Last Updated: Mid 2025

Name: Andrew M Haun

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Place of Birth: Tennessee, USA

Professional appointments

2016-	Scientist	*Center for Sleep and Consciousness, Dept. Psychiatry, University of Wisconsin-Madison*
2014-2016	Postdoctoral Fellow	*Dept. Psychology, University of Wisconsin-Madison* Advisors: Bas Rokers & Giulio Tononi
2014	Visiting Fellow	*Monash University, Melbourne, VIC* Advisor: Naotsugu Tsuchiya
2009-2014	Postdoctoral Fellow (from Aug.2009), Scientist/Lecturer (from Oct.2012)	*Schepens Eye Research Institute / Dept. Ophthalmology, Harvard Medical School* Advisor: Eli Peli

Education

2009	PhD	Experimental Psychology	University of Louisville, Louisville KY
2002	BA	Psychology	University of Tennessee, Knoxville TN

Interests

Human visual perception and experience (psychophysics; neuroscience; philosophy)

Papers

1) **Haun, A.M.** & Tononi, G. (2025). The unfathomable richness of seeing. *Trends in Cognitive Sciences* https://doi.org/10.1016/j.tics.2025.06.001
2) **Haun, A.M.** & Tononi, G. (2025). Limits of iconic capacity for spatial position. *Attention, Perception, and Psychophysics* https://doi.org/10.3758/s13414-025-03043-4
3) Tononi, G., Albantakis, L., Barbosa, L., Boly, M., Cirelli, C., Comolatti, R., Ellia, F., Findlay, G., Casali, A. G., Grasso, M., **Haun, A. M.**, Hendren, J., Hoel, E., Koch, C., Maier, A., Marshall, W., Massimini, M., Mayner, W. G., Oizumi, M., … Zaeemzadeh, A. (2025). Consciousness or pseudo-consciousness? A clash of two paradigms. *Nature Neuroscience*, 1–9. https://doi.org/10.1038/s41593-025-01880-y
4) Albantakis, L.*, Barbosa, L.*, Findlay, G.*, Grasso, M.*, **Haun, A. M.***, Marshall, W.*, Mayner, W. G.*, Zaeemzadeh, A.*, Boly, M., Juel, B. E., Sasai, S., Fujii, K., David, I., Hendren, J., Lang, J. P., & Tononi, G. (2023). Integrated information theory (IIT) 4.0: Formulating the properties of phenomenal existence in physical terms. *PLoS Computational Biology* 19 (10), e1011465 ("*" indicates "equal contribution" though Larissa truly is the 1st author)
5) **Haun, A.M.** (2022). IIT is ideally positioned to explain perceptual phenomena. *Behavioral and Brain Sciences* (*commentary on Merker et al. 2022*)
6) Ellia, F., Hendren, J., Grasso, M., Kozma, C., Mindt, G., Lang, J., **Haun, A.M.**, Albantakis, L., Boly, M., Tononi, G. (2021). Consciousness and the fallacy of misplaced objectivity. *Neuroscience of Consciousness* 2021(2), 1-12. https://doi.org/10.1093/nc/niab032

7) Grasso, M., **Haun, A.M.**, and Tononi G. (2021). Of Maps and Grids. *Neuroscience of Consciousness*, 2021(2), 1-10. https://doi.org/10.1093/nc/niab036
8) **Haun, A.M.** (2021). What is visible across the visual field? *Neuroscience of Consciousness* 7(1), 1-19. doi:10.1093/nc/niab006
9) Afrasiabi M., Redinbaugh M.J., Phillips J.M., Kambi N.A., Mohanta S., Raz A., **Haun A.M.**, Saalmann Y.B. (2021). More than just front or back: Parietal-striatal-thalamic circuits predict consciousness level. *Cell Systems* 12(4) 363-373. https://doi.org/10.1016/j.cels.2021.02.003
10) **Haun, A.M.** and Tsuchiya, N. (2020). Reasonable criteria for functionalists; scarce criteria from [a] phenomenological perspective. *Cognitive Neuroscience* (commentary) https://doi.org/10.1080/17588928.2020.1838473
11) Tsuchiya, N., Andrillon, T., and **Haun, A.M.** (2020). A reply to "the unfolding argument": Beyond functionalism/behaviorism and towards a science of causal-structural theories of consciousness. *Consciousness and Cognition* 79(102877), doi: 10.1016/j.concog.2020.102877.
12) **Haun, A.M.** and Tononi, G. (2019). Why does space feel the way it does? Towards a principled account of spatial experience. *Entropy* 21(12), 1160. doi:10.3390/e21121160
13) **Haun, A.M.,** Kovach C.K., Kawasaki H., Oya H., Howard M.A., Adolphs R., and Tsuchiya, N. (2017). Conscious perception as integrated information patterns in human electrocorticography. *eNeuro*, 4(5). doi:10.1523/ENEURO.0085-17.2017.
14) Song, C., **Haun, A.M.**, and Tononi, G. (2017) Plasticity in the structure of visual space. *eNeuro* 4(3) doi:10.1523/ENEURO.0080-17.2017.
15) **Haun, A.M.**, Tononi, G., Koch, C., and Tsuchiya, N. (2017). Are we underestimating the richness of visual experience? *Neuroscience of Consciousness* 3(1).
16) Hansen, B.C., **Haun, A.M.**, Johnson, A.P., and Ellemberg, D. (2016). On the differentiation of foveal and peripheral early visual evoked potentials. *Brain Topography* 29, 506-514.
17) Allen, B., **Haun, A.M.**, Hanley, T., Green C.S., and Rokers, B. (2015). Optimal combination of binocular cues to 3D motion. *IOVS* 56, 7589-7596.
18) **Haun, A.M.** and Peli, E. (2015). Similar sensitivity to ladder contours in macular degeneration patients and controls. *PLOS-One*, e128119.
19) **Haun, A.M.** and Peli, E. (2014). Binocular rivalry with peripheral prisms used for hemianopia rehabilitation. *Ophthalmic and Physiological Optics* 34(5), 573-579.
20) **Haun, A.M.** and Peli, E. (2013). Perceived contrast in complex images. *Journal of Vision* 13(13):3, 1-21.
21) Sawides, L., Dorronsoro, M., **Haun, A.M.**, Peli, E., and Marcos, S. (2013). Using pattern classification to measure adaptation to the orientation of high order aberrations. *PLOS-One* 8(8), e70856.
22) **Haun, A.M.** and Peli, E. (2013). Adaptation to blurred and sharpened video. *Journal of Vision* 13(8):12, 1-14.
23) Niehorster, DC., Peli, E., **Haun, A.M.**, and Li, L. (2013). Influence of hemianopic visual field loss on active control of object motion. *PLOS-One* 8(2), e56615.
24) **Haun, A.M.** and Peli, E. (2013). Is image quality a function of contrast perception? *Proceedings of the SPIE* 8651, doi:10.1117/12.2008620.
25) **Haun, A.M.**, Woods, R.L., and Peli, E. (2012). Electronic magnification and perceived contrast of video. *Journal of the Society for Information Display* 20(11), 616-623.
26) **Haun, A.M.** and Peli, E. (2012). Complexities of complex contrast. *Proceedings of the SPIE* 8292, doi10.1117/12.915365.
27) **Haun, A.M.** and Peli, E. (2011). Measuring the perceived contrast of natural images. *SID Symposium Digest of Technical Papers*, **42**, 302-304.
28) **Haun, A.M.**, Woods, R.L., and Peli E. (2011). Perceived contrast of electronically magnified video. *Proceedings of the SPIE* 7865, doi10.1117/12.872614.
29) **Haun, A.M.** and Essock, E.A. (2010). Contrast sensitivity for oriented patterns in 1/f noise: Contrast response and the horizontal effect. *Journal of Vision* 10(10):1, 1-21.
30) Kim, Y.J., **Haun A.M.**, and Essock, E.A. (2010). The horizontal effect in suppression: Anisotropic overlay and surround suppression at high and low speeds. *Vision Research* 50, 838-849.

31) Essock, E.A., **Haun, A.M.**, and Kim, Y.J. (2009). An anisotropy of orientation-tuned suppression that matches the anisotropy of typical natural scenes. *Journal of Vision* 9(1):35, 1-15.
32) Essock, E.A., Hansen B.C., and **Haun A.M**. (2007). Perceptual bands in orientation and spatial frequency: A cortical analogue to Mach bands. *Perception* 36, 639-649.
33) Zheng, Y., Essock, E.A., Hansen, B.C., and **Haun, A.M.** (2007). A new metric based on extended spatial frequency and its application to DWT based fusion algorithms. *Information Fusion* 8, 177-192.
34) Zheng, Y., Hansen B.C., **Haun, A.M**., and Essock, E.A.(2005). Coloring night-vision imagery with statistical properties of natural colors by using image segmentation and histogram matching. *Proceedings of the SPIE* 5667, 107-117.

Book chapters

1) Lang J.P. and **Haun, A.M.** Foundation and Consciousness. In Heter J. and Simpson J.T. (Eds.) *Asimov's Foundation and Philosophy: Psychohistory and Its Discontents*, Carus Books (2023).
2) Tsuchiya, N., **Haun, A.M.**, Cohen, D., and Oizumi, M. Empirical tests of the integrated information theory of consciousness. In K. Almqvist & A. Haag (Eds.) *The Return of Consciousness*, Axess Publishers, Norway (2017).
3) Hansen, B.C., **Haun, A.M**., and Essock, E.A. The "horizontal effect": a perceptual anisotropy in visual processing of naturalistic broadband stimuli. In T.A. Portocello & R.B. Velloti (Eds.) *Visual Cortex: New Research*, Nova Science Publishers, New York (2008).

Meeting abstracts

1) Odegaard, B., Lee, A.L.F., Lee, I., Sans, A., Faulkner R., Ng, L., **Haun, A.**, Chesney D., Rosenthal, D., Fallon, F. (2023) None so blind: meaningful changes are more detectable across saccade-induced blindness. [ASSC 26, June 2023]
2) Odegaard, B., Lee, I., Lee, A.L.F., Sans, A., Ng, L., Faulkner R., **Haun, A.**, Chesney D., Rosenthal, D., Fallon, F. (2023) The influence of semantics and scene congruence on visual change detection during saccades. [VSS, May 2023]
3) Odegaard, B., Lee, A., Sans, A., Lee, I., Ng, L., **Haun, A.**, Chesney, D., Rosenthal, D., Fallon, F. (2022). Detecting changes in visual scenes during saccades: Replicating and extending John Grimes's experiments. [VSS, May 2022]
4) Peviani, V. C., **Haun, A.**, Tononi, G., & Melloni, L. (2021). Training-induced contraction of visual space is retinotopic, not spatiotopic. Cognitive Processing, 22(SUPPL 1), 29-30. [ICSC 2021]
5) Afrasiabi, M., Redinbaugh, M.J., Kambi, N.A., Phillips, J.M., Mohanta, S., Raz, A., **Haun, A.M.**, Saalmann Y.B. (2019). Integrated information generated by cortico-striatal-thalamic circuits correlates with level of consciousness. [SfN, October 2019]
6) **Haun, A.M.** (2019). What spatial vision research says about peripheral visual perception. [ASSC 23, June 2019]
7) **Haun, A.M.** and Hansen, B.C. (2019). Visual evoked potentials elicited by complex scenes are regulated by high spatial frequency content. [Vision Sciences Society (VSS), May 2019]
8) **Haun, A.M.**, Barendregt, M., Fulvio, J.M., Rokers, B. (2016). Decoding direction of binocular motion from human visual cortex. [Vision Sciences Society (VSS), May 2016]
9) Allen, B., **Haun, A.M.**, Hanley, T., Green C.S., Rokers B. (2015). Optimal combination of the binocular cues to 3D motion. [Society for Neuroscience (SfN), October 2015]
10) Hansen, B.C., **Haun, A.M.**, Johnson, A.P., Ellemberg, D. (2015). The functional separability of early visual evoked potentials. [Vision Sciences Society (VSS), May 2015]
11) **Haun, A.M.**, Oizumi M., Baroni F., Van Kempen J., Kovach C.K., Kawasaki H., Oya H., Howard M.A., Adolphs R., Tsuchiya N. (2014). Informational structure of perceptual experience. [Association for Scientific Study of Consciousness (ASSC) 18, July 2014]
12) **Haun, A.M.** (2013). Phase doesn't matter in blur adaptation. [York U., Centre for Vision Research Conference, "Interactions in Vision", June 2013]
13) **Haun, A.M.** and Peli, E. (2012)*. Perceived contrast of complex images. [Optical Society of America Fall Vision Meeting (FVM)] *Journal of Vision* 12(14), 15-15.

14) Sawides, L., Dorronsoro, C., de Gracia, P., Vinas, M., **Haun, A.M.**, Peli, E., and Marcos, S. (2012). Classification method to test natural adaptation to the high order aberrations of the eye. [European Meeting on Visual and Physiological Optics]
15) **Haun, A.M.** and Peli, E. (2012). Binocular rivalry with peripheral prisms for treatment of hemianopia. [Vision Sciences Society (VSS), May 2012] *Journal of Vision* 12(9), 211-211.
16) Williams, H.G., Schweinhart, A.M., O'Keefe, E.M., **Haun, A.M.**, and Essock, E.A. (2012). Aesthetic preference for oriented content in broadband images. [VSS] *Journal of Vision* 12(9), 1084-1284.
17) Sawides, L., Dorronsoro, C., de Gracia, P., Vinas, M., Webster, M.A., **Haun, A.M.**, Peli, E., and Marcos, S. (2012). Natural adaptation to the orientation of high order aberrations. [Association for Research in Vision and Ophthalmology (ARVO)]
18) **Haun, A.M.**, Straight, M., and Peli, E. (2011). Ladder contours are detectable in the visual periphery. (American Academy of Optometry Annual Conference, Boston MA, Oct.12 2011)
19) **Haun, A.M.** and Peli, E. (2011). Spatial frequency weighting functions for perceived contrast in complex images. [VSS] *Journal of Vision* 11(11), 1161-1161.
20) Kim, Y.J., **Haun A.M.**, and Essock E.A. (2011). Time-course of anisotropic masking at high and low spatial frequencies. [VSS] *Journal of Vision* 11(11), 1180-1180.
21) **Haun, A.M.** and Peli E. (2010). Blur sensitivity is best when adapted to normal imagery. [FVM] (OSA Fall Vision Meeting in Rochester NY, Oct.23 2010), *Journal of Vision* 10(15), 18-18.
22) **Haun, A.M.** and Essock, E.A. (2009). Parameterization of contrast detection and discrimination in 1/f noise. [VSS] *Journal of Vision* 9, 1005a.
23) Kim, Y.J., **Haun, A.M.**, and Essock E.A. (2009). Overlay and surround suppression both show a horizontal effect anisotropy. [VSS] *Journal of Vision* 9, 1009a.
24) **Haun, A.M.** and Essock, E.A. (2008). Contrast sensitivity in 1/f noise considered across spatial frequency band. [VSS] *Journal of Vision* 8, 349a.
25) Kim, Y.J., **Haun, A.M.**, and Essock E.A. (2008). The effect of sustained/transient temporal modulation on the horizontal effect of contrast masking. [VSS] *Journal of Vision* 8, 276a.
26) **Haun, A.M.** and Essock, E.A. (2007). Anisotropic contrast gain inferred from broadband masking. [VSS] *Journal of Vision* 7, 249a.
27) Kim, Y.J., **Haun, A.M.**, and Essock, E.A. (2007). Anisotropic Contrast Sensitivity During Viewing of Broadband Stimuli: Timing and Tuning. [VSS] *Journal of Vision* 7, 592a.
28) **Haun, A.M.**, Hansen, B.C., and Essock, E.A. (2006). Aesthetics, Mondrians, and the horizontal effect. [VSS] *Journal of Vision* 6, 968a.
29) **Haun, A.M.** and Essock, E.A. (2006). Anisotropic Gain Control in Human Spatial Vision. [12th Annual Kentucky EPSCoR Conference: Exploring Shared Interests with National Labs, Louisville, KY]
30) Hansen, B.C., Essock, E.A., and **Haun, A.M.** (2005). Psychophysical inferences about the interactions within and between sub-populations of striate neurons. [VSS] *Journal of Vision* 5, 479a.
31) **Haun, A.M.**, Hansen, B.C., Kim, Y.J., and Essock, E.A. (2005). Sequential effects and stimulus-response dependencies in an orientation identification task: Characterization of the class 2 oblique effect. [VSS] *Journal of Vision* 5, 158a.
32) Essock, E.A., Hansen, B.C., Zheng Y., **Haun, A.M.**, and Gunvant, P. (2004). "Mach bands" in the orientation dimension: An illusion due to inhibition of nearby orientations. [VSS]. *Journal of Vision* 4, 778.
33) Hansen, B.C., Essock, E.A., and **Haun, A.M.** (2004). Visual adaptation and its relation to the "horizontal effect": Implications for visual processing of broadband orientation content. [VSS]. *Journal of Vision* 4, 528.
34) **Haun A.M.**, Gunvant P., Baskaran M., and Vijaya L. (2004). Central corneal thickness measurement using a pachometer: Mean or lowest values? [ARVO]. *Invest. Ophthalmol. Vis. Sci.* 45, 137E.

Preprints

1) Lee, I., Sans, A., Ng, L., Faulkner, R., **Haun, A.**, Chesney, D., Rosenthal, D., Fallon, F., Odegaard, B., & Lee, A. L. (2025, March 14). Change detection and saccades: replicating and extending the work of John Grimes. https://doi.org/10.31234/osf.io/f368e_v1

2) **Haun, A.,** & Tononi, G. (2024, November 12). Spatial and categorical structure in short-term visual memory. *PsyArXiv*. https://osf.io/6mehn
3) **Haun, A.,** & Tononi, G. (2024, November 12). Limits of iconic capacity for spatial position. *PsyArXiv*. https://doi.org/10.31234/osf.io/yaqng **Published in *Attention, Perception and Psychophysics* (2025)**
4) **Haun, A.M.** & Tononi, G. (2024, April 19). The unfathomable richness of seeing. *PsyArXiv* https://osf.io/preprints/psyarxiv/jmg35 **Published in *Trends in Cognitive Sciences* (2025)**
5) **Haun, A.M.** (2024, January 10). No evidence for throttling of perceptual resolution: comments on "Partial blindness…" by Kim & Chong (2023). *PsyArXiv* https://doi.org/10.31234/osf.io/8n7pu
6) Albantakis, L.*, et al (2022, December 30). Integrated information theory (IIT) 4.0: … (arXiv:2212.14787). *arXiv*. https://doi.org/10.48550/arXiv.2212.14787 (* authors made 'equal contribution') **Published in PLOS-CB (2023)**
7) Afrasiabi M, et al (2020, April 9). More than just front or back: …. Preprint online at BioRXiv https://www.biorxiv.org/content/10.1101/2020.04.07.030429v1. **Published in *Cells and Systems* (2021)**
8) **Haun, A.M.** (2020, April 6). What is visible across the visual field? Preprint online at *PsyArXiv* https://doi.org/10.31234/osf.io/wdpu7. **Published in *Neuroscience of Consciousness* (2021)**
9) Tsuchiya, N., Andrillon, T., & **Haun, A.** (2019, June 7). A reply to "the unfolding argument": …. Preprint online at *PsyArXiv* https://doi.org/10.31234/osf.io/a2ms9. **Published in *Consciousness and Cognition* (2020).**
10) **Haun, A.M.** *et al*. (2016) Contents of consciousness … (2016). Preprint online at *bioRxiv* doi10.1101/039032. **Published in *eNeuro* (2017).**

Other

1) (quasi-preprint) commentary on Hopkins & McQueen (2021), https://osf.io/mzpwn/
2) Reply to commentaries by Phillips, Orlandi, and Giron et al, on Haun, Tononi, Koch, & Tsuchiya (2017), published on "The Brains Blog", http://philosophyofbrains.com/2018/04/13/symposium-on-haun-tononi-koch-and-tsuchiya-are-we-underestimating-the-richness-of-visual-experience.aspx
3) Haun, A. (2025, April 12). 25 Apr 3 Andrew Haun "Seeing Cards Peripherally". Zenodo. https://doi.org/10.5281/zenodo.15202701 (talk listed below)

Links to papers, etc: https://scholar.google.com/citations?user=G8KWY8YAAAAJ

Thesis

Haun, A.M. Contrast Sensitivity in 1/f Noise. Dissertation for PhD degree, defended July 27, 2009 in Louisville, Kentucky USA. Advisor: Edward A. Essock, PhD.

Teaching and Talks

June 2025	*Seeing Cards Peripherally* / Shanghai University of Sport, Psychology Department Special Seminar (Shanghai, China)
April 2025	*Seeing Cards Peripherally* / Qualia Structure Group Meeting (Kyoto/Melbourne [remote]) 10.5281/zenodo.15145379 (online at https://www.youtube.com/watch?v=FCtwEMfLzYM)
Feb 2024	*Visibility Across the Visual Field* / 'MERI at a Glance' symposium, McPherson Eye Research Institute (Madison WI)
Sep 2023	*A Causal Account of Spatial Experience & The Unfathomable Richness of Visual Experience* (two lectures) / Neuroscience Advanced Studies course on Integrated Information Theory (Venice, Italy)
April 2021	*Composition in Phenomenological and Physical Structure* / Bekinschtein Lab (Cambridge University, UK [remote])
Sep 2020	*Evidence and Consciousness Science* / Unfolding the Unfolding Argument: the Unfolding Argument Argument (MCU symposium, https://www.youtube.com/watch?v=mWl-gW75O94&t=1912s)
Aug 2020	*A causal account of spatial experience: IIT and the visual field* / 'Mathematical Consciousness Science' lecture series (https://youtu.be/NbKq8DF9eT8)
May 2020	*What is visible across the visual field? (And what is the visual field, anyways?)* / 'Phistival' month lecture series (Monash & U.Melbourne, online talk https://www.youtube.com/watch?v=pG6dyLAJjRo)

Jun. 2018	*Concepts, their relations, and the composition of experience* / Integrated Information Tutorial at ASSC22 in Krakow
Jun. 2016	*Parts and relations of spatial phenomenology* / Phi Week (UW-Madison Center for Sleep and Consciousness)
July 2015	*Integrated information and the contents of consciousness* / Symposium “Perspectives and future directions in neuroscience of consciousness”, Japan Neurosciences Society (Kobe)
July 2015	*Integrated information and the contents of consciousness* / 6th BRI Symposium in Niigata: Neural mechanisms of brain functions that require awareness (BRI, Niigata University)
Jan. 2015	*Integrated information as a neural correlate of consciousness / CCN Brown Bag (University of Wisconsin-Madison Department of Psychology)*
Oct. 2014	*Integrated information structures distinguish perceptual states* / Center for Sleep and Consciousness (University of Wisconsin-Madison Department of Psychiatry)
Oct. 2014	*Integrated information in ECoG response mirrors contents of consciousness* / Human Brain Research Laboratory (University of Iowa Department of Neurology)
July 2014	*Integrated information structure in the fusiform gyrus mirrors conscious perception of faces / Sensory [Neurophysiology Seminar (Monash University Neurosciences Faculty)]*
Oct. 2013	*Visual Perception: 'Vision Science, Phenomenology, and Illusion' (October 30, 2013) [Part of a faculty-led course for Schepens/MEEI/HMS postdocs (Vision: A System and its Assessment)]*
Nov. 2011	*Measuring perceived contrast of natural scenes with reverse correlation* / VRU Seminar (McGill University Vision Research Unit)
Nov. 2010	*Measuring blur/sharp adaptation* / Research Lecture Series (New England College of Optometry)
May 2009	*Psychophysical parameterization of broadband gain control* / Seidemann Lab (University of Texas, Austin)
April 2009	*Contrast sensitivity in 1/f noise* / Vision and Visual Optics Seminar (Schepens Eye Research Institute)

Teaching

2018	Faculty leader (with Yuri Saalmann) for Neuroscience Training Program subgroup: “Neural Substrate of Visual Consciousness”	University of Wisconsin-Madison
2015-2016	Guest lecturer in graduate Statistics, undergraduate Perception	University of Wisconsin-Madison
June 2012	Signal Detection Theory and Psychophysics	Schepens low vision group
Spring 2009	Sensation and Perception Psychology major undergraduates	University of Louisville Developed and taught full course
Fall 2008	Introductory Statistics Psychology major undergraduates	University of Louisville Led three lab sections / week

Awards/Fellowships

2019	Early Career Scientist Travel Grant	National Eye Institute	~$800 to attend the 2019 Vision Sciences Society meeting
2014	Research Fellowship	Australian Department of Education, 'Endeavor' award	Postdoctoral research visiting fellowship, 6 months (funding rate ~10%, 465/>4500). Electrocorticograph analysis and neural correlates of consciousness.
2012	Contributed Vision Talk	Optical Society of America Fall Vision Meeting	Selected for featured oral presentation (~15% of submissions selected).
2011	Student Travel Award	Society for Information Display	$350 Travel Award, ‘best paper’ of section.
2010	Contributed Vision Talk	Optical Society of America Fall Vision Meeting	Selected for featured oral presentation (~10% of submissions selected).
2004-2008	Graduate Fellowship	NASA-EPSCoR, Kentucky Space Grant Consortium	Yearly competitive renewal (~$22k/yr)

External Funding

2022-2026	Adversarial collaboration to test contrasting predictions from Integrated Information Theory and Predictive Processing Accounts of Consciousness Templeton World Charities Foundation ARC Project lead at UW-Madison site (PIs: Umberto Olcese, Melanie Boly, Jakob Hohwy, Lars Muckli) Multi-site (6+) studies of conscious experience - mouse neuroscience, human psychophysics, MEG, and MRI imaging ($3,599,999) https://doi.org/10.54224/20646
2021-2023	Replication and Extension of Crucial John Grimes Experiment: Change Detection during Saccades Templeton World Charities Foundation ARC Theory lead with David Rosenthal (PIs: Brian Odegaard, Alan Lee, Francis Fallon) ($172,576) Studies of inattentional and change blindness during saccades, with adversarial theoretical interpretations https://www.templetonworldcharity.org/projects-database/replication-and-extension-crucial-john-grimes-experiment-change-detection-during
2017-2018	Testing theories of consciousness with no-report paradigms in human intracranial recording Mind Science Foundation Co-PI with Giulio Tononi, Hiroto Kawasaki (Naotsugu Tsuchiya, PI) ($20,000) Design and testing of new theory-driven neural data analysis techniques
2012-2013	Improving the quality of compressed imagery through selective contrast enhancement Corporate Sponsored Research (Analog Devices Inc.) Co-PI (Eli Peli, PI) ($45,000) Measuring the interaction between video (H.264) compression ratio, enhancement, and human judgments of video quality
2011-2012	Improving the quality of compressed imagery through JPEG-based contrast enhancement Corporate Sponsored Research (Analog Devices Inc.) Co-PI (Eli Peli, PI) ($40,000) Evaluating the capacity of image quality assessment algorithms to encode quality enhancement due to application of an contrast enhancement algorithm

Professional/Service Activities

Society Memberships (at one time or another)

Vision Sciences Society, Optical Society of America, American Academy of Optometry, Association for the Scientific Study of Consciousness, SPIE (International Society for Optics and Photonics), Society for Neuroscience, American Psychological Association

Editorial Activities

Guest Review Editor
Neuroscience of Consciousness
Reviewer for:
Attention, Perception & Psychophysics; Entropy (4); Consciousness and Cognition (3); Frontiers in Neuroscience (2); Frontiers in Psychology: Perception/Human Neurosciences (7); Frontiers in Psychology: Consciousness Research (2); Frontiers in Systems Neuroscience; IEEE Transactions on Image Processing (3); IEEE Transactions on Circuits and Systems for Video Technology (2); Investigative Ophthalmology and Vision Science; i-Perception; Journal of the Optical Society of America; Journal of Cognitive Neuroscience; Journal of Consciousness Studies; Journal of Neuroscience; Journal of Rehabilitation Research and Development; Journal of Vision [‘Exceptional Reviewer’ in 2015] (2); Mind and Matter; Nature Scientific Reports (2); Neuroimage; Neuroscience of Consciousness (5); Pacific Graphics; Perception (2); Philosophical Psychology; PLoS ONE (3); Scientific Reports; Seeing and Perceiving; Symmetry; Vision (2); Vision Research; Optics Express (2); Translational Vision Science and Technology; and more [I did too many and lost track in 2020/2021, it was chaos...]

Grant Reviewer

Fight for Sight (UK)

Supervised Students

Huiyuan Miao (UW-Madison, 2016 undergraduate project)

Administrative/Leadership

2024-	MERI Education Committee	University of Wisconsin-Madison
2023-	Member of the McPherson Eye Research Institute	University of Wisconsin-Madison
2013-2014	Faculty of the Mobility and Vision Rehabilitation Center of Excellence	Harvard Medical School / Massachusetts Eye and Ear Infirmary
2012-2014	Subject Confidentiality Officer (Supervising Confidentiality Training of New Hires)	Schepens ERI Low Vision Labs
2008-2009	Graduate Student Representative to the Psychology Faculty (Elected by Peers)	Experimental Psychology Graduate Program, University of Louisville