CURRICULUM VITAE

Personal information

Name	Jorge Eduardo Ramírez Ruiz
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Education

2018 - 2023	PhD in Information and Communication Technologies (Neuroscience) at the Universitat Pompeu Fabra (UPF) in Barcelona, Spain. Honors: *cum laude*.
2016 – 2018	Master's in Physics at Université de Sherbrooke, Canada.
2011 – 2016	Bachelor of Science, Physics at Universidad Nacional Autónoma de México (UNAM).

Publications

2023 Grytskyy, D., Ramírez-Ruiz, J., & Moreno-Bote, R. (2023). "A general Markov decision process formalism for action-state entropy-regularized reward maximization." *arXiv preprint at arXiv:2302.01098.*

2022 Ramírez-Ruiz, J., Grytskyy, D. & Moreno-Bote, R. (2022). "Seeking entropy: Complex behaviors from intrinsic motivation to occupy action-state path space". *arXiv preprint at arXiv: 2205.10316.*

2021 Ramírez-Ruiz, J., & Moreno-Bote, R. (2021). "Optimal allocation of finite sampling capacity in accumulator models of multi-alternative decision making." Cognitive Science, 46(5), e13143.

2020 Moreno-Bote, R., Ramírez-Ruiz, J., Drugowitsch, J., & Hayden, B. Y. (2020). "Heuristics and optimal solutions to the breadth–depth dilemma." PNAS, 117(33), 19799-19808.

2017 Ramírez-Ruiz, J., Boutin, S., & Garate, I. (2017). "NMR in an electric field: A bulk probe of the hidden spin and orbital polarizations." Physical Review B, 96(23), 235201. Editors' suggestion.

2016 Boutin, S., Ramírez-Ruiz, J., & Garate, I. (2016). "Tight-binding theory of NMR shifts in topological insulators Bi2Se3 and Bi2Te3." Physical Review B, 94(11), 115204.

Conferences & Workshops

2023 Invited talk at the CONNECT workshop "Active learning in brains and machines" held in Marseille, France. Talk entitled "A maximum occupancy principle for brains and behavior".

2022 Contributed talk at BARCCSYN conference, talk entitled "Seeking entropy: Complex behaviors from intrinsic motivation to occupy action-state path space"

2021 Poster at the Spanish Neuroscience Society conference (SENC).

Ramírez-Ruiz, J., Anzai, A., Drugowitsch, J., DeAngelis, G. and Moreno-Bote R. "Behavioral mechanisms underlying visually-guided control of steering".

Poster at COSYNE conference.

Ramírez-Ruiz, J. and Moreno-Bote, R. "Optimal allocation of finite sampling capacity in accumulator models of multi-alternative decision making".

Poster at the BARCCSYN conference.

Ramírez-Ruiz, J., Mastrogiuseppe, C. and Moreno-Bote, R. "Magic number five: The breadth–depth dilemma in accumulator and tree-like models of decision making."

2020 Contributed talk at Neuromatch conference 2.0. Talk entitled "The breadth--depth dilemma".

Teaching (assistantships)

2021 Introduction to Network Science/Spanish (UPF)

Computational Neuroscience/English (UPF)

Linear Algebra/Spanish (UPF)

2020 Computational Neuroscience/English (UPF)

Calculus/Spanish (UPF)

2018 Statistical Physics II/French (Université de Sherbrooke).

2015 Statistical Physics (UNAM).

Modern Physics/Spanish (UNAM).

Funding and research stays

2022 Summer research stay at the noiseLab led by Becket Ebitz.

2019 Doctoral scholarship FPI (Spanish Education Ministry).

2016 Mitacs Globalink Graduate Fellowship for a Master's degree in Canada.

2015 Mitacs Globalink research internship at the Université de Sherbrooke.

Schools and exchanges

2020 Neuromatch Academy, interactive track.

2019 Cellular, Computational and Cognitive Neuroscience Summer School at Princeton University, USA.

2018 49th IFF Spring school "Physics of Life" in Jülich, Germany.

2013 Exchange semester at the University of California, Santa Barbara.

Technical skills

Programming languages: Julia, C++, Python and knowledge of Matlab.

Experience with parallel computing techniques PyCUDA and OpenMP.

Languages

Fluent in Spanish, English and French. Basic knowledge of Italian.

Further accomplishments

2010 International Baccalaureate, Diploma Programme. Score of 39 out of 45 points.

Silver medal representing Mexico at the Ibero-American Physics Olympiad held in Panama City, Panama.