

Lenk, K., Satuvuori, E., Lallouette, J., Ladrón-de-Guevara, A., Berry, H., & Hyttinen, J. A. K. (2020). A Computational Model of Interactions Between Neuronal and Astrocytic Networks: The Role of Astrocytes in the Stability of the Neuronal Firing Rate. *Frontiers in Computational Neuroscience*, 13, [92]. <https://doi.org/10.3389/fncom.2019.00092>

Otterpohl, J. R., Emmert-Streib, F., & Pawelzik, K. (2001). A constrained HMM-based approach to the estimation of perceptual switching dynamics in pigeons. *Neurocomputing*, 38-40, 1495-1501. [https://doi.org/10.1016/S0925-2312\(01\)00511-2](https://doi.org/10.1016/S0925-2312(01)00511-2)

Pursiainen, S., Agsten, B., Wagner, S., & Wolters, C. H. (2017). Advanced boundary electrode modeling for tES and parallel tES/EEG. *IEEE Transactions on Neural Systems and Rehabilitation Engineering*, 26(1), 37-44. <https://doi.org/10.1109/TNSRE.2017.2748930>

Ylä-Outinen, L., Tanskanen, J. M. A., Kapucu, F. E., Hyysalo, A., Hyttinen, J. A. K., & Narkilahti, S. (2019). Advances in Human Stem Cell-Derived Neuronal Cell Culturing and Analysis. In *In Vitro Neuronal Networks: From Culturing Methods to Neuro-Technological Applications* (pp. 299-329). (Advances in Neurobiology; Vol. 22). Springer New York LLC. [https://doi.org/10.1007/978-3-030-11135-9\\_13](https://doi.org/10.1007/978-3-030-11135-9_13)

Hagman, S., Kolasa, M., Basnyat, P., Helminen, M., Kähönen, M., Dastidar, P., ... Elovaara, I. (2015). Analysis of apoptosis-related genes in patients with clinically isolated syndrome and their association with conversion to multiple sclerosis. *JOURNAL OF NEUROIMMUNOLOGY*, 280, 43-48. <https://doi.org/10.1016/j.jneuroim.2015.02.006>

Chen, K., & Zhang, Z. (2018). A Primal Neural Network for Online Equality-Constrained Quadratic Programming. *Cognitive Computation*, 10(2), 381–388. <https://doi.org/10.1007/s12559-017-9510-4>

Miinalainen, T., Rezaei, A., Us, D., Nüßing, A., Engwer, C., Wolters, C. H., & Pursiainen, S. (2019). A realistic, accurate and fast source modeling approach for the EEG forward problem. *NeuroImage*, 184(1), 56-67. <https://doi.org/10.1016/j.neuroimage.2018.08.054>

Pantsar, T., Rissanen, S., Dauch, D., Laitinen, T., Vattulainen, I., & Poso, A. (2018). Assessment of mutation probabilities of KRAS G12 missense mutants and their long-timescale dynamics by atomistic molecular simulations and Markov state modeling. *PLoS Computational Biology*, 14(9), [e1006458]. <https://doi.org/10.1371/journal.pcbi.1006458>

Ormiskangas, J., Valtonen, O., Kivekäs, I., Dean, M., Poe, D., Järnstedt, J., ... Rautiainen, M. (2020). Assessment of PIV performance in validating CFD models from nasal cavity CBCT scans. *Respiratory Physiology and Neurobiology*, 282, [103508]. <https://doi.org/10.1016/j.resp.2020.103508>

Tenhunen, M., Hasan, J., & Himanen, S. L. (2015). Assessment of respiratory effort during sleep with noninvasive techniques. *Sleep Medicine Reviews*, 24, 103-104. <https://doi.org/10.1016/j.smrv.2015.08.010>

Basnyat, P., Hagman, S., Kolasa, M., Koivisto, K., Verkkoniemi-Ahola, A., Airas, L., & Elovaara, I. (2015). Association between soluble L-selectin and anti-JCV antibodies in natalizumab-treated relapsing-remitting MS patients. *Multiple Sclerosis and Related Disorders*, 4(4), 334-338. <https://doi.org/10.1016/j.msard.2015.06.008>

Klapper, S. D., Garg, P., Dagar, S., Lenk, K., Gottmann, K., & Nieweg, K. (2019). Astrocyte lineage cells are essential for functional neuronal differentiation and synapse maturation in human iPSC-derived neural networks. *Glia*, 67(10), 1893-1909. <https://doi.org/10.1002/glia.23666>

Vuorio, J., Vattulainen, I., & Martinez-Seara, H. (2017). Atomistic fingerprint of hyaluronan-CD44 binding. *PLoS Computational Biology*, 13(7), [e1005663]. <https://doi.org/10.1371/journal.pcbi.1005663>

Nevalainen, O., Auvinen, A., Ansakorpi, H., Raitanen, J., & Isojärvi, J. (2014). Autoimmunity-related immunological serum markers and survival in a tertiary care cohort of adult patients with epilepsy. *EPILEPSY RESEARCH*, 108(9), 1675-1679. <https://doi.org/10.1016/j.eplepsyres.2014.08.014>

Hyppönen, J., Hakala, A., Annala, K., Zhang, H., Peltola, J., Mervaala, E., & Kälviäinen, R. (2020). Automatic assessment of the myoclonus severity from videos recorded according to standardized Unified Myoclonus Rating Scale protocol and using human pose and body movement analysis. *Seizure*, *76*, 72-78. <https://doi.org/10.1016/j.seizure.2020.01.014>

Tanskanen, J. M. A., Kapucu, F. E., Välikki, I., & Hyttinen, J. A. K. (2016). Automatic objective thresholding to detect neuronal action potentials. In *Proceedings of 2016 24th European Signal Processing Conference (EUSIPCO)* (pp. 662-666) <https://doi.org/10.1109/EUSIPCO.2016.7760331>

Spruijt-Metz, D., Hekler, E., Saranummi, N., Intille, S., Korhonen, I., Nilsen, W., ... Pavel, M. (2015). Building new computational models to support health behavior change and maintenance: new opportunities in behavioral research. *Translational Behavioral Medicine*, *5*(3), 335-346. <https://doi.org/10.1007/s13142-015-0324-1>

Mokkila, S., Postila, P. A., Rissanen, S., Juhola, H., Vattulainen, I., & Róg, T. (2017). Calcium Assists Dopamine Release by Preventing Aggregation on the Inner Leaflet of Presynaptic Vesicles. *ACS Chemical Neuroscience*, *8*(6), 1242-1250. <https://doi.org/10.1021/acscchemneuro.6b00395>

Kreutzer, J., Ylä-Outinen, L., Mäki, A., Ristola, M., Narkilahti, S., & Kallio, P. (2017). Cell culture chamber with gas supply for prolonged recording of human neuronal cells on microelectrode array. *Journal of Neuroscience Methods*, *280*, 27-35. <https://doi.org/10.1016/j.jneumeth.2017.01.019>

Waris, M. A., Iosifidis, A., & Gabbouj, M. (2017). CNN-based edge filtering for object proposals. *Neurocomputing*, *266*, 631-640. <https://doi.org/10.1016/j.neucom.2017.05.071>

Gavas, R. D., Tripathy, S. R., Chatterjee, D., & Sinha, A. (2018). Cognitive load and metacognitive confidence extraction from pupillary response. *Cognitive Systems Research*, *52*, 325-334. <https://doi.org/10.1016/j.cogsys.2018.07.021>

Špakov, O. (2012). Comparison of eye movement filters used in HCI. In *Proceedings - ETRA 2012: Eye Tracking Research and Applications Symposium* (pp. 281-284) <https://doi.org/10.1145/2168556.2168616>

Tohka, J., Moradi, E., Huttunen, H., Alzheimer's Disease Neuroimaging Initiative, & Alzheimer's Disease Neuroimaging Initiative 2 (2016). Comparison of Feature Selection Techniques in Machine Learning for Anatomical Brain MRI in Dementia. *Neuroinformatics*, *14*(3), 279-296. <https://doi.org/10.1007/s12021-015-9292-3>

Acar, G. O., Kivekäs, I., Hanna, B. M., Huang, L., Gopen, Q., & Poe, D. S. (2014). Comparison of stapedotomy minus prosthesis, circumferential stapes mobilization, and small fenestra stapedotomy for stapes fixation. *OTOLOGY AND NEUROTOLOGY*, *35*(4). <https://doi.org/10.1097/MAO.0000000000000280>

Acimovic, J., Mäki-Marttunen, T., & Linne, M-L. (2010). Computational modeling of growth in cortical cultures using the NETMORPH simulation tool. In *Neuroscience 2010, 40th Annual Meeting, San Diego, USA, 13-17 November 2010* (pp. 2 p)

Acimovic, J., Mäki-Marttunen, T., & Linne, M-L. (2011). Computational study of structural changes in neuronal networks during growth: a model of dissociated neocortical cultures. In J-M. Fellous, & A. Prinz (Eds.), *Twentieth Annual Computational Neuroscience Meeting: CNS\*2011* (Vol. 12 (Suppl 1), pp. P203). [P203] (Annual Computational Neuroscience Meeting CNS; Vol. 12). Stockholm: BioMed Central. <https://doi.org/10.1186/1471-2202-12-S1-P203>

Acimovic, J., Teppola, H., Selinummi, J. J., & Linne, M-L. (2009). Computational tools for assessing the properties of 2D neural cell cultures. In D. Johnson (Ed.), *Eighteenth Annual Computational Neuroscience Meeting: CNS\*2009* (Vol. 10 (Suppl 1), pp. P170). [P170] Berlin: BioMed Central.

Enkavi, G., Mikkolainen, H., Gungör, B., Ikonen, E., & Vattulainen, I. (2017). Concerted regulation of npc2 binding to endosomal/lysosomal membranes by bis(monoacylglycerol)phosphate and sphingomyelin. *PLoS Computational Biology*, *13*(10), [e1005831]. <https://doi.org/10.1371/journal.pcbi.1005831>

Pelkonen, A., & Yavich, L. (2012). Cortical spreading depression in alpha-synuclein knockout mice. *SYNAPSE*, *66*(1), 81-84. <https://doi.org/10.1002/syn.20980>

Malmivaara, K., Ohman, J., Kivisaari, R., Hernesniemi, J., & Siironen, J. (2011). Cost-effectiveness of decompressive craniectomy in non-traumatic neurological emergencies. *European Journal of Neurology*, *18*(3), 402-409. <https://doi.org/10.1111/j.1468-1331.2010.03162.x>

Sharma, V., Dixit, D., Ghosh, S., & Sen, E. (2011). COX-2 regulates the proliferation of glioma stem like cells. *NEUROCHEMISTRY INTERNATIONAL*, *59*(5), 567-571. <https://doi.org/10.1016/j.neuint.2011.06.018>

Acimovic, J., Teppola, H., Mäki-Marttunen, T. M., & Linne, M-L. (2018). *Data-driven study of synchronous population activity in generic spiking neuronal networks: How much do we capture using the minimal model for the considered phenomena?*. Paper presented at Brain and Mind Symposium 2018, Helsinki, Finland.

Acimovic, J., Teppola, H., Mäki-Marttunen, T. M., & Linne, M-L. (2018). Data-driven study of synchronous population activity in generic spiking neuronal networks: How much do we capture using the minimal model for the considered phenomena? *BMC Neuroscience*, *19*(Suppl 2), 68-69.

Tavakoli, H. R., Borji, A., Kannala, J., & Rahtu, E. (2020). Deep audio-visual saliency: Baseline model and data. In S. N. Spencer (Ed.), *Proceedings ETRA 2020 Short Papers - ACM Symposium on Eye Tracking Research and Applications, ETRA 2020* [3] ACM. <https://doi.org/10.1145/3379156.3391337>

Möttönen, T., Katisko, J., Haapasalo, J., Tähtinen, T., Kiekara, T., Kähärä, V., ... Lehtimäki, K. (2015). Defining the anterior nucleus of the thalamus (ANT) as a deep brain stimulation target in refractory epilepsy: Delineation using 3 T MRI and intraoperative microelectrode recording. *NeuroImage: Clinical*, *7*, 823-829. <https://doi.org/10.1016/j.nicl.2015.03.001>

Kolasa, M., Hakulinen, U., Brander, A., Hagman, S., Dastidar, P., Elovaara, I., & Sumelahti, M-L. (2019). Diffusion tensor imaging and disability progression in multiple sclerosis: A 4-year follow-up study. *Brain and Behavior*, *9*(1), [e01194]. <https://doi.org/10.1002/brb3.1194>

Salminen, A. V., Manconi, M., Rimpilä, V., Luoto, T. M., Koskinen, E., Ferri, R., ... Polo, O. (2013). Disconnection between periodic leg movements and cortical arousals in spinal cord injury. *JOURNAL OF CLINICAL SLEEP MEDICINE*, *9*(11), 1207-1209. <https://doi.org/10.5664/jcsm.3174>

Hagman, S., Raunio, M., Rossi, M., Dastidar, P., & Elovaara, I. (2011). Disease-associated inflammatory biomarker profiles in blood in different subtypes of multiple sclerosis: Prospective clinical and MRI follow-up study. *JOURNAL OF NEUROIMMUNOLOGY*, *234*(1-2), 141-147. <https://doi.org/10.1016/j.jneuroim.2011.02.009>

Iosifidis, A., Tefas, A., & Pitas, I. (2015). Distance-based human action recognition using optimized class representations. *Neurocomputing*, *161*, 47-55. <https://doi.org/10.1016/j.neucom.2014.10.088>

Iosifidis, A., Tefas, A., & Pitas, I. (2015). DropELM: Fast neural network regularization with Dropout and DropConnect. *Neurocomputing*, *162*, 57-66. <https://doi.org/10.1016/j.neucom.2015.04.006>

Berry, J., Frederiksen, R., Yao, Y., Nymark, S., Chen, J., & Cornwall, C. (2016). Effect of rhodopsin phosphorylation on dark adaptation in mouse rods. *Journal of Neuroscience*, *36*(26), 6973-6987. <https://doi.org/10.1523/JNEUROSCI.3544-15.2016>

Juuti-Uusitalo, K., Nieminen, M., Treumer, F., Ampuja, M., Kallioniemi, A., Klettner, A., & Skottman, H. (2015). Effects of cytokine activation and oxidative stress on the function of the human embryonic stem cell-derived retinal pigment epithelial cells. *Investigative Ophthalmology and Visual Science*, *56*(11), 6265-6274. <https://doi.org/10.1167/iovs.15-17333>

- Pelkonen, A., Kallunki, P., & Yavich, L. (2013). Effects of exogenous alpha-synuclein on stimulated dopamine overflow in dorsal striatum. *Neuroscience Letters*, *554*, 141-145. <https://doi.org/10.1016/j.neulet.2013.08.072>
- Mäki-Marttunen, T. M., Acimovic, J., Ruohonen, K. P., & Linne, M-L. (2011). Effects of local structure of neuronal networks on spiking activity in silico. In J-M. Fellous, & A. Prinz (Eds.), *Twentieth Annual Computational Neuroscience Meeting: CNS\*2011* (Vol. 12 (Suppl 1), pp. P202). Stockholm: BioMed Central.
- Mäki-Marttunen, T., Acimovic, J., Ruohonen, K., & Linne, M-L. (2011). Effects of structure on spontaneous activity in simulated neuronal networks. In *Proceedings of Mathematical Neuroscience (ICMS 2011), April 11-13, 2011, Edinburgh, Scotland*
- Basnyat, P., Natarajan, R., Vistbakka, J., Lehtikangas, M., Airas, L., Matinlauri, I., ... Hagman, S. (2015). Elevated levels of soluble CD26 and CD30 in multiple sclerosis. *Clinical and Experimental Neuroimmunology*, *6*(4), 419-425. <https://doi.org/10.1111/cen3.12253>
- Acimovic, J. (2011). Emergence of global and local structural features during development of neuronal networks. In *Proceedings of the Eighth International Workshop on Computational Systems Biology, WCSB 2011, June 6-8, 2011, Zürich, Switzerland* (TICSP Series ; Vol. 57). Tampere: TICSP.
- Sonkajärvi, E., Rytty, S., Alahuhta, S., Suominen, K., Kumpulainen, T., Ohtonen, P., ... Jäntti, V. (2018). Epileptiform and periodic EEG activities induced by rapid sevoflurane anaesthesia induction. *Clinical Neurophysiology*, *129*(3), 638-645. <https://doi.org/10.1016/j.clinph.2017.12.037>
- Otterpohl, J. R., Haynes, J. D., Emmert-Streib, F., Vetter, G., & Pawelzik, K. (2001). Erratum: Extracting the dynamics of perceptual switching from 'noisy' behaviour: An application of hidden Markov modelling to pecking data from pigeons (Journal of Physiology Paris (2000) 94:5-6 (555-567) PII: S0928425700010950). *Journal of Physiology: Paris*, *95*(1-6), 497. [https://doi.org/10.1016/S0928-4257\(01\)00091-2](https://doi.org/10.1016/S0928-4257(01)00091-2)
- Kivekäs, I., Pöyhönen, L., Aarnisalo, A., Rautiainen, M., & Poe, D. (2015). Eustachian tube mucosal inflammation scale validation based on digital video images. *OTOLOGY AND NEUROTOLOGY*, *36*(10), 1748-1752. <https://doi.org/10.1097/MAO.0000000000000895>
- Tenhunen, M., Huupponen, E., Hasan, J., Heino, O., & Himanen, S. L. (2015). Evaluation of the different sleep-disordered breathing patterns of the compressed tracheal sound. *Clinical Neurophysiology*, *126*(8), 1557-1563. <https://doi.org/10.1016/j.clinph.2014.11.003>
- Franco, P., & Värrä, A. (2015). Experiments of the sonification of the sleep electroencephalogram. *Finnish Journal of eHealth and eWelfare*, *7*(2-3), 65-74.
- Melkas, S., Sibolt, G., Oksala, N. K. J., Putaala, J., Pohjasvaara, T., Kaste, M., ... Erkinjuntti, T. (2012). Extensive white matter changes predict stroke recurrence up to 5 years after a first-ever ischemic stroke. *CEREBROVASCULAR DISEASES*, *34*(3), 191-198. <https://doi.org/10.1159/000341404>
- Otterpohl, J. R., Haynes, J. D., Emmert-Streib, F., Vetter, G., & Pawelzik, K. (2000). Extracting the dynamics of perceptual switching from 'noisy' behaviour: An application of hidden Markov modelling to pecking data from pigeons. *Journal of Physiology: Paris*, *94*(5-6), 555-567. [https://doi.org/10.1016/S0928-4257\(00\)01095-0](https://doi.org/10.1016/S0928-4257(00)01095-0)
- Iosifidis, A. (2015). Extreme learning machine based supervised subspace learning. *Neurocomputing*, *167*, 158-164. <https://doi.org/10.1016/j.neucom.2015.04.083>
- Pajarinen, J., Peltonen, J., & Uusitalo, M. A. (2011). Fault tolerant machine learning for nanoscale cognitive radio. *Neurocomputing*, *74*(5), 753-764. <https://doi.org/10.1016/j.neucom.2010.10.007>

Mäkinen, M., Joki, T., Ylä-Outinen, L., Skottman, H., Narkilahti, S., & Äänismaa, R. (2013). Fluorescent probes as a tool for cell population tracking in spontaneously active neural networks derived from human pluripotent stem cells. *Journal of Neuroscience Methods*, *215*(1), 88-96. <https://doi.org/10.1016/j.jneumeth.2013.02.019>

Oschmann, F., Berry, H., Obermayer, K., & Lenk, K. (2018). From in silico astrocyte cell models to neuron-astrocyte network models: A review. *BRAIN RESEARCH BULLETIN*, *136*, 76-84. <https://doi.org/10.1016/j.brainresbull.2017.01.027>

Kauppi, J-P., Pajula, J., Niemi, J., Hari, R., & Tohka, J. (2017). Functional brain segmentation using inter-subject correlation in fMRI. *Human Brain Mapping*, *38*(5), 2643-2665. <https://doi.org/10.1002/hbm.23549>

Hyrskykari, A., Istance, H., & Vickers, S. (2012). Gaze gestures or dwell-based interaction? In *Proceedings - ETRA 2012: Eye Tracking Research and Applications Symposium* (pp. 229-232) <https://doi.org/10.1145/2168556.2168602>

Kangas, J., Rantala, J., Majaranta, P., Isokoski, P., & Raisamo, R. (2014). Haptic feedback to gaze events. In *Proceedings of the Symposium on Eye Tracking Research and Applications, ETRA 2014* (pp. 11-18). Association for Computing Machinery. <https://doi.org/10.1145/2578153.2578154>

Pajula, J., & Tohka, J. (2016). How Many Is Enough? Effect of Sample Size in Inter-Subject Correlation Analysis of fMRI. *Computational Intelligence and Neuroscience*, *2016*, [2094601]. <https://doi.org/10.1155/2016/2094601>

Sun, L., Peräkylä, J., Polvivaara, M., Öhman, J., Peltola, J., Lehtimäki, K., ... Hartikainen, K. M. (2015). Human anterior thalamic nuclei are involved in emotion-attention interaction. *NEUROPSYCHOLOGIA*, *78*, 88-94. <https://doi.org/10.1016/j.neuropsychologia.2015.10.001>

Angleraud, A., Houbre, Q., Kyrki, V., & Pieters, R. (2018). Human-robot interactive learning architecture using ontologies and symbol manipulation. In *RO-MAN 2018 - 27th IEEE International Symposium on Robot and Human Interactive Communication: August 27-31, 2018, Nanjing, China*. (pp. 384-389). (IEEE RO-MAN). IEEE. <https://doi.org/10.1109/ROMAN.2018.8525580>

Hartikainen, K. M., Sun, L., Polvivaara, M., Brause, M., Lehtimäki, K., Haapasalo, J., ... Peltola, J. (2014). Immediate effects of deep brain stimulation of anterior thalamic nuclei on executive functions and emotion-attention interaction in humans. *JOURNAL OF CLINICAL AND EXPERIMENTAL NEUROPSYCHOLOGY*, *36*(5), 540-550. <https://doi.org/10.1080/13803395.2014.913554>

Rimpiläinen, V., Koulouri, A., Lucka, F., Kaipio, J. P., & Wolters, C. H. (2019). Improved EEG source localization with Bayesian uncertainty modelling of unknown skull conductivity. *NeuroImage*, *188*, 252-260. <https://doi.org/10.1016/j.neuroimage.2018.11.058>

Lehtimäki, M., Paunonen, L., & Linne, M-L. (2018). Improvement of computational efficiency of a biochemical plasticity model. *BMC Neuroscience*, *19*(Suppl 2), 66-66. [P130]. <https://doi.org/10.1186/s12868-018-0452-x#Sec613>

Tran, D. T., Iosifidis, A., & Gabbouj, M. (2018). Improving efficiency in convolutional neural networks with multilinear filters. *Neural Networks*, *105*, 328-339. <https://doi.org/10.1016/j.neunet.2018.05.017>

Emmert-Streib, F. (2013). Influence of the experimental design of gene expression studies on the inference of gene regulatory networks: Environmental factors. *PeerJ*, *2013*(1), [e10]. <https://doi.org/10.7717/peerj.10>

Emmert-Streib, F. (2006). Influence of the neural network topology on the learning dynamics. *Neurocomputing*, *69*(10-12), 1179-1182. <https://doi.org/10.1016/j.neucom.2005.12.070>

Sciaccia, M. F. M., Romanucci, V., Zarrelli, A., Monaco, I., Lolicato, F., Spinella, N., ... Milardi, D. (2017). Inhibition of A $\beta$  Amyloid Growth and Toxicity by Silybins: The Crucial Role of Stereochemistry. *ACS Chemical Neuroscience*, *8*(8), 1767-1778. <https://doi.org/10.1021/acchemneuro.7b00110>

Dixit, D., Sharma, V., Ghosh, S., Mehta, V. S., & Sen, E. (2012). Inhibition of Casein kinase-2 induces p53-dependent cell cycle arrest and sensitizes glioblastoma cells to tumor necrosis factor (TNF $\alpha$ )-induced apoptosis through SIRT1 inhibition. *CELL DEATH AND DISEASE*, 3(2), [e271]. <https://doi.org/10.1038/cddis.2012.10>

Mäki-Marttunen, T. M., Acimovic, J., Ruuhonen, K. P., & Linne, M-L. (2012). In silico study on structure and dynamics in bursting neuronal networks. In *Neuroscience 2012; 42nd Annual Meeting, New Orleans, USA, October 14-18, 2012* [300.26/DDD70] Society for Neuroscience (SfN).

Iosifidis, A., Tefas, A., & Pitas, I. (2013). Learning sparse representations for view-independent human action recognition based on fuzzy distances. *Neurocomputing*, 121, 344-353. <https://doi.org/10.1016/j.neucom.2013.05.021>

Špakov, O., Isokoski, P., & Majaranta, P. (2014). Look and lean: Accurate head-assisted eye pointing. In *Proceedings of the Symposium on Eye Tracking Research and Applications, ETRA 2014* (pp. 35-42). Association for Computing Machinery. <https://doi.org/10.1145/2578153.2578157>

Satuvuori, E., Mulansky, M., Bozanic, N., Malvestio, I., Zeldenrust, F., Lenk, K., & Kreuz, T. (2017). Measures of spike train synchrony for data with multiple time scales. *Journal of Neuroscience Methods*, 287, 25-38. <https://doi.org/10.1016/j.jneumeth.2017.05.028>

Natarajan, R., Einarsdottir, E., Riutta, A., Hagman, S., Raunio, M., Mononen, N., ... Elovaara, I. (2012). Melatonin pathway genes are associated with progressive subtypes and disability status in multiple sclerosis among Finnish patients. *JOURNAL OF NEUROIMMUNOLOGY*, 250(1-2), 106-110. <https://doi.org/10.1016/j.jneuroim.2012.05.014>

Lolicato, F., Juhola, H., Zak, A., Postila, P. A., Saukko, A., Rissanen, S., ... Róg, T. (2020). Membrane-Dependent Binding and Entry Mechanism of Dopamine into Its Receptor. *ACS Chemical Neuroscience*, 11(13), 1914–1924. <https://doi.org/10.1021/acscchemneuro.9b00656>

Heikkinen, H., Vinberg, F., Nymark, S., & Koskelainen, A. (2011). Mesopic background lights enhance dark-adapted cone ERG flash responses in the intact mouse retina: A possible role for gap junctional decoupling. *Journal of Neurophysiology*, 105(5), 2309-2318. <https://doi.org/10.1152/jn.00536.2010>

Iantovics, L. B., Emmert-Streib, F., & Arik, S. (2017). MetrIntMeas a novel metric for measuring the intelligence of a swarm of cooperating agents. *Cognitive Systems Research*, 45, 17-29. <https://doi.org/10.1016/j.cogsys.2017.04.006>

Kaipio, M. L., Cheour, M., Öhman, J., Salonen, O., & Näätänen, R. (2013). Mismatch negativity abnormality in traumatic brain injury without macroscopic lesions on conventional MRI. *NeuroReport*, 24(8), 440-444. <https://doi.org/10.1097/WNR.0b013e32836164b4>

Teppola, H., Sarkanen, J. R., Jalonen, T. O., & Linne, M-L. (2016). Morphological Differentiation Towards Neuronal Phenotype of SH-SY5Y Neuroblastoma Cells by Estradiol, Retinoic Acid and Cholesterol. *Neurochemical Research*, 41(4), 731-747. <https://doi.org/10.1007/s11064-015-1743-6>

Nevalainen, O., Auvinen, A., Ansakorpi, H., Artama, M., Raitanen, J., & Isojärvi, J. (2012). Mortality by clinical characteristics in a tertiary care cohort of adult patients with chronic epilepsy. *EPILEPSIA*, 53(12). <https://doi.org/10.1111/epi.12006>

Juhola, H., Postila, P. A., Rissanen, S., Lolicato, F., Vattulainen, I., & Róg, T. (2018). Negatively Charged Gangliosides Promote Membrane Association of Amphipathic Neurotransmitters. *Neuroscience*, 384, 214-223. <https://doi.org/10.1016/j.neuroscience.2018.05.035>

Välkki, I. A., Lenk, K., Mikkonen, J. E., Kapucu, F. E., & Hyttinen, J. A. K. (2017). Network-wide adaptive burst detection depicts neuronal activity with improved accuracy. *Frontiers in Computational Neuroscience*, 11, [40]. <https://doi.org/10.3389/fncom.2017.00040>

Acimovic, J. (2009). *Neural networks, cell cultures and some older work on data analysis*. Paper presented at Okinawa Computational Neuroscience Course 2009, Japan.

Wortha, S. M., Bloechle, J., Ninaus, M., Kiili, K., Lindstedt, A., Bahnmüller, J., ... Klein, E. (2020). Neurofunctional plasticity in fraction learning: An fMRI training study. *Trends in Neuroscience and Education*, *21*, [100141]. <https://doi.org/10.1016/j.tine.2020.100141>

Pelkonen, A., & Yavich, L. (2011). Neuromuscular pathology in mice lacking alpha-synuclein. *Neuroscience Letters*, *487* (3), 350-353. <https://doi.org/10.1016/j.neulet.2010.10.054>

Sharma, V., Bala, A., Deshmukh, R., Bedi, K. L., & Sharma, P. L. (2012). Neuroprotective effect of RO-20-1724-a phosphodiesterase4 inhibitor against intracerebroventricular streptozotocin induced cognitive deficit and oxidative stress in rats. *PHARMACOLOGY BIOCHEMISTRY AND BEHAVIOR*, *101*(2), 239-245. <https://doi.org/10.1016/j.pbb.2012.01.004>

Xiao, L., Liao, B., Li, S., & Chen, K. (2018). Nonlinear recurrent neural networks for finite-time solution of general time-varying linear matrix equations. *Neural Networks*, *98*, 102-113. <https://doi.org/10.1016/j.neunet.2017.11.011>

Iosifidis, A., Mygdalis, V., Tefas, A., & Pitas, I. (2016). One-Class Classification based on Extreme Learning and Geometric Class Information. *Neural Processing Letters*, 1-16. <https://doi.org/10.1007/s11063-016-9541-y>

Mäki-Marttunen, T. M., Acimovic, J., Ruohonen, K. P., & Linne, M-L. (2013). On the effect of network structure and synaptic mechanisms on sustained bursting activity. In G. Cymbalyuk, & A. Prinz (Eds.), *Twenty Second Annual Computational Neuroscience Meeting: CNS\*2013* (Vol. Volume 14 Suppl 1, pp. P247). Paris, France: BioMed Central.

Ju, Y. S. E., Alexandrov, L. B., Gerstung, M., Martincorena, I., Nik-Zainal, S., Ramakrishna, M., ... Campbell, P. J. (2014). Origins and functional consequences of somatic mitochondrial DNA mutations in human cancer. *eLIFE*, *3*. <https://doi.org/10.7554/eLife.02935>

Rönkkö, T., & Timonen, H. (2019). Overview of Sources and Characteristics of Nanoparticles in Urban Traffic-Influenced Areas. *Journal of Alzheimer's Disease*, *72*(1), 15-28. <https://doi.org/10.3233/JAD-190170>

Emmert-Streib, F., & Glazko, G. V. (2011). Pathway analysis of expression data: Deciphering functional building blocks of complex diseases. *PLoS Computational Biology*, *7*(5), [e1002053]. <https://doi.org/10.1371/journal.pcbi.1002053>

Polinati, P. P., Ilmarinen, T., Trokovic, R., Hyotylainen, T., Otonkoski, T., Suomalainen, A., ... Tyniitiina, T. (2015). Patient-specific induced pluripotent stem cell—derived RPE cells: Understanding the pathogenesis of retinopathy in long-chain 3-hydroxyacyl-CoA dehydrogenase deficiency. *Investigative Ophthalmology and Visual Science*, *56*(5), 3371-3382. <https://doi.org/10.1167/iovs.14-14007>

Saurus, P., Kuusela, S., Lehtonen, E., Hyvönen, M. E., Ristola, M., Fogarty, C. L., ... Lehtonen, S. (2015). Podocyte apoptosis is prevented by blocking the Toll-like receptor pathway. *CELL DEATH AND DISEASE*, *6*(5), [e1752]. <https://doi.org/10.1038/cddis.2015.125>

Sibolt, G., Curtze, S., Melkas, S., Pohjasvaara, T., Kaste, M., Karhunen, P. J., ... Erkinjuntti, T. (2013). Post-stroke depression and depression-executive dysfunction syndrome are associated with recurrence of ischaemic stroke. *CEREBROVASCULAR DISEASES*, *36*(5-6), 336-343. <https://doi.org/10.1159/000355145>

Moradi, E., Khundrakpam, B., Lewis, J. D., Evans, A. C., & Tohka, J. (2017). Predicting symptom severity in autism spectrum disorder based on cortical thickness measures in agglomerative data. *NeuroImage*, *144*(A), 128–141. <https://doi.org/10.1016/j.neuroimage.2016.09.049>

- Rezaei, A., Koulouri, A., & Pursiainen, S. (2020). Randomized Multiresolution Scanning in Focal and Fast E/MEG Sensing of Brain Activity with a Variable Depth. *Brain Topography*, 33(2), 161-175. <https://doi.org/10.1007/s10548-020-00755-8>
- Špakov, O., & Gizatdinova, Y. (2014). Real-time hidden gaze point correction. In *Proceedings of the Symposium on Eye Tracking Research and Applications, ETRA 2014* (pp. 291-294). Association for Computing Machinery. <https://doi.org/10.1145/2578153.2578200>
- Javanainen, M., Enkavi, G., Guixà-González, R., Kulig, W., Martinez-Seara, H., Levental, I., & Vattulainen, I. (2019). Reduced level of docosahexaenoic acid shifts GPCR neuroreceptors to less ordered membrane regions. *PLoS Computational Biology*, 15(5), [e1007033]. <https://doi.org/10.1371/journal.pcbi.1007033>
- Iosifidis, A., Tefas, A., & Pitas, I. (2014). Regularized extreme learning machine for multi-view semi-supervised action recognition. *Neurocomputing*, 145, 250-262. <https://doi.org/10.1016/j.neucom.2014.05.036>
- Puhakka, I. J. A., & Peltola, M. J. (2020). Salivary cortisol reactivity to psychological stressors in infancy: A meta-analysis. *PSYCHONEUROENDOCRINOLOGY*, 115, [104603]. <https://doi.org/10.1016/j.psyneuen.2020.104603>
- Sibolt, G., Curtze, S., Melkas, S., Pohjasvaara, T., Kaste, M., Karhunen, P. J., ... Erkinjuntti, T. (2015). Severe cerebral white matter lesions in ischemic stroke patients are associated with less time spent at home and early institutionalization. *INTERNATIONAL JOURNAL OF STROKE*, 10(8), 1192-1196. <https://doi.org/10.1111/ijis.12578>
- Mäki-Marttunen, T. M., Acimovic, J., Ruohonen, K. P., & Linne, M-L. (2012). Significance of graph theoretic measures in predicting neuronal network activity. In *Proceedings of The 9th annual Computational and Systems Neuroscience meeting (COSYNE 2012)* (pp. 55-55). [I-15] Salt Lake City.
- Heikkilä, H., & Rähä, K. J. (2012). Simple gaze gestures and the closure of the eyes as an interaction technique. In *Proceedings - ETRA 2012: Eye Tracking Research and Applications Symposium* (pp. 147-154) <https://doi.org/10.1145/2168556.2168579>
- Ilvesmäki, T., Koskinen, E., Brander, A., Luoto, T., Öhman, J., & Eskola, H. (2017). Spinal cord injury induces widespread chronic changes in cerebral white matter. *Human Brain Mapping*, 38(7), 3637-3647. <https://doi.org/10.1002/hbm.23619>
- Bron, E. E., Smits, M., van der Flier, W. M., Vrenken, H., Barkhof, F., Scheltens, P., ... Klein, S. (2015). Standardized evaluation of algorithms for computer-aided diagnosis of dementia based on structural MRI: The CADDementia challenge. *NeuroImage*, 111, 562-579. <https://doi.org/10.1016/j.neuroimage.2015.01.048>
- Angleraud, A., Houbre, Q., & Pieters, R. (2019). Teaching semantics and skills for human-robot collaboration. *Paladyn*, 10(1), 318-329. <https://doi.org/10.1515/pjbr-2019-0025>
- Sharmin, S., Špakov, O., & Rähä, K. J. (2012). The effect of different text presentation formats on eye movement metrics in reading. *JOURNAL OF EYE MOVEMENT RESEARCH*, 5(3), [3].
- Acimovic, J., Mäki-Marttunen, T., & Linne, M-L. (2015). The effects of neuron morphology on graph theoretic measures of network connectivity: The analysis of a two-level statistical model. *Frontiers in Neuroanatomy*, 9(June), [76]. <https://doi.org/10.3389/fnana.2015.00076>
- Saarela, C., Karrasch, M., Ilvesmäki, T., Parkkola, R., Rinne, J. O., & Laine, M. (2016). The relationship between recognition memory for emotion-laden words and white matter microstructure in normal older individuals. *NeuroReport*, 27(18), 1345-1349. <https://doi.org/10.1097/WNR.0000000000000704>
- Istance, H., Vickers, S., & Hyrskykari, A. (2012). The validity of using non-representative users in gaze communication research. In *Proceedings - ETRA 2012: Eye Tracking Research and Applications Symposium* (pp. 233-236) <https://doi.org/10.1145/2168556.2168603>



- Gracia-Tabuenca, J., Seppä, V-P., Jauhiainen, M., Paassilta, M., Viik, J., & Karjalainen, J. (2020). Tidal breathing flow profiles during sleep in wheezing children measured by impedance pneumography. *Respiratory Physiology and Neurobiology*, 271, [103312]. <https://doi.org/10.1016/j.resp.2019.103312>
- Faisal, A., Gillberg, J., Leen, G., & Peltonen, J. (2013). Transfer learning using a nonparametric sparse topic model. *Neurocomputing*, 112, 124-137. <https://doi.org/10.1016/j.neucom.2012.12.038>
- Akkil, D., Isokoski, P., Kangas, J., Rantala, J., & Raisamo, R. (2014). TraQuMe: A tool for measuring the gaze tracking quality. In *Proceedings of the Symposium on Eye Tracking Research and Applications, ETRA 2014* (pp. 327-330). Association for Computing Machinery. <https://doi.org/10.1145/2578153.2578192>
- Teppola, H., Aćimović, J., & Linne, M. L. (2019). Unique Features of Network Bursts Emerge From the Complex Interplay of Excitatory and Inhibitory Receptors in Rat Neocortical Networks. *FRONTIERS IN CELLULAR NEUROSCIENCE*, 13, [377]. <https://doi.org/10.3389/fncel.2019.00377>
- Alarautalahti, V., Ragauskas, S., Hakkarainen, J. J., Uusitalo-Järvinen, H., Uusitalo, H., Hyttinen, J., ... Nymark, S. (2019). Viability of Mouse Retinal Explant Cultures Assessed by Preservation of Functionality and Morphology. *Investigative ophthalmology & visual science*, 60(6), 1914-1927. <https://doi.org/10.1167/iovs.18-25156>
- Acimovic, J., Mäki-Marttunen, T. M., & Linne, M-L. (2015). Whole-cell morphological properties of neurons constrain the nonrandom features of network connectivity. In G. Cymbalyuk, & A. Burkitt (Eds.), *24th Annual Computational Neuroscience Meeting: CNS\*2015* (Vol. 16 (Suppl 1), pp. P:07). [O7] Prague: BioMed Central.
- Zou, J., Hannula, M., Lehto, K., Feng, H., Lähelmä, J., Aula, A. S., ... Pyykkö, I. (2015). X-ray microtomographic confirmation of the reliability of CBCT in identifying the scalar location of cochlear implant electrode after round window insertion. *Hearing Research*, 326, 59-65. <https://doi.org/10.1016/j.heares.2015.04.005>
- He, Q., Rezaei, A., & Pursiainen, S. (2019). Zeffiro User Interface for Electromagnetic Brain Imaging: a GPU Accelerated FEM Tool for Forward and Inverse Computations in Matlab. *Neuroinformatics*. <https://doi.org/10.1007/s12021-019-09436-9>