, K.L. et al. 2010. Genetic Variation in CACNA1C Affects Brain Circuitries Related to Mental Illness. *Archives of General Psychiatry* 67(9), p. 939. doi: [10.1001/archgenpsychiatry.2010.96](https://doi.org/10.1001/archgenpsychiatry.2010.96).

- Bisht, K. et al. 2016. Dark microglia: A new phenotype predominantly associated with pathological states. *Glia* 64(5), pp. 826–839. doi: [10.1002/glia.22966](https://doi.org/10.1002/glia.22966).
- Blanchard, J. and Sawers, S.J.A. 1983. The absolute bioavailability of caffeine in man. *European Journal of Clinical Pharmacology* 24(1), pp. 93–98. doi: [10.1007/bf00613933](https://doi.org/10.1007/bf00613933).
- Bloomfield, M.A.P., Ashok, A.H., Volkow, N.D. and Howes, O.D. 2016. The effects of Δ^9 -tetrahydrocannabinol on the dopamine system. *Nature* 539(7629), pp. 369–377. doi: [10.1038/nature20153](https://doi.org/10.1038/nature20153).
- Booth, V. and Rinzel, J. 1995. A minimal, compartmental model for a dendritic origin of bistability of motoneuron firing patterns. *Journal of Computational Neuroscience* 2(4), pp. 299–312. doi: [10.1007/bf00961442](https://doi.org/10.1007/bf00961442).
- Bosman, L.W.J., Heinen, K., Spijker, S. and Brussaard, A.B. 2005. Mice Lacking the Major Adult GABA_A Receptor Subtype Have Normal Number of Synapses, But Retain Juvenile IPSC Kinetics Until Adulthood. *Journal of Neurophysiology* 94(1), pp. 338–346. doi: [10.1152/jn.00084.2005](https://doi.org/10.1152/jn.00084.2005).
- Bremner, J.D. et al. 1997. Elevated CSF corticotropin-releasing factor concentrations in posttraumatic stress disorder. *The American Journal of Psychiatry* 154(5), pp. 624–629. doi: [10.1176/ajp.154.5.624](https://doi.org/10.1176/ajp.154.5.624).
- Brix, J., Wettemann, H., Scheel, O., Feiner, F. and Matthes, R. 2001. Measurement of the individual exposure to 50 and 16 2/3 Hz magnetic fields within the Bavarian population. *Bioelectromagnetics* 22(5), pp. 323–332. doi: [10.1002/bem.57](https://doi.org/10.1002/bem.57).
- Brunel, N. and Van Rossum, M.C.W. 2007. Quantitative investigations of electrical nerve excitation treated as polarization: Louis Lapicque 1907 · Translated by: *Biological Cybernetics* 97(5–6), pp. 341–349. doi: [10.1007/s00422-007-0189-6](https://doi.org/10.1007/s00422-007-0189-6).
- Brunet, A., Saumier, D., Liu, A., Streiner, D.L., Tremblay, J. and Pitman, R.K. 2018. Reduction of PTSD Symptoms With Pre-Reactivation Propranolol Therapy: A Randomized Controlled Trial. *American Journal of Psychiatry* 175(5), pp. 427–433. doi: [10.1176/appi.ajp.2017.17050481](https://doi.org/10.1176/appi.ajp.2017.17050481).
- Bueno-Junior, L.S., Simon, N.W., Wegener, M.A. and Moghaddam, B. 2017. Repeated Nicotine Strengthens Gamma Oscillations in the Prefrontal Cortex and Improves Visual Attention. *Neuropsychopharmacology* 42(8), pp. 1590–1598. doi: [10.1038/npp.2017.15](https://doi.org/10.1038/npp.2017.15).
- Bundesamt für Strahlenschutz (BfS). 2023. *Stromnetz – Bahnstrom*. Available at: https://www.bfs.de/DE/themen/emf/nff/anwendung/strom-verkehr/stromnetz-bahnstrom_node.html.
- Buzsáki, G. 2015. Hippocampal sharp wave-ripple: A cognitive biomarker for episodic memory and planning. *Hippocampus* 25(10), pp. 1073–1188. doi: [10.1002/hipo.22488](https://doi.org/10.1002/hipo.22488).

- Buzsáki, G. and Draguhn, A. 2004. Neuronal Oscillations in Cortical Networks. *Science* 304(5679), pp. 1926–1929. doi: [10.1126/science.1099745](https://doi.org/10.1126/science.1099745).
- Cabungcal, J.-H., Steullet, P., Kraftsik, R., Cuenod, M. and Do, K.Q. 2013. Early-Life Insults Impair Parvalbumin Interneurons via Oxidative Stress: Reversal by N-Acetylcysteine. *Biological Psychiatry* 73(6), pp. 574–582. doi: [10.1016/j.biopsych.2012.09.020](https://doi.org/10.1016/j.biopsych.2012.09.020).
- Cai, D.J. et al. 2016. A shared neural ensemble links distinct contextual memories encoded close in time. *Nature* 534(7605), pp. 115–118. doi: [10.1038/nature17955](https://doi.org/10.1038/nature17955).
- Capogna, M. 2011. Neurogliaform cells and other interneurons of stratum lacunosum-moleculare gate entorhinal–hippocampal dialogue. *The Journal of Physiology* 589(8), pp. 1875–1883. doi: [10.1113/jphysiol.2010.201004](https://doi.org/10.1113/jphysiol.2010.201004).
- Cash, S. and Yuste, R. 1999. Linear Summation of Excitatory Inputs by CA1 Pyramidal Neurons. *Neuron* 22(2), pp. 383–394. doi: [10.1016/s0896-6273\(00\)81098-3](https://doi.org/10.1016/s0896-6273(00)81098-3).
- Cembrowski, M.S. et al. 2018. Dissociable Structural and Functional Hippocampal Outputs via Distinct Subiculum Cell Classes. *Cell* 173(5), pp. 1280–1292.e18. doi: [10.1016/j.cell.2018.03.031](https://doi.org/10.1016/j.cell.2018.03.031).
- Cembrowski, M.S., Bachman, J.L., Wang, L., Sugino, K., Shields, B.C. and Spruston, N. 2016a. Spatial Gene-Expression Gradients Underlie Prominent Heterogeneity of CA1 Pyramidal Neurons. *Neuron* 89(2), pp. 351–368. doi: [10.1016/j.neuron.2015.12.013](https://doi.org/10.1016/j.neuron.2015.12.013).
- Cembrowski, M.S., Wang, L., Sugino, K., Shields, B.C. and Spruston, N. 2016b. Hipposeq: a comprehensive RNA-seq database of gene expression in hippocampal principal neurons. *eLife* 5. Available at: <https://elifesciences.org/articles/14997> [Accessed: 16 July 2025].
- Chan, Y.L. et al. 2016. Impact of maternal cigarette smoke exposure on brain inflammation and oxidative stress in male mice offspring. *Scientific Reports* 6(1). Available at: <https://www.nature.com/articles/srep25881> [Accessed: 16 July 2025].
- Chaposhloo, M., Nicholson, A.A., Becker, S., McKinnon, M.C., Lanius, R. and Shaw, S.B. 2023. Altered Resting-State functional connectivity in the anterior and posterior hippocampus in Post-traumatic stress disorder: The central role of the anterior hippocampus. *NeuroImage: Clinical* 38, p. 103417. doi: [10.1016/j.nicl.2023.103417](https://doi.org/10.1016/j.nicl.2023.103417).
- Chen, J. et al. 2004. Functional Analysis of Genetic Variation in Catechol-O-Methyltransferase (COMT): Effects on mRNA, Protein, and Enzyme Activity in Postmortem Human Brain. *The American Journal of Human Genetics* 75(5), pp. 807–821. doi: [10.1086/425589](https://doi.org/10.1086/425589).
- Chen, X. and Johnston, D. 2005. Constitutively Active G-Protein-Gated Inwardly Rectifying K⁺ Channels in Dendrites of Hippocampal CA1 Pyramidal Neurons. *The Journal of Neuroscience* 25(15), pp. 3787–3792. doi: [10.1523/jneurosci.5312-04.2005](https://doi.org/10.1523/jneurosci.5312-04.2005).

- Chen, Y.Y., Aponik-Gremillion, L., Bartoli, E., Yoshor, D., Sheth, S.A. and Foster, B.L. 2021. Stability of ripple events during task engagement in human hippocampus. *Cell Reports* 35(13), p. 109304. doi: [10.1016/j.celrep.2021.109304](https://doi.org/10.1016/j.celrep.2021.109304).
- Cheng, S., Wang, W., Zhu, Z., Zhao, M., Li, H., Liu, D. and Pan, F. 2023. Involvement of brain-derived neurotrophic factor methylation in the prefrontal cortex and hippocampus induced by chronic unpredictable mild stress in male mice. *Journal of Neurochemistry* 164(5), pp. 624–642. doi: [10.1111/jnc.15735](https://doi.org/10.1111/jnc.15735).
- Cheung, J., Garber, B. and Bryant, R.A. 2015. The role of stress during memory reactivation on intrusive memories. *Neurobiology of Learning and Memory* 123, pp. 28–34. doi: [10.1016/j.nlm.2015.04.004](https://doi.org/10.1016/j.nlm.2015.04.004).
- Clem, R.L. and Huganir, R.L. 2010. Calcium-Permeable AMPA Receptor Dynamics Mediate Fear Memory Erasure. *Science* 330(6007), pp. 1108–1112. doi: [10.1126/science.1195298](https://doi.org/10.1126/science.1195298).
- Comer, A.L. et al. 2020a. Increased expression of schizophrenia-associated gene C4 leads to hypoconnectivity of prefrontal cortex and reduced social interaction. Nestler, E. J. ed. *PLOS Biology* 18(1), p. e3000604. doi: [10.1371/journal.pbio.3000604](https://doi.org/10.1371/journal.pbio.3000604).
- Comer, A.L., Carrier, M., Tremblay, M.-È. and Cruz-Martín, A. 2020b. The Inflamed Brain in Schizophrenia: The Convergence of Genetic and Environmental Risk Factors That Lead to Uncontrolled Neuroinflammation. *Frontiers in Cellular Neuroscience* 14. Available at: <https://www.frontiersin.org/article/10.3389/fncel.2020.00274/full> [Accessed: 16 July 2025].
- Cook, C.M. and Persinger, M.A. 1997. Experimental Induction of the “Sensed Presence” in Normal Subjects and an Exceptional Subject. *Perceptual and Motor Skills* 85(2), pp. 683–693. doi: [10.2466/pms.1997.85.2.683](https://doi.org/10.2466/pms.1997.85.2.683).
- Cox, D.R. and Isham, V. 2018. *Point Processes*. 1st ed. Routledge. Available at: <https://www.taylorfrancis.com/books/9781351423861> [Accessed: 16 July 2025].
- Crowe, S.F. et al. 2011. The effect of caffeine and stress on auditory hallucinations in a non-clinical sample. *Personality and Individual Differences* 50(5), pp. 626–630. doi: [10.1016/j.paid.2010.12.007](https://doi.org/10.1016/j.paid.2010.12.007).
- Currin, C.B. and Raimondo, J.V. 2022. Computational models reveal how chloride dynamics determine the optimal distribution of inhibitory synapses to minimise dendritic excitability. Rubin, J. ed. *PLOS Computational Biology* 18(9), p. e1010534. doi: [10.1371/journal.pcbi.1010534](https://doi.org/10.1371/journal.pcbi.1010534).
- Czeh, B., Simon, M., Van Der Hart, M.G., Schmelting, B., Hesselink, M.B. and Fuchs, E. 2005. Chronic Stress Decreases the Number of Parvalbumin-Immunoreactive Interneurons in the Hippocampus: Prevention by Treatment with a Substance P Receptor (NK1) Antagonist. *Neuropsychopharmacology* 30(1), pp. 67–79. doi: [10.1038/sj.npp.1300581](https://doi.org/10.1038/sj.npp.1300581).

- Daly, E.J. et al. 2018. Efficacy and Safety of Intranasal Esketamine Adjunctive to Oral Antidepressant Therapy in Treatment-Resistant Depression: A Randomized Clinical Trial. *JAMA Psychiatry* 75(2), p. 139. doi: [10.1001/jamapsychiatry.2017.3739](https://doi.org/10.1001/jamapsychiatry.2017.3739).
- De Lucena, D. et al. 2009. Improvement of Negative and Positive Symptoms in Treatment-Refractory Schizophrenia: A Double-Blind, Randomized, Placebo-Controlled Trial With Memantine as Add-On Therapy to Clozapine. *The Journal of Clinical Psychiatry* 70(10), pp. 1416–1423. doi: [10.4088/jcp.08m04935gry](https://doi.org/10.4088/jcp.08m04935gry).
- Dedic, N. et al. 2018. Cross-disorder risk gene CACNA1C differentially modulates susceptibility to psychiatric disorders during development and adulthood. *Molecular Psychiatry* 23(3), pp. 533–543. doi: [10.1038/mp.2017.133](https://doi.org/10.1038/mp.2017.133).
- Di Chiara, G. and Imperato, A. 1988. Drugs abused by humans preferentially increase synaptic dopamine concentrations in the mesolimbic system of freely moving rats. *Proceedings of the National Academy of Sciences* 85(14), pp. 5274–5278. doi: [10.1073/pnas.85.14.5274](https://doi.org/10.1073/pnas.85.14.5274).
- Di Forti, M. et al. 2019. The contribution of cannabis use to variation in the incidence of psychotic disorder across Europe (EU-GEI): a multicentre case-control study. *The Lancet Psychiatry* 6(5), pp. 427–436. doi: [10.1016/S2215-0366\(19\)30048-3](https://doi.org/10.1016/S2215-0366(19)30048-3).
- Diamond, J.S. 2001. Neuronal Glutamate Transporters Limit Activation of NMDA Receptors by Neurotransmitter Spillover on CA1 Pyramidal Cells. *The Journal of Neuroscience* 21(21), pp. 8328–8338. doi: [10.1523/jneurosci.21-21-08328.2001](https://doi.org/10.1523/jneurosci.21-21-08328.2001).
- Dimpfel, W., Schober, F. and Spöler, M. 1993. The influence of caffeine on human EEG under resting condition and during mental loads. *The Clinical Investigator* 71(3). Available at: <http://link.springer.com/10.1007/BF00180102> [Accessed: 16 July 2025].
- Ding, F., O'Donnell, J., Xu, Q., Kang, N., Goldman, N. and Nedergaard, M. 2016. Changes in the composition of brain interstitial ions control the sleep-wake cycle. *Science* 352(6285), pp. 550–555. doi: [10.1126/science.aad4821](https://doi.org/10.1126/science.aad4821).
- Donato, F., Rompani, S.B. and Caroni, P. 2013. Parvalbumin-expressing basket-cell network plasticity induced by experience regulates adult learning. *Nature* 504(7479), pp. 272–276. doi: [10.1038/nature12866](https://doi.org/10.1038/nature12866).
- Dougherty, K.A., Islam, T. and Johnston, D. 2012. Intrinsic excitability of CA1 pyramidal neurones from the rat dorsal and ventral hippocampus. *The Journal of Physiology* 590(22), pp. 5707–5722. doi: [10.1113/jphysiol.2012.242693](https://doi.org/10.1113/jphysiol.2012.242693).
- Doyon, N., Prescott, S.A., Castonguay, A., Godin, A.G., Kröger, H. and De Koninck, Y. 2011. Efficacy of Synaptic Inhibition Depends on Multiple, Dynamically Interacting Mechanisms Implicated in Chloride Homeostasis. Morrison, A. ed. *PLoS Computational Biology* 7(9), p. e1002149. doi: [10.1371/journal.pcbi.1002149](https://doi.org/10.1371/journal.pcbi.1002149).

Dumont, V. et al. 2022. Do cities have a unique magnetic pulse? *Journal of Applied Physics* 131(20). Available at: <https://pubs.aip.org/jap/article/131/20/204902/2836918/Do-cities-have-a-unique-magnetic-pulse> [Accessed: 16 July 2025].

Dunkley, B.T. et al. 2015. Theta, Mental Flexibility, and Post-Traumatic Stress Disorder: Connecting in the Parietal Cortex. Ishii, R. ed. *PLOS ONE* 10(4), p. e0123541. doi: [10.1371/journal.pone.0123541](https://doi.org/10.1371/journal.pone.0123541).

EFSA Panel on Dietetic Products, Nutrition and Allergies (NDA). 2015. Scientific Opinion on the safety of caffeine. *EFSA Journal* 13(5). Available at: <https://data.europa.eu/doi/10.2903/j.efsa.2015.4102> [Accessed: 16 July 2025].

Egan, M.F. et al. 2004. Variation in *GRM3* affects cognition, prefrontal glutamate, and risk for schizophrenia. *Proceedings of the National Academy of Sciences* 101(34), pp. 12604–12609. doi: [10.1073/pnas.0405077101](https://doi.org/10.1073/pnas.0405077101).

English, D.F., Peyrache, A., Stark, E., Roux, L., Vallentin, D., Long, M.A. and Buzsáki, G. 2014. Excitation and Inhibition Compete to Control Spiking during Hippocampal Ripples: Intracellular Study in Behaving Mice. *The Journal of Neuroscience* 34(49), pp. 16509–16517. doi: [10.1523/jneurosci.2600-14.2014](https://doi.org/10.1523/jneurosci.2600-14.2014).

Epsztein, J., Brecht, M. and Lee, A.K. 2011. Intracellular Determinants of Hippocampal CA1 Place and Silent Cell Activity in a Novel Environment. *Neuron* 70(1), pp. 109–120. doi: [10.1016/j.neuron.2011.03.006](https://doi.org/10.1016/j.neuron.2011.03.006).

Fazzari, P. et al. 2010. Control of cortical GABA circuitry development by Nrg1 and ErbB4 signalling. *Nature* 464(7293), pp. 1376–1380. doi: [10.1038/nature08928](https://doi.org/10.1038/nature08928).

Feigin, V.L. et al. 2014. Geomagnetic Storms Can Trigger Stroke: Evidence From 6 Large Population-Based Studies in Europe and Australasia. *Stroke* 45(6), pp. 1639–1645. doi: [10.1161/strokeaha.113.004577](https://doi.org/10.1161/strokeaha.113.004577).

Feldner, M., Babson, K. and Zvolensky, M. 2007. Smoking, traumatic event exposure, and post-traumatic stress: A critical review of the empirical literature☆. *Clinical Psychology Review* 27(1), pp. 14–45. doi: [10.1016/j.cpr.2006.08.004](https://doi.org/10.1016/j.cpr.2006.08.004).

Fernández-Ruiz, A., Oliva, A., Nagy, G.A., Maurer, A.P., Berényi, A. and Buzsáki, G. 2017. Entorhinal-CA3 Dual-Input Control of Spike Timing in the Hippocampus by Theta-Gamma Coupling. *Neuron* 93(5), pp. 1213–1226.e5. doi: [10.1016/j.neuron.2017.02.017](https://doi.org/10.1016/j.neuron.2017.02.017).

Ferrari, A.J. et al. 2024. Global incidence, prevalence, years lived with disability (YLDs), disability-adjusted life-years (DALYs), and healthy life expectancy (HALE) for 371 diseases and injuries in 204 countries and territories and 811 subnational locations, 1990–2021: a systematic analysis for the Global Burden of Disease Study 2021. *The Lancet* 403(10440), pp. 2133–2161. doi: [10.1016/s0140-6736\(24\)00757-8](https://doi.org/10.1016/s0140-6736(24)00757-8).

Fischer, A., Sananbenesi, F., Mungenast, A. and Tsai, L.-H. 2010. Targeting the correct HDAC(s) to treat cognitive disorders. *Trends in Pharmacological Sciences* 31(12), pp. 605–617. doi: [10.1016/j.tips.2010.09.003](https://doi.org/10.1016/j.tips.2010.09.003).

Fischer, A., Sananbenesi, F., Wang, X., Dobbin, M. and Tsai, L.-H. 2007. Recovery of learning and memory is associated with chromatin remodelling. *Nature* 447(7141), pp. 178–182. doi: [10.1038/nature05772](https://doi.org/10.1038/nature05772).

Forner-Phillips, N.A., Mills, C. and Ross, R.S. 2020. Tendency to ruminate and anxiety are associated with altered alpha and beta oscillatory power dynamics during memory for contextual details. *Cognitive, Affective, & Behavioral Neuroscience* 20(4), pp. 698–716. doi: [10.3758/s13415-020-00797-2](https://doi.org/10.3758/s13415-020-00797-2).

Fricker, D. and Miles, R. 2000. EPSP Amplification and the Precision of Spike Timing in Hippocampal Neurons. *Neuron* 28(2), pp. 559–569. doi: [10.1016/s0896-6273\(00\)00133-1](https://doi.org/10.1016/s0896-6273(00)00133-1).

Fujisawa, S. and Buzsáki, G. 2011. A 4 Hz Oscillation Adaptively Synchronizes Prefrontal, VTA, and Hippocampal Activities. *Neuron* 72(1), pp. 153–165. doi: [10.1016/j.neuron.2011.08.018](https://doi.org/10.1016/j.neuron.2011.08.018).

Gaisenok, O., Gaisenok, D. and Bogachev, S. 2025. The Influence of Geomagnetic Storms on the Risks of Developing Myocardial Infarction, Acute Coronary Syndrome, and Stroke: Systematic Review and Meta-analysis. *Journal of Medical Physics* 50(1), pp. 8–13. doi: [10.4103/jmp.jmp_122_24](https://doi.org/10.4103/jmp.jmp_122_24).

Gajšek, P., Ravazzani, P., Grellier, J., Samaras, T., Bakos, J. and Thuróczy, G. 2016. Review of Studies Concerning Electromagnetic Field (EMF) Exposure Assessment in Europe: Low Frequency Fields (50 Hz–100 kHz). *International Journal of Environmental Research and Public Health* 13(9), p. 875. doi: [10.3390/ijerph13090875](https://doi.org/10.3390/ijerph13090875).

Garcia, I.J.P. et al. 2023. Effect of Ouabain on Glutamate Transport in the Hippocampus of Rats with LPS-Induced Neuroinflammation. *Biomedicines* 11(3), p. 920. doi: [10.3390/biomedicines11030920](https://doi.org/10.3390/biomedicines11030920).

Gaspar, L., Bartman, S., Coppotelli, G. and Ross, J.M. 2023. Acute Exposure to Microplastics Induced Changes in Behavior and Inflammation in Young and Old Mice. *International Journal of Molecular Sciences* 24(15), p. 12308. doi: [10.3390/ijms241512308](https://doi.org/10.3390/ijms241512308).

Gelman, A. and Rubin, D.B. 1992. Inference from Iterative Simulation Using Multiple Sequences. *Statistical Science* 7(4). Available at: <https://projecteuclid.org/journals/statistical-science/volume-7/issue-4/Inference-from-Iterative-Simulation-Using-Multiple-Sequences/10.1214/ss/1177011136.full> [Accessed: 16 July 2025].

Ghandour, K. et al. 2019. Orchestrated ensemble activities constitute a hippocampal memory engram. *Nature Communications* 10(1). Available at: <https://www.nature.com/articles/s41467-019-10683-2> [Accessed: 16 July 2025].

Giustino, T.F., Ramanathan, K.R., Totty, M.S., Miles, O.W. and Maren, S. 2020. Locus Coeruleus Norepinephrine Drives Stress-Induced Increases in Basolateral Amygdala Firing and Impairs Extinction Learning. *The Journal of Neuroscience: The Official Journal of the Society for Neuroscience* 40(4), pp. 907–916. doi: [10.1523/JNEUROSCI.1092-19.2019](https://doi.org/10.1523/JNEUROSCI.1092-19.2019).

Glausier, J.R. and Lewis, D.A. 2011. Selective Pyramidal Cell Reduction of GABAA Receptor $\alpha 1$ Subunit Messenger RNA Expression in Schizophrenia. *Neuropsychopharmacology* 36(10), pp. 2103–2110. doi: [10.1038/npp.2011.102](https://doi.org/10.1038/npp.2011.102).

Godfrey, K.E.M., Gardner, A.C., Kwon, S., Chea, W. and Muthukumaraswamy, S.D. 2018. Differences in excitatory and inhibitory neurotransmitter levels between depressed patients and healthy controls: A systematic review and meta-analysis. *Journal of Psychiatric Research* 105, pp. 33–44. doi: [10.1016/j.jpsychires.2018.08.015](https://doi.org/10.1016/j.jpsychires.2018.08.015).

Golding, N.L., Mickus, T.J., Katz, Y., Kath, W.L. and Spruston, N. 2005. Factors mediating powerful voltage attenuation along CA1 pyramidal neuron dendrites. *The Journal of Physiology* 568(1), pp. 69–82. doi: [10.1113/jphysiol.2005.086793](https://doi.org/10.1113/jphysiol.2005.086793).

Goldman, D.E. 1943. POTENTIAL, IMPEDANCE, AND RECTIFICATION IN MEMBRANES. *Journal of General Physiology* 27(1), pp. 37–60. doi: [10.1085/jgp.27.1.37](https://doi.org/10.1085/jgp.27.1.37).

Goyal, A. et al. 2020. Functionally distinct high and low theta oscillations in the human hippocampus. *Nature Communications* 11(1). Available at: <https://www.nature.com/articles/s41467-020-15670-6> [Accessed: 16 July 2025].

Grabnar, I., Vovk, T., Kores Plesnicar, B. and Boskovic, M. 2011. Oxidative Stress in Schizophrenia. *Current Neuropsychopharmacology* 9(2), pp. 301–312. doi: [10.2174/157015911795596595](https://doi.org/10.2174/157015911795596595).

Gray, R., Rajan, A.S., Radcliffe, K.A., Yakehiro, M. and Dani, J.A. 1996. Hippocampal synaptic transmission enhanced by low concentrations of nicotine. *Nature* 383(6602), pp. 713–716. doi: [10.1038/383713a0](https://doi.org/10.1038/383713a0).

Grienberger, C., Chen, X. and Konnerth, A. 2014. NMDA Receptor-Dependent Multidendrite Ca²⁺ Spikes Required for Hippocampal Burst Firing In Vivo. *Neuron* 81(6), pp. 1274–1281. doi: [10.1016/j.neuron.2014.01.014](https://doi.org/10.1016/j.neuron.2014.01.014).

Gulyás, A.I., Megías, M., Emri, Z. and Freund, T.F. 1999. Total Number and Ratio of Excitatory and Inhibitory Synapses Converging onto Single Interneurons of Different Types in the CA1 Area of the Rat Hippocampus. *The Journal of Neuroscience* 19(22), pp. 10082–10097. doi: [10.1523/jneurosci.19-22-10082.1999](https://doi.org/10.1523/jneurosci.19-22-10082.1999).

Hall, J. et al. 2008. Overactivation of Fear Systems to Neutral Faces in Schizophrenia. *Biological Psychiatry* 64(1), pp. 70–73. doi: [10.1016/j.biopsych.2007.12.014](https://doi.org/10.1016/j.biopsych.2007.12.014).

Halnes, G., Mäki-Marttunen, T., Keller, D., Pettersen, K.H., Andreassen, O.A. and Einevoll, G.T. 2016. Effect of Ionic Diffusion on Extracellular Potentials in Neural Tissue. Blackwell, K. T. ed. *PLOS Computational Biology* 12(11), p. e1005193. doi: [10.1371/journal.pcbi.1005193](https://doi.org/10.1371/journal.pcbi.1005193).

Hamilton, J.P., Farmer, M., Fogelman, P. and Gotlib, I.H. 2015. Depressive Rumination, the Default-Mode Network, and the Dark Matter of Clinical Neuroscience. *Biological Psychiatry* 78(4), pp. 224–230. doi: [10.1016/j.biopsych.2015.02.020](https://doi.org/10.1016/j.biopsych.2015.02.020).

Han, B., Tang, J., Zhao, G.Z., Wang, L.F., Dong, Z.Y. and Xu, Y.C. 2023. Seasonal and Interannual Variations in the Schumann Resonance Observed in the ELF Electromagnetic Networks in China. *Journal of Geophysical Research: Atmospheres* 128(22). Available at: <https://agupubs.onlinelibrary.wiley.com/doi/10.1029/2023JD038602> [Accessed: 16 July 2025].

Han, J.-H. et al. 2007. Neuronal Competition and Selection During Memory Formation. *Science* 316(5823), pp. 457–460. doi: [10.1126/science.1139438](https://doi.org/10.1126/science.1139438).

Han, J.-H. et al. 2009. Selective Erasure of a Fear Memory. *Science* 323(5920), pp. 1492–1496. doi: [10.1126/science.1164139](https://doi.org/10.1126/science.1164139).

Harper, R.M. 1971. Frequency changes in hippocampal electrical activity during movement and tonic immobility. *Physiology & Behavior* 7(1), pp. 55–58. doi: [10.1016/0031-9384\(71\)90235-6](https://doi.org/10.1016/0031-9384(71)90235-6).

Harvey, C.D., Collman, F., Dombeck, D.A. and Tank, D.W. 2009. Intracellular dynamics of hippocampal place cells during virtual navigation. *Nature* 461(7266), pp. 941–946. doi: [10.1038/nature08499](https://doi.org/10.1038/nature08499).

Hasler, G. et al. 2008. Neural Response to Catecholamine Depletion in Unmedicated Subjects With Major Depressive Disorder in Remission and Healthy Subjects. *Archives of General Psychiatry* 65(5), p. 521. doi: [10.1001/archpsyc.65.5.521](https://doi.org/10.1001/archpsyc.65.5.521).

Hengen, K.B., Lambo, M.E., Van Hooser, S.D., Katz, D.B. and Turrigiano, G.G. 2013. Firing Rate Homeostasis in Visual Cortex of Freely Behaving Rodents. *Neuron* 80(2), pp. 335–342. doi: [10.1016/j.neuron.2013.08.038](https://doi.org/10.1016/j.neuron.2013.08.038).

Higgins, C., Liu, Y., Vidaurre, D., Kurth-Nelson, Z., Dolan, R., Behrens, T. and Woolrich, M. 2021. Replay bursts in humans coincide with activation of the default mode and parietal alpha networks. *Neuron* 109(5), pp. 882–893.e7. doi: [10.1016/j.neuron.2020.12.007](https://doi.org/10.1016/j.neuron.2020.12.007).

Higgins, J.P.T. and Thompson, S.G. 2002. Quantifying heterogeneity in a meta-analysis. *Statistics in Medicine* 21(11), pp. 1539–1558. doi: [10.1002/sim.1186](https://doi.org/10.1002/sim.1186).

Hodgkin, A.L. and Katz, B. 1949. The effect of sodium ions on the electrical activity of the giant axon of the squid. *The Journal of Physiology* 108(1), pp. 37–77. doi: [10.1113/jphysiol.1949.sp004310](https://doi.org/10.1113/jphysiol.1949.sp004310).

Hoftman, G.D., Datta, D. and Lewis, D.A. 2017. Layer 3 Excitatory and Inhibitory Circuitry in the Prefrontal Cortex: Developmental Trajectories and Alterations in Schizophrenia. *Biological Psychiatry* 81(10), pp. 862–873. doi: [10.1016/j.biopsych.2016.05.022](https://doi.org/10.1016/j.biopsych.2016.05.022).

Howes, O.D., Vergunst, F., Gee, S., McGuire, P., Kapur, S. and Taylor, D. 2012. Adherence to treatment guidelines in clinical practice: study of antipsychotic treatment prior to clozapine initiation. *British Journal of Psychiatry* 201(6), pp. 481–485. doi: [10.1192/bjp.bp.111.105833](https://doi.org/10.1192/bjp.bp.111.105833).

Hu, J., Zhang, Y., Huang, C., Feng, X., He, S., Zhang, Y. and Maze, M. 2022. Interleukin-6 trans-signalling in hippocampal CA1 neurones mediates perioperative neurocognitive disorders in mice. *British Journal of Anaesthesia* 129(6), pp. 923–936. doi: [10.1016/j.bja.2022.08.019](https://doi.org/10.1016/j.bja.2022.08.019).

Hu, W., Zhang, M., Czéh, B., Flügge, G. and Zhang, W. 2010. Stress Impairs GABAergic Network Function in the Hippocampus by Activating Nongenomic Glucocorticoid Receptors and Affecting the Integrity of the Parvalbumin-Expressing Neuronal Network. *Neuropsychopharmacology* 35(8), pp. 1693–1707. doi: [10.1038/npp.2010.31](https://doi.org/10.1038/npp.2010.31).

Hu, Y.-T., Tan, Z.-L., Hirjak, D. and Northoff, G. 2023. Brain-wide changes in excitation-inhibition balance of major depressive disorder: a systematic review of topographic patterns of GABA- and glutamatergic alterations. *Molecular Psychiatry* 28(8), pp. 3257–3266. doi: [10.1038/s41380-023-02193-x](https://doi.org/10.1038/s41380-023-02193-x).

Huang, M.-X. et al. 2014. Voxel-wise resting-state MEG source magnitude imaging study reveals neurocircuitry abnormality in active-duty service members and veterans with PTSD. *NeuroImage: Clinical* 5, pp. 408–419. doi: [10.1016/j.nicl.2014.08.004](https://doi.org/10.1016/j.nicl.2014.08.004).

Huang, S. et al. 2024. Disruption of the Na⁺/K⁺-ATPase-purinergic P2X7 receptor complex in microglia promotes stress-induced anxiety. *Immunity* 57(3), pp. 495-512.e11. doi: [10.1016/j.immuni.2024.01.018](https://doi.org/10.1016/j.immuni.2024.01.018).

Huang, W.A. et al. 2021. Transcranial alternating current stimulation entrains alpha oscillations by preferential phase synchronization of fast-spiking cortical neurons to stimulation waveform. *Nature Communications* 12(1). Available at: <https://www.nature.com/articles/s41467-021-23021-2> [Accessed: 16 July 2025].

Hyde, T.M. et al. 2011. Expression of GABA Signaling Molecules KCC2, NKCC1, and GAD1 in Cortical Development and Schizophrenia. *Journal of Neuroscience* 31(30), pp. 11088–11095. doi: [10.1523/jneurosci.1234-11.2011](https://doi.org/10.1523/jneurosci.1234-11.2011).

Inoue, W. et al. 2013. Noradrenaline is a stress-associated metaplastic signal at GABA synapses. *Nature Neuroscience* 16(5), pp. 605–612. doi: [10.1038/nn.3373](https://doi.org/10.1038/nn.3373).

Iwata, T. et al. 2024. Hippocampal sharp-wave ripples correlate with periods of naturally occurring self-generated thoughts in humans. *Nature Communications* 15(1). Available at: <https://www.nature.com/articles/s41467-024-48367-1> [Accessed: 16 July 2025].

- Jacobs, J. 2014. Hippocampal theta oscillations are slower in humans than in rodents: implications for models of spatial navigation and memory. *Philosophical Transactions of the Royal Society B: Biological Sciences* 369(1635), p. 20130304. doi: [10.1098/rstb.2013.0304](https://doi.org/10.1098/rstb.2013.0304).
- Jellinger, A.L. et al. 2024. Chronic activation of a negative engram induces behavioral and cellular abnormalities. *eLife* 13. Available at: <https://elifesciences.org/articles/96281> [Accessed: 16 July 2025].
- Ji, D. and Dani, J.A. 2000. Inhibition and Disinhibition of Pyramidal Neurons by Activation of Nicotinic Receptors on Hippocampal Interneurons. *Journal of Neurophysiology* 83(5), pp. 2682–2690. doi: [10.1152/jn.2000.83.5.2682](https://doi.org/10.1152/jn.2000.83.5.2682).
- Jiang, X., Gonzalez-Martinez, J., Cash, S.S., Chauvel, P., Gale, J. and Halgren, E. 2020. Improved identification and differentiation from epileptiform activity of human hippocampal sharp wave ripples during NREM sleep. *Hippocampus* 30(6), pp. 610–622. doi: [10.1002/hipo.23183](https://doi.org/10.1002/hipo.23183).
- Jin, H. et al. 2022. Evaluation of Neurotoxicity in BALB/c Mice following Chronic Exposure to Polystyrene Microplastics. *Environmental Health Perspectives* 130(10). Available at: <https://ehp.niehs.nih.gov/doi/10.1289/EHP10255> [Accessed: 16 July 2025].
- Jones, S.R. and Fernyhough, C. 2009. Caffeine, stress, and proneness to psychosis-like experiences: A preliminary investigation. *Personality and Individual Differences* 46(4), pp. 562–564. doi: [10.1016/j.paid.2008.10.032](https://doi.org/10.1016/j.paid.2008.10.032).
- Jurgens, H.A., Amancherla, K. and Johnson, R.W. 2012. Influenza Infection Induces Neuroinflammation, Alters Hippocampal Neuron Morphology, and Impairs Cognition in Adult Mice. *The Journal of Neuroscience* 32(12), pp. 3958–3968. doi: [10.1523/jneurosci.6389-11.2012](https://doi.org/10.1523/jneurosci.6389-11.2012).
- Kalkman, H.O. 2019. Novel Treatment Targets Based on Insights in the Etiology of Depression: Role of IL-6 Trans-Signaling and Stress-Induced Elevation of Glutamate and ATP. *Pharmaceuticals* 12(3), p. 113. doi: [10.3390/ph12030113](https://doi.org/10.3390/ph12030113).
- Kang, H.J. et al. 2012. Decreased expression of synapse-related genes and loss of synapses in major depressive disorder. *Nature Medicine* 18(9), pp. 1413–1417. doi: [10.1038/nm.2886](https://doi.org/10.1038/nm.2886).
- Kasper, S., Gastpar, M., Müller, W.E., Volz, H.-P., Möller, H.-J., Dienel, A. and Schläfke, S. 2010. Silexan, an orally administered Lavandula oil preparation, is effective in the treatment of ‘subsyndromal’ anxiety disorder: a randomized, double-blind, placebo controlled trial. *International Clinical Psychopharmacology* 25(5), pp. 277–287. doi: [10.1097/yic.0b013e32833b3242](https://doi.org/10.1097/yic.0b013e32833b3242).
- Kassem, M.S. et al. 2013. Stress-Induced Grey Matter Loss Determined by MRI Is Primarily Due to Loss of Dendrites and Their Synapses. *Molecular Neurobiology* 47(2), pp. 645–661. doi: [10.1007/s12035-012-8365-7](https://doi.org/10.1007/s12035-012-8365-7).

Kay, R.W. 1994. Geomagnetic Storms: Association with Incidence of Depression as Measured by Hospital Admission. *British Journal of Psychiatry* 164(3), pp. 403–409. doi: [10.1192/bjp.164.3.403](https://doi.org/10.1192/bjp.164.3.403).

Keerthy, B.N. et al. 2021. Effects of a single session of cathodal transcranial direct current stimulation primed intermittent theta-burst stimulation on heart rate variability and cortical excitability measures. *Indian Journal of Physiology and Pharmacology* 65, pp. 162–166. doi: [10.25259/ijpp.339.2020](https://doi.org/10.25259/ijpp.339.2020).

Kelly, M.M., Jensen, K.P. and Sofuoglu, M. 2015. Co-occurring tobacco use and posttraumatic stress disorder: Smoking cessation treatment implications: Tobacco Use in Posttraumatic Stress Disorder. *The American Journal on Addictions* 24(8), pp. 695–704. doi: [10.1111/ajad.12304](https://doi.org/10.1111/ajad.12304).

Keramidis, I. et al. 2023. Restoring neuronal chloride extrusion reverses cognitive decline linked to Alzheimer's disease mutations. *Brain* 146(12), pp. 4903–4915. doi: [10.1093/brain/awad250](https://doi.org/10.1093/brain/awad250).

Kim, B. and Im, H. 2021. Chronic nicotine impairs sparse motor learning via striatal fast-spiking parvalbumin interneurons. *Addiction Biology* 26(3). Available at: <https://onlinelibrary.wiley.com/doi/10.1111/adb.12956> [Accessed: 16 July 2025].

Kim, C.S., Brager, D.H. and Johnston, D. 2018. Perisomatic changes in h-channels regulate depressive behaviors following chronic unpredictable stress. *Molecular Psychiatry* 23(4), pp. 892–903. doi: [10.1038/mp.2017.28](https://doi.org/10.1038/mp.2017.28).

Kim, C.S. and Johnston, D. 2015. A1 adenosine receptor-mediated GIRK channels contribute to the resting conductance of CA1 neurons in the dorsal hippocampus. *Journal of Neurophysiology* 113(7), pp. 2511–2523. doi: [10.1152/jn.00951.2014](https://doi.org/10.1152/jn.00951.2014).

Kim, C.S. and Johnston, D. 2020. Antidepressant Effects of (S)-Ketamine through a Reduction of Hyperpolarization-Activated Current I. *iScience* 23(6), p. 101239. doi: [10.1016/j.isci.2020.101239](https://doi.org/10.1016/j.isci.2020.101239).

Kim, S., Kim, Y.-E., Ujihara, Y. and Kim, I.H. 2024. Monosynaptically-interconnected Network Module (MNM) Approach for High-Resolution Brain Sub-Network Analysis. Available at: <http://biorxiv.org/lookup/doi/10.1101/2024.02.19.581007> [Accessed: 16 July 2025].

Kim, W.B. and Cho, J.-H. 2017. Synaptic Targeting of Double-Projecting Ventral CA1 Hippocampal Neurons to the Medial Prefrontal Cortex and Basal Amygdala. *The Journal of Neuroscience: The Official Journal of the Society for Neuroscience* 37(19), pp. 4868–4882. doi: [10.1523/JNEUROSCI.3579-16.2017](https://doi.org/10.1523/JNEUROSCI.3579-16.2017).

Kim, W.B. and Cho, J.-H. 2020. Encoding of contextual fear memory in hippocampal–amygdala circuit. *Nature Communications* 11(1). Available at: <https://www.nature.com/articles/s41467-020-15121-2> [Accessed: 16 July 2025].

Kirschvink, J.L. 1996. Microwave absorption by magnetite: a possible mechanism for coupling nonthermal levels of radiation to biological systems. *Bioelectromagnetics* 17(3), pp. 187–194. doi: [10.1002/\(SICI\)1521-186X\(1996\)17:3<187::AID-BEM4>3.0.CO;2-#](https://doi.org/10.1002/(SICI)1521-186X(1996)17:3<187::AID-BEM4>3.0.CO;2-#).

Kirschvink, J.L., Kobayashi-Kirschvink, A. and Woodford, B.J. 1992. Magnetite biomineralization in the human brain. *Proceedings of the National Academy of Sciences* 89(16), pp. 7683–7687. doi: [10.1073/pnas.89.16.7683](https://doi.org/10.1073/pnas.89.16.7683).

Kitamura, T. et al. 2017. Engrams and circuits crucial for systems consolidation of a memory. *Science* 356(6333), pp. 73–78. doi: [10.1126/science.aam6808](https://doi.org/10.1126/science.aam6808).

Kitayama, T. 2020. The Role of Astrocytes in the Modulation of K⁺-Cl⁻-Cotransporter-2 Function. *International Journal of Molecular Sciences* 21(24), p. 9539. doi: [10.3390/ijms21249539](https://doi.org/10.3390/ijms21249539).

Kiyatkin, E., A. 2010. Brain temperature homeostasis: physiological fluctuations and pathological shifts. *Frontiers in Bioscience* 15(1), p. 73. doi: [10.2741/3608](https://doi.org/10.2741/3608).

Klaus, K., Butler, K., Gutierrez, H., Durrant, S.J. and Pennington, K. 2018. Interactive effects of early life stress and CACNA1C genotype on cortisol awakening response. *Biological Psychology* 136, pp. 22–28. doi: [10.1016/j.biopsycho.2018.05.002](https://doi.org/10.1016/j.biopsycho.2018.05.002).

Koutsoukos, E., Angelopoulos, E., Maillis, A., Papadimitriou, G.N. and Stefanis, C. 2013. Indication of increased phase coupling between theta and gamma EEG rhythms associated with the experience of auditory verbal hallucinations. *Neuroscience Letters* 534, pp. 242–245. doi: [10.1016/j.neulet.2012.12.005](https://doi.org/10.1016/j.neulet.2012.12.005).

Krnjević, K., Morris, M.E. and Reiffenstein, R.J. 1982. Stimulation-evoked changes in extracellular K⁺ and Ca²⁺ in pyramidal layers of the rat's hippocampus. *Canadian Journal of Physiology and Pharmacology* 60(12), pp. 1643–1657. doi: [10.1139/y82-243](https://doi.org/10.1139/y82-243).

Kroener, S., Mulholland, P.J., New, N.N., Gass, J.T., Becker, H.C. and Chandler, L.J. 2012. Chronic Alcohol Exposure Alters Behavioral and Synaptic Plasticity of the Rodent Prefrontal Cortex. Manzoni, O. J. ed. *PLoS ONE* 7(5), p. e37541. doi: [10.1371/journal.pone.0037541](https://doi.org/10.1371/journal.pone.0037541).

Kurki, S.N., Srinivasan, R., Laine, J., Virtanen, M.A., Ala-Kurikka, T., Voipio, J. and Kaila, K. 2023. Acute neuroinflammation leads to disruption of neuronal chloride regulation and consequent hyperexcitability in the dentate gyrus. *Cell Reports* 42(11), p. 113379. doi: [10.1016/j.celrep.2023.113379](https://doi.org/10.1016/j.celrep.2023.113379).

Lafon, B. et al. 2017. Low frequency transcranial electrical stimulation does not entrain sleep rhythms measured by human intracranial recordings. *Nature Communications* 8(1). Available at: <https://www.nature.com/articles/s41467-017-01045-x> [Accessed: 16 July 2025].

Land, R., Siskind, D., McArdle, P., Kisely, S., Winckel, K. and Hollingworth, S.A. 2017. The impact of clozapine on hospital use: a systematic review and meta-analysis. *Acta Psychiatrica Scandinavica* 135(4), pp. 296–309. doi: [10.1111/acps.12700](https://doi.org/10.1111/acps.12700).

- Lasser, K., Boyd, J.W., Woolhandler, S., Himmelstein, D.U., McCormick, D. and Bor, D.H. 2000. Smoking and Mental Illness: A Population-Based Prevalence Study. *JAMA* 284(20), p. 2606. doi: [10.1001/jama.284.20.2606](https://doi.org/10.1001/jama.284.20.2606).
- Law, A.J. et al. 2006. Neuregulin 1 transcripts are differentially expressed in schizophrenia and regulated by 5' SNPs associated with the disease. *Proceedings of the National Academy of Sciences* 103(17), pp. 6747–6752. doi: [10.1073/pnas.0602002103](https://doi.org/10.1073/pnas.0602002103).
- Lazarov, A., Zhu, X., Suarez-Jimenez, B., Rutherford, B.R. and Neria, Y. 2017. Resting-state functional connectivity of anterior and posterior hippocampus in posttraumatic stress disorder. *Journal of Psychiatric Research* 94, pp. 15–22. doi: [10.1016/j.jpsychires.2017.06.003](https://doi.org/10.1016/j.jpsychires.2017.06.003).
- Lee, H.H.C., Deeb, T.Z., Walker, J.A., Davies, P.A. and Moss, S.J. 2011. NMDA receptor activity downregulates KCC2 resulting in depolarizing GABAA receptor-mediated currents. *Nature Neuroscience* 14(6), pp. 736–743. doi: [10.1038/nn.2806](https://doi.org/10.1038/nn.2806).
- Lee, H.H.C., Walker, J.A., Williams, J.R., Goodier, R.J., Payne, J.A. and Moss, S.J. 2007. Direct Protein Kinase C-dependent Phosphorylation Regulates the Cell Surface Stability and Activity of the Potassium Chloride Cotransporter KCC2. *Journal of Biological Chemistry* 282(41), pp. 29777–29784. doi: [10.1074/jbc.m705053200](https://doi.org/10.1074/jbc.m705053200).
- Lee, S.-H., Yoon, S., Kim, J.-I., Jin, S.-H. and Chung, C.K. 2014. Functional connectivity of resting state EEG and symptom severity in patients with post-traumatic stress disorder. *Progress in Neuro-Psychopharmacology and Biological Psychiatry* 51, pp. 51–57. doi: [10.1016/j.pnpbp.2014.01.008](https://doi.org/10.1016/j.pnpbp.2014.01.008).
- Lega, B.C., Jacobs, J. and Kahana, M. 2012. Human hippocampal theta oscillations and the formation of episodic memories. *Hippocampus* 22(4), pp. 748–761. doi: [10.1002/hipo.20937](https://doi.org/10.1002/hipo.20937).
- Lehrer, P. et al. 2020. Heart Rate Variability Biofeedback Improves Emotional and Physical Health and Performance: A Systematic Review and Meta Analysis. *Applied Psychophysiology and Biofeedback* 45(3), pp. 109–129. doi: [10.1007/s10484-020-09466-z](https://doi.org/10.1007/s10484-020-09466-z).
- Leonard, S., Mexal, S. and Freedman, R. 2007. Genetics of Smoking and Schizophrenia. *Journal of Dual Diagnosis* 3(3–4), pp. 43–59. doi: [10.1300/j374v03n03_05](https://doi.org/10.1300/j374v03n03_05).
- Li, S., Wang, C., Wang, W., Dong, H., Hou, P. and Tang, Y. 2008. Chronic mild stress impairs cognition in mice: From brain homeostasis to behavior. *Life Sciences* 82(17–18), pp. 934–942. doi: [10.1016/j.lfs.2008.02.010](https://doi.org/10.1016/j.lfs.2008.02.010).
- Li, Y. et al. 2020. Activation of astrocytes in hippocampus decreases fear memory through adenosine A1 receptors. *eLife* 9. Available at: <https://elifesciences.org/articles/57155> [Accessed: 16 July 2025].
- Liao, Y.-H., Chan, Y.-H., Chen, H., Yu, A.E., Sun, L.-H., Yao, W.-J. and Yu, L. 2022. Stress while lacking of control induces ventral hippocampal autophagic flux hyperactivity and a

depression-like behavior. *Biomedical Journal* 45(6), pp. 896–906. doi: [10.1016/j.bj.2021.12.008](https://doi.org/10.1016/j.bj.2021.12.008).

Liston, C. et al. 2006. Stress-Induced Alterations in Prefrontal Cortical Dendritic Morphology Predict Selective Impairments in Perceptual Attentional Set-Shifting. *The Journal of Neuroscience* 26(30), pp. 7870–7874. doi: [10.1523/jneurosci.1184-06.2006](https://doi.org/10.1523/jneurosci.1184-06.2006).

Liu, A.A. et al. 2022a. A consensus statement on detection of hippocampal sharp wave ripples and differentiation from other fast oscillations. *Nature Communications* 13(1), p. 6000. doi: [10.1038/s41467-022-33536-x](https://doi.org/10.1038/s41467-022-33536-x).

Liu, X. et al. 2022b. E-Cannula reveals anatomical diversity in sharp-wave ripples as a driver for the recruitment of distinct hippocampal assemblies. *Cell Reports* 41(1), p. 111453. doi: [10.1016/j.celrep.2022.111453](https://doi.org/10.1016/j.celrep.2022.111453).

Liu, X., Ramirez, S., Pang, P.T., Puryear, C.B., Govindarajan, A., Deisseroth, K. and Tonegawa, S. 2012. Optogenetic stimulation of a hippocampal engram activates fear memory recall. *Nature* 484(7394), pp. 381–385. doi: [10.1038/nature11028](https://doi.org/10.1038/nature11028).

Loizeau, N. et al. 2024. Extremely low frequency magnetic fields (ELF-MF) in Switzerland: From exposure monitoring to daily exposure scenarios. *Environment International* 194, p. 109181. doi: [10.1016/j.envint.2024.109181](https://doi.org/10.1016/j.envint.2024.109181).

Lopes, J.P., Pliássova, A. and Cunha, R.A. 2019. The physiological effects of caffeine on synaptic transmission and plasticity in the mouse hippocampus selectively depend on adenosine A1 and A2A receptors. *Biochemical Pharmacology* 166, pp. 313–321. doi: [10.1016/j.bcp.2019.06.008](https://doi.org/10.1016/j.bcp.2019.06.008).

López-Madróna, V.J. et al. 2020. Different theta frameworks coexist in the rat hippocampus and are coordinated during memory-guided and novelty tasks. *eLife* 9. Available at: <https://elifesciences.org/articles/57313> [Accessed: 16 July 2025].

Lubenov, E.V. and Siapas, A.G. 2009. Hippocampal theta oscillations are travelling waves. *Nature* 459(7246), pp. 534–539. doi: [10.1038/nature08010](https://doi.org/10.1038/nature08010).

Lubin, F.D., Roth, T.L. and Sweatt, J.D. 2008. Epigenetic Regulation of *bdnf* Gene Transcription in the Consolidation of Fear Memory. *The Journal of Neuroscience* 28(42), pp. 10576–10586. doi: [10.1523/jneurosci.1786-08.2008](https://doi.org/10.1523/jneurosci.1786-08.2008).

Luby-Phelps, K. 1999. Cytoarchitecture and Physical Properties of Cytoplasm: Volume, Viscosity, Diffusion, Intracellular Surface Area. In: *International Review of Cytology*. Elsevier, pp. 189–221. Available at: <https://linkinghub.elsevier.com/retrieve/pii/S0074769608605276> [Accessed: 16 July 2025].

Luo, J. and Lin, S. 2025. Association between microplastics exposure and depressive symptoms in college students. *Ecotoxicology and Environmental Safety* 295, p. 118142. doi: [10.1016/j.ecoenv.2025.118142](https://doi.org/10.1016/j.ecoenv.2025.118142).

M. Aghajan, Z. et al. 2017. Theta Oscillations in the Human Medial Temporal Lobe during Real-World Ambulatory Movement. *Current Biology* 27(24), pp. 3743–3751.e3. doi: [10.1016/j.cub.2017.10.062](https://doi.org/10.1016/j.cub.2017.10.062).

MacKenzie, G. and Maguire, J. 2015. Chronic stress shifts the GABA reversal potential in the hippocampus and increases seizure susceptibility. *Epilepsy Research* 109, pp. 13–27. doi: [10.1016/j.eplepsyres.2014.10.003](https://doi.org/10.1016/j.eplepsyres.2014.10.003).

Magee, J.C. 1998. Dendritic Hyperpolarization-Activated Currents Modify the Integrative Properties of Hippocampal CA1 Pyramidal Neurons. *The Journal of Neuroscience* 18(19), pp. 7613–7624. doi: [10.1523/jneurosci.18-19-07613.1998](https://doi.org/10.1523/jneurosci.18-19-07613.1998).

Magee, J.C. 1999. Dendritic Ih normalizes temporal summation in hippocampal CA1 neurons. *Nature Neuroscience* 2(6), pp. 508–514. doi: [10.1038/9158](https://doi.org/10.1038/9158).

Magee, J.C. and Cook, E.P. 2000. Somatic EPSP amplitude is independent of synapse location in hippocampal pyramidal neurons. *Nature Neuroscience* 3(9), pp. 895–903. doi: [10.1038/78800](https://doi.org/10.1038/78800).

Mäki-Marttunen, T., Devor, A., Phillips, W.A., Dale, A.M., Andreassen, O.A. and Einevoll, G.T. 2019. Computational Modeling of Genetic Contributions to Excitability and Neural Coding in Layer V Pyramidal Cells: Applications to Schizophrenia Pathology. *Frontiers in Computational Neuroscience* 13. Available at: <https://www.frontiersin.org/article/10.3389/fncom.2019.00066/full> [Accessed: 16 July 2025].

Malik, R. and Johnston, D. 2017. Dendritic GIRK Channels Gate the Integration Window, Plateau Potentials, and Induction of Synaptic Plasticity in Dorsal But Not Ventral CA1 Neurons. *The Journal of Neuroscience* 37(14), pp. 3940–3955. doi: [10.1523/jneurosci.2784-16.2017](https://doi.org/10.1523/jneurosci.2784-16.2017).

Marcelin, B. et al. 2012. Dorsoventral Differences in Intrinsic Properties in Developing CA1 Pyramidal Cells. *The Journal of Neuroscience* 32(11), pp. 3736–3747. doi: [10.1523/jneurosci.5870-11.2012](https://doi.org/10.1523/jneurosci.5870-11.2012).

Mateo, Z. and Porter, J.T. 2007. Group II metabotropic glutamate receptors inhibit glutamate release at thalamocortical synapses in the developing somatosensory cortex. *Neuroscience* 146(3), pp. 1062–1072. doi: [10.1016/j.neuroscience.2007.02.053](https://doi.org/10.1016/j.neuroscience.2007.02.053).

Mauney, S.A., Athanas, K.M., Pantazopoulos, H., Shaskan, N., Passeri, E., Berretta, S. and Woo, T.-U.W. 2013. Developmental Pattern of Perineuronal Nets in the Human Prefrontal Cortex and Their Deficit in Schizophrenia. *Biological Psychiatry* 74(6), pp. 427–435. doi: [10.1016/j.biopsych.2013.05.007](https://doi.org/10.1016/j.biopsych.2013.05.007).

Maxwell, J.M., Coleman, J.R.I., Breen, G. and Vassos, E. 2021. Association Between Genetic Risk for Psychiatric Disorders and the Probability of Living in Urban Settings. *JAMA Psychiatry* 78(12), p. 1355. doi: [10.1001/jamapsychiatry.2021.2983](https://doi.org/10.1001/jamapsychiatry.2021.2983).

McCall, J.G., Al-Hasani, R., Siuda, E.R., Hong, D.Y., Norris, A.J., Ford, C.P. and Bruchas, M.R. 2015. CRH Engagement of the Locus Coeruleus Noradrenergic System Mediates Stress-Induced Anxiety. *Neuron* 87(3), pp. 605–620. doi: [10.1016/j.neuron.2015.07.002](https://doi.org/10.1016/j.neuron.2015.07.002).

McHugo, M. et al. 2022. Increased amplitude of hippocampal low frequency fluctuations in early psychosis: A two-year follow-up study. *Schizophrenia Research* 241, pp. 260–266. doi: [10.1016/j.schres.2022.02.003](https://doi.org/10.1016/j.schres.2022.02.003).

McHugo, M., Talati, P., Armstrong, K., Vandekar, S.N., Blackford, J.U., Woodward, N.D. and Heckers, S. 2019. Hyperactivity and Reduced Activation of Anterior Hippocampus in Early Psychosis. *American Journal of Psychiatry* 176(12), pp. 1030–1038. doi: [10.1176/appi.ajp.2019.19020151](https://doi.org/10.1176/appi.ajp.2019.19020151).

McKlveen, J.M. et al. 2016. Chronic Stress Increases Prefrontal Inhibition: A Mechanism for Stress-Induced Prefrontal Dysfunction. *Biological Psychiatry* 80(10), pp. 754–764. doi: [10.1016/j.biopsych.2016.03.2101](https://doi.org/10.1016/j.biopsych.2016.03.2101).

Medina, I., Friedel, P., Rivera, C., Kahle, K.T., Kourdougli, N., Uvarov, P. and Pellegrino, C. 2014. Current view on the functional regulation of the neuronal K⁺-Cl⁻ cotransporter KCC2. *Frontiers in Cellular Neuroscience* 8. Available at: <http://journal.frontiersin.org/article/10.3389/fncel.2014.00027/abstract> [Accessed: 16 July 2025].

Méndez-González, M.P., Rivera-Aponte, D.E., Benedikt, J., Maldonado-Martínez, G., Tejeda-Bayron, F., Skatchkov, S.N. and Eaton, M.J. 2020. Downregulation of Astrocytic Kir4.1 Potassium Channels Is Associated with Hippocampal Neuronal Hyperexcitability in Type 2 Diabetic Mice. *Brain Sciences* 10(2), p. 72. doi: [10.3390/brainsci10020072](https://doi.org/10.3390/brainsci10020072).

Mertens, J. et al. 2015. Differential responses to lithium in hyperexcitable neurons from patients with bipolar disorder. *Nature* 527(7576), pp. 95–99. doi: [10.1038/nature15526](https://doi.org/10.1038/nature15526).

Migliore, R. et al. 2018. The physiological variability of channel density in hippocampal CA1 pyramidal cells and interneurons explored using a unified data-driven modeling workflow. Lytton, W. W. ed. *PLOS Computational Biology* 14(9), p. e1006423. doi: [10.1371/journal.pcbi.1006423](https://doi.org/10.1371/journal.pcbi.1006423).

Milior, G. et al. 2016. Electrophysiological Properties of CA1 Pyramidal Neurons along the Longitudinal Axis of the Mouse Hippocampus. *Scientific Reports* 6(1). Available at: <https://www.nature.com/articles/srep38242> [Accessed: 16 July 2025].

- Mitsushima, D., Sano, A. and Takahashi, T. 2013. A cholinergic trigger drives learning-induced plasticity at hippocampal synapses. *Nature Communications* 4(1). Available at: <https://www.nature.com/articles/ncomms3760> [Accessed: 16 July 2025].
- Mocking, R.J.T., Harmsen, I., Assies, J., Koeter, M.W.J., Ruhé, H.G. and Schene, A.H. 2016. Meta-analysis and meta-regression of omega-3 polyunsaturated fatty acid supplementation for major depressive disorder. *Translational Psychiatry* 6(3), pp. e756–e756. doi: [10.1038/tp.2016.29](https://doi.org/10.1038/tp.2016.29).
- Moon, S.-Y., Choi, Y.B., Jung, H.K., Lee, Y.I. and Choi, S.-H. 2018. Increased Frontal Gamma and Posterior Delta Powers as Potential Neurophysiological Correlates Differentiating Posttraumatic Stress Disorder from Anxiety Disorders. *Psychiatry Investigation* 15(11), pp. 1087–1093. doi: [10.30773/pi.2018.09.30](https://doi.org/10.30773/pi.2018.09.30).
- Murthy, S. et al. 2019. Perineuronal Nets, Inhibitory Interneurons, and Anxiety-Related Ventral Hippocampal Neuronal Oscillations Are Altered by Early Life Adversity. *Biological Psychiatry* 85(12), pp. 1011–1020. doi: [10.1016/j.biopsych.2019.02.021](https://doi.org/10.1016/j.biopsych.2019.02.021).
- Narayanan, R. and Johnston, D. 2010. The hCurrent Is a Candidate Mechanism for Regulating the Sliding Modification Threshold in a BCM-Like Synaptic Learning Rule. *Journal of Neurophysiology* 104(2), pp. 1020–1033. doi: [10.1152/jn.01129.2009](https://doi.org/10.1152/jn.01129.2009).
- Nehlig, A. 2018. Interindividual Differences in Caffeine Metabolism and Factors Driving Caffeine Consumption. *Pharmacological Reviews* 70(2), pp. 384–411. doi: [10.1124/pr.117.014407](https://doi.org/10.1124/pr.117.014407).
- Nemeroff, C.B. et al. 1984. Elevated Concentrations of CSF Corticotropin-Releasing Factor-Like Immunoreactivity in Depressed Patients. *Science* 226(4680), pp. 1342–1344. doi: [10.1126/science.6334362](https://doi.org/10.1126/science.6334362).
- Nikolaenko, A. and Hayakawa, M. 2014. *Schumann Resonance for Tyros: Essentials of Global Electromagnetic Resonance in the Earth–Ionosphere Cavity*. Tokyo: Springer Japan. Available at: <https://link.springer.com/10.1007/978-4-431-54358-9> [Accessed: 16 July 2025].
- Nishimura, T., Tsai, I.-J., Yamauchi, H., Nakatani, E., Fukushima, M. and Hsu, C.Y. 2020. Association of Geomagnetic Disturbances and Suicide Attempts in Taiwan, 1997–2013: A Cross-Sectional Study. *International Journal of Environmental Research and Public Health* 17(4), p. 1154. doi: [10.3390/ijerph17041154](https://doi.org/10.3390/ijerph17041154).
- Nomoto, M., Ohkawa, N., Inokuchi, K. and Oishi, N. 2023. Requirement for hippocampal CA3 NMDA receptors in artificial association of memory events stored in CA3 cell ensembles. *Molecular Brain* 16(1). Available at: <https://molecularbrain.biomedcentral.com/articles/10.1186/s13041-023-01004-2> [Accessed: 16 July 2025].

Norman, Y., Raccah, O., Liu, S., Parvizi, J. and Malach, R. 2021. Hippocampal ripples and their coordinated dialogue with the default mode network during recent and remote recollection. *Neuron* 109(17), pp. 2767–2780.e5. doi: [10.1016/j.neuron.2021.06.020](https://doi.org/10.1016/j.neuron.2021.06.020).

Nugroho, H.W., Sudrajat, M.I., Bakti, A.N., Yudhistira and Arjadi, R.H. 2020. Measurement of magnetic fields on electric train. *IOP Conference Series: Materials Science and Engineering* 722(1), p. 012023. doi: [10.1088/1757-899x/722/1/012023](https://doi.org/10.1088/1757-899x/722/1/012023).

Nuñez, A. and Buño, W. 2021. The Theta Rhythm of the Hippocampus: From Neuronal and Circuit Mechanisms to Behavior. *Frontiers in Cellular Neuroscience* 15. Available at: <https://www.frontiersin.org/articles/10.3389/fncel.2021.649262/full> [Accessed: 16 July 2025].

Ogawa, S., Tsuchimine, S. and Kunugi, H. 2018. Cerebrospinal fluid monoamine metabolite concentrations in depressive disorder: A meta-analysis of historic evidence. *Journal of Psychiatric Research* 105, pp. 137–146. doi: [10.1016/j.jpsychires.2018.08.028](https://doi.org/10.1016/j.jpsychires.2018.08.028).

Ostroumov, A., Thomas, A.M., Kimmey, B.A., Karsch, J.S., Doyon, W.M. and Dani, J.A. 2016. Stress Increases Ethanol Self-Administration via a Shift toward Excitatory GABA Signaling in the Ventral Tegmental Area. *Neuron* 92(2), pp. 493–504. doi: [10.1016/j.neuron.2016.09.029](https://doi.org/10.1016/j.neuron.2016.09.029).

Overstreet, L.S., Kinney, G.A., Liu, Y.-B., Billups, D. and Slater, N.T. 1999. Glutamate Transporters Contribute to the Time Course of Synaptic Transmission in Cerebellar Granule Cells. *The Journal of Neuroscience* 19(21), pp. 9663–9673. doi: [10.1523/jneurosci.19-21-09663.1999](https://doi.org/10.1523/jneurosci.19-21-09663.1999).

Pagani, M. et al. 2015. Neurobiological response to EMDR therapy in clients with different psychological traumas. *Frontiers in Psychology* 6. Available at: <http://journal.frontiersin.org/Article/10.3389/fpsyg.2015.01614/abstract> [Accessed: 16 July 2025].

Paksarian, D. et al. 2018. The role of genetic liability in the association of urbanicity at birth and during upbringing with schizophrenia in Denmark. *Psychological Medicine* 48(2), pp. 305–314. doi: [10.1017/s0033291717001696](https://doi.org/10.1017/s0033291717001696).

Paniagua, J.M., Jiménez, A., Rufo, M., Gutiérrez, J.A., Gómez, F.J. and Antolín, A. 2007. Exposure to extremely low frequency magnetic fields in an urban area. *Radiation and Environmental Biophysics* 46(1), pp. 69–76. doi: [10.1007/s00411-006-0081-0](https://doi.org/10.1007/s00411-006-0081-0).

Partonen, T. et al. 2004. Cyclic time patterns of death from suicide in northern Finland. *Journal of Affective Disorders* 78(1), pp. 11–19. doi: [10.1016/s0165-0327\(02\)00236-7](https://doi.org/10.1016/s0165-0327(02)00236-7).

Paulus, F.M. et al. 2014. Association of rs1006737 in *CACNA1C* with alterations in prefrontal activation and fronto-hippocampal connectivity. *Human Brain Mapping* 35(4), pp. 1190–1200. doi: [10.1002/hbm.22244](https://doi.org/10.1002/hbm.22244).

Pavlov, I., Savtchenko, L.P., Kullmann, D.M., Semyanov, A. and Walker, M.C. 2009. Outwardly Rectifying Tonically Active GABA_AReceptors in Pyramidal Cells Modulate Neuronal Offset, Not Gain. *The Journal of Neuroscience* 29(48), pp. 15341–15350. doi: [10.1523/jneurosci.2747-09.2009](https://doi.org/10.1523/jneurosci.2747-09.2009).

Pazos, M., Mendoza, B., Sierra, P., Andrade, E., Rodríguez, D., Mendoza, V. and Garduño, R. 2019. Analysis of the effects of geomagnetic storms in the Schumann Resonance station data in Mexico. *Journal of Atmospheric and Solar-Terrestrial Physics* 193, p. 105091. doi: [10.1016/j.jastp.2019.105091](https://doi.org/10.1016/j.jastp.2019.105091).

Peng, T.-R. et al. 2024. Efficacy of N-acetylcysteine for patients with depression: An updated systematic review and meta-analysis. *General Hospital Psychiatry* 91, pp. 151–159. doi: [10.1016/j.genhosppsych.2024.10.018](https://doi.org/10.1016/j.genhosppsych.2024.10.018).

Pfeffer, T. et al. 2022. Coupling of pupil- and neuronal population dynamics reveals diverse influences of arousal on cortical processing. *eLife* 11. Available at: <https://elifesciences.org/articles/71890> [Accessed: 17 July 2025].

Phelps, E.A. and LeDoux, J.E. 2005. Contributions of the Amygdala to Emotion Processing: From Animal Models to Human Behavior. *Neuron* 48(2), pp. 175–187. doi: [10.1016/j.neuron.2005.09.025](https://doi.org/10.1016/j.neuron.2005.09.025).

Picciotto, M., Addy, N., Mineur, Y. and Brunzell, D. 2008. It is not “either/or”: Activation and desensitization of nicotinic acetylcholine receptors both contribute to behaviors related to nicotine addiction and mood. *Progress in Neurobiology* 84(4), pp. 329–342. doi: [10.1016/j.pneurobio.2007.12.005](https://doi.org/10.1016/j.pneurobio.2007.12.005).

Pieraut, S. et al. 2011. An Autocrine Neuronal Interleukin-6 Loop Mediates Chloride Accumulation and NKCC1 Phosphorylation in Axotomized Sensory Neurons. *The Journal of Neuroscience* 31(38), pp. 13516–13526. doi: [10.1523/jneurosci.3382-11.2011](https://doi.org/10.1523/jneurosci.3382-11.2011).

Pignatelli, M., Ryan, T.J., Roy, D.S., Lovett, C., Smith, L.M., Muralidhar, S. and Tonegawa, S. 2019. Engram Cell Excitability State Determines the Efficacy of Memory Retrieval. *Neuron* 101(2), pp. 274-284.e5. doi: [10.1016/j.neuron.2018.11.029](https://doi.org/10.1016/j.neuron.2018.11.029).

Pikovsky, A., Rosenblum, M. and Kurths, J. 2001. *Synchronization: A Universal Concept in Nonlinear Sciences*. 1st ed. Cambridge University Press. Available at: <https://www.cambridge.org/core/product/identifier/9780511755743/type/book> [Accessed: 17 July 2025].

Povysheva, N.V. and Johnson, J.W. 2012. Tonic NMDA receptor-mediated current in prefrontal cortical pyramidal cells and fast-spiking interneurons. *Journal of Neurophysiology* 107(8), pp. 2232–2243. doi: [10.1152/jn.01017.2011](https://doi.org/10.1152/jn.01017.2011).

Pusch, M. and Neher, E. 1988. Rates of diffusional exchange between small cells and a measuring patch pipette. *Pflügers Archiv European Journal of Physiology* 411(2), pp. 204–211. doi: [10.1007/bf00582316](https://doi.org/10.1007/bf00582316).

Quadir, S.G., Danyal Zaidi, S., Cone, M.G. and Patel, S. 2024. Alcohol Withdrawal Alters the Inhibitory Landscape of the Prelimbic Cortex in an Interneuron- and Sex-specific Manner. Available at: <http://biorxiv.org/lookup/doi/10.1101/2024.11.19.624401> [Accessed: 16 July 2025].

Radetz, A. and Siegel, M. 2022. Spectral Fingerprints of Cortical Neuromodulation. *The Journal of Neuroscience* 42(18), pp. 3836–3846. doi: [10.1523/jneurosci.1801-21.2022](https://doi.org/10.1523/jneurosci.1801-21.2022).

Radley, J.J. et al. 2004. Chronic behavioral stress induces apical dendritic reorganization in pyramidal neurons of the medial prefrontal cortex. *Neuroscience* 125(1), pp. 1–6. doi: [10.1016/j.neuroscience.2004.01.006](https://doi.org/10.1016/j.neuroscience.2004.01.006).

Rahmanzadeh, R. et al. 2017. Effect of bumetanide, a selective NKCC1 inhibitor, on hallucinations of schizophrenic patients; a double-blind randomized clinical trial. *Schizophrenia Research* 184, pp. 145–146. doi: [10.1016/j.schres.2016.12.002](https://doi.org/10.1016/j.schres.2016.12.002).

Rangel-Gomez, M., Alberini, C.M., Deneen, B., Drummond, G.T., Manninen, T., Sur, M. and Vicentic, A. 2024. Neuron–Glial Interactions: Implications for Plasticity, Behavior, and Cognition. *The Journal of Neuroscience* 44(40), p. e1231242024. doi: [10.1523/jneurosci.1231-24.2024](https://doi.org/10.1523/jneurosci.1231-24.2024).

Raps, A., Stoupel, E. and Shimshoni, M. 1992. Geophysical Variables and Behavior: LXIX. Solar Activity and Admission of Psychiatric Inpatients. *Perceptual and Motor Skills* 74(2), pp. 449–450. doi: [10.2466/pms.1992.74.2.449](https://doi.org/10.2466/pms.1992.74.2.449).

Rashid, A.J. et al. 2016. Competition between engrams influences fear memory formation and recall. *Science* 353(6297), pp. 383–387. doi: [10.1126/science.aaf0594](https://doi.org/10.1126/science.aaf0594).

Raver, S.M., Haughwout, S.P. and Keller, A. 2013. Adolescent Cannabinoid Exposure Permanently Suppresses Cortical Oscillations in Adult Mice. *Neuropsychopharmacology* 38(12), pp. 2338–2347. doi: [10.1038/npp.2013.164](https://doi.org/10.1038/npp.2013.164).

Reato, D., Rahman, A., Bikson, M. and Parra, L.C. 2010. Low-Intensity Electrical Stimulation Affects Network Dynamics by Modulating Population Rate and Spike Timing. *The Journal of Neuroscience* 30(45), pp. 15067–15079. doi: [10.1523/jneurosci.2059-10.2010](https://doi.org/10.1523/jneurosci.2059-10.2010).

Reijmers, L.G., Perkins, B.L., Matsuo, N. and Mayford, M. 2007. Localization of a Stable Neural Correlate of Associative Memory. *Science* 317(5842), pp. 1230–1233. doi: [10.1126/science.1143839](https://doi.org/10.1126/science.1143839).

Rivera, C. et al. 1999. The K⁺/Cl[−] co-transporter KCC2 renders GABA hyperpolarizing during neuronal maturation. *Nature* 397(6716), pp. 251–255. doi: [10.1038/16697](https://doi.org/10.1038/16697).

Rivera, C. et al. 2002. BDNF-induced TrkB activation down-regulates the K⁺–Cl[–] cotransporter KCC2 and impairs neuronal Cl[–] extrusion. *The Journal of Cell Biology* 159(5), pp. 747–752. doi: [10.1083/jcb.200209011](https://doi.org/10.1083/jcb.200209011).

Rivera, C. et al. 2004. Mechanism of Activity-Dependent Downregulation of the Neuron-Specific K-Cl Cotransporter KCC2. *The Journal of Neuroscience* 24(19), pp. 4683–4691. doi: [10.1523/jneurosci.5265-03.2004](https://doi.org/10.1523/jneurosci.5265-03.2004).

Rodríguez-Camacho, J., Salinas, A., Carrión, M.C., Portí, J., Fornieles-Callejón, J. and Toledo-Redondo, S. 2022. Four Year Study of the Schumann Resonance Regular Variations Using the Sierra Nevada Station Ground-Based Magnetometers. *Journal of Geophysical Research: Atmospheres* 127(6). Available at: <https://agupubs.onlinelibrary.wiley.com/doi/10.1029/2021JD036051> [Accessed: 16 July 2025].

Rogerson, T., Cai, D.J., Frank, A., Sano, Y., Shobe, J., Lopez-Aranda, M.F. and Silva, A.J. 2014. Synaptic tagging during memory allocation. *Nature Reviews Neuroscience* 15(3), pp. 157–169. doi: [10.1038/nrn3667](https://doi.org/10.1038/nrn3667).

Ronzoni, G., Del Arco, A., Mora, F. and Segovia, G. 2016. Enhanced noradrenergic activity in the amygdala contributes to hyperarousal in an animal model of PTSD. *Psychoneuroendocrinology* 70, pp. 1–9. doi: [10.1016/j.psyneuen.2016.04.018](https://doi.org/10.1016/j.psyneuen.2016.04.018).

Rose, J.E. et al. 2010. Kinetics of brain nicotine accumulation in dependent and nondependent smokers assessed with PET and cigarettes containing ¹¹C-nicotine. *Proceedings of the National Academy of Sciences* 107(11), pp. 5190–5195. doi: [10.1073/pnas.0909184107](https://doi.org/10.1073/pnas.0909184107).

Rosenkranz, J.A. and Grace, A.A. 2002. Cellular Mechanisms of Infralimbic and Prelimbic Prefrontal Cortical Inhibition and Dopaminergic Modulation of Basolateral Amygdala Neurons *In Vivo*. *The Journal of Neuroscience* 22(1), pp. 324–337. doi: [10.1523/jneurosci.22-01-00324.2002](https://doi.org/10.1523/jneurosci.22-01-00324.2002).

Ross, J.A. and Van Bockstaele, E.J. 2021. The Locus Coeruleus- Norepinephrine System in Stress and Arousal: Unraveling Historical, Current, and Future Perspectives. *Frontiers in Psychiatry* 11. Available at: <https://www.frontiersin.org/articles/10.3389/fpsy.2020.601519/full> [Accessed: 17 July 2025].

Rosso, I.M., Crowley, D.J., Silveri, M.M., Rauch, S.L. and Jensen, J.E. 2017. Hippocampus Glutamate and N-Acetyl Aspartate Markers of Excitotoxic Neuronal Compromise in Posttraumatic Stress Disorder. *Neuropsychopharmacology* 42(8), pp. 1698–1705. doi: [10.1038/npp.2017.32](https://doi.org/10.1038/npp.2017.32).

Rosso, I.M., Weiner, M.R., Crowley, D.J., Silveri, M.M., Rauch, S.L. and Jensen, J.E. 2014. INSULA AND ANTERIOR CINGULATE GABA LEVELS IN POSTTRAUMATIC STRESS DISORDER:

PRELIMINARY FINDINGS USING MAGNETIC RESONANCE SPECTROSCOPY: Research Article:
Insula GABA in PTSD. *Depression and Anxiety* 31(2), pp. 115–123. doi: [10.1002/da.22155](https://doi.org/10.1002/da.22155).

Roth, T.L., Lubin, F.D., Funk, A.J. and Sweatt, J.D. 2009. Lasting Epigenetic Influence of Early-Life Adversity on the BDNF Gene. *Biological Psychiatry* 65(9), pp. 760–769. doi: [10.1016/j.biopsych.2008.11.028](https://doi.org/10.1016/j.biopsych.2008.11.028).

Roux, L., Hu, B., Eichler, R., Stark, E. and Buzsáki, G. 2017. Sharp wave ripples during learning stabilize the hippocampal spatial map. *Nature Neuroscience* 20(6), pp. 845–853. doi: [10.1038/nn.4543](https://doi.org/10.1038/nn.4543).

Rowland, L.M. et al. 2016. Frontal Glutamate and γ -Aminobutyric Acid Levels and Their Associations With Mismatch Negativity and Digit Sequencing Task Performance in Schizophrenia. *JAMA Psychiatry* 73(2), p. 166. doi: [10.1001/jamapsychiatry.2015.2680](https://doi.org/10.1001/jamapsychiatry.2015.2680).

Rumpel, S., LeDoux, J., Zador, A. and Malinow, R. 2005. Postsynaptic receptor trafficking underlying a form of associative learning. *Science (New York, N.Y.)* 308(5718), pp. 83–88. doi: [10.1126/science.1103944](https://doi.org/10.1126/science.1103944).

Ryan, T.J., Roy, D.S., Pignatelli, M., Arons, A. and Tonegawa, S. 2015. Engram cells retain memory under retrograde amnesia. *Science* 348(6238), pp. 1007–1013. doi: [10.1126/science.aaa5542](https://doi.org/10.1126/science.aaa5542).

Sætra, M.J., Einevoll, G.T. and Hånes, G. 2021. An electrodiffusive neuron-extracellular-glia model for exploring the genesis of slow potentials in the brain. Berry, H. ed. *PLOS Computational Biology* 17(7), p. e1008143. doi: [10.1371/journal.pcbi.1008143](https://doi.org/10.1371/journal.pcbi.1008143).

Saloner, R. et al. 2020. COMT val158met genotype alters the effects of methamphetamine dependence on dopamine and dopamine-related executive function: preliminary findings. *Psychiatry Research* 292, p. 113269. doi: [10.1016/j.psychres.2020.113269](https://doi.org/10.1016/j.psychres.2020.113269).

Sarimov, R.M., Serov, D.A. and Gudkov, S.V. 2023. Biological Effects of Magnetic Storms and ELF Magnetic Fields. *Biology* 12(12), p. 1506. doi: [10.3390/biology12121506](https://doi.org/10.3390/biology12121506).

Saroka, K.S., Vares, D.E. and Persinger, M.A. 2016. Similar Spectral Power Densities Within the Schumann Resonance and a Large Population of Quantitative Electroencephalographic Profiles: Supportive Evidence for Koenig and Pobachenko. Ward, L. M. ed. *PLOS ONE* 11(1), p. e0146595. doi: [10.1371/journal.pone.0146595](https://doi.org/10.1371/journal.pone.0146595).

Sátori, G., Neska, M., Williams, E. and Szendrői, J. 2007. Signatures of the day-night asymmetry of the Earth-ionosphere cavity in high time resolution Schumann resonance records. *Radio Science* 42(2), p. 2006RS003483. doi: [10.1029/2006RS003483](https://doi.org/10.1029/2006RS003483).

Sátori, G., Williams, E. and Mushtak, V. 2005. Response of the Earth–ionosphere cavity resonator to the 11-year solar cycle in X-radiation. *Journal of Atmospheric and Solar-Terrestrial Physics* 67(6), pp. 553–562. doi: [10.1016/j.jastp.2004.12.006](https://doi.org/10.1016/j.jastp.2004.12.006).

Schieferstein, N. et al. 2024. Propagation of sharp wave-ripple activity in the mouse hippocampal CA3 subfield *in vitro*. *The Journal of Physiology* 602(19), pp. 5039–5059. doi: [10.1113/jp285671](https://doi.org/10.1113/jp285671).

Schmaal, L. et al. 2016. Subcortical brain alterations in major depressive disorder: findings from the ENIGMA Major Depressive Disorder working group. *Molecular Psychiatry* 21(6), pp. 806–812. doi: [10.1038/mp.2015.69](https://doi.org/10.1038/mp.2015.69).

Schnell, C., Janc, O.A., Kempkes, B., Callis, C.A., Flügge, G., Hülsmann, S. and Müller, M. 2012. Restraint Stress Intensifies Interstitial K⁺ Accumulation during Severe Hypoxia. *Frontiers in Pharmacology* 3. Available at: <http://journal.frontiersin.org/article/10.3389/fphar.2012.00053/abstract> [Accessed: 16 July 2025].

Schumann, W.O. and König, H. 1954. Über die Beobachtung von 'atmospherics' bei geringsten Frequenzen. *Die Naturwissenschaften* 41(8), pp. 183–184. doi: [10.1007/bf00638174](https://doi.org/10.1007/bf00638174).

Schüz, J., Grigat, J.-P., Störmer, B., Rippin, G., Brinkmann, K. and Michaelis, J. 2000. Extremely low frequency magnetic fields in residences in Germany. Distribution of measurements, comparison of two methods for assessing exposure, and predictors for the occurrence of magnetic fields above background level. *Radiation and Environmental Biophysics* 39(4), pp. 233–240. doi: [10.1007/s004110000068](https://doi.org/10.1007/s004110000068).

Schwabe, L. and Wolf, O.T. 2012. Stress Modulates the Engagement of Multiple Memory Systems in Classification Learning. *The Journal of Neuroscience* 32(32), pp. 11042–11049. doi: [10.1523/jneurosci.1484-12.2012](https://doi.org/10.1523/jneurosci.1484-12.2012).

Seidenbecher, T., Laxmi, T.R., Stork, O. and Pape, H.-C. 2003. Amygdalar and Hippocampal Theta Rhythm Synchronization During Fear Memory Retrieval. *Science* 301(5634), pp. 846–850. doi: [10.1126/science.1085818](https://doi.org/10.1126/science.1085818).

Sekar, A. et al. 2016. Schizophrenia risk from complex variation of complement component 4. *Nature* 530(7589), pp. 177–183. doi: [10.1038/nature16549](https://doi.org/10.1038/nature16549).

Shaffer, F. and Ginsberg, J.P. 2017. An Overview of Heart Rate Variability Metrics and Norms. *Frontiers in Public Health* 5. Available at: <http://journal.frontiersin.org/article/10.3389/fpubh.2017.00258/full> [Accessed: 16 July 2025].

Shan, D., Lucas, E.K., Drummond, J.B., Haroutunian, V., Meador-Woodruff, J.H. and McCullumsmith, R.E. 2013. Abnormal expression of glutamate transporters in temporal lobe areas in elderly patients with schizophrenia. *Schizophrenia Research* 144(1–3), pp. 1–8. doi: [10.1016/j.schres.2012.12.019](https://doi.org/10.1016/j.schres.2012.12.019).

- Shan, S., Zhang, Y., Zhao, H., Zeng, T. and Zhao, X. 2022. Polystyrene nanoplastics penetrate across the blood-brain barrier and induce activation of microglia in the brain of mice. *Chemosphere* 298, p. 134261. doi: [10.1016/j.chemosphere.2022.134261](https://doi.org/10.1016/j.chemosphere.2022.134261).
- Shaposhnikov, D., Revich, B., Gurfinkel, Y. and Naumova, E. 2014. The influence of meteorological and geomagnetic factors on acute myocardial infarction and brain stroke in Moscow, Russia. *International Journal of Biometeorology* 58(5), pp. 799–808. doi: [10.1007/s00484-013-0660-0](https://doi.org/10.1007/s00484-013-0660-0).
- Shaw, S.B. et al. 2023. Increased top-down control of emotions during symptom provocation working memory tasks following a RCT of alpha-down neurofeedback in PTSD. *NeuroImage: Clinical* 37, p. 103313. doi: [10.1016/j.nicl.2023.103313](https://doi.org/10.1016/j.nicl.2023.103313).
- Shepard, R., Page, C.E. and Coutellier, L. 2016. Sensitivity of the prefrontal GABAergic system to chronic stress in male and female mice: Relevance for sex differences in stress-related disorders. *Neuroscience* 332, pp. 1–12. doi: [10.1016/j.neuroscience.2016.06.038](https://doi.org/10.1016/j.neuroscience.2016.06.038).
- Shin, L.M. and Liberzon, I. 2010. The Neurocircuitry of Fear, Stress, and Anxiety Disorders. *Neuropsychopharmacology* 35(1), pp. 169–191. doi: [10.1038/npp.2009.83](https://doi.org/10.1038/npp.2009.83).
- Sibille, J., Pannasch, U. and Rouach, N. 2014. Astroglial potassium clearance contributes to short-term plasticity of synaptically evoked currents at the tripartite synapse. *The Journal of Physiology* 592(1), pp. 87–102. doi: [10.1113/jphysiol.2013.261735](https://doi.org/10.1113/jphysiol.2013.261735).
- Silayeva, L. et al. 2015. KCC2 activity is critical in limiting the onset and severity of status epilepticus. *Proceedings of the National Academy of Sciences* 112(11), pp. 3523–3528. doi: [10.1073/pnas.1415126112](https://doi.org/10.1073/pnas.1415126112).
- Siskind, D., Siskind, V. and Kisely, S. 2017. Clozapine Response Rates among People with Treatment-Resistant Schizophrenia: Data from a Systematic Review and Meta-Analysis. *The Canadian Journal of Psychiatry* 62(11), pp. 772–777. doi: [10.1177/0706743717718167](https://doi.org/10.1177/0706743717718167).
- Slutsky, I. et al. 2010. Enhancement of Learning and Memory by Elevating Brain Magnesium. *Neuron* 65(2), pp. 165–177. doi: [10.1016/j.neuron.2009.12.026](https://doi.org/10.1016/j.neuron.2009.12.026).
- Snyder, J.S., Soumier, A., Brewer, M., Pickel, J. and Cameron, H.A. 2011. Adult hippocampal neurogenesis buffers stress responses and depressive behaviour. *Nature* 476(7361), pp. 458–461. doi: [10.1038/nature10287](https://doi.org/10.1038/nature10287).
- South, S.M. et al. 2003. A Conditional Deletion of the NR1 Subunit of the NMDA Receptor in Adult Spinal Cord Dorsal Horn Reduces NMDA Currents and Injury-Induced Pain. *The Journal of Neuroscience* 23(12), pp. 5031–5040. doi: [10.1523/jneurosci.23-12-05031.2003](https://doi.org/10.1523/jneurosci.23-12-05031.2003).
- Spruston, N. and Johnston, D. 1992. Perforated patch-clamp analysis of the passive membrane properties of three classes of hippocampal neurons. *Journal of Neurophysiology* 67(3), pp. 508–529. doi: [10.1152/jn.1992.67.3.508](https://doi.org/10.1152/jn.1992.67.3.508).

- Stefanelli, T., Bertollini, C., Lüscher, C., Muller, D. and Mendez, P. 2016. Hippocampal Somatostatin Interneurons Control the Size of Neuronal Memory Ensembles. *Neuron* 89(5), pp. 1074–1085. doi: [10.1016/j.neuron.2016.01.024](https://doi.org/10.1016/j.neuron.2016.01.024).
- Steullet, P. et al. 2017. Oxidative stress-driven parvalbumin interneuron impairment as a common mechanism in models of schizophrenia. *Molecular Psychiatry* 22(7), pp. 936–943. doi: [10.1038/mp.2017.47](https://doi.org/10.1038/mp.2017.47).
- Sun, X. et al. 2020. Functionally Distinct Neuronal Ensembles within the Memory Engram. *Cell* 181(2), pp. 410–423.e17. doi: [10.1016/j.cell.2020.02.055](https://doi.org/10.1016/j.cell.2020.02.055).
- Surges, R. et al. 2012. Hyperpolarization-activated cation current Ih of dentate gyrus granule cells is upregulated in human and rat temporal lobe epilepsy. *Biochemical and Biophysical Research Communications* 420(1), pp. 156–160. doi: [10.1016/j.bbrc.2012.02.133](https://doi.org/10.1016/j.bbrc.2012.02.133).
- Surget, A. et al. 2011. Antidepressants recruit new neurons to improve stress response regulation. *Molecular Psychiatry* 16(12), pp. 1177–1188. doi: [10.1038/mp.2011.48](https://doi.org/10.1038/mp.2011.48).
- Syková, E. and Nicholson, C. 2008. Diffusion in Brain Extracellular Space. *Physiological Reviews* 88(4), pp. 1277–1340. doi: [10.1152/physrev.00027.2007](https://doi.org/10.1152/physrev.00027.2007).
- Tada, H., Nishimura, T., Nakatani, E., Matsuda, K., Teramukai, S. and Fukushima, M. 2014. Association of geomagnetic disturbances and suicides in Japan, 1999–2010. *Environmental Health and Preventive Medicine* 19(1), pp. 64–71. doi: [10.1007/s12199-013-0355-5](https://doi.org/10.1007/s12199-013-0355-5).
- Talley, E.M., Solórzano, G., Lei, Q., Kim, D. and Bayliss, D.A. 2001. CNS Distribution of Members of the Two-Pore-Domain (KCNK) Potassium Channel Family. *The Journal of Neuroscience* 21(19), pp. 7491–7505. doi: [10.1523/jneurosci.21-19-07491.2001](https://doi.org/10.1523/jneurosci.21-19-07491.2001).
- Terrazas, A., Krause, M., Lipa, P., Gothard, K.M., Barnes, C.A. and McNaughton, B.L. 2005. Self-Motion and the Hippocampal Spatial Metric. *The Journal of Neuroscience* 25(35), pp. 8085–8096. doi: [10.1523/jneurosci.0693-05.2005](https://doi.org/10.1523/jneurosci.0693-05.2005).
- Tesli, M. et al. 2013. CACNA1C Risk Variant and Amygdala Activity in Bipolar Disorder, Schizophrenia and Healthy Controls. Fatemi, H. ed. *PLoS ONE* 8(2), p. e56970. doi: [10.1371/journal.pone.0056970](https://doi.org/10.1371/journal.pone.0056970).
- Thayer, J.F., Åhs, F., Fredrikson, M., Sollers, J.J. and Wager, T.D. 2012. A meta-analysis of heart rate variability and neuroimaging studies: Implications for heart rate variability as a marker of stress and health. *Neuroscience & Biobehavioral Reviews* 36(2), pp. 747–756. doi: [10.1016/j.neubiorev.2011.11.009](https://doi.org/10.1016/j.neubiorev.2011.11.009).
- Thrippleton, M.J. et al. 2014. Reliability of MRSI brain temperature mapping at 1.5 and 3 T. *NMR in Biomedicine* 27(2), pp. 183–190. doi: [10.1002/nbm.3050](https://doi.org/10.1002/nbm.3050).
- Tonegawa, S., Liu, X., Ramirez, S. and Redondo, R. 2015. Memory Engram Cells Have Come of Age. *Neuron* 87(5), pp. 918–931. doi: [10.1016/j.neuron.2015.08.002](https://doi.org/10.1016/j.neuron.2015.08.002).

Torborg, C.L., Berg, A.P., Jeffries, B.W., Bayliss, D.A. and McBain, C.J. 2006. TASK-Like Conductances Are Present within Hippocampal CA1 Stratum Oriens Interneuron Subpopulations. *The Journal of Neuroscience* 26(28), pp. 7362–7367. doi: [10.1523/jneurosci.1257-06.2006](https://doi.org/10.1523/jneurosci.1257-06.2006).

Tse, Y.C., Nath, M., Larosa, A. and Wong, T.P. 2021. Opposing Changes in Synaptic and Extrasynaptic N-Methyl-D-Aspartate Receptor Function in Response to Acute and Chronic Restraint Stress. *Frontiers in Molecular Neuroscience* 14. Available at: <https://www.frontiersin.org/articles/10.3389/fnmol.2021.716675/full> [Accessed: 16 July 2025].

Tsukahara, T., Masuhara, M., Iwai, H., Sonomura, T. and Sato, T. 2015. Repeated stress-induced expression pattern alterations of the hippocampal chloride transporters KCC2 and NKCC1 associated with behavioral abnormalities in female mice. *Biochemical and Biophysical Research Communications* 465(1), pp. 145–151. doi: [10.1016/j.bbrc.2015.07.153](https://doi.org/10.1016/j.bbrc.2015.07.153).

Tuckwell, H.C. 1988. *Introduction to Theoretical Neurobiology*. 1st ed. Cambridge University Press. Available at: <https://www.cambridge.org/core/product/identifier/9780511623202/type/book> [Accessed: 16 July 2025].

Uhlhaas, P.J. and Singer, W. 2010. Abnormal neural oscillations and synchrony in schizophrenia. *Nature Reviews Neuroscience* 11(2), pp. 100–113. doi: [10.1038/nrn2774](https://doi.org/10.1038/nrn2774).

Valenti, O., Lodge, D.J. and Grace, A.A. 2011. Aversive Stimuli Alter Ventral Tegmental Area Dopamine Neuron Activity via a Common Action in the Ventral Hippocampus. *The Journal of Neuroscience* 31(11), pp. 4280–4289. doi: [10.1523/jneurosci.5310-10.2011](https://doi.org/10.1523/jneurosci.5310-10.2011).

Valentino, R.J. and Van Bockstaele, E. 2008. Convergent regulation of locus coeruleus activity as an adaptive response to stress. *European Journal of Pharmacology* 583(2–3), pp. 194–203. doi: [10.1016/j.ejphar.2007.11.062](https://doi.org/10.1016/j.ejphar.2007.11.062).

Van Der Vinne, N., Vollebregt, M.A., Van Putten, M.J.A.M. and Arns, M. 2017. Frontal alpha asymmetry as a diagnostic marker in depression: Fact or fiction? A meta-analysis. *NeuroImage: Clinical* 16, pp. 79–87. doi: [10.1016/j.nicl.2017.07.006](https://doi.org/10.1016/j.nicl.2017.07.006).

Van Moorselaar, I. et al. 2017. Effects of personalised exposure on self-rated electromagnetic hypersensitivity and sensibility – A double-blind randomised controlled trial. *Environment International* 99, pp. 255–262. doi: [10.1016/j.envint.2016.11.031](https://doi.org/10.1016/j.envint.2016.11.031).

Vassos, E., Pedersen, C.B., Murray, R.M., Collier, D.A. and Lewis, C.M. 2012. Meta-Analysis of the Association of Urbanicity With Schizophrenia. *Schizophrenia Bulletin* 38(6), pp. 1118–1123. doi: [10.1093/schbul/sbs096](https://doi.org/10.1093/schbul/sbs096).

Vijayraghavan, S., Wang, M., Birnbaum, S.G., Williams, G.V. and Arnsten, A.F.T. 2007. Inverted-U dopamine D1 receptor actions on prefrontal neurons engaged in working memory. *Nature Neuroscience* 10(3), pp. 376–384. doi: [10.1038/nn1846](https://doi.org/10.1038/nn1846).

Villoresi, G., Ptitsyna, N.G., Tiasto, M.I. and Iucci, N. 1998. [Myocardial infarct and geomagnetic disturbances: analysis of data on morbidity and mortality]. *Biofizika* 43(4), pp. 623–631. PMID: 9783069

Wang, S., Han, Q., Wei, Z., Wang, Y., Xie, J. and Chen, M. 2022. Polystyrene microplastics affect learning and memory in mice by inducing oxidative stress and decreasing the level of acetylcholine. *Food and Chemical Toxicology* 162, p. 112904. doi: [10.1016/j.fct.2022.112904](https://doi.org/10.1016/j.fct.2022.112904).

Wang, Y. et al. 2015. The modulation of nicotinic acetylcholine receptors on the neuronal network oscillations in rat hippocampal CA3 area. *Scientific Reports* 5(1). Available at: <https://www.nature.com/articles/srep09493> [Accessed: 16 July 2025].

Wehr, M. and Zador, A.M. 2003. Balanced inhibition underlies tuning and sharpens spike timing in auditory cortex. *Nature* 426(6965), pp. 442–446. doi: [10.1038/nature02116](https://doi.org/10.1038/nature02116).

Weickert, C.S. et al. 2013. Molecular evidence of N-methyl-D-aspartate receptor hypofunction in schizophrenia. *Molecular Psychiatry* 18(11), pp. 1185–1192. doi: [10.1038/mp.2012.137](https://doi.org/10.1038/mp.2012.137).

Wessa, M. et al. 2010. The CACNA1C risk variant for bipolar disorder influences limbic activity. *Molecular Psychiatry* 15(12), pp. 1126–1127. doi: [10.1038/mp.2009.103](https://doi.org/10.1038/mp.2009.103).

Wild, A.R., Bolland, M., Morris, P.G. and Jones, S. 2015. Mechanisms regulating spill-over of synaptic glutamate to extrasynaptic NMDA receptors in mouse substantia nigra dopaminergic neurons. Bolam, P. ed. *European Journal of Neuroscience* 42(9), pp. 2633–2643. doi: [10.1111/ejn.13075](https://doi.org/10.1111/ejn.13075).

Winklhofer, M. and Kirschvink, J.L. 2010. A quantitative assessment of torque-transducer models for magnetoreception. *Journal of The Royal Society Interface* 7(suppl_2). Available at: <https://royalsocietypublishing.org/doi/10.1098/rsif.2009.0435.focus> [Accessed: 16 July 2025].

Woodin, M.A., Ganguly, K. and Poo, M. 2003. Coincident Pre- and Postsynaptic Activity Modifies GABAergic Synapses by Postsynaptic Changes in Cl⁻ Transporter Activity. *Neuron* 39(5), pp. 807–820. doi: [10.1016/s0896-6273\(03\)00507-5](https://doi.org/10.1016/s0896-6273(03)00507-5).

Yehuda, R. 2002. Post-Traumatic Stress Disorder. *New England Journal of Medicine* 346(2), pp. 108–114. doi: [10.1056/nejmra012941](https://doi.org/10.1056/nejmra012941).

Yeung, J.H.Y., Palpagama, T.H., Wood, O.W.G., Turner, C., Waldvogel, H.J., Faull, R.L.M. and Kwakowsky, A. 2021. EAAT2 Expression in the Hippocampus, Subiculum, Entorhinal Cortex and Superior Temporal Gyrus in Alzheimer's Disease. *Frontiers in Cellular Neuroscience* 15.

Available at: <https://www.frontiersin.org/articles/10.3389/fncel.2021.702824/full> [Accessed: 16 July 2025].

Yilmaz, M. et al. 2021. Overexpression of schizophrenia susceptibility factor human complement C4A promotes excessive synaptic loss and behavioral changes in mice. *Nature Neuroscience* 24(2), pp. 214–224. doi: [10.1038/s41593-020-00763-8](https://doi.org/10.1038/s41593-020-00763-8).

Yin, D.-M. et al. 2013. Reversal of Behavioral Deficits and Synaptic Dysfunction in Mice Overexpressing Neuregulin 1. *Neuron* 78(4), pp. 644–657. doi: [10.1016/j.neuron.2013.03.028](https://doi.org/10.1016/j.neuron.2013.03.028).

Yiu, A.P. et al. 2014. Neurons Are Recruited to a Memory Trace Based on Relative Neuronal Excitability Immediately before Training. *Neuron* 83(3), pp. 722–735. doi: [10.1016/j.neuron.2014.07.017](https://doi.org/10.1016/j.neuron.2014.07.017).

Ylinen, A., Bragin, A., Nadasdy, Z., Jando, G., Szabo, I., Sik, A. and Buzsaki, G. 1995. Sharp wave-associated high-frequency oscillation (200 Hz) in the intact hippocampus: network and intracellular mechanisms. *The Journal of Neuroscience* 15(1), pp. 30–46. doi: [10.1523/jneurosci.15-01-00030.1995](https://doi.org/10.1523/jneurosci.15-01-00030.1995).

Yolland, C.O. et al. 2020. Meta-analysis of randomised controlled trials with *N*-acetylcysteine in the treatment of schizophrenia. *Australian & New Zealand Journal of Psychiatry* 54(5), pp. 453–466. doi: [10.1177/0004867419893439](https://doi.org/10.1177/0004867419893439).

Yoshimizu, T. et al. 2015. Functional implications of a psychiatric risk variant within CACNA1C in induced human neurons. *Molecular Psychiatry* 20(2), pp. 162–169. doi: [10.1038/mp.2014.143](https://doi.org/10.1038/mp.2014.143).

Yoshioka, M., Matsumoto, M., Togashi, H. and Saito, H. 1996. Effect of conditioned fear stress on dopamine release in the rat prefrontal cortex. *Neuroscience Letters* 209(3), pp. 201–203. doi: [10.1016/0304-3940\(96\)12631-8](https://doi.org/10.1016/0304-3940(96)12631-8).

Yu, Z. et al. 2020. Decreased Density of Perineuronal Net in Prelimbic Cortex Is Linked to Depressive-Like Behavior in Young-Aged Rats. *Frontiers in Molecular Neuroscience* 13, p. 4. doi: [10.3389/fnmol.2020.00004](https://doi.org/10.3389/fnmol.2020.00004).

Zemankovics, R., Káli, S., Paulsen, O., Freund, T.F. and Hájos, N. 2010. Differences in subthreshold resonance of hippocampal pyramidal cells and interneurons: the role of h-current and passive membrane characteristics. *The Journal of Physiology* 588(12), pp. 2109–2132. doi: [10.1113/jphysiol.2009.185975](https://doi.org/10.1113/jphysiol.2009.185975).

Zhang, J. et al. 2016. Salvianolic acid B ameliorates depressive-like behaviors in chronic mild stress-treated mice: involvement of the neuroinflammatory pathway. *Acta Pharmacologica Sinica* 37(9), pp. 1141–1153. doi: [10.1038/aps.2016.63](https://doi.org/10.1038/aps.2016.63).

Zhang, Y. et al. 2021. Comparative Proteomic Characterization of Ventral Hippocampus in Susceptible and Resilient Rats Subjected to Chronic Unpredictable Stress. *Frontiers in*

Neuroscience 15. Available at:

<https://www.frontiersin.org/articles/10.3389/fnins.2021.675430/full> [Accessed: 16 July 2025].

Zheng, W. et al. 2018. *N*-acetylcysteine for major mental disorders: a systematic review and meta-analysis of randomized controlled trials. *Acta Psychiatrica Scandinavica* 137(5), pp. 391–400. doi: [10.1111/acps.12862](https://doi.org/10.1111/acps.12862).

Zhou, Y. et al. 2009. CREB regulates excitability and the allocation of memory to subsets of neurons in the amygdala. *Nature Neuroscience* 12(11), pp. 1438–1443. doi: [10.1038/nn.2405](https://doi.org/10.1038/nn.2405).

Zilli Vieira, C.L., Alvares, D., Blomberg, A., Schwartz, J., Coull, B., Huang, S. and Koutrakis, P. 2019. Geomagnetic disturbances driven by solar activity enhance total and cardiovascular mortality risk in 263 U.S. cities. *Environmental Health* 18(1). Available at: <https://ehjournal.biomedcentral.com/articles/10.1186/s12940-019-0516-0> [Accessed: 16 July 2025].