



Part A. PERSONAL INFORMATION

CV date: October, 2019

First and Family name	Luis E. López-Bascuas		
Social Security, Passport, ID number		Age	
Researcher codes	WoS Researcher ID (*)		
	SCOPUS Author ID(*)	7801519337	
	Open Researcher and Contributor ID (ORCID) **	0000-0002-1950-5776	

(*) At least one of these is mandatory

(**) Mandatory

A.1. Current position

Name of University/Institution	Universidad Complutense de Madrid		
Department	Experimental Psychology		
Address and Country	Campus of Somosaguas, 28023, Pozuelo de Alarcón, Madrid, Spain		
Phone number	91 3943095	E-mail	lelopezb@ucm.es
Current position	Associate Professor	From	2000
Key words	Psychoacoustics, speech perception, auditory filters		

A.2. Education

PhD	University	Year
PhD. In Psychology	U. Complutense Madrid	1993

A.3. JCR articles, h Index, thesis supervised...

Quantitative indexes

1 research six-year period (years 1995-2000).

H-index: 3

Supervision of 1 thesis (in progress).

4 articles published in JCR journals (three of them Q1) and other 21 works (articles, book chapters, books, etc.)

Qualitative indexes

. Pioneer nature of the work done. In the psychological realm, there were no national precedents of research carried out in the field of speech perception. (On the contrary, there are currently other groups developing a very important work in this area).

. Much of the work presented has been carried out in collaboration with international centers of prestige, in particular, the Department of Experimental Psychology and the phonetics laboratory at the University of Oxford, the speech laboratory at IBM UK Ltd. in Winchester (UK) and the speech laboratory of the University of Texas (USA).

. All research has been funded by national and international organizations. (8 research grants from the "National Plan" and also the McDonnell Pew Center for Cognitive Neuroscience-European Network Grant provided additional funds).

. Experimental results from this work have been presented at international conferences: Meeting of the Acoustical Society of America, Meeting of the European Society for Cognitive Psychology, Meeting of the Experimental Psychology Society, EuroSpeech, International Congress of Phonetic Sciences and Meeting of the Association for Research in Otolaryngology.

Part B. CV SUMMARY (max. 3500 characters, including spaces)

The main interest that has guided my research career is to understand the processes that allow linguistic meanings to be obtained from acoustic signals. Specifically, I have tried to elucidate whether the basic auditory mechanisms play an important role in this task or, on the contrary, there is a domain-specific architecture for the processing of speech signals. This general objective has been instantiated both for the case of vowel perception and for the perception of consonants.

To obtain the precise methodological training for the analysis and synthesis of acoustic signals I conducted two research stays in Canada, one in the Speech Communication Laboratory of the University of Western Ontario and another in the Phonetics Laboratory of the University of Alberta. In parallel, we had initiated a collaboration with the Department of Experimental Psychology at the University of Oxford to determine whether the temporal resolution of the auditory system could be at the base of the voicing linguistic contrast. Together with Prof. Burton Rosner (co-director of my doctoral thesis) we use a complex formal model that showed clear differences between the processing of stop consonants and the processing of non-speech analogs. From a methodological perspective, these works also showed that signal detection models with uniform signal variances cannot account for the experimental data.

After this series of experiments, I approached the study of vowel perception trying to determine if the coding of vowel height was guided by the structure of critical bands that shape the peripheral Auditory System. To this end, I contacted the Speech Laboratory of the University of Texas (USA) directed by Prof. Randy Diehl. Professor Diehl had advanced the idea that the boundary between vowels [+ high / -high] was determined by a natural sensory discontinuity that occurred around an F1-F0 distance of 3.5 Barks. Together with Dr. Richard P. Fahey (who worked at the time, in the laboratory of R. Diehl) we were able to demonstrate the absence of this alleged natural boundary and point out the need of appealing to language (phonological) specific processes.

For the last 5 years I started a new collaboration with the "Auditory Computation and Psychoacoustics" lab at the University of Salamanca. The main focus of the research has been the study of the effects of the medial olivocochlear reflex on different aspects of human hearing. It has been found that the reflex might improve amplitude-modulation sensitivity and shapes frequency selectivity. Both of these effects might have an impact in speech processing under quiet and noisy conditions.

All these results (obtained under various research projects) were presented in different national and international conferences and appeared in various publications. Likewise, these projects allowed the creation of a pioneer Laboratory in Speech Psychophysics at UCM in which several generations of students have been trained.

Part C. RELEVANT MERITS

C.1. Publications (including books)

Marrufo-Pérez, M.I., Eustaquio-Martín, A., López-Bascuas, L.E and López-Poveda, E.A. (2018). Temporal Effects on Monaural Amplitude-Modulation Sensitivity in Ipsilateral, Contralateral and Bilateral Noise. *Journal of the Association for Research in Otolaryngology*, 19 (2), 147-161.

Marrero Aguiar, V., López-Bascuas, L.E and Martín Fernández, J.L. (2015). El ritmo lingüístico en la caracterización del locutor. Percepción y aplicaciones judiciales. In A. Cabedo Nebot (Ed.). *Perspectivas Actuales en el Análisis Fónico del Habla*. Normas. Revista de Estudios Lingüísticos Hispánicos. Anejo 7. Pp335-346. ISBN: 978-84-606-8969-0.



- Serrano Pedraza, I., Sierra Vázquez, V. and López-Bascuas, L.E. (2014). *Psicología de la Percepción. Prácticas*. Madrid: Ed. Síntesis. ISBN: 978-84-907704-6-7.
- López-Bascuas, L.E. (2008). Signal Densities and Criterion Variance in Speech and Nonspeech Perception. *Proceedings Acoustics '08*. Paris, pp-5075-5079.
- López-Bascuas, L.E. and Rahona, J.J (2007). A signal detection analysis of the “categorical” perception of Spanish front vowels and stop consonants. *Spanish Journal of Psychology*, 10 (2), 484. (Abstract)
- López-Bascuas, L.E., Igoa, J.M. and Travieso, D. (2004). Percepción Categórica del Habla. En J. Fernández-Rey et al. (Eds.), *Procesos Psicológicos Básicos II*. Madrid: Ed. Pirámide. ISBN: 978-84-368-2387-5.
- López-Bascuas, L.E., Rosner, B.S. and García-Albea, J.E. (2004). Voice-Onset Time and Buzz-Onset Time identification: A ROC Analysis. *Journal of the Acoustical Society of America*, 115, 5, pp. 2465. (Abstract).
- López-Bascuas, L.E., Rosner, B.S. and García-Albea, J.E. (2003). Voicing and Temporal Order Perception by Spanish Speakers. *International Congress of Phonetic Sciences*. Causal Productions. Pp.403-406. ISBN: 1-876346-49-3.
- Rosner, B.S., López-Bascuas, L.E., García-Albea, J.E. and Fahey, R.P. (2000). Voice-Onset Times for Castilian Spanish Initial Stops. *Journal of Phonetics*, 28, pp. 217-224.
- López-Bascuas, L.E., Carrero, C. and Serradilla, F. (1999). A Software Tool for Auditory and Speech Perception Experimentation. *Behavioral Research Methods, Instruments and Computers*, 31 (2), pp. 334-340.

C.2. Research projects and grants

Title: The role of the contralateral medial olivocochlear reflex in human hearing.

Reference: BFU2015-65376-P

Duration: January 2016 to December 2019

Funded by: Ministry of Economy and Competitiveness.

Principal Investigator and affiliation: Enrique a. Lopez Poveda U. of Salamanca.

Amount of funding: € 117,600

Type of Participation: Researcher

Title: Acoustic and Perceptual Study of Inter and Intralocutor Prosodic Variation in Spanish.

Reference: FFI2010-21690-C02-02

Duration: January 2011 to September 2014

Funded by: Ministry of Science and Innovation.

Principal Investigator and affiliation: Joaquim Llisterri Boix. Autonomous University of Barcelona.

Amount of funding: € 67,639

Type of Participation: Researcher

Title: From the Linguistic Representation to the Conceptual Representation in the Communicative Interaction.

Reference: SEJ2006-11955

Duration: January 2007 to December 2009.

Funded by: DGESIC. Ministry of Education and Science.

Principal Investigator and affiliation: José E. García-Albea Ristol. Rovira and Virgili University.

Amount of funding: € 58,625

Type of Participation: Researcher

Title: Towards an Integration of Structural and Semantic Components in Language Processing; Studies with Monolingual and Bilingual.

Reference: BSO2003-04854

Duration: January 2004 to December 2006.

Funded by: DGEIC. Ministry of Education and Science

Principal Investigator and affiliation: José E. García-Albea Ristol. Rovira and Virgili University.

Amount of funding: € 43,320

Type of Participation: Researcher

C.5. Institutional responsibilities

1. Vice Dean of Research and Teaching Equipment at the Faculty of Psychology of the Complutense University of Madrid: 2006-2014
2. Vice Dean of Research and Doctorate at the Faculty of Psychology of the Complutense University of Madrid. 2018- present.
3. President of the Ethics Board of the Faculty of Psychology of the Complutense University of Madrid: 2006-2014, 2018-present.
4. President of the Research Committee of the Faculty of Psychology of the Complutense University of Madrid: 2006-2014, 2018-present
5. President of the Academic Committee of the Doctorate in Psychology of the UCM: 2018-present.
6. Director of the Laboratory of Human Psychology of the Faculty of Psychology of the Complutense University of Madrid: 2006-2014, 2018-present.
7. Member of the Economic Committee of the Faculty of Psychology of the Complutense University of Madrid: 2006-2014, 2018-present
8. Representative of the Faculty of Psychology in the Research Committee of the Complutense University of Madrid: 2006-2014, 2018-present.
9. Member of the Faculty of Psychology in the Academic Doctoral Committee of the UCM. 2006-2007, 2018-present.
10. Member of the Postgraduate Quality Committee of the Faculty of Psychology of the Complutense University of Madrid. 2018- present.

C.6. memberships of scientific societies

1. Member of the Acoustical Society of America
2. Member of the Spanish Society of Experimental Psychology