**Aytaç Karabay**

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**EXPERIENCE**

**Research experience**

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| **Postdoctoral researcher,** New York University, Abu Dhabi, UAE Advisor: Dr. Daryl Fougnie | 2022–Ongoing |
| **Postdoctoral researcher,** University of Groningen, Groningen, NL  Project: *Hidden brain states underlying efficient representations in working memory* Advisor: Prof. Elkan G. Akyürek | 2019–2022 |
| **Research assistant,** CUNY-Brooklyn College, New York, USA Advisor: Dr. Daniel Kurylo  Position: Volunteer assistant in animal-vision psychophysics laboratory | 2014–2015 |

**Editorial experience**

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| **Junior editor,** Journal of Experimental Psychology: Human Perception and Performance Advisor: Prof. Isabel Gauthier | 2023–2024 |

**Teaching experience**

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| Introduction to Psychology | Teaching assistant | New York University|AD | 2023 |
| Thinking | Teaching assistant | New York University|AD | 2023 |
| Cognition and Attention | Guest lecturer | University of Groningen | 2021; 2022 |
| Academic Skills | Lecturer | University of Groningen | 2018–2019 |
| Honors Research Practicum | Mentor | University of Groningen | 2017–2018 |

**EDUCATION**

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| **Ph.D., Cognitive Neuroscience,** University of Groningen, Groningen, NL | 2020 |
| Dissertation:*From stimulus to representation: Target identification in rapid serial visual Presentation* Promotors: Prof. Elkan G. Akyürek & Prof. Monicque M. Lorist |  |
| **M.A., Experimental Psychology,** CUNY-Brooklyn College, New York, USA | 2015 |
| Dissertation: *Perceptual grouping by orientation coherence* Supervisor: Dr. Daniel D. Kurylo | |
| **B.A., Psychology,** Ankara University, Ankara, TR | 2011 |
| Dissertation: *Differences between voluntary and involuntary autobiographical memories* Supervisor: Prof. Nurhan Er | |

**PUBLICATIONS**

*Student trainees are underlined  
\* indicates shared first authorship*

**Preprints and submitted papers**

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| **Karabay, A.,** Wolff, M. J., Ruuskanen, V., & Akyürek, E. Behaviorally irrelevant feature matching increases neural and behavioral working memory readout: Support for activity-silent working memory. <https://doi.org/10.1101/2023.09.12.557327> [*preprint*] | 2023 |
| Wang, S., **Karabay, A.,** & Akyürek, E. G. Attentional Blur and Blink: Effects of Adaptive Attentional Scaling on Visual Awareness. <https://doi.org/10.31234/osf.io/zncfu> [*preprint*] | 2023 |
| **Karabay, A.\*,** Nijenkamp, R.\*, Sarampalis, A., & Fougnie, D.Introducing ART: a new method of testing auditory memory with circular reproduction tasks. [*under review*] | 2023 |
| Kandemir, G.\*, Wolff, M. J. \*, **Karabay, A.,** Stokes, M. G., Axmacher, N., & Akyürek, E. G. Concurrent maintenance of both veridical and transformed working memory representations. <https://doi.org/10.1101/2022.10.28.514218> [*preprint*] | 2022 |
| Wang, S., **Karabay, A.,** & Akyürek, E. G. Which visual working memory model accounts best for target representation in the attentional blink? <https://doi.org/10.1101/2022.09.15.508098> [*preprint*] | 2022 |
| Fougnie, D. L., **Karabay, A.,** Alvarez, G., & Brady, T. F. If at first you don’t succeed, try, try again: Second chances reveal more information in working memory. <https://doi.org/10.31234/osf.io/evqtn> [*preprint*] | 2022 |

**Journal articles**

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| Altınok, A., **Karabay, A.**, Balta, G, de Jonge, J., & Akyürek, E.G. Effects of gamma-aminobutyric acid on working memory and attention: A randomized, double-blinded, placebo-controlled, crossover trial. *Journal of Psychopharmacology, 37*(6), 554–565. https://doi.org/10.1177/02698811231161579 | 2023 |
| Chen, I. Y., **Karabay, A.**, Mathȏt, S., Bowman, H., & Akyürek, E. G. Concealed identity information detection with pupillometry in rapid serial visual presentation. *Psychophysiology*, *60*(1). 1-14. <https://doi.org/10.1111/psyp.14155> | 2023 |
| Altınok, A., **Karabay, A.**, & Akyürek, E. G. Acute effects of cocoa flavanols on visual working memory: Maintenance and updating. *European Journal of Nutrition, 61*(3), 1665–1678*.* <https://doi.org/10.1007/s00394-021-02767-x> | 2022 |
| **Karabay, A.,** Wilhelm, S. A., de Jonge, J., Wang, J., Martens, S., & Akyürek, E. G. Two faces of perceptual awareness during the attentional blink: Gradual and discrete. *Journal of Experimental psychology: General, 151*(7), 1520–1541.https://doi.org/10.1037/xge0001156 | 2022 |
| Karataş, O., **Karabay, A.**, & Alıcı, T. The effects of long-term cocoa flavanols intake on cognitive functions and mood, and the physiological mechanisms underlying these effects: A literature review. *Turkish Psychological Articles, 25*(49). 1–26*.* https://doi.org/10.31828/tpy1301996120211203m000043 | 2022 |
| **Karabay, A.,** & Kurylo, D. D. Discriminating global orientation of two element sets. *Journal of Cognition, 3*(1), 1-13. <https://doi.org/10.5334/joc.127> | 2020 |
| **Karabay, A.,** & Akyürek, E. G. Temporal integration and attentional selection of color and contrast target pairs in rapid serial visual presentation. *Acta Psychologica*, *196*, 56–69. https://doi.org/10.1016/j.actpsy.2019.04.002 | 2019 |
| **Karabay, A.**, Saija, J. D., Field, D. T., & Akyürek, E. G. The acute effects of cocoa flavanols on temporal and spatial attention. *Psychopharmacology, 235*(5), 1497–1511. https://doi.org/10.1007/s00213-018-4861-4 | 2018 |
| **Karabay, A.,** & Akyürek, E. G. The effects of Kanizsa contours on temporal integration and attention in rapid serial visual presentation. *Attention, Perception, & Psychophysics, 79*(6), 1742–1754. https://doi.org/10.3758/s13414-017-1333-6 | 2017 |

**Book chapters**

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| **Karabay, A.** Duyum ​​ve algı (Sensation and Perception). In . G. ZEREN (Eds.), *Fizyolojik Psikoloji (Physiological Psychology)* (pp. 203–233). Eğiten Kitap. Ankara, Turkey. | 2022 |
| Cotton, R. (2013). *Learning R* (Sünbül, Ö., Sünbül, S. Ö., & **Karabay, A.**, Trans). Pegem Press. İstanbul, Turkey. | 2021 |

**PRESENTATIONS**

**Talks**

***Invited talks***

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| **Karabay, A.** Taking a snapshot of the brain: Visual impulse reveals (non)persistent neural activity by perturbation and increasing signal-noise ratio. *CCN meeting, Ghent University* in Gent, Belgium. | 08/2022 |

***Conference talks***

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| Chen, I., Mathȏt, S., van der Mijn, R., **Karabay, A.,** Bowman, H., & Akyürek, E. Concealed familiar face detection with EEG in rapid serial visual presentation. *23rd Conference of the European Society for Cognitive Psychology (ESCoP)* in Porto, Portugal. | 09/2023 |
| Wang, S., **Karabay, A.,** & Akyürek, E. G. Attentional Blur and Blink: Effects of Adaptive Attentional Scaling on Visual Awareness. *23rd Conference of the European Society for Cognitive Psychology (ESCoP)* in Porto, Portugal. | 09/2023 |
| Akyürek, E. G., Kandemir, G., Wolff, M., **Karabay, A.**, & Wilhelm, S. Probing latent working memory representations in EEG. *22st Conference of the European Society for Cognitive Psychology (ESCoP)* in Lille, France. | 08/2022 |
| Chen, I., Buchel, P., **Karabay, A.,** Mathȏt, S., & Akyürek, E. G. Concealed familiar face detection with pupillometry in rapid serial visual presentation. *22st Conference of the European Society for Cognitive Psychology (ESCoP)* in Lille, France. | 08/2022 |
| Wang, S., **Karabay, A.,** & Akyürek, E. G. Which working memory model accounts best for target representation during the attentional blink? *22st Conference of the European Society for Cognitive Psychology (ESCoP)* in Lille, France. | 08/2022 |
| **Karabay, A.,** Wolff, M. J., Ruuskanen, V., & Akyürek, E. G. A visual impulse reveals memoranda embedded in functional connectivity: Evidence for activity-silent WM states. Symposium *Interactions between sensory representations and cognitive control in working memory* at the *International Conference of Cognitive Neuroscience 2020* in Helsinki, Finland. | 05/2022 |
| **Karabay, A.**,Wang, J., Wilhelm, S., Martens, S., & Akyürek, E. G. Two faces of the attentional blink: Gradual and discrete loss of perceptual awareness. *17th NVP Winter Conference* in Egmond, the Netherlands. | 12/2019 |
| **Karabay, A.**, Wang, J., Martens, S., & Akyürek, E. G. The attentional blink: Binary or gradual? *21st Conference of the European Society for Cognitive Psychology (ESCoP)* in Tenerife, Spain. | 09/2019 |
| Kandemir, G., **Karabay, A.,** & Akyürek, E. G. Decoding sensory and abstract information from activity silent brain states. *21st Conference of the European Society for Cognitive Psychology (ESCoP)* in Tenerife, Spain. | 09/2019 |
| **Karabay, A.**, Saija J., Field, D. T., & Akyürek, E.G. The acute effects of cocoa flavanols on temporal and spatial attention. *The winter conference 2017 of De Nederlandse Vereniging voor Psychonomie* in Egmond, the Netherlands. | 12/2017 |
| Er N., **Karabay, A.**, Kaynar, G., Uysal, M. M., & Boyraz, F. U. Istemli & istemsiz otobiyografik anilarda yaşa bağli değişimler (Variations of voluntary and involuntary autobiographical memories depending on age). *The 17th National Psychology Congress* in Istanbul, Turkey. | 05/2012 |
| **Karabay, A.,** & Çakmak, M.A. Engellenme karşısında verilen tepkiler ile kişilik tiplerinin ve yükleme çeşitlerinin ilişkisi (The relationship between frustration responses, personality types, and attribution). *The 14th Ulusal Psikoloji Ogrencileri Kongresi (14th National Conference of Psychology Students)* in Istanbul, Turkey. | 12/2009 |

**Posters**

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| Chen, I., Mathȏt, S., van der Mijn, R., **Karabay, A.,** Bowman, H., & Akyürek, E. Concealed familiar face detection with EEG in rapid serial visual presentation. *the 45th European Conference on Visual Perception (ECVP)* in Paphos, Cyprus. | 08/2023 |
| Fougnie, D., **Karabay, A.,** Nijenkamp, R., & Sarampalis, A. Introducing ART: a new method of testing auditory memory with circular reproduction tasks. *The Vision Sciences Society Meeting 2023* in Florida, USA. | 05/2023 |
| Chen, I., **Karabay, A.,** Mathȏt, S., Buchel, P., van der Mijn, R., Bowman, H., & Akyürek, E. Concealed familiar face detection with oculomotor measures and EEG in rapid serial visual presentation. *The Vision Sciences Society Meeting 2023* in Florida, USA. | 05/2023 |
| **Karabay, A.**, Kandemir, G., Kovács, E.R., & Akyürek, E.G. Pinging attentional task rules: Neural mechanisms underlying attending and suppressing in visual search tasks. *The 22st Conference of the European Society for Cognitive Psychology (ESCoP)* in Lille, France. | 08/2022 |
| Altınok, A., **Karabay, A.**, Lorist, M. M., Weiden, D., & Akyürek, E.G. The acute effects of caffeine and cocoa flavanols on working memory and attention. *The 22st Conference of the European Society for Cognitive Psychology (ESCoP)* in Lille, France. | 08/2022 |
| Chen, I., Buchel, P., **Karabay, A.,** Mathȏt, S., Bowman, H., & Akyürek, E. G. Concealed information detection with pupillometry in rapid serial visual presentation. *The International Conference of Cognitive Neuroscience 2020* in Helsinki, Finland. | 05/2022 |
| **Karabay, A.,** Wolff, M. J., Ruuskanen, V., & Akyürek, E. G. Visual impulse perturbation: Neural sonar or just noise-reducer? *The 18th NVP Winter Conference* in Egmond, the Netherlands. | 04/2022 |
| Chen, I., **Karabay, A.,** Mathȏt, S., Bowman, H., & Akyürek, E. G. Concealed identity information detection with pupillometry in rapid serial visual presentation. *The 18th NVP Winter Conference* in Egmond, the Netherlands. | 04/2022 |
| Wang, S., **Karabay, A.,** & Akyürek, E. G. (2022, April). Which working memory model accounts best for target representation in the attentional blink? *The 18th NVP Winter Conference* in Egmond, the Netherlands. | 04/2022 |
| Altınok, A., Balta, G., **Karabay, A.,** & Akyürek, E. G. The effects of gamma-aminobutyric acid (GABA) on working memory and attention. *The 18th NVP Winter Conference* in Egmond, the Netherlands. | 04/2022 |
| Kandemir, G., **Karabay, A.,** & Akyürek, E. G. Seeing double? Activity-silent maintenance of mental rotation products and their originals. *The 17th NVP Winter Conference* in Egmond, the Netherlands. | 12/2019 |
| Altınok, A., **Karabay, A.**, & Akyürek, E. G. The acute effects of cocoa flavanols on visual working memory. *The 21st Conference of the European Society for Cognitive Psychology (ESCoP)* in Tenerife, Spain. | 09/2019 |
| Kandemir, G., **Karabay, A.,** & Akyürek, E. G. Decoding visual working memory before and after mental operations. *The BCN Winter Meeting* in Twente, the Netherlands. | 02/2019 |
| **Karabay, A.,** & Akyürek, E. G. Target color and contrast influences temporal attention in rapid serial visual presentation. *The International meeting of the Psychonomics Society in Amsterdam*, Netherlands; *the 40th European Conference on Visual Perception (ECVP)* in Berlin, Germany. | 08/2017 |
| **Karabay, A.,** & Akyürek, E. G. Kanizsa effects on temporal integration and attention. *The Heymans Symposium* in Groningen, the Netherlands. | 04/2017 |
| **Karabay, A.,** & Kurylo, D.D. Perceptual grouping by orientation coherence. *The Science Day, Brooklyn College* in New York, USA. | 05/2015 |
| Er, N., **Karabay, A.**, Kaynar, G., Uysal, M. M., & Boyraz, F. U. Autobiography of aging mind: age-related effects on voluntary and involuntary autobiographical memories. *The IX International Cognitive Neuroscience Meeting* in Istanbul, Turkey. | 04/2012 |

**SUPERVISED MASTER THESES**

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| Ruuskanen, V. *Investigating the functionality of visual impulses in decoding working memory using matching and non-matching impulse stimuli.* University of Groningen, the Netherlands. | 2022 |
| Bapoğlu, O. A. *Pinging individual features of multi-feature objects: an EEG study.* University of Groningen, the Netherlands. | 2021 |

**RELEVANT SKILLS**

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| ***Technical skills:*** JASP (*advanced*); SPSS (*advanced*); R (*advanced*); Matlab (*moderate/advanced*); Python (*moderate/advanced*); OpenSesame (*advanced*); E-prime (*advanced*); MS Office (*advanced*); Memory modeling; EEG; Multivariate Pattern Analysis; GitHub; Classification; WordPress |
| ***Language skills:*** Turkish (*native*); English (*professional*); Dutch (*beginner*) |

**GRANTS & FELLOWSHIPS**

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| *YLSY Fellowship* from Ministry of National Education, Turkey. Complete coverage of tuition, stipend, and partial coverage of research costs for masters and Ph.D. degrees (**200.000$**). | 2011–2019 |

**AWARDS**

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| *Open research award* for the study ‘Concealed familiar face detection with pupillometry in rapid serial visual presentation’, by Open Science Programme, University of Groningen, Groningen, the Netherlands. | 2022 |
| *Best poster presentation award* in Searching for the Working Memory Engramworkshop with the presentation ‘A visual impulse reveals memoranda embedded in functional connectivity: Evidence for activity-silent WM states’, Groningen, the Netherlands. | 2022 |

**ORGANIZED WORKSHOP & SEMINARS**

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| *Searching for the Working Memory Engram,* University of Groningen, the Netherlands. Organized an international hybrid workshop with prof. Elkan G. Akyürek. | 05/2022 |
| *Introduction to Python/OpenSesame,* Leibniz Institute for Psychology, Germany.Worked as a tutor for the workshop by dr. Sebastiaan Mathôt. Topics: Introduction to Python/Numerical Python, Introduction to OpenSesame, Advanced numerical Python, Building online experiment, Collecting data, Analyzing with Python. | 08/2020 |
| *Mindwise Science Communication Workshop,* University of Groningen, the Netherlands. Organized a workshop with Mindwise Science Communication PhD Committee. | 2019; 2020 |

**ORGANIZATIONAL EXPERIENCE**

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| *Ph.d. and postdoc representative,* Department of Experimental Psychology, University of Groningen, the Netherlands. | 2021–2022 |
| *Mind-wise science communication Ph.D. committee member*, University of Groningen, the Netherlands. | 2018–2021 |
| *Psychology Ph.D. council member*, University of Groningen, the Netherlands. | 2016–2019 |

**SELECTED CERTIFICATES**

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| *Teaching and mentoring in academic learning communities,* Teaching Unit Psychology of University of Groningen, Groningen, the Netherlands. | 2018 |
| *Multivariate pattern analyses (MVPA) in EEG/MEG,* Experimenteel-Psychologische Onderzoekschool, Amsterdam, the Netherlands. | 2018 |
| *Autumn school: Attention,* Experimenteel-Psychologische Onderzoekschool, Amsterdam, the Netherlands. | 2018 |