

# MARIA V. IVANOVA

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I'm a multidisciplinary cognitive neuroscientist interested in unravelling how different areas of the brain work together to orchestrate complex cognition, with a particular focus on language and understanding recovery from acquired brain injury. I have a strong background in language sciences, neuroimaging, quantitative research methods, and clinical neuropsychology that puts me in a unique and an advantageous position to study human behavior. In the past decade, I have worked in both academic and clinical institutions in the United States and Russia with my research encompassing neuroscientific inquiries using varied methods, clinical neuropsychological studies, methodological neuroimaging investigations, along with work on test development. My background as a certified clinical neuropsychologist in Russia has facilitated my work with patients, enabling me to make substantial advances in patient-based Cognitive Neuroscience. In my research, I apply cutting-edge methods, including multi-modal neuroimaging and eye tracking, to understand how humans produce and comprehend language in such a flexible manner, and explore how brain injuries affect different cognitive systems and how the brain reorganizes itself during recovery. Ultimately, I endeavor for my research to both address theoretical questions in Human Neuroscience about language, cognition, and the brain and have an impact on the lives of people who have sustained brain injuries.

**Areas of research expertise:** cognitive neuroscience, neurolinguistics, neuroimaging, neuropsychology, aphasia, neurorehabilitation, lesion symptom mapping, tractography, perfusion, eye tracking, working memory, attention, standardized testing.

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## EDUCATION

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**2009 Ohio University, Athens, Ohio, USA – Ph.D., Speech and Language Sciences**

Dissertation *“Addressing confounding factors in the study of working memory in aphasia: Empirical evaluation of modified tasks and measures”*

**2005 Lomonosov Moscow State University, Moscow, Russia – M.S., Psychology, Clinical Psychology**

Master thesis *“Eye movements in patients with focal brain damage”*

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## CURRENT POSITION

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**12.2018 – present Professional Researcher**

**Aphasia Recovery Lab, Department of Psychology, University of California Berkeley**

Research on cognitive and neural mechanisms of language processing and recovery in aphasia using multi-modal neuroimaging, neuropsychological, and linguistic methods.

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## PROFESSIONAL EXPERIENCE

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**01.2017 – 05.2018 Research Scientist**

**Center for Aphasia and Related Disorders, Veterans Affairs Northern California Health Care System, Martinez, CA, USA**

Research using lesion-symptom mapping and tractography methods to determine areas of the brain supporting different stages of language processing.

**04.2013 – 12.2018 Senior Research Fellow**

**Center for Brain and Language (formerly the International Neurolinguistics Laboratory), Department of Humanitarian Studies, National Research University HSE, Moscow, Russia**

Conduction and supervision of multi-center research on neural and behavioral aspects of language and other cognitive abilities in healthy individuals and different clinical populations using neuroimaging, eye tracking, and neuropsychological methods. Development and pioneering of novel neuroimaging techniques. Establishment of new clinical collaborations. Teaching courses on experimental studies of language and neuroimaging methods, supervising undergraduate and graduate students. Organization of educational events.

**02.2011 – 12.2012 Research Fellow**

**Laboratory of Neuropsychology at the Center for Fundamental Research, National Research University HSE, Moscow, Russia**

Investigation of the interaction between language and memory using eye tracking and behavioral methods.

**09.2009 – 03.2013 Clinical Neuropsychologist**

**Center for Speech Pathology and Neurorehabilitation, Moscow, Russia**

Neuropsychological assessment and treatment of individuals with brain injuries, development of novel assessment tools and their implementation into clinical practice. Developing and teaching clinical courses.

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**PROFESSIONAL AWARDS & HONORS**

**2016 National Research University HSE, Moscow, Russia**

Best teacher award

**2007 American Speech-Language-Hearing Foundation**

International student scholarship (awarded one per year)

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**GRANTS**

**Grants as Principal Investigator**

**2016 – 2018 Russian Foundation for Basic Research, \$25,000**

*Role of white matter tracts in language processing: Diffusion-tensor imaging data of individuals with neurogenic language disorders*

The aim of the project was to investigate the relationship between integrity of white-matter tracts and language performance in two patient populations: stroke patients with aphasia and brain tumor patients.

**2014 – 2016 Russian Fund for Humanitarian Studies, \$35,000**

*Outlining linguistic deficits in different types of aphasia: Development and application of the Russian Aphasia Test*

The main goal was to develop the first comprehensive standardized language test for aphasia in Russian and investigate linguistic profiles of different types of aphasia.

**2013 – 2015 Russian Foundation for Basic Research, \$40,000**

*Neuroplasticity of language processing: Reorganization of neural activity following brain damage*

The project examined the mechanisms of neuroplasticity following damage to language areas of the brain and how this network of recruited areas was modified by an intensive language therapy.

**2012 – 2013 Russian Fund for Humanitarian Studies, \$28,000**

*What memory does language need: Investigating the impact of types of memory and its mechanisms on language processing in individuals with and without aphasia*

The project investigated different types of memory and their role in language processing in healthy controls and individuals with brain injuries.

**Grants as Co-Investigator**

**2017 – 2023 National Institute of Health – National Institute on Deafness and Other Communication Disorders, RO1DC0163405, \$2,093,300**

*Neural mechanisms and recovery of language production deficits in aphasia*

The aim of the project is to examine plasticity within gray matter regions and white matter tracts and explore their contribution to recovery of different language levels over the course of one full year post-stroke.

**2019 – 2020 National Institute of Health – National Institute on Deafness and Other Communication Disorders, RO1DC0163405, Administrative supplement, \$250,000**

*Neural mechanisms and decline of language production deficits in primary progressive aphasia*

The goal of the project was to investigate the role of white matter pathways in the decline of language production skills in neurodegenerative disease.

**2018 – 2021 Federal Government of the Russian Federation, \$1,000,000**

*Language and the brain: Prevention, assessment, and treatment of language disorders*

The goal of the project was to develop a comprehensive understanding of the language-brain interface, its individual variability and neuroplasticity in individuals with brain injuries using behavioral, neuroimaging, and neurostimulation techniques. The practical objective was to translate these scientific insights and the developed methods into routine clinical practice.

**2014 – 2016 National Research University HSE, \$750,000**

*Neural foundations of language grammar*

This was an infrastructural grant to establish the International Neurolinguistics Laboratory as the premier site for research on brain and language in Russia, with worldwide recognition and develop a contemporary research program according to the highest international standards.

**Grants as Consultant and other smaller grants**

**2016 – 2017 Russian Fund for Humanitarian Studies**

*Informational system “Electronic archive of A.R. Luria’s works”*

**2016 – 2017 Russian Fund for Humanitarian Studies**

*Mechanisms of language deficits in bilingual aphasia: Development and implementation of the Tatar Aphasia Test*

**2015 – 2016 Russian Fund for Humanitarian Studies**

*Electronic database “Normative data on verbal and visual stimuli for experimental and clinical use”*

**2015 – 2017 Russian Foundation for Basic Research**

*Impact of familial sinistrality on lateralization of language in the brain*

**2015 European Cooperation in Science and Technology - Collaboration of Aphasia Trialists, Travel grant to attend the workshop “International Classification of Functioning and Aphasia Research”**

- 2012 – 2014 Russian Fund for Humanitarian Studies  
*Linguistic analysis through the eyes of patients with aphasia: Characteristics of language processing in aphasia using eye tracking*
- 2011 – 2013 Russian Fund for Humanitarian Studies  
*Impact of structure and content of tasks on writing deficits in patients with dysgraphia following brain injuries*
- 2011 – 2012 Russian Fund for Humanitarian Studies  
*Verb and action: Database of stimuli and normative data for experimental studies*
- 2010 International Neuropsychological Association, Ian Novak-Dzerski College of Eastern Europe, Fellowship to attend the mid-year meeting of the International Neuropsychological Association
- 2008, 2009 National Institute of Health – National Institute on Deafness and Other Communication Disorders, Fellowships to attend the NIDCD symposium as a part of the Clinical Aphasiology Conference
- 2008 Ohio University, Student Senate  
*Empirical evaluation of a novel eye tracking task to assess working memory in aphasia*
- 2007 American Speech-Language-Hearing Foundation, Mentoring pair travel award
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## **TEACHING & MENTORING EXPERIENCE**

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### **University courses**

- 2014 – 2016 Experimental methods in psycho- and neurolinguistics** (undergraduate course)  
Philology Department, National Research University HSE, Moscow, Russia
- 2013 – 2014 Experimental linguistics** (graduate course)  
Philology Department, National Research University HSE, Moscow, Russia
- 2010 Clinical practicum in neurorehabilitation** (graduate course)  
Department of Psychology, Lomonosov Moscow State University, Moscow, Russia
- 2010 Clinical neuropsychology** (graduate course)  
Department of Psychology and Social Work, Pirogov Russian State Medical University, Moscow, Russia
- 2009 Neurorehabilitation** (graduate course)  
Department of Psychology and Social Work, Pirogov Russian State Medical University, Moscow, Russia
- 2007 – 2009 Aphasia and other neurogenic language disorders** (graduate course, GSI)  
Department of Hearing, Speech, and Language Sciences, Ohio University, Athens, OH, USA

### **Workshops**

- 2022 Diffusion-Tensor Imaging in Brains with Stroke-Induced Lesions**  
Joint Doctoral Program Language & Communicative Disorders Workshop, San Diego State University, San Diego, CA, USA
- 2018 Advanced Topics in Lesion-Symptom Mapping**  
Workshop of the Center for Brain and Language, National Research University HSE, Moscow, Russia

**2015 Neuroimaging of Fiber Pathways: Introduction to Diffusion Imaging and Tractography**  
Spring School, National Research University HSE, Moscow, Russia

**2014 – 2016 Annual International Summer Neurolinguistics School**  
National Research University HSE, Moscow, Russia

### **Mentorship**

2019 – 2022 Supervision of research projects conducted by undergraduate and graduate students  
Department of Psychology, University of California Berkeley, CA, USA

2013 – 2017 Advisor on bachelor term papers, honors and master theses  
Philology Department, National Research University HSE, Moscow, Russia

2010 – 2012 Advisor on master theses  
Department of Psychology and Department of Philology, Lomonosov Moscow State University,  
Moscow, Russia

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### **EXPERTISE**

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#### **Methods**

- Voxel-based Lesion Symptom Mapping (VLSM)
- Diffusion Tensor Imaging (DTI)
- Tractography
- Perfusion imaging
- Eye tracking
- Various behavioral methods, including neuropsychological and speech-language assessments

#### **Software**

- Stimuli presentation: E-prime, Stimuli Presenter, PsychoPy, PsyToolkit
- Neuroimaging data analysis: SPM, FSL, ExploreDTI, DIPY, LQT, TrackVis, Mi-Brain
- Statistical analysis: SPSS, R

#### **Languages**

- English: fluent
  - Russian: native
  - French: intermediate
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### **PROFESSIONAL MEMBERSHIP**

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**Society for Neurobiology of Language** (2015 – present)

**Academy of Aphasia** (Outreach Committee) (2019 – present)

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### **JOURNAL EDITOR**

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Frontiers in Language Sciences

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### **AD HOC JOURNAL REVIEWER**

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Aphasiology	Brain and Language
Brain Injury	Cerebral Cortex
Brain Structure and Function	Cortex

Frontiers in Human Neuroscience  
Journal of Clinical and Experimental Psychology  
Journal of Cognitive Neuroscience  
Journal of Communication Disorders  
Journal of Speech, Language & Hearing Research  
Nature Communications  
Nature Reviews Neurology  
Neurobiology of Language

NeuroImage: Clinical  
Neuropsychologia  
Neuropsychology  
Neuropsychology Review  
Neurorehabilitation and Neural Repair  
PLOS One  
Stroke  
Topics in Language Disorders

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## BOOK CHAPTERS

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1. Dronkers, N.D. & **Ivanova M.V.** (in press). The neuroscience of language & aphasia. In *APA Handbook of Neuropsychology*.
  2. Baldo, J.V., **Ivanova, M.V.**, Herron, T.J., Wilson, S.M., & Dronkers, N.F. (2022). Voxel-based lesion symptom mapping. In D. Pustina & D. Mirman (Eds.) *Lesion-to-symptom mapping: Principles and tools*. Neuromethods, vol 180, Springer, New York, NY. doi::10.1007/978-1-0716-2225-4\_5
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## PEER-REVIEWED PUBLICATIONS

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**Published** (\* denotes key publications)

1. Zhong, A., Dronkers, N.F, & **Ivanova, M.V.** (2022). The unique roles of the frontal aslant tract in language processing. *NeuroImage: Clinical*, 34, 103020, 1-11. doi:10.1016/j.nicl.2022.103020
2. Zyryanov, A., Stupina, E., Gordeyeva, E., Buivolova, O., Novozhilova, E., Akinina, Yu., ... **Ivanova, M.V.**, Dragoy, O. (2022). ‘Moderate global aphasia’: A generalized decline of language processing caused by glioma surgery but not stroke. *Brain and Language*, 224, 105057. doi:10.1016/j.bandl.2021.105057
3. **Ivanova, M.V.**, & Dronkers, N.F. (2022). Aphasia: How our language system can “break”. *Frontiers for Young Minds*, 10:626477. doi:10.3389/frym.2022.626477
4. \***Ivanova, M.V.**, Zhong, A., Turken, A., Baldo, J.V. & Dronkers, N.F. (2021). Functional contributions of the arcuate fasciculus to language. *Frontiers in Human Neuroscience*, 15: 672665. doi:10.3389/fnhum.2021.672665.
5. \***Ivanova, M.V.**, Herron, T.J., Dronkers, N.F., & Baldo, J.V. (2021). An empirical comparison of univariate versus multivariate methods for the analysis of brain-behavior mapping. *Human Brain Mapping*, 42, 1070-1101. doi:10.1002/hbm.25278
6. \***Ivanova, M.V.**, Akinina, Yu.S., Soloukhina, O.A., Iskra, E.V., Buivolova, O.V., Charbacz, A.V., Stupina, E.A., Khudyakova M.V., Akhutina, T.V., & Dragoy, O. (2021). The Russian Aphasia Test: The first comprehensive, quantitative, standardized, and computerized aphasia language battery in Russian. *PLOS One*, 16(11), 1–26. <https://doi.org/10.1371/journal.pone.0258946>
7. Llorens, A., Tzovara, A., Bellier, L., Bhaya-Grossman, I., Bidet-Caulet, A., Chang, W.K., Cross, Z.R., Dominguez-Faus, R., Flinker, A., Fonken, Y., Gorenstein, M., Holdgraf, C., Hoy, C.W., **Ivanova, M.V.**, Jimenez, R.T., Jun, S., Kam, J.W.Y., Kidd, C., Marcelle, E., ... Dronkers, N.F. (2021). Gender bias in academia: A lifetime problem that needs solutions. *Neuron*, 109, 2047-74. <https://doi.org/10.1016/j.neuron.2021.06.002>
8. \***Ivanova M.V.**, Malyutina, S., & Dragoy, O. (2021) Advancing neurolinguistics in Russia: Experience

and implications of building experimental research and evidence-based practices. *Frontiers in Psychology*, 12: 702038. doi:10.3389/fpsyg.2021.702038

9. Kuptsova, S., Dragoy, O., & **Ivanova M.V.** (2021). Switching attention deficits in post-stroke individuals with different aphasia types. *Aphasiology*. doi:10.1080/02687038.2021.2002804
10. Lwi, S.J., Herron, T.J., Curran, B.C., **Ivanova, M.V.**, Schendel, K., Dronkers, N.F., & Baldo, J.V. (2021). Auditory comprehension deficits in post-stroke aphasia: Neurologic and demographic correlates of outcome and recovery. *Frontiers in Neurology*, 12: 680248. doi:10.3389/fneur.2021.680248
11. Schendel, K., Herron, T.J., Curran, B., Dronkers, N.F., **Ivanova, M.V.**, & Baldo, J.V. (2021). Case study: A selective tactile naming deficit due to interhemispheric disconnection. *NeuroImage: Clinical*, 30, 102614. doi:10.1016/j.nicl.2021.102614.
12. Akinina, Yu.S., Dragoy, O.V., **Ivanova, M.V.**, Iskra, E.V., Petryshevskii, A.G, Fedina, O.N., Turken, A., Shklovsky, V.M., & Dronkers, N.F. (2019). Grey and white matter substrates of action naming. *Neuropsychologia*, 23, 249-265. doi:10.1016/j.neuropsychologia.2019.05.015.
13. \***Ivanova, M.V.**, Dragoy, O.V., Kuptsova, S.V., Akinina, Yu.S., Petryshevskii, A.G, Fedina, O.N., Turken, A., Shklovsky, V.M., & Dronkers, N.F. (2018). Data from two different working memory tasks reveal distinct neural basis of verbal working memory: A VLSM study. *Neuropsychologia*, 115, 25-41. doi:10.1016/j.neuropsychologia.2018.03.003.
14. Soloukhina, O.A., & **Ivanova, M.V.** (2018). Investigating comprehension of nouns and verbs: is there a difference? *Aphasiology*, 32, 183-203. <http://doi.org/10.1080/02687038.2017.1396572>
15. Dronkers, N.F., **Ivanova, M.V.**, & Baldo, J.V. (2017). What do language disorders reveal about the brain? From classic models to network approaches. *Journal of the International Neuropsychological Society*, 23, 741-754. doi:10.1017/S1355617717001126.
16. Heuer, S., **Ivanova, M.V.**, & Hallowell, B. (2017). More than the verbal stimulus matters: Visual attention in language assessment for people with aphasia using multiple-choice image displays. *Journal of Speech, Language, and Hearing Research*, 60, 1348-1361. doi:10.1044/2017\_JSLHR-L-16-0087.
17. **Ivanova, M. V.**, Kuptsova, S. V., & Dronkers, N. F. (2017). A comparison of two working memory tasks in aphasia. *Aphasiology*, 31, 265-281. <http://doi.org/10.1080/02687038.2016.1172699>
18. \***Ivanova, M. V.**, Isaev, D. Yu, Dragoy, O. V., Akinina, Yu. S., Petrushevsky, A. G., Fedina, O. N., Shklovsky, V.M., & Dronkers, D. F. (2016). Diffusion-tensor imaging of major white matter tracts and their role in language processing in aphasia. *Cortex*, 85, 165-181. doi:10.1016/j.cortex.2016.04.019 (*more than 160 citations*)
19. Malyutina, S., Dragoy, O., **Ivanova, M.**, Laurinavichyute, A., Petrushevsky, A., Meindl, T., Pöppel, E., Gutyrchik, E. (2016). Fishing is not wrestling: Neural underpinnings of the verb instrumentality effect. *Journal of Neurolinguistics*, 40, 37–54. <http://doi.org/10.1016/j.jneuroling.2016.03.002>
20. Kuptsova, S.V., **Ivanova, M.V.**, Petrushevsky, A.G., Fedina, O.N., Zhavoronkova, L.A. (2016). Sex- and age- related characteristics of brain functioning during task switching (fMRI study). [in Russian] *Human Physiology*, 42(4), 361-370.

21. Soloukhina, O., **Ivanova, M.**, Akinina, Y., Akhutina, T., Dragoy, O. (2015). Development and standardization of a test for the comprehension of nouns and verbs in Russian: Data from individuals with and without aphasia. *The Russian Journal of Cognitive Science*, 2(2-3), 14-21.
22. Akinina, Y., Malyutina, S., **Ivanova, M.V.**, Iskra, E., Mannova, E., & Dragoy, O. (2015). Russian normative data for 375 action pictures and verbs. *Behavior Research Methods*, 47, 691-707. doi:10.3758/s13428-014-0492-9
23. \***Ivanova, M.V.**, Kuptsova, S.V., Dragoy, O.V., Ulicheva, A.S., & Laurinavichyute, A.K. (2015). The contribution of working memory to language comprehension: Differential effect of aphasia type. *Aphasiology*, 29, 645-664. doi:10.1080/02687038.2014.975182
24. Kuptsova, S.V., Vlasova, R.M., Dragoy, O.V., **Ivanova, M.V.**, Malyutina, S.A., Petrushevskii, G.A., Fedina, O.N., Gutyrchik, E.F. (2015). Features of the reorganization of the language brain areas in patients with different forms of aphasia. [in Russian] *Proceedings of VSU. Series: Linguistics and intercultural communication*, 4, 74-81.
25. Kuptsova, S.V., **Ivanova, M.V.**, Petrushevsky, A.G., Fedina, O.N., Zhavoronkova, L.A. (2015). Sex related differences in task switching: An fMRI study. [in Russian] *Human Physiology*, 41(6), 49-64.
26. Kuptsova, S.V., **Ivanova, M.V.**, Petrushevsky, A.G., Fedina, O.N., Zhavoronkova, L.A. (2015). FMRI study of visual task switching in healthy individuals. [in Russian] *Journal of Higher Neural Processing of I.P. Pavlov*, 65(1), 61-71.
27. Laurinavichyute, A.K., Dragoy O.V., **Ivanova M.V.**, Kuptsova S.V., & Ulicheva, A.S. (2015). Psychological unreality of syntactic traces. [in Russian] *Questions in language studies*, 1, 102-110.
28. Laurinavichyute, A.K., Ulicheva, A.S., **Ivanova, M.V.**, Kuptsova S.V., & Dragoy, O.V. (2014). Processing lexical ambiguity in sentential context: Eye-tracking data from brain-damaged and non-brain-damaged individuals. *Neuropsychologia*, 64, 360-373. doi:10.1016/j.neuropsychologia.2014.09.040.
29. **Ivanova, M.V.**, & Hallowell, B. (2014). Controlling linguistic complexity and length to enhance validity of working memory assessment: A new modified listening span task for people with and without aphasia. *Journal of Communication Disorders*, 52, 78-98. doi:10.1016/j.jcomdis.2014.06.001
30. Kuptsova S.V., **Ivanova, M.V.**, Dragoy, O.V., Petrova, L.V., Ponomareva, A., Ulicheva, A.S., & Laurinavichyute, A.K. (2014). Characteristics of impairments of focused attention in patients with different types of aphasia. [in Russian] *Psychological studies*, 7(34), 4.
31. Mikadze, Y.V., Kozintseva, E.G., Skvortsov, A.A., Vlasova, A.V., & **Ivanova, M.V.** (2014). Effectiveness of different writing tasks performance in patients with sensory agraphia. [in Russian] *Psychological studies*, 7(33).
32. \***Ivanova, M.V.**, & Hallowell, B. (2013). A tutorial on aphasia test development in any language: Key substantive and psychometric considerations. *Aphasiology*, 27, 891-920. doi:10.1080/02687038.2013.805728 (more than 80 citations)
33. Ulicheva, A.S., Dragoy O.V., **Ivanova M.V.**, & Kuptsova S.V. (2012). Lexical access in healthy controls and in aphasia: eye-tracking data. [in Russian] *Journal of the Moscow State University*.

Series 9. *Philology*, 5, 161-173.

34. \***Ivanova, M.V.**, & Hallowell, B. (2012). Validity of an eye-tracking method to index working memory in people with and without aphasia. *Aphasiology*, 26, 556-578.  
<https://doi.org/10.1080/02687038.2011.618219>
35. Mikadze, Y.V., Kozintseva, E.G., Skvortsov, A.A., Zaykova, A.V., & **Ivanova, M.V.** (2012). Psychological structure of writing in contemporary western neuropsychology. [in Russian] *Neurology, neuropsychiatry, psychosomatics*, 2, 21-29.
36. Mikadze, Y.V., Kozintseva, E.G., Skvortsov, A.A., Zaykova, A.V., & **Ivanova, M.V.** (2012). Psychological analysis of the structure of writing: the history of agraphia studies in foreign neuropsychology. Part 2. [in Russian] *Psychological studies*, 1(21).
37. Mikadze, Y.V., Kozintseva, E.G., Skvortsov, A.A., Zaykova, A.V., & **Ivanova, M.V.** (2011). Psychological analysis of the structure of writing: the history of agraphia studies in foreign neuropsychology. Part 1. [in Russian] *Psychological studies*, 5(19).
38. Hallowell, B., & **Ivanova, M.V.** (2009). Development and standardization of a Multiple-Choice Test of Auditory Comprehension for aphasia in Russian. *Journal of Medical Speech-Language Pathology*, 2, 83-98.
39. **Ivanova, M.V.**, & Hallowell, B. (2009). Short form of the Bilingual Aphasia Test in Russian: Psychometric data of persons with aphasia. *Aphasiology*, 23, 544-556.  
<https://doi.org/10.1080/02687030701800784>

#### **In preparation**

40. **Ivanova, M.V.**, Pappas, I., Inglis, B., Pracar, A., Herron T., Baldo J., Kayser, A., D'Esposito, M., & Dronkers, N.F. Cerebral perfusion in post-stroke aphasia and its relation to residual language abilities. *bioRxiv*, 2022. <https://doi.org/10.1101/2022.07.01.498516> (under review)
  41. **Ivanova, M.V.**, & Pappas, I. *Understanding recovery of language after stroke: Insights from neurovascular MRI studies.*
  42. Pracar, A.L., Richardson, A., **Ivanova, M.V.**, & Dronkers N.F. *A case of pure apraxia of speech after left hemisphere stroke: Behavioral findings and neural correlates.*
  43. **Ivanova, M.V.**, Rheault, F., & Dronkers N.F. *Finding the right connections: Comprehensive evaluation of multiple tractography algorithms.*
  44. Buivolova, O.V., **Ivanova, M.V.**, Akinina, Yu.S., Soloukhina, O.A., & Dragoy, O. *Grey matter structures and white matter pathways critical for language comprehension, production, and repetition.*
  45. Biondo, N., **Ivanova, M.V.**, Pracar, A.L., Baldo, J.V., & Dronkers, N.F. *The exclusive role of temporal regions in syntactic comprehension: A lesion-symptom mapping study.*
  46. Soloukhina, O.A., Akinina, Yu.S. Dragoy, O.V., & **Ivanova, M.V.** *Word class dissociations in aphasia: Performance patterns across naming and single-word comprehension tasks.*
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## INVITED TALKS

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### Professional

1. *Luria's neuropsychology: A comprehensive theory of higher cortical functions.*  
Cognitive Neuroscience Colloquium, Department of Psychology, University of California, Berkeley, CA, USA. January 25<sup>th</sup>, 2021.
2. *Advancing our understanding of lesion symptom mapping tools: An empirical comparison of univariate versus multivariate methods.*  
C-STAR lecture series, University of South Carolina, Columbia, SC, USA. May 21<sup>st</sup>, 2020.
3. *Aphasia Recovery Lab: Current research and future directions.*  
Cognitive Neuroscience Colloquium, Department of Psychology, University of California, Berkeley, CA, USA. February 10<sup>th</sup>, 2020.
4. *Finding the right path: Comparing different tracking algorithms using automatic tract segmentation.*  
Seminars of the Center for Brain and Language, National Research University HSE, Moscow, Russia. August 29<sup>th</sup>, 2019.
5. *The critical connections: Exploring the role of different tracts supporting language in aphasia.*  
Seminars of the Memory and Aging Center, University of California San Francisco, CA, USA. April 3<sup>rd</sup>, 2019.
6. *Perfusion imaging in stroke: Preliminary notes on implementation of an ASL sequence.*  
Siemens Neuro Users Group Meeting, University of California Berkeley, CA, USA. March 28<sup>th</sup>, 2019.
7. *Diffusion Tensor Imaging and hodological approach to language processing.*  
Tenth Anniversary Congress of the Russian Society of Radiology, Moscow, Russia. November 8<sup>th</sup>, 2016.
8. *Evidence-based practice in communication disorders: How does the search for evidence begin and where it will take us.*  
Third Annual International Summer Neurolinguistics School «Aphasia Assessment, Treatment and Recovery», Moscow, Russia. July 2<sup>nd</sup>, 2016.
9. *Aphasia classifications.*  
Second Annual International Summer Neurolinguistics School «Language and Brain Pathology», Moscow, Russia. August 25<sup>th</sup>, 2015.
10. *Luria's and Western aphasiology – how to match aphasia subtypes?*  
First Annual International Summer Neurolinguistics School «Introduction to Contemporary Neurolinguistics», Moscow, Russia. August 28<sup>th</sup>, 2014.
11. *Luria's neuropsychology and aphasia classification.*  
Seminar of the Center for Aphasia and Related Disorders, VA Northern California Health Care System, Martinez, CA, USA. March 5<sup>th</sup>, 2014.
12. *Role of working memory in language deficits in aphasia.*  
Moscow Seminar in Cognitive Science, Moscow, Russia. April 21<sup>st</sup>, 2011.
13. *Russian and Western approaches to aphasia assessment and treatment.*

Conference “Interdisciplinary treatment of stroke patients: The problem-oriented approach”, Saint-Petersburg, Russia. November 26<sup>th</sup>, 2010.

### **Outreach**

1. *Family, maternity, and caring duties: Finding work-life balance.*  
Panelist in a discussion organized by Women in Neuroscience Repository, virtual. November 17<sup>th</sup>, 2022.
  2. *What does a brain scientist do?*  
Series of invited talks about science and the brain for elementary and middle school students, Mountain View, CA, USA. 2019-2022.
  3. *Aphasia: How our language system can “break”.*  
Webinar “Can your science pass a kid’s review?”, BrainFacts.org, virtual. March 18<sup>th</sup>, 2021.
  4. *Neurolinguistics – how does the brain process language?*  
Summer Linguistics School, Dubna, Russia. July 15<sup>th</sup>, 2014.
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### **CONFERENCE PRESENTATIONS & PUBLISHED ABSTRACTS (out of more than 140):**

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#### **2022**

1. **Ivanova, M.V.**, Pappas, I., Inglis, B., Pracar, A., Herron T., Baldo J., Kayser, A., D'Esposito, M., & Dronkers, N.F. (2022, October). Cerebral perfusion in post-stroke aphasia and its relation to residual language abilities. *Platform presentation at the Academy of Aphasia 60<sup>th</sup> Annual Meeting (Philadelphia, PA).*
2. Pracar, A., Dronkers, N.F., & **Ivanova, M.V.** (2022, October). Exploring the coherence of standard aphasia noun and verb naming tests. *Poster presentation at the Academy of Aphasia 60<sup>th</sup> Annual Meeting (Philadelphia, PA).*
3. Biondo, N., **Ivanova, M.V.**, Mancini, S., & Dronkers, N.F. (2022, October). A systematic investigation of linguistic and non-linguistic processing of time in people with aphasia. *Poster presentation at the Fourteenth Annual Meeting of the Society for the Neurobiology of Language (Philadelphia, PA).*
4. Biondo, N., **Ivanova, M.V.**, Pracar, A., Baldo, J.V., & Dronkers, N.F. (2022, October). Assessing the role of temporal and frontal regions in syntactic comprehension: Insights from aphasia. *Poster presentation at the Fourteenth Annual Meeting of the Society for the Neurobiology of Language (Philadelphia, PA).*

#### **2021**

5. **Ivanova, M.V.**, Rheault, F., & Dronkers N.F. (2021, October). Finding the right connections: Investigating how tractography algorithms influence observed patterns of brain-language relationships. *Platform presentation at the Thirteenth Annual Meeting of the Society for the Neurobiology of Language (virtual edition).*
6. **Ivanova, M.V.**, Dragoy, O.V., Akinina, Yu.S., & Soloukhina, O.A. (2021, October). Noun-verb dissociations in aphasia: Exploring performance patterns across naming and single word comprehension tasks. *Poster presentation at the Academy of Aphasia (virtual edition).*
7. Vance, A., Richardson, A., Pracar, A., Lawien, J., Kannan, S., Anderson, V., Dronkers, N.F., & **Ivanova,**

**M.V.** (2021, October). Navigating the intricate world of aphasia apps: A guide for individuals with aphasia and their families. *Poster presentation at the Academy of Aphasia (virtual edition)*.

8. Dragoy, O., Malyutina, S. Karpychev, V., Malyutina, S., Zinchenko, V., Ushakov, V., **Ivanova, M.V.**, Ignatyev, G., & Cabeen, R. (2021, June). IFOF, not the AF, asymmetry predicts functional lateralization for language. *Poster presentation at the 27<sup>th</sup> Annual Meeting of the Organization for Human Brain Mapping (virtual edition)*.
9. Razmyslovich, A., Buivolova, B., Samoukina, A., Ivanova, E., Iskra, E., Soloukhina, O., Pakholiuk, O., Shlyakhova, A., **Ivanova, M.V.**, Malyutina S., & Dragoy, O. (2021, June). Combination of verb network strengthening treatment with different types of non-invasive brain stimulation. *Poster presentation at the Conference on Cognitive Science in Moscow: New Research*.
10. **Ivanova, M.V.**, Dragoy, O.V., Akinina, Yu.S., Soloukhina, O.A., Iskra, E.V., Khudyakova M.V., Charbazcz, A.V., Stupina, E.A., Buivolova, O.V., & Akhutina, T.V. (2021, May). The Russian Aphasia Test: Psychometric properties of a new comprehensive aphasia battery in Russian. *Poster presentation at the Clinical Aphasiology Conference (virtual edition)*.

## 2020

11. **Ivanova, M.V.**, Pappas, I., Inglis, B., Herron T., Baldo J., Mohyee R., Kayser, A., D'Esposito, M., & Dronkers, N.F. (2020, October). Perfusion levels in the left hemisphere are associated with language outcomes in chronic post-stroke aphasia. *Poster presentation at the Twelfth Annual Meeting of the Society for the Neurobiology of Language (virtual edition)*.
12. Bolgina, T., Karpychev, V., Malyutina, S., Zinchenko, V., Ushakov, V., **Ivanova, M.V.**, Ignatyev, G., Cabeen, R., & Dragoy, O. (2020, October). Structural asymmetry of the Arcuate Fasciculus is not associated with functional lateralization for language, nor with handedness. *Poster presentation at the Twelfth Annual Meeting of the Society for the Neurobiology of Language (virtual edition)*.
13. Zyryanov, A., Stupina, E., Zelenkova, V., Gordeyeva, E., Novozhilova, E., Buivolova, O., Soloukhina, O., **Ivanova, M.V.**, Iskra, E., Gronskaya, N., Kopachev, D., Zuev, A., Pedyash, N., Medyanik, I., Yashin, K., Sitnikov, A., & Dragoy, O. (2020, October). Comparing aphasia profiles caused by left-hemisphere glioma surgery versus stroke. *Poster presentation at the Twelfth Annual Meeting of the Society for the Neurobiology of Language (virtual edition)*.
14. Pracar, A., Dronkers, N.F., & **Ivanova, M.V.** (2020, October). A case of pure apraxia of speech after left hemisphere stroke: Behavioral findings and neural correlates. *Poster presentation at the Academy of Aphasia (virtual edition)*.
15. Buivolova, B., Ivanova, E., Iskra, E., Soloukhina, O., Pakholiuk, O., Shlyakhova, A., **Ivanova, M.V.**, & Malyutina S. (2020, May). Verb network strengthening therapy combined with tDCS in non-fluent chronic aphasia. *Poster presentation at the 6<sup>th</sup> Annual Brain Stimulation and Imaging Meeting (virtual edition)*.
16. **Ivanova, M.V.**, Rheault, F., & Dronkers N.F., (2020, June) Finding critical language connection across multiple tractography algorithms: A new analytic approach. *Poster presentation at the 26<sup>th</sup> Annual Meeting of the Organization for Human Brain Mapping (virtual edition)*.

## 2019

17. **Ivanova, M.V.**, Dragoy, O.V., Akinina, Yu.S., Soloukhina, O.A., Iskra, E.V., Khudyakova M.V., Stupina,

E.A., Buivolova, O.V., & Akhutina, T.V. (2019, October). Standardizing the Russian Aphasia Test: Normative data of healthy controls and stroke patients. *Poster presentation at the Academy of Aphasia*. Macau SAR.

18. Kuptsova, S.V., Ulicheva, A., Dragoy, O., & **Ivanova, M.V.** (2019, September). Impairment of switching attention in patients with fluent aphasia and temporal lobe damage. *Poster presentation at the 20<sup>th</sup> International Science of Aphasia Conference*. Rome, Italy.
19. **Ivanova, M.V.**, Herron, T.J., Curran B., Dronkers, N.F., & Baldo, J.V. (2019, August). Navigating the turbulent seas of lesion symptom mapping: Comparative analyses of univariate and multivariate lesion symptom mapping methods. *Poster presentation at the Eleventh Annual Meeting of the Society for the Neurobiology of Language*. Helsinki, Finland.
20. Baldo, J.V., Herron, T.J., Curran, B., Lwi, S., Parker, K., **Ivanova, M.V.**, & Dronkers, N.F. (2019, August). Longitudinal recovery of auditory comprehension following stroke. *Poster presentation at the Eleventh Annual Meeting of the Society for the Neurobiology of Language*. Helsinki, Finland.
21. Zhong, A., **Ivanova, M.V.**, Turken, A., Curran, B., & Dronkers, N.F. (2019, June). The role of the frontal aslant tract in speech and language processing. *Poster presentation at the 25<sup>th</sup> Annual Meeting of the Organization for Human Brain Mapping*. Rome, Italy.
22. **Ivanova, M.V.**, Zhong, A., Turken, A., Curran, B., & Dronkers, N.F. (2019, May). Language connections: Exploring the role of different tracts supporting language in aphasia. *Platform presentation at the Clinical Aphasiology Conference*. Whitefish, MO, USA.
23. **Ivanova, M.V.**, Zhong, A., Turken, A., Curran, B., & Dronkers, N.F. (2019, March). The critical connection: How damage of the arcuate fasciculus impacts language processing in aphasia. *Poster presentation at the Cognitive Neuroscience Society*. San Francisco, USA.
24. Baldo, J.V., **Ivanova, M.V.**, Curran B., Dronkers, N.F., & Herron, T.J. (2019, March). Univariate vs. multivariate lesion symptom mapping approaches. *Poster presentation at the Cognitive Neuroscience Society*. San Francisco, USA.

#### **Prior to 2019**

25. Herron, T.J., **Ivanova, M.V.**, Dronkers, N.F., Curran, B., Ludy, C., Zhong, A., Turken, A.U., & Baldo, J.V. (2018, November). Comparison of univariate and multivariate lesion symptom mapping methods for the analysis of brain-behavioral relationships. *Poster presentation at the Society for Neuroscience Meeting*. San Diego, USA.
26. **Ivanova, M.V.**, Zhong, A., Turken, A., Curran, B., & Dronkers, N.F. (2018, October). Beyond the cortex: A look at unique contributions of the arcuate fasciculus to language processing. *Poster presentation at the Academy of Aphasia*. Montreal, Canada.
27. Zhong, A., **Ivanova, M.V.**, Turken, A., Curran, B., & Dronkers, N.F. (2018, October). The unique roles of the frontal aslant tract in language processing. *Poster presentation at the Academy of Aphasia*. Montreal, Canada.
28. **Ivanova, M.V.**, Zhong, A., Turken, A., Curran, B., & Dronkers, N.F. (2018, August). Functional contribution of the arcuate fasciculus to language processing: A tractography study in individuals with stroke. *Poster presentation at the Tenth Annual Meeting of the Society for the Neurobiology of Language*. Quebec City, Canada.

29. Malyutina, S., Dragoy, O., Gordeyeva, E., Zyryanov, A., Kopachev, D., Stupina, E., Tolkacheva, V., Pronin, I., & **Ivanova, M.V.** (2018, August). The role of white-matter tracts in language processing in patients with brain tumors. *Poster presentation at the Tenth Annual Meeting of the Society for the Neurobiology of Language*. Quebec City, Canada.
30. Malutina, S.A., Pogosbekyan, E.L., Batalov, A.U., & **Ivanova, M.V.** (2017, June). Comprehension of complex syntactic structures: Impact of white-matter tract integrity on accuracy and speed of comprehension of complex syntactic structures. *Poster presentation at the Conference on Cognitive Science in Moscow: New Research*. Moscow, Russia.
31. Bolgina, T.A., Malyutina, S.A., Zinchenko, V.V., Ignatiev, G.A., Ushakov, V.L., Akinina, Yu.S., **Ivanova, M.V.**, & Dragoy, O.V. (2017, June). Relationship between volume of the corpus callosum and language lateralization in the brain. *Poster presentation at the Conference on Cognitive Science in Moscow: New Research*. Moscow, Russia.
32. Soloukhina, O.A., Dragoy, O.V., Akinina, Yu.S., Iskra, E.V., Khudyakova M.V., Ivanova, E.G., Akhutina, T.V., & **Ivanova, M.V.** (2017, June). Development of the Russian Aphasia Test (RAT) for language assessment: preliminary data of healthy controls and patients with aphasia. *Poster presentation at the Conference on Cognitive Science in Moscow: New Research*. Moscow, Russia.
33. **Ivanova, M.V.**, Dragoy, O.V., Kuptsova, S.V., Akinina, Yu.S., Petrushevsky, A.G., Fedina, O.N., & Dronkers, D.F. (2017, March). Exploring grey and white matter correlates of verbal working memory using structural imaging. *Poster presentation at the Annual Meeting of the Cognitive Neuroscience Society*. San Francisco, USA.
34. **Ivanova, M.V.**, Dragoy, O.V., Akinina, Yu.S., Soloukhina, O.A., Iskra, E.V., Khudyakova M.V., & Akhutina, T.V. (2016, October). AutoRAT at your fingertips: Introducing the new Russian Aphasia Test on a tablet. *Poster presentation at the Academy of Aphasia*. Llandudno, Wales, U.K.
35. Soloukhina, O.A., Isaev, D. Yu., Akinina, Yu.S., & **Ivanova, M.V.** (2016, September). Differences in verb and noun comprehension in aphasia. *Poster presentation at the Science of Aphasia Meeting*. Venice, Italy.
36. Kuptsova, S.V., **Ivanova, M.V.**, Akinina, Yu.S., Iskra, E.V., Kozintseva, E.G., Soloukhina, O.A., Petrushevsky, A.G., & Fedina, O. N. (2016, September). Reorganization of cerebral functional activity in persons with aphasia following language therapy. *Poster presentation at the Science of Aphasia Meeting*. Venice, Italy.
37. Soloukhina, O.A., Schegoleva, S.I., Iskra, E.V., Akinina, Y.S., Akhutina, T.V., & **Ivanova, M.V.** (2016, June). Impact of psycholinguistic factors on naming of objects and actions. *Poster presentation at the Seventh International Conference on Cognitive Science*. Svetlogorsk, Russia.
38. **Ivanova, M.V.**, Isaev, D. Yu., Malyutina, S.A., Petrushevsky, A.G., Fedina, O.N., & Dronkers, D.F. (2016, June). Diffusion-tensor imaging study investigating the role of white-matter tract segments in language processing. *Poster presentation at the Seventh International Conference on Cognitive Science*. Svetlogorsk, Russia.
39. Bolgina, T.A., Malyutina, S.A., Zinchenko, V.V., Ignatiev, G.A., Vlasova, R.M., Ushakov, V.L., **Ivanova, M.V.**, & Dragoy, O.V. (2016, June). Russian fMRI paradigm for localizing language areas in the brain. *Poster presentation at the Seventh International Conference on Cognitive Science*. Svetlogorsk,

Russia.

40. **Ivanova, M.V.**, Dragoy, O.V., Kuptsova, S.V., Akinina, Yu.S., Petrushevsky, A.G., Fedina, O.N., & Dronkers, D.F. (2016, June). Neural basis of working memory as revealed by voxel-based lesion symptom mapping. *Platform presentation at the 22<sup>nd</sup> Annual Meeting of the Organization for Human Brain Mapping*. Geneva, Switzerland.
  41. Heuer, S., & Hallowell, B., & **Ivanova, M.V.** (2016, May). Bottom-up influences on visual attention in image-based language tasks in people with aphasia. *Poster presentation at the Clinical Aphasiology Conference*. Charlottesville, VA, USA.
  42. **Ivanova M.**, Dragoy O., Akinina Y., Iskra E., Soloukhina O., Kobzeva A., Khudyakova M., Chrabaszcz A. and Akhutina T. (2015, October). Developing auditory comprehension subtests of the Russian Aphasia Test. *Poster presentation at the Academy of Aphasia*. Tucson, AZ, USA.
  43. **Ivanova, M.V.**, Isaev, D. Yu, Dragoy, O.V., Akinina, Yu.S., Petrushevsky, A.G., Fedina, O.N., & Dronkers, D.F. (2015, October). Investigating the integrity of major white matter tracts in aphasia. *Poster presentation at the Seventh Annual Meeting of the Society for the Neurobiology of Language*. Chicago, IL, USA.
  44. Kuptsova, S.V., Soloukhina, O.A., Dragoy, O.V., Akinina, Y.S., Akhutina, T.V., & **Ivanova, M.V.** (2015, September). A new Russian Aphasia Test: Development and standardization of single-word comprehension subtests. *Poster presentation at the Science of Aphasia Meeting*. Aviero, Portugal.
  45. Soloukhina, O.A., **Ivanova, M.V.**, Akinina, Y.S., Akhutina, T.V., & Dragoy, O.V. (2015, June). Development and standardization of lexical-semantic subtest for comprehension of verbs and nouns: Data of healthy controls and individuals with aphasia. *Poster presented at the Conference on Cognitive Science in Moscow: New Research*. Moscow, Russia.
  46. Schegoleva, S.I., Iskra, E.V., Akinina, Y.S., Akhutina, T.V., Dragoy, O.V., & **Ivanova, M.V.** (2015, June). Development and standardization of a psycholinguistic test for naming actions and objects: Data of healthy controls and individuals with aphasia. *Poster presented at the Conference on Cognitive Science in Moscow: New Research*. Moscow, Russia.
  47. Dragoy, O.V., Vlasova, R.M., Kozintseva, E.G., Malyutina, S.A., Akinina, Yu.S., Petrushevsky, A.G., Fedina, O.N., Gutyrchik, E.F., & **Ivanova, M.V.** (2015, June). fMRI study of verb naming in aphasia. *Poster presented at the Conference on Cognitive Science in Moscow: New Research*. Moscow, Russia.
  48. **Ivanova, M.V.**, Isaev, D. Yu, Dragoy, O.V., Akinina, Yu.S., Petrushevsky, A.G., Fedina, O.N., & Dronkers, D.F. (2015, May). Role of white matter tracts in language deficits in aphasia. *Paper presented at the Meeting of the International School of Clinical Neuroanatomy – Temporal lobe*. Ragusa, Italy.
  49. Isaev, D. Yu, **Ivanova, M.V.**, Dragoy, O.V., Akinina, Yu.S., Petrushevsky, A.G., Fedina, O.N., & Dronkers, D.F. (2015, April). A new approach to examining the role of white matter tracts in language disorders. *Poster presentation at the Workshop “Images of the Mind: New frontiers in brain imaging. Advanced (f)MRI statistical methods and their applications”*. Milan, Italy.
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