DR. VARDAN ARUTIUNIAN, PH.D.

CURRICULUM VITAE

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POSITION

2022 – present	**Postdoctoral Fellow,** Center for Child Health, Behavior and Development, Seattle Children's Research Institute, Seattle, WA, USA
2020 – 2022	**Junior Research Fellow,** Center for Language and Brain, National Research University Higher School of Economics (HSE University), Moscow, Russia
2018 – 2020	**Graduate Research Assistant,** Center for Language and Brain, National Research University Higher School of Economics (HSE University), Moscow, Russia
2012 – 2017	**Research Assistant,** Institute of Humanities, Immanuel Kant Baltic Federal University, Kaliningrad, Russia

EDUCATION

2018 – 2022	Ph.D. in Linguistics, *with cum laude* PhD dissertation: *Language Impairment in Children with Autism Spectrum Disorder: Linguistic Aspects* National Research University Higher School of Economics (HSE University), Moscow, Russia
2007 – 2012	B.A. & MSc. (undergraduate program) in Linguistics Immanuel Kant Baltic Federal University, Kaliningrad, Russia

AWARDS AND GRANTS

Pending	NIH (National Institute of Deafness and Other Communication Disorders, K99/R00 – Pathway to Independence Award), USA: project Excitation/inhibition imbalance as a neural marker of language impairment in autism: genetic and neurophysiological approaches to define language subgroups; principal investigator (under review).
2025 – 2026	Autism Research Institute, USA: project *Excitation/inhibition imbalance as a neural marker of language impairment in youth with Autism Spectrum Disorder (ASD): Relation to sex and language phenotype*; **principal investigator** ($50,000)
2025	Hearst Fellowship, travel grant for postdoctoral fellows: Seattle Children's Research Institute, USA; *genetic and genomic data analysis at Yale School of Medicine, Yale University* ($3,000)
2024 – 2025	Simons Foundation, USA: project *Excitation/inhibition imbalance, its neural correlates and relation to clinical phenotypes in youth with Autism Spectrum Disorder*; **mentor** ($11,500)
2024	Ventura Endowed Fellowship Award: University of Washington/Seattle Children's Research Institute, USA; *Clinical training in ADOS administration* ($2,000)
2023 – 2024	Simons Foundation, USA: project *Early predictors of language impairment in infants at risk for developing autism*; **mentor** ($28,074)
2022	Russian Science Foundation: project *The development of auditory gamma oscillations in children, their relation to age, language abilities, and non-verbal intelligence: A magnetoencephalography (MEG) study;* **principal investigator** ($17,000)
2021	Best Teacher – 2021, HSE University ($3,300)
2020	International Brain Research Organization (IBRO): InEurope Short Stay Grants Program for PhD Students and Post-Docs (€3,000)
2019 – 2021	The award from the Government of Russian Federation for PhD students ($3,500)

2019 – 2020 Young Faculty Support Program (Group of Young Academic Professionals). Category *New Researchers,* HSE University ($12,000)

2019 – 2020 Russian Foundation for Basic Research (RFBR): project *Reading acquisition in Russian-speaking school students: an eye-tracking study of linguistic processing contribution to mastering reading skills*; **contributor** ($139,000)

2018 – 2022 Russian Federation Government Grant № 14.641.31.0004: project *Language and Brain: diagnostics and correction of language impairments*; **contributor** ($2,700,000)

2018 – 2021 Russian Foundation for Basic Research (RFBR): project *Linguistic deficit and its brain correlates in children with dyslexia*; **contributor** ($86,000)

2018 – 2019 Russian Foundation for Basic Research (RFBR): project *Single-word, sentence and discourse comprehension in patients with temporal lobe epilepsy (including effect of non-verbal IQ and verbal working memory span)*; **contributor** ($12,800)

2016 – 2018 Russian Foundation for Basic Research (RFBR): project *Neurocognitive mechanisms for reading: An orthographical processing in the light of information theory by Claude Shannon (Evidence from eye movements)*; **principal investigator** ($14,300)

PUBLICATIONS

Articles in international peer-reviewed journals (published)

1. **Arutiunian, V.**, Buyanova, I., Minnigulova, A., Davydova, E., Pereverzeva, D., Sorokin, A., Tyushkevich, S., Mamokhina, U., Danilina, K., & Dragoy, O. (2025). Left-hemispheric atypicalities in the primary auditory cortex are associated with language comprehension and social skills in school-aged children with Autism Spectrum Disorder. *Cerebral Cortex,* 35(3), bhaf055.
2. Minnigulova, A., Karpychev, V., Davydova, E., Pereverzeva, D., Sorokin, A., Tyushkevich, S., Mamokhina, U., Danilina, K., Dragoy, O., & **Arutiunian, V.** (2025). Altered thalamotemporal structural connectivity is associated with autistic traits in children with ASD. *Behavioural Brain Research, 481,* 115414.
3. Samoylov, I., Arcara, G., Buyanova, I., Davydova, E., Pereverzeva, D., Sorokin, A., Tyushkevich, S., Mamokhina, U., Danilina, K., Dragoy, O., & **Arutiunian, V.** (2024). Altered neural synchronization in response to 2 Hz amplitude-modulated tones in the auditory cortex of children with Autism Spectrum Disorder: An MEG study. *International Journal of Psychophysiology, 203,* 112405.
4. **Arutiunian, V.**, Santhosh, M., Neuhaus, E., Sullivan C.A.W., Bernier, R.A., Bookheimer, S.Y., Dapretto, M., Geschwind, D.H., Jack, A., McPartland, J.C., van Horn, J.D., Pelphrey, K.A., Gupta, A.R., Webb, S.J., & the ACE GENDAAR Network. (2024). A common genetic variant in the Neurexin family member *CNTNAP2* is related to language but not communication skills in youth with Autism Spectrum Disorder. *Autism Research.*
5. **Arutiunian, V.**, Arcara, G., Buyanova, I., Fedorov, M., Davydova, E., Pereverzeva, D., Sorokin, A., Tyushkevich, S., Mamokhina, U., Danilina, K., & Dragoy, O. (2024). Abnormalities in both stimulus-induced and baseline MEG alpha oscillations in the auditory cortex of children with Autism Spectrum Disorder. *Brain Structure and Function, 229,* 1225–1242.
6. **Arutiunian, V.**, Santhosh, M., Neuhaus, E., Borland, H., Tompkins, C., Bernier, R.A., Bookheimer, S.Y., Dapretto, M., Gupta, A.R., Jack, A., Jeste, S., McPartland, J.C., Naples, A., van Horn, J.D., Pelphrey, K.A., & Webb, S.J. (2024). The relationship between gamma-band neural oscillations and language skills in youth with Autism Spectrum Disorder and their first-degree relatives. *Molecular Autism, 15,* 19.
7. **Arutiunian, V.**, Arcara, G., Buyanova, I., Buivolova, O., Davydova, E., Pereverzeva, D., Sorokin, A., Tyushkevich, S., Mamokhina, U., Danilina, K., & Dragoy, O. (2023). Event-Related Desynchronization of MEG Alpha-Band Oscillations During Simultaneous Presentation of Audio and Visual Stimuli in Children with Autism Spectrum Disorder. *Brain Sciences, 13,* 1313.
8. **Arutiunian, V.**, Davydova, E., Pereverzeva, D., Sorokin, A., Tyushkevich, S., Mamokhina, U., Danilina, K., & Dragoy, O. (2023). Reduced gray matter volume of amygdala and hippocampus is associated with the severity of autistic symptoms and language abilities in school-aged children with Autism Spectrum Disorder: an exploratory study. *Brain Structure and Function, 228,* 1573–1579.
9. Minnigulova, A., Davydova, E., Pereverzeva, D., Sorokin, A., Tyushkevich, S., Mamokhina, U., Danilina, K., Dragoy, O., & **Arutiunian, V.** (2023). Corpus callosum organization and its implication to core and co-occur-

ring symptoms of Autism Spectrum Disorder. *Brain Structure and Function, 228,* 775–785.

10. **Arutiunian, V.**, Arcara, G., Buyanova, I., Davydova, E., Pereverzeva, D., Sorokin, A., Tyushkevich, S., Mamokhina, U., Danilina, K., & Dragoy, O. (2023). Neuromagnetic 40 Hz Auditory Steady-State Response in the left auditory cortex is related to language comprehension in children with Autism Spectrum Disorder. *Progress in Neuropsychopharmacology and Biological Psychiatry, 122,* 110690.
11. **Arutiunian, V.**, Gomozova, M., Minnigulova, A., Davydova, E., Pereverzeva, D., Sorokin, A., Tyushkevich, S., Mamokhina, U., Danilina, K., & Dragoy, O. (2023). Structural brain abnormalities and their association with language impairment in school-aged children with Autism Spectrum Disorder. *Scientific Reports, 13,* 1172.
12. Yurchenko, A., **Arutiunian, V.**, Shitova, N.M., Bergelson, M., & Dragoy, O. (2023). Registered switching involving lexical-semantic processing in Russian: An ERP study. *Journal of Neurolinguistics, 65,* 101111.
13. **Arutiunian, V.**, Arcara, G., Buyanova, I., Gomozova, M., & Dragoy, O. (2022). The age-related changes in 40 Hz Auditory Steady-State Response and sustained Event-Related Fields to the same amplitude-modulated tones in typically developing children: A magnetoencephalography study. *Human Brain Mapping, 43,* 5370–5383.
14. **Arutiunian, V.**, Lopukhina, A., Minnigulova, A., Shlyakhova, A., Davydova, E., Pereverzeva, D., Sorokin, A., Tyushkevich, S., Mamokhina, U., Danilina, K., & Dragoy, O. (2022). Language Abilities of Russian Primary-School-Aged Children with Autism Spectrum Disorder: Evidence from Comprehensive Assessment. *Journal of Autism and Developmental Disorders, 52,* 584–599.
15. **Arutiunian, V.**, Lopukhina, A., Minnigulova, A., Shlyakhova, A., Davydova, E., Pereverzeva, D., Sorokin, A., Tyushkevich, S., Mamokhina, U., Danilina, K., & Dragoy, O. (2021). Expressive and Receptive Language in Russian Primary-School-Aged Children with Autism Spectrum Disorder. *Research in Developmental Disabilities, 117,* 104042.
16. **Arutiunian, V.**, & Lopukhina, A. (2020). The effects of phonological neighborhood density in childhood word production and recognition in Russian are opposite to English. *Journal of Child Language, 47*(6), 1244–1262.

Articles in international peer-reviewed journals (under review)

17. **Arutiunian, V.**, Sullivan, C.A.W., Santhosh, M., Neuhaus, E., Borland, H., Bernier, R.A., Bookheimer, S.Y., Dapretto, M., Jack, A., Jeste, S., McPartland, J.C., Naples, A., van Horn, J.D., Pelphrey, K.A., Geschwind, D.H., Webb, S.J., Gupta, A.R. (under review). A number of alpha peaks in electroencephalogram is associated with clinical phenotype and copy number variation in youth with autism.
18. **Arutiunian, V.**, Sullivan, C.A.W., Santhosh, M., Neuhaus, E., Borland, H., Bernier, R.A., Bookheimer, S.Y., Dapretto, M., Jack, A., Jeste, S., McPartland, J.C., Naples, A., van Horn, J.D., Pelphrey, K.A., Geschwind, D.H., Webb, S.J., Gupta, A.R. (under review). Excitation/inhibition balance subtypes in autism and their genetic, neural, and clinical profiles.
19. **Arutiunian, V.**, Santhosh, M., Tompkins, C., Macdonald, K., Corrigan, S., Dommer K., Shic, F., & Webb, S.J. (under review). EEG gamma power discriminates infants with elevated-likelihood risk for developing ASD at the first year of age and associated with later adaptive skills.
20. Minnigulova, A., Protopova, M., Dragoy, O., & **Arutiunian, V.** (under review). Severity of social impairments are predicted by overconnectivity between Salience and Default Mode networks in Autism Spectrum Disorder.
21. Minnigulova, A., Dragoy, O., & **Arutiunian, V.** (under review). Atypical segregation of frontoparietal and sensorimotor networks is related to social and executive function impairments in children with ASD.
22. Protopova, M., Bolgina, T., **Arutiunian, V.,** Dragoy, O. (under review). Language Localization from MEG Beta-Power Dynamics During Sentence Completion.
23. Novoselova, K., Lopukhina, A., Gomozova, M., Fedorov, M., Davydova, E., Pereverzeva, D., Sorokin, A., Tyushkevich, S., Mamokhina, U., Danilina, Dragoy, O., & **Arutiunian, V.** (under review). The difference in language profiles of children with Autism Spectrum Disorder and Down Syndrome is not driven by nonverbal cognition.
24. Coleman, C.R, Nance, M.G., Jacokes, Z., Druzgal, T.J., **Arutiunian, V.,** Kresse, A., Sullivan, C.A.W., Santhosh, M., Neuhaus, E., Borland, H., Bernier, R.A., Bookheimer, S.Y., Dapretto, M., Jack, A., Jeste, S., McPartland, J.C., Naples, A., Geschwind, D., Gupta, A.R., Webb, S.J., Pelphrey, K.A., Van Horn, J.D., Newman, B.T., & Puglia, M.H., on behalf of the ACE GENDAAR Consortium (under review). Structural Determinants of Signal

Speed: A Multimodal Investigation of Face Processing in Autism Spectrum Disorder.

Conferences (selected)

1. **Arutiunian, V.** *EEG as a predictor of Neurodevelopmental Outcomes in Infants with Low Birth Weight or Family History of Autism.* Talk will be given at the International Society for Autism Research, Seattle, WA, USA 30 April – 3 May.
2. **Arutiunian, V.**, Santhosh, M., Macdonald, K., Tompkins, C., Corrigan, S., Shic, F., & Webb, S.J. *Neural and communication profiles in infants at elevated risk for developing ASD and DD.* Poster presented at the Annual Meeting of the Flux Society (Society for Developmental Cognitive Neuroscience), Baltimore, MD, USA 27 – 30 September 2024.
3. **Arutiunian, V.** *Neurophysiological mechanisms of language impairment in children with Autism Spectrum Disorder*. Invited talk given at the 11th International Summer Neurolinguistic School, Moscow, Russia, 3 – 5 July 2024.
4. **Arutiunian, V.** *Gamma-band neural activity and its relation to language skills and core symptoms of Autism Spectrum Disorder*. Invited talk given at the 12th International Conference 'Autism. Challenges and Solutions', Abu Dhabi, United Arab Emirates, 27 – 30 April 2024.
5. **Arutiunian, V.**, Santhosh, M., Corrigan, S., Pelphrey, K., Jeste, S., & Webb, S.J. *Language impairment in children with Autism Spectrum Disorder and their first-degree relatives related to gamma-band neural activity in EEG.* Poster presented at the Annual Meeting of the Society for Psychophysiological Research, New Orleans, LA, USA 27 September – 1 October 2023.
6. **Arutiunian, V.** *A common genetic variant in the Neurexin family member CNTNAP2 is related to structural language skills in youth with Autism Spectrum Disorder*. Invited talk given at the 11th International Conference 'Autism. Challenges and Solutions', Abu Dhabi, United Arab Emirates, 28 – 30 April 2023.
7. **Arutiunian, V.**, Santhosh, M., Corrigan, S., Pelphrey, K., & Webb, S.J. *Language abilities of unaffected siblings of youth with ASD are lower in comparison to typically developing controls as revealed with CELF*. Poster presented at the Meeting on Language in Autism, Durham, NC, USA 9 – 11 March 2023.
8. **Arutiunian, V.** *The structural brain abnormalities and their association with language impairment in children with ASD*. Invited talk given at the 10th International Conference on Autism, Moscow, Russia, 23 – 25 April 2022.
9. **Arutiunian, V.**, Arcara, G., Gomozova, M., Buyanova, I., Davydova, E., Pereverzeva, D., Sorokin, A., Tyushkevich, S., Mamokhina, U., Danilina, K., & Dragoy, O. *40 Hz ASSR in the left hemisphere is associated with language development in children with Autism Spectrum Disorder: An MEG study*. Poster presented at the MEGUK conference, Cambridge, UK, 6 – 7 September 2021.
10. **Arutiunian, V.**, Lopukhina, A., Minnigulova, A., Shlyakhova, A., Davydova, E., Pereverzeva, D., Sorokin, A., Tyushkevich, S., Mamokhina, U., Danilina, K., & Dragoy, O. *Language Profiles of Russian Primary-School-Aged Children with Autism Spectrum Disorder*. Poster presented at the International Society for Autism Research Annual Meeting (Virtual), Boston, MA, USA, 3 – 7 May 2021.
11. **Arutiunian, V.**, Arcara, G., & Dragoy, O. *The maturation of auditory gamma oscillations reflects cortical excitability: An MEG study*. Poster presented at the Society for Research in Child Development Biennial Meeting (Virtual), Minneapolis, USA, 7–9 April 2021.
12. **Arutiunian, V.**, Arcara, G., Lopukhina, A, & Dragoy, O. *The development of auditory gamma synchrony (40 Hz ASSR) in typically developing children: An MEG study*. Poster presented at the I National Congress on Cognitive Research, Artificial Intelligence, and Neuroinformatics, Moscow, Russia, 10–16 October 2020.
13. **Arutiunian, V.**, Minnigulova, A., Sorokin, A., Davydova, E., Pereverzeva, D., Tyushkevich, S., Mamokhina, U., Danilina, K., & Lopukhina, A. *Expressive and Receptive Vocabulary Impairments in Primary-School-Aged Children with Autism Spectrum Disorder: A Pilot Study in Russian*. Poster presented at the International Society for Autism Research Annual Meeting (Virtual), Seattle, WA, USA, 3 June 2020.
14. **Arutiunian, V.**, Minnigulova, A., & Lopukhina, A. *Nonword repetition is impaired in children with Autism Spectrum Disorder*. Proceedings of the Satellite of AMLaP conference "Typical and Atypical Language Development Symposium", Moscow, Russia, 4 September 2019.
15. **Arutiunian, V.**, & Lopukhina, A. *The influence of phonological neighbourhood density on spoken-word comprehension in Russian children: Evidence from eye-tracking*. Poster presented at the I International conference "ABC: Asia-Pacific BabyLab Constellation", Singapore, 4–5 October 2018.

16. **Arutiunian, V.**, & Lopukhina, A. *Phonological neighbourhood density effect in word production in Russian children: A naming-task study*. Poster presented at the 3rd Summer School "Infant Studies on Language Development in Europe", Potsdam, Germany, 11–15 June 2018.

PROFESSIONAL ORGANIZATION

2025 – present International Society for Autism Research (member)
2024 – 2025 Flux: the Society for Developmental Cognitive Neuroscience (member)
2023 – 2024 The Society for Psychophysiological Research (member)

INVITED REVIEWER

Journal of Child Psychology and Psychiatry
Infancy
Molecular Psychiatry
Frontiers in Psychology
Psychiatry and Clinical Neuroscience
Scientific Reports
Autism Research
Molecular Autism
Journal of Child Language
Brain and Cognition

TEACHING AND ADVISING

Courses

2024 **Summer Clinical Scholars Program.** I assisted during teaching a course on clinical assessment with the Vineland Adaptive Behavioral Scale.
2023 – 2024 **Seattle Children's Autism Journal Club.** I co-directed a bi-weekly academic meeting for the staff members and interested research community to discuss scientific topics related to language impairment and processing in autism.
2019 – 2022 **MEG / EEG data analysis.** I regularly organized the short courses at the Center for Language and Brain on EEG and MEG data analysis in Brainstorm (Matlab) (basic signal pre-processing, basic event-related potentials / fields analysis, time-frequency analysis, source estimation).
2021 **Psycho- and Neurolinguistics;** module *Structural and functional neuroanatomy; neuroimaging methods* (BA program; School of Linguistics, Faculty of Humanities; HSE University, Moscow, Russia).
2021 **EEG methods in neurolinguistics** (summer school for undergraduate students; Sirius University, Sochi, Russia).
2020 **Practicum in Psycholinguistics** (MSc program; School of Linguistics, Faculty of Humanities; HSE University, Moscow, Russia).

Supervisor of students' theses and projects

2024 – present Morgan Opdahl (SURFiN fellow/intern, Seattle Children's & University of Washington, Seattle, USA): *Excitation/inhibition imbalance, its neural correlates and relation to clinical phenotypes in youth with Autism Spectrum Disorder.*
2023 – 2024 Xinyue Yu (SURFiN fellow/intern, Seattle Children's & University of Washington, Seattle, USA): *Early predictors of language impairment in infants at risk for developing autism.*
2023 – 2024 Aya Sahib (SURFiN fellow/intern, Seattle Children's & University of Washington, Seattle, USA): *Early predictors of language impairment in infants at risk for developing autism.*
2023 – present Ilya Samoylov (PhD in Cognitive Neuroscience, HSE University, Moscow, Russia; *Academic Consultant*):
Neural Mechanisms of Language Processing in Children with different neurodevelopmental disorders.
2022 – present Alina Minnigulova (PhD in Cognitive Neuroscience, HSE University, Moscow, Russia; *Academic Consultant*):

The Neural Correlates of Language Impairments in Children with Autism Spectrum Disorder.

2020 – 2022 Alina Minnigulova (2022, MSc in Cognitive Neuroscience, HSE University, Moscow, Russia): *Auditory processing during visual attention in typically developing children and children with Autism Spectrum Disorder: An ERP study.*

2018 – 2022 Semen Kudriavtsev (2022, BA in Linguistics, HSE University, Moscow, Russia): *Neural habituation as an adaptation mechanism to repetitive sounds in typically developing children and children with Autism Spectrum Disorder: An ERP study.*

2020 Alina Minnigulova (2020, BA in Linguistics, HSE University, Nizhniy Novgorod, Russia): *Phonological processing deficit in children with Autism Spectrum Disorder.*

SKILLS

Conducting experiments using behavioral (language assessment tests, eye-tracking) and neuroimaging (magnetoencephalography, MEG; electroencephalography, EEG; voxel-based and surface-based morphometry, MRI) methods.

- **MEG:** *Data collection:* 306-channel Vectorview, Electa Neuromag system; *Basic pre-processing:* MaxFilter software; *Neuronal data analysis:* Brainstorm toolbox (Matlab) and MNE Python toolbox (Python) – event-related fields (ERF) analysis, time-frequency analysis, source estimation.
- **EEG:** *Data collection:* 64/128-channel ANT system, EEGO software; 128-channel Net Amps 300 system with HydroCel nets, Net Station software; *Neuronal data analysis:* Brainstorm toolbox (Matlab) and MNE Python toolbox (Python) – event-related potentials (ERP) analysis, time-frequency analysis, source estimation; BEAPP-HAPPEE toolbox (Matlab) – frequency analysis.
- **MRI:** *Segmentation:* FreeSurfer software, SPM / CAT12 toolboxes (Matlab); *Voxel-based and Surface-based morphometry, ROI analysis:* SPM / CAT12 toolboxes (Matlab); *Statistical design and analysis:* SPM / CAT12 toolboxes (Matlab).
- *Eye-tracking data collection:* SMI RED-m, SMI Experiment Center.
- Statistics: R (frequentist statistics, mixed effects models, mediation analysis, cluster-based analysis).