**Aytaç Karabay, Ph.D.**

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**EXPERIENCE**

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| **Assistant professor,** University of Birmingham Dubai, Dubai, UAE | | | 2025–Present |
| **Visiting scholar,** New York University, Abu Dhabi, UAE | | | 2025–2026 |
| **Adjunct assistant professor (part-time),** Zayed University, Abu Dhabi, UAE | | | 2024–2025 |
| **Postdoctoral researcher,** New York University, Abu Dhabi, UAE *Supervisor: Dr. Daryl Fougnie* | | | 2022–2025 |
| **Postdoctoral researcher,** University of Groningen, Groningen, NL  *Supervisor: Prof. Elkan G. Akyürek* | | | 2019–2022 |
| **Research assistant,** CUNY-Brooklyn College, New York, USA *Supervisor: Dr. Daniel Kurylo* | | | 2014–2015 |
| ***Courses Taught*** | | | |
| Research Methods D | Module lead | University of Birmingham | 2025 |
| Research Methods B | Module lead | University of Birmingham | 2025 |
| Introduction to Psychology | Lecturer | Zayed University | 2024 |
| 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 |
| ***Mentorship and supervision*** | | | |
| Bachelors Thesis (x7) | Supervisor | University of Birmingham | 2025 |
| Capstone Project (x2) | Mentor | New York University|AD | 2022–2025 |
| Phd Thesis (x1) | Supervisor | University of Groningen | 2020–Present |
| Masters Thesis (x3) | Supervisor | University of Groningen | 2017–2022 |
| Bachelors Thesis (x3) | Mentor | University of Groningen | 2017–2022 |
| Honors Research Practicum (x3) | Mentor | University of Groningen | 2017–2018 |

**EDUCATION**

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| --- | --- |
| **Ph.D., Cognitive Neuroscience,** University of Groningen, Groningen, NL *Supervisor: Prof. Elkan G. Akyürek* | 2020 |
| **M.A., Experimental Psychology,** CUNY-Brooklyn College, New York, USA  *Supervisor: Dr. Daniel D. Kurylo* | 2015 |
| **B.A., Psychology,** Ankara University, Ankara, TR | 2011 |

**PUBLICATIONS**

*Student trainees are underlined*

*\* indicates shared first authorship*

**Preprints and submitted papers**

|  |  |
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| Chen, I., Mathȏt, S., van der Mijn, R., **Karabay, A.,** Bowman, H., & Akyürek, E. G. Concealed personally familiar face detection with eeg in rapid serial visual presentation. <https://doi.org/10.31234/osf.io/axp4w_v1> | 2025 |
| Chen, I. \*, Buchel, P. \*, **Karabay, A**., van der Mijn, R., Mathȏt, S., & Akyürek, E. G. Concealed information detection in rapid serial visual presentation with oculomotor measures. <https://doi.org/10.31234/osf.io/rtyu6> | 2023 |
| Wang, S., **Karabay, A.**, & Akyürek, E. G. Evaluating Working Memory Representations during the Attentional Blink: A Comparative Modeling Approach. <https://doi.org/10.1101/2022.09.15.508098> | 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> | 2022 |

**Journal 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. *Psychophysiology 62(2).* <https://doi.org/10.1111/psyp.70020> | 2025 |
| Akyürek, E. G., Altınok, A., & **Karabay, A.** Concurrent consumption of cocoa flavanols and caffeine does not acutely modulate working memory and attention. *European Journal of Nutrition, 64*(35). 1–17. <https://doi.org/10.1007/s00394-024-03514-8> | 2025 |
| **Karabay, A.**\*, Nijenkamp, R.\*, Sarampalis, A., & Fougnie, D. Introducing ART: a new method of testing auditory memory with circular reproduction tasks. *Behavior Research Methods, 56*(8), 8330-8348.<https://doi.org/10.3758/s13428-024-02477-2> | 2024 |
| Guérin, S. M. R., Tarlao, C., & **Karabay, A.** Our Journey as Intern Junior Editors at the Journal of Experimental Psychology: Human Perception and Performance. *Science Editing, 11*(2), 160-163. <https://doi.org/10.6087/kcse.345> | 2024 |
| 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. *Imaging Neuroscience*, *2*, 1–20*.* <https://doi.org/10.1162/imag_a_00173> | 2024 |
| Wang, S., **Karabay, A.,** & Akyürek, E. G. Attentional blur and blink: Effects of adaptive attentional scaling on visual awareness. *Consciousness and Cognition, 117*(3), 1–15. <https://doi.org/10.1016/j.concog.2023.103627> | 2024 |
| 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 | |
| **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 | |
| 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 | |
| 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 | |

**Books**

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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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| **Karabay, A.,** & Fougnie, D. Revisiting visual awareness: No evidence for levels of processing. *The 25th Vision Sciences Society Meeting (VSS)* in Florida, USA. | 05/2025 |
| Chen, I., Mathȏt, S., van der Mijn, R., **Karabay, A.**, Bowman, H., & Akyürek, E. G. Concealed familiar face detection with EEG in rapid serial visual presentation. *The 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. *The 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. *The 22nd 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. *The 22nd 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? *The 22nd 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* *(ICON)* 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. *The 17th winter conference of De Nederlandse Vereniging voor Psychonomie (NVP)* in Egmond, the Netherlands. | 12/2019 |
| **Karabay, A.**, Wang, J., Martens, S., & Akyürek, E. G. The attentional blink: Binary or gradual? *The 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. *The 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 16th winter conference of De Nederlandse Vereniging voor Psychonomie (NVP)* in Egmond, the Netherlands. | 12/2017 |
| Er N., **Karabay, A.**, Kaynar, G., Uysal, M. M., & Boyraz, F. U. İstemli & istemsiz otobiyografik anılarda yaşa bağlı 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 (The 14th National Conference of Psychology Students)* in Istanbul, Turkey. | 12/2009 |

**Posters**

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| **Karabay, A.**, & Fougnie, D. Evidence against levels of processing theories of visual awareness. *Asia Pacific Conference On Vision (APCV)* in Singapore. | 07/2024 |
| Sasin, E., Zhou, Y., **Karabay, A.**, Shrestha, S., & Fougnie, D. Where’s Waldo in the mind: Accessing perceptual and semantic attributes in perception and working memory. *The 24th Vision Sciences Society Meeting (VSS)* in Florida, USA. | 05/2024 |
| Chen, I., Mathȏt, S., van der Mijn, R., **Karabay, A.**, Bowman, H., & Akyürek, E. G. 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 23rd Vision Sciences Society Meeting (VSS)* in Florida, USA. | 05/2023 |
| Chen, I., **Karabay, A.**, Mathȏt, S., Buchel, P., van der Mijn, R., Bowman, H., & Akyürek, E. G. Concealed familiar face detection with oculomotor measures and EEG in rapid serial visual presentation. *The 23rd Vision Sciences Society Meeting (VSS)* 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 22nd 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 22nd 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* *(ICON)* 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 winter conference of De Nederlandse Vereniging voor Psychonomie (NVP)* 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 winter conference of De Nederlandse Vereniging voor Psychonomie (NVP)*  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 winter conference of De Nederlandse Vereniging voor Psychonomie (NVP)* 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 winter conference of De Nederlandse Vereniging voor Psychonomie (NVP)* 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 winter conference of De Nederlandse Vereniging voor Psychonomie (NVP)* 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**

*‡ indicates published projects*

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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 |
| ***‡***McAllister, C. *Effect of cocoa flavanols on attention.* University of Groningen, the Netherlands. | 2017 |

**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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| *Travel Grant* fromUniversity of Birmingham for attendance to VSS 2025**(1,400 £).** | 2025 |
| *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 the Mindwise Science Communication PhD Committee. | 2019; 2020 |

**ORGANIZATIONAL EXPERIENCE**

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| *Post-Graduate Researcher Lead,* School of Psychology, University of Birmingham Dubai, Dubai | 2025–Present |
| *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 |

**PEER REVIEW & EDITORIAL CONTRIBUTIONS**

**Editorial experience**

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

**Grant Reviews**

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| National Science Foundation (NSF), USA | 2024; 2025 |

**Journal Reviews**

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| --- | --- |
| Attention, Perception, & Psychophysics |  |
| Acta Psychologica |  |
| eNeuro |  |
| Journal of Cognition |  |

**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 |