SABINA SROKOVA, Ph.D.

Curriculum Vitae
June 2026

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CURRENT POSITION

Postdoctoral Fellow 2023 – present
Department of Psychology, 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?
Thesis advisor: Vincenzo Romei, Ph.D.

PEER-REVIEWED PUBLICATIONS

Srokova, 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., **Srokova, 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

Srokova, 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., **Srokova, 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 https://doi.org/10.1093/cercor/bhaf213

de Chastelaine, M., **Srokova, 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* https://doi.org/10.1016/j.neurobiolaging.2025.06.005

Srokova, 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) https://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) https://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 https://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 https://doi.org/10.1016/B978-0-12-820480-1.00020-6

MANUSCRIPTS UNDER REVIEW

Srokova, S., Barnes, C. A., & Ekstrom, A. D. (under review). Age-related differences in spatial memory occur alongside reduced visual fMRI BOLD but preserved viewpoint-specific scene representations. *bioRxiv*, 2026-04. https://doi.org/10.64898/2026.03.23.713765

Monier, S., **Srokova, S**., Shahanawaz, N. S., & Rugg, M. D. (under review). Category-selective functional connectivity during episodic encoding and retrieval in younger and older adults. *bioRxiv*, 2026-05. https://doi.org/10.64898/2026.05.29.728795

Aktas. A.N.Z., **Srokova, S.,** & Rugg, M. D. (submitted) Encoding-related fMRI BOLD activity predicts subsequent memory for studied scenes, but not subsequent identification of perceptually similar lures. *bioRxiv*, 2026-06. Doi TBD

HONORS, AWARDS, AND FUNDING

Arizona Alzheimer's Consortium Scientific Project Grant ($30,000) 2026 – 2027
Validation of MRI markers of Locus Coeruleus integrity using cognitive and plasma biomarkers of preclinical Alzheimer's disease
Role: PI

Arizona Alzheimer's Disease Research Center Pilot Grant ($30,000) 2026 – 2027
Locus Coeruleus integrity in aging and its association with neural and behavioral specificity
Role: PI

Society for Neuroscience Trainee Professional Development Award 2025

Postdoctoral Research Development Grant, University of Arizona ($2,000) 2024 – 2025

NIH NRSA Postdoctoral Fellowship (NIA T32-AG044402) 2023 – 2026

Dissertation Research Award, UT Dallas ($2,420) 2022

Nancy M. O'Neil and John Q. Stilwell, JD, PhD Fellowship, UT Dallas ($1,000) 2022

Reserve and Resilience in Cognitive Aging and Dementia Travel Award ($750) 2021

British Psychological Society Undergraduate Award 2017

Michael Lodge Memorial Prize, 1st place, University of Essex 2017
Highest overall grades in the Psychology graduating class of ~200 students

Ray Meddis Prize, University of Essex 2017
Best Undergraduate thesis in Psychology

Margaret Bell Prize, University of Essex 2017
Outstanding contribution to the Psychology department

The Big Essex Award - Platinum Award, University of Essex 2017
Recognition for extracurricular and volunteering activities

Undergraduate Research Opportunities Placement, University of Essex ($2,000) 2017

Frontrunners Plus Research Placement, University of Essex ($2,000) 2016

Research Experience Scheme, University of Essex 2016

The Psychology Prize, 2nd place, University of Essex 2016
Recognition for high grades in Psychology among Year 2 undergraduate students

CONFERENCE PRESENTATIONS

Limited to first-author presentations

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, FA, 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. DAge 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

Named mentees are limited to graduate-level students and post-baccalaureate research assistants with concrete scientific output (conference presentations and/or manuscripts). Among mentees not listed are five undergraduate students at UT Dallas and 10 undergraduate students at University of Arizona.

Sameer Sabharwal-Siddiqi, Doctoral student 2025 –
1 manuscript in prep, 1 poster presentation

Sarah Monier, Doctoral student 2022 –
1 preprint under review, 2 poster presentations

Ayse Aktas, Research assistant 2022 –
1 preprint under review, 2 posters and 1 talk

Ambereen Kidwai, Doctoral student 2021 –
1 manuscript in prep, 3 poster presentations

Joshua Olivier, Research assistant 2022 – 2025
1 accepted manuscript, 3 poster presentations

Nehal Shahanawaz, Research assistant 2022 – 2024
1 accepted manuscript

TEACHING EXPERIENCE

Guest Lecturer – University of Arizona 2024 – 2025
PSY 321: Brain Rehabilitation (Using virtual reality to study cognitive aging)
PSY 404: Spatial Navigation (Spatial navigation abilities in aging)
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"

OTHER RELEVANT EXPERIENCE

Assistant Adviser – University of Essex Student's Advice Centre 2014 – 2017
Residents' Assistant – University of Essex Student Support 2016 – 2017
Psychology Peer Mentor – University of Essex Student Support 2015 – 2016
President – University of Essex Psychology Society 2015 – 2016
First Year Representative – University of Essex Psychology Society 2014 – 2015

PROFESSIONAL SERVICES

Journal editorial service
The Journal of Neuroscience – Early Career Researcher Advisory Board (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, 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)