

Fermín Moscoso del Prado Martín

PERSONAL INFORMATION

Date of birth: April 24, 1974
Place of birth: Ferrol (A Coruña – Spain)
Nationality: Spanish (E.U.)

CONTACT INFORMATION

DDL - UMR 5596
Institut de Sciences de l'Homme
14 avenue Berthelot
69363 Lyon Cedex 07, France

Voice: (+33) [0]4 72 72 64 12
Fax: (+33) [0]4 72 72 65 90
E-mail: fermosc@ugmail.com
WWW: <http://www.moscosodelprado.net>

RESEARCH INTERESTS

language comprehension, computational modeling, information theory, statistical methods, morphology, reaction time distributions, fractal scaling.

EDUCATION

University of Nijmegen (currently Radboud University), The Netherlands

Ph.D. (*cum laude*), Psycholinguistics, December 2003

- Based at the Max Planck Institute for Psycholinguistics (Max Planck Stipend holder)
- Dissertation Topic: “Paradigmatic Structures in Morphological Processing: Computational and Cross-linguistic Experimental Studies.”
- Advisors: Prof. Robert Schreuder and Prof. R. Harald Baayen
- Awarded with maximum distinction (awarded in a small proportion of Dutch Ph.D. degrees).

Technical University of Madrid, Spain

MEng in Computer Science (Artificial Intelligence), December, 1998

- Dissertation Topic: “A Semi-automatic Morpho-syntactic Parser for Spanish Language.”
- Advisor: Prof. Jesús Cardeñosa Lera
- Degree consisting of 6 year taught courses + 1 year thesis (finished a year ahead of schedule)
- M.Eng. dissertation assessed as *Sobresaliente* (“Outstanding”)

ACADEMIC EXPERIENCE

Laboratoire Dynamique du Langage, Centre National de la Recherche Scientifique, Lyon, France

Chargé de Recherche (senior researcher – fully tenured)

from May, 2010

Institut Rhône-Alpin de Systèmes Complexes, Lyon, France

Senior Researcher

from May, 2010

Laboratoire de Psychologie Cognitive, Centre National de la Recherche Scientifique, Marseille, France

Chargé de Recherche (senior researcher – fully tenured)

December, 2006 – May, 2010

Dept. of Linguistics, Stanford University, Palo Alto CA, USA

LSA Summer Institute Faculty

July, 2007

- “Math refresher for computational linguistics”
- “Pattern-based models of lexical knowledge”, co-taught with F. Ackermann (UC San Diego), J. Blevins (Cambridge U.), & M. Tomasello (MPI Leipzig)

Medical Research Council – Cognition and Brain Sciences Unit, Cambridge, UK

Marie Curie Individual Fellow

December, 2004 – December, 2006

“Computational Neuroscience of Morphological Processing”. Hosted by Prof. William Marslen-Wilson.

Post-doctoral Research Associate

September, 2003 – November, 2004

Working in collaboration with Dr. Friedemann Pulvermüller, investigating the role of mirror neurons on language processing using fMRI, EEG and computational modelling techniques.

Max Planck Institute for Psycholinguistics, Nijmegen, The Netherlands

Max Planck Stipend holder

September, 2000 – August, 2003

Ph.D. research within Dr. R. Harald Baayen’s ‘*Pionier*’ group.

Department of Artificial Intelligence, Technical University of Madrid, Spain

Invited Professor

April, 2007

Teaching a PhD course on “Introduction to Computational Modelling of Cognitive Processes”

Research Consultant

July – August, 2000

Computational Linguistics research at Prof. Jesús Cardeñosa’s research group.

Research Assistant

January, 1997 – December, 1999

Research in Computational Linguistics research at Prof. Jesús Cardeñosa’s research group.

Depts. of Psychology and Computer Science, University of Hertfordshire, Hatfield, UK

Graduate Student

September, 1999 – June, 2000

Research in connectionist modelling of child language acquisition, co-supervised by Prof. David Messer, Prof. Neil Davey, and Dr. Pamela Smith.

Assistant Lecturer

September, 1999 - June, 2000

Co-taught undergraduate level courses in Artificial Intelligence and Event-Oriented Programming. Shared responsibility for lectures, exams, homework assignments, and grades.

Depts. of Engineering and Mathematics, Private University of Santa Cruz de la Sierra, Bolivia

Invited Professor

January, 1999 – June, 1999

Full responsibility for undergraduate courses in Data Structures and Theory of Formal Languages, and graduate courses on Industrial Simulations, and Computer Algebra Tools.

STUDENT SUPERVISION	2005-2006 Dušica Filipović-Đurđević , PhD in Experimental Psychology, Univ. of Belgrade, Serbia (co-supervised with Prof. A. Kostić). 2006 Mark Wilding , MPhil in Computers, Speech, and Language, Cambridge Univ., UK (co-supervised with Prof. E. Briscoe). 2007-2008 Krisztian Gabris , Master in Psychology, Pazmany Peter Catholic Univ., Hungary (co-supervised with Prof. M. Racsmany).
GRANTS AND AWARDS	<i>Agènce National de la Recherche</i> , 2008-2010 (€130,000) (co-PI with Dr. F.-X. Alario) Title: The cognitive basis of lexical selection Marie Curie European Reintegration Grant, 2007–2008 (€40,000) Title: <i>Extension of the BIT Model of Lexical Processing</i> British Academy Larger Research Project, 2006-2009 (£79,069) (co-PI with Dr. S. Boudelaa and Prof. W. D. Marslen-Wilson) Title: <i>AraLex: A Lexical Database for the Arabic Language</i> Marie Curie Intra-European Individual Fellowship, 2004–2006 (€160,180)

Title: *Computational Neuroscience of Morphological Processing*

Jesus College, University of Cambridge: College Research Associate, 2004-2007

ICSI, University of California – Berkeley: Senior Research Fellowship, 2003 (declined)

University of Nijmegen: *Promotiepremie* for early completion of doctoral degree, 2003

Max Planck Stipend (doctoral fellowship), 2000–2003

MISCELLANEA

Main Organizer, V International Workshop on Morphological Processing, Marseille, 2007.

Co-organizer, with F. Jäger & A. Frank (U. Rochester), R. Levy (UC San Diego), V. Kuperman (Stanford U.), D. Barr (UC Riverside), & H. Baayen (U. Alberta). Workshop on Ordinary and Multilevel Models (held in conjunction with the CUNY Conference on Sentence Processing), Davis, 2009

Invited Discussant, Nijmegen Lectures, Radboud University of Nijmegen & Max Planck Institute for Psycholinguistics, 2009 (main lectures by Prof. M. Christiansen, Cornell University)

Invited Participant, Joint ANR (France) – NSF (USA) Workshop:

“Dynamics in the Human Sciences: Cognitive, Behavioral, & Social Complexity”, Reims, 2009

Invited Participant, European Science Foundation Exploratory Workshop:

“Words in Action: Interdisciplinary Approaches to Understanding Word Processing and Storage”, Pisa, 2009

Keynote speaker, Psycholinguistics in Flanders, University of Antwerp, 2007

Languages: Spanish (native), Galician (native), English (proficient), Portuguese (good), French (good), Dutch (medium) and basic knowledge of German, and Italian.

INVITED SEMINARS

- *Institut Rhône-Alpin de Systèmes Complexes*, Lyon, France, 2010
- Dept. of Linguistics, University of Surrey, Guilford, UK, 2010
- Dept. of Cognitive, Perceptual, and Brain Sciences, Univ. College London, UK, 2009
- *Laboratoire Dynamique du Langage, Institut de Sciences de l’Homme*, Lyon, France, 2009
- Center for Mathematical Research, Barcelona, Spain, 2009
- Department of Psychology, University of Konstanz, Germany, 2008
- Cognitive Neuropsychology Laboratory, Harvard University, Cambridge MA, 2008
- Department of Psychology, University of Geneva, Switzerland, 2008
- Research Centre for English and Applied Linguistics, University of Cambridge, UK, 2006
- Dept. of Psychology, State University of New York at Albany, NY, 2006
- Haskins Laboratories, New Haven CT, 2006
- Department of Psychology, University of Edinburgh, UK, 2005
- Department of Experimental Psychology, University of Belgrade, Serbia, 2005
- Corpus Christi College, University of Cambridge, UK, 2005
- Department of Psychology, University of Kent, UK, 2005
- Department of Psychology, Complutense University of Madrid, Spain, 2005
- Department of Experimental Psychology, University of Cambridge, UK, 2004
- Research Centre for English and Applied Linguistics, University of Cambridge, UK, 2004
- Department of Linguistics, University of Groningen, The Netherlands, 2003
- Department of Computer Science, University of Birmingham, UK, 2002
- Department of Psychology, University of Geneva, Switzerland, 2002

PUBLICATIONS

Journal Articles (Impact factor, Number of citations from *Web of Science*)

Moscoso del Prado, F. (in press) Causality, criticality, and reading words: Distinct sources of fractal scaling in behavioral sequences. *Cognitive Science* [extended article]. (IF: 2.594, citations: N/A)

Alario, F.-X. and **Moscoso del Prado, F.** (2010) On the origin of the “cumulative semantic inhibition effect”. *Memory & Cognition* **38**, 57-66. (IF: 1.726, citations: N/A)

Feldman, L. B., O'Connor, P. A. and **Moscoso del Prado, F.** (2009) Early morphological processing is morpho-semantic and not simply morpho-orthographic: A violation of form-then-meaning accounts of lexical recognition. *Psychonomic Bulletin & Review* **16**, 684–691. (IF: 2.183, citations: 2)

Milin, P., Filipović-Đurđević, D., and **Moscoso del Prado, F.** (2009) The simultaneous effects of inflectional paradigms and classes on lexical recognition: evidence from Serbian. *Journal of Memory and Language* **60**, 50–64. (IF: 3.221, citations: 2)

Moscoso del Prado, F. (2007) Co-occurrence and the effect of inflectional paradigms. *Lingue e Linguaggio* **2**, 247–263 (IF: N/A, citations: N/A)

Pulvermüller, F., Huss, M., Kherif, F., **Moscoso del Prado, F.**, Hauk, O., and Shtyrov, Y. (2006) Motor cortex maps articulatory features of speech sounds. *Proceedings of the National Academy of Sciences USA* **103**, 7865–7870. (IF: 9.432, citations: 78)

Moscoso del Prado, F., Hauk, O., and Pulvermüller, F. (2006) Category specificity in the processing of color-related and form-related words: an ERP study. *NeuroImage* **29**, 29–37. (IF: 5.739, citations: 10)

Moscoso del Prado, F., Deutsch, A., Frost, R., de Jong, N. H., Schreuder, R., and Baayen, R. H. (2005) Changing places: a cross-language perspective on frequency and family size in Hebrew and Dutch. *Journal of Memory and Language* **53**, 496–512. (IF: 3.221, citations: 6)

Baayen, R.H. and **Moscoso del Prado, F.** (2005) Semantic density and past-tense formation in three Germanic languages. *Language* **81**, 666–698. (IF: 1.886, citations: 18)

Dijkstra, A., **Moscoso del Prado, F.**, Schulpen, B., Schreuder, R., and Baayen, R.H. (2005) A roommate in cream: Morphological family size effects in bilinguals. *Language and Cognitive Processes* **20**, 7–41. (IF: 2.000, citations: 6)

Moscoso del Prado, F., Bertram, R., Häikiö, T., Schreuder, R. and Baayen, R.H. (2004) Morphological family size in a morphologically rich language: The case of Finnish compared to Dutch and Hebrew. *Journal of Experimental Psychology: Learning, Memory and Cognition* **30**, 1271–1278. (IF: 3.344, citations: 5)

Moscoso del Prado, F., Kostić, A., and Baayen, R.H. (2004) Putting the bits together: An information theoretical perspective on morphological processing. *Cognition* **94**, 1–18. (IF: 3.562, citations: 19)

Moscoso del Prado, F., Ernestus, M., and Baayen, R.H. (2004) Do type and token effects reflect different mechanisms? Connectionist modeling of Dutch past-tense formation and final devoicing. *Brain and Language* **90**, 287–298. (IF: 2.973, citations: 6)

Moscoso del Prado, F. and Baayen, R.H. (2002) Unsupervised extraction of high-dimensional lexical representations from corpora using Simple Recurrent Networks. *Linguistica Computazionale* **12–13**. (IF: N/A, citations: N/A)

Other Publications

Moscoso del Prado, F. (2009) Scale-invariance of human response latencies (oral presentation). In N. A. Taatgen, & H. van Rijn (Eds.), *Proceedings of the 31st Annual Conference of the Cognitive Science Society* (pp. 1270–1275). Austin, TX: Cognitive Science Society.

Bernard, J. B., **Moscoso del Prado, F.**, Montagnini, A., and Castet, E. (2009) A model of optimal oculomotor strategies in reading for normal and damaged visual fields. *Journal of Vision* **9**, 824 [abstract]

Moscoso del Prado, F. (2008) A fully analytical model of the lexical decision task (oral presentation). In B.

C. Love, K. McRae, & V. M. Sloutsky (Eds.), *Proceedings of the 30th Annual Conference of the Cognitive Science Society* (pp. 1035–1040). Austin, TX: Cognitive Science Society.

Bernard, J. B., **Moscoso del Prado, F.**, Montagnini, A., and Castet, E. (2008) A model of optimal oculo-motor strategies in reading for normal and damaged visual fields (highlighted contribution). In L. U. Perrinet & E. Daucé (Eds.), *Proceedings of the 2nd French Conference on Computational Neuroscience*. (pp. 97–102). Marseille, France: Société Française des Neurosciences.

Moscoso del Prado, F., Schreuder, R., and Baayen, R. H. (2004): Using the structure found in time: Building large-scale orthographic and phonetic representations by Accumulation of Expectations. In C. Labiouse & H. Bowman (Eds.), *Connectionist models of cognition and emotion. Proceedings of the 8th International Workshop on Neural Computation and Psychology*. Singapore: World Scientific.

Baayen, R.H., **Moscoso del Prado, F.**, Schreuder, R., and Wurm, L. (2003) Why word frequencies may NOT regress towards the mean, in R.H. Baayen and R. Schreuder (Eds.) *Morphological Structure in Language Processing* (pp. 463–484). Berlin: Mouton de Gruyter.

Moscoso del Prado, F. and Sahlgren, M. (2002) An integration of Vector-Space Semantic Analysis and Simple Recurrent Networks for the automatic acquisition of lexical representations from unlabeled corpora. In V. Pirrelli, S. Montemagni, & A. Lenci (Eds.) *Proceedings of the LREC'2002 workshop on Linguistic Knowledge Acquisition and Representation: Bootstrapping Annotated Language Data*. Paris: European Language Resources Association.

Moscoso del Prado, F. (2003) *Paradigmatic Structures in Morphological Processing: Computational and Cross-Linguistic Experimental Studies*. MPI Series in Psycholinguistics, Nijmegen: Max Planck Institute for Psycholinguistics. (available from <http://hdl.handle.net/2066/19368>)

Journal Articles Submitted or Under Revision

Moscoso del Prado, F. (2010) A definition of linguistic complexity: English requires at least an infinite grammar. (manuscript submitted for publication)

Moscoso del Prado, F. (2010) A phase diagram of behavioral responses: Phase transitions and critical points in human behavior. (manuscript submitted for publication)

Moscoso del Prado, F. (2010) Cognitive implications of multifractal structure in language: a theoretical study and an empirical investigation. (manuscript submitted for publication)

Moscoso del Prado, F. (2010) Hypothesis testing on the fractal structure of behavioral sequences: The Bayesian Assessment of Scaling methodology (manuscript submitted for publication, an earlier version of this work is found in arXiv:0911.2381v1 [physics.data-an])

Feldman, L. B., **Moscoso del Prado, F.**, and O'Connor, P. A. (2010) Must analysis of meaning follow analysis of form? A time course analysis. (manuscript submitted for publication)

Moscoso del Prado, F. (2010) Macroscopic thermodynamics of human reaction times. (manuscript submitted for publication, an earlier version of this work is found in arXiv:0908.3170v1 [q-bio.NC])

Moscoso del Prado, F. (2010) A theory of reaction time distributions. (revised manuscript submitted for publication, an earlier version of this work is found at cogprints.org/6326/)

Feldman, L. B., Kostić, A., Gvozdenović, V., O'Connor, P. & **Moscoso del Prado, F.** (2010) Early morpho-semantic processing in Serbian: A violation of form-then-meaning accounts of word recognition. (manuscript submitted for publication)

Moscoso del Prado, F. (2010) The baseline for response latency distributions. (manuscript submitted for publication, an earlier version of this work is found in arXiv:0908.3432v1 [q-bio.NC])

Manuscripts in Preparation

Moscoso del Prado, F. and Feldman, L. B. (in prep) Who's the outlier? Meta-analysis of morpho-semantic effects in masked priming.

Moscoso del Prado, F. and Dunn, M. (in prep) How much do we really know about human languages? A computational model of language diversification and extinction

Bernard, J. B., **Moscoso del Prado, F.**, Montagnini, A., and Castet, E. (in prep.) An ideal observer analysis of optimal oculo-motor strategies in reading for normal and damaged visual fields

Moscoso del Prado, F. and Robinson, S. (in prep) The complexity of Creole languages: In objective terms, Tok Pisin is not that simple.

Moscoso del Prado, F. (in prep.) A fully analytical model of lexical recognition.

AD-HOC REVIEWER *Applied Psycholinguistics, Cognition, Cognitive Science, Computers, Speech, and Language, Connection Science, Journal of Cognitive Neuroscience, Journal of Experimental Psychology: Learning, Memory and Cognition, Journal of Memory and Language, Journal of Neurolinguistics, Language, Psychonomic Bulletin & Review, Vision Research.*

Grant reviewing for the *National Academy of Sciences, USA* and *National Science Foundation, USA*.

REFERENCES

- **R. Harald Baayen**, Professor, Dept. of Linguistics, Univ. of Alberta, Edmonton, Canada (*PhD advisor*)
baayen@ualberta.ca
- **Laurie B. Feldman**, Professor, Dept. of Psychology, State Univ. of New York, Albany NY & Research Associate, Haskins Laboratories, New Haven CT
lf503@albany.edu
- **James P. Blevins**, Associate Director of Research, Programme in Computation, Cognition & Language, Research Centre for English and Applied Linguistics, Cambridge University, Cambridge, England
jpb39@cam.ac.uk
- **Farrell Ackerman**, Professor, Dept. of Linguistics, University of California – San Diego, San Diego CA
fackerman@ucsd.edu