

SABINA SROKOVA, Ph.D.

Curriculum Vitae
September 2026

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CURRENT POSITION

Postdoctoral Fellow

2023 – present

Department of Psychology & Evelyn F. McKnight Brain Institute
University of Arizona, AZ, USA

Mentors: Arne D Ekstrom, Ph.D., & Carol A. Barnes, Ph.D.

EDUCATION

Ph.D., Cognition & Neuroscience

2018 – 2022

School of Behavioral and Brain Sciences, University of Texas at Dallas, TX, USA

Dissertation: The relationship between age, cognitive performance, and the neural correlates of episodic memory encoding and retrieval.

Advisor: Michael D. Rugg, Ph.D.

B.Sc. (Hons), Psychology

2014 – 2017

Department of Psychology, University of Essex, United Kingdom

Thesis: The impact of 10Hz fronto-parietal transcranial alternating current stimulation on working memory capacity: neural or retinal effects?

Advisor: Vincenzo Romei, Ph.D.

PEER-REVIEWED PUBLICATIONS

Monier, S., **Sroková, S.**, Shahanawaz, N. S., & Rugg, M. D. (*accepted*). Category-selective functional connectivity during episodic encoding and retrieval in younger and older adults. *Cerebral Cortex*. DOI TBD, preprint: doi.org/10.64898/2026.05.29.728795

Sroková, S., Watson, M.F., Gin, M.K., Ekstrom, A.D. (2026) Ambulation improves memory for rotated scenes. *Memory & Cognition*, 1-16 doi.org/10.3758/s13421-025-01844-4

Hou, M., Pezanko, L. R., **Sroková, S.**, Hill, P. F., Ekstrom, A. D., & Rugg, M. D. (2026). Retrieval-related eye movements are predictive of memory precision. *Journal of Cognitive Neuroscience*, 1-15. doi.org/10.1162/JOCN.a.2627

Sroková, S., Shahanawaz, N., & Rugg, M. (2025). The relationship between category-level neural differentiation and exploratory eye movements in healthy young and older adults. *Neurobiology of Aging*, 156, 163-177. doi.org/10.1016/j.neurobiolaging.2025.09.003

Olivier, J.M., **Sroková, S.**, Hill, P.F., Rugg, M.D., (2025) Effects of cortical thickness, volume, and memory performance on age differences in neural reinstatement of scene information. *Cerebral Cortex*, 35(8), bhaf213 doi.org/10.1093/cercor/bhaf213

de Chastelaine, M., **Sroková, S.**, Monier, S., Olivier, J. M., & Rugg, M. D. (2025). Effects of age on the strategic control of recollected content as reflected by modulation of neural correlates of scene retrieval. *Neurobiology of Aging*, 154, 1-15 doi.org/10.1016/j.neurobiolaging.2025.06.005

Sroková, S., Aktas, A.N.Z., Koen, J.D., & Rugg, M.D. (2024). Dissociative effects of age on neural differentiation at the category and item level. *The Journal of Neuroscience*, 44(4) doi.org/10.1523/JNEUROSCI.0959-23.2023

- Srokova, S.** (2024). Memory retrieval of visuospatial context arises in the anterior portions of high-level visual cortex. *The Journal of Neuroscience*, 44(1) doi.org/10.1523/JNEUROSCI.1854-23.2023
- de Chastelaine, M., **Srokova, S.**, Hou, M., Kidwai, A., Kafafi, S.S., Racenstein, M.L., Rugg, M.D. (2023). Cortical thickness, gray matter volume, and cognitive performance: a cross sectional study of the moderating effects of age on their interrelationships. *Cerebral Cortex*. bhac518. doi.org/10.1093/cercor/bhac518
- Srokova, S.**, Hill, P. F., & Rugg, M. D. (2022). The retrieval-related anterior shift is moderated by age and correlates with memory performance. *The Journal of Neuroscience*, 42(9), 1765-1776. doi.org/10.1523/JNEUROSCI.1763-21.2021
- Srokova, S.**, Hill, P. F., Elward, R. L., & Rugg, M. D. (2021). Effects of age on goal dependent modulation of episodic memory retrieval. *Neurobiology of Aging*, 102, 73-88. doi.org/10.1016/j.neurobiolaging.2021.02.004
- Srokova, S.**, Hill, P. F., Koen, J. D., King, D. R., & Rugg, M. D. (2020). Neural Differentiation is Moderated by Age in Scene-Selective, But Not Face-Selective, Cortical Regions. *eNeuro*, 7(3). doi.org/10.1523/ENEURO.0142-20.2020
- Koen, J. D.*, **Srokova, S.***, & Rugg, M. D*. (2020). Age-related neural dedifferentiation and cognition. *Current Opinion in Behavioral Sciences*, 32, 7-14. doi.org/10.1016/j.cobeha.2020.01.006 * **Denotes equal contribution.**
- Loaiza, V. M., & **Srokova, S.** (2020). Semantic relatedness corrects the age-related binding deficit in working memory and episodic memory. *Journals of Gerontology, Series B: Psychological Sciences*, 75 (9), 1841-1849. doi.org/10.1093/geronb/gbz055

BOOK CHAPTERS

- Barnes, C.A, Srivathsa, S., Hill, P.F., **Srokova, S.**, Ekstrom, A.D. (2026). How Does Aging Impact the Structure and Function of Parallel Navigation Circuits Across Mammals? In *Challenges in Navigation Research: Mapping New Directions* (pp. 321-378). Cham: Springer Nature Switzerland doi.org/10.1007/978-3-032-20563-6_13
- Rugg, M.D., **Srokova, S.** (2024) Effects of age on neural reinstatement during memory retrieval. Encyclopedia of the Human Brain, *Reference Module in Neuroscience and Biobehavioral Psychology*, Elsevier doi.org/10.1016/B978-0-12-820480-1.00020-6

MANUSCRIPTS UNDER REVIEW & IN PREP

- Srokova, S.**, Barnes, C. A., & Ekstrom, A. D. (*revise & resubmit*). Age-related differences in spatial memory occur alongside reduced visual fMRI BOLD but preserved viewpoint-specific scene representations. *bioRxiv*, 2026-04. doi.org/10.64898/2026.03.23.713765
- Aktas, A.N.Z., **Srokova, S.**, & Rugg, M. D. (*revise & resubmit*). Encoding-related fMRI BOLD activity predicts subsequent memory for studied scenes, but not subsequent identification of perceptually similar lures. *bioRxiv*, 2026-06. doi.org/10.64898/2026.06.17.732733
- Srokova, S.**, Watson, M.F., Gin, M.K., Barnes, C. A., & Ekstrom, A. D. (*in prep*). Age differences in spatial memory persist in the presence of self-motion cues.
- Sabharwal-Siddiqi, S., **Srokova, S.**, Grilli, M.D, Yonelinas, A., Ekstrom, A. D. (*in prep*) Hippocampal Activation Tracks the Precision of Multi-featural Memories

Hill, P. F., **Srokova, S.**, & Ekstrom, A. D. (*in prep*) Environmental differentiation during virtual navigation in the absence of entorhinal grid-like signals

RESEARCH AND TRAINING FUNDING

Arizona Alzheimer's Disease Research Center Pilot Grant (\$30,000) <i>Locus Coeruleus integrity in aging and its association with neural and behavioral specificity</i> Sponsor: Arizona Alzheimer's Consortium / State of Arizona DHS Role: PI	07/2026 – 07/2027
Scientific Project Grant (\$30,000) <i>Validation of MRI markers of Locus Coeruleus integrity using cognitive and plasma biomarkers of preclinical Alzheimer's disease</i> Sponsor: Arizona Alzheimer's Consortium & University of Arizona / State of Arizona DHS Role: PI	07/2026 – 07/2027
NIH/NIA T32 NRSA Postdoctoral Fellowship	2023 – 2026
Postdoctoral Research Development Grant , University of Arizona (\$2,000)	2024 – 2025
Dissertation Research Award , UT Dallas (\$2,420)	2022
Undergraduate Research Opportunities Placement , University of Essex (\$2,000)	2017
Frontrunners Plus Research Placement , University of Essex (\$2,000)	2016

HONORS AND AWARDS

Trainee Professional Development Award , Society for Neuroscience	2025
Nancy M. O'Neil and John Q. Stilwell, JD, PhD Fellowship , UT Dallas	2022
Travel Award , Reserve and Resilience in Cognitive Aging and Dementia	2021
British Psychological Society Undergraduate Award	2017
Michael Lodge Memorial Prize, 1st place , University of Essex <i>Highest overall grades in the Psychology graduating class of ~200 students</i>	2017
Ray Meddis Prize , University of Essex <i>Best Undergraduate thesis in Psychology</i>	2017
Margaret Bell Prize , University of Essex <i>Outstanding contribution to the Psychology department</i>	2017
The Big Essex Award - Platinum Award , University of Essex <i>Recognition for extracurricular and volunteering activities</i>	2017
Research Experience Scheme , University of Essex	2016
The Psychology Prize, 2nd place , University of Essex <i>Recognition for high grades in Psychology among Year 2 undergraduate students</i>	2016

CONFERENCE PRESENTATIONS (FIRST-AUTHOR ONLY)

Talks

Srokova, S. Barnes, C.A., Ekstrom, A.D. Locus Coeruleus MRI signal intensity: examining associations with functional and structural markers of brain aging, *Neuroscience Data Blitz*, UArizona, 2025

- Srokova, S.** Barnes, C.A., Ekstrom, A.D. The effects of age on fMRI adaptation effects following changes in spatial perspective, *Arizona Alzheimer's consortium retreat*, Phoenix, AZ, 2025
- Srokova, S.**, Shahanawaz, N.S., & Rugg, M.D. Eye movements are associated with neural differentiation in scene-selective and object-selective cortical regions in younger and older adults. *Arizona Alzheimer's consortium retreat*, Phoenix, AZ, 2024
- Srokova, S.**, Hill, P.F., Rugg, M.D. The Retrieval-related Anterior shift is Moderated by Age and Correlates with Memory Performance. *Dallas Austin Area Memory Meeting*, Virtual Event, 2021
- Srokova, S.**, Hill, P. F., Elward, R. L., Rugg, M. D. Effects of age on goal-dependent modulation of episodic memory retrieval. *Psychology Lecture Series Brownbag*, UT Dallas, TX, 2020
- Srokova, S.**, Hill, P.F., Koen, J.D., King D.R., Rugg, M.D. Neural differentiation at encoding predicts subsequent source memory performance in young and older adults. *Dallas Austin Area Memory Meeting*, Waco, TX, 2019

Posters

- Srokova, S.** Watson, M.F., Gin, M.K., Barnes, C.A., Ekstrom, A.D. Ambulation improves memory for rotated scenes in young and older adults. *Society for Neuroscience*, San Diego, CA, 2025
- Srokova, S.** Barnes, C.A., Ekstrom, A.D. Locus Coeruleus MRI signal intensity: examining associations with functional and structural markers of brain aging. *Arizona Alzheimer's Consortium Conference*, Phoenix, AZ, 2025
- Srokova, S.** Barnes, C.A., Ekstrom, A.D. The effects of age on regional and network-level fMRI correlates of spatial memory. *Cognitive Neuroscience Society*, Boston, MA, 2025
- Srokova, S.** Barnes, C.A., Ekstrom, A.D. Examining age differences in fMRI correlates of changes in spatial perspective. *Dallas Aging and Cognition Conference*, Dallas, TX, 2025
- Srokova, S.**, Barnes, C.A., Ekstrom, A.D. Age differences in fMRI repetition suppression following perspective shifts may contribute to age-related spatial memory deficits, *Arizona Alzheimer's consortium conference*, Phoenix, AZ, 2024
- Srokova, S.**, Watson, M. F., Barnes, C.A., Ekstrom, A.D. Do self-motion cues ameliorate spatial memory deficits in older adults? *McKnight Brain Research Foundation meeting*, Gainesville, FL, 2024
- Srokova, S.**, Shahanawaz, N.S., & Rugg, M.D. Pupil size increases reflect greater hippocampal activity and better memory accuracy in young and older adults. *Society for Neuroscience*, Chicago, IL, 2024
- Srokova, S.**, Shahanawaz, N.S., & Rugg, M.D. Eye movements are associated with neural differentiation in scene-selective and object-selective cortical regions. *Society for Neuroscience*, Washington D.C., 2023
- Srokova, S.**, Aktas, A. N. Z, Koen, J.D., & Rugg, M.D. Univariate and multi-voxel metrics of item-level neural differentiation are not moderated by age. *Context and Episodic Memory Symposium*, Lake Buena Vista, FL, 2023
- Srokova, S.**, Aktas, A. N. Z, Koen, J.D., & Rugg, M.D. Age-related neural dedifferentiation at the level of individual stimulus items. *Society for Neuroscience*, San Diego, CA, 2022
- Srokova, S.**, Aktas, A. N. Z, & Rugg, M.D. The effects of age on neural differentiation are moderated by global cortical thickness. *New Perspectives on Declarative Memory Conference*, University of East Anglia, UK, 2022

- Srokova, S.**, Hill, P. F., Rugg, M. D. Scene-selective increases in the functional connectivity of the parahippocampal place area are greater in young than older adults during encoding but are age-invariant at retrieval. *Cognitive Aging Conference*, Atlanta, GA, 2022
- Srokova, S.**, Hill, P. F., Rugg, M. D. Retrieval-related anterior shift is moderated by age and relates to memory performance. *Dallas Aging and Cognition Conference*, 2022 (*Abstract accepted, conference cancelled due to Covid-19*)
- Srokova, S.**, Hill, P. F., Rugg, M.D. Age differences in Retrieval-related Anterior shift in the Parahippocampal Place Area. *Cognitive Neuroscience Society*, Virtual Event, 2021
- Srokova, S.**, Hill, P.F., Koen, J.D., King D.R., Rugg, M.D. Age-related neural dedifferentiation in scene-selective cortical regions varies according to perceptual sub-category. *Cognitive Aging Conference*, 2020 (*Abstract accepted, conference cancelled due to Covid-19*)
- Srokova, S.**, Hill, P.F., Koen, J.D., King D.R., Rugg, M.D. Neural differentiation is moderated by age in scene- but not face-selective cortical regions. *Society for Neuroscience*, Chicago, IL, 2019
- Srokova, S.**, Hill, P.F., Koen, J.D., King D.R., Rugg, M.D. Neural differentiation at encoding predicts subsequent source memory performance in young and older adults. *Cognitive Neuroscience Society*, San Francisco, CA, 2019
- Srokova, S.**, Loaiza, V. M., Semantic relatedness corrects the age-related binding deficit in working memory and episodic memory. *Cognitive Aging Conference*, Atlanta, GA, 2018
- Srokova, S.**, Romei, V. The impact of 10Hz fronto-parietal tACS on Working Memory capacity: neural or retinal effects? *Conference for Undergraduate Final Research Project in Psychology*, University of Essex, UK, 2017

INVITED TALKS

- Srokova, S.** The effects of age on functional selectivity of the scene-selective cortex. Dartmouth College, 2024
- Srokova, S.** The relationship between age, cognition, and neural selectivity during episodic memory encoding and retrieval. University of Arizona, 2023

MENTORING

Listed are PhD students and research assistants with conference presentations and/or manuscripts. Mentees not listed are five undergraduates at UT Dallas and 10 undergraduates at University of Arizona.

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| Sameer Sabharwal-Siddiqi , Doctoral student
1 manuscript in prep, 1 poster presentation | 2025 – |
| Sarah Monier , Doctoral student
1 accepted manuscript, 2 poster presentations | 2022 – |
| Ayse Aktas , Research assistant
1 preprint under review, 2 posters and 1 talk | 2022 – |
| Ambereen Kidwai , Doctoral student
1 manuscript in prep, 3 poster presentations | 2021 – |
| Joshua Olivier , Research assistant
1 accepted manuscript, 3 poster presentations | 2022 – 2025 |
| Nehal Shahanawaz , Research assistant
1 accepted manuscript | 2022 – 2024 |

TEACHING EXPERIENCE

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|---|--------|
| Guest Lecturer – University of Arizona
PSY 321: Brain Rehabilitation (Using virtual reality to study cognitive aging) | 2024 – |
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PSY 404: Spatial Navigation

- Spatial navigation abilities in aging
- Scientific writing workshop
- The importance of vision to human spatial navigation

PSY 300: Mind and Brain (Amnesia and memory systems)

Guest Lecturer – UT Dallas

2023

HCS/ACN 6330: Cognitive Science

Undergraduate Teaching Assistant – University of Essex

2016 – 2017

PS212-5-FY: Statistics and Research Methods

COMMUNITY OUTREACH & PUBLIC TALKS

InvestNScience , Across multiple social media platforms	2025
Short “reel-style” videos about research aimed at connecting with the public	
Osher Lifelong Learning Institute , Tucson, AZ	2024
Lecture title: “Application of VR technology in memory and navigation research”	
Arizona Senior Academy , Tucson, AZ	2024
Lecture title: “Neuroimaging of the aging brain”	
Osher Lifelong Learning Institute , Tucson, AZ	2024
Lecture title: “Investigating age-related memory decline with structural and functional MRI”	
Dallas Retired School Personnel , Dallas, TX	2022
Lecture title: “Research in Memory and Healthy Aging”	
Center for Vital Longevity Advisory Council , Dallas, TX	2020
Lecture title: “Age differences in the control of recollected content and neural selectivity”	
Garland Retired School Personnel , Garland, TX	2019
Lecture title: “Dementia, memory, and healthy aging”	
Celebration Senior Magazine , Richardson, TX	2019
Lecture title: “Memory in Healthy aging and in Alzheimer’s disease”	

PROFESSIONAL SERVICES

Journal editorial service

The Journal of Neuroscience – Early Career Researcher Advisory Board (Chair; 2024 – present)

Osher Lifelong Learning Institute, Tucson, AZ (2025 – present)Coordinator of *The Psychology Lecture Series***Ad hoc reviewing - Journals**

Neuron, Nature communications, Hippocampus, Scientific Reports, Journal of Cognitive Neuroscience, Neurobiology of Aging, Neuropsychologia, Imaging Neuroscience, Cerebral Cortex, Neuroimage: Reports, Brain Research, Frontiers in Psychology, Behavioural Brain Research

Ad hoc reviewing - Grants

Postdoctoral Research Development Grant (University of Arizona)