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Signal Theory and Communications Dpt.
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Education

2015- | PH.D. IN MULTIMEDIA AND COMMUNICATIONS

- Universidad Carlos III de Madrid
- Thesis Title: "Identification of Rotors Using Multipolar Catheters During Atrial Fibrillation"
- Advisors: Prof. Antonio Artés Rodríguez, Dr. Ángel Arenal Maíz

2014-2015 | M.SC. IN MULTIMEDIA AND COMMUNICATIONS

- Universidad Carlos III de Madrid
- Thesis Title: "Particle Filter Parallelisation Applied to the Tracking of Complex Stochastic Systems"
- Advisor: Prof. Joaquín Míguez

2011/09-2012/01 | M.SC. THESIS

- Dept. of Applied Mathematics and Computer Science. Technical University of Denmark (DTU).
- Thesis Title: "Easing scoring in ER and Ki-67 breast cancer histopathological images"
- Advisors: Prof. Rasmus Larsen, Anders Bjorholm Dahl

2006-2012 | TELECOMMUNICATION ENGINEERING (FIVE-YEAR DIPLOMA)

- Universidad Carlos III de Madrid
- Bilingual plan English-Spanish

Publications

JOURNALS

2017/06 G. Ríos-Muñoz, A. Arenal, and A. Artés-Rodríguez. "Rotational Activity Detection in Atrial Fibrillation". IEEE Journal of Biomedical and Health Informatics. (Submitted).

2017/05 D. Luengo, G. Ríos-Muñoz, V. Elvira, and A. Artés-Rodríguez. "Hierarchical Algorithms for Causality Retrieval in Intracavitary Electrocardiograms". IEEE Journal of Biomedical and Health Informatics. (Submitted).

2017/02 D. Crisan, J. Míguez, and G. Ríos-Muñoz. "On the Performance of Ensembles of Independent Particle Filters". EURASIP Journal on Advances in Signal Processing: Advance Computational Methods for Bayesian Signal Processing. (Submitted).

2015/10 D. Crisan, J. Míguez, and G. Ríos-Muñoz. "A Simple Scheme for the Parallelisation of Particle Filters and its Application to the Tracking of Complex Stochastic Systems". arXiv:1407.8071.

CONFERENCES

2017/05 P. Ruíz, G. Ríos-Muñoz, A. Artés-Rodríguez, A. Arenal et al. "Analysis of Atrial Scar in Patients with Persistent Atrial Fibrillation with a Multielectrode Mapping Catheter". Heart Rhythm Scientific Sessions 2017. (Abstract, Poster).

2017/05 P. Ruíz, G. Ríos-Muñoz, A. Artés-Rodríguez, A. Arenal et al. "Presence and Distribution of Rotational Conduction Points and Its Association with Scar in Patients with Persistent Atrial Fibrillation". Heart Rhythm Scientific Sessions 2017. (Abstract, Poster).

2016/08 E. Castellanos, P. Ruiz, G. Ríos, P. Ávila, T. Datino, F. Atienza, F. Fernández-Avilés, and A. Arenal. "Influencia del Ritmo en la Identificación de Islotes de Escara Auricular en Pacientes con FA Persistente sin Disfunción Ventricular Izquierda Detectada con Catéter de Mapeo Multielectrodo de 1mm". Congreso de las Enfermedades Cardiovasculares, SEC 2016. (Poster).

2016/03 D. Luengo, G. Ríos-Muñoz, V. Elvira and A. Artés-Rodríguez, "A Hierarchical Algorithm for Causality Discovery Among Atrial Fibrillation Electrograms," 2016 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP), Shanghai, 2016, pp. 774-778. doi: 10.1109/ICASSP.2016.7471780.

2015/09 D. Luengo, G. Ríos-Muñoz, and V. Elvira. "Causality Analysis of Atrial Fibrillation Electrograms". Computing in Cardiology Conference (CinC), vol. 42, pp. 585-588, 2015.

Collaboration in Funded Research Projects

- Advanced Bayesian computation methods for estimation, prediction and control in multisensory complex systems (**ADVENTURE**). Ministry of Economy (Spain) and ERDF (European Commission). Jan. 2016 – Dec. 2018.
- Computational Inference in High Dimensional Random Complex Systems (**COMPREHENSION**). Ministry of Economy (Spain). Jan. 2013 – Dec. 2015.

Invited Talks

2016/06 G. Ríos-Muñoz. "Multipoint Cartography in Atrial Fibrillation". Master in Electrophysiology Universidad Complutense de Madrid. Hospital General Universitario Gregorio Marañón. Madrid.

Awards

- **2011** Erasmus Scholarship. Technical University of Denmark (DTU).
- **2006** Scholarship of Excellence awarded by the Comunidad de Madrid.

Teaching Experience

2016-2017, 2015-2016

Course: "Digital Communications", 4th year Bachelor's Degree in Telecommunication Technologies.

Course: "Digital Communications", 4th year Bachelor's Degree in Communication Systems (English).

Course: “Network Access Techniques”, 4th year Bachelor’s Degree in Communication Systems.

Academic Activities

2015/09 Machine Learning for Personalize Medicine” (MLPM) Summer School in Manchester, UK.

2013 Coursera Machine Learning Course. University of Standford, USA. Online.

Work Experience

2013/02-2015/09 Research Support Technician. Universidad Carlos III de Madrid. Spain.

2013/01-2015/08 Cofounder and Content Manager. Madrid Venture Café. Spain.

2012/07-2015/08 App and Web Developer. Creiser Development Systems. Spain.

Language Knowledge

Spanish native, **English** fluent, **German** elementary.

Technical Skills

Matlab, Python, CUDA, NI LAbview, C, Java, Android, HTML5, CSS.

References

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Hospital GU Gregorio Marañón
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