

İnci Ayhan, PhD

Associate Professor

Boğaziçi University, Department of Psychology

E-mail: inci.ayhan@boun.edu.tr

Website: <https://psychology.boun.edu.tr/%C4%B0nciAyhan>

Vision Lab: <https://visionlab.boun.edu.tr/en>

VR Lab: <http://buviar.boun.edu.tr/>

Education

Ph.D University College London (UCL) Department of Psychology and Language Sciences Thesis Title: Vision-based mechanisms of time perception Supervisor: Prof Alan Johnston, <u>Thesis Defense Committee</u> : Prof Patrick Cavanagh ^{1,2} , Prof Vincent Walsh ³ ¹ Harvard University ² Université Paris Descartes ³ University College London <i>Thesis accepted without corrections.</i>	September 2007 – November 2010
B.Sc. Middle East Technical University (METU/ ODTÜ) Department of Biology Double Major	September 2003 – June 2007
B.A. Middle East Technical University (METU/ ODTÜ) Department of Psychology (<u>High Honours</u>) Major	September 2002 – June 2006

Awards, Scholarships & Grants

Editorial Fellowship, Journal of Experimental Psychology: General A training fellow in editorship for JEP: General	January 2023 - continues
Tübitak 1001 Research Grant, Turkey Quality assessment of 360-degree videos guided by audio-visual saliency <u>PI</u> : Aykut Erdem <u>Expert Researchers</u> : Erkut Erdem, İnci Ayhan	March 2021 – continues
Boğaziçi University BAP Standard Grant, Turkey An investigation of time perception as a sensorimotor feature <u>PI</u> : İnci Ayhan	July 2021 – continues
Tübitak 2232 Research Grant, Turkey Models, theories, research programs <u>PI</u> : Frank Zenker <u>Expert Researchers</u> : İnci Ayhan, Güneş Ünal, Lucas Thorpe, Ferit Öztürk, Nurbay Irmak	March 2018 – continues
Tübitak 1001 Research Grant, Turkey Motion-induced prediction in the visual system <u>PI</u> : İnci Ayhan	March 2018 – September 2021
Boğaziçi University BAP Start-Up Grant, Turkey A psychophysical investigation of time perception <u>PI</u> : İnci Ayhan	January 2014 – January 2017
ESRC Postdoctoral Fellowship, United Kingdom An fMRI investigation of visual time perception <u>Mentor</u> : Prof Marty Sereno (University College London) <u>Fellowship Holder</u> : İnci Ayhan	January 2011 – January 2012
The Leverhulme Trust Scholarship, United Kingdom PhD Scholarship – Maintenance and part of overseas fees <u>PI</u> : Alan Johnston (University College London)	2007 – 2010

<u>Scholarship Holder:</u> İnci Ayhan	
NTT Communication Science Laboratories, Japan	2007 – 2010
PhD Scholarship – Rest of the overseas fees	
UCL Conference Fund, United Kingdom	May 2008 & May 2009
For peer-reviewed conference presentations	
Tübitak International PhD Scholarship, Turkey	2007 - 2010
Declined	
Tübitak National Master’s Scholarship, Turkey	2007 - 2009
Declined	

Work Experience

Associate Professor	December 2022 - continues
Boğaziçi University, Department of Psychology	
Assistant Professor	October 2013 – December 2022
Boğaziçi University, Department of Psychology	
Postdoctoral Research Assistant	February 2012– December 2012
Royal Holloway, University of London, Department of Psychology	
Postdoctoral Research Associate	February 2011– February 2012
University College London, Department of Psychology and Language Sciences	
Research Assistant	October 2011– January 2012
University College London, Department of Psychology and Language Sciences	
Undergraduate Seminar Group Tutor	2010
University College London, Department of Psychology and Language Sciences	

Administrative Duties

Department of Psychology	December 2021 – continues
Boğaziçi University	
<i>Member of the Faculty Search Committee</i>	
Cognitive Science MA Program	September 2017 – January 2022
Boğaziçi University	
<i>Chair</i>	
This MA program is offered through the cooperation of the Psychology, Computer Engineering, Linguistics and Philosophy Departments.	
http://cogsci.boun.edu.tr/	
International Symposium on Brain and Cognitive Science (ISBCS)	2018 - 2022
<i>Member of the Program Committee Chairs</i>	
<i>Organizer in 2018</i>	
Institute for Graduate Studies in Social Sciences	2018 - 2020
Boğaziçi University	
<i>Member of the Ethics Committee</i>	
BÜDAV Student Club	2019 - 2020
Boğaziçi University	
<i>Advisor</i>	
European Conference on Visual Perception (ECVP)	2019
<i>Chair in the symposium titled as “The spatial character of temporal processes”</i>	

Technical & special Skills

Software

VSG Toolbox for Matlab (visual stimulus generator to generate psychophysical stimuli), Matlab Psychtoolbox (MATLAB ve GNU/ Octave functions used in vision research), SPSS, FreeSurfer & AFNI (two separate sets of automated tools for analysing MRI data).

Operating Systems

Windows, macOS, Ubuntu/ Linux

Languages

Turkish (native), English (professional), French (pre-intermediate)

Research Interests

Visual perception

Visuo-motor interaction

Time perception

Eye movements and motion perception

Body ownership and adaptation

Affordance perception

Methodologies: Psychophysics, Virtual Reality, fMRI

Publications

International SSCI, SCI or SCI-E Indexed Journals

1. Basgol, H., **Ayhan, I.** & Ugur, E. (Submitted) Predictive event segmentation and representation with neural networks: A self-supervised model assessed by psychological experiments. Arxiv (2022): 2210.05719
2. Akkoc, T.*, Ugur, E.** & **Ayhan, I.** (2021) Trick the body trick the mind: The effect of avatar representation on the perception of available action possibilities in Virtual Reality. *Virtual Reality*, 1-15, doi: 10.1007/s10055-021-00511-8.
3. Basgol, H.*, **Ayhan, I.** & Ugur, E.** (2021) Psychological, Computational and Robotic Models of Time Perception. *IEEE Transactions on Cognitive and Developmental Systems* (Published online), doi: 10.1109/TCDS.2021.3059045.
4. **Ayhan, I.** & Ozbagci, D.* (2020) Action-induced changes in the perceived temporal features of visual events. *Vision Research*, 175, 1-13, doi: 10.1016/j.visres.2020.05.008.
5. **Ayhan, I.**, Kurtcan, A. M.* & Thorpe, L.** (2020) The effect of action on perceptual feature binding. *Vision Research*, 177, 97-108, doi: 10/1016/j.visres.2020.09.001.
6. Gulhan, D.*, & **Ayhan, I.** (2019). Short-term global motion adaptation induces a compression in the subjective duration of dynamic visual events. *Journal of Vision*, 19(5), 19-19, doi: 10.1167/19.5.19.
7. Bruno, A., **Ayhan, I.**, & Johnston, A. (2015). Changes in apparent duration follow shifts in perceptual timing. *Journal of Vision*, 15(6):2, doi: 10.1167/15.6.2.
8. **Ayhan, I.**, Revina, Y., Bruno, A., & Johnston, A. (2012). Duration judgments over multiple elements. *Frontiers in Perception Science*. 3: 459, doi: 10.3389/fpsyg.2012.00459.
9. Bruno, A., **Ayhan, I.**, & Johnston, A. (2012). Effects of temporal features and order on the apparent duration of a visual stimulus. *Frontiers in Perception Science*. 3: 90, doi: 10.3389/fpsyg.2012.00090.
10. Bruno, A., **Ayhan, I.**, & Johnston, A. (2011). Duration expansion at low luminance levels. *Journal of Vision*, 11(14):13, doi: 10.1167/11.14.13.
11. **Ayhan, I.**, Bruno, A., Nishida, S., & Johnston, A. (2011). The effect of luminance signal on the strength of adaptation-induced temporal compression. *Journal of Vision*, 11(7): 22, 1-17, doi: 10.1167/11.7.22.
12. Johnston, A., Bruno, A., & **Ayhan, I.** (2011). Retinotopic selectivity of adaptation-based compression of event duration: Reply to Burr, Cicchini, Arrighi, and Morrone. *Journal of Vision*, 10(10):30b, 1-3, doi:10.1167/10.10.30b.
13. Bruno, A., **Ayhan, I.**, & Johnston, A. (2010). Retinotopic adaptation-based visual duration compression. *Journal of Vision*, 10(10):30, 1-18, doi: 10.1167/10.10.30.
14. **Ayhan, I.**, Bruno, A., Nishida, S., & Johnston, A. (2009). The spatial tuning of adaptation-based time compression.

International ESCI Indexed Journals

1. **Ayhan, I.**, Doyle, E., Zanker, J. (2022). Measuring image distortions arising from age-related macular degeneration: An Iterative Amsler Grid (IAG). *MedComm*, 3e-107, doi: 10.1002/mco2.107.

ULAKBİM Indexed Journals (in Turkish)

1. Alaşhan, D.* & **Ayhan, I.** (2021) Zaman algısının nöral ve psikolojik modelleri: Görsel sistemde bir "zaman yolu" kuramına doğru. *Nesne*, 9 (20), 396-417.
2. **Ayhan, I.** & Ünal, G. (2020) Görsel yanılsamalar bağlamında görsel algının esasları. *Nesne*, 8 (18), 522-547.
3. Ünal, G. & **Ayhan, I.** (2020) İşlevsel özelleşmeye yeni bir bakış: Nöronal saatler. *Nesne*, 8 (17), 270-283.

* Student author

** Student thesis co-supervisor

Book Chapters (in Turkish)

1. **Ayhan, I.** (2021) Psikofiziksel yöntemler bağlamında zaman algısı. In G Unal and I Ayhan (Eds.) Psikolojide Bilişsel ve Davranışsal Süreçlere Deneysel Yaklaşımlar (sf. 111-152). Ankara: Nobel Akademik Yayıncılık. (in Turkish).
2. **Ayhan, I.** & Canbeyli, R. (2018) Zaman, zaman algısı ve biyolojik saat. In Biceroglu, H., Tonge, M., Seckin, M. Adiguzel, E., Gurvit, H. & Hanci, M. (Eds.) Fonksiyonun Cerrahi Anatomisi, İstanbul: Us Akademi. (in Turkish).

Editor, Book (in Turkish)

Psikolojide Bilişsel ve Davranışsal Süreçlere Deneysel Yaklaşımlar, Editors: Güneş Ünal and **İnci Ayhan**. Ankara: Nobel Akademik Yayıncılık.

Manuscripts Soon to Be Submitted to International SSCI, SCI or SCI-E Indexed Journals

1. Andaç, S., Sezer, B., Oztop, E., Ugur, E., & **Ayhan, I.** (In Prep *to be submitted to Virtual Reality*) Effects of scaling shoulder width on reachability and pass-through-ability affordances in virtual reality.
2. Erkent, A., Oztop, E., Ugur, E., & **Ayhan, I.** (In Prep *to be submitted to Cognition*) Interactions of body representations in rubber-hand illusion and tool-use.

Presentations

Talks and Oral Presentations

1. Ozsoy, H., Cokcelek, M., **Ayhan, I.**, Erdem, E., Erdem, A. (2022). How scene attributes and sound influence visual exploration of omnidirectional panoramic scenes (Annual Meeting of the Cognitive Science Society). *Peer-Reviewed*.
2. Tanrıverdi, D., Alashan, D., Ekinci, M. A., & **Ayhan, I.** (2021). The effect of smooth pursuit eye movements on the visibility of low-contrast chromatic stimuli in the presence of contextual motion (European Conference on Visual Perception). *Peer-Reviewed*.
3. **Ayhan I.**, Alaşhan, D., Tanrıverdi, D. & Yörüten, M. (2020). Görsel sistemde uyaran hareketi ve motor hareketle tetiklenen öngörü mekanizmaları (Ulusal Sinirbilim Kongresi). *Peer-Reviewed*.
4. **Ayhan, I.** (2019). Temporal Processes in the visual system (European Conference on Visual Perception). *Peer-Reviewed*.
5. **Ayhan, I.** (2018) Charles Bonnet sendromu üzerinden algısal farkındalığın nöral eşlenikleri (Ulusal Sinirbilim Kongresi) - Türk Nöropsikiyatri Derneği (TNPĐ) Paneli: Charles Bonnet Sendromu; Algıdan Bilince kapsamında *Peer-Reviewed*.
6. **Ayhan, I.** (2017) Manzara tanımada dikkatin etkisi (Deneysel Bilişsel Psikoloji Sempozyumu)
7. **Ayhan, I.** (2016) Effect of Short-Term Motion Adaptation on Subjective Time (*Invited talk* hosted by the Department of Psychology, Bilkent University)
8. **Ayhan, I.** (2015) Yaşa Bağlı Maküler Dejenerasyon Hastalığıyla Oluşan Görsel Deformasyonları Ölçen Yeni Bir Prosedür: Tekrarlı Amsler Grid Prosedürü (Deneysel Bilişsel Psikoloji Sempozyumu)

9. **Ayhan, I.**, Bruno, A. & Johnston, A. (2010) Time and presentation order effects (Université Paris Descartes - *Invited talk* hosted by Prof Patrick Cavanagh)
10. Bruno, A., **Ayhan, I.** & Johnston, A. (2012) Increasing velocity reduces the perceived duration of a visual interval. (Applied Vision Association Meeting). *Peer-Reviewed.*
11. **Ayhan, I.**, Doyle, E. & Zanker, J. (2012) Measuring image distortions in age-related macular degeneration (AMD) (Applied Vision Association Meeting). *Peer-Reviewed.*

Peer-Reviewed Poster Presentations (Selected)

1. Alashan, D., Tanriverdi, D., Ekinci, M. A., & **Ayhan, I.** (2021). The effects of abutting pattern motion and smooth pursuit eye movement on the visibility of low-contrast luminance-modulated target gratings (Vision Sciences Society Annual Meeting).
2. Andaç, S., Sezer, B. C., **Ayhan, I.**, Ugur, E., & Oztop, E. (2021). Effects of scaling shoulder width on passability affordance in virtual reality (Annual Meeting of the Cognitive Science Society).
3. Basgol, H., **Ayhan, I.**, & Ugur, E. (2021). A Self-Supervised and Predictive Processing-Based Model of Event Segmentation and Learning (Annual Meeting of the Cognitive Science Society).
4. Alashan, D., Canbeyli, R., & **Ayhan, I.** (2018). Multisensory duration reproduction in the supra-second range (European Conference on Visual Perception)
5. Ozbagci, D., & **Ayhan, I.** (2018). Action-induced compression in the perceived time of visual events (European Conference on Visual Perception)
6. Kurtcan, A.M., & **Ayhan, I.** (2017). A motor recalibration influence on color-motion asynchrony (CMA) effect size in a visuo-motor paradigm (European Conference on Visual Perception)
7. Gulhan, D., & **Ayhan, I.** (2017). Short-term adaptation effects on perceived duration in random dot l kinematograms (RDKs) and drifting gratings (European Conference on Visual Perception)
8. Senyazar, B., Salah, A. A., & **Ayhan, I.** (2016). The role of attention on the minimum presentation duration required for scene recognition. (European Conference on Visual Perception).
9. Gulhan, D. & **Ayhan, I.** (2016). The perceived duration of global motion in random dot kinematogram (RDK) displays. (Vision Sciences Society Annual Meeting).
10. **Ayhan, I.**, Doyle, E., & Zanker, J. (2015). The Iterative Amsler Grid (IAG): A procedure to measure image distortions in Age-Related Macular Degeneration (AMD). (European Conference on Visual Perception).
11. **Ayhan, I.**, Doyle, E., & Zanker, J. (2014). Measuring image distortions using an Iterative Amsler Grid (IAG) in patients with age-related macular degeneration. (Vision Sciences Society Annual Meeting).
12. **Ayhan, I.**, Holmes, T., & Zanker, J. (2013). Oculomotor stability in the measurement of image distortions in an Iterative Amsler Grid (IAG) procedure. (British Neuroscience Association –BNA Meeting)
13. Bruno, A., **Ayhan, I.**, & Johnston, A. (2012). Slowing down appears to last longer than speeding up. (Vision Sciences Society Annual Meeting).
14. **Ayhan, I.**, Bruno, A., Nishida, S., & Johnston, A. (2011). The effect of simultaneous context on perceived duration. (Vision Sciences Society Annual Meeting).
15. Bruno, A., **Ayhan, I.**, & Johnston, A. (2011). Apparent duration expansion at low luminance levels. (Vision Sciences Society Annual Meeting).
16. Cook, R., **Ayhan, I.**, Lai, A., Johnston, A. (2011). Glance, glimpse or stare? The discrimination of gaze duration. (Vision Sciences Society Annual Meeting).
17. **Ayhan, I.**, Bruno, A., Nishida, S., & Johnston, A. (2010). Effect of the luminance signal on adaptation-based duration compression. (Vision Sciences Society Annual Meeting).
18. Bruno, A., **Ayhan, I.**, & Johnston, A. (2010). Influences of stimulus predictability on its perceived duration. (Vision Sciences Society Annual Meeting).
19. **Ayhan, I.**, Bruno, A., & Johnston, A. (2010). Duration compression at low luminance contrast. (AVA Christmas Meeting).
20. **Ayhan, I.**, Bruno, A., Nishida, S., & Johnston, A. (2009). Spatial tuning of adaptation-induced temporal compression. (Vision Sciences Society Annual Meeting).
21. **Ayhan, I.**, Bruno, A., & Johnston, A. (2009). The role of presentation order effects in adaptation based duration compression. (AVA Meeting)
22. **Ayhan, I.**, Bruno, A., & Johnston, A. (2008). Adaptation induced temporal compression is highly space specific. (Vision Sciences Society Annual Meeting).
23. Bruno, A., **Ayhan, I.**, & Johnston, A. (2008). Retinotopic adaptation can influence the apparent duration of a visual stimulus. (P Vision Sciences Society Annual Meeting).

Thesis Supervision

Supervised and Successfully Completed MA Theses

Alp Erkent: Interactions of body representations in rubber-hand illusion and tool-use paradigms (2022)

Supervisor: İnci Ayhan

Co-Supervisor: Emre Uğur

Duygu Yalınkılıç: Experience and insight under time pressure: A study with race game (2022)

Supervisor: İnci Ayhan

Co-Supervisor: Ayça Ebru Giritligil

Safa Andaç: Effects of scaling shoulder width in virtual reality on reachability and pass-through-ability affordances (2021)

Supervisor: İnci Ayhan

Co-Supervisor: Emre Uğur

Dilce Tannverdi: The effects of motion and smooth pursuit eye movements on the visibility of chromatic stimuli (2021)

Supervisor: İnci Ayhan

Didem Alaşan: The effects of smooth pursuit eye movements and abutting pattern motion on luminance contrast sensitivity (2021)

Supervisor: İnci Ayhan

Co-Supervisor: Emre Uğur

Hamit Başgöl: A computational model and psychological investigation of event segmentation and learning

Supervisor: Emre Uğur

Eş-Danışmanlar: İnci Ayhan

Naciye Tuğçe Akkoç: Interaction between cyberbodies and cyberspace: The effect of avatar abilities on affordance perception in virtual reality (2019)

Supervisor: İnci Ayhan

Co-Supervisor: Emre Uğur

Ayşe Melisa Kurtcan: Temporal experience: Action and perception dynamics (2019)

Supervisor: Lucas Thorpe

Co-Supervisor: İnci Ayhan

Ali Taylan Bilik: Neural and cognitive underpinnings of trustworthiness in the prefrontal cortex via optical brain imaging (2019)

Supervisor: İnci Ayhan

Co-Supervisor: Tuna Çakar

Duygu Özbacı: Sensorimotor interaction and time perception: An empirical study and a philosophical discussion (2018)

Supervisor: İnci Ayhan

Co-Supervisor: Lucas Thorpe

Doğa Gülhan: A psychophysical investigation and a philosophical discussion on event-time perception (2017)

Supervisor: İnci Ayhan

Co-Supervisor: Lucas Thorpe

Berhan Şenyazar: The role of attention on scene recognition (2017)

Supervisor: İnci Ayhan

Co-Supervisor: Albert Ali Salah

Courses Taught

Undergraduate

PSY 201-202 Introduction to Statistics for Psychology I & II

PSY 304 Experimental Psychology

PSY 301 Research Methods in Psychology

PSY 327 Sensation and Perception

PSY 411 Theories in Psychology

PSY 484 Special Topics in Cognitive Psychology (Applied Vision)

Reading and Research in Visual Perception I & II

Graduate

PSY 501 Advanced Research Methods I

PSY 521 Advanced Cognitive Psychology

PSY 504-505 Research Projects in Psychology I & II

Reviewer Activity

PLOS One

Journal of Vision / ARVO (2 of them received an “Exceptional review” by the Editor)

Vision Research

Perception

Frontiers in Psychology

Investigative Ophthalmology and Visual Science (IOVS)

Current Research in Behavioral Sciences

Editorial Roles

Journal of Experimental Psychology: General Editor Fellow (from January 2023)

UPDATED ON DECEMBER, 2022