

SABINA SROKOVA, Ph.D.

Curriculum Vitae
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ACADEMIC POSITIONS

Postdoctoral Fellow

Department of Psychology, University of Arizona, AZ, USA

2023 – present

EDUCATION

Ph.D., Cognition & Neuroscience

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.

2018 – 2022

B.Sc. (Hons), Psychology

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 mentor: Vincenzo Romei, Ph.D.

2014 – 2017

PEER-REVIEWED PUBLICATIONS

Srokova, S. (2024). Memory retrieval of visuospatial context arises in the anterior portions of high-level visual cortex. *The Journal of Neuroscience (Journal Club)*, 44(1)

<https://doi.org/10.1523/JNEUROSCI.1854-23.2023>

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>

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

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 & IN PREP.

Srokova, S., Shahanawaz, N., & Rugg, M. (*preprint under review*). The relationship between neural differentiation and exploratory eye movements in healthy young and older adults. *bioRxiv*, 2025-01. doi.org/10.1101/2025.01.30.635806

de Chastelaine, M., **Srokova, S.**, Monier, S., Olivier, J. M., & Rugg, M. D. (*preprint under review*). Effects of age in the strategic control of recollected content as reflected by modulation of scene reinstatement. *bioRxiv*, 2025-01. doi.org/10.1101/2025.01.16.633416

Olivier, J.M., **Srokova, S.**, Hill, P.F., Rugg, M.D., (*preprint under review*) Moderating effects of cortical thickness, volume, and memory performance on age differences in neural reinstatement of scene information. *bioRxiv*, 2025-02. doi.org/10.1101/2025.02.06.636759

Barnes, C.A, Srivathsa, S., Hill, P.F., **Srokova, S.**, Ekstrom, A.D. (*revision submitted*). How does aging impact the structure and function of parallel navigation circuits across mammals?

Aktas, A.N. Z., **Srokova, S.**, Koen, J.D., & Rugg, M.D. (*in prep*). Distinct fMRI subsequent Memory Effects in the Mnemonic Similarity Task.

Kidwai, A., **Srokova, S.**, & Rugg, M.D., (*in prep*) Age invariant dissociation of fMRI correlates of task effects during episodic memory retrieval.

HONORS, AWARDS, AND GRANTS

Postdoctoral Research Development Grant , University of Arizona (\$2,000)	2024
NIH/NIA (T32) Postdoctoral Fellowship , Arizona Alzheimer's consortium	2023 – present
Training in Neurobiology of Aging and Alzheimer's disease	
Nancy M. O'Neil and John Q. Stilwell, JD , PhD Fellowship, UT Dallas (\$1,000)	2022
Dissertation Research Award , UT Dallas (\$2,420)	2022
Travel Award , Reserve and Resilience in Cognitive Aging and Dementia (\$750)	2021
British Psychological Society Undergraduate Award	2017
Michael Lodge Memorial Prize, 1st place , University of Essex	2017
Highest score of the Psychology graduating class	
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 Recognition for extracurricular and volunteering activities	2017
Undergraduate Research Opportunities Placement (\$2,000) Research in Memory and Aging, University of Essex	2016
Frontrunners Plus Research Placement (\$2,000) Research in Cognitive Development, University of Essex	2016
The Psychology Prize , 2nd Place, University of Essex 2nd highest grade in Psychology Year 2	2016

INVITED TALKS

“The effects of age on functional selectivity of the scene-selective cortex”. *Dartmouth College*, 2024

“The relationship between age, cognition, and neural selectivity during episodic memory encoding and retrieval”. *University of Arizona*, 2023

CONFERENCE PRESENTATIONS

The following list is limited to first-author presentations, or second-author presentations which were led by a student / research assistant that I mentored (denoted with *).

Talks:

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

Aktas, A.N.Z *, **Srokova, S.**, Koen, J.D., Rugg, M.D. Examining the effects of age on neural differentiation at the level of individual stimulus exemplars, *Dallas Austin Area Memory Meeting*, Austin, TX, 2022 * *Mentored research assistant*.

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 organized by UT Dallas, TX, 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

Kafari, S.*, **Srokova S.**, Rugg, M.D. Age-differences in visual sampling at encoding and predictions for successful retrieval. *Dallas Austin Area Memory Meeting*, Virtual Event organized by UT Austin., 2020 * *Mentored research assistant*.

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

Poster presentations:

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

Kidwai, A.*, **Srokova, S.**, & Rugg, M.D., Age invariant dissociation of fMRI correlates of task effects during episodic memory retrieval. *Society for Neuroscience*, Chicago, IL, 2024

- Monier, S.*, **Srokova, S.**, Hill, P.F., Rugg, M.D. Dissociating content-selective and generic retrieval-related fMRI BOLD effects. *Society for Neuroscience*, Chicago, IL, 2024
- 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. Eye movements are associated with neural differentiation in scene-selective and object-selective cortical regions. *Society for Neuroscience*, Washington D.C., 2023
- Aktas, A.N.Z. *, **Srokova, S.**, Koen, J.D., & Rugg, M.D. Distinct fMRI Subsequent Memory Effects for Scene Targets and Lures in the Mnemonic Similarity Task, *Society for Neuroscience*, Washington D.C., 2023 * *Mentored research assistant*.
- Olivier, J.M.*, **Srokova, S.**, & Rugg, M. D. Moderating effects of cortical volume and thickness on retrieval-related scene reinstatement, *Society for Neuroscience*, Washington D.C. 2023 * *Mentored research assistant*.
- Kidwai, A.*, **Srokova, S.**, & Rugg, M.D. FMRI correlates of retrieval gating of scene and object information, *Society for Neuroscience*, Washington D.C., 2023 * *Mentored graduate student*.
- 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
- Aktas, A. N. Z *, **Srokova, S.**, Koen, J.D., & Rugg, M.D. Rethinking the Lure Discrimination Index: Differential age-effects in behavioral measures of pattern separation for different stimuli categories *Context and Episodic Memory Symposium*, Lake Buena Vista, FA, 2023 * *Mentored research assistant*.
- 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
- Olivier, J.M. *, **Srokova, S.**, Rugg, M.D Age and retrieval-related scene reinstatement: moderating effects of cortical thickness. *Society for Neuroscience*, San Diego, CA, 2022 * *Mentored research assistant*
- 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*

TEACHING EXPERIENCE

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

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| 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

SOCIETY AFFILIATIONS

Cognitive Neuroscience Society, Society for Neuroscience

PROFESSIONAL SERVICES

Journal editorial service

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

Osher Lifelong Learning Institute, Tucson, AZ (2025 – present)

Psychology Lecture Series coordinator – community outreach

Ad hoc reviewer

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