

Curriculum Vitae

Currently, **Dr. Loren Koçillari** is a **Postdoctoral Fellow** at the Center for Neuroscience and Cognitive Systems CNCS at the Istituto Italiano di Tecnologia (Rovereto, Italy), and a **Visiting Scholar** at the Excellence Department of Neural Information Processing at University Medical Center Hamburg-Eppendorf (Hamburg, Germany).

Dr. Koçillari is a biophysicist with a background in statistical physics. He obtained a Master's degree in Theoretical Physics from the University of Padua (2014) and later a PhD in Statistical Physics from the same University (2018). During his PhD, Dr. Koçillari worked at the Interdisciplinary Physics Laboratory of University of Padua, where, under the supervision of Prof. Amos Maritan, he analyzed data related to plants, human behavior, proteins, and sperms. He gained experience in neuroscience collaborating with the Padua Neuroscience Centre led by Prof. Maurizio Corbetta. He then spent six months working as part of the Computational Neuroscience Group at Universitat Pompeu Fabra (Barcelona, Spain) where, under the supervision of Prof. Gustavo Deco, he specialized on the analysis and modeling of the resting-state whole-brain dynamics of humans affected by stroke.

He is currently conducting research at the interface between computational and experimental neuroscience. Part of his research is in network neuroscience, with a focus on building new models of the whole-brain dynamics to understand how the large-scale functional brain networks unfold from the anatomical networks in healthy and injured (e.g. stroke) neural systems. In conducting his research, he also applies novel methods from Information Theory for the dissection of neural circuits underlying behavior.

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Publications

2021. Koçillari, L., Olson, M., Suweis, S., Rocha, R., et al. (2021) "The Widened Pipe Model of plant hydraulic evolution." *Proceedings of the National Academy of Sciences* 118, no. 22. <https://www.pnas.org/content/118/22/e2100314118>

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2018. Rocha, R.P., Koçillari, L., Suweis, S. et al. (2018). "Homeostatic plasticity and emergence of functional networks in a whole-brain model at criticality ." *Scientific Reports*. 8, 15682. <https://www.nature.com/articles/s41598-018-33923-9>

Koçillari, L., Fariselli, P., Trovato, A. et al. (2018). "Signature of Pareto optimization in the Escherichia coli proteome." *Scientific Reports*. 8, 9141. <https://www.nature.com/articles/s41598-018-27287-3>