

Spiking Neural P Systems: A Bibliography

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References

- [1] Artiom Alhazov, Rudolf Freund, Marion Oswald, and Marija Slavkovik. Extended spiking neural p systems. In *Membrane Computing*, pages 123–134. Springer Berlin Heidelberg, 2006.
- [2] Francis George C. Cabarle, Henry N. Adorna, Min Jiang, and Xiangxiang Zeng. Spiking neural p systems with scheduled synapses. *IEEE Transactions on NanoBioscience*, 16(8):792–801, 2017.
- [3] Francis George C. Cabarle, Henry N. Adorna, Mario J. Pérez-Jiménez, and Tao Song. Spiking neural p systems with structural plasticity. *Neural Computing and Applications*, 26(8):1905–1917, November 2015.
- [4] Matteo Cavaliere, Oscar H. Ibarra, Gheorghe Păun, Omer Egecioglu, Mihai Ionescu, and Sara Woodworth. Asynchronous spiking neural p systems. *Theoretical Computer Science*, 410(24):2352 – 2364, 2009. Formal Languages and Applications: A Collection of Papers in Honor of Sheng Yu.
- [5] Haiming Chen, Mihai Ionescu, Tseren-Onolt Ishdorj, Andrei Păun, Gheorghe Păun, and Mario J. Pérez-Jiménez. Spiking neural p systems with extended rules: Universality and languages. *Natural Computing*, 7(2):147–166, June 2008.
- [6] Haiming Chen, Tseren-Onolt Ishdorj, and Gheorghe Păun. Computing along the axon. *Progress in Natural Science*, 17(4):417–423, 2007.
- [7] Oscar H. Ibarra, Andrei Păun, and Alfonso Rodríguez-Patón. Sequential snp systems based on min/max spike number. *Theoretical Computer Science*, 410(30):2982 – 2991, 2009. A bird’s eye view of theory.

- [8] Mihai Ionescu, Gheorghe Păun, and Takashi Yokomori. Spiking neural p systems with an exhaustive use of rules. *International Journal of Unconventional Computing*, 3:135–153, 2007.
- [9] Mihai Ionescu, Gheorghe Păun, and Takashi Yokomori. Spiking neural p systems. *Fundamenta Informaticae*, 71(2,3):279–308, February 2006.
- [10] Yun Jiang, Yansen Su, and Fen Luo. An improved universal spiking neural p system with generalized use of rules. *Journal of Membrane Computing*, 1(4):270–278, December 2019.
- [11] Venkata Padmavati Metta, Srinivasan Raghuraman, and Kamala Krithivasan. Spiking neural p systems with cooperating rules. In Marian Gheorghe, Grzegorz Rozenberg, Arto Salomaa, Petr Sosík, and Claudio Zandron, editors, *Membrane Computing*, pages 314–329, Cham, 2014. Springer International Publishing.
- [12] Linqiang Pan and Gheorghe Păun. Spiking neural p systems with anti-spikes. *International Journal of Computers, Communications, and Control*, 4(3):273–282, 2009. cited By 81.
- [13] Linqiang Pan, Gheorghe Păun, and Mario J. Pérez-Jiménez. Spiking neural p systems with neuron division and budding. *Science China Information Sciences*, 54(8):1596, July 2011.
- [14] Linqiang Pan, Gheorghe Păun, Gexiang Zhang, and Ferrante Neri. Spiking neural p systems with communication on request. *International Journal of Neural Systems*, 27(08):1750042, November 2017.
- [15] Linqiang Pan, Jun Wang, and Hendrik Jan Hoogeboom. Spiking neural p systems with astrocytes. *Neural Computation*, 24(3):805–825, March 2012.
- [16] Linqiang Pan, Xiangxiang Zeng, and Xingyi Zhang. Time-free spiking neural p systems. *Neural Computation*, 23(5):1320–1342, 2011. PMID: 21299423.
- [17] Linqiang Pan, Xiangxiang Zeng, Xingyi Zhang, and Yun Jiang. Spiking neural p systems with weighted synapses. *Neural Processing Letters*, 35(1):13–27, February 2012.
- [18] Gheorghe Păun. Spiking neural p systems with astrocyte-like control. *Journal of Universal Computer Science*, 13(11):1707–1721, November 2007.
- [19] Hong Peng, Bo Li, Jun Wang, Xiaoxiao Song, Tao Wang, Luis Valencia-Cabrera, Ignacio Pérez-Hurtado, Agustín Riscos-Núñez, and Mario J. Pérez-Jiménez. Spiking neural p systems with inhibitory rules. *Knowledge-Based Systems*, 188:105064, 2020.
- [20] Hong Peng, Jun Wang, Mario J. Pérez-Jiménez, Hao Wang, Jie Shao, and Tao Wang. Fuzzy reasoning spiking neural p system for fault diagnosis. *Information Sciences*, 235:106 – 116, 2013. Data-based Control, Decision, Scheduling and Fault Diagnostics.
- [21] Hong Peng, Jinyu Yang, Jun Wang, Tao Wang, Zhang Sun, Xiaoxiao Song, Xiaohui Luo, and Xiangnian Huang. Spiking neural p systems with multiple channels. *Neural Networks*, 95:66 – 71, 2017.
- [22] Tao Song, Faming Gong, Xiyu Liu, Yuzhen Zhao, and Xingyi Zhang. Spiking neural p systems with white hole neurons. *IEEE Transactions on NanoBioscience*, 15(7):666–673, 2016.
- [23] Tao Song and Linqiang Pan. Spiking neural p systems with request rules. *Neurocomputing*, 193(C):193–200, June 2016.
- [24] Tao Song, Linqiang Pan, and Gheorghe Păun. Asynchronous spiking neural p systems with local synchronization. *Information Sciences*, 219:197 – 207, 2013.
- [25] Tao Song, Linqiang Pan, and Gheorghe Păun. Spiking neural p systems with rules on synapses. *Theoretical Computer Science*, 529:82 – 95, 2014.
- [26] Tao Song, Linqiang Pan, Tingfang Wu, Pan Zheng, M. L. Dennis Wong, and Alfonso Rodríguez-Patón. Spiking neural p systems with learning functions. *IEEE Transactions on NanoBioscience*, 18(2):176–190, 2019.

- [27] Tao Song, Alfonso Rodríguez-Patón, Pan Zheng, and Xiangxiang Zeng. Spiking neural p systems with colored spikes. *IEEE Transactions on Cognitive and Developmental Systems*, 10(4):1106–1115, 2018.
- [28] Jun Wang, Hendrik Jan Hoogeboom, and Linqiang Pan. Spiking neural p systems with neuron division. In Marian Gheorghe, Thomas Hinze, Gheorghe Păun, Grzegorz Rozenberg, and Arto Salomaa, editors, *Membrane Computing*, pages 361–376, Berlin, Heidelberg, 2011. Springer Berlin Heidelberg.
- [29] Jun Wang, Hendrik Jan Hoogeboom, Linqiang Pan, Gheorghe Păun, and Mario J. Pérez-Jiménez. Spiking neural p systems with weights. *Neural Computation*, 22(10):2615–2646, October 2010.
- [30] Tingfang Wu, Andrei Păun, Zhiqiang Zhang, and Linqiang Pan. Spiking neural p systems with polarizations. *IEEE Transactions on Neural Networks and Learning Systems*, 29(8):3349–3360, 2018.
- [31] Tingfang Wu, Zhiqiang Zhang, Gheorghe Păun, and Linqiang Pan. Cell-like spiking neural p systems. *Theoretical Computer Science*, 623:180 – 189, 2016.
- [32] Xiangxiang Zeng, Xingyi Zhang, and Linqiang Pan. Homogeneous spiking neural p systems. *Fundamenta Informaticae*, 97(1–2):275–294, January 2009.
- [33] Xiangxiang Zeng, Xingyi Zhang, Tao Song, and Linqiang Pan. Spiking neural p systems with thresholds. *Neural Computation*, 26(7):1340–1361, 2014. PMID: 24708366.
- [34] Gexiang Zhang, Haina Rong, Ferrante Neri, and Mario J. Pérez-Jiménez. An optimization spiking neural p system for approximately solving combinatorial optimization problems. *International Journal of Neural Systems*, 24(05):1440006, May 2014.
- [35] Xingyi Zhang, Bangju Wang, and Linqiang Pan. Spiking neural p systems with a generalized use of rules. *Neural Computation*, 26(12):2925–2943, 2014. PMID: 25149700.
- [36] Xingyi Zhang, Xiangxiang Zeng, and Linqiang Pan. On string languages generated by spiking neural p systems with exhaustive use of rules. *Natural Computing*, 7(4):535–549, December 2008.
- [37] Yuzhen Zhao, Xiyu Liu, and Wenping Wang. Spiking neural p systems with neuron division and dissolution. *PLOS ONE*, 11(9):e0162882, September 2016.