Publications

- Vizioli, L., De Martino, F., Petro, L., Kersten, D., Ugurbil, K., Yacoub, E., & Muckli, L. (2019). Multivoxel pattern of blood oxygen level dependent activity can be sensitive to stimulus specific fine scale responses. *bioRxiv*, 798306. https://doi.org/10.1101/798306
- Peterson, L. M., Kersten, D. J., & Mannion, D. J. (2018). Surface curvature from kinetic depth can affect lightness. *Journal of Experimental Psychology:*Human Perception and Performance, 44(12), 1856. https://doi.org/10.1037/xhp0000575
- Morgenstern, Y., & Kersten, D. J. (2017). The perceptual dimensions of natural dynamic flow. *Journal of Vision*, *17*(12), 7–7. https://doi.org/10.1167/17.12.7
- Thompson, W. B., Legge, G. E., Kersten, D. J., Shakespeare, R. A., & Lei, Q. (2017). Simulating visibility under reduced acuity and contrast sensitivity. *JOSA A*, *34*(4), 583–593. https://doi.org/10.1364/josaa.34.000583
- Fan, X., Wang, L., Shao, H., Kersten, D., & He, S. (2016). Temporally flexible feedback signal to foveal cortex for peripheral object recognition. *Proceedings of the National Academy of Sciences*, *113*(41), 11627–11632. https://doi.org/10.1073/pnas.1606137113
- Kersten, D., & Mamassian, P. (2016). Cast shadow illusion. In A. G. Shapiro & D. Todorovic (Eds.), *The oxford compendium of visual illusions* (pp. 214–220). https://doi.org/10.1093/acprof:oso/9780199794607.003.0020
- Qiu, C., Burton, P. C., Kersten, D., & Olman, C. A. (2016). Responses in early visual areas to contour integration are context dependent. *Journal of Vision*, *16*(8), 19–19. https://doi.org/10.1167/16.8.19
- Yuille, A., & Kersten, D. (2016). Early vision. In M. A. Arbib & J. J. Bonaiuto (Eds.), *From neuron to cognition via computational neuroscience* (pp. 345–408). MIT Press.

- Green, C. S., Kattner, F., Siegel, M. H., Kersten, D., & Schrater, P. R. (2015). Differences in perceptual learning transfer as a function of training task. *Journal of Vision*, *15*(10), 5–5. https://doi.org/10.1167/15.10.5
- Kam, T.-E., Mannion, D. J., Lee, S.-W., Doerschner, K., & Kersten, D. J. (2015). Human visual cortical responses to specular and matte motion flows. *Frontiers in Human Neuroscience*, *9*, 579. https://doi.org/10.3389/fnhum. 2015.00579
- Mannion, D. J., Kersten, D. J., & Olman, C. A. (2015). Scene coherence can affect the local response to natural images in human v1. *European Journal of Neuroscience*, *42*(11), 2895–2903. https://doi.org/10.1111/ejn.13082
- Akin, B., Ozdem, C., Eroglu, S., Keskin, D. T., Fang, F., Doerschner, K., ... Boyaci, H. (2014). Attention modulates neuronal correlates of interhemispheric integration and global motion perception. *Journal of Vision*, *14*(12), 30–30. https://doi.org/10.1167/14.12.30
- Kersten, D., & Yuille, A. (2014a). Inferential models of the visual cortical hierarchy. In M. S. Gazzaniga & G. R. Mangun (Eds.), *The cognitive neurosciences* (Fifth Edition, pp. 398–404). The MIT Press.
- Kersten, D., & Yuille, A. (2014b). Vision: Bayesian inference and beyond. In J. S. Werner & L. M. Chalupa (Eds.), *The new visual neurosciences* (pp. 1263–1278). The MIT Press.
- Mannion, D. J., Kersten, D. J., & Olman, C. A. (2014). Regions of mid-level human visual cortex sensitive to the global coherence of local image patches. *Journal of Cognitive Neuroscience*, *26*(8), 1764–1774. https://doi.org/10.1162/jocn_a_00588
- Kersten, D., Shakespeare, R., & Thompson, W. (2013). Predicting visibility in designs of public spaces. *University of Utah Technical Reports*, *UUCS 13-001*.
- Mannion, D. J., Kersten, D., & Olman, C. A. (2013). Consequences of polar form coherence for fMRI responses in human visual cortex. *NeuroImage*, 78, 152–158. https://doi.org/10.1016/j.neuroimage.2013.04.036

- McMenamin, B. W., Radue, J., Trask, J., Huskamp, K., Kersten, D., & Marsolek, C. J. (2013). The diagnosticity of color for emotional objects. *Motivation and Emotion*, *37*(3), 609–622.
- Qiu, C., Kersten, D., & Olman, C. A. (2013). Segmentation decreases the magnitude of the tilt illusion. *Journal of Vision*, *13*(13), 19–19. https://doi.org/10.1167/13.13.19
- Hauffen, K., Bart, E., Brady, M., Kersten, D., & Hegdé, J. (2012). Creating objects and object categories for studying perception and perceptual learning. *JoVE (Journal of Visualized Experiments)*, (69), e3358. https://doi.org/10.3791/3358
- He, D., Kersten, D., & Fang, F. (2012). Opposite modulation of high-and low-level visual aftereffects by perceptual grouping. *Current Biology*, *22*(11), 1040–1045. https://doi.org/10.1016/j.cub.2012.04.026
- Hegdé, J., Thompson, S. K., Brady, M., & Kersten, D. (2012). Object recognition in clutter: Cortical responses depend on the type of learning. *Frontiers in Human Neuroscience*, *6*, 170. https://doi.org/10.3389/fnhum.2012.00170
- Battaglia, P. W., Kersten, D., & Schrater, P. R. (2011a). How haptic size sensations improve distance perception. *PLoS Computational Biology*, *7*(6). https://doi.org/10.1371/journal.pcbi.1002080
- Battaglia, P. W., Kersten, D., & Schrater, P. R. (2011b). The role of generative knowledge in object perception. In J. Trommershauser, K. Kording, & M. S. Landy (Eds.), *Sensory cue integration* (pp. 46–62). https://doi.org/10.1093/acprof:oso/9780195387247.003.0003
- Doerschner, K., Fleming, R. W., Yilmaz, O., Schrater, P. R., Hartung, B., & Kersten, D. (2011). Visual motion and the perception of surface material. *Current Biology*, *21*(23), 2010–2016. https://doi.org/10.1016/j.cub. 2011.10.036
- Doerschner, K., Kersten, D., & Schrater, P. R. (2011). Rapid classification of specular and diffuse reflection from image velocities. *Pattern Recognition*, *44*(9), 1874–1884. https://doi.org/10.1016/j.patcog.2010.09.007

- Battaglia, P. W., Di Luca, M., Ernst, M. O., Schrater, P. R., Machulla, T., & Kersten, D. (2010). Within-and cross-modal distance information disambiguate visual size-change perception. *PLoS Computational Biology*, *6*(3). https://doi.org/10.1371/journal.pcbi.1000697
- Boyaci, H., Fang, F., Murray, S. O., & Kersten, D. (2010). Perceptual grouping-dependent lightness processing in human early visual cortex. *Journal of Vision*, *10*(9), 4–4. https://doi.org/10.1167/10.9.4
- Green, C., Benson, C., Kersten, D., & Schrater, P. (2010). Alterations in choice behavior by manipulations of world model. *Proceedings of the National Academy of Sciences*, *107*(37), 16401–16406. https://doi.org/10.1073/pnas. 1001709107
- Hegdé, J., & Kersten, D. (2010). A link between visual disambiguation and visual memory. *Journal of Neuroscience*, *30*(45), 15124–15133. https://doi.org/10.1523/jneurosci.4415-09.2010
- Kersten, D., & Murray, S. O. (2010). Vision: When does looking bigger mean seeing better? *Current Biology*, *20*(9), R398–R399. https://doi.org/10.1016/j.cub.2010.03.021
- Doerschner, K., Kersten, D., & Schrater, P. (2009). Rapid classification of surface reflectance from image velocities. *International conference on computer analysis of images and patterns*, 856–864. https://doi.org/10.1007/978-3-642-03767-2 104
- 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. https://doi.org/10.1523/jneurosci. 4628-08.2009
- Gold, J. M., Abbey, C., Tjan, B. S., & Kersten, D. (2009). Ideal observers and efficiency: Commemorating 50 years of tanner and birdsall: Introduction. *JOSA A*, *26*(11), IO1–IO2. https://doi.org/10.1364/josaa.26.000io1
- Kersten, D., & Mamassian, P. (2009). Ideal observer theory. In L. R. Squire, N. Dronkers, & J. Baldo (Eds.), *Encyclopedia of neuroscience* (pp. 89–95). https://doi.org/10.1016/b978-008045046-9.01435-2

- Fang, F., Boyaci, H., Kersten, D., & Murray, S. O. (2008a). Attention-dependent representation of a size illusion in human v1. *Current Biology*, *18*(21), 1707–1712. https://doi.org/10.1016/j.cub.2008.09.025
- Fang, F., Kersten, D., & Murray, S. O. (2008b). Perceptual grouping and inverse fMRI activity patterns in human visual cortex. *Journal of Vision*, *8*(7), 2–2. https://doi.org/10.1167/8.7.2
- Hegdé, J., Bart, E., & Kersten, D. (2008a). Fragment-based learning of visual object categories. *Current Biology*, *18*(8), 597–601. https://doi.org/10.1016/j.cub.2008.03.058
- Hegdé, J., Fang, F., Murray, S. O., & Kersten, D. (2008b). Preferential responses to occluded objects in the human visual cortex. *Journal of Vision*, *8*(4), 16–16. https://doi.org/10.1167/8.4.16
- Boyaci, H., Fang, F., Murray, S. O., & Kersten, D. (2007). Responses to lightness variations in early human visual cortex. *Current Biology*, *17*(11), 989–993. https://doi.org/10.1016/j.cub.2007.05.005
- Murray, S. O., Boyaci, H., & Kersten, D. (2006a). The representation of perceived angular size in human primary visual cortex. *Nature Neuroscience*, *9*(3), 429–434. https://doi.org/10.1038/nn1641
- Murray, S. O., Olman, C. A., & Kersten, D. (2006b). Spatially specific fMRI repetition effects in human visual cortex. *Journal of Neurophysiology*, *95*(4), 2439–2445. https://doi.org/10.1152/jn.01236.2005
- Yuille, A., & Kersten, D. (2006). Vision as bayesian inference: Analysis by synthesis? *Trends in Cognitive Sciences*, *10*(7), 301–308. https://doi.org/10.1016/j.tics.2006.05.002
- Battaglia, P. W., Schrater, P. R., & Kersten, D. (2005). Auxiliary object knowledge influences visually-guided interception behavior. *Proceedings of the 2nd symposium on applied perception in graphics and visualization*, 145–152. https://doi.org/10.1145/1080402.1080430

- Fang, F., Murray, S. O., Kersten, D., & He, S. (2005). Orientation-tuned fMRI adaptation in human visual cortex. *Journal of Neurophysiology*, *94*(6), 4188–4195. https://doi.org/10.1152/jn.00378.2005
- Hartung, B., Schrater, P. R., Bülthoff, H. H., Kersten, D., & Franz, V. H. (2005). Is prior knowledge of object geometry used in visually guided reaching? *Journal of Vision*, *5*(6), 2–2. https://doi.org/10.1167/5.6.2
- Fang, F., Kersten, D., Schrater, P. R., & Yuille, A. L. (2004). Human and ideal observers for detecting image curves. *Advances in neural information processing systems*, 1459–1466.
- Kersten, D., Mamassian, P., & Yuille, A. (2004). Object perception as bayesian inference. *Annu. Rev. Psychol.*, *55*, 271–304. https://doi.org/10.1146/annurev.psych.55.090902.142005
- Murray, S. O., Schrater, P., & Kersten, D. (2004). Perceptual grouping and the interactions between visual cortical areas. *Neural Networks*, *17*(5-6), 695–705. https://doi.org/10.1016/j.neunet.2004.03.010
- Olman, C. A., Ugurbil, K., Schrater, P., & Kersten, D. (2004). BOLD fMRI and psychophysical measurements of contrast response to broadband images. *Vision Research*, *44*(7), 669–683. https://doi.org/10.1016/j.visres. 2003.10.022
- Olman, C., & Kersten, D. (2004). Classification objects, ideal observers & generative models. *Cognitive Science*, *28*(2), 227–239. https://doi.org/10.1207/s15516709cog2802_5
- Brady, M. J., & Kersten, D. (2003). Bootstrapped learning of novel objects. *Journal of Vision*, *3*(6), 2–2. https://doi.org/10.1167/3.6.2
- Kersten, D., & Yuille, A. (2003). Bayesian models of object perception. *Current Opinion in Neurobiology*, *13*(2), 150–158. https://doi.org/10.1016/s0959-4388(03)00042-4
- Liu, Z., & Kersten, D. (2003). Three-dimensional symmetric shapes are discriminated more efficiently than asymmetric ones. *JOSA A*, *20*(7), 1331–1340. https://doi.org/10.1364/josaa.20.001331

- Naor-Raz, G., Tarr, M. J., & Kersten, D. (2003). Is color an intrinsic property of object representation? *Perception*, *32*(6), 667–680. https://doi.org/10.1068/p5050
- Geisler, W. S., & Kersten, D. (2002). Illusions, perception and bayes. *Nature Neuroscience*, *5*(6), 508. https://doi.org/10.1038/nn0602-508
- Kersten, D. (2002). Object perception: Generative image models and bayesian inference. *International workshop on biologically motivated computer vision*, 207–218. https://doi.org/10.1007/3-540-36181-2_21
- Kersten, D., & Schrater, P. (2002). Pattern inference theory: A probabilistic approach to vision. In D. Heyer & R. Mausfeld (Eds.), *Perception and the physical world: Psychological and philosophical issues in perception*. https://doi.org/10.1002/0470013427.ch7
- 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*, *99*(23), 15164–15169. https://doi.org/10.1073/pnas.192579399
- Schrater, P., & Kersten, D. (2002). Vision, psychophysics and bayes. In R. P. Rao, B. A. Olshausen, & M. S. Lewicki (Eds.), *Probabilistic models of the brain: Perception and neural function* (pp. 37–60). The MIT press.
- Madison, C., Thompson, W., Kersten, D., Shirley, P., & Smits, B. (2001). Use of interreflection and shadow for surface contact. *Perception & Psychophysics*, *63*(2), 187–194. https://doi.org/10.3758/bf03194461
- Braje, W. L., Legge, G. E., & Kersten, D. (2000). Invariant recognition of natural objects in the presence of shadows. *Perception*, *29*(4), 383–398. https://doi.org/10.1068/p3051
- Kersten, D. (2000). High-level vision as statistical inference. In M. Gazzaniga (Ed.), *The new cognitive neurosciences* (Second Edition, pp. 353–364). The MIT Press.
- Schrater, P. R., & Kersten, D. (2000). How optimal depth cue integration depends on the task. *International Journal of Computer Vision*, *40*(1), 71–89.

- Bloj, M., Kersten, D., & Hurlbert, A. (1999). 3D shape perception influences colour perception via mutual illumination. *Nature*, *402*, 877–879.
- Liu, Z., Kersten, D., & Knill, D. C. (1999). Dissociating stimulus information from internal representation—a case study in object recognition. *Vision Research*, *39*(3), 603–612. https://doi.org/10.1016/s0042-6989(98)00167-9
- Schrater, P. R., & Kersten, D. (1999). Statistical structure and task dependence in visual cue integration. *Workshop on statistical and computational theories of vision–modeling, learning, computing, and sampling, fort collins, colorado*.
- Troje, N. F., & Kersten, D. (1999). Viewpoint-dependent recognition of familiar faces. *Perception*, *28*(4), 483–487. https://doi.org/10.1068/p2901
- Braje, W. L., Kersten, D., Tarr, M. J., & Troje, N. F. (1998). Illumination effects in face recognition. *Psychobiology*, *26*(4), 371–380.
- Liu, Z., & Kersten, D. (1998a). 2D affine transformations cannot account for human 3D object recognition. *Sixth international conference on computer vision (ieee cat. No. 98CH36271)*, 549–554. IEEE.
- Liu, Z., & Kersten, D. (1998b). 2D observers in 3D object recognition. *Advances in Neural Information*.
- Mamassian, P., Knill, D. C., & Kersten, D. (1998). The perception of cast shadows. *Trends in Cognitive Sciences*, *2*(8), 288–295. https://doi.org/10.1016/s1364-6613(98)01204-2
- Tarr, M. J., Kersten, D., & Bülthoff, H. H. (1998). Why the visual recognition system might encode the effects of illumination. *Vision Research*, *38*(15-16), 2259–2275. https://doi.org/10.1016/s0042-6989(98)00041-8
- Thompson, W. B., Shirley, P., Smits, B., Kersten, D. J., & Madison, C. (1998). Visual glue. *University of Utah Technical Reports, UUCS-98-007*.
- Troje, N. F., & Kersten, D. (1998). *Viewer-centered recognition of familiar faces*.

- Kersten, D. (1997a). Inverse 3-d graphics: A metaphor for visual perception. *Behavior Research Methods, Instruments, & Computers*, *29*(1), 37–46. https://doi.org/10.3758/bf03200564
- Kersten, D. (1997b). Perceptual categories for spatial layout. *Philosophical Transactions of the Royal Society of London. Series B: Biological Sciences*, 352(1358), 1155–1163. https://doi.org/10.1098/rstb.1997.0099
- Kersten, D., Mamassian, P., & Knill, D. C. (1997). Moving cast shadows induce apparent motion in depth. *Perception*, *26*(2), 171–192. https://doi.org/10.1068/p260171
- Knill, D. C., Mamassian, P., & Kersten, D. (1997). Geometry of shadows. *JOSA A*, *14*(12), 3216–3232. https://doi.org/10.1364/josaa.14.003216
- D'AVOSSA, G., & Kersten, D. (1996). Evidence in human subjects for independent coding of azimuth and elevation for direction of heading from optic flow. *Vision Research*, *36*(18), 2915–2924. https://doi.org/10.1016/0042-6989(96)00010-7
- Kersten, D. (1996). Commentary on: Pattern theory: A unifying perspective. In D. C. Knill & W. Richards (Eds.), *Perception as bayesian inference* (pp. 213–236). Cambridge University Press.
- Kersten, D., Knill, D. C., Mamassian, P., & Bülthoff, I. (1996a). Illusory motion from shadows. *Nature*, *379*(6560), 31. https://doi.org/10.1038/379031a0
- Kersten, D., Troje, N. F., & Bülthoff, H. H. (1996b). Phenomenal competition for poses of the human head. *Perception*, *25*(3), 367–368. https://doi.org/10.1068/p250367
- Knill, D. C., Kersten, D., & Yuille, A. (1996). Introduction: A bayesian formulation of visual perception. In D. C. Knill & W. Richards (Eds.), *Perception as bayesian inference* (pp. 1–21). Cambridge University Press.
- Knill, D., Kersten, D., & Mamassian, P. (1996). The bayesian framework for visual information processing: Implications for psychophysics. In D. C. Knill & W. Richards (Eds.), *Perception as bayesian inference* (pp. 239–286). Cambridge University Press.

- Mamassian, P., & Kersten, D. (1996). Illumination, shading and the perception of local orientation. *Vision Research*, *36*(15), 2351–2367. https://doi.org/10.1016/0042-6989(95)00286-3
- Mamassian, P., Kersten, D., & Knill, D. C. (1996). Categorical local-shape perception. *Perception*, *25*(1), 95–107. https://doi.org/10.1068/p250095
- Liu, Z., Knill, D. C., & Kersten, D. (1995). Object classification for human and ideal observers. *Vision Research*, *35*(4), 549–568. https://doi.org/ 10.1016/0042-6989(94)00150-k
- Mamassian, P., Bülthoff, H., & Kersten, D. (1995). *Eye-hand coordination for 3-d oriented objects*.
- Tjan, B. S., Braje, W. L., Legge, G. E., & Kersten, D. (1995). Human efficiency for recognizing 3-d objects in luminance noise. *Vision Research*, *35*(21), 3053–3069. https://doi.org/10.1016/0042-6989(95)00070-g
- Kersten, D., Mamassian, P., & Knill, D. C. (1994). *Moving cast shadows and the perception of relative depth*.
- Kersten, D. J., & Madarasmi, S. (1993). The visual perception of surfaces, their properties and relationships. *Partitioning data sets*, 373–390.
- Madarasmi, S., Kersten, D., & Pong, T.-C. (1993a). Multi-layer surface segmentation using energy minimization. *Proceedings of ieee conference on computer vision and pattern recognition*, 774–775. IEEE.
- Madarasmi, S., Kersten, D., & Pong, T.-C. (1993b). The computation of stereo disparity for transparent and for opaque surfaces. *Advances in neural information processing systems*, 385–392.
- Kersten, D., Bülthoff, H. H., Schwartz, B. L., & Kurtz, K. J. (1992). Interaction between transparency and structure from motion. *Neural Computation*, *4*(4), 573–589. https://doi.org/10.1162/neco.1992.4.4.573
- O'toole, A. J., & Kersten, D. J. (1992). Learning to see random-dot stereograms. *Perception*, *21*(2), 227–243. https://doi.org/10.1068/p210227

- Thompson, W. B., Kersten, D., & Knecht, W. R. (1992). Structure-from-motion based on information at surface boundaries. *Biological Cybernetics*, *66*(4), 327–333. https://doi.org/10.1007/bf00203669
- Kersten, D. (1991). Transparency and the cooperative computation of scene attributes. In M. S. Landy, J. A. Movshon, & others (Eds.), *Computational models of visual processing*. The MIT Press.
- Knill, D. C., & Kersten, D. (1991). Apparent surface curvature affects lightness perception. *Nature*, *351*(6323), 228–230. https://doi.org/ 10.1038/351228a0
- Knill, D., & Kersten, D. (1991). Ideal perceptual observers for computation, psychophysics and neural networks. In R. J. Watt (Ed.), *Pattern recognition by man and machine (vision and visual dysfunction)*. McMillan.
- Kersten, D. (1990). Statistical limits to image understanding. In C. Blakemore, K. Adler, & M. Pointon (Eds.), *Vision: Coding and efficiency* (pp. 32–44). https://doi.org/10.1017/cbo9780511626197.005
- Knill, D. C., Field, D., & Kerstent, D. (1990). Human discrimination of fractal images. *JOSA A*, 7(6), 1113–1123. https://doi.org/10.1364/josaa.7.001113
- Knill, D. C., & Kersten, D. (1990). Learning a near-optimal estimator for surface shape from shading. *Computer Vision, Graphics, and Image Processing*, *50*(1), 75–100. https://doi.org/10.1016/0734-189x(90)90068-7
- Kersten, D., Hess, R., & Plant, G. (1988). Assessing contrast sensitivity behind cloudy media. *Clinical Vision Sciences*, *2*(3), 143–158.
- Sereno, M., Kersten, D., & Anderson, J. A. (1988). A neural network model of an aspect of motion perception. *Science at the John von Neumann National Supercomputer Center*, 173–178.
- Kersten, D. (1987a). Predictability and redundancy of natural images. *JOSA A*, *4*(12), 2395–2400. https://doi.org/10.1364/josaa.4.002395
- Kersten, D. (1987b). Statistical efficiency for the detection of visual noise. *Vision Research*, *27*(6), 1029–1040. https://doi.org/ 10.1016/0042-6989(87)90016-2

- Kersten, D., O'toole, A. J., Sereno, M. E., Knill, D. C., & Anderson, J. A. (1987). Associative learning of scene parameters from images. *Applied Optics*, *26*(23), 4999–5006. https://doi.org/10.1364/ao.26.004999
- Legge, G. E., Kersten, D., & Burgess, A. E. (1987). Contrast discrimination in noise. *JOSA A*, *4*(2), 391–404. https://doi.org/10.1364/josaa.4.000391
- Burkhardt, D. A., Gottesman, J., Kersten, D., & Legge, G. E. (1984). Symmetry and constancy in the perception of negative and positive luminance contrast. *JOSA A*, *1*(3), 309–316. https://doi.org/10.1364/josaa.1.000309
- Kersten, D. (1984). Spatial summation in visual noise. *Vision Research*, *24*(12), 1977–1990. https://doi.org/10.1016/0042-6989(84)90033-6
- Kersten, D. (1983). *A comparison of human and ideal performance for the detection of visual pattern* (PhD thesis). University of Minnesota.
- Kersten, D., & Legge, G. E. (1983). Convergence accommodation. *JOSA*, 73(3), 332–338. https://doi.org/10.1364/josa.73.000332
- Legge, G. E., & Kersten, D. (1983). Light and dark bars; contrast discrimination. *Vision Research*, *23*(5), 473–483. https://doi.org/10.1016/0042-6989(83)90122-0