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Date of birth: 23 July 1976
Nationality: Spanish, Swiss Resident
Civil status: Married



My work focuses in understanding the neurobiological and computational basis of normal and impaired human movement. The goal of this understanding is to translate effective neurotechnology for people with severe paralysis.

Professional Experience

- 2018 – present **Wyss Center Fellow**, *The Functional Brain Mapping Laboratory, University of Geneva, Switzerland.*
- 2017 – present **Research Fellow**, *The Functional Brain Mapping Laboratory, University of Geneva, Switzerland.*
- 2010 – 2017 **Research Associate**, *The Movement Laboratory, Institute of Neuroscience, Newcastle University, UK.*
- 2008 – 2010 **Postdoc Researcher**, *The Brain-Machine Interface Initiative, Bernstein Center for Computational Neuroscience Freiburg, Germany.*
- 2005 – 2008 **Research Assistant**, *IDIAP Brain-Computer Interfaces Lab, IDIAP Research Institute, Martigny, Switzerland.*
- 2002 – 2005 **Research Assistant**, *Department of Methodology for Behavioral Sciences, University of Barcelona, Barcelona, Spain.*
- 2001 – 2002 **Data Analyst**, *Analysis Department, Gallup R.D, Santo Domingo, Dominican Republic.*
- 1999 – 2000 **Polysomnography Technician**, *Neurophysiology Unit, Corachan Clinic, Barcelona, Spain.*

Higher Education

- 2008 **Ph.D. Biometrics and Statistics**, *University of Barcelona, Spain*
- 2003 **M.S. Biometrics and Statistics**, *University of Barcelona, Spain*
- 2000 **B.S. Psychology**, *University of Barcelona, Spain*

Honors and Awards

- 2018 **xMotion - Audience Award**, *BioInnovation Day 2018*, Geneva, Switzerland.
- 2018 **xMotion - The Most Promising Idea Award**. *Global Healthcare Innovation Academy 2018*, Hong Kong.
- 2017 **xMotion - Best Poster Award**, *Geneva University Hospitals Innovation Day 2017*, Geneva, Switzerland.
- 2017 **GetMotion - Finalist of the Wyss Neurotech Challenge** as one of the innovative concepts with the potential to improve the lives of people leaving with nervous system disorders.
- 2010 **Best Technical Poster Award**, *Fourth International BCI Meeting 2010*, Asilomar, CA, USA.
- 2008 **Magna Cum Laude**, **Ph.D. Biometrics and Statistics**, University of Barcelona, Spain.
- 2005 **Winner of the International BCI Competition III, Data Set V: Multi-Class Problem, Continuous EEG.**
- 2005 **Research Scholarship (2005BE00110)**, *Agency for Administration of University and Research Grants, Government of Catalonia*, IDIAP Brain-Computer Interfaces Lab, IDIAP Research Institute, Martigny, Switzerland.
- 2002 – 2005 **PhD Scholarship (2002FI00437)**, *Agency for Administration of University and Research Grants, Government of Catalonia*, Department of Methodology for Behavioral Sciences, University of Barcelona, Spain.
- 2000 **Ranked in Top 1%, B.S Psychology**, University of Barcelona, Spain

Teaching Experience

- 2013 – 2016 **Neural Control of Movement**, *Teaching assistant at Newcastle University, Newcastle, UK.*
2009 **Neurotechnology**, *Teaching assistant at Albert Ludwig University. Freiburg, Germany.*
2007 **Brain-Computer Interaction**, *Teaching assistant at EPFL, Lausanne, Switzerland.*
2003 – 2004 **Data Analysis**, *Teaching assistant at University of Barcelona, Barcelona, Spain.*

Advised Thesis

- 2018 **D. P Susilaradeya**, Extrinsic and Intrinsic Dynamics in Visuomotor Tracking. *PhD thesis co-advised with A. Jackson and K. Alter, Institute of Neuroscience, Newcastle University.*
2007 **L. Uldry**, Feature Selection Methods on Distributed Linear Inverse Solutions for a Non-Invasive Brain-Machine Interface. *Master thesis co-advised with P. W. Ferrez and J. del R. Millán, IDIAP Research Institute, EPFL Lausanne*, Prize "FOUNDATION ANNAHEIM" devoted to the bringing together of life sciences and computer sciences.

Scientific Activities

- Journal Peer Review Neurorehabilitation & Neural Repair, Journal of Neurophysiology, Journal of Neural Engineering, Brain Stimulation, Frontiers in Systems Neuroscience, Frontiers in Integrative Neuroscience, Frontiers in Neurorobotics, Frontiers in Neuroprosthetics, IEEE/Systems, Man and Cybernetics – Part B, IEEE/Neural Systems and Rehabilitation Engineering, Medical and Biological Engineering and Computing, International Journal of Human Computer Studies.
- External Expert Swiss National Science Foundation.

Startup Training

- 2019 **Innosuisse Startup Training – Business Creation for Social Entrepreneurs. xMotion** startup project.
2018 **Innosuisse Startup Training – Business Creation Engineering. xMotion** startup project.
2017 **Innosuisse Startup Training – Business Concept. xMotion** startup project.
2017 **Venturelab – Startup Acceleration Workshops. xMotion** startup project.

Publication List

Citation data are correct at date January 2020. Source: [Google Scholar](#)

Total number of citations: 1770, **h-index:** 13, **i10-index:** 15

Preprints

F. Galán, S. N. Baker and M. A. Perez. ChinMotion rapidly enables 3D computer interaction after tetraplegia. Access the most recent version at [arXiv](#) e-Print archive: [arXiv:1606.02711](#)

Refereed Journal Papers

K.Y.W. Khong, **F. Galán**, D. Seteropoulos. Rapid Crossed Responses in an Intrinsic Hand Muscle During Perturbed Bimanual Movements. *Journal of Neurophysiology*, Dec. 2019.

D. Susilaradeya, W. Xu, T. Hall, **F. Galán**, K. Alter, A. Jackson. Extrinsic and intrinsic dynamics in movement intermittency. *eLife*, 8: e40145, 2019. *Cited 1 time.*

F. Galán and S. N. Baker. Pre-synaptic inhibition of afferent feedback in the macaque spinal cord does not modulate with cycles of peripheral oscillations around 10 Hz, *Front. Neural Circuits*, 9:76, 2015.

F. Galán and S. N. Baker. Deafferented controllers: a fundamental failure mechanism in cortical neuroprosthetic systems, *Front. Behav. Neurosci.*, 9:186, 2015. *Cited 2 times.*

F. Galán, M. R. Baker, Kai Alter and S. N. Baker. Degraded EEG decoding of wrist movements in absence of kinaesthetic feedback, **Human Brain Mapping**, 36(2), 2015. *Cited 16 times*.

M. Witte*, **F. Galán*** (contributing equally), S. Waldert, C. Braun and C. Mehring. Concurrent stable and unstable cortical correlates of human wrist movements, **Human Brain Mapping**, 35(8), 2014. *Cited 4 times*.

D. J. Krusinski, M. Grosse-Wentrup, **F. Galán**, D. Coyle, K. J. Miller, E. Forney and C. W. Anderson. Critical issues in state-of-the-art brain-computer interface signal processing, **Journal of Neural Engineering**, 8:025002, 2011. *Cited 161 times*.

F. Galán, M. Nuttin, E. Lew, P. W. Ferrez, G. Vanacker, J. Philips, and J. del R. Millán. A Brain-Actuated Wheelchair: Asynchronous and Non-Invasive Brain-Computer Interfaces for Continuous Control of Robots, **Clinical Neurophysiology**, 119:9, 2159-2169, 2008. *Cited 655 times*.

N. Bourdaud, R. Chavarriaga, **F. Galán**, J.del R. Millán. Characterizing the EEG Correlates of Exploratory Behavior. **IEEE Transactions on Neural Systems and Rehabilitation Engineering**, 16:6, 549-556, 2008. *Cited 40 times*.

J. del R. Millán, P. W. Ferrez, **F. Galán**, E. Lew, and R. Chavarriaga. Non-Invasive Brain-Machine Interaction. **International Journal of Pattern Recognition and Artificial Intelligence**, 22:5, 959-972, 2008. *Cited 105 times*.

G. Vanacker, J. del R. Millán, E. Lew, P. W. Ferrez, **F. Galán**, J. Philips, H. Van Brussel, and M. Nuttin. Context-based Filtering for Assisted Brain-Actuated Wheelchair Driving. **Computational Intelligence and Neuroscience**, 2007. *Cited 149 times*.

F. Galán, F. Oliva, and J. Guàrdia. Using Mental Tasks Transitions Detection to Improve Spontaneous Mental Activity Classification. **Medical and Biological Engineering and Computing** 45:6, 603-609, 2007. *Cited 31 times*.

J. R. Martinez and **F. Galán**. Estrategias de aprendizaje, motivación y rendimiento académico en alumnos universitarios. Undergraduate students' learning strategies, motivation and academic performance. **AEOP** 11:19, 35-50, 2000. *Cited 132 times*.

J. R. Martinez and **F. Galán**. Motivación, estrategias de aprendizaje y rendimiento académico en alumnos universitarios. Undergraduate students' motivation, learning strategies and academic performance. **Iberpsicología: Revista Electrónica de la Federación Española de Asociaciones de Psicología** 5:2, 2, 2000. *Cited 43 times*.

Refereed Conference Proceedings

J. del R. Millán, **F. Galán**, D. Vanhooydonck, E. Lew, J. Philips, and M. Nuttin. Asynchronous Non-Invasive Brain-Actuated Control of an Intelligent Wheelchair. **31st Annual International Conference of the IEEE Engineering in Medicine and Biology Society**, Minneapolis, USA, 2009. *Cited 159 times*.

F. Galán, M. Nuttin, D. Vanhooydonck, E. Lew, P. W. Ferrez, J. Philips, and J. del R. Millán. Continuous Brain-Actuated Control of an Intelligent Wheelchair by Human EEG. **4th International Brain-Computer Interface Workshop and Training Course**, Graz, Austria, 2008. *Cited 11 times*

G. Garielli, **F. Galán**, R. Chavarriaga, P.W. Ferrez, E. Lew, and J.del R. Millán. The Use of Brain-Computer Interfacing in Ambient Intelligence. In: Max Mühlhäuser, Alois Ferscha, and Erwin Aitenbichler (Eds.) **Constructing Ambient Intelligence: AmI-07 Workshops Proceedings, LNCS**, Darmstadt, Germany, 2007. *Cited 14 times*.

F. Galán, J. Palix, R. Chavarriaga, P.W. Ferrez, C.A. Hauert, and J. del. R. Millán. Visuospatial Attention Frame Recognition for Brain-Computer Interfaces. In: R. Wang, F. Gu, and E. Shen (Eds.) **Advances in Cognitive Neurodynamics ICCN 2007. Proceedings of the International Conference on Cognitive Neurodynamics. ICCN 2007 Proceedings.**, Shanghai, China, 2007. *Cited 5 times*.

F. Galán, M. Nuttin, E. Lew, P. W. Ferrez, G. Vanacker, J. Philips, H. Van Brussel, and J. del. R. Millán. An Asynchronous and Non-Invasive Brain-Actuated Wheelchair. In: **Proceedings of the 13th International Symposium of Robotics Research (ISRR 2007)**, Hiroshima, Japan, 2007. *Cited 12 times*.

F. Galán, P. W. Ferrez, F. Oliva, J. Guàrdia, and J. del R. Millán. Feature Extraction for Multiclass BCI using Canonical Variates Analysis. In: **Proceedings of the 2007 IEEE International Symposium on Intelligent Signal Processing (WISP 2007)**, Alcalá de Henares, Spain, 2007. *Cited 58 times*.

J. Philips, J. del R. Millán, G. Vanacker, E. Lew, **F. Galán**, P. W. Ferrez, H. Van Brussel, and M. Nuttin. Adaptive Shared Control of a Brain-Actuated Simulated Wheelchair. In: **Proceedings of the 10th International Conference on Rehabilitation Robotics (ICORR 2007)**, Noordwijk, The Netherlands, 2007. *Cited 148 times*.

Invited Presentations

- F. Galán**, S. N. Baker and M. A. Perez. ChinMotion rapidly enables 3D computer interaction after tetraplegia. **4th European Congress of NeuroRehabilitation**. Lausanne, Switzerland, 2017.
- D. Susilaradeya, T. Hall, **F. Galán**, K. Alter and A. Jackson. Intrinsic and extrinsic contributions to submovement kinematics. **Neural Control of Movement 27th Annual Meeting**; 2017 May 2-5; Dublin, Ireland.
- F. Galán**, S. N. Baker and M. A. Perez. ChinMotion: preserved sensorimotor pathways rapidly enable 3D computer interaction after tetraplegia. Program No. 157.08, 2016 Neuroscience Meeting Planner. San Diego, CA: **Society for Neuroscience, 2016**. Online.
- D. Susilaradeya, **F. Galán**, K. Alter and A. Jackson. Extrinsic and intrinsic dynamics in visuomotor tracking. Program No. 623.05, 2016 Neuroscience Meeting Planner. San Diego, CA: **Society for Neuroscience, 2016**. Online.
- F. Galán**, S. N. Baker and M. A. Perez. ChinMotion: preserved sensorimotor pathways rapidly enable 3D computer interaction after tetraplegia. **14th Spinal Research Network Meeting**. London, UK, 2016.
- D. Susilaradeya, **F. Galán**, K. Alter and A. Jackson. Movement intermittency: visuomotor feedback loop or intrinsic rhythmicity? Program No. 804.03, 2015 Neuroscience Meeting Planner. San Diego, CA: **Society for Neuroscience, 2015**. Online.
- F. Galán**, M. R. Baker, Kai Alter and S. N. Baker. Missing re-afference challenges brain-machine interfaces. Program No. 653.09, 2013 Neuroscience Meeting Planner. San Diego, CA: **Society for Neuroscience, 2013**. Online.
- F. Galán**. Closing the loop for a while...Reveals new temporal properties of human movement-related cortical activity. **60a Reunió de la Societat Catalana de Neuropsicologia**. Barcelona, Spain, 2012.
- F. Galán** and S. N. Baker. Primary Afferent Depolarization in the Macaque Spinal Cord during Voluntary Movements. Program No: 185.15, 2012 Neuroscience Meeting Planner. New Orleans, LA: **Society for Neuroscience, 2012**. Online
- F. Galán**, M. Witte, S. Waldert, A. Aertsen, N. Birbaumer, C. Braun and C. Mehring. The Phase of Neuronal Oscillations Encodes Hand Movement Direction. **BCI Meeting 2010. Fourth International Meeting**. Asilomar, USA, 2010.
- M. Witte, **F. Galán**, S. Waldert, A. Aertsen, N. Birbaumer, C. Braun and C. Mehring. An Online BCI System Using Hand Movement Recognition from MEG. **BCI Meeting 2010. Fourth International Meeting**. Asilomar, USA, 2010. **Best technical poster award**.
- F. Galán**, M. Witte, S. Waldert, A. Aertsen, N. Birbaumer, C. Braun and C. Mehring. A Non- Invasive BMI Based on Decoding of Movement Direction. **TOBI Workshop 2010: Integrating Brain-Computer Interfaces with Conventional Assistive Technology**. Graz, Austria, 2010.
- M. Witte, **F. Galán**, S. Waldert, N. Birbaumer, C. Mehring and C. Braun. Combining Online Classification and Human Learning for Detection of Hand Movement Direction in an MEG-BCI. **15th Annual Meeting Organization for Human Brain Mapping**. San Francisco, USA, 2009.
- F. Galán**, F. Oliva, J. Guàrdia, P. W. Ferrez, and José del R. Millán. Detecting Intentional Cognitive Transitions for Brain-Actuated devices. **III European Congress of Methodology**. Oviedo, Spain, 2008.
- F. Oliva, **F. Galán**, and J. Guàrdia. Assessment and Comparison of Classification Rules: Some Results and Several Strategies. **III European Congress of Methodology**. Oviedo, Spain, 2008.
- F. Galán**, M. Nuttin, E. Lew, P. W. Ferrez, G. Vanacker, J. Philips, H. Van Brussel, and J. del. R. Millán. Asynchronous Continuous Control of a Simulated Brain-Actuated Wheelchair. **BCI Meets Robotics: Challenging Issues in Brain-Computer Interaction and Shared Control**, KU Leuven, Belgium, 2007.
- F. Galán**, P. W. Ferrez, F. Oliva, J. Guàrdia, and J. del R. Millán. Canonical Feature Extraction and EEG Channel Ranking for Multiclass Brain-Computer Interfaces. **Swiss Society of Biomedical Engineering 2007 Meeting (SSBE 2007)**, Neuchâtel, Switzerland, 2007.
- J. del R. Millán, **F. Galán**, E. Lew, P.W. Ferrez, J. Philips, G. Vanacker, and M. Nuttin. Shared-Control of a Brain-Actuated Wheelchair in Natural Environments. **Swiss Society of Biomedical Engineering 2007 Meeting (SSBE 2007)**, Neuchâtel, Switzerland, 2007.

F. Galán, P.W. Ferrez, R. Grave de Peralta, S. Gonzalez Andino, and J. del R. Millán. High-Frequencies for EEG-Based Brain-Computer Interfaces. **Challenging Brain Computer Interfaces: Neural Engineering Meets Clinical Needs in Neurorehabilitation**, IRCCS Fondazione Santa Lucia, Rome, Italy, 2006.

Dissertations

F. Galán. Methods for Asynchronous and Non-Invasive EEG-Based Brain-Computer Interfaces. Towards Intelligent Brain-Actuated Wheelchairs. **Ph.D. Thesis**, University of Barcelona, Barcelona, Spain, 2008.

F. Galán. Assessment and Comparison of Discriminant Analysis Methods and Non-Parametric Error Estimators with Mixed Data. **M.S. Thesis**, University of Barcelona, Barcelona, Spain, 2004.