

A Computational Model of Interactions Between Neuronal and Astrocytic Networks: The Role of Astrocytes in the Stability of the Neuronal Firing Rate

Lenk, K., Satuvuori, E., Lallouette, J., Ladrón-de-Guevara, A., Berry, H. & Hyttinen, J. A. K., 22 Jan 2020, In : *Frontiers in Computational Neuroscience*. 13, 19 p., 92.

Research output: Contribution to journal › Article › Scientific › peer-review

A constrained HMM-based approach to the estimation of perceptual switching dynamics in pigeons

Otterpohl, J. R., Emmert-Streib, F. & Pawelzik, K., Jun 2001, In : *Neurocomputing*. 38-40, p. 1495-1501 7 p.

Research output: Contribution to journal › Article › Scientific › peer-review

Advanced boundary electrode modeling for tES and parallel tES/EEG

Pursiainen, S., Agsten, B., Wagner, S. & Wolters, C. H., 2017, In : *IEEE Transactions on Neural Systems and Rehabilitation Engineering*. 26, 1, p. 37-44

Research output: Contribution to journal › Article › Scientific › peer-review

Advances in Human Stem Cell-Derived Neuronal Cell Culturing and Analysis

Ylä-Outinen, L., Tanskanen, J. M. A., Kapucu, F. E., Hyysalo, A., Hyttinen, J. A. K. & Narkilahti, S., 2019, *In Vitro Neuronal Networks: From Culturing Methods to Neuro-Technological Applications*. Springer New York LLC, p. 299-329 31 p. (Advances in Neurobiology; vol. 22).

Research output: Chapter in Book/Report/Conference proceeding › Chapter › Scientific › peer-review

Analysis of apoptosis-related genes in patients with clinically isolated syndrome and their association with conversion to multiple sclerosis

Hagman, S., Kolasa, M., Basnyat, P., Helminen, M., Kähönen, M., Dastidar, P., Lehtimäki, T. & Elovaara, I., 15 Mar 2015, In : *JOURNAL OF NEUROIMMUNOLOGY*. 280, p. 43-48 6 p.

Research output: Contribution to journal › Article › Scientific › peer-review

A Primal Neural Network for Online Equality-Constrained Quadratic Programming

Chen, K. & Zhang, Z., 2018, In : *Cognitive Computation*. 10, 2, p. 381-388 8 p.

Research output: Contribution to journal › Article › Scientific › peer-review

A realistic, accurate and fast source modeling approach for the EEG forward problem

Miinalainen, T., Rezaei, A., Us, D., Nüßing, A., Engwer, C., Wolters, C. H. & Pursiainen, S., 2019, In : *NeuroImage*. 184, 1, p. 56-67 12 p.

Research output: Contribution to journal › Article › Scientific › peer-review

Assessment of mutation probabilities of KRAS G12 missense mutants and their long-timescale dynamics by atomistic molecular simulations and Markov state modeling

Pantsar, T., Rissanen, S., Dauch, D., Laitinen, T., Vattulainen, I. & Poso, A., 10 Sep 2018, In : *PLoS Computational Biology*. 14, 9, e1006458.

Research output: Contribution to journal › Article › Scientific › peer-review

Assessment of PIV performance in validating CFD models from nasal cavity CBCT scans

Ormiskangas, J., Valtonen, O., Kivekäs, I., Dean, M., Poe, D., Järnstedt, J., Lekkala, J., Harju, T., Saarenrinne, P. & Rautiainen, M., 1 Nov 2020, In : *Respiratory Physiology and Neurobiology*. 282, 9 p., 103508.

Research output: Contribution to journal › Article › Scientific › peer-review

Assessment of respiratory effort during sleep with noninvasive techniques

Tenhunen, M., Hasan, J. & Himanen, S. L., 1 Dec 2015, In : *Sleep Medicine Reviews*. 24, p. 103-104 2 p.

Research output: Contribution to journal › Article › Scientific

Association between soluble L-selectin and anti-JCV antibodies in natalizumab-treated relapsing-remitting MS patients

Basnyat, P., Hagman, S., Kolasa, M., Koivisto, K., Verkkoniemi-Ahola, A., Airas, L. & Elovaara, I., 1 Jul 2015, In : *Multiple Sclerosis and Related Disorders*. 4, 4, p. 334-338 5 p.

Research output: Contribution to journal › Article › Scientific › peer-review

Astrocyte lineage cells are essential for functional neuronal differentiation and synapse maturation in human iPSC-derived neural networks

Klapper, S. D., Garg, P., Dagar, S., Lenk, K., Gottmann, K. & Nieweg, K., 2019, In : *Glia*. 67, 10, p. 1893-1909 17 p.
Research output: Contribution to journal › Article › Scientific › peer-review

Atomistic fingerprint of hyaluronan-CD44 binding

Vuorio, J., Vattulainen, I. & Martinez-Seara, H., 1 Jul 2017, In : *PLoS Computational Biology*. 13, 7, e1005663.
Research output: Contribution to journal › Article › Scientific › peer-review

Autoimmunity-related immunological serum markers and survival in a tertiary care cohort of adult patients with epilepsy

Nevalainen, O., Auvinen, A., Ansakorpi, H., Raitanen, J. & Isojärvi, J., 1 Nov 2014, In : *EPILEPSY RESEARCH*. 108, 9, p. 1675-1679 5 p.

Research output: Contribution to journal › Article › Scientific › peer-review

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

Hyppönen, J., Hakala, A., Annala, K., Zhang, H., Peltola, J., Mervaala, E. & Kälviäinen, R., 1 Mar 2020, In : *Seizure*. 76, p. 72-78 7 p.

Research output: Contribution to journal › Article › Scientific › peer-review

Automatic objective thresholding to detect neuronal action potentials

Tanskanen, J. M. A., Kapucu, F. E., Välikki, I. & Hyttinen, J. A. K., 29 Aug 2016, *Proceedings of 2016 24th European Signal Processing Conference (EUSIPCO)*. p. 662-666 5 p.

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Building new computational models to support health behavior change and maintenance: new opportunities in behavioral research

Spruijt-Metz, D., Hekler, E., Saranummi, N., Intille, S., Korhonen, I., Nilsen, W., Rivera, D. E., Spring, B., Michie, S., Asch, D. A., Sanna, A., Salcedo, V. T., Kukakfa, R. & Pavel, M., 17 Sep 2015, In : *Translational Behavioral Medicine*. 5, 3, p. 335-346 12 p.

Research output: Contribution to journal › Article › Scientific › peer-review

Calcium Assists Dopamine Release by Preventing Aggregation on the Inner Leaflet of Presynaptic Vesicles

Mokkila, S., Postila, P. A., Rissanen, S., Juhola, H., Vattulainen, I. & Róg, T., 21 Jun 2017, In : *ACS Chemical Neuroscience*. 8, 6, p. 1242-1250 9 p.

Research output: Contribution to journal › Article › Scientific › peer-review

Cell culture chamber with gas supply for prolonged recording of human neuronal cells on microelectrode array

Kreutzer, J., Ylä-Outinen, L., Mäki, A., Ristola, M., Narkilahti, S. & Kallio, P., 15 Mar 2017, In : *Journal of Neuroscience Methods*. 280, p. 27-35 9 p.

Research output: Contribution to journal › Article › Scientific › peer-review

CNN-based edge filtering for object proposals

Waris, M. A., Iosifidis, A. & Gabbouj, M., 2 Jun 2017, In : *Neurocomputing*. 266, p. 631-640

Research output: Contribution to journal › Article › Scientific › peer-review

Cognitive load and metacognitive confidence extraction from pupillary response

Gavas, R. D., Tripathy, S. R., Chatterjee, D. & Sinha, A., 1 Dec 2018, In : *Cognitive Systems Research*. 52, p. 325-334 10 p.

Research output: Contribution to journal › Article › Scientific › peer-review

Comparison of eye movement filters used in HCI

Špakov, O., 2012, *Proceedings - ETRA 2012: Eye Tracking Research and Applications Symposium*. p. 281-284 4 p.

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Comparison of Feature Selection Techniques in Machine Learning for Anatomical Brain MRI in Dementia

Tohka, J., Moradi, E., Huttunen, H., Alzheimer's Disease Neuroimaging Initiative & Alzheimer's Disease Neuroimaging Initiative 2, 2016, In : *Neuroinformatics*. 14, 3, p. 279-296 18 p.

Research output: Contribution to journal > Article > Scientific > peer-review

Comparison of stapedotomy minus prosthesis, circumferential stapes mobilization, and small fenestra stapedotomy for stapes fixation

Acar, G. O., Kivekäs, I., Hanna, B. M., Huang, L., Gopen, Q. & Poe, D. S., 2014, In : *OTOLOGY AND NEUROTOLOGY*. 35, 4

Research output: Contribution to journal > Article > Scientific > peer-review

Computational modeling of growth in cortical cultures using the NETMORPH simulation tool

Acimovic, J., Mäki-Marttunen, T. & Linne, M-L., 2010, *Neuroscience 2010, 40th Annual Meeting, San Diego, USA, 13-17 November 2010*. p. 2 p

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

Computational study of structural changes in neuronal networks during growth: a model of dissociated neocortical cultures

Acimovic, J., Mäki-Marttunen, T. & Linne, M-L., 2011, *Twentieth Annual Computational Neuroscience Meeting: CNS*2011*. Fellous, J-M. & Prinz, A. (eds.). Stockholm: BioMed Central, Vol. 12 (Suppl 1). p. P203 1 p. P203. (Annual Computational Neuroscience Meeting CNS; vol. 12).

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

Computational tools for assessing the properties of 2D neural cell cultures

Acimovic, J., Teppola, H., Selinummi, J. J. & Linne, M-L., 13 Jul 2009, *Eighteenth Annual Computational Neuroscience Meeting: CNS*2009*. Johnson, D. (ed.). Berlin: BioMed Central, Vol. 10 (Suppl 1). p. P170 1 p. P170

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

Concerted regulation of npc2 binding to endosomal/lysosomal membranes by bis(monoacylglycero)phosphate and sphingomyelin

Enkavi, G., Mikkolainen, H., Güngör, B., Ikonen, E. & Vattulainen, I., 1 Oct 2017, In : *PLoS Computational Biology*. 13, 10, e1005831.

Research output: Contribution to journal > Article > Scientific > peer-review

Cortical spreading depression in alpha-synuclein knockout mice

Pelkonen, A. & Yavich, L., Jan 2012, In : *SYNAPSE*. 66, 1, p. 81-84 4 p.

Research output: Contribution to journal > Article > Scientific > peer-review

Cost-effectiveness of decompressive craniectomy in non-traumatic neurological emergencies

Malmivaara, K., Ohman, J., Kivisaari, R., Hernesniemi, J. & Siironen, J., Mar 2011, In : *European Journal of Neurology*. 18, 3, p. 402-409 8 p.

Research output: Contribution to journal > Article > Scientific > peer-review

COX-2 regulates the proliferation of glioma stem like cells

Sharma, V., Dixit, D., Ghosh, S. & Sen, E., Oct 2011, In : *NEUROCHEMISTRY INTERNATIONAL*. 59, 5, p. 567-571 5 p.

Research output: Contribution to journal > Article > Scientific > peer-review

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?

Acimovic, J., Teppola, H., Mäki-Marttunen, T. M. & Linne, M-L., 20 Sep 2018.

Research output: Other conference contribution > Paper, poster or abstract > Scientific

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?

Acimovic, J., Teppola, H., Mäki-Marttunen, T. M. & Linne, M-L., 29 Oct 2018, In : *BMC Neuroscience*. 19, Suppl 2, p. 68-69 1 p.

Research output: Contribution to journal > Meeting Abstract > Scientific > peer-review

Deep audio-visual saliency: Baseline model and data

Tavakoli, H. R., Borji, A., Kannala, J. & Rahtu, E., 6 Feb 2020, *Proceedings ETRA 2020 Short Papers - ACM Symposium on Eye Tracking Research and Applications, ETRA 2020*. Spencer, S. N. (ed.). ACM, 3

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

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

Möttönen, T., Katisko, J., Haapasalo, J., Tähtinen, T., Kiekara, T., Kähärä, V., Peltola, J., Öhman, J. & Lehtimäki, K., 2015, In : *NeuroImage: Clinical*. 7, p. 823-829 7 p.

Research output: Contribution to journal > Article > Scientific > peer-review

Diffusion tensor imaging and disability progression in multiple sclerosis: A 4-year follow-up study

Kolasa, M., Hakulinen, U., Brander, A., Hagman, S., Dastidar, P., Elovaara, I. & Sumelahti, M-L., Jan 2019, In : *Brain and Behavior*. 9, 1, e01194.

Research output: Contribution to journal > Article > Scientific > peer-review

Disconnection between periodic leg movements and cortical arousals in spinal cord injury

Salminen, A. V., Manconi, M., Rimpilä, V., Luoto, T. M., Koskinen, E., Ferri, R., Öhman, J. & Polo, O., 2013, In : *JOURNAL OF CLINICAL SLEEP MEDICINE*. 9, 11, p. 1207-1209 3 p.

Research output: Contribution to journal > Article > Scientific > peer-review

Disease-associated inflammatory biomarker profiles in blood in different subtypes of multiple sclerosis: Prospective clinical and MRI follow-up study

Hagman, S., Raunio, M., Rossi, M., Dastidar, P. & Elovaara, I., May 2011, In : *JOURNAL OF NEUROIMMUNOLOGY*. 234, 1-2, p. 141-147 7 p.

Research output: Contribution to journal > Article > Scientific > peer-review

Distance-based human action recognition using optimized class representations

Iosifidis, A., Tefas, A. & Pitas, I., 5 Aug 2015, In : *Neurocomputing*. 161, p. 47-55 9 p.

Research output: Contribution to journal > Article > Scientific > peer-review

DropELM: Fast neural network regularization with Dropout and DropConnect

Iosifidis, A., Tefas, A. & Pitas, I., 25 Aug 2015, In : *Neurocomputing*. 162, p. 57-66 10 p.

Research output: Contribution to journal > Article > Scientific > peer-review

Effect of rhodopsin phosphorylation on dark adaptation in mouse rods

Berry, J., Frederiksen, R., Yao, Y., Nymark, S., Chen, J. & Cornwall, C., 29 Jun 2016, In : *Journal of Neuroscience*. 36, 26, p. 6973-6987 15 p.

Research output: Contribution to journal > Article > Scientific > peer-review

Effects of cytokine activation and oxidative stress on the function of the human embryonic stem cell-derived retinal pigment epithelial cells

Juuti-Uusitalo, K., Nieminen, M., Treumer, F., Ampuja, M., Kallioniemi, A., Klettner, A. & Skottman, H., 2015, In : *Investigative Ophthalmology and Visual Science*. 56, 11, p. 6265-6274 10 p.

Research output: Contribution to journal > Article > Scientific > peer-review

Effects of exogenous alpha-synuclein on stimulated dopamine overflow in dorsal striatum

Pelkonen, A., Kallunki, P. & Yavich, L., 25 Oct 2013, In : *Neuroscience Letters*. 554, p. 141-145 5 p.

Research output: Contribution to journal > Article > Scientific > peer-review

Effects of local structure of neuronal networks on spiking activity in silico

Mäki-Marttunen, T. M., Acimovic, J., Ruohonen, K. P. & Linne, M-L., 18 Jul 2011, *Twentieth Annual Computational Neuroscience Meeting: CNS*2011*. Fellous, J-M. & Prinz, A. (eds.). Stockholm: BioMed Central, Vol. 12 (Suppl 1). p. P202 1 p.

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

Effects of structure on spontaneous activity in simulated neuronal networks

Mäki-Marttunen, T., Acimovic, J., Ruohonen, K. & Linne, M-L., 11 Apr 2011, *Proceedings of Mathematical Neuroscience (ICMS 2011), April 11-13, 2011, Edinburgh, Scotland*.

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

Elevated levels of soluble CD26 and CD30 in multiple sclerosis

Basnyat, P., Natarajan, R., Vistbakka, J., Lehtikangas, M., Airas, L., Matinlauri, I., Elovaara, I. & Hagman, S., 1 Nov 2015, In : *Clinical and Experimental Neuroimmunology*. 6, 4, p. 419-425 7 p.

Research output: Contribution to journal > Article > Scientific > peer-review

Emergence of global and local structural features during development of neuronal networks

Acimovic, J., 6 Jun 2011, *Proceedings of the Eighth International Workshop on Computational Systems Biology, WCSB 2011, June 6-8, 2011, Zürich, Switzerland*. Tampere: TICSP, (TICSP Series ; vol. 57).

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

Epileptiform and periodic EEG activities induced by rapid sevoflurane anaesthesia induction

Sonkajärvi, E., Rytty, S., Alahuhta, S., Suominen, K., Kumpulainen, T., Ohtonen, P., Karvonen, E. & Jäntti, V., 1 Mar 2018, In : *Clinical Neurophysiology*. 129, 3, p. 638-645 8 p.

Research output: Contribution to journal > Article > Scientific > peer-review

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)

Otterpohl, J. R., Haynes, J. D., Emmert-Streib, F., Vetter, G. & Pawelzik, K., 2001, In : *Journal of Physiology: Paris*. 95, 1-6, p. 497 1 p.

Research output: Contribution to journal > Article > Scientific > peer-review

Eustachian tube mucosal inflammation scale validation based on digital video images

Kivekäs, I., Pöyhönen, L., Aarnisalo, A., Rautiainen, M. & Poe, D., 1 Dec 2015, In : *OTOLOGY AND NEUROTOLOGY*. 36, 10, p. 1748-1752 5 p.

Research output: Contribution to journal > Article > Scientific > peer-review

Evaluation of the different sleep-disordered breathing patterns of the compressed tracheal sound

Tenhunen, M., Huupponen, E., Hasan, J., Heino, O. & Himanen, S. L., 1 Aug 2015, In : *Clinical Neurophysiology*. 126, 8, p. 1557-1563 7 p.

Research output: Contribution to journal > Article > Scientific > peer-review

Experiments of the sonification of the sleep electroencephalogram

Franco, P. & Värrö, A., 11 May 2015, In : *Finnish Journal of eHealth and eWelfare*. 7, 2-3, p. 65-74 10 p.

Research output: Contribution to journal > Article > Scientific > peer-review

Extensive white matter changes predict stroke recurrence up to 5 years after a first-ever ischemic stroke

Melkas, S., Sibolt, G., Oksala, N. K. J., Putaala, J., Pohjasvaara, T., Kaste, M., Karhunen, P. J. & Erkinjuntti, T., Oct 2012, In : *CEREBROVASCULAR DISEASES*. 34, 3, p. 191-198 8 p.

Research output: Contribution to journal > Article > Scientific > peer-review

Extracting the dynamics of perceptual switching from 'noisy' behaviour: An application of hidden Markov modelling to pecking data from pigeons

Otterpohl, J. R., Haynes, J. D., Emmert-Streib, F., Vetter, G. & Pawelzik, K., 2000, In : *Journal of Physiology: Paris*. 94, 5-6, p. 555-567 13 p.

Research output: Contribution to journal > Article > Scientific > peer-review

Extreme learning machine based supervised subspace learning

Iosifidis, A., 2015, In : *Neurocomputing*. 167, p. 158-164 7 p.

Research output: Contribution to journal > Article > Scientific > peer-review

Fault tolerant machine learning for nanoscale cognitive radio

Pajarinen, J., Peltonen, J. & Uusitalo, M. A., Feb 2011, In : *Neurocomputing*. 74, 5, p. 753-764 12 p.

Research output: Contribution to journal › Article › Scientific › peer-review

Fluorescent probes as a tool for cell population tracking in spontaneously active neural networks derived from human pluripotent stem cells

Mäkinen, M., Joki, T., Ylä-Outinen, L., Skottman, H., Narkilahti, S. & Äänismaa, R., Apr 2013, In : *Journal of Neuroscience Methods*. 215, 1, p. 88-96 9 p.

Research output: Contribution to journal › Article › Scientific › peer-review

From in silico astrocyte cell models to neuron-astrocyte network models: A review

Oschmann, F., Berry, H., Obermayer, K. & Lenk, K., 2018, In : *BRAIN RESEARCH BULLETIN*. 136, p. 76-84

Research output: Contribution to journal › Review Article › Scientific › peer-review

Functional brain segmentation using inter-subject correlation in fMRI

Kauppi, J.-P., Pajula, J., Niemi, J., Hari, R. & Tohka, J., 1 May 2017, In : *Human Brain Mapping*. 38, 5, p. 2643-2665 23 p.

Research output: Contribution to journal › Article › Scientific › peer-review

Gaze gestures or dwell-based interaction?

Hyrskykari, A., Istance, H. & Vickers, S., 2012, *Proceedings - ETRA 2012: Eye Tracking Research and Applications Symposium*. p. 229-232 4 p.

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Haptic feedback to gaze events

Kangas, J., Rantala, J., Majaranta, P., Isokoski, P. & Raisamo, R., 2014, *Proceedings of the Symposium on Eye Tracking Research and Applications, ETRA 2014*. Association for Computing Machinery, p. 11-18 8 p.

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

How Many Is Enough? Effect of Sample Size in Inter-Subject Correlation Analysis of fMRI

Pajula, J. & Tohka, J., 2016, In : *Computational Intelligence and Neuroscience*. 2016, 2094601.

Research output: Contribution to journal › Article › Scientific › peer-review

Human anterior thalamic nuclei are involved in emotion-attention interaction

Sun, L., Peräkylä, J., Polvivaara, M., Öhman, J., Peltola, J., Lehtimäki, K., Huhtala, H. & Hartikainen, K. M., 1 Nov 2015, In : *NEUROPSYCHOLOGIA*. 78, p. 88-94 7 p.

Research output: Contribution to journal › Article › Scientific › peer-review

Human-robot interactive learning architecture using ontologies and symbol manipulation

Angleraud, A., Houbre, Q., Kyrki, V. & Pieters, R., 6 Nov 2018, *RO-MAN 2018 - 27th IEEE International Symposium on Robot and Human Interactive Communication: August 27-31, 2018, Nanjing, China*. IEEE, p. 384-389 6 p. (IEEE RO-MAN).

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Immediate effects of deep brain stimulation of anterior thalamic nuclei on executive functions and emotion-attention interaction in humans

Hartikainen, K. M., Sun, L., Polvivaara, M., Brause, M., Lehtimäki, K., Haapasalo, J., Möttönen, T., Väyrynen, K., Ogawa, K. H., Öhman, J. & Peltola, J., 28 May 2014, In : *JOURNAL OF CLINICAL AND EXPERIMENTAL NEUROPSYCHOLOGY*. 36, 5, p. 540-550 11 p.

Research output: Contribution to journal › Article › Scientific › peer-review

Improved EEG source localization with Bayesian uncertainty modelling of unknown skull conductivity

Rimpiläinen, V., Koulouri, A., Lucka, F., Kaipio, J. P. & Wolters, C. H., 1 Mar 2019, In : *NeuroImage*. 188, p. 252-260 9 p.

Research output: Contribution to journal › Article › Scientific › peer-review

Improvement of computational efficiency of a biochemical plasticity model

Lehtimäki, M., Paunonen, L. & Linne, M-L., 29 Sep 2018, In : BMC Neuroscience. 19, Suppl 2, p. 66-66 P130.
Research output: Contribution to journal › Meeting Abstract › Scientific › peer-review

Improving efficiency in convolutional neural networks with multilinear filters

Tran, D. T., Iosifidis, A. & Gabbouj, M., 1 Sep 2018, In : Neural Networks. 105, p. 328-339 12 p.
Research output: Contribution to journal › Article › Scientific › peer-review

Influence of the experimental design of gene expression studies on the inference of gene regulatory networks: Environmental factors

Emmert-Streib, F., 2013, In : PeerJ. 2013, 1, e10.
Research output: Contribution to journal › Article › Scientific › peer-review

Influence of the neural network topology on the learning dynamics

Emmert-Streib, F., May 2006, In : Neurocomputing. 69, 10-12, p. 1179-1182 4 p.
Research output: Contribution to journal › Article › Scientific › peer-review

Inhibition of A β Amyloid Growth and Toxicity by Silybins: The Crucial Role of Stereochemistry

Sciacca, M. F. M., Romanucci, V., Zarrelli, A., Monaco, I., Lolicato, F., Spinella, N., Galati, C., Grasso, G., D'Urso, L., Romeo, M., Diomede, L., Salmona, M., Bongiorno, C., Di Fabio, G., La Rosa, C. & Milardi, D., 16 Aug 2017, In : ACS Chemical Neuroscience. 8, 8, p. 1767-1778 12 p.
Research output: Contribution to journal › Article › Scientific › peer-review

Inhibition of Casein kinase-2 induces p53-dependent cell cycle arrest and sensitizes glioblastoma cells to tumor necrosis factor (TNF α)-induced apoptosis through SIRT1 inhibition

Dixit, D., Sharma, V., Ghosh, S., Mehta, V. S. & Sen, E., Feb 2012, In : CELL DEATH AND DISEASE. 3, 2, e271.
Research output: Contribution to journal › Article › Scientific › peer-review

In silico study on structure and dynamics in bursting neuronal networks

Mäki-Marttunen, T. M., Acimovic, J., Ruohonen, K. P. & Linne, M-L., 13 Oct 2012, *Neuroscience 2012; 42nd Annual Meeting, New Orleans, USA, October 14-18, 2012*. Society for Neuroscience (SfN), 1 p. 300.26/DDD70
Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Learning sparse representations for view-independent human action recognition based on fuzzy distances

Iosifidis, A., Tefas, A. & Pitas, I., 9 Dec 2013, In : Neurocomputing. 121, p. 344-353 10 p.
Research output: Contribution to journal › Article › Scientific › peer-review

Look and lean: Accurate head-assisted eye pointing

Špakov, O., Isokoski, P. & Majaranta, P., 2014, *Proceedings of the Symposium on Eye Tracking Research and Applications, ETRA 2014*. Association for Computing Machinery, p. 35-42 8 p.
Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Measures of spike train synchrony for data with multiple time scales

Satuvuori, E., Mulansky, M., Bozanic, N., Malvestio, I., Zeldenrust, F., Lenk, K. & Kreuz, T., 1 Aug 2017, In : Journal of Neuroscience Methods. 287, p. 25-38 14 p.
Research output: Contribution to journal › Article › Scientific › peer-review

Melatonin pathway genes are associated with progressive subtypes and disability status in multiple sclerosis among Finnish patients

Natarajan, R., Einarsdottir, E., Riutta, A., Hagman, S., Raunio, M., Mononen, N., Lehtimäki, T. & Elovaara, I., 15 Sep 2012, In : JOURNAL OF NEUROIMMUNOLOGY. 250, 1-2, p. 106-110 5 p.
Research output: Contribution to journal › Article › Scientific › peer-review

Membrane-Dependent Binding and Entry Mechanism of Dopamine into Its Receptor

Lolicato, F., Juhola, H., Zak, A., Postila, P. A., Saukko, A., Rissanen, S., Enkavi, G., Vattulainen, I., Kepczynski, M. & Róg, T., 2020, In : ACS Chemical Neuroscience. 11, 13, p. 1914-1924 11 p.

Research output: Contribution to journal › Article › Scientific › peer-review

Mesopic background lights enhance dark-adapted cone ERG flash responses in the intact mouse retina: A possible role for gap junctional decoupling

Heikkinen, H., Vinberg, F., Nymark, S. & Koskelainen, A., May 2011, In : Journal of Neurophysiology. 105, 5, p. 2309-2318 10 p.

Research output: Contribution to journal › Article › Scientific › peer-review

MetriIntMeas a novel metric for measuring the intelligence of a swarm of cooperating agents

Iantovics, L. B., Emmert-Streib, F. & Arik, S., 1 Oct 2017, In : Cognitive Systems Research. 45, p. 17-29 13 p.

Research output: Contribution to journal › Article › Scientific › peer-review

Mismatch negativity abnormality in traumatic brain injury without macroscopic lesions on conventional MRI

Kaipio, M. L., Cheour, M., Öhman, J., Salonen, O. & Näätänen, R., 29 May 2013, In : NeuroReport. 24, 8, p. 440-444 5 p.

Research output: Contribution to journal › Article › Scientific › peer-review

Morphological Differentiation Towards Neuronal Phenotype of SH-SY5Y Neuroblastoma Cells by Estradiol, Retinoic Acid and Cholesterol

Teppola, H., Sarkanen, J. R., Jalonen, T. O. & Linne, M-L., 2016, In : Neurochemical Research. 41, 4, p. 731-747

Research output: Contribution to journal › Article › Scientific › peer-review

Mortality by clinical characteristics in a tertiary care cohort of adult patients with chronic epilepsy

Nevalainen, O., Auvinen, A., Ansakorpi, H., Artama, M., Raitanen, J. & Isojärvi, J., Dec 2012, In : EPILEPSIA. 53, 12

Research output: Contribution to journal › Article › Scientific › peer-review

Negatively Charged Gangliosides Promote Membrane Association of Amphipathic Neurotransmitters

Juhola, H., Postila, P. A., Rissanen, S., Lolicato, F., Vattulainen, I. & Róg, T., 1 Aug 2018, In : Neuroscience. 384, p. 214-223 10 p.

Research output: Contribution to journal › Article › Scientific › peer-review

Network-wide adaptive burst detection depicts neuronal activity with improved accuracy

Välkki, I. A., Lenk, K., Mikkonen, J. E., Kapucu, F. E. & Hyttinen, J. A. K., 31 May 2017, In : Frontiers in Computational Neuroscience. 11, 40.

Research output: Contribution to journal › Article › Scientific › peer-review

Neural networks, cell cultures and some older work on data analysis.

Acimovic, J., 15 Jun 2009.

Research output: Other conference contribution › Paper, poster or abstract › Scientific

Neurofunctional plasticity in fraction learning: An fMRI training study

Wortha, S. M., Bloechle, J., Ninaus, M., Kiili, K., Lindstedt, A., Bahnmueller, J., Moeller, K. & Klein, E., 1 Dec 2020, In : Trends in Neuroscience and Education. 21, 15 p., 100141.

Research output: Contribution to journal › Article › Scientific › peer-review

Neuromuscular pathology in mice lacking alpha-synuclein

Pelkonen, A. & Yavich, L., 10 Jan 2011, In : Neuroscience Letters. 487, 3, p. 350-353 4 p.

Research output: Contribution to journal › Article › Scientific › peer-review

Neuroprotective effect of RO-20-1724-a phosphodiesterase4 inhibitor against intracerebroventricular streptozotocin induced cognitive deficit and oxidative stress in rats

Sharma, V., Bala, A., Deshmukh, R., Bedi, K. L. & Sharma, P. L., Apr 2012, In : PHARMACOLOGY BIOCHEMISTRY AND BEHAVIOR. 101, 2, p. 239-245 7 p.

Research output: Contribution to journal › Article › Scientific › peer-review

Nonlinear recurrent neural networks for finite-time solution of general time-varying linear matrix equations

Xiao, L., Liao, B., Li, S. & Chen, K., Feb 2018, In : *Neural Networks*. 98, p. 102-113 12 p.

Research output: Contribution to journal › Article › Scientific › peer-review

One-Class Classification based on Extreme Learning and Geometric Class Information

Iosifidis, A., Mygdalis, V., Tefas, A. & Pitas, I., 2016, In : *Neural Processing Letters*. p. 1-16 16 p.

Research output: Contribution to journal › Article › Scientific › peer-review

On the effect of network structure and synaptic mechanisms on sustained bursting activity

Mäki-Marttunen, T. M., Acimovic, J., Ruohonen, K. P. & Linne, M-L., 8 Jul 2013, *Twenty Second Annual Computational Neuroscience Meeting: CNS*2013*. Cymbalyuk, G. & Prinz, A. (eds.). Paris, France: BioMed Central, Vol. Volume 14 Suppl 1. p. P247 1 p.

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Origins and functional consequences of somatic mitochondrial DNA mutations in human cancer

Ju, Y. S. E., Alexandrov, L. B., Gerstung, M., Martincorena, I., Nik-Zainal, S., Ramakrishna, M., Davies, H. R., Papaemmanuil, E., Gundem, G., Shlien, A., Bolli, N., Behjati, S., Tarpey, P. S., Nangalia, J., Massie, C. E., Butler, A. P., Teague, J. W., Vassiliou, G. S., Green, A. R., Du, M. Q., Unnikrishnan, A., Pimanda, J. E., Teh, B. T. E., Munshi, N., Greaves, M., Vyas, P., El-Naggar, A. K., Santarius, T., Collins, V. P., Grundy, R., Taylor, J. A., Hayes, D. N., Malkin, D., Foster, C. S., Warren, A. Y., Whitaker, H. C., Brewer, D., Eeles, R., Cooper, C., Neal, D., Visakorpi, T., Isaacs, W. B., Bova, G. S., Flanagan, A. M., Futreal, P. A., Lynch, A. G., Chinnery, P. F., McDermott, U., Stratton, M. R. & Campbell, P. J., 2014, In : *eLIFE*. 3

Research output: Contribution to journal › Article › Scientific › peer-review

Overview of Sources and Characteristics of Nanoparticles in Urban Traffic-Influenced Areas

Rönkkö, T. & Timonen, H., 2019, In : *Journal of Alzheimer's Disease*. 72, 1, p. 15-28 14 p.

Research output: Contribution to journal › Article › Scientific › peer-review

Pathway analysis of expression data: Deciphering functional building blocks of complex diseases

Emmert-Streib, F. & Glazko, G. V., May 2011, In : *PLoS Computational Biology*. 7, 5, e1002053.

Research output: Contribution to journal › Article › Scientific › peer-review

Patient-specific induced pluripotent stem cell—derived RPE cells: Understanding the pathogenesis of retinopathy in long-chain 3-hydroxyacyl-CoA dehydrogenase deficiency

Polinati, P. P., Ilmarinen, T., Trokovic, R., Hyotylainen, T., Otonkoski, T., Suomalainen, A., Skottman, H. & Tyniitiina, T., 2015, In : *Investigative Ophthalmology and Visual Science*. 56, 5, p. 3371-3382 12 p.

Research output: Contribution to journal › Article › Scientific › peer-review

Podocyte apoptosis is prevented by blocking the Toll-like receptor pathway

Saurus, P., Kuusela, S., Lehtonen, E., Hyvönen, M. E., Ristola, M., Fogarty, C. L., Tienari, J., Lassenius, M. I., Forsblom, C., Lehto, M., Saleem, M. A., Groop, P. H., Holthöfer, H. & Lehtonen, S., 1 May 2015, In : *CELL DEATH AND DISEASE*. 6, 5, e1752.

Research output: Contribution to journal › Article › Scientific › peer-review

Post-stroke depression and depression-executive dysfunction syndrome are associated with recurrence of ischaemic stroke

Sibolt, G., Curtze, S., Melkas, S., Pohjasvaara, T., Kaste, M., Karhunen, P. J., Oksala, N. K. J., Vataja, R. & Erkinjuntti, T., Dec 2013, In : *CEREBROVASCULAR DISEASES*. 36, 5-6, p. 336-343 8 p.

Research output: Contribution to journal › Article › Scientific › peer-review

Predicting symptom severity in autism spectrum disorder based on cortical thickness measures in agglomerative data

Moradi, E., Khundrakpam, B., Lewis, J. D., Evans, A. C. & Tohka, J., 2017, In : *NeuroImage*. 144, A, p. 128-141

Research output: Contribution to journal › Article › Scientific › peer-review

Randomized Multiresolution Scanning in Focal and Fast E/MEG Sensing of Brain Activity with a Variable Depth

Rezaei, A., Koulouri, A. & Pursiainen, S., 2020, In : *Brain Topography*. 33, 2, p. 161-175 15 p.

Research output: Contribution to journal › Article › Scientific › peer-review

Real-time hidden gaze point correction

Špakov, O. & Gizatdinova, Y., 2014, *Proceedings of the Symposium on Eye Tracking Research and Applications, ETRA 2014*. Association for Computing Machinery, p. 291-294 4 p.

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Reduced level of docosahexaenoic acid shifts GPCR neuroreceptors to less ordered membrane regions

Javanainen, M., Enkavi, G., Guixà-González, R., Kulig, W., Martínez-Seara, H., Levental, I. & Vattulainen, I., 1 May 2019, In : *PLoS Computational Biology*. 15, 5, e1007033.

Research output: Contribution to journal › Article › Scientific › peer-review

Regularized extreme learning machine for multi-view semi-supervised action recognition

Iosifidis, A., Tefas, A. & Pitas, I., 5 Dec 2014, In : *Neurocomputing*. 145, p. 250-262 13 p.

Research output: Contribution to journal › Article › Scientific › peer-review

Salivary cortisol reactivity to psychological stressors in infancy: A meta-analysis

Puhakka, I. J. A. & Peltola, M. J., 1 May 2020, In : *PSYCHONEUROENDOCRINOLOGY*. 115, 104603.

Research output: Contribution to journal › Review Article › Scientific › peer-review

Severe cerebral white matter lesions in ischemic stroke patients are associated with less time spent at home and early institutionalization

Sibolt, G., Curtze, S., Melkas, S., Pohjasvaara, T., Kaste, M., Karhunen, P. J., Oksala, N. K. J. & Erkinjuntti, T., 1 Dec 2015, In : *INTERNATIONAL JOURNAL OF STROKE*. 10, 8, p. 1192-1196 5 p.

Research output: Contribution to journal › Article › Scientific › peer-review

Significance of graph theoretic measures in predicting neuronal network activity

Mäki-Marttunen, T. M., Acimovic, J., Ruohonen, K. P. & Linne, M-L., 23 Feb 2012, *Proceedings of The 9th annual Computational and Systems Neuroscience meeting (COSYNE 2012)*. Salt Lake City, p. 55-55 1 p. 1-15

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Simple gaze gestures and the closure of the eyes as an interaction technique

Heikkilä, H. & Rähä, K. J., 2012, *Proceedings - ETRA 2012: Eye Tracking Research and Applications Symposium*. p. 147-154 8 p.

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Spinal cord injury induces widespread chronic changes in cerebral white matter

Ilvesmäki, T., Koskinen, E., Brander, A., Luoto, T., Öhman, J. & Eskola, H., 2017, In : *Human Brain Mapping*. 38, 7, p. 3637-3647

Research output: Contribution to journal › Article › Scientific › peer-review

Standardized evaluation of algorithms for computer-aided diagnosis of dementia based on structural MRI: The CADDementia challenge

Bron, E. E., Smits, M., van der Flier, W. M., Vrenken, H., Barkhof, F., Scheltens, P., Papma, J. M., Steketee, R. M. E., Méndez Orellana, C., Meijboom, R., Pinto, M., Meireles, J. R., Garrett, C., Bastos-Leite, A. J., Abdulkadir, A., Ronneberger, O., Amoroso, N., Bellotti, R., Cárdenas-Peña, D., Álvarez-Meza, A. M., Dolph, C. V., Iftekharuddin, K. M., Eskildsen, S. F., Coupé, P., Fonov, V. S., Franke, K., Gaser, C., Ledig, C., Guerrero, R., Tong, T., Gray, K. R., Moradi, E., Tohka, J., Routier, A., Durrleman, S., Sarica, A., Di Fatta, G., Sensi, F., Chincarini, A., Smith, G. M., Stoyanov, Z. V., Sørensen, L., Nielsen, M., Tangaro, S., Inglese, P., Wachinger, C., Reuter, M., van Swieten, J. C., Niessen, W. J. & Klein, S., 1 May 2015, In : *NeuroImage*. 111, p. 562-579 18 p.

Research output: Contribution to journal › Article › Scientific › peer-review

Teaching semantics and skills for human-robot collaboration

Angleraud, A., Houbre, Q. & Pieters, R., 2019, In : *Paladyn*. 10, 1, p. 318-329 12 p.

Research output: Contribution to journal › Article › Scientific › peer-review

The effect of different text presentation formats on eye movement metrics in reading

Sharmin, S., Špakov, O. & Rähkä, K. J., 2012, In : JOURNAL OF EYE MOVEMENT RESEARCH. 5, 3, 3.
Research output: Contribution to journal › Article › Scientific › peer-review

The effects of neuron morphology on graph theoretic measures of network connectivity: The analysis of a two-level statistical model

Acimovic, J., Mäki-Marttunen, T. & Linne, M-L., 10 Jun 2015, In : Frontiers in Neuroanatomy. 9, June, 76.
Research output: Contribution to journal › Article › Scientific › peer-review

The relationship between recognition memory for emotion-laden words and white matter microstructure in normal older individuals

Saarela, C., Karrasch, M., Ilvesmäki, T., Parkkola, R., Rinne, J. O. & Laine, M., 1 Nov 2016, In : NeuroReport. 27, 18, p. 1345-1349 5 p.
Research output: Contribution to journal › Article › Scientific › peer-review

The validity of using non-representative users in gaze communication research

Istance, H., Vickers, S. & Hyrskykari, A., 2012, *Proceedings - ETRA 2012: Eye Tracking Research and Applications Symposium*. p. 233-236 4 p.
Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Tidal breathing flow profiles during sleep in wheezing children measured by impedance pneumography

Gracia-Tabuenca, J., Seppä, V-P., Jauhiainen, M., Paassilta, M., Viik, J. & Karjalainen, J., 2020, In : Respiratory Physiology and Neurobiology. 271, 103312.
Research output: Contribution to journal › Article › Scientific › peer-review

Transfer learning using a nonparametric sparse topic model

Faisal, A., Gillberg, J., Leen, G. & Peltonen, J., 18 Jul 2013, In : Neurocomputing. 112, p. 124-137 14 p.
Research output: Contribution to journal › Article › Scientific › peer-review

TraQuMe: A tool for measuring the gaze tracking quality

Akkil, D., Isokoski, P., Kangas, J., Rantala, J. & Raisamo, R., 2014, *Proceedings of the Symposium on Eye Tracking Research and Applications, ETRA 2014*. Association for Computing Machinery, p. 327-330 4 p.
Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Unique Features of Network Bursts Emerge From the Complex Interplay of Excitatory and Inhibitory Receptors in Rat Neocortical Networks

Teppola, H., Aćimović, J. & Linne, M. L., 6 Sep 2019, In : FRONTIERS IN CELLULAR NEUROSCIENCE. 13, 377.
Research output: Contribution to journal › Article › Scientific › peer-review

Viability of Mouse Retinal Explant Cultures Assessed by Preservation of Functionality and Morphology

Alarautalahti, V., Ragauskas, S., Hakkarainen, J. J., Uusitalo-Järvinen, H., Uusitalo, H., Hyttinen, J., Kalesnykas, G. & Nymark, S., 1 May 2019, In : Investigative ophthalmology & visual science. 60, 6, p. 1914-1927 14 p.
Research output: Contribution to journal › Article › Scientific › peer-review

Whole-cell morphological properties of neurons constrain the nonrandom features of network connectivity

Acimovic, J., Mäki-Marttunen, T. M. & Linne, M-L., 4 Dec 2015, *24th Annual Computational Neuroscience Meeting: CNS*2015*. Cymbalyuk, G. & Burkitt, A. (eds.). Prague: BioMed Central, Vol. 16 (Suppl 1). p. P:O7 1 p. O7
Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

X-ray microtomographic confirmation of the reliability of CBCT in identifying the scalar location of cochlear implant electrode after round window insertion

Zou, J., Hannula, M., Lehto, K., Feng, H., Lähelmä, J., Aula, A. S., Hyttinen, J. & Pyykkö, I., 1 Aug 2015, In : Hearing Research. 326, p. 59-65 7 p.
Research output: Contribution to journal › Article › Scientific › peer-review

Zeffiro User Interface for Electromagnetic Brain Imaging: a GPU Accelerated FEM Tool for Forward and Inverse Computations in Matlab

He, Q., Rezaei, A. & Pursiainen, S., 2019, In : Neuroinformatics. 14 p.

Research output: Contribution to journal › Article › Scientific › peer-review