Dr. Juan A. Morales-Cordovilla

PERSONAL DETAILS

Birth	March 31, 1982
Address	2 Ayuntamiento St., Padul-18640, Spain
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EDUCATION

2000-06 **MSc. Electronic Engineering at the University of Granada (UGR), Spain**. 3 year of Physics plus 2 year of specialization. Master Thesis published [4].

2007-11 **PhD. Thesis at the UGR**. "Pitch-based techniques for robust speech recognition" (UGR) [1, 2]. Visits to The Speech and Hearing Research Group, The University of Sheffield (UK) [5, 6].

RESEARCH PROJECTS

2012-14	**Postdoc, TUGraz, Austria**	European project (FP7-ICT-2011-7) on Distant Speech Recognition (DSR) using microphone arrays [7, 8, 9, 10].
2015-16	**Postdoc, INRIA, France**	National project (BGD/300-11) on Deep Learning for (DSR) [11, 12].
2016-Present	**Postdoc, UGR, Spain**	Project[1] (TEC2016-80141-P) on Bioinformatics for protein structure prediction [13] [3].

1. I have directly participated in the redaction of this project to get the funding.

TEACHING EXPERIENCE

- More than 300 hours teaching subjects such as "Audio Technologies" or "Digital Signals" of the Bachelor "Telecommunications Engineering" at the UGR. 2009-17.
- Co-advisor of the students MSc. Florian Iglish (TUGraz, 2014), BSc. Siddharth Dalmia (INRIA, 2015) [11] and PhD. Francisco González (UGR, 2018).

MERITS

- *Award:* for the best journal student paper [1] (1500 Euros) by the RTTH (Spanish national network on speech technologies). 2011.
- *Examiner:* of the Pablo Cabañas Molero's PhD. Thesis "Classification and Separation Techniques based on Fundamental Frequency for Speech Enhancement". University of Jaén (Spain). 2016.

- *Reviewer:* of journals (IEEE Signal Processing (2016), Speech Communication (2016), IEEJ Trans. Journal (2014)) and conferences (Interspeech17, Interspeech16 and ICASSP14).
- *Challenges:* our speech recognition system [11] was ranked 4 out of 26 participants on the international CHIME3 challenge. 2015.

SKILLS

Software	MATLAB, PYTHON, C, LaTeX, LINUX, SUN-GRID-ENGINE, etc.
Languages	Spanish (mother tongue), English (fluent), German (B1), French (A2).
Music	guitar, saxophone, singing, etc.

SELECTED PUBLICATIONS

Journals

[1] Juan A. Morales-Cordovilla, Antonio M. Peinado, Victoria Sánchez, and José A. Gonzalez. Feature extraction based on pitch-synchronous averaging for robust speech recognition. *IEEE Transactions on Audio, Speech, and Language Processing. (Best journal paper prize from RTTH)*, 19(3):640–651, 2011.

[2] Juan A. Morales-Cordovilla, Victoria Sánchez, Antonio M. Peinado, and Angel Gómez. On the use of asymmetric windows for robust speech recognition. *Circuits, Systems and Signal Processing (Springer)*, 31(2):727–736, 2012.

[3] Juan A. Morales-Cordovilla, Victoria Sánchez Calle, and Martin Ratajczak. Protein alignment based on higher order conditional random fields for template-based modeling. *Plos One*, 2018 (in minor revisions).

Conferences

[4] Juan A. Morales-Cordovilla, Timo Bauman, José L. Pérez, Antonio M. Peinado, and Angel M. Gomez. Implementación de un reconocedor distribuido de voz en tiempo real sobre IP. In *IV Jornadas en Tecnologías del Habla (Iberspeech). Zaragoza*, 2006, Octubre.

[5] Juan A. Morales-Cordovilla, Ning Ma, Victoria Sánchez, José L. Carmona, Antonio M. Peinado, and Jon Barker. A pitch based noise estimation technique for robust speech recognition with missing data. In *IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP). Praga*, pages 4808–4811, 2011.

[6] Juan A. Morales-Cordovilla, Pablo Caba nas Molero, Antonio M. Peinado, and Victoria Sánchez. A robust pitch extractor based on DTW lines and CASA with application in noisy speech recognition. In 328:, editor, *Iberspeech. Communications in Computer and Information Science (Springer). Madrid*, pages 197–206, 2012.

[7] Anna K. Fuchs, Juan A. Morales-Cordovilla, and Martin Hagmüller. ASR for electro-laryngeal speech. In *IEEE Automatic Speech Recognition and Understanding Workshop (ASRU). Olomouc*, pages 234–238, 2013.

[8] Juan A. Morales-Cordovilla, Hannes Pessentheiner, Martin Hagmüller, and Gernot Kubin. Room localization for distant speech recognition. In *Interspeech. Singapore*, 2014.

[9] Barbara Schuppler, Martin Hagmüller, Juan A. Morales-Cordovilla, and Hannes Pessentheiner. GRASS: The Graz corpus of read and spontaneous speech. In *The 9th Language Resources and Evaluation Conference (LREC). Reykjavik*, pages 1465–1470, 2014.

[10] Elmar Messner, Hannes Pessentheiner, Juan A. Morales-Cordovilla, and Martin Hagmüller. Adaptive differential microphone arrays used as a front-end for an automatic speech recognition system. In *IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP). Brisbane*, pages 2689–2693, 2015.

[11] Sunit Sivasankaran, Aditya Arie Nugraha, Emmanuel Vincent, Juan A. Morales-Cordovilla, Siddharth Dalmia, Irina Illina, and Antoine Liutkus. Robust ASR using neural network based speech enhancement and feature simulation. In *IEEE Automatic Speech Recognition and Understanding Workshop (ASRU) (ranked 4 of 26 participants at international CHIME3 Challenge). Brisbane*, 2015.

[12] Karan Nathwani, Juan A. Morales-Cordovilla, Sunit Sivasankaran, Irina Illina, and Emmanuel Vincent. An extensive experimental investigation of DNN uncertainty propagation for noise robust ASR. In *Hands-free Speech Communication and Microphone Arrays (HSCMA). San Francisco*, 2017.

[13] Juan D. Clares, Victoria Sánchez, Antonio M. Peinado, Juan A. Morales-Cordovilla, Concepción Iribar, and José M. Peinado. Improved image based protein representations with application to membrane protein type prediction. In *IEEE International Conference on Telecommunications and Signal Processing (TSP). Barcelona*, 2017.