DR DACE APŠVALKA

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EMPLOYMENT

ACADEMIC

2021 –	**Research Associate** • *MRC Cognition and Brain Sciences Unit, University of Cambridge, Methods Group, UK.*
2017 – 2021	**Career Development Fellow** • *MRC Cognition and Brain Sciences Unit, University of Cambridge, Memory Control Lab, UK.*
2000 – 2011	**Researcher in Information Systems** • *Riga Technical University, Department of System Theory and Design, Latvia.*

NON-ACADEMIC

2012 – 2013	**Programmer (temporary)** • *Bangor University, School of Psychology, Social Brain in Action Laboratory, Wales, UK.* Programming behavioural, fMRI, and EMG experiments.
2012 – 2013	**Programmer (temporary)** • *Software Research Ltd, UK.* MS SQL Server database design and programming; implementing business reports using SQL Server.
2012	**Web Developer (contract)** • *Confed, North Wales Environmental Information Service, Wales, UK.* Analysing requirements, designing, and developing a web interface to Cofnod's wildlife database.
2011	**Web Developer (contract)** • *The Royal Hotel Llandudno, Wales, UK.* Gathering and analysing requirements, designing, and developing hotel's website.
2005 – 2011	**Systems Analyst** • *Riga Technical University, Institute of Applied Computer Systems, Latvia.* Developing, editing, and administrating several websites and databases. Developing software applications. Developing multimedia applications for presentation, advertising, and lecturing purposes.

EDUCATION

PhD	**Cognitive Neuroscience** • *Bangor University, Wales, UK*, 2013 – 2017 *Thesis title:* "Behavioural and neural mechanisms of motor sequence learning by observation." *Supervisors:* Emily S. Cross, Richard Ramsey. *Awarded:* February 2018.
MSc	**Neuroimaging (Distinction)** • *Bangor University, Wales, UK*, 2011 – 2013 *Thesis title:* "Event-related dynamics of glutamate, GABA, and BOLD signal at 3 T in a repetition suppression paradigm." *Supervisor:* Paul G.M. Mullins. *Awarded:* September 2013.
MSc. eng.	**Computer Systems** • *Riga Technical University, Latvia*, 2000 – 2003 *Thesis title:* "Application of Knowledge Management methods for intellectual capital exploitation in organisations." *Supervisor:* Jānis Grundspeņķis. *Awarded:* May 2003.
BSc. eng.	**Computer Science** • *Riga Technical University, Latvia*, 1997 – 2000 *Thesis title:* "Knowledge Management system implementations." *Supervisor:* Jānis Grundspeņķis. *Awarded: May 2000.*

HONORS AND AWARDS

2018 – 2023	**Postdoctoral Research Associateship**, Trinity Hall, University of Cambridge.
2018	**Medical Research Council End of Year Special Award Scheme**, for exceptional contribution to the MRC beyond that normally expected.
2014	**Best Poster Award, 3rd place**, issued by RESUS Repetition Suppression Summer School, for the poster "Glutamate and BOLD dynamics in a repetition suppression paradigm."
2013 – 2016	**Doctoral scholarship**, issued by Bangor University, UK Ministry of Defence, Dstl, funded 3-year scholarship.
2012	**Level 4 Professional Development Award**, issued by The City and Guilds of London Institute, in the context of Web Development.
2000 – 2003	**Latvian government-funded tuition fee for MSc.eng. studies**, issued by the Latvian Government, due to excellent grades in BSc.eng. studies.
1997 – 2000	**Latvian government-funded tuition fee for BSc.eng. studies**, issued by the Latvian Government, due to excellent Secondary school (A level) grades.

PUBLICATIONS

PEER-REVIEWED PUBLICATIONS IN COGNITIVE NEUROSCIENCE

1. **Apšvalka, D.**, Ferreira, C.S, Schmitz, T.W, Rowe, J.B, & Anderson, M.C. (2022). Dynamic targeting enables domain general inhibitory control over action and thought by the prefrontal cortex. *Nature Communications,* 13 (274), https://doi.org/10.1038/s41467-021-27926-w

2. **Apšvalka, D.**, Cross, E.S., & Ramsey, R. (2019). Fluid intelligence and working memory support dissociable aspects of learning by physical but not observational practice. *Cognition*, 190, 170-183. https://doi.org/10.1016/j.cognition.2019.04.015

3. **Apšvalka, D.**, Cross, E.S., & Ramsey, R. (2018). Observing action sequences elicits sequence-specific neural representations in frontoparietal brain regions. *Journal of Neuroscience*, 38 (47), 10114-10128. https://doi.org/10.1523/JNEUROSCI.1597-18.2018

4. **Apšvalka, D.**, Cross, E.S., & Ramsey, R. (2018). Anodal tDCS over primary motor cortex provides no advantage to learning motor sequences via observation. *Neural Plasticity*, 2018, 1-14. https://doi.org/10.1155/2018/1237962

5. **Apšvalka, D.**, Gadie, A., Clemence, M., & Mullins, P. G. (2015). Event-related dynamics of glutamate and BOLD effects measured using functional magnetic resonance spectroscopy (fMRS) at 3T in a repetition suppression paradigm. *NeuroImage*, 118, 292-300. https://doi.org/10.1016/j.neuroimage.2015.06.015

PEER-REVIEWED PUBLICATIONS IN INFORMATION SYSTEMS

1. **Apshvalka, D.**, Donina, D., & Kirikova, M. (2009). Understanding the problems of requirements elicitation process: A human perspective. In W. Wojtkowski et al. (Eds.), *Information Systems Development: Challenges in Practice, Theory, and Education* (Vol. 1, pp. 211–223). Boston, MA: Springer US.

2. **Apshvalka, D.**, Donina, D., & Kirikova, M. (2008). Foresight process modelling. In *Scientific Proceedings of Riga Technical University, Computer Science, Applied Computer Systems.* Riga, Latvia (Vol. 34, pp. 102-112). ISSN 1407-7493.

3. **Apshvalka, D.** (2007). Challenges in modelling artificial human-like agents. In *Scientific Proceedings of Riga Technical University, Computer Science, Applied Computer Systems.* Riga, Latvia (Vol. 30, pp. 76-84). ISSN 1407-7493.

4. **Apshvalka, D.**, & Wendorff, P. (2006). Reflections on the body of knowledge in Software Engineering. In A. G. Nilsson et al. (Eds.) Advances in Information Systems Development: Bridging the Gap between Academia and Industry (pp. 995-1006). Boston, MA: Springer US.

5. Wendorff, P., & **Apshvalka, D.** (2005). The Knowledge Management strategy of Agile Software Development. In D. Remenyi (Ed.), *Proceedings of the 6th European Conference on Knowledge Management (ECKM)*. Limerick, Ireland (pp. 607 – 614).

6. **Apshvalka, D.**, & Wendorff, P. (2005). A Framework of Personal Knowledge Management in the context of Organisational Knowledge Management. In D. Remenyi (Ed.), *Proceedings of the 6th European Conference on Knowledge Management (ECKM)*. Limerick, Ireland (pp. 34-41).

7. **Apshvalka, D.**, & Grundspenkis, J. (2005). Personal Knowledge Management and intelligent agent perspective. In *Pre-conference Proceedings of the 14th International Conference on Information Systems Development.* Karlstad, Sweden (pp. 219-230).

8. **Apshvalka, D.**, & Grundspenkis, J. (2005). Personal and Organizational Knowledge Management as a driving force for Business Process effectiveness. In *Information Technologies for Business 2005, Proceedings of the International Conference*. Kaunas, Lithuania (pp. 9 – 14).

9. Wendorff, P., & **Apshvalka, D.** (2005). Human Knowledge-Management and decision-making in Software Development method selection. In R. Petrasch et al. (Eds), *Entscheidungsfall Vorgehensmodell (Proceedings of the 12th Annual Workshop of the German Informatics Society Special Interest Group WI-VM)*, Berlin, Germany (pp. 143-157).

10. **Apshvalka, D.** (2004). Personal Knowledge Management. In D. Remenyi (Ed.), *Proceedings of the 11th European Conference on Information Technology Evaluation (ECITE)*. Amsterdam, Netherlands (pp. 17-22).

11. **Apshvalka, D.**, & Grundspenkis, J. (2003). Making organisations act more intelligently in the framework of the Organizational Knowledge Management system. In *Scientific Proceedings of Riga Technical University, Computer Science, Applied Computer Systems*. Riga, Latvia (Vol. 17, pp. 72-82).

OTHER

Wikipedia article "Functional magnetic resonance spectroscopy of the brain". Page creator and main editor. http://en.wikipedia.org/wiki/FMRS

INVITED TALKS

1. **Experimental Psychology Society, Michael C. Anderson Mid-Career Prize Symposium**, 07/01/2022, Online. *A common brain mechanism for stopping unwanted actions and memories.*

2. **A guest lecture at Riga Technical University, Business Informatics programme, Knowledge Management Systems module**, 06/12/2021, Online. *The Importance of Forgetting in Knowledge Management.*

3. **11th Annual Meeting of the Brazilian Institute of Neuropsychology and Behavior (IBNeC)**, 02/10/2021, Online. *Fronto-hippocampal pathways underlying control over unwanted memories.*

4. **Kent Memory Workshop: Memory malleability over time**, 31/10/2017, Canterbury, UK. *Controlling unwanted memories: the medial septal pacemaker suppression hypothesis*.

PRESENTATIONS AT SCIENTIFIC MEETINGS

ORAL PRESENTATIONS

1. **MRC Cognition and Brain Sciences Unit Wednesday Lunchtime Seminar, 03/10/2021,** Online. *Fronto-hippocampal pathways underlying control over unwanted memories: a mega-analysis of 10 datasets and 330 subjects.*

2. **CBU Memory and Perception Group Meeting**, 03/12/2019, Cambridge, UK. *Inhibitory control of actions and memories. Is there a supramodal mechanism?*

3. **Society for Neuroscience (SfN) Meeting**, 19-23/10/2019, Chicago, USA. *Inhibitory control of actions and memories: Common control processes, dissociable targets.*

4. **Cambridge Memory Meeting**, 05/05/2019, Cambridge, UK. *Controlling unwanted memories: the medial septal pacemaker suppression hypothesis*.

5. **MRC Cognition and Brain Sciences Unit Science Day**, 31/10/2017, Cambridge, UK. *Controlling unwanted memories: the medial septal pacemaker suppression hypothesis*.

6. **Bangor Psychology PhD Student Conference**, 09/06/2016, Bangor, Wales, UK. *Behavioural and neural mechanisms of motor sequence learning by observation.*

7. **Joint Annual Meeting ISMRM-ESMRMB 2014**, 10-16/05/2014, Milan, Italy. *Event-related dynamics of glutamate and BOLD signal at 3 T in a repetition suppression paradigm*. Available to view at https://goo.gl/5QpAIq

8. **23rd British Chapter ISMRM Postgraduate Symposium**, 11/04/2014, Cardiff, Wales, UK. *Simultaneous acquisition of BOLD signal and glutamate at 3T.*

9. **48th International Scientific Conference of Riga Technical University**, 11-14/10/2007, Riga, Latvia. *Foresight process modelling*.

10. **47th International Scientific Conference of Riga Technical University**, 12/10/2006, Riga, Latvia. *Challenges in modelling artificial human-like agents*.

11. **16th International Conference on Information Systems Development (ISD'2007)**, 29-31/08/2007, Galway, Ireland. *Understanding the problems of requirements elicitation process: A human perspective.*

12. **6th European Conference on Knowledge Management (ECKM)**, 8-9/09/2005, Limerick, Ireland. *A Framework of Personal Knowledge Management in the context of Organisational Knowledge Management.*

13. **14th International Conference on Information Systems Development (ISD'2005)**, 15-17/09/2005, Karlstad, Sweden. *Personal Knowledge Management and intelligent agent perspective.*

14. **14th International Conference on Information Systems Development (ISD'2005)**, 15-17/09/2005, Karlstad, Sweden. *Reflections on the body of knowledge in Software Engineering.*

15. **International Conference on Information Technologies for Business**, 27/05/2005, Kaunas, Lithuania. *Personal and Organizational Knowledge Management as a driving force for Business Process effectiveness.*

16. **11th European Conference on Information Technology Evaluation (ECITE)**, 11-12/11/2004, Amsterdam, the Netherlands. *Personal Knowledge Management.*

POSTER PRESENTATIONS

1. **Meeting of the Minds 2020**, 25/01/2020, London, UK. *A common brain mechanism underlies the stopping of unwanted actions and memories.* Available at http://bit.do/MMposter2020

2. **Society for Neuroscience (SfN) Meeting**, 03-07/11/2018, San Diego, CA. *Controlling unwanted memories: The medial septal pacemaker suppression hypothesis*. Available at http://bit.do/SfN2018

3. **Action observation and imitation in Parkinson's disease Workshop**, 08/04/2016, Manchester, UK. *Neural representations of motor sequence learning by observation*. Available at https://goo.gl/a0qaJF

4. **Cognitive Neuroscience Society Annual Meeting (CNS)**, 02-05/04/2016, New York, USA. *Neural representations of motor sequence learning by observation*.

5. **London Students' Neuroscience Conference (LSNeuro)**, 06-07/02/2016, London, UK. *Neural representations of motor sequence learning by observation*.

6. **Social Cognition: From Evolution to Disorders**, 27-28/08/2015, Bangor, Wales, UK. *Watch and Learn: Motor sequence learning by observation*.

7. **Rovereto Workshop on Concepts, Actions and Objects (CAOs)**, 07-10/05/2015, Rovereto, Italy. *Watch and Learn: Motor sequence learning by observation*.

8. **Bangor Psychology PhD Student Conference**, 11/12/2014, Bangor, Wales, UK. *Watch and Learn: Motor sequence learning by observation*.

9. **RESUS Summer School**, 08-12/09/2014, Jena, Germany. *Glutamate and BOLD dynamics in a repetition suppression paradigm*. Available at https://goo.gl/ihojuO

10. **The British Psychology Society Welsh Branch 42nd Annual Student Conference**, 04/05/2013, Wrexham, Wales, UK. *Relationship between repetition suppression and neurotransmission in the human brain: an fMRS study.*

TEACHING

Tutor • *University of Cambridge, MRC Cognition and Brain Sciences Unit, Methods Group, UK.*
2022   **Functional Magnetic Resonance Imaging**, PhD students, Postdocs.

Tutor • *University of Cambridge, MRC Cognition and Brain Sciences Unit, Memory Control Lab, UK.*
2017 – 2018   **Functional Magnetic Resonance Imaging**, PhD students, Postdocs.
2017 – 2018   **Manual segmentation of the hippocampus on T1 MRI images**, PhD students,
                   Postdocs.
Teaching Assistant • *Bangor University, School of Psychology, Wales, UK.*
2015   **Brain and Mind**, 1st-year Undergraduates.
                  Exam marking
2014 – 2015   **Scientific Writing and Communication**, 1st-year Undergraduates.
                  Small group tutor; Essay marking
2013 – 2015   **Research Skills**, 1st-year Undergraduates.
                  Small group tutor; Research report marking
Lecturer • *Riga Technical University, Faculty of Computer Science and Information Technology, Latvia.*
2005 – 2011   **Knowledge Management**, Masters.
                  Lecturer on topics **Personal Knowledge Management** and **Role of Emotions in
                  Knowledge Management**.
Visiting Lecturer • *Vidzeme University of Applied Sciences, Latvia.*
2008, 2009   **Introduction to Systems Theory and Knowledge Management**, Masters.
                  Module developer and lecturer.
Visiting Lecturer • *Bremen University of Applied Sciences, Germany.*
2007   **Knowledge Management**, Masters.
                  Module developer and lecturer.

RESEARCH MENTORSHIP (COGNITIVE NEUROSCIENCE)

Graduate students • *University of Cambridge, MRC Cognition and Brain Sciences Unit.*
Assistance and mentorship of PhD projects:
- Subbulakshmi Sankarasubramanian (2017 – 2021), *Neural mechanisms underlying domain-general inhibitory control*.
- Frederik Bergmann (2018 – 2021), *Mnemonic Capture Underlies the Intrusion of Unwanted Memories*.
- Laura Marsh (2018 – 2021), *Neurocognitive mechanisms underlying psychogenic amnesia*.

Graduate students • *Bangor University, School of Psychology.*
Training and supervision of MSc lab-rotation students in behavioural research experiments.

Undergraduate students • *Bangor University, School of Psychology.*
Training and supervision of undergraduate students for their research projects.

ACADEMIC SERVICE (COGNITIVE NEUROSCIENCE)

Committees at MRC Cognition and Brain Sciences Unit
- Imaging Management
- Magnetic Resonance Imaging
- Open Science
- Postgraduate Education

Admission Interviews • University of Cambridge, Trinity Hall
- 2019, Natural Sciences (Biological)
- 2018, Computer Science

Conference chair
- CBU Methods Day, 07/02/2022, *University of Cambridge, Cambridge, UK.*
- Cambridge Memory Meeting, 20/04/2020, *University of Cambridge, Cambridge, UK (Online).*
- Student conference, 19/09/2014, *Bangor University, School of Psychology, Bangor, Wales, UK.*

Conference co-organiser
- PhD Student Conference, 02/12/2015, *Bangor University, School of Psychology, Bangor, Wales, UK.*

Peer reviewer
- Human Brain Mapping • Plos One • NeuroImage • Scientific Reports • Journal of Neuroscience • Brain Imaging and Behavior

Memberships
- British Neuroscience Association • Cambridge Neuroscience Society

PROFESSIONAL DEVELOPMENT (SELECTED)

METHODS

1. **Introduction to Transcranial Focused Ultrasound Stimulation**, Brainbox Initiative, Online. 20-22/03/2021.
2. **EDITINGSCHOOL**, A 4-day course dedicated to edited Magnetic Resonance Spectroscopy, The Johns Hopkins University School of Medicine, Online. 07-11/12/2020.
3. **PET Methodology**, A 3-day course on designing, quantifying and analysing PET tracer studies, King's College London, St Thomas' Hospital, London, UK. 02-04/03/2020.
4. **Lesion-Symptom Mapping Workshop**, MRC Cognition and Brain Sciences Unit, Cambridge, UK. 29/04/2019.
5. **Interpreting BOLD – Furthering the dialogue between cellular and cognitive neuroscience**, Oxford, UK. 09-11/09/2018.
6. **Behavioural Science Online #BeOnline2018**, London, UK. 13/06/2018.
7. **Cambridge Representational Similarity Analysis and Advanced Computational Methods Workshop**, MRC Cognition and Brain Sciences Unit, Cambridge, UK. 21-22/05/2018.
8. **Introduction to R**, MRC Cognition and Brain Sciences Unit, Cambridge, UK. 10/10/2017.
9. **Event-Related Potentials (ERP) Summer School 2016**, Conducting, analysing, and interpreting event-related potential studies, Bangor University, Bangor, Wales, UK. 26/06-01/07/2016.
10. **Statistical Parametric Mapping (SPM) Advanced Users' Course**, fMRI data analysis course, The University of Edinburgh, Edinburgh, Scotland, UK. 30/04-01/05/2015.

BRAIN AND COGNITION

1. **Limbic Brain Anatomy Course**, London, UK. 03-04/04/2017.
2. **Repetition Suppression and adaptation phenomena in the central nervous system**, Summer School, Friedrich-Schiller-University, Jena, Germany. 08-12/09/2014.
3. **Human brain dissection**, Bangor University, Bangor, Wales, UK. 23/04/2014.
4. **Computational Logic and Cognitive Science**, Summer School, The International Centre for Computational Logic (ICCL), Dresden, Germany. 24/08-06/09/2008.

TEACHING

1. **Teaching Psychology in Higher Education (PPT4001, PPT4002)**, 20 credits, Bangor University, Bangor, Wales, UK. 2013 – 2015.
2. **Higher Education Academy: Postgraduates and others who teach Psychology**, Bangor University, Bangor, Wales, UK. 26/04/2014.

MANAGEMENT AND LEADERSHIP

1. **MRC Postdoc Symposium**, Medical Research Council UKRI, Cambridge, UK. 28-30/01/2019
2. **Grant Writing Workshop**, University of Cambridge, Cambridge, UK. 25/06/2018.
3. **Management Skills and Inter-Sectoral Mobility**, International Training Course, Tallinn, Estonia, and Helsinki, Finland. 19-25/08/2007.