

# Mario Chavez

## List of Publications by Year in descending order

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Version: 2024-02-01

84  
papers

14,122  
citations

117625

34  
h-index

64796

79  
g-index

87  
all docs

87  
docs citations

87  
times ranked

13109  
citing authors

| #  | ARTICLE   | IF   | CITATIONS |
|----|---|------|-----------|
| 1  | Complex networks: Structure and dynamics. <i>Physics Reports</i> , 2006, 424, 175-308.  | 25.6 | 8,661     |
| 2  | Wavelet analysis of ecological time series. <i>Oecologia</i> , 2008, 156, 287-304.  | 2.0  | 552       |
| 3  | Synchronization is Enhanced in Weighted Complex Networks. <i>Physical Review Letters</i> , 2005, 94, 218701.  | 7.8  | 418       |
| 4  | Graph analysis of functional brain networks: practical issues in translational neuroscience. <i>Philosophical Transactions of the Royal Society B: Biological Sciences</i> , 2014, 369, 20130521.                                     | 4.0  | 313       |
| 5  | Time-dependent spectral analysis of epidemiological time-series with wavelets. <i>Journal of the Royal Society Interface</i> , 2007, 4, 625-636.  | 3.4  | 257       |
| 6  | Nonstationary Influence of El Niño on the Synchronous Dengue Epidemics in Thailand. <i>PLoS Medicine</i> , 2005, 2, e106.   | 8.4  | 239       |
| 7  | Functional Modularity of Background Activities in Normal and Epileptic Brain Networks. <i>Physical Review Letters</i> , 2010, 104, 118701.  | 7.8  | 215       |
| 8  | Remote Synchronization Reveals Network Symmetries and Functional Modules. <i>Physical Review Letters</i> , 2013, 110, 174102.   | 7.8  | 209       |
| 9  | Preictal state identification by synchronization changes in long-term intracranial EEG recordings. <i>Clinical Neurophysiology</i> , 2005, 116, 559-568.  | 1.5  | 190       |
| 10 | Statistical assessment of nonlinear causality: application to epileptic EEG signals. <i>Journal of Neuroscience Methods</i> , 2003, 124, 113-128.   | 2.5  | 167       |
| 11 | Synchronization in Complex Networks with Age Ordering. <i>Physical Review Letters</i> , 2005, 94, 138701.   | 7.8  | 167       |
| 12 | Multilayer motif analysis of brain networks. <i>Chaos</i> , 2017, 27, 047404.   | 2.5  | 141       |
| 13 | Activity of Ventral Medial Thalamic Neurons during Absence Seizures and Modulation of Cortical Paroxysms by the Nigrothalamic Pathway. <i>Journal of Neuroscience</i> , 2007, 27, 929-941.  | 3.6  | 130       |
| 14 | Spatio-temporal dynamics prior to neocortical seizures: amplitude versus phase couplings. <i>IEEE Transactions on Biomedical Engineering</i> , 2003, 50, 571-583.   | 4.2  | 115       |
| 15 | Dynamic small-world behavior in functional brain networks unveiled by an event-related networks approach. <i>Physical Review E</i> , 2008, 77, 050905.  | 2.1  | 115       |
| 16 | Inactivation of the Somatosensory Cortex Prevents Paroxysmal Oscillations in Cortical and Related Thalamic Neurons in a Genetic Model of Absence Epilepsy. <i>Cerebral Cortex</i> , 2009, 19, 2078-2091.                              | 2.9  | 110       |
| 17 | Frequency flows and the time-frequency dynamics of multivariate phase synchronization in brain signals. <i>NeuroImage</i> , 2006, 31, 209-227.  | 4.2  | 106       |
| 18 | Chronic but not Acute Dopaminergic Transmission Interruption Promotes a Progressive Increase in Cortical Beta Frequency Synchronization: Relationships to Vigilance State and Akinesia. <i>Cerebral Cortex</i> , 2009, 19, 1616-1630. | 2.9  | 100       |

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|----|---|------|-----------|
| 19 | On the Activity of the Corticostriatal Networks during Spike-and-Wave Discharges in a Genetic Model of Absence Epilepsy. <i>Journal of Neuroscience</i> , 2004, 24, 6816-6825.                    | 3.6  | 91        |
| 20 | Synchronization in dynamical networks: Evolution along commutative graphs. <i>Physical Review E</i> , 2006, 74, 016102.   | 2.1  | 91        |
| 21 | Anatomical Connectivity Influences both Intra- and Inter-Brain Synchronizations. <i>PLoS ONE</i> , 2012, 7, e36414.   | 2.5  | 90        |
| 22 | A Topological Criterion for Filtering Information in Complex Brain Networks. <i>PLoS Computational Biology</i> , 2017, 13, e1005305.  | 3.2  | 89        |
| 23 | Wavelet analysis in ecology and epidemiology: impact of statistical tests. <i>Journal of the Royal Society Interface</i> , 2014, 11, 20130585.  | 3.4  | 84        |
| 24 | Lucid Dreaming in Narcolepsy. <i>Sleep</i> , 2015, 38, 487-497.   | 1.1  | 81        |
| 25 | Towards a proper estimation of phase synchronization from time series. <i>Journal of Neuroscience Methods</i> , 2006, 154, 149-160.   | 2.5  | 80        |
| 26 | Surrogate-Based Artifact Removal From Single-Channel EEG. <i>IEEE Transactions on Neural Systems and Rehabilitation Engineering</i> , 2018, 26, 540-550.  | 4.9  | 77        |
| 27 | Loss of brain inter-frequency hubs in Alzheimer's disease. <i>Scientific Reports</i> , 2017, 7, 10879.  | 3.3  | 75        |
| 28 | Complex modular structure of large-scale brain networks. <i>Chaos</i> , 2009, 19, 023119.   | 2.5  | 73        |
| 29 | Integrating EEG and MEG Signals to Improve Motor Imagery Classification in Brain-Computer Interface. <i>International Journal of Neural Systems</i> , 2019, 29, 1850014.                          | 5.2  | 57        |
| 30 | Synchronizing weighted complex networks. <i>Chaos</i> , 2006, 16, 015106.   | 2.5  | 55        |
| 31 | A simple measure of correlation across time, frequency and space between continuous brain signals. <i>Journal of Neuroscience Methods</i> , 2003, 123, 175-188.                                   | 2.5  | 40        |
| 32 | Dynamic Granger-causal networks of electricity spot prices: A novel approach to market integration. <i>Energy Economics</i> , 2014, 44, 422-432.  | 12.1 | 40        |
| 33 | Detection of time reversibility in time series by ordinal patterns analysis. <i>Chaos</i> , 2018, 28, 123111.   | 2.5  | 39        |
| 34 | Multiplex core-periphery organization of the human connectome. <i>Journal of the Royal Society Interface</i> , 2018, 15, 20180514.  | 3.4  | 39        |
| 35 | Association of Clinical, Biological, and Brain Magnetic Resonance Imaging Findings With Electroencephalographic Findings for Patients With COVID-19. <i>JAMA Network Open</i> , 2021, 4, e211489. | 5.9  | 38        |
| 36 | Degree mixing and the enhancement of synchronization in complex weighted networks. <i>Physical Review E</i> , 2006, 74, 066107.   | 2.1  | 35        |

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|----|---|-----|-----------|
| 37 | Neurophysiological Evidence for a Cortical Contribution to the Wakefulness-Related Drive to Breathe Explaining Hypocapnia-Resistant Ventilation in Humans. <i>Journal of Neuroscience</i> , 2016, 36, 10673-10682.              | 3.6 | 35        |
| 38 | Detecting dynamic spatial correlation patterns with generalized wavelet coherence and non-stationary surrogate data. <i>Scientific Reports</i> , 2019, 9, 7389.   | 3.3 | 34        |
| 39 | COMPLEX NETWORKS: NEW TRENDS FOR THE ANALYSIS OF BRAIN CONNECTIVITY. <i>International Journal of Bifurcation and Chaos in Applied Sciences and Engineering</i> , 2010, 20, 1677-1686.   | 1.7 | 33        |
| 40 | An algebraic topological method for multimodal brain networks comparisons. <i>Frontiers in Psychology</i> , 2015, 6, 904.   | 2.1 | 32        |
| 41 | Electroencephalographic detection of respiratory-related cortical activity in humans: from event-related approaches to continuous connectivity evaluation. <i>Journal of Neurophysiology</i> , 2016, 115, 2214-2223.            | 1.8 | 29        |
| 42 | Subthalamic Nucleus High-Frequency Stimulation Restores Altered Electrophysiological Properties of Cortical Neurons in Parkinsonian Rat. <i>PLoS ONE</i> , 2013, 8, e83608.   | 2.5 | 29        |
| 43 | Riemannian Geometry Applied to Detection of Respiratory States From EEG Signals: The Basis for a Brain-Ventilator Interface. <i>IEEE Transactions on Biomedical Engineering</i> , 2017, 64, 1138-1148.                          | 4.2 | 28        |
| 44 | Excitability and responsiveness of rat barrel cortex neurons in the presence and absence of spontaneous synaptic activity <i>in vivo</i> . <i>Journal of Physiology</i> , 2014, 592, 3577-3595.                                 | 2.9 | 27        |
| 45 | Cortical neurons and networks are dormant but fully responsive during isoelectric brain state. <i>Brain</i> , 2017, 140, 2381-2398.   | 7.6 | 27        |
| 46 | Functional disconnection of associative cortical areas predicts performance during BCI training. <i>NeuroImage</i> , 2020, 209, 116500.   | 4.2 | 27        |
| 47 | Abnormal functional connectivity between motor cortex and pedunculopontine nucleus following chronic dopamine depletion. <i>Journal of Neurophysiology</i> , 2014, 111, 434-440.  | 1.8 | 26        |
| 48 | Integrative properties and transfer function of cortical neurons initiating absence seizures in a rat genetic model. <i>Journal of Physiology</i> , 2016, 594, 6733-6751.   | 2.9 | 25        |
| 49 | On the intrinsic time scales involved in synchronization: A data-driven approach. <i>Chaos</i> , 2005, 15, 023904.  | 2.5 | 24        |
| 50 | Quality Assessment of Single-Channel EEG for Wearable Devices. <i>Sensors</i> , 2019, 19, 601.  | 3.8 | 24        |
| 51 | Experience, circuit dynamics, and forebrain recruitment in larval zebrafish prey capture. <i>ELife</i> , 2020, 9, .   | 6.0 | 24        |
| 52 | Hierarchy of Neural Organization in the Embryonic Spinal Cord: Granger-Causality Graph Analysis of In Vivo Calcium Imaging Data. <i>IEEE Transactions on Neural Systems and Rehabilitation Engineering</i> , 2015, 23, 333-341. | 4.9 | 22        |
| 53 | Interhemispheric Connectivity Characterizes Cortical Reorganization in Motor-Related Networks After Cerebellar Lesions. <i>Cerebellum</i> , 2017, 16, 358-375.  | 2.5 | 21        |
| 54 | Functional brain networks reveal the existence of cognitive reserve and the interplay between network topology and dynamics. <i>Scientific Reports</i> , 2018, 8, 10525.  | 3.3 | 21        |

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|----|--|-----|-----------|
| 55 | Parsimonious Approximation of Streamline Trajectories in White Matter Fiber Bundles. IEEE Transactions on Medical Imaging, 2016, 35, 2609-2619.  | 8.9 | 20        |
| 56 | Disrupted core-periphery structure of multimodal brain networks in Alzheimer's disease. Network Neuroscience, 2019, 3, 635-652.  | 2.6 | 20        |
| 57 | Exploring the nonlinear dynamics of the brain. Journal of Physiology (Paris), 2003, 97, 629-639.   | 2.1 | 19        |
| 58 | Functional Cortical Network in Alpha Band Correlates with Social Bargaining. PLoS ONE, 2014, 9, e109829.   | 2.5 | 17        |
| 59 | Abnormal Activity of Neck Inspiratory Muscles during Sleep as a Prognostic Indicator in Chronic Obstructive Pulmonary Disease. American Journal of Respiratory and Critical Care Medicine, 2020, 201, 414-422. | 5.6 | 15        |
| 60 | Nonparametric resampling of random walks for spectral network clustering. Physical Review E, 2014, 89, 012802.   | 2.1 | 14        |
| 61 | Role of inter-hemispheric connections in functional brain networks. Scientific Reports, 2018, 8, 10246.  | 3.3 | 14        |
| 62 | Adjusting ventilator settings to relieve dyspnoea modifies brain activity in critically ill patients: an electroencephalogram pilot study. Scientific Reports, 2019, 9, 16572.                                 | 3.3 | 14        |
| 63 | Identifying neuronal correlates of dying and resuscitation in a model of reversible brain anoxia. Progress in Neurobiology, 2020, 185, 101733.   | 5.7 | 14        |
| 64 | Synchronization processes in complex networks. European Physical Journal: Special Topics, 2007, 146, 129-144.  | 2.6 | 13        |
| 65 | Preictal state detection using prodromal symptoms: A machine learning approach. Epilepsia, 2021, 62, e42-e47.  | 5.1 | 11        |
| 66 | CARE-rCortex: A Matlab toolbox for the analysis of Cardio-REspiratory-related activity in the Cortex. Journal of Neuroscience Methods, 2018, 308, 309-316.   | 2.5 | 10        |
| 67 | Alpha activity neuromodulation induced by individual alpha-based neurofeedback learning in ecological context: a double-blind randomized study. Scientific Reports, 2021, 11, 18489.                           | 3.3 | 10        |
| 68 | Clinico-biological markers for the prognosis of status epilepticus in adults. Journal of Neurology, 2022, 269, 5868-5882.  | 3.6 | 9         |
| 69 | Community structure in large-scale cortical networks during motor acts. Chaos, Solitons and Fractals, 2012, 45, 603-610.   | 5.1 | 8         |
| 70 | Comparing complex networks: in defence of the simple. New Journal of Physics, 2019, 21, 013033.  | 2.9 | 8         |
| 71 | Node Accessibility in Cortical Networks During Motor Tasks. Neuroinformatics, 2013, 11, 355-366.   | 2.8 | 7         |
| 72 | BCI learning induces core-periphery reorganization in M/EEG multiplex brain networks. Journal of Neural Engineering, 2021, 18, 056002.   | 3.5 | 6         |

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|----|---|-----|-----------|
| 73 | Ways of making-sense: Local gamma synchronization reveals differences between semantic processing induced by music and language. <i>Brain and Language</i> , 2016, 152, 44-49.                                | 1.6 | 5         |
| 74 | Dynamics of excitable neural networks with heterogeneous connectivity. <i>Progress in Biophysics and Molecular Biology</i> , 2011, 105, 29-33.  | 2.9 | 4         |
| 75 | A Prototype Representation to Approximate White Matter Bundles with Weighted Currents. <i>Lecture Notes in Computer Science</i> , 2014, 17, 289-296.  | 1.3 | 4         |
| 76 | Multi-feature classifiers for burst detection in single EEG channels from preterm infants. <i>Journal of Neural Engineering</i> , 2017, 14, 046015.   | 3.5 | 3         |
| 77 | Using symbolic networks to analyse dynamical properties of disease outbreaks. <i>Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences</i> , 2020, 476, 20190777.               | 2.1 | 3         |
| 78 | Neuronal excitability and sensory responsiveness in the thalamo-cortical network in a novel rat model of isoelectric brain state. <i>Journal of Physiology</i> , 2021, 599, 609-629.                          | 2.9 | 3         |
| 79 | A Robust Method for the Individual Alpha Frequency Detection in EEG. , 2018, , .  |     | 2         |
| 80 | Induction of an Isoelectric Brain State to Investigate the Impact of Endogenous Synaptic Activity on Neuronal Excitability & In Vivo. <i>Journal of Visualized Experiments</i> , 2016, , e53576.              | 0.3 | 1         |
| 81 | Combined head accelerometry and <scp>EEG</scp> improves the detection of respiratory-related cortical activity during inspiratory loading in healthy participants. <i>Physiological Reports</i> , 2022, 10, . | 1.7 | 1         |
| 82 | DYNAMICAL BEHAVIOR AND CONTROL OF COUPLED THRESHOLD ELEMENTS WITH SELF-INHIBITION. <i>International Journal of Bifurcation and Chaos in Applied Sciences and Engineering</i> , 2009, 19, 3119-3128.           | 1.7 | 0         |
| 83 | Outliers in clinical symptoms as preictal biomarkers. <i>Epilepsy Research</i> , 2021, 177, 106774.   | 1.6 | 0         |
| 84 | NON-STATIONARY INFLUENCE OF EL NIÑO ON THE SYNCHRONOUS DENGUE EPIDEMICS IN THAILAND. <i>Epidemiology</i> , 2005, 16, S156-S157.   | 2.7 | 0         |