

Marina DUBOVA

PERSONAL DATA

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EDUCATION

- 2019 - 2024 PhD in COGNITIVE SCIENCE, **Indiana University - Bloomington**, United States
Current GPA: 3.963
- Spring 2022 Graduate Visitor, CENTER FOR FORMAL EPISTEMOLOGY and Department of PHILOSOPHY
Carnegie Mellon University, United States
- 2015 – 2019 Bachelor (with distinction) in PSYCHOLOGY, **Saint Petersburg State University**, Russia
GPA: 4.9/5.0
- SPRING 2018 Exchange Student, **Peking University**, China (focusing on Natural
Language Processing and Neuroscience)
- FALL 2018 Exchange Student, **University of Helsinki**, Finland (focusing on
Machine Learning)

MANUSCRIPTS IN PROGRESS

1. Dubova, M., Moskvichev, A., & Zollman, K. [Against theory-motivated experimentation in science.](#)
2. Dubova, M. & Moskvichev, A. The role of active perception and naming in sameness comparison.

PEER-REVIEWED PUBLICATIONS & CONFERENCE PROCEEDINGS

1. Dubova, M., & Goldstone, R. L. (2023). [Carving joints into nature: reengineering scientific concepts in light of concept-laden evidence.](#) Trends in Cognitive Sciences.
2. Dubova, M. & Sloman, S. (2023). [Excess capacity learning.](#) Proceedings of the Cognitive Science Society 2023.
3. Musslick, S., Hewson, J., Andrew, B., Strittmatter, Y., Williams, C., Dang, G., Dubova, M., & Holland, J. (2023). [An Evaluation of Experimental Sampling Strategies for Autonomous Empirical Research in Cognitive Science.](#) Proceedings of the Cognitive Science Society 2023.
4. Dubova, M., Galesic, M., & Goldstone, R. L. (2022). [Cognitive Science of Augmented Intelligence.](#) Cognitive Science, 46(12), e13229.
5. Dubova, M. (2022). [Generalizing with overly complex representations.](#) NeurIPS 2022 Workshop on Information-Theoretic Principles in Cognitive Systems.
6. Dubova, M., & Goldstone, R. L. (2022). [Categorical perception meets El Greco: Categories unequally influence color perception of simultaneously present objects.](#) Cognition, 223, 105025.
7. Dubova, M. (2021). [Building Human-like Communicative Intelligence: A Grounded Perspective.](#) Cognitive Systems Research, 72C, pp. 63-79.
8. Dubova, M. (2021). [Growing Opportunities to Grow: Toward Open-Ended Multi-Agent Communication Learning.](#) In ALIFE 2021: The 2021 Conference on Artificial Life. MIT

Press.

9. Dubova, M., & Goldstone, R. L. (2021). [The Influences of Category Learning on Perceptual Reconstructions](#). *Cognitive Science*, 45(5), e12981.
10. Schweinsberg, M., Feldman, M., Staub, N., van den Akker, O. R., van Aert, R. C., Van Assen, M. A., ... & Schulte-Mecklenbeck, M. (2021). [Same data, different conclusions: Radical dispersion in empirical results when independent analysts operationalize and test the same hypothesis](#). *Organizational Behavior and Human Decision Processes*.
11. Dubova, M., Moskvichev, A. & Goldstone, R. (2020). [Reinforcement Communication Learning in Different Social Network Structures](#). ICML 2020: 1st Language and Reinforcement Learning workshop.
12. Dubova, M. & Moskvichev, A. (2020). [Effects of Supervision, Population Size, and Self-Play on Multi-Agent Reinforcement Learning to Communicate](#). In *Artificial Life Conference Proceedings* (pp. 678-686).
13. Dubova, M. & Moskvichev, A. (2019). [Adaptation Aftereffects as a Result of Bayesian Categorization](#). In *Proceedings of the 41st Annual Meeting of the Cognitive Science Society* (pp. 1669-1675).
14. Ivanchei, I., Dubova, M. & Karpov, A. Computational Modeling of Categorization: a Review [In Russian] (accepted, pending minor revisions at *Russian Journal of Cognitive Science*)
15. Belyy, A., Dubova, M. & Nekrasov, D. (2018). [Improved Evaluation Framework for Complex Plagiarism Detection](#). In *Proceedings of the 56th Annual Meeting of the Association for Computational Linguistics (Volume 2: Short Papers) (Vol. 2, pp. 157-162)*.
16. Belyy, A. & Dubova, M. (2018). [Framework for Russian Plagiarism Detection Using Sentence Embedding Similarity and Negative Sampling](#). *Computational Linguistics and Intellectual Technologies: papers from the Annual international conference "Dialogue"* (pp. 96-109).
17. Dubova, M. & Moskvichev, A. (2018). Illusions of Set as Categorical Perception [In Russian]. In *Proceedings of Russian Conference on Cognitive Psychology* (pp. 27-37). Russian Psychological Society
18. Moskvichev, A., Dubova, M., Menshov, S. & Filchenkov, A. (2017). [Using Linguistic Activity in Social Networks to Predict and Interpret Dark Psychological Traits](#). In *Conference on Artificial Intelligence and Natural Language* (pp. 16-26). Springer, Cham.

ORGANIZATION

2022 [Augmented Intelligence Workshop](#) (co-organizer)

SERVICE

Ad-hoc reviewer (journals)	Cognitive Science, PLOS Computational Biology
Committee Member	Indiana University Graduate Admissions in Cognitive Science (2021)

TALKS & PRESENTATIONS

- Spotlight talk Neurips InfoCog Workshop
Generalizing with overly complex representations
- Talk Philosophy of Science Association 2022
Against theory-motivated experimentation in sciences
- Poster Psychonomic Society 2022
The role of active perception and naming in sameness comparison
- Talk Pittsburgh Formal Epistemology Workshop 2022
Against theory-motivated experimentation
- Poster Cognitive Science Society 2021:
Categories affect color perception of only some simultaneously present objects.
- Invited talk 5th International in Social Learning and Cultural Evolution:
Growing Opportunities to Grow: Toward Open-Ended Multi-Agent Communication Learning.
- Talk ALIFE 2021:
Growing Opportunities to Grow: Toward Open-Ended Multi-Agent Communication Learning.
- Poster Mechanisms of Learning Forum at Emory University (March 2021):
Categories Color Perception Variably in Simultaneous Matching Task
- Talk NETSCI 2020:
Reinforcement Communication Learning in Different Social Network Structures.
- Poster ICML 2020 | 1st workshop on Language and Reinforcement Learning:
Reinforcement Communication Learning in Different Social Network Structures.
- Poster 61st Annual Meeting of the Psychonomic Society
The Influences of Category Learning on Perceptual Reconstructions.
- Poster Artificial Life Conference 2020:
Effects of Supervision, Population Size, and Self-Play on Multi-Agent Reinforcement Learning to Communicate.
- Talk Mechanisms of Learning Forum at Emory University (March 2020):
Categorizing to Perceive or Perceiving to Categorize?
- Poster 56th Annual Meeting of the Association for Computational Linguistics 2018:
Improved Evaluation Framework for Complex Plagiarism Detection.
- Talk Russian Conference in Cognitive Psychology:
Illusions of Set as Categorical Perception [In Russian].
- Talk Conference on Artificial Intelligence and Natural Language:
Using Linguistic Activity in Social Networks to Predict and Interpret Dark Psychological Traits.

LANGUAGES

- NATIVE: Russian
- UPPER—INTERMEDIATE: English: TOEFL C1 (105/120)
- BASIC: Mandarin, French, Finnish

SKILLS

- Cognitive Science: Experimental Design, Cognitive Modeling
- Soft Skills: Academic Writing (English, Russian), Presentation (Talk, Poster)
- Data Science: Bayesian & Frequentist Data Analysis, Machine Learning, Deep Learning
- Programming: Python, R, Matlab, C#, JavaScript
- Other: Unity Game Engine

EDUCATION BEYOND UNIVERSITY

2021 Virtual	Santa Fe Institute Complexity Interactive Summer School
2019 Saint Petersburg	Summer School on Deep Learning for Speech Technologies
2019 Moscow	Russian Interdisciplinary Summer School: " Behavioral Economics "
2018 Saint Petersburg	SPSU Winter Psychology School, specialization: " Clinical Neuroscience "
2017 Potsdam	The First Summer School on Statistical Methods for Linguistics and Psychology Stream: Bayesian Data Analysis
2017 Saint Petersburg	The New York-St.Petersburg Institute of Linguistics, Cognition and Culture. Courses: <ol style="list-style-type: none">1. <i>The Structure of Human Language: An Introduction to Generative Syntax</i>2. <i>Introduction to Formal Semantics</i>3. <i>Language, Mind and Modularity</i>4. <i>Conversations on Consciousness</i>5. <i>Resolving Ambiguities: Studies Across Cognition</i>
2017 Saint Petersburg	Autumn School on Soft Skills in Cognitive Science
2017 Moscow	Russian Interdisciplinary Summer School: " Advanced Data Analysis in R "
2017 Moscow	International Summer School " Interdisciplinary Approaches to the Study of Educationally Relevant Psychological Traits "
2017 Saint Petersburg	SPSU Winter Psychology School, specialization: " Data Analysis in Psychology "
2016 Saint Petersburg	SPSU Winter Psychology School, specialization: " Experimental Cognitive Psychology "
2016 Moscow	Russian Interdisciplinary Summer School: " Data Analysis in Social Sciences "

HONORS & AWARDS

2021	IU CNS-NRT Summer Fellowship
2020	Fee remission by IUNI-SINSA Scholars to participate at the Summer Institute in Network Science and its Applications
2019 – 2020	Fellowship by Indiana University Cognitive Science PhD Program
2015 – 2019	Scholarship (7 times), Competitive Merit–Based Scholarship (<5% of students) by the Government of Russian Federation
2018	Scholarship by University of Helsinki
2018	Scholarship by Peking University
2018	Travel Grant , Summer School Series on Methods for Computational Social Science (rate < 5%)
2017	Winner , International Hackathon on Russian Paraphrased Plagiarism Detection (at the Artificial Intelligence and Natural Language Annual Conference)
2017	Prizewinner , The "Sunset League" Nationwide Case-championship in Psychology (winner in category "Social Psychology")
2016	Winner , The "HackRussia" Nationwide Hackathon. The winning project: a data–driven violin & cello learning web application (with the innovative teaching technology).
2016	Winner , The "Think Cognitive Think Science" Nationwide Competition in Cognitive Sciences. Nomination: the best critical essay on a chosen paper in cognitive science. Chosen paper: <i>Soon, C. S., Brass, M., Heinze, H. J., & Haynes, J. D. (2008). Unconscious determinants of free decisions in the human brain. Nature Neuroscience, 11(5), 543.</i>
2015	Prizewinner , Russian Nationwide Olympiad in Biology
2015	Prizewinner , Russian Nationwide Olympiad in Russian Language

TEACHING

2023 Spring In-person	Q301 Brain and Cognition (Indiana University)
2022 Fall In-person	Q370 Experiments and Models in Cognitive Science (Indiana University)
2021 Fall In-person	Q260 Programming for Cognitive Science (Indiana University)
2021 Spring Virtual	Q320 Computation in Cognitive Science (Indiana University)
2020 Fall Virtual	Q260 Programming for Cognitive Science (Indiana University)
2019 Moscow	Educational Program (2 full days): Bayesian Data Analysis in STAN Russian Interdisciplinary Summer School Co-organizer: George Moroz
2018 Moscow	Invited lecture: <i>Bayesian Data Analysis</i> Russian Interdisciplinary Summer School ("Data Analysis in Social Sciences")
2018 Moscow	Invited lecture: <i>Modeling in Cognitive Psychology: Bayesian, PDP, Dynamical Systems</i> Russian Interdisciplinary Summer School ("Cognitive Science")

VOLUNTEERING FOR SCIENCE & EDUCATION

Mentorship support for CogSci researchers from Russia and Ukraine (mentor, 2022)

[Think Cognitive Think Science](#) (Russian Community of Cognitive Scientists) (2016-2020)

1. Compiling [weekly digests](#) of news, announcements, and useful materials in Cognitive Science and Neuroscience with brief descriptions in Russian (4 years, more than 100 digests for [3000+ followers](#))
2. Sending [Weekly Newsletter](#) for the Community
3. Helped to organize the [Autumn School on Soft Skills in Cognitive Science](#) (2017)

Bioinformatics Institute, "[Neural Networks](#)" online course (teaching assistant, 2016)