

Javier Mauricio Antelis

Education.

- **Ph.D. candidate in Biomedical Engineering**, University of Zaragoza. Zaragoza, Spain. November 2012 (estimated).
- **Master degree in Biomedical Engineering**, University of Zaragoza. Zaragoza, Spain. February 2009.
- **Master Sciences in electronics systems**, Instituto Tecnológico de Monterrey Campus Toluca (ITESM TOL). Toluca, México. July 2005.
- **Electronic Engineering**, Francisco de Paula Santander University. Cúcuta, Colombia. December 2001.

Projects participation.

- *Research Project.* Hybrid Neuroprosthetic and Neurorobotic Devices for Functional Compensation and Rehabilitation of Motor Disorders. Participant. Funded by the Spanish council of science and technology. January 2010 – Present, Spain.
- *Research Project.* Neuro-Control Cognitivo de Prótesis Robóticas y de Miembros Humanos por Estimulación Eléctrica Funcional Para Aplicaciones de Rehabilitación. Participant. Funded by the Spanish council of science and technology. January 2010 – Present, Spain.
- *Research Project.* Biomedical Evaluation of assistance robot for mobility. Participant. Funded by the Spanish council of science and technology. July 2008 - December 2009, Spain.
- *Engineering Projects.* “Diseño de moldes para la formación de listelos” and “Distribución y organización de los procesos de producción” for the enterprise Decora y Construye S.A. de C.V. Responsible. Consulting projects. January 2007 – September 2007, México.

Research stays and collaborations.

- *Research collaboration.* Hospital Nacional de Paraplégicos de Toledo (HNPT). Analysis of the EEG activity during upper limb motor imagery and motor attempt in patients with spinal cord injury to develop brain-machine interfaces. Toledo, Spain. January 2012 – Present.
- *Research collaboration.* Institute for Bioengineering of Catalonia (IBEC). Study of the brain activity in healthy subjects during execution of robot-assisted passive movements of the upper limb. Barcelona, Spain. January 2012 – May 2012.
- *Research stay.* Eberhard Karls Universität Tübingen. Study of brain activity in stroke patients during the execution of upper limb reaching motor tasks. Tübingen, Germany. July 2010 – December 2010.

Professional Experience.

- *Researcher*- Aragón Institute of Engineering Research (I3A), University of Zaragoza. Zaragoza, Spain. October 2007 – Present.
- *Professor*- Department of Mechatronics Engineering, Tecnológico de Monterrey Guadalajara (ITESM GDL). Guadalajara, México. August 2005 – September 2007.
- *Research assistance*- Mechatronic Automotive Research Center (CIMA), Tecnológico de Monterrey Toluca (ITESM TOL). Toluca, México. August 2003 – July 2005.
- *Support engineer*- SICTEL - Sistemas Integrales de Cómputo y Telecomunicaciones S.A. de C.V. México D.F., México. August 2002 – July 2003.
- *Teaching*- Department of Electronics Engineering, Francisco de Paula Santander University. Cúcuta, Colombia. January 2002 – July 2002.

Publications.

Journals-

- C. Escolano, J. M. Antelis, and J. Minguez, A telepresence mobile robot controlled with a non-invasive braincomputer interface. IEEE Transactions on Systems, Man, and Cybernetics-Part B: Cybernetics, 2011.
- Iturrate, I., Antelis, J. M., Kübler, A., and Minguez, J. A noninvasive brain-actuated wheelchair based on a P300 neurophysiological protocol and automated navigation. Transaction on Robotics. Especial issue on rehabilitation robotics. 25, 3, (Jun. 2009), 614-627.
- Antelis J. and Huertas J. (2007) "Using neural networks to identify annoying noises in vehicles", Int. J. Vehicle Noise and Vibration, Vol. 2, No. 3, pp.177–190.

Conference papers-

- J. M. Antelis, L. Montesano, A. Ramos-Murguialday, N. Birbaumer, J. Minguez. Continuous decoding of intention to move from contralesional hemisphere brain oscillations in severely affected chronic stroke patients. International Conference of the IEEE Engineering in Medicine and Biology Society. USA. 2012.
- J. M. Antelis, L. Montesano, J. Minguez. Movements with attention and distraction to the motor task during robot-assisted passive movements of the upper limb. International Conference of the IEEE Engineering in Medicine and Biology Society. USA. 2012.
- J.M. Antelis, J. Minguez. DYNAMO: Dynamic Multi-Model Source Localization Method for EEG and/or MEG, International Conference of the IEEE Engineering in Medicine and Biology Society. Argentina. 2010.

Other skills

- Advanced knowledge in instrumentation, signal processing and pattern recognition techniques.
- Experience in designing and development of engineering projects.
- Matlab/Simulink, LabView, C and statistical data analysis.