

# Marcello Maniglia

## Curriculum Vitae

Assistant Research Psychologist  
UC Riverside Department of Psychology  
Riverside, CA (USA)  
900 University Ave, Riverside, CA 92521  
(951) 4258809  
[mmanig@ucr.edu](mailto:mmanig@ucr.edu)  
[https://orcid.org/  
0000-0002-2053-0071](https://orcid.org/0000-0002-2053-0071)

<https://scholar.google.it/citations?hl=it&user=ogtUX94AAAAJ>

### RESEARCH AREAS

Visual perception, perceptual learning, neural plasticity, macular degeneration (MD), oculomotor behavior in central vision loss, clinical neuroscience, brain stimulation, neural basis of visual effects, visual contextual modulation, cross-modal interaction

### ACADEMIC CAREER

May 2020-current

**Assistant Research Psychologist** at UC Riverside, California (USA).

Supervisor: Prof. Aaron Seitz

- *Mechanisms of learning and generalization in perceptual learning*
- *Oculomotor mechanisms in simulated central vision loss*
- *Neural plasticity in Macular Degeneration (MD)*

July 2019-May 2020

**Post Doctoral Researcher** at UAB, Birmingham, Alabama (USA).

Supervisor: Prof. Kristina Visscher

- *Neural plasticity in MD*
- *Simulated central vision loss in healthy population*

September 2016- December 2016

**Visiting Researcher** at UAB, Birmingham, Alabama (USA). Supervisor: Prof. Kristina Visscher

- *Perceptual Learning in MD*
- *Diagnostic and monitoring techniques in MD*

May 2016- July 2019

**Post Doctoral Researcher** at UCR, Riverside, California (USA). Supervisor: Prof. Aaron Seitz.

- *Mechanisms of Perceptual learning*
- *Translational approaches in MD*
- *Brain stimulation and contextual modulation*

September 2013 - May 2016

**Post Doctoral Researcher** at CerCo, Toulouse (France), supported by two national French grants (Fondation Fouassier and Fondation de l'Avenir). Supervisor: Prof. Yves Trotter

- *Neural plasticity and visual rehabilitation in MD*
- *Brain stimulation and perceptual learning*
- *Perceptual Learning in healthy brain*
- *Visual contextual modulation*

### EDUCATION

2004-2007

**Bachelor's Degree** in Psychological and Psychobiological Sciences, University of Padua (Italy).

2007-2009

**Master's Degree** in Behavioural Neuroscience and Experimental Psychology, University of Padua (Italy).

2010-2013

**Ph.D.** in Experimental Psychology, University of Padua (Italy).

January 2012-June 2012

**Visiting Ph.D Student** at the Sussex University, Brighton (UK).

## PUBLICATIONS

- Contemori G\*, **Maniglia M\***, Guénot J, Soler V, Cherubini M, Cottureau R., Trotter Y. (2024). tRNS boosts Visual Perceptual Learning in Participants with Bilateral Macular Degeneration. *Frontiers in Aging Neuroscience*, 16.
- Maniglia M°**, Visscher KM, Seitz, AR (2023). Consistency of preferred retinal locus across tasks and participants trained with a simulated scotoma. *Vision Research* 203, 108158
- Biles MK, **Maniglia M**, Yadav IS, Stewart PD, DeSilva BD, Visscher KM (2023). Training with simulated scotoma leads to behavioral improvements through at least two 2 distinct mechanisms. *Investigative Ophthalmology & Visual Science* 64 (1), 14-14
- Vice, JE, Biles, MK, **Maniglia, M**, Visscher, KM (2022). Oculomotor changes following learned use of an eccentric retinal locus. *Vision Research* 201, 108126.
- Maniglia, M°** (2022). Perspectives on the Combined Use of Electric Brain Stimulation and Perceptual Learning in Vision. *Vision* 6 (2), 33.
- Maniglia, M°**, Contemori G, Marini E, Battaglini L (2022). Contrast adaptation of flankers reduces collinear facilitation and inhibition. *Vision Research* 193, 107979.
- Ghiani, A, **Maniglia, M**, Battaglini, L, Melcher, D, Ronconi, L (2021). Binding mechanisms in visual perception and their link with neural oscillations: a review of evidence from tACS. *Frontiers in Psychology* 12, 779.
- Maniglia, M°**, Visscher, KM, Seitz, AR (2021). Perspective on Vision Science-Informed Interventions for Central Vision Loss. *Frontiers in neuroscience*, 15, 734970.
- Ronconi, L, **Maniglia, M**, Battaglini, L, Melcher D (2021). Neural Modulation of Conscious Perception: Emerging Approaches From Basic Research to Clinical Translation. *Frontiers in Psychology* 12, 779798.
- Maniglia, M°**, Jogin, R, Visscher, KM, Seitz, AR (2020). We don't all look the same; detailed examination of peripheral looking strategies after simulated central vision loss. *Journal of vision* 20 (13), 5-5.
- Maniglia, M°**, Soler, V, Trotter, Y (2020). Combining fixation and lateral masking training enhances perceptual learning effects in patients with macular degeneration. *Journal of Vision* 20 (10), 19-19.
- Maniglia, M°**, Visscher, KM, Seitz, AR (2020). A method to characterize compensatory oculomotor strategies following simulated central vision loss. *Journal of Vision* 20 (9), 15-15.
- Battaglini L, Contemori G, Penzo S, **Maniglia M°**. (2019) tRNS effects on contrast detection. *Neuroscience Letters*, 134696
- Maniglia M°**, Trotter Y, Aedo-Jury F. (2019) TMS reveals inhibitory extrastriate cortico-cortical feedback modulation of V1 activity in humans. *Brain Structure and Function*, 1-10
- Lee YH, **Maniglia M**, Velez F, Demer JL, Seitz AR, Pineles S. (2019). Effect of an Integrated Perceptual Learning Game on Visual Function in Children with Amblyopia. *Journal of Pediatric Ophthalmology & Strabismus*, 23(4), e39–e40
- Contemori G\*+, Cottureau B, Trotter Y, **Maniglia M\*°**. (2019). tRNS boosts Perceptual Learning in Peripheral Vision. *Neuropsychologia* 125, 129-136
- Maniglia M**, Seitz AR (2018) A New Look at Visual System Plasticity. *Trends in Cognitive Sciences* 23 (2), 82-83
- Thurman\* SM, **Maniglia M\***, Davey PG, Biles MK, Visscher KM, Seitz AR. (2018). Multi-line Adaptive Perimetry (MAP): A New Procedure for Quantifying Visual Field Integrity for Rapid Assessment of Macular Diseases. *Translational vision science & technology* 7 (5), 28-28
- Battaglini L, **Maniglia M**, Konishi M, Contemori G, Coccaro A, Casco C. (2018). Fast random motion biases judgments of visible and occluded motion speed. *Vision research* 150, 38-43
- Rima S, Poujade M, **Maniglia M**, Durand JB. (2018) Rewarding objects appear larger but not brighter. *Journal of Vision* 18 (7), 9-9
- Maniglia M**, Thurman S, Seitz AR, Davey P. (2018). Effect of Varying Levels of Glare on Contrast Sensitivity Measurements of Young Healthy Individuals Under Photopic and Mesopic Vision. *Frontiers in Psychology* 9, 899
- Maniglia M°**, Soler V, Cottureau B, Trotter Y. (2018). Spontaneous and training-induced cortical plasticity in MD patients: Hints from lateral masking. *Scientific Reports* 8, 90.
- Maniglia M**, Seitz AR. (2018). Towards a whole brain model of Perceptual Learning. *Current Opinion in Behavioral Sciences* 20, 47-55.
- Maniglia M**, Grassi M, Ward J. (2017). Sounds are perceived as louder when accompanied by visual movement. *Multisensory Research* 30 (2), 159-177
- Maniglia M°**, Cottureau BR, Soler V, Trotter Y. (2016) Rehabilitation approaches in macular degeneration patients. *Frontiers in systems neuroscience* 10, 107,
- Battaglini L, Contemori G, **Maniglia M**, Casco C. (2016). Fast moving texture has opposite effects on the perceived speed of visible and occluded object trajectories. *Acta Psychologica* 170, 206-214
- Maniglia M°**. Pavan A, Sato G, Contemori G, Montemurro S, Battaglini L, Casco C. (2016). Perceptual learning leads to long lasting visual improvement in patients with macular degeneration. *Restorative Neurology and Neuroscience*, 1-24

- Maniglia M<sup>o</sup>**, Pavan A, Aedo-Jury F, Trotter Y. (2015) The spatial range of peripheral collinear facilitation. *Scientific Reports*, 5, 15530
- Campana G, **Maniglia M.** (2015) Editorial: Improving visual deficits with perceptual learning. *Frontiers in Psychology*, 6, 491
- Maniglia M<sup>o</sup>**, Pavan A, Trotter Y. (2015) The effect of spatial frequency on peripheral collinear facilitation. *Vision Research*, 107, 146-154
- Campana G, **Maniglia M.**, Pavan A. (2013). Common (and multiple) neural substrates for static and dynamic motion after-effects: A rTMS investigation. *Cortex*. 49(9):2590-2594
- Maniglia M.**, Grassi M, Casco C, Campana G. (2012) The origin of the Audiovisual bounce-inducing effect: a TMS study. *Neuropsychologia* 50(7):1478-82
- Maniglia, M.**, Pavan A, Cuturi FL, Campana G, Sato G, Casco C. (2011). Reducing crowding by weakening inhibitory lateral interactions in the periphery with perceptual learning. *Plos One*, 6(10)
- Campana G, Pavan A, **Maniglia M.**, Casco C. (2011). The fastest (and simplest), the earliest: The locus of processing of rapid forms of motion aftereffect. *Neuropsychologia*, 49 (10), 2929-34
- Pavan A, Cuturi LF, **Maniglia M.**, Casco C, Campana G. (2011) Implied motion from static photographs influences the perceived position of stationary objects. *Vision Research*, 51 (1), 187-194
- Pavan A, Campana G, **Maniglia M.**, Casco C. (2010). The role of high-level visual areas in short- and longer-lasting forms of neural plasticity. *Neuropsychologia*, 48(10), 3069-3079.

\*equal contribution authors  
 \*denotes a student mentored  
 °corresponding author

#### MANUSCRIPTS ACCEPTED OR UNDER REVIEW

- Maniglia M.** Dissociable components of visual perceptual learning characterized by non-invasive brain stimulation" for Brain Communications. under review in Brain Communications).
- Lelo de Larrea-Mancera ES, Seitz A, **Maniglia M.** Sensory-motor perceptual learning and motor response specificity (registered report accepted in Attention, Perception & Psychophysics).
- Biles MK, **Maniglia M.**, Yadav IS, Stewart PD, DeSilva BD, Visscher KM. Constraining the possible mechanisms underlying performance improvements following peripheral vision training (under review in Journal of Cognitive Enhancement).
- Jayakumar S, **Maniglia M.**, Green CS, Seitz A. Reliability and Validity testing of an iPad-based contrast sensitivity and visual acuity test (under review in Journal of Cognitive Enhancement)

#### BOOK CHAPTERS

- Maniglia M.**, Pavan A, Casco C, Campana, G. (2012) When visual motion adaptation goes fast. A review article for "Advances in Psychology Research", Volume 82.

#### PROFESSIONAL AFFILIATION

Vision Science Society: 2015-current  
 National Board of Italian Psychologists: 2014-current

#### TRAINING AND WORKSHOPS

- August 3-4, 2023: Functional Vision and Accessibility (FVA) Conference Celebrating 60 Years of Vision Research at the Smith-Kettlewell Eye Research Institute, San Francisco, CA.
- August 14 - 19 2022: 7<sup>th</sup> Perceptual Learning Workshop, Alyeska (USA).
- June 2-8 2018. 6<sup>th</sup> Perceptual Learning Workshop, Moorea (French Polynesia).
- August 19-31 2012: European Summer School in Visual Neuroscience, Rauischhulzhausen (Germany).
- June 28-29 2010. "Magstim/University of Oxford TMS Summer School", Department of Experimental Psychology, University of Oxford (UK).

#### INVITED SPEAKER

- October 25<sup>th</sup> 2023 Smith-Kettlewell Eye Institute – Colloquia series: 'Enhancing visual perception and oculomotor control in central vision loss: Insights from perceptual learning and scotoma awareness training'
- May 09<sup>th</sup> 2023 OptiVisT-LEO Seminar Series – 'Preferred Retinal Locus and eye movements in central vision loss'
- March 30<sup>th</sup> 2023 Smith-Kettlewell Eye Institute – Colloquia series: 'Eye movement strategies in simulated central vision loss'
- October 10<sup>th</sup> 2022: Compensatory eye movement strategies in central vision loss: Insights from simulated scotomas and visual training". DOVS seminars, University of Melbourne (Australia), invited by Prof. Andrew Metha.
- May 3<sup>rd</sup> 2021 Talk title: 'Perceptual and oculomotor plasticity in pathological and simulated central vision loss'. Psychology graduate student's 2021 lecture series, Department of Psychology University of Padova, Padova (Italy), invited by Prof.

Mario Bonato.

March 3<sup>rd</sup> 2021 Talk title: 'Perceptual and oculomotor plasticity in pathological and simulated central vision loss'. Psychology graduate student's Spring 2021 lecture series, Department of Psychology Rutgers University, Camden (USA), invited by Prof. Lisa Payne.

June 24<sup>th</sup> 2013 Talk title: "Perceptual Learning and lateral interactions", University of Regensburg (Germany), invited by Prof. Mark Greenlee

### **TEACHING AND MENTORING**

Invited Professor for 'Shaping a World-class University' at Università di Padova (Italy), teaching principles of oculomotor analysis and a workshop on conducting experiments with Eyelink eye tracking devices (October-November 2022)

Co-instructor for PSYC\_203A\_001 – Experimental Psychology, UC Riverside, Department of Psychology (Fall 2021)

Co-instructor for PSYC\_256\_001 – Seminar in Perception, UC Riverside, Department of Psychology (Fall 2021)

Co-instructor for PSYC\_251\_001, Seminar in Cognitive Neuroscience, UC Riverside, Department of Psychology (Fall 2020)

Thesis committee member for Saikrishna Sriraman, Science and technology honors program, Department of Neurobiology, UAB (2020)

Mentoring and supervising UCR undergrad student David Saenz for 2018–2019 Chicano Latino Alumni Scholarship.

Mentoring and supervising undergraduate students during post doc at UCR (2016-2019).

Supervising three undergrad research projects presented at the Undergraduate research symposium, UCR (2019)

Mentoring and supervising Giulio Contemori, Erasmus Mundus student at CerCo, Toulouse (France) (January-May 2016)

Mentoring and supervising two graduate students at CerCo Stage M2R (September 2014-June 2015)

Mentoring and supervising several undergraduate students during PhD (2010-2013)

Teacher for course in Perception, University of Padova (Italy), Department of Psychology (Fall 2012)

### **OTHER**

Review Editor for Frontiers in Psychology (Editorial Board of Consciousness Research and Neuropsychology)

Guest editor Frontiers Research Topic: 'Learning to see (better)' (2014) and 'Neural modulation of conscious perception' (2020)

Ad-hoc reviewer for Journal of Vision, Vision research, Neurorehabilitation & Neural Repair, eLife, Neuroimage, Disability and Rehabilitation, Scientific Reports, Restorative Neurology and Neuroscience, Frontiers in Psychology, Frontiers in Neuroscience, Journal of Cognitive Enhancement

Grant reviewer for Macular Society

Supervised UCR undergrad student David Saenz during a collaboration with Big Springs Educational Center (Riverside, CA) to test a gamified, portable training intervention in kids with learning disabilities (2017-2018).

### **GRANTS**

**NEI 1R21EY033623-01** 02/2022 - 01/2025. 'New methods to quantify and train eye movement strategies in macular degeneration'. PI: Maniglia.

Award Amount: \$413,729.

**Institut des Sciences du Cerveau de Toulouse (ISCT)** 2/2016 "Nouvelles approches de réhabilitation chez les patients atteints de dégénérescence maculaire".

Award Amount: 7,920 euros.

**Fondation de l'Avenir** 9/2015-4/2016 "Nouvelles approches de réhabilitation chez les patients atteints de dégénérescence maculaire (DM)". (AP-RMA-2015-003).

Award Amount: 25,000 euros.

**Appel d'offre CerCo** 6/2015, (Toulouse, France). Internal fund used to purchase brain stimulation equipment.

Award Amount: 4,000 euros.

**University of Lincoln college Research Fund** 2014/2015, Co-PI on the project "Perceptual learning and electrical brain stimulation: a combined approach to improve human visual functions".

Award Amount: 3,000 euros.

**Fouassier Foundation Grant** 9/2013-9/2015: "Apprendre du coin de l'œil: nouvelles approches de réhabilitation chez les patients atteints de dégénérescence maculaire" Engt : / 20013 00039351 and 2014 00048124).

Award Amount: 110,000 euros.

### **OUTREACH ACTIVITIES:**

#### **Scientific communication articles:**

Rehabilitation of maculopathy patients: A simple, non-invasive treatment method.

<http://www.sciguru.com/newsitem/12738/Rehabilitation-maculopathy-patients-simple-non-invasive-treatment-method>

Brain stimulation boosts peripheral vision.

<https://sciencetrends.com/brain-stimulation-boosts-peripheral-vision/>

Allenare il cervello per vedere meglio ('Training the brain to see better', in Italian)

<https://salentomedico.com/allenare-il-cervello-per-vedere-meglio/>

Building games to train the brain (APA article discussing some of the work conducted at the BGC, UC Riverside).

<https://www.apa.org/monitor/2021/01/lab-work-games>

**Scientific communication activities:**

2020 UAB Brain Awareness Week (Birmingham, AL)

218: UCR Living the Promise outreach event (San Diego, CA)

2016-current: several Brain Game Center (Riverside, CA) Open house events

2012 European Researchers' Night (Padova, IT)