

Dr. Fazilet Zeynep Yildirim-Keles

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Positions

2025 – to date	Assistant Professor , Department of Psychology, Boğaziçi University
2023 – 2025	Postdoctoral Researcher , Department of Psychology, University of Fribourg, Switzerland
2021 – 2022	Postdoctoral Researcher , SCALab - Sciences Cognitives et Sciences Affectives, University of Lille, France

Education

2016 – 2021	PhD Psychology University of Bern, Switzerland Thesis: “ <i>Redundancy masking: Compression of redundant information in the visual system</i> ” Advisor: Prof. Bilge Sayim
2014 – 2016	MSc Neuroscience Bilkent University, Türkiye Thesis: “ <i>Changes in fMRI resting state networks due to audiovisual association induced effects on visual motion perception</i> ” Advisor: Prof. Hulusi Kafaligonul
2010 – 2014	BA Psychology Bilkent University, Türkiye

Research Experience

01/2023 – 04/2025	Postdoctoral researcher , iBMLAB - i(Eye) and Brain Mapping Laboratory, University of Fribourg. Advisor: Prof. Roberto Caldara. <i>Project 1: “Neural correspondence between the event related potentials (ERPs) and steady state visual evoked potentials (SSVEPs) of face categorization”</i> <i>Project 2: “The investigation of implicit race and gender biases with EEG fast periodic visual stimulation (FPVS) paradigm”</i> <i>Project 3: “The neural correlates of crowded face identification using oddball EEG FPVS paradigm”</i>
03/2022 – 10/2022	Postdoctoral researcher , SCALab - Sciences Cognitives et Sciences Affectives, University of Lille. Advisor: Prof. Bilge Sayim. <i>Project 1: “How mental imagery affects visual crowding”</i>
10/2016 – 12/2021	Doctoral researcher , Psychophysics of Appearance Lab, University of Bern. PhD Advisor: Prof. Bilge Sayim. <i>PhD Thesis: “Redundancy masking: Compression of redundant information in the visual system”.</i> <i>Project 1: “Examining the neural correlates of redundancy masking with EEG frequency tagging technique”</i>
09/2014 – 08/2016	Graduate research assistant , Cortical Dynamics and Perception Lab, Bilkent University. MSc Advisor: Prof. Hulusi Kafaligonul.

09/2013 – 08/2014

MSc Thesis: “Changes in fMRI resting state networks due to audiovisual association induced effects on visual motion perception”.

Project 1: “An event-related potential (ERP) investigation of apparent motion”

Undergraduate research assistant, Cortical Dynamics and Perception Lab, Bilkent University. Advisor: Prof. Hulusi Kafaligonul.

Project 1: “The adaptation effects of auditory and visual time intervals on apparent motion”

Publications in Peer-Reviewed Scientific Journals

Yildirim-Keles, F. Z., Coates, D. R., & Sayim, B. (in preparation). Transition from object to texture processing in human vision.

Yildirim-Keles, F. Z., Coates, D. R., & Sayim, B. (in preparation). Lost lines in warped space: Evidence for spatial compression in crowded displays.

Yildirim-Keles, F. Z., Aschwanden, R., & Sayim, B. (submitted). Visual imagery alleviates crowding.

Yildirim-Keles, F. Z., Demirayak, P., & Kafaligonul, H. (under revision). Functional and Structural Plasticity Induced by Audiovisual Associations and Sensory Experiences.

Yildirim-Keles, F. Z., Stacchi, L., & Caldara, R. (2025). Cross-Validating the Electrophysiological Markers of Early Face Categorization. *eNeuro*, 12(1). <https://doi.org/10.1523/ENEURO.0317-24.2024>

Yildirim-Keles, F. Z., Coates, D. R., & Sayim, B. (2024). Attention in redundancy masking. *Attention, Perception & Psychophysics*. <https://doi.org/10.3758/s13414-024-02885-8>

Yildirim F. Z., & Sayim B. (2022). High confidence and low accuracy in redundancy masking. *Consciousness and Cognition*, 102, 103349. <https://doi.org/10.1016/j.concog.2022.103349>

Yildirim, F. Z., Coates, D. R., & Sayim, B. (2022). Atypical visual field asymmetries in redundancy masking. *Journal of Vision*, 22(5), 4. <https://doi.org/10.1167/jov.22.5.4>

Yildirim, F. Z., Coates, D. R., & Sayim, B. (2021). Hidden by bias: How standard psychophysical procedures conceal crucial aspects of peripheral visual appearance. *Scientific Reports*, 11(1), 4095. <https://doi.org/10.1038/s41598-021-83325-7>

Yildirim F. Z., Coates, D. R., & Sayim B. (2020). Redundancy masking: The loss of repeated items in crowded peripheral vision. *Journal of Vision*, 20(4):14. <https://doi.org/10.1167/jov.20.4.14>

Kaya, U., **Yildirim F. Z.**, & Kafaligonul, H. (2017). The involvement of centralized and distributed processes in sub-second time interval adaptation: an ERP investigation of apparent motion. *European Journal of Neuroscience*, 46(8), 2325-2338. <https://doi.org/10.1111/ejn.13691>

Contributions to Conferences

Yildirim, F. Z., Stacchi, L., & Caldara, R. (2025). Assessing the neural face inversion effect with fast periodic visual stimulation. Poster presentation at the Annual meeting of Swiss Society of Neuroscience, 6 – 7 February 2025, Lausanne, Switzerland. <https://cloud.swissneuroscience.ch/s/pNCmnbFjdrCiLGJ>

- Stacchi, L., **Yildirim-Keles, F. Z.**, & Caldara, R. (2024). Cross-validating the neurofunctional electrophysiological markers of early face categorization. *Journal of Vision*, 24(10), 827. <https://doi.org/10.1167/jov.24.10.827>
- Yildirim, F. Z.**, Stacchi, L., & Caldara, R. (2024). Cross-validating the electrophysiological markers of early face categorization. https://www.unige.ch/ABIM/files/8017/0556/9161/Booklet_Final.pdf Oral presentation at the Alpine Brain Imaging Meeting, 7 – 11 January 2024, Champéry, Switzerland.
- Sayim, B., **Yildirim, F. Z.**, & Coates, D.R. (2022). What is redundant in redundancy masking? Oral presentation at the Annual Meeting of the European Society for Cognitive Psychology, 29 August– 1 September 2022, Lille, France.
- Yildirim, F. Z.**, Aschwanden, R., & Sayim, B. (2022). Imagine that! Visual imagery alleviates crowding. *Journal of Vision*, 22(14), 4182. <https://doi.org/10.1167/jov.22.14.4182> Poster presentation at the Annual Meeting of the Vision Sciences Society, 12 – 18 May 2022, St. Petersburg, FL, USA.
- Yildirim, F. Z.**, & Sayim, B. (2021). Low accuracy and high confidence in redundancy masking. <https://journals.sagepub.com/doi/10.1177/03010066211059887> Poster presentation at The European Conference on Visual Perception, 22 – 27 August 2021.
- Li, M., **Yildirim, F. Z.**, Alp, N., & Sayim, B. (2021). Feature migration in redundancy masking. GDR Vision Forum, October 2021.
- Li, M., **Yildirim, F. Z.**, Alp, N., & Sayim, B. (2021). Seeing features of unseen objects: feature migration in redundancy masking. <https://journals.sagepub.com/doi/10.1177/03010066211059887> Poster presentation at The European Conference on Visual Perception, 22 – 27 August 2021.
- Yildirim, F. Z.**, Coates, D.R., Sayim, B. (2019). Spatial compression in redundancy masking. Poster presentation at the 16th SPS SGP SSP Conference, September 2019, Bern, Switzerland.
- Yildirim, F. Z.**, Coates, D. R., & Sayim, B. (2019). Lost lines in warped space: Evidence for spatial compression in crowded displays. *Journal of Vision*, 19(10), 13c-13c. <https://doi.org/10.1167/19.10.13c> Oral presentation at Annual Meeting of Vision Sciences Society, 17 – 22 May 2019, St. Petersburg, FL, USA.
- Yildirim, F. Z.**, Coates, D. R., & Sayim, B. (2019). No help for lost lines: Redundancy masking is strong under focused and diffuse attention. *Perception*, 48(2S), p. 84. <https://journals.sagepub.com/doi/pdf/10.1177/0301006619863862> Oral presentation at The European Conference on Visual Perception, 25 – 29 August 2019, Leuven, Belgium.
- Yildirim, F. Z.**, Coates, D.R., & Sayim, B. (2018). Visual references reverse diminishment in crowding. *Perception*, 48, p. 53. <https://journals.sagepub.com/doi/pdf/10.1177/0301006618824879> Poster presentation at The European Conference on Visual Perception, 26 – 30 August 2018, Trieste, Italy.
- Sayim, B., Melnik, N., **Yildirim, F. Z.**, Coates, D. R. (2017). Capturing appearance in crowded peripheral vision. https://gdrvision2017.sciencesconf.org/data/pages/GDR2017_Long_program_clean.docx_2.pdf GDR Vision Meeting, 11 – 12 October 2017, Lille, France.
- Yildirim, F.Z.**, Coates, D. R., Sayim, B. (2017). Crowding impairs subitizing. *Perception*, 46, p. 54. https://journals.sagepub.com/pb-assets/cmscontent/PEC/ECVP2017_abstracts_1.2.pdf Poster presentation at The European Conference on Visual Perception, 27 – 31 August 2017, Berlin, Germany.
- Sayim, B., Melnik, N., **Yildirim, F. Z.**, Coates, D. R. (2017). Creating peripheral shape metamers. *Perception*, 46, p. 57. https://journals.sagepub.com/pb-assets/cmscontent/PEC/ECVP2017_abstracts_1.2.pdf

Poster presentation at The European Conference on Visual Perception, 27 – 31 August 2017, Berlin, Germany.

Coates, D. R., **Yildirim, F. Z.**, Melnik, N., Sayim, B. (2017). Deconstructing peripheral appearance. *Perception*, 46, p. 141. https://journals.sagepub.com/pb-assets/cmscontent/PEC/ECVP2017_abstracts_1.2.pdf Poster presentation at The European Conference on Visual Perception, 27 – 31 August 2017, Berlin, Germany.

Kaya, U., **Yildirim, F.Z.**, & Kafaligonul, H. (2017). Evoked potentials to visual apparent motion after auditory and visual time interval adaptation. *Perception*, 46, p. 59. https://journals.sagepub.com/pb-assets/cmscontent/PEC/ECVP2017_abstracts_1.2.pdf Poster presentation at The European Conference on Visual Perception, 27 – 31 August 2017, Berlin, Germany.

Supervision of Master's and Bachelor's Theses

10/2024 – to date	<i>MA thesis:</i> Mariana Gutierrez Perez, Dep. of Psychology, University of Fribourg. Project: “Cluttered facial expressions of emotions: An EEG-FPVS study”
10/2024 – to date	<i>MA thesis:</i> Lara Cicmilovic, Dep. of Psychology, University of Fribourg. Project: “Cluttered facial expressions of emotions: An EEG-FPVS study”
10/2024 – to date	<i>MA thesis:</i> Melisa Kurtic, Dep. of Psychology, University of Fribourg. Project: “Cluttered face identity discrimination across racial backgrounds: An EEG-FPVS study”
10/2024 – to date	<i>BA thesis:</i> Emma Mey, Dep. of Psychology, University of Fribourg Project: “Crowding at multiple stages of visual analysis”
09/2023 – to date	<i>MA thesis:</i> Georgia Vargemidou, Dep. of Psychology, University of Fribourg. Project: “Implicit gender biases with EEG-FPVS paradigm”
09/2023 – to date	<i>MA thesis:</i> Lisa Jequier, Dep. of Psychology, University of Fribourg. Project: “Implicit race biases with EEG-FPVS paradigm”
08/2023 – 06/2024	<i>Intern:</i> Elia Nobile, Dep. of Psychology, University of Fribourg. Project: “Behavioral correlates of implicit and explicit biases”
06/2021 – 08/2022	<i>MA thesis:</i> Rahel Aschwanden, Inst. of Psychology, University of Bern. Project: “Mental imagery outside the crowding zone leads to uncrowding”
08/2019 – 09/2020	<i>Intern:</i> Patrick Höhener, Inst. of Psychology, University of Bern. Project: “Redundancy masking: From tiny lines to colossal circles”
04/2018 – 04/2019	<i>BA thesis:</i> Kim Molinari, Inst. of Psychology, University of Bern. Project: “Confidence assessment of crowded stimuli”
04/2017 – 04/2018	<i>BA thesis:</i> Sakithya Sathiaseelan, Inst. of Psychology, University of Bern. Project: “The effect of crowding on enumeration”

Master's Thesis Jury Membership

05/2025	<i>MA thesis:</i> Loïc Schollaert, Dep. of Psychology, University of Fribourg. Thesis: “Saliency and executive network connectivity analyses in schizophrenia during emotional memory tasks”
10/2024	<i>MA thesis:</i> Naomi Gyger, Dep. of Psychology, University of Fribourg.

Thesis: *“Studying non-pharmacological treatment approaches for cognitive impairment in Multiple Sclerosis: cognitive training, exercise training or better both?”*

Teaching Activities

- 09/2018 – 05/2019 **Tutor** in 917-HS2018-0 Experimental Practice, University of Bern. Content: The practical application of experimental procedures in psychology.
- 09/2017 – 05/2018 **Tutor** in 917-HS2017-0 Experimental Practice, University of Bern. Content: The practical application of experimental procedures in psychology.
- 09/2015 – 06/2016 **Teaching Assistant** in NSC 510 Sensory and Motor Systems Neuroscience, Bilkent University. Content: Graduate level course on sensory-motor performance and the underlying neural mechanisms.
- 02/2015 – 06/2015 **Teaching Assistant** in SOC 101 Social Psychology, Bilkent University. Content: The nature and causes of individual behavior in social situations; to identify the factors that shape feelings, behavior and thought.
- 09/2014 – 01/2015 **Teaching Assistant** in PSYC 204 Research Methods I, Bilkent University. Content: The methods in which psychologists study behavior.

Academic Collaborations

- 09/2024 – to date Assoc. Prof. Gregory Francis, Purdue University, USA.
- 02/2024 – to date Assoc. Prof. Luca Vizioli, University of Minnesota, USA.
- 01/2023 – to date Prof. Roberto Caldara, University of Fribourg, Switzerland.
- 03/2022 – to date Prof. Justin Gardner, Stanford University, USA.
- 06/2021 – to date Prof. Bilge Sayim, University of Lille, France.
- 06/2019 – to date Assist. Prof. Nihan Alp, Sabanci University, Türkiye.
- 08/2017 – to date Assist. Prof. Daniel R. Coates, University of Houston, USA.
- 10/2016 – to date Prof. Hulusi Kafaligonul, Bilkent University, Türkiye.

Trainings

- 11/2024 Course on ‘What is special about the human brain?’ by Prof. Bruno Rossion, University of Fribourg, Fribourg, Switzerland.
- 09/2023 Course on ‘How does the human brain recognize faces?’ by Prof. Bruno Rossion, University of Fribourg, Fribourg, Switzerland.
- 03/2023 Advanced EEG Workshop on Brain Decoding by Assoc. Prof. Fraser W. Smith, University of Fribourg, Fribourg, Switzerland.
- 10/2019 – 11/2019 Effective Grant Writing Workshop, University of Bern, Bern, Switzerland.
- 06/2019 Workshop on Visual Crowding, University of Bern & École Polytechnique Fédérale de Lausanne, Murten, Switzerland.
- 09/2018 – 11/2018 Writing and Peer Reviewing for Publication Workshop, University of Bern
- 10/2018 – 11/2018 Scientific Writing Workshop, University of Bern, Bern, Switzerland.

- 10/2018 Statistics with R Workshop by Dr. Boris Mayer and Dr. Andrew Ellis, University of Bern, Bern, Switzerland.
- 09/2017 – 02/2018 Course on 'Information Processing in the Human Visual System' by Prof. Felix Wichmann, University of Bern, Bern, Switzerland.
- 05/2016 Eye-tracking Course, 14th National Congress of Neuroscience, Ankara University, Ankara, Türkiye
- 06/2015 EEG Brain Oscillations and Cognition Workshop, Istanbul Kültür University, Istanbul, Türkiye.
- 01/2015 Scientific Training for Laboratory Animal Experiments, Bilkent University, Ankara, Türkiye

Awards and Fellowships

- 09/2009 – 06/2014 **Bilkent University comprehensive scholarship** including a full tuition waiver, a monthly stipend, and accommodation expenses during undergraduate studies (with a score in the **99.9th percentile** in a nationwide university placement exam; 1,207th among 1,324,197 examinees)