

Prof. Dr. Gordon Pipa

Full Professor
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Personal Data

Date of birth September 20th 1974
Marital status married, three children

Education

- 12/2010 **Habilitation**, Biology, University of Technology Darmstadt, Germany, 'Self-Organized Information Processing in the Brain'
- 4/2002–8/2006 **PhD**, with Prof. Klaus Obermayer, Department of Neural Information Processing, Berlin University of Technology, Germany, 'The Neuronal Code: Development of tools and hypotheses for understanding the role of synchronization of neuronal activity', *Grade very good*,
- 5/2001–3/2002 **Diploma**, Max Planck Institute for Brain Research and the Faculty of Physics, J. W. Goethe University, Frankfurt am Main, Germany, *Grade very good*
- 9/1995–5/2001 **Diploma-Studies in Physics**, specialized on theoretical physics, stochastic processes and image processing, RWTH-Aachen University, Germany

Positions

- since 2/2011 **Full professor (W3) and chair of the Neuroinformatics department**, Institute of Cognitive Science, University of Osnabrueck, Germany
- 10/2009–2/2011 **Substitute professor for Neuroinformatics (W3)**, Institute of Cognitive Science, University of Osnabrueck, Germany
- 2010 **Tenured readership offered**, School of Informatics, University of Edinburgh, United Kingdom
- 01/2005–9/2010 **Group leader** with Prof. Wolf Singer, Department of Neurophysiology, Max Planck Institute for Brain Research, Frankfurt am Main, Germany
- 08/2003–9/2010 **Junior fellow** (\approx Junior Professor), Frankfurt Institute for Advanced Studies (FIAS), Frankfurt am Main, Germany
- 10/2007–1/2009 **Research fellow** with Prof. Emery Brown, joint appointment: Department of Brain and Cognitive Sciences, Massachusetts Institute of Technology, Cambridge, MA, USA, and Department of Anesthesia and Critical Care, Massachusetts General Hospital, Boston, MA, USA
- 4/2002–7/2003 **Research assistant** with Prof. Sonja Gruen, Department of Neurophysiology, Max Planck Institute for Brain Research, Frankfurt am Main, Germany

Patents

German	DE9701454*
European	EP0993657*
United States	US6231185*
International	PCT/DE1997/001454* and WO/1999/003066* for Canada, Japan, United States and European states: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE)
German patent applications	DE10008251A1, DE19601024A1, DE19800845A1

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Grants

- 45k€ • **VW Foundation** Herrenhausen Conference on Cognitive computing in 2018, 2017
- 2M€ • **DFG** Invitation for full proposal - Graduate School on Cognitive computing, 2017
- 19M€ • **Federal Ministry for Research** New construction of research building for a Center of Advanced Sciences (CellNanOS), shared with other 11 PIs, 2013
- 294k€ • **European Grant**, 'Photonic liquid state machine based on delay-coupled systems', 2010-2013
- 272k€ • **European Grant**, 'Global Approach to Brain Activity', 2007-2010
- 200k€ • **DFG Grant** for a computer cluster, shared with other 2 PIs, 2013
- 70k€ • **Volkswagen Grant** for running the FIAS Summer School 2006, 2006
- 45k€ • **Volkswagen Grant** for running the annual OCCAM Conference Series, 2012-2014
- 40k€ • **PENS Grant** for running the FIAS Summer School 2008, 2008
- 20k€ • **DFG Grant** for running the OCCAM Conference 2011, 2011
- 18k€ • **INCF Grant** for running the Summer School on Advanced Data Modelling, 2012
- 16k€ • **INCF Grant** INCF Summer School on Computation with Dynamical Systems, 2015

Awards and Honors

- 2017 • IBM Student Award for Best student project
- Editor Pick - Best Paper Award(FrontiersIn doi: 10.3389/fnbeh.2017.00122)
- Cognitive Farming Project exhibition on IBM Cebit booth
- 2016 • IBM Faculty Award
- Cognitive Disease management exhibition on IBM Cebit booth
- 2015 • Best Innovation Award of the University Osnabrueck
- 2012 • Nominated for Best Lecturer Award of the University Osnabrueck
- 2008–2010 • MainCampus Educator, for young rising stars
- 1995–2001 • Scholarship of the German National Academic Foundation, state scholarship
- 1997 • Awarded as a young talent with outstanding creativity, International Zermatt Symposium for 'Creativity and Leadership'
- 1995–1996 • Triple prize winner in the German contest for young scientists (Jugend Forscht)
- i.e. federal 3rd: 'Realtime Eyetracking: a new microprocessor for ultra fast image processing'
- Reception by the German President Prof. Dr. Roman Herzog and Chancellor Helmut Kohl
- Honorary medal of the Friedrich Bläse Foundation
- Reception at the Nobel Laureate Meeting in Lindau, hosted by Count L. Bernadotte of Wisborg

Professional Activities

- Referee
 - **EU-Flagship Human Brain Project (HBP)**, for the core-project and the competitive calls
 - **German Contest for Young Scientists (Jugend Forscht)**
- Mediator
 - **EU-Flagship HBP**, Mediator general science and reintegration of cognitive science
- Speaker
 - **Profilbildung**, KOGNITION: Mensch-Technik-Interaktion an der Universitaet Osnabrueck
- Director
 - **PhD program** - of the Institute of Cognitive Science, Osnabrück, Germany
- Boards
 - **Member Board of Directors of the Institute of Cognitive Science**, Osnabrueck, Germany
 - **Faculty of Human Sciences**, Osnabrueck, Germany
- Committee
 - **Search Committee for System Neuroscience Chair**, University Hamburg, Germany
 - **Tenure Review for Mercator Group 'Structure of Memory'**, University Bochum, Germany
- Organizer
 - **Multi-scale complex dynamics in the brain** - International Workshop Multiscale Complex Information Processing in the Brain, 2011, Palma, Spain
 - **Osnabrueck Computational Cognition Alliance Meeting** - International Workshop on Natural Computation in Hierarchies, 2011-2015, Osnabrueck, Germany
 - **PhD program** - of the Institute of Cognitive Science, Osnabrueck, Germany
 - **FIAS Summer School** on Theoretical Neuroscience and Complex Systems in 2006, 2007 and 2008, Frankfurt Institute for Advanced Studies, Frankfurt am Main, Germany
 - **INCF Summer School** on Advanced Data Modelling, Osnabrueck, Germany
 - **Workshop on multi-scale complex dynamics in the brain (Cosyne)**, 2010, Snow Bird, Utah, USA
 - **Trends in Complex Systems** - International Workshop on Synchronization and Multiscale Complex Dynamics in the Brain (BSYNC09), 2009, Dresden, Germany
 - **Program Chair - Bernstein Conference for Computational Neuroscience (BCCN)**, 2009, Frankfurt am Main, Germany
- Reviewer for Journals
 - Neuron, Journal of Neural Computation, Nature Neuroscience, PLoS CB, PLoS One, various Frontiers journals, Journal of Neuroscience, Physical Review E, Journal of Computational Neuroscience, Journal of Neurophysiology, Journal of Neuroscience Methods, European Journal of Physics, Nonlinear Biomedical Physics, Journal of Complexity, Neurocomputing, Journal Frontiers in Neuroscience, The European Physical Journal B

Selected Talks

- 2017
 - Invited Talk on the Kabinettsitzung of the Lower Saxony Government
 - Cognitive Disease management, Robert Koch Institute, Berlin, Germany
 - Key Note talk: 'Cognitive Computing', World of Watson and Academic Initiative, Las Vegas, US
- 2016
 - KeyNote talk 'The Future of Cognitive Computing', IBM Nuernberger-Kreis (Meeting for the top DACH IBM customers), Prague, Czech Republic
- 2015
 - Annual Conference on Advanced Stats in Neuroscience, MathStatNeuro2015, Nice, France
 - Workshop on Delay Coupled Systems (Besancon), France
- 2014
 - EU-Flagship Human Brain Project: Future Directions Workshop. Fieberbrunn, Austria
 - Max Planck Workshop on Neuronal Dynamics and Feature Coding. Ringberg, Germany
 - Workshop on Neural Information Dynamics, Causality and Computation near Criticality (FIAS Frankfurt), Germany
- 2013
 - Workshop on inferring causal relations in complex time series. Oldenburg, Germany
- 2012
 - Keynote lecture at ICAAN, Lausanne, Switzerland

- 2011 • Workshop on Reservoir Computing, Ruhr University Bochum, Germany
- Ecole polytechnique federale de Lausanne (EPFL), Lausanne, Switzerland
- 2010 • Workshop on Cognitive and Neural Models for Automated Processing of Speech and Text, Ghent, Belgium
- Redwood Center for Theoretical Neuroscience, University of California, Berkeley, USA, Group of Prof. Fritz Sommer
- 2009 • Trends in Complex Systems - International Workshop on Synchronization and Multiscale Complex Dynamics in the Brain (BSYNC09), Dresden, Germany
- Computational and Systems Neuroscience Meeting (COSYNE), plenary talk and workshop, Salt Lake City, UT, USA
- 2008 • German-American Frontiers of Science Symposium (GAFOS), Potsdam, Germany
- International Conference on Cognitive and Neural Systems (ICCNS), Boston, MA, USA
- Computational Neuroscience Meeting (CNS), Portland, OR, USA
- 2007 • Center for Neurobiology and Behavior, Columbia University, New York, USA, Group of Prof. Larry Abbott
- University of Potsdam, Germany, Nonlinear Dynamics Group of Prof. Juergen Kurths
- International Workshop on Stochastic Dynamics in the Neurosciences, Dresden, Germany
- 2006 • The Dynamical Brain, International Titisee Conference, Titisee, Germany
- Institute for Cross-Disciplinary Physics and Complex Systems, Palma de Mallorca, Spain
- 2005 • Brazilian Conference for Biology (FeSBE), Sao Paulo, Brazil
- Summer School on Nonlinear Dynamics and Chaos at the Max Planck Institute for Complex Systems, Dresden, Germany
- Workshop on Data Analysis in Neuroscience, Trinity College, Dublin, Ireland
- 2003 • Computational Neuroscience Meeting (CNS), Alicante, Spain
- Society for Neuroscience Meeting (SFN), New Orleans, LA, USA
- 2002 • Computational Neuroscience Meeting (CNS), plenary talk, Chicago, IL, USA

Book chapters

- Schumacher, J., Toutounji, H., Pipa, G. 'An Introduction to Delay-Coupled Reservoir Computing', Artificial Neural Networks Vol. 4 Springer Bio-/Neuroinformatics, 63-90, 2015.
- Gordon Pipa. 'Theoretische Neurowissenschaften' Handbuch Kognitionswissenschaft, Stephan A, Walter S (Eds); Stuttgart Weimar: J.B. Metzler, 2013
- S. Boccaletti, J. L. Cantero, M. Chavez, K. Egiazarian, I. Fischer, G. Gomez-Herrero, C. Mirasso, G. Pipa, W. Singer, A. E. P. Villa, and J. Garcia-Ojalvo. 'Global Approach to Brain Activity: from Cognition to Disease.', Success Stories of the Advances and Applications of Complex Systems Science, Springer Series 2010
- E. Balaban, S. Edelman, S. Grillner, U. Grodzinski, E. D. Jarvis, J. H. Kaas, G. Laurent, and G. Pipa, 'Dynamic Coordination in the Brain - Evolution of Dynamic Coordination', Ernst Struengmann Forum, MIT press, 2010, ISBN 978-0-262-01471-7
- R. Vicente, L. L. Gollo, C. R. Mirasso, I. Fischer, and G. Pipa. 'Far in space and yet in synchrony: neuronal mechanisms for zero-lag long-range synchronization. Coherent Behavior in Neuronal Networks.' Springer Series in Computational Neuroscience, Vol. 3, 2009.

Publications

- 2017 • (64) C. Korndörferr, E. Ullner, J. Garcia, G. Pipa, R. 'Cortical Spike Synchrony as a Measure of Input Familiarity' *Neural Computation*, 2017.
- (63) Wächter, Faulhaber, Blind, Timm, Dittmer, Sütfeld, Achim, Pipa, König 'Human decisions in moral dilemmas are largely described by Utilitarianism: virtual car driving study provides guidelines for ADVs' arXiv:1706.07332
- (62) P. Nieters, J. Leugering, G. Pipa, R. 'Neuromorphic computation in multi-delay coupled models' *IBM Journal of Research and Development*, Volume 61, 2017.
- (61) Leon R Suetfeld, Richard Gast, Peter Koenig, Gordon Pipa 'Using virtual reality to assess ethical decisions in road traffic scenarios: applicability of value-of-life-based models and influences of time pressure' *Frontiers in behavioral neuroscience*, Volume 11, 2017.
- (60) Simon Kern, Kristoffer Appel, Michael Schredl, Gordon Pipa 'No effect of alpha-GPC on lucid dream induction or dream content' *Somnologie*, pp 1-6, 2017.
- (59) Richard Gast, Patrick Faion, Kai Standvoss, Andrea Suckro, Brian Lewis, Gordon Pipa 'Encoding And Decoding Dynamic Sensory Signals With Recurrent Neuronal Networks' *NeubioRxiv* 2017.

- 2016 • (58) AD Kovac, M Koall, G Pipa, H Toutounji, R. 'Persistent Memory in Single Node Delay-Coupled Reservoir Computing' *PloS one* 11 (10), e0165170, 2016.
- (57) R Leenings, C Glatz, M Boentert, A Heidbreder, G Pipa, P Young 'Automated analysis of actimetry used for the detection of disease phenotypes in sleep medicine' *Journal of sleep research* 25, 2016.
- (56) K Appel, J Leugering, G Pipa 'Traumschreiber': measuring and manipulating human sleep with a portable high-quality but low-cost polysomnographic system' *Journal of sleep research* 25, 2016.
- (55) Gordon Pipa 'Cognitive Computing in Disease management' *Pan European Network PEN 21 (Science and Technology Issue)*, 123 2016.
- (54) M Shahi, C van Vreeswijk, G Pipa 'Serial Spike Time Correlations Affect Probability Distribution of Joint Spike Events' *Frontiers in computational neuroscience* 2016.

- 2015 • (53) J. Schumacher, T. Wunderle, P. Fries, F. Jaeckel, G. Pipa 'A statistical framework to infer delay and direction of information flow from measurements of complex systems' *Neural Computation*, 2015
- (52) W. Aswolinskiy, G. Pipa 'RM-SORN: a reward-modulated self-organizing recurrent neural network' *Frontiers in computational neuroscience*, 9, 2015
- (51) Aru, J., Aru, J., Priesemann, V., Wibral, M., Lana, L., Pipa, G., Vicente, R. 'Untangling cross-frequency coupling in neuroscience' *Current Opinion in Neurobiology*, Volume 31, pp 51-61, 2015.
- (50) H. Toutounji, J. Schumacher, G. Pipa 'Homeostatic Plasticity for Single Node Delay-Coupled Reservoir Computing' *Neural Computation*, 2015
- (49) G. Gomez-Herrero, W. Wu, K. Rutanen, M. Soriano, G. Pipa, R. Vicente 'Assessing Coupling Dynamics from an Ensemble of Time Series' *Entropy*, 17, 4, 1958-1970, 2015

- 2014 • (49) Toutounji, H., Pipa, G. 'Spatiotemporal computations of an excitable and plastic brain: neuronal plasticity leads to noise-robust and noise-constructive computations' *PLoS computational biology* 10.3, 2014.
- (48) A. Skulmowski, A. Bunge, K. Kaspar, G. Pipa 'Forced-choice decision-making in modified trolley dilemma situations: a virtual reality and eye tracking study' *Frontiers in Behavioral Neuroscience*, 8, 2014

- (47) Castellano, M., Ploechl, M., Vicente, R., Pipa, G. *'Neuronal oscillations during contour integration of dynamic visual stimuli form parietal/frontal networks'* *Frontiers in Integrative Neuroscience*, 8, 64, 2014.
 - (46) Waizel, M., Franke, F., Pipa, G., Chen, N. H., Muckli, L., Munk, M. H. J., Munk, M. J. H. *'Neuronal coding challenged by memory load in prefrontal cortex'* *Frontiers in Computational Neuroscience*, 37, 2014.
 - (45) Ehinger, B. V., Fischer, P., Gert, A. L., Kaufhold, L., Weber, F., Pipa, G., Koenig, P. *'Kinesthetic and Vestibular Information Modulate Alpha Activity during Spatial Navigation: A Mobile EEG Study'* *Frontiers in Human Neuroscience* 8, 2014.
- 2013
- (44) Haslinger, R., Ba, D., Galuske, R. Williams, Z., Pipa, G. *'Missing Mass Approximations for the Partition of Stimulus-Driven Ising Models'* *Front Comput Neurosci*. 24;7-96. , 2013.
 - (43) Schumacher, J., Toutounji, H., Pipa, G. *'An Analytical Approach to Single Node Delay-Coupled Reservoir Computing'* *Artificial Neural Networks and Machine Learning-ICANN 2013* (pp. 26-33). Springer Berlin Heidelberg, 2013.
 - (42) Pipa, G., Gruen, S., van Vreeswijk, C. *'Impact of Spike Train Autostructure on Probability Distribution of Joint Spike Events'* *Neural Computation*; 25.5, pp. 1123-1163, 2013.
 - (41) Haslinger, R., Pipa, G., Lewis, L., Nikolic, D., Williams, Z., Brown, E. *'Encoding Through Patterns: Regression Tree-Based Neuronal Population Models'* *Neural Computation*; pp. 1-41, 2013.
 - (40) Castellano, M., Pipa, G. *'Memory Trace in Spiking Neural Networks'* In *Artificial Neural Networks and Machine Learning-ICANN 2013* (pp. 264-271). Springer Berlin Heidelberg, 2013.
- 2012
- (39) Pipa, G. and Chen, Z. and Neuenschwander, S. and Lima, B. and Brown, E.N. *'Mapping of Visual Receptive Fields by Tomographic Reconstruction'* *Neural computation*, vol. 24, num 10, 2543-2578, 2012.
 - (38) Haslinger, R. and Pipa, G. and Lima, B. and Singer, W. and Brown, E.N. and Neuenschwander, S. *'Context Matters: The Illusive Simplicity of Macaque V1 Receptive Fields'* *Plos One*, vol. 7, num 7 2012.
 - (37) Schumacher, J. and Haslinger, R. and Pipa, G. *'Statistical modeling approach for detecting generalized synchronization'* *Physical Review E*, vol. 85 2012.
 - (36) H.Toutounji, J.Schumacher, G. Pipa *'Optimized Temporal Multiplexing for Reservoir Computing with a Single Delay-Coupled Node'* *Nolta* 2012.
- 2011
- (35) F. Gerhard, G. Pipa, B. Lima, S. Neuenschwander, and W. Gerstner. *'Extraction of network topology from multi-electrode recordings : Is there a small-world effect ?'* *Frontiers in Neuroscience*, 5: 4. 2011.
 - (34) Pérez, T. and Garcia, G.C. and Eguíluz, V.M. and Vicente, R. and Pipa, G. and Mirasso, C. *'Effect of the topology and delayed interactions in neuronal networks synchronization'* *PLoS One*, 5 2011.
 - (33) P. Ulhaas, G.Pipa, S. Neuenschwander, and W. Singer. *'A new look at gamma? High- (>60 Hz) γ -band activity in cortical networks: Function, mechanisms and impairment'* *Progress in Biophysics and Molecular Biology*, 105:1-2 2011.
 - (32) Wu, W. and Wheeler, D.W. and Pipa, G. *'Bivariate and Multivariate NeuroXidence: A Robust and Reliable Method to Detect Modulations of Spike-Spike Synchronization Across Experimental Conditions'* *Frontiers in Neuroinformatics*, 5 . 2011.
 - (31) Pipa, G., M.H.J. Munk *'Higher order spike synchrony in prefrontal cortex during visual memory'* *Frontiers in Computational Neuroscience*, 5 . 2011.

- (30) Lazar, A. and Pipa, G. and Triesch, J. '*Emerging Bayesian priors in a self-organizing recurrent network*' Artificial Neural Networks and Machine Learning–ICANN 2011, 127–134 . 2011.
 - (29) Scheller, B. and Castellano, M. and Vicente, R. and Pipa, G., '*Spike train auto-structure impacts post-synaptic firing and timing-based plasticity*' Frontiers in Computational Neuroscience, 5 2011.
 - (28) F. Gerhard, R. Haslinger, and G. Pipa. '*Applying the multivariate time-rescaling theorem to neural population models.*' Journal of Neural Computation 23(6), 2011
- 2010
- (27) R. Vicente, M. Wibral, M. Lindner, and G. Pipa '*Transfer Entropy - A model-free measure of effective connectivity for the neurosciences.*' Journal of Computational Neuroscience.,0929–5313:1–23 2010.
 - (26) R. Haslinger, G. Pipa, and E.N. Brown. '*Discrete Time Rescaling Theorem: Determining Goodness of Fit for Discrete Time Statistical Models of Neural Spiking.*' Journal of Neural Computation, 22:2477-2506 2010.
 - (25) B. Scheller, G. Pipa, H. Kertscho, P. Lauscher, J. Ehrlich, O. Habler, K. Zacharowski, and J. Meier, '*Normovolemic anemia induces QT-prolongation and T-wave depression in a pig model*', Shock, 1073-2322, 2010.
 - (24) Gomez-Herrero, G. and Wu, W. and Rutanen, K. and Soriano, M. C. and Pipa, G. and Vicente, R. '*Assessing coupling dynamics from an ensemble of time series*', Arxiv preprint arXiv:1008.0539, 2010.
 - (23) Evert, S. and Pipa, G. '*Probability Estimation of Rare Events in Linguistics and Computational Neuroscience*', Proceedings of KogWis 2010: 10th Biannual Meeting of the German Society for Cognitive Science 2010.
- 2009
- (22) P. Ulhaas, G.Pipa, B. Lima, L. Melloni, S. Neuenschwander, and W. Singer. '*Neural synchrony in cortical networks: History, concept and current status.*' Review. Frontiers in Integrative Neuroscience, 3:17, 2009
 - (21) G. Pipa, E. S. Staedtler, E. F. Rodriguez, J. A. Waltz, L. F. Muckli, W. Singer, Rainer Goebel, and M. H. J. Munk. '*Performance- and coding-dependent oscillations in monkey prefrontal cortex during short-term memory.*' Frontiers in Integrative Neuroscience, 3, 2009
 - (20) O. F. Jurjut, D. Nikolic, G. Pipa, W. Singer, D. Metzler, and R. C. Muresan. '*A color-based visualization technique for multi-electrode spike trains.*' J. Neurophysiology, 2009
 - (19) B.C.A. Scheller, M. Dauserer, and G. Pipa. '*General anesthesia increases temporal precision and decreases power of the brainstem auditory evoked response.*' Journal of Anesthesiology, 111(2):340–355, 2009
 - (18) A. Lazar, G. Pipa and J. Triesch. '*SORN: a self-organizing recurrent neural network*' Frontiers Computational Neuroscience 3:23. 2009
 - (17) V. Moca, B.C.A. Scheller, M. Dauserer, and G. Pipa. '*EEG under anesthesia - feature extraction with tepar.*' Jorunal Computer Methods and Programs in Biomedicine, 95(3):191–202, 2009
- 2008
- (16) R. Vicente, L.L. Gollo, C.R. Mirasso, I. Fischer, and G. Pipa. '*Dynamical relaying can yield zero time lag neuronal synchrony despite long conduction delays.*' Proceedings of the National Academy of Sciences of the United States of America (PNAS), 105(44):17157–17162, 2008.
 - (15) W. Wu, D.W. Wheeler, E.S. Staedtler, M.H.J. Munk, and G. Pipa. '*Behavioral performance modulates spike field coherence in monkey prefrontal cortex.*' Neuroreport, 19(2):235–238, 2008.

- (14) E.Ullner, R.Vicente, G.Pipa, and J.Garcia-Ojalvo. '*Contour integration and synchronization in neuronal networks of the visual cortex.*' Springer Lecture Notes in Computer Science - Artificial Neural Networks, 5164:703–712, 2008.
 - (13) A. Lazar, G. Pipa, and J. Triesch. '*Predictive coding in cortical microcircuits.*' Springer Lecture Notes in Computer Science - Artificial Neural Networks, 5164:386–395, 2008.
 - (12) G. Pipa, R. Vicente, and A. Tikhonov. '*Auto-structure of presynaptic activity defines postsynaptic firing statistics and can modulate STDP-based structure formation and learning.*' Springer Lecture Notes in Computer Science - Artificial Neural Networks, 5164:413–422, 2008.
 - (11) G. Pipa, D. W. Wheeler, W. Singer, and D. Nikolic. '*Neuroxidance: reliable and efficient analysis of an excess or deficiency of joint-spike events.*' Journal of Computational Neuroscience. 25(1):64–88, 2008.
- 2007
- (10) D. Huang and G. Pipa. '*Achieving synchronization of networks by an auxiliary hub.*' Europhysics Letters, 77(5), 2007.
 - (9) A. Lazar, R. Muresan, E. Staedtler, M.H.J. Munk, and G. Pipa. '*Importance of electrophysiological signal features assessed by classification trees.*' Neurocomputing, 70(10–12):2017–2021, 2007.
 - (8) A. Lazar, G. Pipa, and J. Triesch. '*Fading memory and time series prediction in recurrent networks with different forms of plasticity.*' Neural Networks, 20(3):312–322, 2007.
 - (7) G. Pipa, A. Riehle, and S. Gruen. '*Validation of task-related excess of spike coincidences based on NeuroXidence.*' Neurocomputing, 70(10–12):2064–2068, 2007.
 - (6) R. Vicente, G. Pipa, I. Fischer, and C. Mirasso. '*Zero-lag long range synchronization of neurons is enhanced by dynamical relaying.*' Springer Lecture Notes in Computer Science - Artificial Neural Networks, 4668, 2007.
- 2006
- (5) A. Lazar, G. Pipa, and J. Triesch. '*The combination of STDP and intrinsic plasticity yields complex dynamics in recurrent spiking networks.*' European Symposium on Artificial Neuronal Networks, ISBN 2–930307–06–4, Springer. Bruges, Belgium, April 2006.
- 2005
- (4) R.C. Muresan, G. Pipa, R.V. Florian, and D.W. Wheeler. '*Coherence, memory and conditioning. A modern viewpoint.*' Neural Information Processing - Letters and Reviews, 7(2):19–28, 2005.
 - (3) R.C. Muresan, G. Pipa, and D.W. Wheeler. '*Single-unit recordings revisited: Activity in recurrent microcircuits.*' Springer Lecture Notes in Computer Science - Artificial Neural Networks, 3696:153–159, 2005.
- 2003
- (2) G. Pipa and S. Gruen. '*Non-parametric significance estimation of joint-spike events by shuffling and resampling.*' Neurocomputing, 52–4:31–37, 2003.
 - (1) G. Pipa, M. Diesmann, S. Gruen '*Significance of Joint–Spike Events Based on Trial–Shuffling by Efficient, Combinatorial Methods.*' Journal of Complexity, Vol 8, Issue 4 2003.