Buse Merve Ürgen

Contact: TED University
Department of Psychology
Ziya Gökalp Cad. No: 48
Kolej 06420, Çankaya
Ankara – Turkey

Office: B-145 (İncesu Blokları, B Blok 1. Kat)

E-mail: buse.urgen@tedu.edu.tr | buseurgen@gmail.com

EDUCATION

PhD   Neuroscience (2014 - 2021)
           Bilkent University, Turkey
MSc   Cognitive Neuroscience (2011 – 2012)
           University College London (UCL), UK
BA   Psychology (2006 – 2011)
           Bilkent University, Turkey

PROFESSIONAL EXPERIENCE

Assistant Professor (June 2022 –)
           Department of Psychology, TED University, Turkey

Instructor (Feb 2022 – June 2022)
           Department of Psychology, TED University, Turkey

Post-doctoral Researcher (Jan 2021 – Feb 2022)
           National Magnetic Resonance Research Center (UMRAM) &
           Aysel Sabuncu Brain Research Center, Turkey

Researcher/Graduate Student (2017 – 2021)
           Interdisciplinary Neuroscience Program, Bilkent University, Turkey
           Project: Behavioral and neural investigation of predictive processing in visual perception
           PI: Prof. Hüseyin Boyacı, research funded by TÜBİTAK 1001 (217K163).

Teaching Assistant (Sep 2014 – Jan 2021)
           Department of Psychology, Bilkent University, Turkey

Research Assistant (2013 – 2016)
           National Magnetic Resonance Research Center (UMRAM), Turkey
           Project: Assessing structural and functional architecture of the human brain through investigating influences of genetically rooted central nervous system disorders
           PI: Prof. Katja Doerschner, research funded by TÜBİTAK 1001 (112K069).

COURSES TAUGHT

Instructor, TED University, Turkey (2022 -)
  PSY310 – Cognitive Psychology
  PSY312 – Biopsychology
  PSY317 – Sensation and Perception
  PSY402 – Graduation Paper and Seminar
  PSY413 – Current Topics in Cognitive Psychology

Teaching Assistant, Bilkent University, Turkey (2014- 2021)
  PSY310 – Perception, Attention, Action
  PSY200 – Cognitive Psychology
  PSY350 – Cognitive and Social Development
  PSY203 – Statistics I
  PSY101 – Introduction to Psychology

PEER-REVIEWED PUBLICATIONS[+]

Reichenbach, A., **Urgen, B.M.**, Apostolakis, S., Michlin, L., & Diedrichsen, J. (2022). Factors governing the assignment of visual consequence to the corresponding action. *Journal of Neurophysiology*. URL: https://doi.org/10.1152/jn.00450.2021

Urgen, B.M., Boyaci, H. (2021). Unmet expectations delay sensory processes. *Vision Research, 181*, 1-9. URL: https://doi.org/10.1016/j.visres.2020.12.004 (*also in *bioRxiv* 2019, https://doi.org/10.1101/545244)

Demirayak, P., Karli Oguz, K., Ustun, F.S., **Urgen, B.M.**, Topac, Y., Gilani, I., Kansu, T., Saygi, S., Özçelik, T., Boyaci, H., Doerschner, K. (2021). Cortical connectivity in the face of congenital structural changes – a case of homozygous LAMC3 mutation. *Brain and Behavior*, 1– 18. URL: https://doi.org/10.1002/brb3.2241

Urgen, B.M., Topac, Y., Ustun, F.S., Demirayak, P., Oguz, K.K., Kansu, T., Saygi, S., Ozcelik, T., Boyaci, H., Doerschner, K. (2019). Homozygous LAMC3 mutation links to structural and functional changes in visual attention networks, *NeuroImage, 190*, 242-253. URL: https://doi.org/10.1016/j.neuroimage.2018.03.077

PREPRINTS

Urgen, B.M., Boyaci, H. (2021). A recurrent cortical model can parsimoniously explain the effect of expectations on sensory processes. *bioRxiv*. URL: https://doi.org/10.1101/2021.02.05.429913

Urgen, B.M., & Boyaci, H. (2019). When expectations are not met: unraveling the computational mechanisms underlying the effect of expectation on perceptual thresholds. **bioRxiv*. URL: https://doi.org/10.1101/545244

FELLOWSHIPS, AWARDS AND HONOURS

Travel Support, Neuroscience Program, Bilkent University, Turkey (2019)
Publication Award, Bilkent University, Turkey (2019)
European Visual Neuroscience Summer School Fellowship, Germany (2016)
Travel grant of European Visual Neuroscience Summer School, Germany (2016)
Academic Achievement Scholarship, Bilkent University, Turkey (2008 – 2010)

INVITED TALKS

"Ön bilgi ve beklentilerin görsel algı üzerindeki etkileri". Talk at Hacettepe University, The Science Festival organized by Hacettepe University & Evrim Ağacı (2022).

"The role of expectation and attention in visual perception: Behavioral, computational, and neural investigation of top-down mechanisms in visual perception". Talk at TED University, Department of Psychology (2021).

"The effect of expectations on visual perception". Talk at Middle East Technical University (METU), Department of Psychology, METU Sense Lab (2021).

CONFERENCE PRESENTATIONS AND ABSTRACTS

Elmas, H.O., Aydin, B., Er, S., Rezaki, A.D., Izgi, A., Urgen, B.M., Boyaci, H., Urgen, B.A. [Poster]. The effect of prior knowledge on biological motion perception. Annual Meeting of Vision Sciences Society (VSS), Florida, USA, 2022.

Elmas, H.O., Aydin, B., Er, S., Rezaki, A.D., Izgi, A., Urgen, B.M., Boyaci, H., Urgen, B.A. Predictive processing in biological motion perception. International Symposium on Brain and Cognitive Sciences (ISBCS), Turkey, 2022 (virtual).

Urgen, B.M., Boyaci, H. [Poster]. Sensory processes are delayed when expectations are not met. Annual Meeting of Vision Sciences Society (VSS), Florida, USA, 2021.

Urgen, B.M., Boyaci, H. [Poster]. Effect of expectation on perceptual processes: evidence from behavior and a mechanistic cortical model. National Neuroscience Congress (USK), Ankara, Turkey, 2020.

Urgen, B.M., Boyaci, H., A recurrent cortical model unveils the computational mechanisms underlying the effect of expectations on sensory processes [Poster]. 7th International Symposium on Brain and Cognitive Science (ISBCS), Turkey, 2020.

Urgen, B.M., Boyaci, H. [Poster]. Unmet expectations delay sensory processes. Dynamics in Vision and Touch (DyViTo) Workshop, Cappadocia, Turkey, 2019.

Urgen, B.M., Boyaci, H. [Poster]. Unraveling the computational mechanisms underlying the effect of expectation on perceptual thresholds. National Cognitive-Experimental Psychology Symposium, Istanbul, Turkey, 2019.

Boyaci H., Urgen, B.M. [Talk]. A recursive Bayesian updating scheme to model the effect of prediction on individuation. European Conference on Visual Perception (ECVP), Trieste, Italy, 2018.

Urgen, B.M., Boyaci, H. [Poster]. A recursive Bayesian updating scheme to model the effect of prediction on individuation. Annual Meeting of Society for Neuroscience (SfN), San Diego, USA, 2018.

Urgen, B.M., Boyaci, H. [Poster]. Behavioral evidence of predictive processing in visual perception. 5th International Symposium on Brain and Cognitive Science (ISBCS), Istanbul, Turkey, 2018.

Urgen, B.M., Boyaci, H. [Poster]. Effect of object category prediction on individuation. European Conference on Visual Perception (ECVP), Berlin, Germany, 2017.

Urgen, B.M., Ustun, F.S., Demirayak, P., Karli-Oguz, K., Doerschner, K. [Poster]. Cortical structural changes and visual functional outcomes associated with homozygous LAMC3 mutation. 14th National Neuroscience Congress (USK), Ankara, Turkey, 2016.

Urgen, B.M., Demirayak, P., Ustun, F.S., Doerschner, K. [Poster]. Visual distraction in a patient with abnormal occipital gyration – an eye-tracking study. Annual Meeting of Vision Sciences Society (VSS), Florida, USA, 2015.

Urgen, B.M., Boyaci, P., Ustun, F.S., Oguz, K.K., Gilani, I., Boyaci, H., Topac, Y., Doerschner, K. [Poster]. Morphometric Analysis of the Effects of LAMC3 Mutation on Cortical Structure. Annual Meeting of the Organization for Human Brain Mapping (OHBM), Hamburg, Germany, 2014.

Boyaci, P., Gilani, I., Urgen, B.M., Ustun, F.S., Topac, Y., Oguz, K.K., Boyaci, H., Doerschner, K. [Poster]. Effect of LAMC3 Mutation on White Matter Architecture: a Diffusion Tensor Imaging (DTI) study. Annual Meeting of the Organization for Human Brain Mapping (OHBM), Hamburg, Germany, 2014.

Ustun, F.S., Boyaci, P., Gilani, I., Urgen, B.M., Topac, Y., Boyaci, H., Doerschner, K. [Poster]. Effects of LAMC3 mutation on default mode network: A resting state fMRI analysis. Annual Meeting of the Organization for Human Brain Mapping (OHBM), Hamburg, Germany, 2014.

Ors, A., Abaci Turk, E., Urgen, B.M., Boyaci, H, and Doerschner, K. [Poster]. Mapping of Somatosensory Cortex using fMRI. 16th Annual Congress of Turkish Society for Magnetic Resonance (TMRD), Istanbul, Turkey, May 19-21, 2011.

THESES

Ürgen, B. M. (2021). *Behavioral and Computational Investigation of the Effect of Prior Knowledge on Visual Perception* (Doctoral dissertation, Bilkent Universitesi (Turkey)).

Ürgen, B. M. (2012). *Taking the Measure of the Factors which Influence the Assignment of Agency during Online Motor Control* (Master's dissertation, University College London (United Kingdom)).

ADMINISTRATIVE DUTIES

Web-designer (2017 – 2022)
    Computational and Biological Vision Group: http://vision.bilkent.edu.tr
Web-designer (2018 – 2022)
    Department of Psychology, Bilkent University: http://www.psy.bilkent.edu.tr
Web-designer (2019 – 2021)
    Aysel Sabuncu Brain Research Center: http://beyin.bilkent.edu.tr
Web-designer (2019 – 2021)
    Neuroscience Program, Bilkent University: http://neuro.bilkent.edu.tr/

MEMBERSHIPS

Society for Neuroscience (SfN)
Vision Sciences Society (VSS)
University College London Alumni Association
Bilkent University Alumni Association

WORKSHOPS AND COURSES ATTENDED

EEG Course (supported by the British Academy via Newton Funding)
    Aysel Sabuncu Brain Research Center, Bilkent University, Turkey, 2018.
European Visual Neuroscience (from spikes to awareness) Summer School
    Schloss Rauischholzhausen in Hessia, Germany, 2016.

OTHER INFORMATION

Languages

English (fluent), Turkish (native)

IT Skills

Programming Languages: MATLAB

Softwares & Toolboxes: FreeSurfer, SPM, Brain Voyager, The Decoding Toolbox (MVPA), BRAPH (toolbox for structural and functional connectivity analysis), DMAT (toolbox for Drift-diffusion model analysis for behavioral data), Psychtoolbox, Palamedes (toolbox for analyzing psychophysical data), JASP, SPSS.