

Part A. PERSONAL INFORMATION

CV date

18-03-2021

First and Family name	Ignacio Serrano Pedraza		
Social Security, Passport, ID number		Age	
Researcher numbers	Researcher ID	B-4862-2014	
	Orcid code	0000-0002-4464-1905	

A.1. Current position

Name of University/Institution	Universidad Complutense de Madrid		
Department	Departamento de Psicología Experimental		
Address and Country	Facultad de Psicología, Campus de Somosaguas, Madrid		
Phone number		E-mail	iserrano@ucm.es
Current position	Profesor Titular de Universidad	From	14/12/2010
Espec. cód. UNESCO	6106 (Psicología Experimental) y 2490 (Neurociencias)		
Palabras clave	Visual psychophysics, Spatial vision, Motion perception, Stereopsis		

A.2. Education

PhD	University	Year
Doctor en Psicología Experimental	Universidad Complutense de Madrid	2005
Licenciado en Psicología. Especialidad Psicología y Ciencia Cognitiva	Universidad Complutense de Madrid	1998

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

- **Sexenios de investigación:** 3 (2002-2007, 2008-2013 y 2014-2019).
- **Total citations:** 1724 (Fuente: Google Scholar. <http://scholar.google.com>); 1124 (Web of Science)
- **Average citations per paper:** 13 (<https://publons.com/researcher/2563782/ignacio-serrano-pedraza/metrics/>)
- **Q1 papers:** 28
- **Average citations/year (Last five years):** 121.2 (606(citations)/5(years)) (Web of Science)
- **H index:**16 (Fuente: Web of Science)
- **Thesis supervised:** 2
- **Thesis under supervision:** 3

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

In 2005, I completed my PhD in Experimental Psychology at the Universidad Complutense de Madrid, (Spain) with Sobresaliente "Cum Laude" and "Premio Extraordinario de Doctorado". Since then, I have worked in UK and USA, and collaborated with four different laboratories. I have held postdoctoral positions under leading vision scientists, including Prof. Andrew Derrington (at Newcastle and Kent Universities, UK), Prof. Susana Martinez-Conde (at Barrow Neurological Institute, Phoenix, USA), and Prof. Jenny C. A. Read (at the Institute of Neuroscience, Newcastle University, UK). After five years with different postdoctoral positions I obtained the position of Profesor Titular de Universidad at Faculty of Psychology (UCM)

where I am the principal investigator of the Laboratory of Visual Psychophysics (<https://www.ucm.es/serranopedrazalab/>).

My research is mainly focused on the study of the human visual system using human psychophysics and computational modelling techniques. In particular, I am striving to understand the role that inhibitory mechanisms have in Human visual perception, and the perceptual consequences that the alteration of these mechanisms may have in clinical conditions including schizophrenia and strabismus. With this in mind, I am developing new visual psychophysical tests in collaboration with Psychiatrists at the Hospital 12 de Octubre (Madrid, Spain) for testing schizophrenics, and a new 3D visual test in collaboration with Prof. Jenny Read (Newcastle University) in order to measure stereopsis in children.

I have published 48 peer-reviewed papers in Visual Science. In the last ten years, I have collaborated in five international grant applications, and I have been PI in three Spanish Government grants (PSI2011-24491, PSI2014-51960-P, and PSI2018-093406-B-I00) to study the characteristics of the surround-suppression mechanisms underlying motion perception. Since 2010, I am Visiting Researcher at the Centre for Behaviour and Evolution (Newcastle University, UK; <https://www.ncl.ac.uk/cbe/about/staff/profile/ispedraza.html>).

Part C. RELEVANT MERITS

C.1. Publications

Arranz-Paraíso, S., Read, J.C.A., & **Serrano-Pedraza, I.** (2021). Reduced surround suppression in monocular motion perception. *Journal of Vision*. 21(1):10. doi: 10.1167/jov.21.1.10.

Garcia-Valle, G., Arranz-Paraíso, S., **Serrano-Pedraza, I.**, & Ferre, M. (2021) Estimation of Torso Vibrotactile Thresholds using Eccentric Rotating Mass Motors. *IEEE Transactions on Haptics*, doi: 10.1109/TOH.2020.3048290.

Read, J.C.A., Wong, Z.Y., Yek, X., Wong, Y.X., Batchtoula, O., Llamas-Cornejo, I., & **Serrano-Pedraza, I.** (2020). ASTEROID Stereotest v1.0: lower stereo thresholds using smaller, denser, and faster dots. *Ophthalmic and Physiological Optics*. doi: 10.1111/opo.12737. PMID: 32989799.

Luna R., & **Serrano-Pedraza, I.** (2020b) Evidence for different spatiotemporal mechanisms using duration thresholds: An individual differences approach. *Vision Research*. 23;175:58-74. doi: 10.1016/j.visres.2020.07.002. PMID: 32712430.

Luna R., & **Serrano-Pedraza, I.** (2020a) Interaction between motion scales: When performance in motion discrimination is worse for a compound stimulus than for its integrating components. *Vision Research*. 20;167:60-69. doi: 10.1016/j.visres.2019.12.002. PMID: 31972446.

Serrano-Pedraza, I., Vancleef, K., Herbert, W., Goodship, N., Woodhouse, M., Read, J.C.A. (2020). Efficient estimation of stereo thresholds: What slope should be assumed for the psychometric function? *PLoS One* 15(1): e0226822. doi: 10.1371/journal.pone.0226822

Vancleef, K., **Serrano-Pedraza, I.**, Sharp, C., Slack, G., Black, C., Casanova, T., Hugill, J., Rafiq, S., Bur-ridge, J., Puyat, V., Enongue, J.E., Gale, H., Akotei, H., Collier, Z., Haggerty, H., Smart, K., Powell, C., Taylor, K., Clarke, M.P., Morgan, G., & Read, J.C.A. (2019) ASTEROID: a new clinical stereotest on an autostereo 3D tablet. *Trans Vis SciTech*. 8(1):25, <https://doi.org/10.1167/tvst.8.1.25>

Luna, R. & **Serrano-Pedraza, I.** (2018) Temporal frequency modulates the strength of the inhibitory interaction between motion sensors tuned to coarse and fine scales. *Journal of Vision*. 3;18(13):17. doi: 10.1167/18.13.17.

Arranz-Paraíso, S. & **Serrano-Pedraza, I.** (2018). Testing the link between visual suppression and intelligence. *PLoS One*. Jul 6;13(7):e0200151. doi: 10.1371/journal.pone.0200151.

Vancleef, K., Read, J.C.A, Herbert, W. Goodship, N., Woodhouse M., & **Serrano-Pedraza, I.** (2018). Two choices good, four choices better: For measuring stereoacuity in children, a four-alternative forced-choice paradigm is more efficient than two. *PLoS ONE*. Jul 30;13(7):e0201366. doi: 10.1371/journal.pone.0201366.

Tarawneh, G., Nityananda, V., Rosner, R., Errington, S., Errington, S., Herbert, W., Arranz-Paraíso, S., Busby, N., Tampin, J., Read, J.C.A., & **Serrano-Pedraza, I.** (2018). Contrast thresholds reveal different visual masking functions in humans and praying mantises. *Biology Open*. 7, bio029439. doi:10.1242/bio.029439

Tarawneh, G., Nityananda, V., Rosner, R., Errington, S., Herbert, W., Cumming, B.G., Read, J.C.A., & **Serrano-Pedraza, I.** (2017) Invisible noise obscures visible signal in insect motion detection. *Scientific Reports*. 7(1), 3496. doi: 10.1038/s41598-017-03732-7.

Peterzell, D., **Serrano-Pedraza, I.**, Widdall, M., Read, J.C.A. (2017). Thresholds for sine-wave corrugations defined by binocular disparity in random dot stereograms: Factor analysis of individual differences reveals two stereoscopic mechanism tuned for spatial frequency. *Vision Research*. 20. DOI: 10.1016/j.visres.2017.11.002

Blanco I., **Serrano-Pedraza, I.**, & Vázquez, C. (2017) Don't Look at My Teeth When I Smile: Teeth Visibility in Smiling Faces Affects Emotionality Ratings and Gaze Patterns. *Emotion*. 10.1037/emo0000260

Vancleef, K., Read, J.C.A, Herbert, W. Goodship, N., Woodhouse M., & **Serrano-Pedraza, I.** (2017). Overestimation of stereo thresholds by the TNO stereotest is not due to global stereopsis. *Ophthalmic and Physiological Optics*. Mar 23. doi: 10.1111/opo.12371.

Serrano-Pedraza, I., Vancleef, K., & Read, J.C.A. (2016). Avoiding monocular artefacts in clinical stereotests presented on column-interleaved digital stereoscopic displays. *Journal of Vision*. 1;16(14):13. doi: 10.1167/16.14.13

Serrano-Pedraza, I., Herbert, W., Villa-Laso, L., Widdall, M., Vancleef, K., & Read, J.C.A. (2016). The stereoscopic Anisotropy Develops During Childhood. *Investigative Ophthalmology & Visual Science*. 1;57(3):960-70. doi: 10.1167/iovs.15-17766.

Chacón, J.C. Castellanos, M.A., & **Serrano-Pedraza, I.** (2015). Characterizing visual asymmetries in contrast perception using shaded stimuli. *Journal of Vision*. 15(16):11, 1–14, doi:10.1167/15.16.11.

Yazdani, P., **Serrano-Pedraza, I.**, Whittaker, R., Trevelyan, A., & Read, J.C.A. (2015). Two common psychophysical measures of surround suppression reflect independent neuronal mechanisms. *Journal of Vision*. 15(13)21: 1–14, doi:10.1167/15.13.21.

C.2. Research projects and grants

2006-2008 Title: Visual Function and the Lateral Geniculate Nucleus. Wellcome Trust 060171MA. Awarded with £670,000. (PI: Andrew M. Derrington & Amanda Parker). Role: Postdoctoral Research Associate.

2007(Sep-Oct) Title: Neural Correlates of Microsaccadic Suppression in Primate Brain. National Science Foundation 0643306. Awarded with \$426,976. (P.I. Susana Martinez-Conde). Role: Postdoctoral Research Associate.

2008-2010 Title: Incorporating vertical disparity into computational models of depth perception. Medical Research Council (MRC) grant 80154. Awarded with £303,972. (P.I. Jennifer C.A. Read). Role: Postdoctoral Research Associate.

2009-2010 Title: Visual psychophysics as a tool to probe susceptibility to epileptic seizure. Newcastle upon Tyne Hospitals NHS Foundation Trust. 2010/2011 Flexibility and Sustainability Funding. (P.I. Roger Whittaker) Awarded with £18,586. Role: Postdoctoral Research Associate.

2012-2015 Title: Spatial and functional characterization of antagonistic centre-surround mechanisms in motion-vision. Ministerio de Ciencia e Innovación (Spain). PSI2011-24491. Awarded with 42,350€. (P.I. Ignacio Serrano-Pedraza)

2013-2016 Title: Accurate and patient-friendly measurement of binocular visual function using a 3D mobile device. Wellcome Trust, Department of Health. HICF-R8-442. Awarded with £1,275,777 (P.I. Jennifer C.A. Read). Role: Research consultant.

2015-2018 Title: Visual inhibitory mechanisms in motion perception: Fundamental characteristics and clinical applications. Ministerio de Economía y Competitividad (Spain). PSI2014-51960-P. Awarded with 59,290€. (P.I. Ignacio Serrano-Pedraza)

2018-2021 Title: The binocular interaction in motion perception: implications on the activation of visual inhibitory mechanisms. Ministerio de Ciencia, Innovación y Universidades (Spain). PSI2018-093406-B-I00. Awarded with 93,170€. (P.I. Ignacio Serrano-Pedraza)

C.3. Contracts

2017 (February-March). Research contract (artículo 83) with the company Braininvestigations S.L. to perform the study: “Estudio psicofísico de la calidad de imagen en TVs con pantalla Curva frente a TVs con pantalla Plana”.

C.4. Patents

2016. Roll-On device for the application of exact doses of liquid and/or semi-solid formulations. ES 2518740B2. Patente Nacional: 201400555. Autores: Daniel Arranz-Paraíso, Sandra Arranz-Paraíso, & Ignacio Serrano-Pedraza

C.5. Capacidad de formación doctoral

El laboratorio de psicofísica visual de la Facultad de Psicología (UCM, <https://www.ucm.es/serranopedrazalab/>) posee un equipo (ordenadores, fotómetros, estimuladores visuales, cajas de respuesta, etc.) de última tecnología. El estudiante recibirá entrenamiento en el uso de este equipo lo cual supone una rampa de lanzamiento para realizar investigaciones de modo independiente. En la actualidad este laboratorio cuenta con un estudiante de Máster, un estudiante de prácticas externas (Practicum) y tres estudiantes de Doctorado, lo que supone un ambiente idóneo para realizar una Tesis Doctoral.

C.5, C.6, C.7... (e. g., Institutional responsibilities, memberships of scientific societies...) 2010- Visiting Researcher. Centre for Behaviour and Evolution. Newcastle University, UK. <https://www.ncl.ac.uk/cbe/about/staff/profile/ispedraza.html>