

Curriculum Vitae of Olivia Belbin, PhD

Contact and Personal Details

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Date of Birth 28th October 1980
Nationality British
Residency Spain

Employment History

Miguel Servet Type I Senior Associate Investigator (Jan 2014 – Jan 2019)

Location: Hospital de la Santa Creu I Sant Pau, Barcelona, Spain
Responsibilities: Principal Investigator
Project: Search for synaptic biomarkers of Alzheimer's disease

Juan de la Cierva Senior Post-doctoral Research Fellow (Jan 2011 – Jan 2014)

Location: Hospital de la Santa Creu I Sant Pau, Barcelona, Spain (Dr Alberto Lleó)
Responsibilities: Senior postdoctoral investigator. Supervision of BSc, MSc and PhD students.
Project: Investigating the pathogenic role of APP, CALHM1 and PS1 mutations in Alzheimer's disease

Post-Doctoral Investigator (Mar 2010 - Jan 2011)

Location: Mayo Clinic, Jacksonville, FL, USA (Profs Steven Younkin and Kevin Morgan)
Responsibilities: Junior postdoctoral investigator. Supervision of BSc students.
Project: Comprehensive analyses of GWAS-identified candidate risk factors for Alzheimer's disease.

Post-Doctoral Investigator (Mar 2008 - Feb 2010)

Location: Mayo Clinic, Jacksonville, FL, USA (Profs Steven Younkin and Kevin Morgan)
Responsibilities: Junior postdoctoral investigator. Supervision of BSc students.
Project: Identify genetic risk factors for Alzheimer's disease and investigate the molecular mechanisms underpinning their function.

Alzheimer's Research UK Administrator (Part-time, Nov 2003-Dec 2007)

Location: University of Nottingham, UK
Responsibilities: Compile annual research report, organize public meetings and 2-day ARUK Annual Network meeting. Teach SPSS statistical software package to PhD and MSc students as part of the Postgraduate Training Programme.

Academic History

PhD student (Full-time, Jan 2004 - Dec 2007)

Location: University of Nottingham, UK (Profs Noor Kalsheker and Kevin Morgan)
Responsibilities: PhD student. Supervision of BMedSci and Msc students
Project: Haplotype analysis of candidate genes in the amyloid cascade of Alzheimer's disease

BSc (Hons) Neuroscience: Grade 2.1 (Sep 1999 - Jul 2003)

Final year Location: University of Nottingham, UK (Prof Sean Murphy)
Final year Project: Investigating NOS-2 expression in a mouse model of traumatic brain injury
Honours Year Location: University of Melbourne, Australia (Dr Andrew Gundlach)
Honours Year Project: Establishing an *in vitro* model for GALP-GnRH hormone interactions

Grants awarded

Total money awarded: 490,345€ and £30,000

Personnel: 364,980€ and £30,000

Consumables and services: 125,365€

Projects for Investigation in Health (FIS)

Recipient: Olivia Belbin
Title: Evaluation and characterization of biomarkers of the preclinical stage of Alzheimer's disease
Funding body: Carlos III Institute, Government of Spain
Date: January 2016 – December 2018
Award: Consumables and services for 3 years (68.365 €)

Miguel Servet Type 1 Programme (Incorporation of Principal Investigators)

Recipient: Olivia Belbin
Title: Search for synaptic biomarkers of Alzheimer's disease
Funding body: Carlos III Institute, Government of Spain
Date: January 2014 – January 2018
Award: Salary for 5 years (202,500€), Personnel FP2 Technician for 3 years (61,500€), Consumables for 3 years (57,000€): Total = 321,000€

Juan de la Cierva Programme (Incorporation of Postdoctoral Investigators)

Recipient: Olivia Belbin
Title: Determine the normal and pathological function of CALHM1 on APP processing and trafficking and early-onset Alzheimer's disease risk
Funding body: Ministry of Science and Innovation, Government of Spain
Date: January 2011 – December 2013
Award: Salary for three years (100,980€)

Pilot Project Grants

Recipients: Kevin Morgan and Olivia Belbin
Funding body: Alzheimer's Research Trust, UK
Date: March 2008 – February 2010
Award: 50% of salary for 2 years (£30,000)

Participation in International/Collaborative Projects

Project: Multicentric study of biomarkers in CSF and neuroimaging in the continuum of Alzheimer's disease
Funding body: Ciber Enfermedades Neurodegenerativas (CIBERNED)
Participation: Investigator
Place of realization: Hospital de la Santa Creu i Sant Pau
Principal investigator: Alberto Lleó

Project: The Epistasis Project 2008-2012
Funding body: Moulton Charitable Foundation
Participation: Investigator
Place of realization: Mayo Clinic, Hospital de la Santa Creu i Sant Pau
Principal investigator: Donald J Lehmann

Project : The Epistasis Project 2015-2017
Funding body: Herbertpur Trust
Participation: Investigator
Place of realization: Mayo Clinic, Hospital de la Santa Creu i Sant Pau
Principal investigator: Donald J Lehmann

Publication statistics

Publications per year:	3.3	Total number of citations:	582
First/joint first author:	12 (40%)	Mean no. citations per article:	19.6
Senior/Corresponding author	1	H-Index	15
Mean Impact Factor:	5.0	I-10 index	18

Publications in International Peer-Reviewed Journals

*MJ Yáñez, **Belbin O**, LD Estrada, N Leal, A Lleó, PV Burgos, S Zanlungo, AR Alvarez. c-Abl links APP-BACE1 interaction promoting APP amyloidogenic processing in Niemann-Pick type C Disease. Submitted to Journal of Neuroscience. August 2015*

30. O Dols-Icardo, E Vilaplana, F Sampedro, D Alcolea, **O Belbin**, V Camacho, R Blesa, A Lleó, J Clarimón, J Fortea; Alzheimer's Disease Neuroimaging Initiative. Effect of REST on brain metabolism in the Alzheimer's disease continuum. *Ann Neurol.* 2015 Jul 15.
29. D Sevlever, F Zou, M Li, S Carrasquillo, MG Crump, OJ Culley, GD Bisceglia, L Younkin, M Allen, MM Carrasquillo, SB Sando, JO Aasly, DW Dickson, NR Graff-Radford, RC Petersen, F Deák, K Morgan for ARUK consortium, **O Belbin**. Genetically-controlled Vesicle-Associated Membrane Protein 1 expression may contribute to Alzheimer's pathophysiology and susceptibility. *Molecular Neurodegeneration* 2015 Apr 9;10(1):18. **Senior and Corresponding Author**
28. M-L Campanari, M-S García-Ayllón, **O Belbin**, J Galcerán, A Lleó, J Sáez-Valero. Acetylcholinesterase modulates Presenilin-1 levels and γ -secretase activity. *Journal of Alzheimer's Disease.* 2014;41(3):911-24. Cited by 1 publication.
27. M-S García-Ayllón, M-L Campanari, M-F Montenegro, I Cuchillo-Ibañez, **O Belbin**, A Lleó, K Tsim, CJ Vidal, J Saez-Valero. Presenilin-1 influences processing of the acetylcholinesterase membrane anchor P_{RI}MA. *Neurobiology of Aging* 2014 Jul;35(7):1526-36.
26. M Colom-Cadena, E Gelpi, S Charif, **O Belbin**, R Blesa, MJ Martí, J Clarimón, A Lleó. Confluence of α -synuclein, tau and β -amyloid pathologies in dementia with Lewy bodies. *J Neuropath Exp Neur* 2013 Dec;72(12):1203-12. Cited 15 publications.
25. M Suárez-Calvet⁺, **O Belbin**⁺, M Pera, N Badiola, J Magrané, C Guardia-Laguarta, L Muñoz, M Colom, J Clarimón, A Lleó. Autosomal-dominant Alzheimer's disease mutations at the same codon of Amyloid Precursor Protein differentially alter A β production. *Journal of Neurochemistry* 2014 Jan;128(2):330-9. Cited by 4 publications. **† Joint first author**
24. F Rubio-Moscardo, N Setó-Salvia, M Pera, M Bosch-Morató, C Plata, **O Belbin**, GG Gené, O Dols-Icardo, M Ingelsson, S Helisalmi, H Soininen, M Hiltunen, V Giedraitis, L Lannfelt, A Frank, MJ Bullido, O Combarros, P Sánchez-Juan, M Boada, L Tàrraga, P Pastor, J Pérez-Tur, M Baquero, JL Molinuevo, R Sánchez-Valle, P Fuentes-Prior, J Fortea, R Blesa, FJ Muñoz, A Lleó, MA Valverde, J Clarimón. Rare variants in Calcium homeostasis modulator 1 (CALHM1) found in early onset Alzheimer's disease patients alter calcium homeostasis. *PLoS One* 2013 Sep 17;8(9):e74203. Cited by 4 publications.
23. Zou⁺, **O Belbin**⁺, MM Carrasquillo, O Culley, TA Hunter, M Li, G Bisceglia, M Allen, DW Dickson, NR Graff-Radford, RC Petersen, GERAD, K Morgan, SG Younkin. Linking protective GAB variants, increased cortical GAB expression and decreased Alzheimer's disease pathology. *PLoS One* 2013 May 8;8(5):e6480. Cited by 5 publications. **† Joint first author**
22. C Medway, O Combarros, M Cortina-Borja, HT Butler, CA Ibrahim-Verbaas, RFAG de Bruijn, PJ Koudstaal, CM van Duijn, MA Ikram, I Mateo, P Sánchez-Juan, MG Lehmann, R Heun, H Kölsch, P Deloukas, N Hammond, E Coto, V Alvarez, PG Kehoe, R Barber, GK Wilcock, K Brown, **O Belbin**, DR Warden, AD Smith, K Morgan, DJ Lehmann. The sex-specific associations of the aromatase gene with Alzheimer's disease and its interaction with IL10 in the Epistasis Project. *European Journal of Human Genetics* (2014) Feb;22(2):216-20. Cited by 4 publications.

21. J Bullock, C Medway, M Cortina-Borja, J Turton, J Prince, C Ibrahim-Verbaas, M Schuur, M Breteler, C Van duijn, PG Kehoe, RA Barber, E Coto, V Alvarez, P Deloukas, N Hammond, O Combarros, I Mateo, DR Warden, MJ Lehmann, **O Belbin**, K Brown, GK Wilcock, R Heun, H Kölsch, AD Smith, DJ Lehmann, K Morgan. Discovery by the Epistasis Project of an epistatic interaction between the GSTM3 gene and the HHEX/IDE/KIF11 locus in the risk of Alzheimer's disease. *Neurobiology of Aging* 2013 Apr;34(4):1309.e1-7. Cited by 10 publications.
20. R Heun, H Kölsch, CA Ibrahim-Verbaas, O Combarros, YS Aulchenko, M Breteler, M Schuur, CM van Duijn, N Hammond, **O Belbin**, M Cortina-Borja, GK Wilcock, K Brown, R Barber, PG Kehoe, E Coto, V Alvarez, MG Lehmann, P Deloukas, I Mateo, K Morgan, DR Warden, AD Smith, DJ Lehmann. Interactions between PPAR-alpha and inflammation-related cytokine genes on the development of Alzheimer's disease, observed by the Epistasis Project. *International Journal of Molecular Epidemiology and Genetics* 2012;3(1):39-47. Cited by 13 publications
19. H Shi, **O Belbin**, C Medway, K Brown, N Kalsheker, M Carrasquillo, P Proitsi, J Powell, S Lovestone, A Goate, S Younkin, K Morgan. Genetic variants influencing human longevity from Late Onset Alzheimer's Disease (LOAD) Genome-Wide Association Studies (GWAS) *Neurobiology of Aging* 2012 Apr;119(4):473-9. Cited by 22 publications.
18. H Kölsch, DJ Lehmann, CA Ibrahim-Verbaas, O Combarros, CM van Duijn, N Hammond, **O Belbin**, M Cortina-Borja, MG Lehmann, YS Aulchenko, M Schuur, M Breteler, GK Wilcock, K Brown, PG Kehoe, R Barber, E Coto, V Alvarez, P Deloukas, I Mateo, W Maier, K Morgan, DR Warden, AD Smith, R Heun. Interaction of insulin and PPAR-a genes in Alzheimer's disease: the Epistasis Project. *Journal of Neural Transmission* 2012 Apr;119(4):473-9. Cited by 8 publications.
17. MM Carrasquillo⁺, **O Belbin**⁺, TA Hunter, M Li, GD Bisceglia, F Zou, JE Crook, VS Pankratz, SB Sando, JO Aasly, M Barcikowska, ZK Wszolek, DW Dickson, NR Graff-Radford, RC Petersen, P Passmore, K Morgan for the Alzheimer's Research UK (ARUK) consortium, SG Younkin. Replication of *EPHA1* and *CD33* associations with late-onset Alzheimer's disease: a multi-centre case-control study. *Molecular Neurodegeneration* 2011 Jul 28;6(1):54. Cited by 27 publications
***Joint first author**
16. **O Belbin**, M Crump, GD Bisceglia, MM Carrasquillo, K Morgan, SG Younkin. Multiple insulin degrading enzyme variants alter *in vitro* reporter gene expression. *PLoS One* 2011;6(6):e21429. Cited by 2 publications. **First Author**
15. J Turton, J Bullock, C Medway, H Shi, K Brown, **O Belbin**, N Kalsheker, MM Carrasquillo, SG Younkin, K Morgan. Investigating statistical epistasis in complex disorders. *Journal of Alzheimer's disease* 2011;25(4):635-44. Cited by 3 publications
14. MM Carrasquillo⁺, **O Belbin**⁺, TA Hunter, M Li, G Bisceglia, F Zou, J Crook, V Pankratz, SB Sando, JO Aaly, M Barcikowska, ZK Wszolek, DW Dickson, N Graff-Radford, R Petersen, K Morgan for the Alzheimer's Research Trust Consortium, SG Younkin. Replication of BIN1 association with Alzheimer's disease and evaluation of genetic interactions. *Journal of Alzheimer's Disease* (2011) 4(4):751-8. Cited by 38 publications ***Joint first author**
13. **O Belbin**⁺, K Brown⁺, H Shi, C Medway, R Abrahams, P Passmore, DMM Mann, AD Smith, C Holmes, B McGuinness, D Craig, D Warden, H Beaumont, R Heun, H Kölsch, S Love, R Barber, LE Palmer, N Kalsheker, J Williams, MJ Owen, MM Carrasquillo, JA Prince, SG Younkin, K Morgan PG Kehoe. A multi-centre study of *ACE* and the risk of late-onset Alzheimer's disease. *Journal of Alzheimer's Disease* 2011;24(3):587-97. Cited by 16 publications ***Joint first author**
12. **O Belbin**, MM Carrasquillo, O Culley, M Crump, TA Hunter, M Li, G Bisceglia, F Zou, M Allen, DW Dickson, NR Graff-Radford, RC Petersen, K Morgan, SG Younkin. Investigation of 15 of the top candidate genes for late-onset Alzheimer's disease. *Human Genetics* 2011 Mar;129(3):273-82. Cited by 33 publications. **First Author**
11. Combarros, DR Warden, N Hammond, M Cortina-Borja, **O Belbin**, MG Lehmann, GK Wilcock, K Brown, PG Kehoe, R Barber, E Coto, V Alvarez, P Deloukas, R Gwilliam, R Heun, H Kölsch, I Mateo, A Arias-Vásquez, M Schuur, YS Aulchenko, MA Ikram, MM Breteler, CM van Duijn, K

Morgan, AD Smith, DJ Lehmann. The dopamine β -hydroxylase -101C/T polymorphism is associated with the risk of Alzheimer's disease in the Epistasis Project. BMC Med Genetics 2010 Nov 11;11:162. Cited by 21 publications

10. M Allen, C Cox, **O Belbin**, M Li, GD Bisceglia, SL Wilcox, CC Howell, TA Hunter, O Culley, LP Walker, MM Carrasquillo, DW Dickson, RC Petersen, NR Graff-Radford, SG Younkin, N Ertekin-Taner. Association and heterogeneity at the *GAPDH* locus in Alzheimer disease. Neurobiology of Aging 2012. Jan;33(1):203.e25-33. Cited by 12 publications
9. J Lehmann, M Schuur, DR Warden, N Hammond, **O Belbin**, H Kölsch, MG Lehmann, GK Wilcock, K Brown, PG Kehoe, CM Morris, R Barker, E Coto, V Alvarez, P Deloukas, I Mateo, R Gwilliam, O Combarros, A Arias-Vásquez, YS Aulchenko, MA Ikram, MM Breteler, CM van Duijn, R Heun, M Cortina-Borja, K Morgan, K Robson, AD Smith. Transferrin and HFE genes interact in Alzheimer's disease risk: the Epistasis Project. Neurobiology of Aging 2012 Jan;33(1):202.e1-13. Cited by 36 publications
8. M Carrasquillo, **O Belbin**, TA Hunter, M Li, G Bisceglia, F Zou, J Crook, V Pankratz, D Dickson, N Graff-Radford, R Petersen, K Morgan, SG Younkin. Replication of *CLU*, *CR1* and *PICALM* associations with Alzheimer's disease. Archives of Neurology 2010 Aug;67(8):961-4. Cited by 143 publications
7. M Carrasquillo⁺, **O Belbin**⁺, F Zou⁺, M Allen⁺, N Ertekin-Taner, M Ansari, S Wilcox, M Kashino, M Li, L Younkin, S Younkin, C Younkin, T Dincman, M Howard, C Howell, C Stanton, C Watson, V Vitart, C Hayward, N Hastie, I Rudan, H Campbell, O Polasek, K Brown, P Passmore, D Craig, B McGuinness, S Todd, P Kehoe, D Mann, AD Smith, H Beaumont, D Warden, C Holmes, R Heun, H Kölsch, N Kalsheker, V Pankratz, D Dickson, N Graff-Radford, R Petersen, A Wright, SG Younkin, K Morgan. Concordant association of *IDE* variants with *IDE* mRNA, A β , and Alzheimer's disease. PLoS One 2010 Jan 19;5(1):e8764. Cited by 24 publications. *** Joint first author**
6. F Zou, MM Carrasquillo, VS Pankratz, **O Belbin**, K Morgan, SL Wilcox, M Li, LP Walker, N Kouri, LH Younkin, S Younkin, CS Younkin, GD Bisceglia, JE Crook, DW Dickson, RC Petersen, N Graff-Radford, SG Younkin, N Ertekin-Taner. Gene expression levels as endophenotypes in genome-wide association studies to identify susceptibility variants for late-onset Alzheimer's disease. Neurology 2010 Feb 9;74(6):480-6. Cited by 21 publications
5. O Combarros, CM van Duijn, N Hammond, **O Belbin**, A Arias-Vásquez, M Cortina-Borja, MG Lehmann, YS Aulchenko, M Schuur, H Kölsch, R Heun, GK Wilcock, K Brown, PG Kehoe, R Harrison, E Coto, V Alvarez, P Deloukas, I Mateo, R Gwilliam, K Morgan, DR Warden, AD Smith, DJ Lehmann. Replication by the Epistasis Project of the interaction between the genes for IL-6 and IL-10 in the risk of Alzheimer's disease. Journal of Neuroinflammation 2009 Aug 23;6:22. Cited by 37 publications
4. **O Belbin**, H Beaumont, D Warden, D Smith, N Kalsheker, K Morgan. PSEN1 polymorphisms alter the rate of cognitive decline in sporadic Alzheimer's disease patients. Neurobiology of Aging 2009 Dec;30(12):1992-9. Cited by 15 publications. **First Author**
3. **O Belbin**, JL Dunn, S Chappell, AE Ritchie, Y Ling, L Morgan, A Pritchard, DR Warden, CL Lendon, DJ Lehmann, DMA Mann, AD Smith, N Kalsheker, K Morgan. A SNP in the *ACT* gene associated with astrocytosis and rapid cognitive decline in AD. Neurobiology of Aging 2008 Aug;29(8):1167-76. Cited by 9 publications. **First Author**
2. **O Belbin**, JL Dunn, Y Ling, L Morgan, S Chappell, H Beaumont, D Warden, DA Smith, N Kalsheker, K Morgan. Regulatory region single nucleotide polymorphisms of the apolipoprotein E gene and the rate of cognitive decline in Alzheimer's disease. Human Molecular Genetics 2007 May 1;12:2821-35. Cited by 30 publications. **First Author**
1. C Baker⁺, **O Belbin**⁺, N Kalsheker, K Morgan. SERPINA3 (aka alpha-1-antichymotrypsin). Frontiers in Biosciences (2007) 1;1:81-35 *** Joint first author**

Research Highlights in International Peer-Reviewed Journals

Article Title: Variations in regulatory regions of APOE affect the rate of cognitive decline in AD.
Published in: Nature Clinical Practice Neurology October 20073(10):534. [Cited by 29 publications](#)
Original Article: **O Belbin**, JL Dunn, Y Ling, et al. Human Molecular Genetics 2007 May 1;12:2821-35.

Book chapters

Series: Methods in Molecular Biology
Book title: The Inflammasome
Chapter title: Using FRET-FLIM to determine the close proximity of inflammasome components.
Chapter Authors: C Youssif, B Flix, **O Belbin** and M Comalada
Publication date: December 2015

Peer Reviewer of International Journals

Neurobiology of Aging, Neuroscience Letters, PLoS One, Human Genetics, Journal of Neurological Sciences
Citations: *PLOS ONE* 2014 Reviewer Thank You. *PLoS ONE* 2015 10(2): e0121093.

Invited Speaker

First North American DiscWorld Convention: "Alzheimer's Research Trust: Funding world-class research to find a cure" (Arizona, 2009)

Dementia Research Network Conference: "Haplotype analyses of the alpha-1- antichymotrypsin gene in Alzheimer's disease" (Nottingham, 2005)

Published Conference Abstracts

AAIC-2014: Alzheimer's Association International Conference (Copenhagen)

O Belbin, G Gomez-Giro, L Muñoz, D Alcolea, M Colom-Cadena, M Carmona-Iragui, J Fortea, J Clarimon, À Bayés, Alberto Lleó. Characterization of the cerebrospinal fluid proteome in the search for biomarkers of preclinical Alzheimer's Disease. *Alzheimer's & Dementia: The Journal of the Alzheimer's Association* Vol. 10, Issue 4, Supplement, Pages P515

AAIC-2012: Alzheimer's Association International Conference (Vancouver)

O Belbin, M Coma, N Badiola, L Muñoz, M Suárez-Calvet, M Colom-Cadena, D Alcolea, J Clarimon, JM Mas, P Aloy, A Lleó. Systems biology technology identifies presenilin-1 interacting proteins and drug targets that are novel to the AD field. *Alzheimer's & Dementia: The Journal of the Alzheimer's Association* Vol. 8, Issue 4, Supplement, Pages P310-P311

AAIC-2011: Alzheimer's Association International Conference (Paris)

MM Carrasquillo, **O Belbin**, T Hunter, L Ma, G Bisceglia, F Zou, J Crook, V Pankratz, S Sando, J Aasly, M Barcikowska, Z Wszolek, DW Dickson, N Graff-Radford, R Petersen, K Morgan, S Younkin. Replication of LOAD GWAS associations. *Alzheimer's & Dementia: The Journal of the Alzheimer's Association* Vol. 7, Issue 4, Supplement, Pages S180-S181

K Morgan, C Medway, H Shi, J Turton, J Bullock, K Brown, **O Belbin**, N Kalsheker, MM Carrasquillo, S Younkin. Differential epistatic interactions with alternative APOE alleles in late-onset Alzheimer's disease. *Alzheimer's & Dementia: The Journal of the Alzheimer's Association* Vol. 6, Issue 4, Supplement, Page S190

ICAD-2010: International Conference on AD and Related Disorders (Hawaii)

F Zou, M Allen, **O Belbin**, T Hunter, L Ma, GD Bisceglia, MM Carrasquillo, C Younkin, R Petersen, N Graff-Radford, DW Dickson, F Deak SG Younkin. ESNPs within VAMP1 show genetic association with late onset Alzheimer's disease. *Alzheimer's & Dementia: The Journal of the Alzheimer's Association* Vol. 6, Issue 4, Supplement, Page S114

M Allen, C Cox, **O Belbin**, L Ma, G D Bisceglia, S L Wilcox, C Howell, TA Hunter, O Culley, LP Walker, MM Carrasquillo, DW Dickson, RC Petersen, NR Graff-Radford, SG Younkin, N Ertekin-Taner. Association of glyceraldehyde-3-phosphate dehydrogenase locus variant with late-onset

alzheimer's disease. *Alzheimer's & Dementia: The Journal of the Alzheimer's Association* Vol. 7, Issue 4, Supplement, Pages S190-S191

ICAD-2009: International Conference on Alzheimer's disease and Related Disorders (Vienna)

M Carrasquillo, **O Belbin**, F Zou, M Allen, N Ertekin-Taner, K Brown, P Passmore, D Craig, B McGuinness, S Todd, PG Kehoe, DM Mann, AD Smith, H Beaumont, D Warden, C Holmes, R Heun, H Kölsch, VS Pankratz, DW Dickson, N Graff-Radford, RC Petersen, AF Wright, SG Younkin, K Morgan. Concordant association of functional IDE variant with IDE mRNA, A β , and Alzheimer's disease. *Alzheimer's & Dementia: The Journal of the Alzheimer's Association* Vol. 5, Issue 4, Supplement, Pages P469-P470

ICAD-2008: International Conference on Alzheimer's disease and Related Disorders (Chicago)

O Belbin, H Beaumont, D Warden, D Smith, N Kalsheker, K Morgan. Polymorphisms in four candidate genes for sporadic Alzheimer's disease are associated with altered rate and age of cognitive decline. *Alzheimer's & Dementia: The Journal of the Alzheimer's Association* Vol. 4, Issue 4, Supplement, Page T579

K Brown, **O Belbin**, N Kalsheker, D Craig, B McGuinness, P Passmore, R Heun, H Kölsch, P Kehoe, D Mann, D Warden, AD Smith, C Holmes, K Morgan. Angiotensin-converting enzyme and the risk of late-onset Alzheimer's disease. *Alzheimer's & Dementia: The Journal of the Alzheimer's Association* Vol. 4, Issue 4, Supplement, Page T581

K Morgan, MM Carrasquillo, **O Belbin**, K Brown, N Kalsheker, D Craig, B McGuinness, P Passmore, R Heun, H Kölsch, P Kehoe, DM Mann, D Warden, H Beaumont, D Smith, C Holmes, SG Younkin. Insulin degrading enzyme and the risk of late-onset Alzheimer's disease. *Alzheimer's & Dementia: The Journal of the Alzheimer's Association* Vol. 4, Issue 4, Supplement, Page T59

HGV-2007: Human Genetic Variation (Sitges)

O Belbin, JL Dunn, H Beaumont, D Warden, AD Smith, N Kalsheker, K Morgan. Modelling the effects of regulatory polymorphisms on cognitive decline in Alzheimer's disease patients. Abstract published in Estivill X, Cox NJ, Chanock SJ, Kwok P-Y, Scherer SW, et al. (2008) SNPs Meet CNVs in Genome-Wide Association Studies: HGV007 Meeting Report. *PLoS Genet* 4(4): e1000068

Additional Co-authored Conference Abstracts

SEN-2015: Annual Meeting of the Spanish Society of Neurology (Valencia)

O Dols-Icardo, E Vilaplana, F Sampedro, D Alcolea, **O Belbin**, V Camacho, R Blesa, A Lleó, J Clarimón, J Fortea; Alzheimer's Disease Neuroimaging Initiative. Effect of REST on brain metabolism in the Alzheimer's disease continuum.

O Dols-Icardo, E Vilaplana, F Sampedro, D Alcolea, **O Belbin**, V Camacho, R Blesa, A Lleó, J Clarimón, J Fortea; Alzheimer's Disease Neuroimaging Initiative. Effect of KLOTHO on brain metabolism and structure.

AD/PD-2015: International Conference on AD, PD and Related Neurological Disorders (Nice)

P1478: **O Belbin**, G Gomez-Giro, L Muñoz, D Alcolea, M Colom-Cadena, M Carmona-Iragui, J Fortea, J Clarimon, À Bayés, A Lleó. Identification of synaptic proteins detectable in the cerebrospinal fluid in the search for biomarkers of preclinical Alzheimer's Disease.

CIBERNED-2014: International Congress on Research & Innovation in Neurodegenerative diseases (Barcelona)

O Belbin, G Gomez-Giro, L Muñoz, D Alcolea, M Colom-Cadena, M Carmona-Iragui, J Fortea, J Clarimon, À Bayés, Alberto Lleó. Characterization of the cerebrospinal fluid proteome in the search for biomarkers of preclinical Alzheimer's disease.

SFN-2013: Society for Neuroscience 2013 (San Diego)

G41: MJ: Yañez, **O Belbin**, A Lleó, S Zanlungo, AR Alvarez. Role of c-Abl in APP processing and its pathological implication in Niemann-Pick type C disease models.

SEN-2011: 63rd Annual Meeting of the Spanish Society of Neurology (Barcelona)

Oral Session V: M Colom-Cadena, E Gelpí-Mantius, L Muñoz Llahuna, M Pera Muñoz, **O Belbin**, M Suárez-Calvet, M Casal Moreno, J Clarimón Echevarría, A Lleó Bisa. Tau and alpha-synuclein deposits in dementia with Lewy bodies

ART-2007: Alzheimer's Research Trust Annual Network Conference (Edinburgh)

O Belbin, JL Dunn, S Chappell, AE Ritchie Y Ling, L Morgan, A Pritchard, DR Warden, CL Lendon, DJ Lehmann, DMA Mann, AD Smith, N Kalsheker, K Morgan. A SNP in the ACT gene associated with astrocytosis and rapid cognitive decline in AD

Keystone-2006: Alzheimer's disease: Genes, Cellular Pathways & Therapies (Colorado)

O Belbin, K Morgan, S Chappell, A Ritchie, Y Ling, L Morgan, A Pritchard, DR Warden, CL Lendon, DJ Lehmann, DMA Mann, AD Smith, N Kalsheker. A common risk haplotype of the alpha-1-antichymotrypsin gene in early-onset Alzheimer's disease is associated with faster cognitive decline and increased astrocytosis

ART-2006: Alzheimer's Research Trust Annual Network Conference (Manchester)

O Belbin, K Morgan, S Chappell, A Ritchie, Y Ling, L Morgan, A Pritchard, DR Warden, CL Lendon, DJ Lehmann, DMA Mann, AD Smith, N Kalsheker. A common risk haplotype of the alpha-1-antichymotrypsin gene in early-onset Alzheimer's disease is associated with faster cognitive decline and increased astrocytosis

SNP-2005: Single Nucleotide Polymorphisms (Leicester)

O Belbin, K Morgan, S Chappell, A Ritchie Y Ling, L Morgan, CL Lendon, A Pritchard, DJ Lehmann, DR Warden, DMA Mann, AD Smith, N Kalsheker. A common risk haplotype of the alpha-1-antichymotrypsin gene in Early-Onset Alzheimer's disease

ART-2005: Alzheimer's Research Trust Annual Network Conference (Nottingham)

O Belbin, JL Dunn, S Chappell, AE Ritchie Y Ling, L Morgan, A Pritchard, DR Warden, CL Lendon, DJ Lehmann, DMA Mann, AD Smith, N Kalsheker, K Morgan. A SNP in the ACT gene associated with astrocytosis and rapid cognitive decline in AD

ICAD-2004: International Conference on AD and Related Disorders (Philadelphia)

P4-074: K Morgan, **O Belbin**, S Plummer, L Morgan, C Lendon, D Lehmann, D Warden, DM Mann, AD Smith, N Kalsheker. Alpha-1-antichymotrypsin gene haplotyping in Alzheimer's disease. *Neurobiology of Aging*; P4-074, Volume 5, Supplement, July 004, Page S495

ART-2004: Alzheimer's Research Trust Annual Network Conference (Cambridge)

O Belbin, K Morgan, S Chappell, A Ritchie Y Ling, L Morgan, CL Lendon, A Pritchard, DJ Lehmann, DR Warden, DM Mann, AD Smith, N Kalsheker. A common risk haplotype of the alpha-1-antichymotrypsin gene in Early-Onset Alzheimer's disease

Congresses and Symposia Attended

- 2015 International Conference on AD, PD and Related Neurological Disorders (Nice)
- 2014 International Congress on Research & Innovation in Neurodegenerative diseases (Barcelona)
- 2014 Alzheimer's Association International Conference (Copenhagen)
- 2013 International Congress on Research & Innovation in Neurodegenerative diseases (Madrid)
- 2012 Centre for Genome Research 10th Anniversary Symposium (Barcelona)
- 2012 Alzheimer's Association International Conference (Vancouver)
- 2011 Institute of Biomedical Investigation Sant Pau 2nd Annual Symposium (Barcelona)
- 2011 63rd Annual Meeting of the Spanish Society of Neurology (Barcelona)
- 2011 International Conference on Alzheimers & Parkinsons Diseases (Barcelona)
- 2009 International Conference on Alzheimer's disease and Related Disorders (Vienna)
- 2008 International Conference on Alzheimer's disease and Related Disorders (Chicago)
- 2007 Human Genetic Variation (Sitges)
- 2007 Alzheimer's Research Trust Annual Network Conference (Edinburgh)
- 2006 Keystone: Alzheimer's disease: Genes, Cellular Pathways & Therapies (Colorado)
- 2006 Alzheimer's Research Trust Annual Network Conference (Manchester)
- 2005 Alzheimer's Research Trust Annual Network Conference (Nottingham)
- 2004 Alzheimer's Research Trust Annual Network Conference (Cambridge)

Courses Taught

Title: Introduction to SPSS (Postgraduate Training Programme)
Location: Faculty of Medicine and Health Sciences, University of Nottingham
Date(s): June 2005, January/June 2006, January/June 2007, January 2008
Duration: 16 hours per session = 96 hours

Courses/Workshops Attended

Title: Workshop on Regulatory RNAs organised by Exiqon
Location: IIB-SantPau, Hospital de la Santa Creu I Sant Pau, Barcelona
Dates: May 2015
Duration: 5.5 hours

Title: Next Generation Sequencing for Medical Genomics
Location: IIB-SantPau, Hospital de la Santa Creu I Sant Pau, Barcelona
Dates: November 2013
Duration: 9 hours

Title: ImageJ Introductory Course
Location: Institute for Research in Biomedicine, University of Barcelona
Date: May 2012
Duration: 20 hours

Technical skills

Cell culture: Immortalized and primary cells, AXIS axon isolation device, Millipore, induced pluripotent stem cells
Cell-based assays: Transient transfection, Dual-Luciferase reporter assay, shRNAi knockdown
Microscopy: Confocal (SP5 Leica Application Suite Version 1.0), TIRF and Array Tomography (Olympus), FRET-FLIM (PicoQuant: SymphoTime5)
Blotting: Northern, Southern and Western (Odyssey), chemiluminescent EMSA
Immunoassays: ELISA (Wako/IBL/in-house, Milliplex), radioimmunoassay
Cloning: Gateway (Invitrogen), site-directed mutagenesis, in-house
Genetic analysis: RFLP, PCR, qPCR (TaqMan), high-resolution melt-curve analysis, automated sequencing (ABI3000 Genetic Analyzer)

Bioinformatic and statistics skills

General linear and logistic regression: SPSS, StatsDirect
Genetic association analysis: PLINK v1.05, Haploview 4.1
Graphics: ImageJ (NIH), LAS AF Lite (Leica), Adobe products (Photoshop 7.0, Illustrator CS)
Haplotype estimation and association: Haplo.stats v1, R programming
Image analysis: ImageJ/FIJI (NIH)
Imputation of missing genotype data: MACH1.0, HapMap
Non-linear mixed effects modelling: R programming
Odds ratio meta-analysis: StatsDirect
Operating system: Windows, MS-DOS and Linux
Programming: R and PERL programming languages
Series heterogeneity testing: StatsDirect
Statistical power calculations: Quanto v1.3
Tag SNP identification: Tagger, Haploview v4.1
Text processor: Microsoft Office

Languages

English: Native speaker
Spanish: Fluent
Catalan: Basic professional working level
French: Advanced Level General Certificate of Education (A grade)

References

Dr Alberto Lleó (Post-Doctoral Supervisor)

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Tel (+1) 904 953 7353
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Professor Kevin Morgan (PhD and Post-Doctoral Co-Supervisor)

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Tel (+44) 115 83074
Email kevin.morgan@nottingham.ac.uk

Minerva Carrasquillo, PhD (Post-doctoral fellow)

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Tel (+1) 904 953 6509
Email carrasquillo.minerva@mayo.edu