JAIME GOMEZ-RAMIREZ
Fundación CIEN, Instituto de Salud Carlos III
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WORK EXPERIENCE

2017- Research Associate at Fundación CIEN. Centro de Alzheimer Reina Sofía (Madrid)

AI, Machine Learning, Predictive and Personalised medicine

2015 - Expert for the European Commission in Horizon 2020

H2020-SC1-DTH-2018-1, H2020-SC1-PM-15, H2020-PHC-25-2015

2015-2016 Research Associate at The Hospital for Sick Children (Toronto, Canada)

Neural dynamics intracranial EEG and MEG

Visiting Professor at the *University of Turin* (Italy)

2014-15 Postdoctoral Research Fellow at the University of Wisconsin-Madison (US)

Mathematical and computational modelling of neural mechanisms involved in sleep and consciousness.

2012-13 Postdoctoral Research Fellow at Okayama University (Japan)

Researcher on functional and network brain connectivity

2006-2011 Professor at Universidad Pontificia de Comillas, Madrid

Lecturer 800 hours, undergraduate and graduate level in Robotics and computer programming courses

2005-2011 Research Scientist at Universidad Politécnica de Madrid

2000-2004 Consultant and Manager in the Private Sector IT

Solutions architect **at Hewlett-Packard**, France. Network lifecycle management through network, network security design, system performance characterization and testing.

Project Manager at **Accenture**, Spain.
Interfacing with the stakeholders and clients. Provide technical evaluation and strategic recommendations

EDUCATION and TRAINING

PhD with 3 postdoctoral periods in Okayama University (Japan), University of Madison-Wisconsin (US) and The Hospital for Sick Children-University of Toronto (Canada).
Experience in both Academia as a Professor and Researcher and in the private sector in consulting firms (Hewlett-Packard, Accenture).

2010 PhD Universidad Politécnica de Madrid
- **2009** Visiting Scientist at University of Palermo
- **2008** Visiting Scientist at Humboldt University of Berlin
- **2007** Visiting Scientist at University of California Berkeley

2000 BSc, MSc in Computer Engineering at Universidad Politécnica Madrid

LANGUAGES

Proficient in English, French, Italian and Spanish

Memberships

Council Member of the Institute of Complex Medical Engineering

Publications

1. Books as single author

Gomez-Ramirez,J. A New Foundation for Representation in Cognitive and Brain Science: Category Theory and the Hippocampus, Springer, 2014.

2. Journal Publications (PubMed)

Fernandez-Blazquez M. and Gomez-Ramirez J.; Impact of individual and neighborhood dimensions of socioeconomic status on the prevalence of mild cognitive impairment over seven-year follow-up, Aging & Mental Health (2020), Impact Factor=2.95

Gomez-Ramirez; et al Selecting the most important self-assessed features for predicting conversion to Mild Cognitive Impairment with Random Forest and Permutation-based methods doi.org/10.1101/785519 (2019)

Gomez-Ramirez J.; et al Exploring the alpha desynchronization hypothesis in resting state networks with intracranial

electroencephalography and wiring cost estimate Scientific Reports. Nature. 7-15670. (2017), Impact Factor=4.2

Gomez-Ramirez J. and Costa T. Boredom begets creativity: a solution to the exploitation-exploration trade-off in predictive coding Biosystems 162-12, Pages 168-176 (2017)

Gomez-Ramirez J., Li Y, Wu Q. and Wu J. A quantitative study of network robustness in resting state fMRI in young and elder conditions. 3;7:256 Neurobiol Aging. (2015) Impact Factor= 5.013

Marshall, W., Gomez-Ramírez J., Tononi, G. 2016. Integrated Information and State Differentiation 2016; 7: 926 Frontiers in Psychology, , Impact Factor=2.13

Eheresmann A. and Gomez-Ramirez J. Conciliating neuroscience and phenomenology via category theory. Prog Biophys Mol Bio. 119, Issue 3, 2015, Pages 347-359, Impact Factor=3.377

Gomez-Ramirez J. and Wu J. Network-Based Biomarkers in Alzheimer's Disease: Review and Future Directions, Front Aging Neurosci.; 6: 12 (2014) Impact Factor=2.9

Simeonov P, Gomez-Ramirez J, Siregar P. On some recent insights in Integral Biomathics, Prog Biophys Mol Bio. 113:1, 216–228 (2013) Impact Factor=3.377

Gomez-Ramirez J.and Sanz, R. On the limitations of standard statistical modeling in biological systems: A full bayesian approach for biology. Prog Biophys Mol Bio. 113:1, 80-91 (2013) Impact Factor=3.377

Gomez-Ramirez J, Sanz, R., Hippocampal Categories: A Mathematical Foundation for Navigation and Memory. Adv Exp Med Biol., 718, pp 149-64 (2011) Impact Factor= 2.012

Sanz R, Hernández C, Gómez-Ramirez J. Introduction: from brains to the machines of the future., Adv Exp Med Biol. 2011;718:1-6. doi: 10.1007/978-1-4614-0164-3_1. (2011) Impact Factor=2.012

Sanz R, Hernandez C, Gomez J, Hernando A., A Functional Approach to Emotion in Autonomous Systems. Adv. Exp. Med. Biol. 2010;657, pp 249-65 (2010) Impact Factor=2.012

Gomez-Ramirez J. Don't blame the economists. It is an inverse problem! Eur J Futures Res 15:13 (2013)

Gomez-Ramirez J, Comments on Aur's From Neuroelectrodynamics To Thinking Machines. Cogn. Comput. 4, 4: pp563-565 (2012) Impact Factor=1.1

Sanz R, Hernández C, Gomez J et al., Systems, Models And Self-Awareness: Towards Architectural Models of Consciousness; International Journal of Machine Consciousness; 1:2, 255-279 (2009)

Sanz, R, Gomez J, Vindication of a Rigorous Cognitive Science, Journal of Mind Theory,0:2, vii.xii (2009)

3. Book chapters

Gomez-Ramirez J, Sanz R, What the Escherichia coli tells neurons about Learning, Integral Biomathics: Tracing the Road to Reality, Simeonov,P. Smith L, Eheresmann A. (Eds.), Springer- Verlag, Heidelberg, 2012, pp 41-55

Simeonov P, Gomez-Ramirez, J. et al., Stepping Beyond the Newtonian Paradigm in Biology. Towards an Integrable Computational Model of Life: Accelerating Discovery in the Biological Foundations of Science, Integral Biomathics: Tracing the Road to Reality, Simeonov,P. Smith L, Eheresmann A. (Eds.), Springer-Verlag, Heidelberg, 2012, pp 319-417

Simeonov PL, Ehresmann AC, Smith LS, Gomez-Ramirez J, Repa V; A., New Biology: A Modern Perspective on the Challenge of Closing the Gap between the Islands of Knowledge, Towards a Servive-Based Internet, Cezon M., Wolfsthal Y. (Eds.), Springer-Verlag, Heidelberg, 2011, pp 188-195

Sanz R, Hernandez C, Hernando A, Gomez-Ramirez J., Bermejo J., Grounding Robot Autonomy, Emotion and Self-awareness, Advances in Robotics, Jong-Hwan Kim et al. (Eds.) Springer-Verlag, Heidelberg, 2009, pp: 23-43

Sanz R, Gomez Ramirez J. et al., Thinking with the body, Handbook of Cognitive Science: An Embodied Approach, Calvo P. and Gomila T. (Eds.), Elsevier Science, 2008, pp 395-419

Sanz R, Bermejo J, López I, Gomez J, A Real-Time Agent System Perspective of Meaning and Sapience, Toward Artificial Sapience: Principles and Methods for Wise Systems. Rene V. Mayorga y Leonid Perlovsky (Eds.), Springer-Verlag, London, 2008, pp 61-75