

List of Publications Related to the PhD Thesis

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Journal Publications

Garrido-Peña, A., Elices, I., & Varona, P. Characterization of interval variability in the sequential activity of a central pattern generator model [JCR Q2. Related to Chapter 4]. *Neurocomputing*, 461. 2021. 461. 667–678. ISSN: 0925-2312. <https://doi.org/10.1016/j.neucom.2020.08.093>.

Garrido-Peña, A., Sanchez-Martin, P., Reyes-Sanchez, M., Levi, R., Rodriguez, F. B., Castilla, J., Tornero, J., & Varona, P. Modulation of neuronal dynamics by sustained and activity-dependent continuous-wave near-infrared laser stimulation [JCR Q1. Related to Chapter 5.]. *Neurophotonics*, 11(2). 2024. 11. (2). 024308. ISSN: 2329-423X, 2329-4248. <https://doi.org/10.1117/1.NPh.11.2.024308>.

International Conference Contributions

Amaducci, R., Elices, I., Reyes-Sanchez, M., Garrido-Peña, A., Levi, R., Rodriguez, F. B., & Varona, P. Hybrid robot driven by a closed-loop interaction with a living central pattern generator with on-line feedback. 29th Annual Computational Neuroscience Meeting: CNS*2020. P207. [Related to Chapter 4]. *BMC Neuroscience*, 21. 2020. 21. 54. <https://doi.org/10.1186/s12868-020-00593-1>.

Amaducci, R., Elices, I., Reyes-Sanchez, M., Garrido-Peña, A., Levi, R., Rodriguez, F. B., & Varona, P. Controlling robotic locomotion by a closed-loop interaction with living central pattern generators. [Related to Chapter 4]. *COSYNE*. 2021. https://www.cosyne.org/s/Cosyne2021_program_book.pdf

Berbel, B., Garrido-Peña, A., Elices, I., Latorre, R., & Varona, P. (2021a). Effect of Electrical Synapses in the Cycle-by-Cycle Period and Burst Duration of Central Pattern Generators [Related to Chapter 4.]. In I. Rojas, G. Joya, & A. Català (Eds.), *Advances in Computational Intelligence* (pp. 81–92). Springer International Publishing. https://doi.org/10.1007/978-3-030-85099-9_7

Berbel, B., Garrido-Peña, A., Elices, I., Latorre, R., & Varona, P. Gap junctions shape the intervals that build robust sequences in a central pattern generator model. 30th Annual Computational

- Neuroscience Meeting: CNS*2021–Meeting Abstracts. P194. [Related to Chapter 4.]. *Journal of Computational Neuroscience*, 49. 2021. 49. 3–208. <https://doi.org/10.1007/s10827-021-00801-9>.
- Garrido-Peña, A., Elices, I., Levi, R., Rodriguez, F. B., & Varona, P. Experimental and computational characterization of interval variability in the sequential activity of the *Lymnaea* feeding CPG. 29th Annual Computational Neuroscience Meeting: CNS*2020. O11. ORAL PRESENTATION [Related to Chapter 4.]. *BMC Neuroscience*, 21. 2020. 21. 54. <https://doi.org/10.1186/s12868-020-00593-1>.
- Garrido-Peña, A., Elices, I., Levi, R., Rodriguez, F. B., & Varona, P. Universality of interval variability constraints in the sequential activity of motor circuits. [Related to Chapter 4.]. *COSYNE*. 2021. https://www.cosyne.org/s/Cosyne2021_program_book.pdf
- Garrido-Peña, A., Levi, R., Castilla, J., Tornero, J., & Varona, P. Effect of infrared laser stimulation in single neurons: Experimental and modeling study. 30th Annual Computational Neuroscience Meeting: CNS*2021–Meeting Abstracts. P193. [Related to Chapter 5]. *Journal of Computational Neuroscience*, 49. 2021. 49. 3–208. <https://doi.org/10.1007/s10827-021-00801-9>.
- Garrido-Peña, A., Sanchez-Martin, P., Levi, R., Castilla, J., Tornero, J., & Varona, P. Activity-dependent stimulation to assess the effect of infrared-laser stimulation in single neurons. Poster Presentation [Related to Chapter 5]. *FENS*. 2022. S02–556. <https://kenesvm.azureedge.net/public/general/FENS2022.pdf>
- Garrido-Peña, A., Sanchez-Martin, P., Reyes-Sanchez, M., Levi, R., Rodriguez, F. B., Castilla, J., Tornero, J., & Varona, P. Effective noninvasive neuronal waveform modulation with sustained and activity-dependent continuous-wave near-infrared laser stimulation. Poster presentation. [Related to Chapter 5.]. *FENS*. 2024.
- Garrido-Peña, A., Sánchez-Martín, P., Elices, I., Reyes-Sanchez, M., Berbel, B., Latorre, R., Rodriguez, F. B., & Varona, P. Exploring the ability of biophysical models to reproduce the functional variability of neurons. 32nd Annual Computational Neuroscience Meeting: CNS*2023. [Related to Chapter 4]. *InPress for Journal of Computational Neuroscience*. 2024.
- Garrido-Peña, A., Sánchez-Martín, P., Reyes-Sanchez, M., Castilla, J., Tornero, J., Levi, R., Rodriguez, F. B., & Varona, P. Activity-dependent infrared laser stimulation to assess its biophysical effects on single neurons. 31st Annual Computational Neuroscience Meeting: CNS*2022. F3. ORAL PRESENTATION. [Related to Chapter 5]. *Journal of Computational Neuroscience*, 51. 2023. 51. 3–101. <https://doi.org/10.1007/s10827-022-00841-9>.

- Sanchez-Martin, P., Elices, I., Garrido-Peña, A., Levi, R., Rodriguez, F. B., & Varona, P. Dynamic synchronization between electrically coupled cells of central pattern generators. 30th Annual Computational Neuroscience Meeting: CNS*2021–Meeting Abstracts. P195. [Related to chapter 4]. *Journal of Computational Neuroscience*, 49. 2021. 49. 3–208. <https://doi.org/10.1007/s10827-021-00801-9>.
- Sánchez-Martín, P., Garrido-Peña, A., Berbel, B., Rodriguez, F. B., Levi, R., & Varona, P. Influence of electrical coupling in shaping time intervals and dynamical invariants of central pattern generator sequences. 31st Annual Computational Neuroscience Meeting: CNS*2022. P109. [Related to Chapter 4.]. *Journal of Computational Neuroscience*, 51. 2023. 51. 3–101. <https://doi.org/10.1007/s10827-022-00841-9>.
- Soëtdard, P., Amaducci, R., Sánchez-Martín, P., Reyes-Sanchez, M., Garrido-Peña, A., Levi, R., Rodriguez, F. B., & Varona, P. Dynamical principles of functional neural sequences validated in hybrid robots built with living central pattern generators. 31st Annual Computational Neuroscience Meeting: CNS*2022. P110 [Related to Chapter 4]. *Journal of Computational Neuroscience*, 51. 2023. 51. 3–101. <https://doi.org/10.1007/s10827-022-00841-9>.