

## Publications

### Journal articles currently under review

Lee, R.J., Mather, G. Chromatic adaptation from achromatic stimuli with implied colour. Under review at *Attention, Perception, & Psychophysics*.

Ghin, P., Pavan, A., Contillo, A., Mather, G. The effects of high-frequency transcranial random noise stimulation (hf-tRNS) on global motion processing: an equivalent noise approach. Under review at *Brain stimulation*.

Pavan, A., Ghin, F., Foxwell, J., Contillo, A., Mather, G. Limited attention diminishes spatial suppression from large field Glass patterns. Under review at *Attention, Perception, & Psychophysics*.

### Journal articles accepted

Mather, G., Parsons, T. Adaptation reveals sensory and decision components in the visual estimation of locomotion speed. Accepted by *Scientific Reports*.

### Journal articles previously published

Mather, G. (2018) Visual image statistics in the history of Western art. *Art and Perception*, 8. Online advance publication: <https://doi.org/10.1163/22134913-20181092>.

Mather, G., Sharman, R.J., Parsons, T. (2017) Visual adaptation alters the apparent speed of real-world actions. *Scientific Reports*, 7, 6738.

Pavan, A., Gall, M.G., Bimson, L.M., Ghin, F., Mather, G. (2017) The interaction between orientation and motion signals in moving oriented Glass patterns. *Visual Neuroscience*, 34, E010.

Pavan, A., Ghin, F., Donato, R., Campana, G., Mather, G. (2017) The neural basis of form and form-motion integration from static and dynamic translational Glass patterns: A rTMS investigation. *NeuroImage*, 157, 555-560.

Mather, G., & Lee, R. (2017) Turbine Blade Illusion. *i-Perception*, 8 (3), 1-5.

Mather, G., Battaglini, L., & Campana, G. (2016) TMS reveals flexible use of form and motion cues in biological motion perception. *Neuropsychologia*, 83, 193-197.

Mather, G., Sharman, R.J. (2015) Decision-level adaptation in motion perception. *Royal Society Open Science*, 2 (12), 150418.

Mather, G. (2014) Artistic adjustment of image spectral slope. *Art & Perception*, 2 (1-2), 11-22.

- Pavan, A., Contillo, A., Mather, G. (2014) Modelling fast forms of visual neural plasticity using a modified second-order motion energy model. *Journal of Computational Neuroscience*, 37, 493-504.
- Pavan, A., Marotti, R. B., & Mather, G. (2013). Motion-form interactions beyond the motion integration level: Evidence for interactions between orientation and optic flow signals. *Journal of Vision*, 13(6).
- Mather, G., Pavan, A., Bellocosa Marotti, R., Campana, G., & Casco, C. (2013) Interactions between motion and form processing in the human visual system. *Frontiers in Computational Neuroscience*, 7, 65.
- Pavan, A., Contillo, A., & Mather, G. (2013). Modelling adaptation to directional motion using the Adelson-Bergen energy sensor. *PLoS One*, 8(3), e59298.
- Mather, G., Pavan, A., Bellacosa, R., Casco, C. (2012) Psychophysical evidence for interactions between visual motion and form processing at the level of motion integrating receptive fields. *Neuropsychologia*, 50(1), 153-159.
- Mather, G. (2012) Aesthetic judgement of orientation in modern art. *i-Perception*, 3, 18-24.
- Pavan, A., Casco, C., Mather, G., Bellacosa, R., Cuturi, L.F., Campana, G. (2011) The effect of spatial orientation on detecting motion trajectories in noise. *Vision Research*, 51, 2077-2084.
- Challinor, K.L., Mather, G. (2010) A motion-energy model predicts the direction discrimination and MAE duration of two-stroke apparent motion at high and low retinal illuminance. *Vision Research*, 50, 1109-1116.
- Mather, G. (2010). Head – body ratio as a visual cue for stature in people and sculptural art. *Perception*, 39(10), 1390-1395.
- Mather, G. Challinor, K. L. (2009). Psychophysical properties of two-stroke apparent motion. *Journal of Vision*, 9(1):28, 1-6.
- Mather, G., Pavan, A. (2009) Motion-induced position shifts occur after motion integration. *Vision Research*, 49, 2741-2746.
- Mather G (2008) Perceptual uncertainty and line-call challenges in professional tennis. *Proceedings of the Royal Society Series B*, 275, 1645-1651.
- Pavan A, Mather G (2008) Distinct position assignment mechanisms revealed by cross-order motion. *Vision Research*, 48, 2260-2268.
- Mather G, Pavan A, Campana G, Casco C (2008) The motion after-effect reloaded. *Trends in Cognitive Sciences*, 12, 481-487.

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### **Conference abstracts**

- Lee, R., Mather, G. (2017) After-effects from implied colours of natural objects. *Perception* (1 Suppl), 46.
- Mather, G., Parsons, T. (2017) Adaptation to the locomotion speed of point-light walkers. *Perception* (1 Suppl), 46.
- Ghin, F., Pavan, A., Mather, G. (2017) Investigation of high-frequency transcranial random noise stimulation (hf-tRNS) mechanism on visual motion perception: A stochastic resonance approach. *Perception* (1 Suppl), 46.
- Mather, G. (2017) Visual statistics of large samples of Western artworks. *Art & Perception*, 5, 368.
- Mather, G., Miller, M., Pepperell, R. (2016) Discrimination of blur and local disorder in photographic and artistic images. *Visual Science of Art Conference*, Barcelona, Spain, 26-27th August 2016.
- Ghin, F., Mather, G. Pavan, A. (2016) Effects of different electrical brain stimulations over V5/MT on global motion processing. *Perception* (1 suppl), 45, S243.
- Pavan, S., Foxwell, M., Mather, G. (2016) Effects of attention on form perception and form-motion integration from static and dynamic Glass patterns. *Perception* (1 suppl), 45, S103.
- Mather, G., Sharman, R.J., Parsons, T. (2016) Norm-based coding of human movement speed? *Perception* (1 suppl), 45, S369.
- Mather, G., Sharman, R.J. (2016). Adaptation to human locomotion speed. *Journal of Vision*, 16(12), 397.
- Mather, G., Battaglini, L., Campana, G. (2015) TMS reveals dual processing routes for biological motion processing. *Applied Vision Association Christmas meeting*, London, December 2015.
- Sharman, R.J., Mather, G. (2015) Is adaptation to human motion necessary to change the apparent speed of locomotion? *Perception* (1 suppl), 44, 235.
- Mather, G., Sharman, R.J. (2015) Changes in the apparent speed of human locomotion: Norm-based coding of speed. *Perception* (1 suppl), 44, 231.
- Mather, G. (2015) The depiction of visual space in Canaletto's Venetian vedute. *Visual Science of Art Conference*, Liverpool, UK, 22-23rd August 2015.
- Mather, G., Sharman, R.J. (2014) The effect of implied motion on the motion after-effect. *Perception* (1 suppl), 43, 65.
- Mather, G. (2014) Fractal properties and attractiveness ratings of generative abstract art. *Visual Science of Art Conference*, Belgrade, Serbia, August 2014.

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Mather, G., Cavanagh, P., Anstis, S. (1983) Screening for colour-blindness by making use of optokinetic nystagmus. *Perception*, 12 (1 suppl), 10.

Anstis, S., Mather, G. (1983) Effects of luminance and contrast on direction of ambiguous apparent motion. *Ophthalm. Vis. Sci. Supp.* 24, 277.

## **Books**

Mather, G. (2016) *Foundations of Sensation and Perception*. 3rd ed. Routledge, Abingdon.

Mather, G. (2014) *Eye, Brain, and Art: The Psychology of Visual Art*. Cambridge University Press, Cambridge.

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### **Book chapters**

Mather, G. (2017) Two-stroke apparent motion. In: Shapiro, A.G., & Todorovic, D. (Eds) *The Oxford Compendium of Visual Illusions*. (p. 531-535) Oxford University Press, Oxford.

Mather, G. (2015) Computational approaches to perception: Beyond Marr's (1982) computational approach to vision. In: Eysenck, M. & Groome, D. (Eds). *Cognitive Psychology: Revisiting the Classic Studies*. Sage.

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Mather G (2004) Perceptual and cognitive limits on driver information processing. In: PRN Childs, RK Stobart (Eds) *Total Vehicle Technology*. Professional Engineering Publishing, Bury St Edmunds.

Mather G. (1994) Motion detector models: psychophysical evidence. In: AT Smith, RJ Snowden (Eds) *Visual Detection of Motion*. Academic Press, London.