Ábel Ságodi

PhD Student in Neuroscience

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Academic Positions

2021–Present **PhD Student**, *Champalimaud Centre for the Unknown*, Lisbon, Portugal.

2020–2021 **Research Assistant**, *Kavli Institute for Systems Neuroscience, NTNU*, Trondheim, Norway.

Education

2017–2020 **MSc in Mathematics, Track Mathematical Physics**, *University of Amsterdam*, Amsterdam.
- Thesis: *Conley Index Theory in Neuroscience* with Kathryn Hess at EPFL

2017–2019 **MSc in Computational Science**, *University of Amsterdam*, Amsterdam.
- Thesis: *Categorising Attractor Dynamics in Neural Data*

2014–2017 **Double BSc in Mathematics and Physics**, *University of Amsterdam*, Amsterdam.
- Thesis: *The Qutrit in the Fibonacci Anyon Model*

2012–2015 **BSc in Neuroscience (Honours)**, *University of Amsterdam*, Amsterdam.
- Thesis: *Alternative Circuits and Interleaved Learning in the Hippocampus*

Publications

2025 Ságodi, Á. and Park, I. M. *Dynamical Archetype Analysis: Autonomous Computation*. arXiv 2507.05505

2024 Ságodi, Á., Martin-Sanchez, G., Sokół, P. A., and Park, I. M. *Back to the Continuous Attractor*. Thirty-eighth Annual Conference on Neural Information Processing Systems. https://openreview.net/forum?id=fvG6ZHrH0B

2023 Park, I. M., Ságodi, Á., and Sokół, P. A. *Persistent Learning Signals and Working Memory without Continuous Attractors*. arXiv: 2308.12585.

Teaching Experience

2023 **Teaching Assistant**, *Time Series Analysis (INCDP)*, Champalimaud Centre.

2022 **Teaching Assistant**, *Linear Dynamical Systems (INCDP)*, Champalimaud Centre.

2017 **Teaching Assistant**, *Mathematics for Physicists 2*, University of Amsterdam.

2012–2015 **Tutor for high school students**, *StudentsPlus*, Netherlands.

Talks

28-10-2025 *Approximate Continuous Attractor Theory*, The Max Planck Institute for Neurobiology of Behavior-caesar, Bonn

30-09-2025 *The neuron as a controller of stochastic dynamics*, Bernstein Workshop, Frankfurt

10-11-2023 *RNNs with Gracefully Degrading Continuous Attractors*, Janelia Junior Scientist Workshop on Theoretical Neuroscience

10-09-2023 *RNNs with Gracefully Degrading Continuous Attractors*, Analytical Connectionism Workshop

Posters

15-10-2025 Champalimaud Research Symposium: *Dynamical Archetype Analysis: Autonomous Computation*

06-08-2025 Flatiron Institute: *The neuron as a stochastic feedback controller*

11-07-2025 Junior Theoretical Neuroscientist Workshop (Flatiron): *Dynamical Archetype Analysis: Autonomous Computation*

29-03-2025 Cosyne: *Approximate Continuous Attractor Theory*

12-12-2025 NeurIPS: *Back to the Continuous Attractor*

01-10-2024 Bernstein Conference: *Slow Manifold Dynamics for Working Memory are near Continuous Attractors*

09-11-2024 Junior Scientist Workshop on Theoretical Neuroscience

11-09-2023 Analytical Connectionism Summer School (Gatsby)

17-07-2021 4th International Conference on Applied Category Theory

Awards

2025 Presenters Travel Grant for COSYNE 2025 (Awarded based on the high reviewer ranking of abstract)

2019 Amsterdam University Fund Scholarship (for exchange to EPFL)

2016 Amsterdam University Fund Scholarship (for exchange to National University of Singapore)

2012 First Prize, *Explore the High-energy Universe* (European Space Agency)

Community involvement

Peer reviewing

ICML 2023	(3)	ICLR 2023	(6)	NeurIPS 2023	(7)		
ICML 2024	(6)	AISTATS 2024	(2)	NeurIPS 2024	(6, Top reviewer)		
ICML 2025	(5)	TMLR	(2)	NeurIPS 2025	(6, Top reviewer)		

Technical Skills

Programming Python, Matlab, Mathematica, R, C++, Bonsai.

Software Experience with data analysis, simulation, and visualization tools in neuroscience.