

Hanane Ramzaoui

Cognitive Scientist | Eye-Tracking & EEG Specialist | Data Analysis

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SUMMARY

Cognitive Scientist with expertise in **eye-tracking** and **EEG methodologies** for investigating core cognitive functions, including visual attention, memory, scene perception, and perceptual grouping. My research explores fundamental cognitive and perceptual processes in both **young healthy adults** and clinical populations, with applications in **non-pathological aging and Alzheimer's disease**. My technical proficiency includes managing and analyzing complex EEG datasets, focusing on both **Event-Related Potentials (ERPs)** and **oscillatory metrics (e.g., alpha power)** using **Matlab, Python, and R**. I leverage **AI tools** to enhance and streamline my coding practices in Matlab and Python.

TECHNICAL SKILLS

- **Programming Languages:** R (Advanced for statistical analysis and data visualization), Python (Functional for data manipulation and scripting, enhanced by AI), MATLAB (Functional for signal processing and data manipulation, enhanced by AI)
 - **Equipment:** Eyelink 1000plus (SR Research), Eye tracking glasses (SMI), EEG (Biosemi)
 - **Analysis Methods/Software:** ERP/EEGLAB, Psychopy, Experiment Builder (SR Research)
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AREAS OF INTEREST

- **Broad:** Cognitive Psychology, Vision Science, Neuroscience, Neuropsychology
 - **Narrow:** Visual attention, Memory, Top-Down/Bottom-up Processes, Scene Perception, Aging, Alzheimer's
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EDUCATION

- **Ph.D. in Psychology**
 - Université Côte d'Azur, Nice, France | September 2014 – December 2019
 - Advisors: Sylvane Faure & Sara Spotorno
 - **Professional qualification to practice Psychology**
Université Paris 8, France | Awarded September 2013
 - **M.A. in Cognitive Psychology**
Université Côte d'Azur & Université Paris 8, France | September 2011 – June 2013
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RESEARCH EXPERIENCE

- **Postdoctoral Researcher** | University of Texas Arlington, TX | February 2026 – present
 - **Supervisor:** Dr. Steven Weisberg (SCANN Lab)
 - Collaborating on research involving spatial navigation, non-pathological aging, and neuroimaging
 - Receiving training in advanced neuroimaging methods
 - Contributing eye-tracking, scene perception, and EEG expertise to the SCANN Lab
- **Postdoctoral Researcher** | Louisiana State University, Baton Rouge, LA | December 2022 – December 2025
 - **Supervisor:** Dr. Melissa Beck (Visual Cognition lab)
 - **NSF-funded project:** *Enhancing STEM Success: A Multi-modal Investigation of Spatial Reasoning and Training in Undergraduate Education* (PI: M. Beck; Co-PI: H. Lucas)
 - Managing and analyzing co-registered EEG and eye-tracking data
 - Conducting independent behavioral and neurocognitive research

- Training and mentoring undergraduate and graduate students in experimental design, data collection, and analysis procedures
 - **Postdoctoral Researcher** | Université Côte d'Azur, CNRS, Nice, France | June 2020 – May 2021
 - **Supervisor:** Dr. Fabien Mathy
 - **ANR-funded project:** *Chunking: The Critical Role of Information Compression in Cognition*
 - Collaborated to a project examining the role of information compression in working memory
 - **Visiting Researcher**
 - **Cardiff University, Wales, UK | July 2022**
 - Collaborated with Dr. Candice Morey to investigate semantic and perceptual similarity in visual working memory using eye-tracking techniques
 - **University of Aberdeen, Scotland, UK | June 2018–July 2018; April 2016–May 2016**
 - Collaborated with Dr. Ben Tatler on applying eye-tracking techniques to study natural vision in everyday activities, with a focus on Alzheimer's disease
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GRANTS, FELLOWSHIPS, AND AWARDS

Grants & Fellowships

- **Experimental Psychology Society (EPS) Study Visit Grant**, UK | July 2022
Received £2,000 to support a research visit to Candice Morey's laboratory at Cardiff University.
- **Doctoral Fellowship**, Médéric Alzheimer Foundation, Paris | October 2016 & 2017
Awarded two consecutive fellowships of €10,000 each to fund doctoral research.
- **Internal Grant for Research**, Université Côte d'Azur | October 2016
Granted €10,000 to purchase research equipment, including SMI Eye Tracking Glasses, for doctoral work.
- **Internal Grant for Biomedical Research**, Nice Hospital | March 2015
Received €10,000 to support Alzheimer's disease research during doctoral studies.

Funding Applications

- **Marie Skłodowska-Curie Actions Postdoctoral Fellowship Grant** (Submitted but not funded) | 2021
Title: *Markers of Memory and Attentional Changes Related to Mild Cognitive Impairment*

Awards & Travel Grants

- **Elsevier/Vision Research Travel Award** | May 2022
Received \$1,000 to attend the Vision Science Society (VSS) annual conference.
 - **Alzheimer's Association International Conference (AAIC) Travel Award** | May 2018
Received \$1,000 to support attendance at the AAIC conference.
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PUBLICATIONS

Published in peer-reviewed journals

- **Ramzaoui, H., & Beck, M.** (2025). Effects of template priority on working memory-guided search for real objects: Evidence from eye movements. *Visual Cognition*, 1-18.
<https://doi.org/10.1080/13506285.2025.2567880>
- Constant, M., Mandal, A., Asanowicz, D., Panek, B., Kotlewska, I., Yamaguchi, M., Gillmeister, H., Kerzel, D., Luque, D., Molinero, S., Vázquez-Millán, A., Pesciarelli, F., Borelli, E., **Ramzaoui, H.**, Beck, M., Somon, B., Desantis, A., Castellanos, M. C., Martín-Arévalo, E., ... Liesefeld, H. R.. (2025). A multilab investigation into the N2pc as an indicator of attentional selectivity: Direct replication of Eimer (1996). *Cortex*, 190, 304-341. <https://doi.org/10.1016/j.cortex.2025.05.014>

- **Ramzaoui, H.,** Mathy, F., & Morey, C. C. (2025). Grouping by semantic and color similarity in visual working memory: An attentional mechanism, not compression mechanism. *Journal of Experimental Psychology: Learning, Memory, and Cognition*. Advance online publication. <https://doi.org/10.1037/xlm0001482>
- **Ramzaoui, H.,** & Beck, M. (2024). Examining perceptual grouping on stages of processing in visual working memory: An ERP study. *Scientific Reports*. (Registered Report Stage 1). <https://doi.org/10.17605/OSF.IO/8ZS96>
- **Ramzaoui, H.,** Faure, S., David, R., & Spotorno, S. (2022). Top-down and bottom-up sources of eye-movement guidance during realistic scene search in Alzheimer’s disease. *Neuropsychology*, 36(7), 597–613. <https://doi.org/10.1037/neu0000797>
- **Ramzaoui, H.,** Faure, S., & Spotorno, S. (2021). Age-related differences when searching in a natural environment: The use of semantic contextual guidance and incidental object encoding. *Quarterly Journal of Experimental Psychology*, 1–11. <https://doi.org/10.1177/17470218211064887>
- **Ramzaoui, H.,** Faure, S., & Spotorno, S. (2021). Top-down and bottom-up guidance in normal aging during scene search. *Psychology and Aging*, 36(4), 433–451. <https://doi.org/10.1037/pag0000485>
- **Ramzaoui, H.,** & Mathy, F. (2021). A Compressibility Account of the Color-Sharing Bonus in Working Memory. *Attention, Perception, & Psychophysics*, 1–16. <https://doi.org/10.3758/s13414-020-02231-8>
- **Ramzaoui, H.,** Faure, S., & Spotorno S. (2018). Alzheimer’s disease, visual search and instrumental activities of daily living: A review and a new perspective on attention and eye movement. *Journal of Alzheimer’s Disease*, 66(3), 1–25. <https://doi.org/10.3233/JAD-180043>

Under peer-review

- **Ramzaoui, H.,** & Beck, M. (under review). Examining perceptual grouping on stages of processing in visual working memory: An ERP study. *Scientific Reports*. (Registered Report Stage 2). <https://doi.org/10.17605/OSF.IO/8ZS96>
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TEACHING EXPERIENCE

- **Visiting Assistant Professor**
Université Paris 5, Department of Psychology, France | 09/2021 – 08/2022
Courses taught (192 hours): Cognitive Psychology, Research Methods, Statistics
 - **Teaching and Research Assistant Professor**
Université Côte d’Azur, Department of Psychology, France | 09/2018 – 08/2019
Courses taught (192 hours): Cognitive Development, Cognitive Psychology, Research Methods, Statistics
 - **Adjunct Professor**
Université Côte d’Azur, Department of Psychology, France | 09/2016 – 08/2017
Courses taught (125 hours): Visual Perception, Cognitive Psychology, Research Methods, Statistics
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MENTORING EXPERIENCE

- **Louisiana State University, USA** | 2022 – Present
Supervision of undergraduate and graduate students in cognitive neuroscience research projects
 - **Université Côte d’Azur, CNRS, France**
 - Master’s student trainee in linguistics: Hadi Mahmoudi | 2021
 - Master’s thesis supervision (Psychology): Emmanuelle Delmasse-Simoni, Eve Al Najjar | 2018–2019
 - Master’s thesis supervision (Psychology): Léa Bacchi | 2017–2018
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SERVICE

Conference & Workshop Organization

- **22nd Annual Meeting, Vision Science Society, Florida** | May 2022
Managed t-shirt sales and monitored access to talk and poster sessions.
- **Internal Workshop, CNRS, Université Côte d’Azur, France** | February 2022
Organized workshop on career development: ‘Becoming a Researcher at CNRS’.

- **58th Conference of the French Psychology Society**, Nice, France | August–September 2017
Steering and Program Committee Member
Organized Ph.D. student workshops on scientific publishing and applying for lecturer positions.
- **39th Annual Meeting, Cognitive Science Society**, London, UK | July 2017
Welcomed participants and managed registration.
- **‘SMI Eye Tracking’ Workshop**, Université Côte d’Azur, France | February 2017
Workshop Organizer focusing on eye-tracking methodologies.

Peer Review Activities

Reviewer for: Acta Psychologica; Main Program, CogSci2024 (Cognitive Science Society); PLOS ONE; npj Science of Learning (Nature); Neuropsychology; Journal of Cognition; Journal of Experimental Psychology: Learning, Memory, and Cognition; Journal of Integrative Neuroscience; Journal of Medical and Internet Research (JMIR) and JMIR Serious Games; Frontiers in Aging Neuroscience

Diversity and Inclusion

- **Mentoring, Louisiana State University, USA** | 2022–Present
Provide research training in eye-tracking, EEG, and data analysis to undergraduate and graduate students.
- **Peer Mentor, Envisioned-Insights Program, Vision Science Society, Florida** | 2024
Supported graduate students from underrepresented groups through peer mentoring.
- **Committee Member, Committee on Diversity and Outreach in Psychology, LSU** | 2023–2024
Developed evaluation strategies for DEI initiatives and program climate assessment.
- **Volunteer, Love Heals Clinic, Louisiana Leadership Institute, Baton Rouge, USA** | 2023
Assisted with patient registration at a free temporary clinic offering medical, dental, and vision care.
- **Volunteer, Love Heals Clinic, Southern University, Baton Rouge, USA** | 2024
Assisted with patient registration at a free temporary clinic. As-
- **‘Fête de la Science’, Nice, France** | 2016–2017
Participated in science outreach by organizing activities and debates for the general public.

CONFERENCE PRESENTATIONS

Talks

- **Ramzaoui, H., & Beck, M.** (2025). Examining perceptual grouping on stages of processing in visual working memory: An ERP study. ARMADILLO conference, El Paso, TX, USA.
- Thomas, T., Tomshe, D. A., Hanan, R., Beck, M., Eich, B., Kindell, C., **Ramzaoui, H., & Lucas, H.** (2025, August 1). Visual Complexity and Attention in Mental Rotation Performance. LSU’s 2025 Summer Undergraduate Research Forum (SURF), Baton Rouge, LA, USA.
- Constant, M., Mandal, A., Asanowicz, D., Panek, B., Kotlewska, I., Yamaguchi, M., **Ramzaoui, H., ... & Liesefeld, H. R.** (2025, July). A large-scale replication of Eimer (1996): Can the N2pc be elicited by an isolated target?. *International Conference on Psychophysiology*, Krakow, Poland.
- **Ramzaoui, H., & Beck, M.** (2024, March 15). Effects of search priority on working memory-guided search for real objects: Evidence from eye-movements. *Neuroscience Symposium: Bringing Minds Together*, Pennington Biomedical Research Conference Center, Baton Rouge, LA, USA.
- **Ramzaoui, H., Faure, S., & Spotorno, S.** (2021, June 10). Instrumental activities of daily living and visual search: Analysis of eye movements in Alzheimer’s disease. *GDR Vision*, Université de Lille, Lille, France.
- **Ramzaoui, H., Faure, S., & Spotorno, S.** (2018). Perceptual guidance improves visual search in aging and in Alzheimer’s disease: Evidence from eye-movement behaviour within real-world scenes. *Alzheimer’s & Dementia: The Journal of the Alzheimer’s Association*, 14(7), 237. <https://doi.org/10.1016/j.jalz.2018.06.2375>
- **Ramzaoui, H., Faure, S., & Spotorno, S.** (2017). Vieillesse et ralentissement de la recherche visuelle au sein de scènes réalistes : entre préservation du guidage cognitif et influence accrue du guidage perceptif. In *Actes du 58ème Congrès Annuel de la Société Française de Psychologie* (pp. 186–187). <https://sfp2017.sciencesconf.org/>

Invited Talks

- Ramzaoui, H. (2021). Mouvements oculaires et déclin des activités instrumentales de la vie quotidienne dans la maladie d'Alzheimer. *Journée Interventions en Santé chez la Personne Âgée*, Fédération de Recherche Interventions en Santé (FRIS), Université Côte d'Azur, Nice, France.
 - Ramzaoui, H. (2019). Search efficiency in aging and Alzheimer's disease: Bottom-up and top-down eye-movement guidance within real-world scenes. *1er workshop COCOLAB in Economics and Psychology*, Université Côte d'Azur, Nice, France.
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Poster presentations

- Williams, R., Tomshe, D. A., Hanan, R., Beck, M., Eich, B., Kindell, C., **Ramzaoui, H.**, & Lucas, H. (2025, August 1). Can prior experience in visual-physical disciplines improve spatial reasoning. LSU's 2025 Summer Undergraduate Research Forum (SURF), Baton Rouge, LA, USA.
 - Eich, B., Tomshe, D. A., Hanan, R., Kindell, C., **Ramzaoui, H.**, Lucas, H., & Beck, M. (2025, May 16–21). Cognitive strategies in the mental rotation task revealed by eye tracking. *25th Annual Meeting of the Vision Sciences Society*, St. Pete Beach, FL, USA.
 - Hanan, R., Eich, B., Tomshe, D. A., Kindell, C., **Ramzaoui, H.**, Lucas, H., & Beck, M. (2025, May 16–21). Mental rotation: Sex and STEM differences. *25th Annual Meeting of the Vision Sciences Society*, St. Pete Beach, FL, USA.
 - Roper, R. (undergraduate), Fisher, J., Pottle, E., Jackson, A., Cavalier, A., Beck, M., & **Ramzaoui, H.** (2025). Examining perceptual grouping on stages of processing in visual working memory: An ERP study and a registered report. *2nd Neuroscience Symposium: Bringing Minds Together*, LSU School of Veterinary Medicine, Baton Rouge, LA, USA.
 - Roper, R., Pottle, E., Jackson, A., Cavalier, A., & **Ramzaoui, H.** (2025, April 19). Examining perceptual grouping on stages of processing in visual working memory. *LSU Discover Day, Undergraduate Research & Creativity Conference*, Baton Rouge, LA, USA.
 - **Ramzaoui, H.**, & Beck, M. (2024). Effects of search priority on working memory-guided search for real objects: Evidence from eye-movements. *Journal of Vision*, 22, 1175. <https://doi.org/10.1167/jov.24.10.1175>
 - Beck, M., Lucas, D. H., Eich, J. B., Tomshe, A. D., & **Ramzaoui, H.** (2024, March 15). A multimodal study of the cognitive and neural mechanisms of spatial reasoning. *Neuroscience Symposium: Bringing Minds Together*, Pennington Biomedical Research Conference Center, Baton Rouge, LA, USA.
 - **Ramzaoui, H.**, Mathy, F., & Morey, C. M. (2023, November 16–19). Color- and semantic-sharing bonuses in visual working memory: The deeper the processing, the greater the benefits for real-world objects! *64th Annual Meeting of the Psychonomic Society*, San Francisco, CA, USA.
 - **Ramzaoui, H.**, Mathy, F., & Morey, C. M. (2022). Perceptual redundancy and semantic grouping effects among real-world objects in visual working memory come from different processes. *Journal of Vision*, 22(14), 3996. <https://doi.org/10.1167/jov.22.14.3996>
 - **Ramzaoui, H.**, Poulet, S., Didierjean, A., & Mathy, F. (2021). A factorial analysis of contextual cueing reveals the primacy of local context surrounding the target. *Journal of Vision*, 21(9), 1907. <https://doi.org/10.1167/jov.21.9.1907>
 - **Ramzaoui, H.**, & Mathy, F. (2020, November 19–22). Complexity and compression of information effects on color-based boost in visual working memory. *61st Annual Meeting of the Psychonomic Society*, Virtual.
 - **Ramzaoui, H.**, Faure, S., & Spotorno, S. (2017, July 26–29). Age-related top-down and bottom-up guidance on eye movements when searching in real-world scenes. *39th Annual Meeting of the Cognitive Science Society*, London, UK. In G. Gunzelmann, A. Howes, T. Tenbrink, & E. Davelaar (Eds.), *Proceedings of the 39th Annual Conference of the Cognitive Science Society* (p. 3820).
 - **Ramzaoui, H.**, Faure, S., & Spotorno, S. (2017, August 20–25). Searching for real objects in a natural environment: The role of contextual semantic cues and incidental encoding in older and young viewers. *19th European Conference on Eye Movements*. In R. Radach, H. Deubel, C. Vorstius, & M. J. Hofmann (Eds.), *Journal of Eye Movement Research*, 10(6), 235. <https://doi.org/10.16910/jemr.10.6.1>
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Participation in Conferences and Events

- **GEM Annual Board Meeting & Conference**, San Antonio, TX, USA | September 26–28, 2024
 - **National Postdoc Appreciation Week**, Louisiana State University, LA, USA | September 18, 2024
 - Featured in a video showcasing postdoctoral research presented to open the Appreciation Day.
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OTHER EDUCATION AND TRAINING

- **Fieldtrip Training, Donders Institute for Brain, Cognition, and Behavior, Nijmegen, Netherlands | May 27–31, 2024**
 - Completed a 5-day advanced toolkit course on MEG and EEG data analysis
 - **Pre-Conference Workshop: Methods for Analyzing Neural Oscillations and Aperiodic Activity, Society for Psychophysiological Research, New Orleans, USA | September 27, 2023**
 - Participated in a specialized workshop led by Bradley Voytek, focusing on advanced data analysis methods using Python
 - **ERP Boot Camp, San Diego, California, USA | July 31 – August 9, 2023**
 - Completed an intensive 10-day introduction to event-related potential (ERP) techniques, led by Steven J. Luck and Emily S. Kappenman
 - **Summer School, Universidade do Porto, Laboratory of Neurophysiology, Portugal | July 17–21, 2023**
 - Completed a summer school introducing electroencephalography and ERP techniques
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NEUROPSYCHOLOGIST EXPERIENCE

- **Neuropsychologist**, Memory Center, Nice Hospital, France | February 2018 – June 2018
 - **Neuropsychologist Trainee**, Sainte-Marie Hospital, Nice, France | February 2015 – March 2015
 - **Neuropsychologist Trainee**, Les Sources Geriatric Center, Nice, France | November 2014 – February 2015
 - **Psychologist Trainee**, Paul de Magallon, Care Home for Disabled Adults, Paris | March 2013 – August 2013
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