

# Vencislav Popov

September, 2016

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## Education

- 2015 - present    Ph.D., Psychology, Carnegie Mellon University  
Area: Cognitive neuroscience, Adviser: Lynne M. Reder  
Committee: John Anderson, Marlene Behrmann, Marc Coutanche
- 2013 - 2015    B.A., Psychology, New Bulgarian University  
GPA: 6.00 out of 6.00 maximum, expected graduation date: June, 2015
- 2011 - 2013    B.A., Psychology, Sofia University "St. Kliment Ohridsky"  
GPA: 6.00 out of 6.00 maximum, transferred to NBU before completion

## 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.  
  
I was mainly responsible for data analysis on an international research project funded by grant 2R01DA021421 from the National Institute on Drug Abuse (NIDA) - USA, that aims to explore how different personality and neurocognitive aspects of impulsivity can affect and be affected by drug addiction.
- 03.2013 - 12.2014    Researcher, Experimental Psychology Lab, NBU  
Director: Assist. Prof. Penka Hristova  
  
I planned, designed and executed behavioral experiments on analogy-making, constructive memory, concepts and categorization and language comprehension. Other activities included generating stimuli, data analysis, creating e-prime scripts, preparing manuscripts and weekly presentations during seminars.
- 09.2013 - 09.2014    Lab coordinator, Experimental psychology laboratory, NBU  
Director: Assist. Prof. Penka Hristova  
  
I was responsible for the day-to-day operations of the lab: preparing schedules, organizing several courses for student participation in experiments for course credit, training of students to run experiments, coordinating the lab resources, etc.

## 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

## Publications

### *Peer-reviewed publications*

- 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.
- Popov, V.**, Psederska, E., Peneva, E., Bozgunov, K., Vasilev, G., Nedelchev, D., & Vassileva, J. (In press). Psychometric Characteristics of the Bulgarian Version of the Toronto Alexithymia Scale (TAS-20). *Psychological Research*. (In Bulgarian)
- 2015 **Popov, V.**, Bozgunov, K., Vasilev, G., & Vassileva, J. (2015). Psychometric Characteristics of the Bulgarian Version of Levensons Self-report Psychopathy Scale. *Bulgarian Journal of Psychology*. (In Bulgarian)
- Popov, V.** & Hristova, P. (2015). Unintentional and efficient relational priming. *Memory & Cognition*, 46(6), 866-878.

### *Peer-reviewed conference proceedings*

- 2015 **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). 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.

### *Published abstracts*

- 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
- 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.

### *Works in progress*

- Popov, V.**, Hristova, P., & Anders, R. (revise and resubmit). Retrieval of relational information during associative recognition. *Journal of Experimental Psychology: General*
- Manelis, A., **Popov, V.**, Paynter, C., Walsh, M., Wheeler, M., Reder, L. (under review). Cortical Networks Involved in Memory for Temporal Order. *Journal of Cognitive Neuroscience*
- Popov, V.** & Reder, L. (in preparation). We do not know what we know: A call for a theory-neutral database for empirical results in psychology.
- Popov, V.** & Reder, L. (in preparation). Overlap and dissociability in the neural networks that support semantic vs episodic memory judgements.

## Invited presentations

- 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.*  
 [Invited talk]

## Conference presentations

- 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

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.

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.

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 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.

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*. Ribaritzha, Bulgaria: NBU

## Professional activities

### *Memberships*

Cognitive Neuroscience Society, student member - 2016  
 Psychonomic Society, student member - 2015  
 Cognitive Science Society (CSS), student member - 2013, 2014  
 Central European Cognitive Science Association (CECOG), member - 2014, 2015

### *Ad hoc Reviewer*

Quarterly Journal of Experimental Psychology  
 Attention, Perception & Psychophysics  
 Cognitive Science Society Conference

## Scholarships and Awards

- 2015 - 2016 Presidential Fellowship in the Life Sciences  
 Richard King Mellon Foundation
- 2014 - 2015 Full academic scholarship  
 New Bulgarian University
- 2014 Scholarship for attending "European Campus of Excellence Summer School"  
 Stiftung Mercator
- 2013 - 2015 Fifteen research excellency awards  
 "Student scholarships", European Union
- 2012 - 2015 Academic excellence scholarships  
 "Student scholarships", European Union
- 2012 - 2013 Full academic scholarship  
 Sofia University "St. Kliment Ohridsky"

## 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)

Winter School in Cognitive Science. Belmeken, Bulgaria: NBU (2014)

Winter School in Cognitive Science. Ribaritzha, Bulgaria: NBU (2013)

## Other information

### *Technical competencies*

Data analysis, modeling and visualization with R (lme4, ggplot, R2jags, rube, RMarkdown, etc)

Matlab (SPM12), Python (nipy), Freesurfer

SPSS, LaTeX, Advanced MS OFFICE skills

E-prime 2.0, OpenSesame, Python

Basic knowledge in PHP, HTML, MYSQL, Photoshop

### *Language competencies*

Bulgarian (mother tongue) | English (116/120 TOEFL) | German (A2 in the European Framework)

### *Graduate record examination (GRE)*

VR: 167/170; 97 percentile rank; QR: 170/170; 98 percentile rank, AW: 5.0/6.0; 93 percentile rank