

Vencislav Popov

October, 2017

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5000 Forbes Ave, Baker Hall, Rm 345G, Pittsburgh, PA

Education

- 2015 - 2020 Ph.D., Psychology, Carnegie Mellon University
Adviser: Lynne M. Reder | Committee: John Anderson, Marlene Behrmann, Marc Coutanche
- 2015 B.A., Psychology, New Bulgarian University

Scholarships and Awards

- 2017 Cognitive Science Society Travel Award (for an outstanding student paper)
Robert J. Glushko and Pamela Samuelson Foundation
- 2015 - 2016 Presidential Fellowship in the Life Sciences
Richard King Mellon Foundation
- 2014 - 2015 Full academic scholarship
New Bulgarian University
- 2013 - 2015 Fifteen research excellency awards
European Social Fund, European Union & The Ministry of Education and Science of Bulgaria
- 2012 - 2015 Academic excellence scholarships
European Social Fund, European Union & The Ministry of Education and Science of Bulgaria
- 2012 - 2013 Full academic scholarship
Sofia University "St. Kliment Ohridsky"

Publications

(* = co-first author; † = corresponding author)

Journal publications

- 2017 Shen, Z.*, **Popov, V.* (co-first authors)**, Delahay, A., & Reder, L. (2017). Item Strength Affects Working Memory Capacity. *Memory & Cognition*. Advance online publication
- Popov, V.†**, Hristova, P., & Anders, R. (2017). The Relational Luring Effect: Retrieval of relational information during associative recognition. *Journal of Experimental Psychology: General*. 146(5), 722-745
- Manelis, A.*†, **Popov, V.*† (co-first authors)**, Paynter, C., Walsh, M., Wheeler, M., Vogt, K., & Reder, L.† (2017). Cortical Networks Involved in Memory for Temporal Order. *Journal of Cognitive Neuroscience*. Advance online publication
- 2016 Reder, L. M., Liu, X. L., Keinath, A., **Popov, V.** (2016). Building knowledge requires bricks, not sand: The critical role of familiar constituents in learning. *Psychonomic Bulletin & Review*. 23(1), 271-277.
- 2015 **Popov, V.†** & Hristova, P. (2015). Unintentional and efficient relational priming. *Memory & Cognition*, 46(6), 866-878.

Refereed full conference papers

- 2017 **Popov V.**, Ostarek, M., & Tenison, C. (2017). Inferential Pitfalls in Decoding Neural representations. In G. Gunzelmann, A. Howes, T. Tenbrink, & E. Davelaar (Eds.), *Proceedings of the 39th Annual Conference of the Cognitive Science Society* (pp. 961-966). Austin, TX: Cognitive Science Society.
- Popov V.**, & Reder, L. (2017). Repetition improves memory by strengthening existing traces: Evidence from paired-associate learning under midazolam. In G. Gunzelmann, A. Howes, T. Tenbrink, & E. Davelaar (Eds.), *Proceedings of the 39th Annual Conference of the Cognitive Science Society* (pp. 2913-2918). Austin, TX: Cognitive Science Society.
- Popov V.**, & Reder, L. (2017). Target-to-distractor similarity can help visual search performance. In G. Gunzelmann, A. Howes, T. Tenbrink, & E. Davelaar (Eds.), *Proceedings of the 39th Annual Conference of the Cognitive Science Society* (pp. 968-973). Austin, TX: Cognitive Science Society.
- 2014 **Popov, V.** & Hristova, P. (2014). Automatic analogical reasoning underlies structural priming in comprehension of ambiguous sentences. In P. Bello, M. Guarini, M. McShane, & B. Scassellati (Eds.), *Proceedings of the 36th Annual Conference of the Cognitive Science Society* (pp. 1192-1197). Austin, TX: Cognitive Science Society.
- Popov, V.** & Petkov, G. (2014). The level of processing affects the magnitude of induced retrograde amnesia. In P. Bello, M. Guarini, M. McShane, & B. Scassellati (Eds.), *Proceedings of the 36th Annual Conference of the Cognitive Science Society* (pp. 2787-2792). Austin, TX: Cognitive Science Society.

Journal publications (in Bulgarian)

- 2016 **Popov, V.**, Nedelchev, D., Peneva, E., Psederska, E., Georgieva, V., Vasilev, G., & Vassileva, J. (2016). Psychometric Characteristics of the Bulgarian Version of the Buss-Warren Aggression Questionnaire (BWAQ). *Clinical and Consulting Psychology, 4*(30), 37-53.
- Nedelchev, D., **Popov, V.**, Psedarska, E., Bozgunov, K., Vasliev, G., Peneva, E., & Vassileva, J. (2016). Psychometric Characteristics of the Bulgarian Version of the Wender Utah Rating Scale (WURS-25) for ADHD. *Clinical and Consulting Psychology, 8*(2), 3-17 (in Bulgarian)
- Popov, V.**, Psederska, E., Peneva, E., Bozgunov, K., Vasilev, G., Nedelchev, D., & Vassileva, J. (2016). Psychometric Characteristics of the Bulgarian Version of the Toronto Alexithymia Scale (TAS-20). *Psychological Research, 19*(2), 25-42. (in Bulgarian)
- 2015 **Popov, V.**, Bozgunov, K., Vasilev, G., & Vassileva, J. (2015). Psychometric Characteristics of the Bulgarian Version of Levenson's Self-report Psychopathy Scale. *Bulgarian Journal of Psychology, 1-4*, 253-278. (in Bulgarian)

Abstracts

- 2017 **Popov, V.**, Pavlova, M., & Hristova, P. (Forthcoming). Semantic Relations Vary in the Strength, Typicality and Accessibility of their Representations in Long-Term Memory. *Proceedings of the 4th Analogy Conference*. Paris, France
- Popov V.**, & Hristova, P. (Forthcoming). The Relational Luring Effect: False Recognition via Relational Similarity. In G. Gunzelmann, A. Howes, T. Tenbrink, & E. Davelaar (Eds.), *Proceedings of the 39th Annual Conference of the Cognitive Science Society* (pp.). Austin, TX: Cognitive Science Society.

- Nedelchev, D., **Popov, V.**, Pseferska, E., Bozgunov, K., Vasilev, G., Peneva, E., & Vassileva, J. (2016). Psychometric characteristics of the Bulgarian version of the Wender Utah Rating Scale for ADHD. *2nd National Congress of Clinical Psychology*. Sofia, Bulgaria.
- Bozgunov, K., **Popov, V.**, Pseferska, E., Vasilev, G., Nedelchev, D., & Vassileva, J. (2017). Psychometric characteristics of the Bulgarian version of the Toronto Alexithymia Scale (TAS-20). *7th International Congress of Psychologists of Slovenia - Applied Neuropsychology: Between Small and Big Networks*. Kranjska Gora, Slovenia.
- 2016 **Popov, V.** & Reder, L. (2016). Semantic-episodic interactions during memory retrieval. In *Abstracts of the 57th Annual Meeting of the Psychonomic Society*. Boston, Massachusetts
- Shen, Z., Reder, L., **Popov, V.**, & Delahay, A. (2016). Symbol Familiarity Interacts With Working Memory Demands During Mathematical Problem-Solving. In *Abstracts of the 57th Annual Meeting of the Psychonomic Society*. Boston, Massachusetts
- Vogt, K., Ibinson, J., Tremel, J., **Popov, V.**, Reder, L., & Fiez, J. (2016). Variability in the Effect of Experimental Pain on Longterm Memory During Sedation with Dexmedetomidine & Midazolam. In *Abstracts of the Anesthesiology 2016 Annual Meeting*. Chicago, IL
- Reder, L. M., Liu, X. L., Keinath, A. & **Popov, V.** (2015). Knowledge construction requires bricks, not sand: The critical role of familiar constituents in learning. *International Meeting of the Psychonomic Society*. Granada, Spain
- 2015 **Popov, V.**, Hristova, P. & Anders, R. (2015). Retrieval of relational information during associative recognition. In *Abstracts of the 56th Annual Meeting of the Psychonomic Society*. Chicago, IL
- Reder, L. M., Liu, X. L., Keinath, A. & **Popov, V.** (2015). Building knowledge requires bricks, not sand: The critical role of familiar constituents in learning. In *Abstracts of the 56th Annual Meeting of the Psychonomic Society*. Chicago, IL
- Popov, V.** (2015). A spreading-activation model of associates retrieval in a discrete free association task. In N. Taatgen, M. van Vugt, J. Borst, & K. Mehlhorn (Eds.), *Proceedings of the 13th International Conference on Cognitive Modeling*. Groenigen: Rijksuniversiteit Groenigen
- 2014 **Popov, V.** & Hristova, P. (2014). Unconscious, unintended and efficient analogies in lexical decision under dual-task conditions. In P. Bello, M. Guarini, M. McShane, & B. Scassellati (Eds.), *Proceedings of the 36th Annual Conference of the Cognitive Science Society*. Austin, TX: Cognitive Science Society.
- Popov, V.** & Hristova, P. (2014). Priming thematic structure during sentence comprehension in the absence of syntactic repetition. In *Abstracts of the VI. Dubrovnik Conference on Cognitive Science*. Dubrovnik, Croatia.
- Popov, V.** (2014). Malleability of the basic level effect in categorical induction for biological categories. In *Abstracts of the VI. Dubrovnik Conference on Cognitive Science*. Dubrovnik, Croatia.
- 2013 **Popov, V.** (2013). Fixation on Failure: Failing to Solve a Problem Hinders Subsequent Problem-Solving Ability. In M. Knauff, M. Pauen, N. Sebanz, & I. Wachsmuth (Eds.), *Proceedings of the 35th Annual Conference of the Cognitive Science Society* (p. 4080). Austin, TX: CSS.

Presentations

Invited talks

- 2016 Workshop on Memory and Skill, Duke University, Durham, North Carolina, April 2016.
Not knowing what we know: A call for a theory-neutral database for empirical results in psychology.

Departmental talks

- 2017 Perception, Action and Learning (PAL) series, Carnegie Mellon University, Pittsburgh, Feb 2017.
The Mortar of Cognition: Semantic relations play a crucial role in memory, language comprehension and analogical reasoning..

Conference talks

- 2017 Inferential Pitfalls in Decoding Neural Representations. *Oral presentation at the 39th Annual Conference of the Cognitive Science Society.* London, UK.
- The Relational Luring Effect: False Recognition via Relational Similarity. *Oral presentation at the 39th Annual Conference of the Cognitive Science Society.* London, UK.
- Target-to-distractor similarity can help visual search performance. *Oral presentation at the 39th Annual Conference of the Cognitive Science Society.* London, UK.
- The Relational Luring Effect: Retrieval of relational information during associative recognition. *Oral presentation at the 16th Annual Summer Interdisciplinary Conference (ASIC 2017).* Interlaken, Switzerland.
- 2015 Unintentional relational priming. *Oral presentation at the Annual Conference of the Department of Cognitive Science and Psychology.* Kazanlak, Bulgaria
- 2014 Priming of relations: Unintended, unconscious and efficient. *Oral presentation during the European Campus of Excellence Summer School in Memory and Mind: Perspectives from Philosophy and Neuroscience.* Germany, Bochum: Ruhr University Bochum
- Automatic analogical reasoning underlies structural priming in comprehension of ambiguous sentences. *Oral presentation at the 36th Annual Conference of the Cognitive Science Society.* Quebec City, Canada.
- Retrograde amnesia as a function of the level of processing. *Oral presentation at the Annual Conference of the Department of Cognitive Science and Psychology.* Belmeken, Bulgaria: NBU
- Automatic analogies in language comprehension. *Oral presentation at the Annual Conference of the Department of Cognitive Science and Psychology.* Belmeken, Bulgaria: NBU
- 2013 Demonstrating automatic analogies in structural ambiguity comprehension. *Oral presentation at a participant symposium during the 20th International Summer School in Cognitive Science.* Sofia, Bulgaria: New Bulgarian University
- Experiencing failure increases problem-solving time in current performance. *Oral presentation at the Annual Conference of the Department of Cognitive Science and Psychology.* Ribaritz, Bulgaria: NBU

Conference posters

- 2017 Repetition improves memory by strengthening existing traces: Evidence from paired-associate learning under midazolam. *Poster presented at the 39th Annual Conference of the Cognitive Science Society*. London, UK.
- 2016 Semantic-Episodic Interactions During Memory Retrieval. *Poster presented at Psychonomic Society's 57th Annual Meeting*. Boston, Massachusetts
- 2015 Retrieval of relational information during associative recognition. *Poster presented at Psychonomic Society's 56th Annual Meeting*. Chicago, Illinois
- Retrieval of relational information during associative recognition. *Poster presented at the Center for the Neural Basis of Cognition Annual Retreat*. Pittsburgh, PA.
- A spreading-activation model of associates retrieval in a discrete free association task. *Poster presented at the 13th International Conference on Cognitive Modeling*. Groenigen, Germany
- 2014 The level of processing affects the magnitude of induced retrograde amnesia. *Poster presented at the 36th Annual Conference of the Cognitive Science Society*. Quebec City, Canada.
- Unconscious, unintended and efficient analogies in lexical decision under dual-task conditions. *Poster presented at the 36th Annual Conference of the Cognitive Science Society*. Quebec City, Canada.
- Malleability of the basic level effect in categorical induction for biological categories. *Poster presented at the VI. Dubrovnik Conference on Cognitive Science*. Dubrovnik, Croatia.
- Priming thematic structure during sentence comprehension in the absence of syntactic repetition. *Poster presented at the VI. Dubrovnik Conference on Cognitive Science*. Dubrovnik, Croatia.
- 2013 Fixation on Failure: Failing to Solve a Problem Hinders Subsequent Problem-Solving Ability. *Poster presented at the 35th Annual Conference of the Cognitive Science Society*. Austin, TX: Cognitive Science Society.

Professional activities

Memberships

Cognitive Neuroscience Society, student member
 Psychonomic Society, student member
 Cognitive Science Society (CSS), student member

Ad hoc Reviewer

NeuroImage, Psychological Review, Quarterly Journal of Experimental Psychology, Attention, Perception & Psychophysics, Developmental Psychology, Cognition, Cognitive Science Society Conference

Departmental and professional service

- 2017 Graduent student host for invited speaker, Department of Psychology Colloquium series
 Carnegie Mellon University
- 2016 - 2017 Graduent student representative, Faculty meetings, Carnegie Mellon University

Research and work experience

- 06.2015 - current Ph.D. student, Memory Lab, Carnegie Mellon University
Director: Lynne M. Reder, Ph.D.
- 01.2015 - 08.2015 Data Analyst, Bulgarian Addictions Institute
Directors: Jasmin Vassileva, Ph.D., & Georgi Vasilev, M.D.
- 03.2013 - 12.2014 Researcher, Experimental Psychology Lab, NBU
Director: Assist. Prof. Penka Hristova
- 09.2013 - 09.2014 Lab coordinator, Experimental psychology laboratory, NBU
Director: Assist. Prof. Penka Hristova

Teaching experience

Teaching assistant

- 2017 Introduction to Parallel Distributed Processing (Instructor: David Plaut)

Guest lectures

- 2015 Working Memory (Memory. Instructor: Penka Hristova)
- 2014 Working Memory (Memory and meaning. Instructor: Encho Gerganov)

Additional education and professional training

- European Campus of Excellence Summer School, Memory and Mind: Perspectives from Philosophy and Neuroscience. Germany, Bochum: Ruhr University Bochum, 7-21 September (2014)
- 20th International Summer School in Cognitive Science. Sofia, Bulgaria: NBU (2013)
- 19th International Summer School in Cognitive Science. Sofia, Bulgaria: NBU (2012)

Research interests

Neural mechanisms of memory formation, consolidation and retrieval. Representation of semantic knowledge in the brain. Computational modeling of neural and psychological mechanisms. Other topics: brain-computer interfaces, relational reasoning, concepts and categorization, problem-solving, cognitive modeling, connectionism, philosophy of science

Other information

Technical competencies

- Data analysis, modeling and visualization with R (lme4, ggplot, R2jags, rube, RMarkdown, etc)
- Matlab (SPM12), Python (nipype), Freesurfer
- SPSS, LaTeX, Advanced MS OFFICE skills
- E-prime 2.0, OpenSesame, Python
- Basic knowledge in PHP, HTML, MYSQL, Photoshop