

WPM Wahrnehmung und Handlung
WS 2016/2017
Leitung: Dr. Katja Doerschner

1. Vorstellung Semesterplan / Aufgabenverteilung

2. Farbwahrnehmung I

- Snowden, R., Thompson, P., & Troscianko, T. (2012). *Basic Vision- an introduction to visual perception: Colour Vision (Chapter 5, pp. 132-171)*. New York: Oxford University Press. [LBS Psych 257]
- Gegenfurtner, K.R. & Rieger, J. (2000). Sensory and cognitive contributions of color to the perception of natural scenes. *Current Biology*, 10, 805-808.
- Hansen, T., Olkkonen, M., Walter, S., & Gegenfurtner, K. R. (2006). Memory modulates color appearance. *Nature Neuroscience*, 9, 1367–1368.

3. Farbwahrnehmung II - #thedress

- Brainard, D. H., & Hurlbert, A. C. (2015). Colour Vision: Understanding #TheDress. *Current Biology* : CB, 25(13), R551–4. <http://doi.org/10.1016/j.cub.2015.05.020>
- Gegenfurtner, K. R., Bloj, M., & Toscani, M. (2015). The many colours of “the dress”. *Current Biology* : CB, 25(13), R543–4. <http://doi.org/10.1016/j.cub.2015.04.043>
- Lafer-Sousa, R., Hermann, K. L., & Conway, B. R. (2015). Striking individual differences in color perception uncovered by “the dress” photograph. *Current Biology* : CB, 25(13), R545–6. <http://doi.org/10.1016/j.cub.2015.04.053>
- Winkler, A. D., Spillmann, L., Werner, J. S., & Webster, M. A. (2015). Asymmetries in blue-yellow color perception and in the color of “the dress.” *Current Biology*, 25(13), R547–R548. <http://doi.org/10.1016/j.cub.2015.05.004>

4. Bewegungswahrnehmung I - Grundlagen

- Snowden, R., Thompson, P., & Troscianko, T. (2012). *Basic Vision- an introduction to visual perception: The perception of motion (Chapter 6, pp. 172-202)*. New York: Oxford University Press. [LBS Psych 257]
- Newsome, W.T., Britten, K.H., & Movshon, J.A. (1989). Neuronal correlates of a perceptual decision. *Nature*, 341, 52-54.
- Salzman, C.D., Britten, K.H., & Newsome, W.T. (1990). Cortical microstimulation influences perceptual judgements of motion direction. *Nature*, 346, 174-177.

5. Materialwahrnehmung

- Adelson, E. H. (2001). On Seeing Stuff: The Perception of Materials by Humans and Machines INTRODUCTION: THINGS AND STUFF. Proceedings of The. SPIE Human Vision and Electronic Imaging VI, B. E. Rogowitz; T. N. Pappas; Eds, 4299, 1–12.
- Fleming, R. W. (2014). Visual perception of materials and their properties. *Vision Research*, 94, 62–75. <http://doi.org/10.1016/j.visres.2013.11.004>
- Chadwick, A. C., & Kentridge, R. W. (2015). The perception of gloss: A review. *Vision Research*, 109, 221–235. <http://doi.org/10.1016/j.visres.2014.10.026>
- Motoyoshi, I., Nishida, S., Sharan, L., & Adelson, E. H. (2007). Image statistics and the perception of surface qualities. *Nature*, 447(7141), 206–9. <http://doi.org/10.1038/nature05724>
- Anderson, B. L., Kim, J. (2009). Image statistics do not explain the perception of gloss and lightness. *Journal of Vision*, 9(11), 10–10. <http://doi.org/10.1167/9.11.10>

6. 2016 Bewegungswahrnehmung II – Biological Motion

- Giese, M. A. (n.d.). Biological and body motion perception. *Oxford Handbook of Perceptual Organization*. <http://www.gestaltrevision.be/pdfs/oxford/>
- Troje, N. F. (2013) What is biological motion?: Definition, stimuli and paradigms In: Rutherford, M. D. and Kuhlmeier, V. A. (eds.) *Social Perception: Detection and Interpretation of Animacy, Agency, and Intention*. MIT Press.:13 – 36
- Chang, D. H. F., Troje, N. F. (2009) Acceleration carries the local inversion effect in biological motion perception. *Journal of Vision* 9(1):19, 1-17

7. Gestalt und Gruppierung I

Self, M. W., & Roelfsema, P. R. (n.d.). The neural mechanisms of figure-ground segregation. Oxford Handbook of Perceptual Organization. <http://www.gestaltrevision.be/pdfs/oxford/>

Lamme, V. A. (1995). The neurophysiology of figure-ground segregation in primary visual cortex. The Journal of Neuroscience : The Official Journal of the Society for Neuroscience, 15(2), 1605–15. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/7869121>

8. Gestalt und Gruppierung II

Zucker, S. W. (n.d.). Border inference and border ownership: The challenge of integrating geometry and topology.

Fang, F., Boyaci, H., & Kersten, D. (2009). Border Ownership Selectivity in Human Early Visual Cortex and its Modulation by Attention. Journal of Neuroscience, 29(2), 460–465. <http://doi.org/10.1523/JNEUROSCI.4628-08.2009>

9. Aufmerksamkeit und Wahrnehmung I

Treue, S. (2003). Visual attention: the where, what, how and why of saliency. *Current Opinion in Neurobiology*, 13, 428-432.

Treue, S. (2004). Perceptual enhancement of contrast by attention. *Trends in Cognitive Sciences*, 8, 435-437.

Carrasco, M., Ling, S., & Read, S. (2004). Attention alters appearance. *Nature Neuroscience*, 7, 308–313.

10. Aufmerksamkeit und Wahrnehmung II

Spence, C. (2002). Multisensory attention and tactile information-processing. *Behavioural Brain Research*, 135, 57-64.

Spence, C., Pavani, F., & Driver, J. (2000). Crossmodal links between vision and touch in covert endogenous spatial attention. *Journal of Experimental Psychology: HPP*, 26, 1298-1319.

11. Prädiktives Enkodieren

de-Wit, L., Machilsen, B., & Putzeys, T. (2010). Predictive Coding and the Neural Response to Predictable Stimuli. *Journal of Neuroscience*, 30(26), 8702–8703. <http://doi.org/10.1523/JNEUROSCI.2248-10.2010>

Urgen, B. A., & Miller, L. E. (n.d.). Journal Club Towards an Empirically Grounded Predictive Coding Account of Action Understanding. <http://doi.org/10.1523/JNEUROSCI.0144-15.2015>

Nienborg, H., & Cumming, B. G. (2009). Decision-related activity in sensory neurons reflects more than a neuron's causal effect. *Nature*, 459(7243), 89–92. <http://doi.org/10.1038/nature07821>

Meyer, T., & Olson, C. R. (2011). Statistical learning of visual transitions in monkey inferotemporal cortex. *Proceedings of the National Academy of Sciences*, 108(48), 19401–19406. <http://doi.org/10.1073/pnas.1112895108>

12. Feedback- feedforward processing

Lamme, V. A. F., & Roelfsema, P. R. (2000). The distinct modes of vision offered by feedforward and recurrent processing. *Trends in Neurosciences*. [http://doi.org/10.1016/S0166-2236\(00\)01657-X](http://doi.org/10.1016/S0166-2236(00)01657-X)

Murray, S. O., Schrater, P., & Kersten, D. (2004). Perceptual grouping and the interactions between visual cortical areas. *Neural Networks*, 17(5-6), 695–705. <http://doi.org/10.1016/j.neunet.2004.03.010>

Murray, S. O., Kersten, D., Olshausen, B. A., Schrater, P., & Woods, D. L. (2002). Shape perception reduces activity in human primary visual cortex. *Proceedings of the National Academy of Sciences of the United States of America*, 99(23), 15164–9. <http://doi.org/10.1073/pnas.192579399>

13. Multimodale Wahrnehmung

Ernst, M.O. & Bühlhoff, H.H. (2004). Merging the senses into a robust percept. *Trends in Cognitive Sciences*, 8, 162-169.

Ernst, M.O. & Banks, M.S. (2002). Humans integrate visual and haptic information in a statistically optimal fashion. *Nature*, 415, 429-433

14. Wahrnehmung und Handlung I: Taktile Exploration von Materialien

Flanagan, J. R., Bittner, J. P., & Johansson, R. S. (2008). *Experience Can Change Distinct Size-Weight Priors Engaged in Lifting Objects and Judging their Weights*. *Current Biology* (Vol. 18).

Baumgartner, E., Wiebel, C. B., & Gegenfurtner, K. R. (2013). *Visual and Haptic Representations of Material Properties*. *Multisensory Research*, 26(5), 429–455. <http://doi.org/10.1163/22134808-00002429>

Buckingham, G., Cant, J. S., & Goodale, M. A. (2009). *Living in a material world: how visual cues to material properties affect the way that we lift objects and perceive their weight*. *Journal of Neurophysiology*, 102(6), 3111–8. <http://doi.org/10.1152/jn.00515.2009>

15. Résumé / Offene Fragen / Feedback