

# 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 CNBC Brain Bag series, Center for the Neural Basis of Cognition, Pittsburgh, Nov 2017.  
*Inferential Pitfalls in Decoding Neural Representations.*
- 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