

[*CURRICULUM VITAE*]

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EDUCATIONAL HISTORY

- 1983-1988 BSc. 1st Honours in Psychology, University of Murcia, Spain.

1989-1993 PhD. in Psychology, University of Southampton, England (awarded February, 1993).

PROFESSIONAL EXPERIENCE

- 1991-1992 Teaching Assistant of Introduction to Psychology, University of Southampton, England
1994-1995 Post-doctoral Research Fellow, Brain Mapping Unit, Pluridisciplinary Institute, Complutense University of Madrid
1995-2000 Associate Professor of Biological Psychology, Department of Psychobiology, Complutense University of Madrid, Spain
2000-2002 Associate Professor of Biological Psychology, Department of Psychology, University of Illes Balears, Spain
2002-today Tenured Professor of Neuropsychology and Biological Psychology, Department of Psychology, University of Illes Balears, Spain

Society Membership

Society for Cognitive Neuroscience (2004-2005)
Society for Psychophysiological Research (since 1998)
Sociedad Española de Psicofisiología (Secretary from 1999-2005)

Honors/Awards

- 1989 Student Award for Excellence in Graduate Instruction, University of Murcia, Spain.
1989 "British Council" award and grant for post-graduate education in England.
1992 Award and grant from the Committee of Advanced Studies, Southampton University, England.
1998 Research Fellowship from the Fundación Jaime del Amo, Universidad Complutense, Spain.

Palma de Mallorca, December 16, 2013

National and International Conferences

(* Indicates invited address;
+ Indicates address to be given in 2014).

Selected presentations given at meetings of:

BRAINGLOT Workshop, University of Barcelona	2008
British Association of Cognitive Neuroscience	2007*
British Psychophysiological Society	1993*, 1995
Carmel 2005 - Conference on 'The P300 at Forty'	2005*
Cognitive Neuroscience Society	2007*, 2008, 2011
Congreso Iberoamericano de Psicología	1998*
European Congress of Psychology	2005*, 2009
European Neuroscience Association	1994, 2012
Federation of European Psychophysiology Societies	2003
First Spanish Seminar in Cognitive Neuroscience	1998*
International Conference on Cognitive Neuroscience (ICON)	2005, 2008*, 2011*, 2014+
International Congress of Physiological Sciences	1997
International Organization for Psychophysiology	1996
International Neuropsychology Society	2007, 2012, 2013
Organization of Human Brain Mapping	1995, 2010
Sociedad Española de Psicofisiología	1997, 1999*, 2002, 2004, 2006*
Society for Neuroscience	2000, 2002
Society for Psychophysiological Research	1998, 1999, 2005, 2010, 2011

Selected presentations given at Universities and Institutions:

University of Southampton, Department of Psychology	1991*, 1992*
University Autónoma of Madrid, School of Medicine	1996*
University of Portsmouth, Department of Psychology	1997*
University of Portsmouth, Department of Psychology	2007*
University of Murcia, School of Medicine	1997*
Universidad Nacional de Educación a Distancia	1997*
University of Illes Balears, Department of Psychology	1999*
Caledonian University, Glasgow, Department of Psychology	2004*
Max Planck Institute for Human Cognitive and Brain Sciences	2006*
Ecole Normale Supérieure, INSERM U742	2006*
University of Amsterdam, CSCA Research	2009*

Extramural Peer Review and National Committees

Chair of the Psychology Section, Agencia Nacional de Evaluación y Prospectiva (ANEP)
2012-2014 (www.anep.idi.mineco.gob.es).

Ad Hoc Reviewer Agencia Nacional de Evaluación y Prospectiva (ANEP) 2003-2011

Ad Hoc Reviewer Agencia de Calidad Universitaria de las Islas Baleares 2004-2009

Editorial Boards

Frontiers in Human Neuroscience

2007-2009

Journal Reviewer

Biological Psychology, BMC Neuroscience, Brain & Cognition, Brain Research, Clinical Neurophysiology, Cognition, Cognitiva, Cognitive and Affective Behavioral Neuroscience (CABN), Cognitive Brain Research, Cortex, European Journal of Neuroscience, Experimental Brain Research, Frontiers in Human Neuroscience, Journal of Cognitive Neuroscience, Journal of Neuroscience, Journal of Psychophysiology, Neuroimage, Neuropsychologia, Neuropsychology, Neuroscience Letters, Physiology & Behaviour, PLoS Computational Biology, Psicothema, Psychophysiology, Quarterly J. Experimental Psychology, Seminars in the Neurosciences, Spanish Journal of Psychology.

Extramural Research Support

Principal Investigator:

British Council (UK, 1990-1992)
Fundación Mapfre Medicina (Spain 1999)
Research Council of Madrid (1999; 30.000 €)
Research Council of the Balearic Islands (2004-2013;
+125.000 €)
Spanish Ministry of Science and Innovation (2003-
2013; +550.000 €)
Fundació La Marató de TV3 (2010-2013; 199.000 €)

TEACHING

Psychobiology Dept., Complutense University of Madrid 1995-2000

Undergraduate courses (enrolments):

Introduction to Neuroscience (150)
Physiological Psychology (150)

Graduate courses (enrolments):

Cognitive Neuropsychology (15)
Cognitive Neuroscience (15)

Department of Psychology, University of Illes Balears 2000-today

Undergraduate courses (enrolments):

Introduction to Neuropsychology (85)
Clinical Neuropsychology (30)

Graduate courses (enrolments):

Neurophysiology of Attention (15)
Neuropsychology of Frontal Lobe Function (5)

Graduate Students

José Antonio Periañez, Ph.D. in Psychology Universidad Complutense de Madrid, Spain	2002-2005
Daniel Adrover-Roig, Ph.D. in Psychology Universitat de les Illes Balears, Spain	2005-2009
Mareike Finke, Ph.D. in Psychology Universitat de Barcelona, Spain	2010-2013

Selected publications

A. Book chapters.

1. Muñoz-Céspedes, J.M., **Barceló, F.**, Pozo, M.A. & Rubia, F. Evaluación neuropsicológica de las disfunciones atencionales en traumatismos craneoencefálicos. In J. Botella & V. Ponsoda (Eds.), *La Atención: Un enfoque pluridisciplinar*. Valencia: Promolibro, 1998. Pp. 361-372.
2. **Barcelo, F.**, Periañez, J. A., and Knight, R. T. (2003). A new ERP paradigm for studying individual differences in the executive control of attention. In *The Cognitive Neuroscience of Individual Differences*, I. Reinvang, M. W. Greenlee, and M. Herrmann, eds. (Oldenburg, bis-Publishers), pp. 47-62.
3. Nowak, R., Escera, C., Corral, M.J., **Barceló, F.** (2008). Electroencefalografía y potenciales evocados. In *Neuroimagen: Técnicas y Procesos Cognitivos*. Maestú, F., Ríos, M., y Cabestrero, R. (eds.) (Madrid, Elsevier-Masson), pp. 155-172. ISBN: 978-84458-1776-6.
4. Periañez, J.A., Ríos, M., **Barceló, F.**, Madrid, E., Ruz, M. (2008). Electroencefalografía y potenciales evocados. In *Neuroimagen: Técnicas y Procesos Cognitivos*. Maestú, F., Ríos, M., y Cabestrero, R. (eds.) (Madrid, Elsevier-Masson), pp. 281-316. ISBN: 978-84458-1776-6.

B. Articles.

1. **Barcelo, F.**, Gale, A., and Hall, M. (1995). Multichannel EEG power reflects information processing and attention during visual orienting, and predicts performance in a subsequent recognition task. *Journal of Psychophysiology* 9, 32-44.
2. **Barcelo, F.**, Hall, M., and Gale, A. (1995). A psychophysiological inquiry into the nature of the Sokolovian orienting response comparator model: skin conductance and EEG data. *Biological Psychology* 41, 147-166.
3. **Barcelo, F.**, and Gale, A. (1997). Electrophysiological measures of cognition in biological psychiatry: Some cautionary notes. *International Journal of Neuroscience* 92, 219-240.

4. **Barcelo, F.**, Martín-Loeches, M., and Rubia, F. J. (1997). Event-related potentials during memorization of spatial locations in the auditory and visual modalities. *Electroencephalography and Clinical Neurophysiology* 103, 257-267.
5. Martín-Loeches, M., **Barcelo, F.**, and Rubia, F. J. (1997). Sources and topography of supramodal effects of spatial attention in ERP. *Brain Topography* 10, 1-14.
6. **Barcelo, F.**, Sanz, M., Molina, V., and Rubia, F. J. (1997). The Wisconsin Card Sorting Test and the assessment of frontal function: A validation study with event-related potentials. *Neuropsychologia* 35, 399-408.
7. **Barcelo, F.**, and Rubia, F. J. (1998). Non-frontal P3b-like activity evoked by the Wisconsin Card Sorting Test. *NeuroReport* 9, 747-751.
8. **Barceló, F.** (1999). Electrophysiological evidence of two different types of error in the Wisconsin card sorting test. *NeuroReport* 10, 1299-1303.
9. **Barcelo, F.**, Muñoz-Céspedes, J. M., Pozo, M. A., and Rubia, F. J. (2000). Attentional set shifting modulates the target P3b response in the Wisconsin card sorting test. *Neuropsychologia* 38, 1342-1355.
10. **Barcelo, F.**, Suwazono, S., and Knight, R. T. (2000). Prefrontal modulation of visual processing in humans. *Nature Neuroscience* 3, 399-403.
11. **Barcelo, F.** (2001). Does the Wisconsin Card Sorting Test measure prefrontal function? *Spanish Journal of Psychology* 4, 79-100.
12. **Barcelo, F.**, and Knight, R. T. (2002). Both random and perseverative errors underlie WCST deficits in prefrontal patients. *Neuropsychologia* 40, 349-356.
13. **Barcelo, F.**, Periañez, J. A., and Knight, R. T. (2002). Think differently: a brain orienting response to task novelty. *NeuroReport* 13, 1887-1892.
14. **Barcelo, F.**, Perianez, J. A., and Gomila, A. (2003). Tidying up sensory stores with supraordinate representations. *Behavioral and Brain Sciences* 26, 730-731.
15. **Barcelo, F.** (2003). The Madrid card sorting test (MCST): a task switching paradigm to study executive attention with event-related potentials. *Brain Res Protocols* 11, 27-37.
16. Periañez, J. A., Maestú, F., **Barcelo, F.**, Fernández, F., Amo, C., and Ortiz Alonso, T. (2004). Spatiotemporal brain dynamics during preparatory set shifting: MEG evidence. *Neuroimage* 21, 687-695.
17. Yago, E., Duarte, A., Wong, T., **Barcelo, F.**, and Knight, R. T. (2004). Temporal kinetics of prefrontal modulation of the extrastriate cortex during visual attention. *Cognitive, Affective, and Behavioral Neuroscience* 4, 609-617.
18. **Barcelo, F.**, Escera, C., Corral, M. J., and Perianez, J. A. (2006). Task switching and novelty processing activate a common neural network for cognitive control. *Journal of Cognitive Neuroscience* 18, 1734-1748.

19. Perianez, J. A., Rios-Lago, M., Rodríguez-Sánchez, J. M., Adrover-Roig, D., Sanchez-Cubillo, I., Crespo-Facorro, B., Quemada, J. I., and **Barcelo, F.** (2007). Trail Making Test in traumatic brain injury, schizophrenia, and normal ageing: Sample comparisons and normative data. *Archives of Clinical Neuropsychology*, 22: 433-447.
20. **Barceló, F.** & Knight, R.T. (2007). An information theoretic approach to contextual processing in the human brain: Evidence from prefrontal lesions. *Cereb Cortex*, 17: i51-i60.
21. **Barcelo, F.**, and Knight, R. T. (2007). Theoretical sequelae of a chronic neglect and unawareness of prefrontotectal pathways in the human brain. *Behavioral and Brain Sciences*, 30: 83-85.
22. **Barceló, F.**, Periañez, J.A., & Nyhus, E. (2008). An informational theoretical approach to task-switching: Evidence from cognitive brain potentials in humans. *Frontiers in Human Neuroscience*, 1: 13. doi: 10.3389/neuro.09/013.2007.
23. Periañez JA, **Barceló F.** (2009). Updating sensory versus task representations during task-switching: Insights from cognitive brain potentials in humans. *Neuropsychologia*, 47, 1160-1172, doi:10.1016/j.neuropsychologia.2009.01.014.
24. Sanchez-Cubillo I, Perianez JA, Adrover-Roig D, Rodriguez-Sanchez JM, Rios-Lago M, Tirapu, J., **Barceló, F.** (2009). Construct validity of the Trail Making Test: role of task-switching, working memory, inhibition/interference control and visuo-motor abilities. *Journal of the International Neuropsychological Society*, 15(3): 438-50.
25. **Barceló F** (2009). The emotional consequences of being distracted. *Front. Neurosci.*, 3, 10: 6–7. doi: 10.3389/neuro.01.010.2009.
26. Perez Velazquez JL, **Barceló F**, Hunga Y, Leshchenkoa Y, Nenadovica V, Belkas J, Raghavana V, Briand J, Garcia Dominguez L (2009). Decreased brain coordinated activity in autism spectrum disorders during executive tasks: Reduced long-range synchronization in the fronto-parietal networks. *International Journal of Psychophysiology*, 73, 341-349.
27. Adrover-Roig D, **Barceló F** (in press) Individual differences in aging and cognitive control modulate the neural indexes of context updating and maintenance during task switching. *Cortex*, 46, 434-450.
28. Nyhus, E., & **Barcelo, F.** (2009). The Wisconsin Card Sorting Test and the cognitive assessment of prefrontal executive functions: a critical update. *Brain and Cognition*, 71, 437-451.
29. Garcia-Garcia, M., **Barceló, F.**, Clemente, I.C., & Escera, C. (2010). The role of the Dopamine Transporter DAT1 genotype on the neural correlates of cognitive flexibility. *European Journal of Neuroscience*, 31, 754–760.
30. Garcia-Garcia, M., **Barceló, F.**, Clemente, I.C., & Escera, C. (2010). The role of DAT1 gene on the rapid detection of task novelty. *Neuropsychologia*, 48, 4136-4141.
31. Voytek, B., Davis, M., Yago, E., **Barcelo, F.**, Vogel, E.K., & Knight, R.T. (2010). Dynamic neuroplasticity after human prefrontal cortex damage. *Neuron*, 68, 401-408.

32. Finke, M., **Barcelo, F.**, Garolera, M., Cortinas, M., Garrido, G., Pajares, M., & Escera, C. (2011). Impaired preparatory re-mapping of stimulus-response associations and rule-implementation in schizophrenic patients--the role for differences in early processing. *Biological Psychology*, 87, 358-365.
33. Garcia-Garcia, M., **Barceló, F.**, Clemente, I.C., & Escera, C. (2011). COMT and ANKK1 gene–gene interaction modulates contextual updating of mental representations. *Neuroimage*, 56, 1641-1647.
34. Martin, C.D., **Barcelo, F.**, Hernandez, M., & Costa, A. (2011). The time course of the asymmetrical “local” switch cost: Evidence from event-related potentials. *Biological Psychology*, 86, 210-218.
35. Parmentier, F.B., Elsley, J.V., Andres, P., & **Barcelo, F.** (2011). Why are auditory novels distracting? Contrasting the roles of novelty, violation of expectation and stimulus change. *Cognition*, 119, 374-380.
36. Adrover-Roig, D., Sese, A., **Barcelo, F.**, & Palmer, A. (2012). A latent variable approach to executive control in healthy ageing. *Brain & Cognition*, 78, 284-299.
37. Finke, M., Escera, C., & **Barcelo, F.** (2012). The effects of foreknowledge and task-set shifting as mirrored in cue- and targetlocked event-related potentials. *PLoS ONE*, 7, e49486.
38. Hernandez, M., Martin, C.D., **Barcelo, F.**, & Costa, A. (2013). Where is the bilingual advantage in task-switching? *Journal of Language and Memory*, 69, 257-276.
39. Villacampa, J., Darriba, A., Galvez, A., Martorell, R., Prada, L., & **Barcelo, F.** (2013). Combined Effects of Aging and Executive Control on Task-Set Inhibition and Maintenance as Indexed by Task-Switch Unspecific Restart and Mixing Costs. *Journal of Psychophysiology*, 27, 73-73.
- C. Manuscripts submitted.
40. Prada, L., **Barcelo, F.**, Escera, C., & Herrmann, C.S. (submitted, 2nd review). EEG delta oscillations index inhibitory control of contextual novelty to both irrelevant distracters and relevant task-switch cues. *Psychophysiology*.
41. Weeda, W.D., van der Molen, M.W., **Barcelo, F.**, & Huizinga, M. (submitted). A Diffusion Model Analysis of Developmental Changes in Children's Task Switching. *Journal of Experimental Child Psychology*.