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Spiking Neural P Systems

Wang, J.

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Bibliography

- [1] The P System Web Page: <http://ppage.psyste.ms.eu>.
- [2] Think and Grow Toys: <http://www.tagtoys.com/dendrites.php>.
- [3] A. Binder, R. Freund, M. Oswald, and L. Vock. Extended spiking neural P systems with excitatory and inhibitory astrocytes. In *Proceedings of the Eighth Conference on Eighth WSEAS International Conference on Evolutionary Computing*. Vancouver, Canada, 320–325, 2007.
- [4] M. Cavaliere, O.H. Ibarra, Gh. Păun, O. Egecioglu, M. Ionescu, and S. Woodworth. Asynchronous spiking neural P systems. *Theoretical Computer Science*, 410(24-25):2352–2364, 2009.
- [5] H. Chen, M. Ionescu, and T.-O. Ishdorj. On the efficiency of spiking neural P systems. In *Proceedings of the Eighth International Conference on Electronics, Information, and Communication*. Ulanbator, Mongolia, 49–52, 2006.
- [6] H. Chen, M. Ionescu, T.-O. Ishdorj, A. Păun, Gh. Păun, and M.J. Pérez-Jiménez. Spiking neural P systems with extended rules: universality and languages. *Natural Computing*, 7(2):147–166, 2008.
- [7] H. Chen, M. Ionescu, M.J. Pérez-Jiménez, R. Freund, and Gh. Păun. On string languages generated by spiking neural P systems. *Fundamenta Informaticae*, 75(1-4):141–162, 2007.
- [8] H. Chen, T.-O. Ishdorj, and Gh. Păun. Computing along the axon. *Progress in Natural Science*, 17(4):417–423, 2007.
- [9] H. Chen, T.-O. Ishdorj, Gh. Păun, and M.J. Pérez-Jiménez. Handling languages with spiking neural P systems with extended rules. *Romanian Journal of Information Science and Technology*, 9(3):151–162, 2006.
- [10] R. Freund, M. Ionescu, and M. Oswald. Extended spiking neural P systems with decaying spikes and/or total spiking. *International Journal of Foundations of Computer Science*, 19(5):1223–1234, 2008. Language Theory in Biocomputing Workshop, Kingston, Canada, 2007.

-
- [11] M.R. Garey and D.S. Johnson. *Computers and Intractability: A Guide to the Theory of NP-Completeness*. W.H. Freeman and Company, 1979.
 - [12] W. Gerstner and W.M. Kistler. *Spiking Neuron Models: Single Neurons, Populations, Plasticity*. Cambridge University Press, 2002.
 - [13] O.H. Ibarra, A. Păun, Gh. Păun, A. Rodriguez-Paton, P. Sosik, and S. Woodworth. Normal forms for spiking neural P systems. *Theoretical Computer Science*, 372(2-3):196–217, 2007. In Fourth Brainstorming Week on Membrane Computing, Seville, Spain, 2006.
 - [14] O.H. Ibarra and S. Woodworth. Characterizing regular languages by spiking neural P systems. *International Journal of Foundations of Computer Science*, 18(6):1247–1256, 2007.
 - [15] O.H. Ibarra, S. Woodworth, F. Yu, and A. Păun. On spiking neural P systems and partially blind counter machines. In C.S. Calude, M.J. Dinneen, Gh. Păun, G. Rozenberg, and S. Stepney, editors, *Unconventional Computation, proceedings*, volume 4135 of *Lecture Notes in Computer Science*, pages 113–129, 2006. In Fifth International Conference on Unconventional Computation, York, England, 04–08, 2006.
 - [16] M. Ionescu, Gh. Păun, and Y. Takashi. Spiking neural P systems. *Fundamenta Informaticae*, 71(2-3):279–308, 2006.
 - [17] M. Ionescu, Gh. Păun, and Y. Takashi. Spiking neural P systems with an exhaustive use of rules. *International Journal of Unconventional Computing*, 3(2):135–153, 2007.
 - [18] T.-O. Ishdorj and A. Leporati. Uniform solutions to SAT and 3SAT by spiking neural P systems with pre-computed resources. *Natural Computing*, 7(4):519–534, 2008.
 - [19] T.-O. Ishdorj, A. Leporati, L. Pan, X. Zeng, and X. Zhang. Deterministic solutions to QSAT and Q3SAT by spiking neural P systems with pre-computed resources. *Theoretical Computer Science*, 411(25):2345–2358, 2010.
 - [20] A. Leporati and M.A. Gutiérrez-Naranjo. Solving Subset Sum by spiking neural P systems with pre-computed resources. *Fundamenta Informaticae*, 87(1):61–77, 2008.
 - [21] A. Leporati, G. Mauri, C. Zandron, Gh. Păun, and M.J. Pérez-Jiménez. Uniform solutions to SAT and Subset Sum by spiking neural P systems. *Natural Computing*, 8(4):681–702, 2009.
 - [22] A. Leporati, C. Zandron, C. Ferretti, and G. Mauri. Solving numerical NP-complete problems with spiking neural P systems. In G. Eleftherakis, P. Kefalas, Gh. Păun, G. Rozenberg, and A. Salomaa, editors, *Membrane Computing*, volume 4860 of *Lecture Notes in Computer Science*, pages 336–352, 2007.

- In Eighth International Workshop on Membrane Computing, Thessaloniki, Greece, 25–28, 2007.
- [23] A. Leporati, C. Zandron, C. Ferretti, and G. Mauri. On the Computational Power of Spiking Neural P Systems. *International Journal of Unconventional Computing*, 5(5):459–473, 2009.
- [24] W. Maass. Computing with spikes. *Special Issue on Foundations of Information Processing of Telematik*, 8(1):32–36, 2002.
- [25] W. Maass and C. Bishop. *Pulsed Neural Networks*. 1999.
- [26] C. Martín-Vide, Gh. Păun, J. Pazos, and A. Rodríguez-Patón. Tissue P systems. *Theoretical Computer Science*, 296(2):295–326, 2003.
- [27] M.L. Minsky. *Computation: Finite and Infinite Machines*. 1967.
- [28] L. Pan, J. Wang, and H.J. Hoogeboom. Spiking neural P systems with astrocytes. *Neural Computation*. accepted.
- [29] Gh. Păun. Computing with membranes. *Journal of Computer and System Sciences*, 61(1):108–143, 2000.
- [30] Gh. Păun. *Membrane Computing. An Introduction*. Springer-Verlag, Berlin, 2002.
- [31] Gh. Păun. Spiking neural P systems with astrocyte-like control. *Journal of Universal Computer Science*, 13(11):1707–1721, 2007.
- [32] Gh. Păun. Twenty six research topics about spiking neural P systems. In M.A. Gutiérrez-Naranjo, Gh. Păun, A. Romero-Jiménez, and A. Riscos-Núñez, editors, *Proceedings of the Fifth Brainstorming Week on Membrane Computing*, 2007. RGNC Report 01/200, Research Group on Natural Computing, Sevilla university, Fenix Editora, Sevilla, 263–280, 2007.
- [33] Gh. Păun, M.J. Pérez-Jiménez, and G. Rozenberg. Spike trains in spiking neural P systems. *International Journal of Foundations of Computer Science*, 17(4):975–1002, 2006.
- [34] Gh. Păun and G. Rozenberg. A guide to membrane computing. *Theoretical Computer Science*, 287(1):73–100, 2002.
- [35] Gh. Păun and G. Rozenberg. An introduction to and an overview of membrane computing. *Handbook of Membrane Computing*, 2010.
- [36] Gh. Păun, G. Rozenberg, and A. Salomaa, (Eds.). *Handbook of Membrane Computing*. New York: Oxford University Press, 2010.
- [37] G. Perea and A. Araque. Communication between astrocytes and neurons: a complex language. *Journal of Physiology Paris*, 96:199–207, 2002.

- [38] G. Rozenberg and A. Salomaa, (Eds.). *Handbook of Formal Languages*. volume 1–3, Springer, 1997.
- [39] H.T. Siegelmann and E.D. Sontag. On the computaional power of neural nets. *Journal of Computer and System Sciences*, 50:132–150, 1995.
- [40] A. Volterra and J. Meldolesi. Astrocytes, from brain glue to communication: the revolution continues. *Nature Reviews Neuroscience*, 6:626–640, 2005.
- [41] X. Zeng, X. Zhang, and L. Pan. Homogeneous Spiking Neural P Systems. *Fundamenta Informaticae*, 97(1-2):275–294, 2009.