# Nazbanou Nozari

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## **ACADEMIC APPOINTMENTS**

• Assistant Professor of Neurology, Johns Hopkins University, January 2014

 Joint appointment, Department of Cognitive Science, Johns Hopkins University, January 2014

## **EDUCATION**

- Post-doctoral Fellow in Cognitive Neuroscience, University of Pennsylvania, 2011-2013. Advisor: Sharon Thompson-Schill
- Post-doctoral Fellow in Cognitive Neuropsychology, Moss Rehabilitation Research Institute, 2011-2012. Advisor: Myrna Schwartz
- Ph.D. in Cognitive Psychology, University of Illinois at Urbana-Champaign, 2011. Advisor: Gary Dell
- M.A. in Cognitive Psychology, University of Illinois at Urbana-Champaign, 2009.
- M.D., Tehran University of Medical Sciences, Tehran, Iran, 2006.

#### SELECTED AWARDS AND HONORS

- American Psychological Association's New Investigator Award, 2013.
- Robert J. Glushko Award for best dissertation in Cognitive Science. \$10,000.
- State of PA Health Research Formula Grant (Co-PI, in collaboration with Myrna Schwartz). \$52,000.
- Outstanding teacher, as ranked by the undergraduate students at University of Illinois at Urbana-Champaign, Lab in Cognitive Psychology, spring, 2010.
- Academy of Aphasia's best student presentation award, Boston, MA, October 2009.
- Travel grant for participation in the 2<sup>nd</sup> Congress on Brain and Behavior, Thessaloniki, Greece, November 2005. \$500 (declined).
- Outstanding Chief Intern Award, Children Medical Center, Tehran, Iran. June 2004.

### **PUBLICATIONS**

- **Nozari, N.,** & Mirman, D. (under review). Anticipating *an* eagle but not *a* horse: The differential weight of English determiners as cues in online sentence comprehension.
- **Nozari, N.,** Kristina Woodard, & Thompson-Schill, S.L. (in press). Cathodal tDCS: excitatory, inhibitory, or both?
- Nozari, N. & Thompson-Schill, S.L. (in press). Left Ventrolateral Prefrontal Cortex in Processing of Words and Sentences. In G. Hickok & S.L. Small (Eds.), The Neurobiology of Language.
- Dell, G. S., **Nozari, N.,** & Oppenheim, G. M. (in press). Lexical access: Behavioral and computational considerations. In V. Ferreira, M. Goldrick, & M. Miozzo (Eds.), *The Oxford Handbook of Language Production*. Oxford University Press.
- **Nozari, N.,** & Thompson-Schill, S.L. (2013). More cognitive control when speaking: does it help or does it hurt? Evidence from tDCS. *Neuropsychologia*, *51*(13), 2770-2780.
- Nozari, N., & Dell, G.S. (2013). How damaged brains repeat words: A computational approach. *Brain & Language*. 126(3), 327-337.
- Dell, G. S., Schwartz, M. F., **Nozari, N.**, Faseyitan, O., & Branch Coslett, H. (2013). Voxel-based lesion-parameter mapping: Identifying the neural correlates of a computational model of word production. *Cognition*, 128(3), 380-396.
- Nozari, N., & Dell, G. S. (2012). Feature migration in time: Reflection of selective attention on speech errors. *Journal of Experimental Psychology-Learning Memory and Cognition*, 38(4), 1084-1090.
- Budd, M. J., Hanley, & J.R., **Nozari, N.** (2011). Two routes or one in children's auditory repetition of single words? *Journal of Psycholinguistic research*.
- **Nozari, N.,** Dell, G.S., Schwartz, M.F. (2011). Is comprehension the basis for error detection? A conflict-based theory of error detection in speech production. *Cognitive Psychology*, 63(1), 1-33.
- **Nozari, N.,** Kittredge, A.K., Dell, G.S., Schwartz, M.F. (2010). Naming and repetition in aphasia: Steps, routes, and frequency effects. *Journal of memory and Language, 63*, 541-559.
- Nozari, N., Ferri, C.P., Farin, F., Noroozian, M., Salehi, M., Seyedian, M., & Prince, M. (2009). Validation of the 10/66 Dementia Research Group's 10/66 Dementia diagnosis in Iran. *International Psychogeriatrics*, 21(3), 604-605.
- **Nozari, N.,** & Dell, G.S., (2009). More on lexical bias: how efficient can a "lexical editor" be? *Journal of Memory and Language, 60, 291-307.*
- **Nozari, N.,** & Tahmasebi M. (2007). Thromboembolism and Its Particular Importance in Orthopedics. *Tehran University Journal of Orthopedics, 22,12-7.* [article in Persian]
- Behzadi, A., **Nozari, N.,** Ekhtiari, H. (2006). Reasoning, Induction and Language; Literature Review and the Practical Methods of Assessment. *Iranian Journal of Cognitive Science*, *4*, 24-9. [article in Persian]

## Conference proceedings

• Nozari, N., Arnold, J., & Thompson-Schill, S. (in press). What does left prefrontal cortex do for sentence production? Evidence from tDCS. Proceedings of the Twenty-Six Annual CUNY Conference on Human Sentence Processing.

- **Nozari, N.,** Schwartz, M., & Coslett, B. (2012). Fluency of Speech Depends on Executive Abilities: Evidence for Two Levels of Conflict in Speech Production. *Procedia Social and Behavioral Sciences.* 183-184.
- Nozari, N., Dell, G., & Schwartz, M. (2012). Who Are the Lexical-routers? An Investigation into the Nature of Word Repetition in Aphasia. *Procedia Social and Behavioral Sciences.* 104-105.
- Nozari, N. & Dell, G.S. (2011). Selective attention and speech errors: feature migration in time. In L. Carlson, C. Hölscher, & T. Shipley (Eds.), *Proceedings of the 33rd Annual Conference of the Cognitive Science Society* (pp. 1370-1375). Austin, TX: Cognitive Science Society.
- Dell, G. S., **Nozari, N.,** Kittredge, A.K., & Schwartz, M. F. (2009). Theoretical perspectives on impairments in spoken language processing. *Proceedings of the 31st Annual Meeting of the Cognitive Science Society*. Amsterdam, The Netherlands: Cognitive Science Society.

# In preparation

- **Nozari, N.,** & Mirman, D. (in preparation). The distracting power of a red heart: a study of incremental cue processing in sentence comprehension.
- **Nozari, N.,** Schwartz, M.F., & Coslett, H.B. (in preparation). Does fluency of speech depend on executive abilities?
- Cortis, C., Budd, M.J., Hanley, R.J., & **Nozari, N.** (in preparation). Children's speech monitoring and error self-correction: Does a conflict-based account of monitoring apply to the speech of young children?

# **INVITED TALKS**

- "Speaking with attention: Does it help or does it hurt?". Invited talk, Oct 17, 2013, Beckman Institute of Sciences, University of Illinois at Urbana-Champaign, Champaign, IL.
- "A new theory of monitoring in language production". Invited talk, Sep 30, 2013, department of Psychology, University of Delaware, Newark, DA.
- "Prefrontal cortex and language: tDCS as a teacher and a helper". Invited talk, May 16, 2013, Department of Neurology, Johns Hopkins, Baltimore, MD.
- "Language production and executive control: revising the old theories". Invited talk, March 29, 2012, Department of Psychology, Lehigh University, Bethlehem, PA.
- "Producing, monitoring and correcting speech: A collaborative effort between two systems". Invited talk, Feb 18, 2012, Department of Psychology, University of Connecticut, Storrs, CT.
- "A new theory of error detection in adults, children and aphasic patients". Invited talk, Feb 12, Department of Communication Sciences and Disorders, New York University, New York, NY.
- "Monitoring conflict: A domain-general principle of implicit metacognition", Invited talk, Jan 22, 2012, Department of Cognitive Science, Johns Hopkins University, Baltimore, MD.
- "On selective attention and taming in", Invited talk, Jan 23, 2012, School of Education, Johns Hopkins University, Baltimore, MD.
- "Are speech fluency and executive abilities linked?" Invited talk, Dec 19, 2012, Albert Einstein Hospital, Elkins Park, PA.

- "What can domain-generality buy us? At least a better theory of speech monitoring". Invited talk, Dec 13, 2012, Department of Brain and Cognitive Sciences, University of Rochester, Rochester, NY.
- "Producing, monitoring and correcting speech: A collaborative effort between two systems". Invited talk, Dec 6, 2012, Temple University, Philadelphia, PA.
- "A computational case-series approach to investigating the architecture of the lexical access system", Moss Rehabilitation Institute, March 12, 2009, Philadelphia, Pennsylvania.

### **OTHER PRESENTATIONS**

- "Cathodal tDCS: excitatory, inhibitory, or both?". Poster presentation, CNS annual meeting, April 13-16, 2013, San Francisco, CA.
- "What does the left prefrontal cortex do for sentence production? Evidence from tDCS". Poster presentation, CUNY, March 21-23, 2013, Columbia, SC.
- "What can you expect from boosting prefrontal cortex?". Poster presentation, Psychonomic Society Annual Meeting, Nov 15-18, 2012, Minneapolis, MN.
- "Fluency of speech depends on executive abilities: evidence for two levels of conflict in speech production". Poster presentation, 50<sup>th</sup> Annual Meeting of the Academy of Aphasia, Oct 28-30, 2012, San Francisco, CA.
- Who are the lexical-routers? An investigation into the nature of word repetition in aphasia". Poster presentation, 50<sup>th</sup> Annual Meeting of the Academy of Aphasia, Oct 28-30, 2012, San Francisco, CA.
- "Does fluency of speech depend on executive abilities?" Poster presentation, 7th International Workshop on Language Production, Jul 18-20, 2012, New York, NY.
- "Selective attention and speech errors: feature migration in time." Platform presentation, 33<sup>rd</sup> Annual Meeting of the Cognitive Science Society, Jul 22, 2011, Boston, MA.
- "Does error detection require comprehension?" Platform presentation, Psychology department, University of Illinois at Urbana-Champaign, Oct 22, 2010, Urbana, IL.
- "A new model of monitoring in speech production" Platform presentation at the Outstanding Graduate Student Seminar, Beckman Institute of Sciences, Dec 1, 2010, Urbana, IL.
- "A computational case-series approach to frequency effect in aphasic word repetition". Platform presentation, Academy of Aphasia, 47<sup>th</sup> annual meeting, October, 18-20, 2009, Boston, Massachusetts.
- "Parallel case-series analysis of aphasic word production". Platform presentation, University of Illinois at Urbana-Champaign, September 11, 2009, Urbana-Champaign, Illinois.
- "A computational case-series approach to frequency effect in aphasic word repetition" Poster session, Cognitive Neuroscience Society, 16<sup>th</sup> annual meeting, March 21-24, 2009, San Francisco, California.
- "30 years of lexical bias war: time to call a truce". Platform presentation, Beckman Institute of Sciences, November 11, 2008, Urbana-Champaign, Illinois.
- "Lexical bias in speech production: how efficient can a lexical editor be?" Poster session, Psychonomic Society, 48<sup>th</sup> annual meeting, November 15-18, 2007, Long Beach, California.

- "Monitoring or feedback? Evidence from the lexical bias effect" Platform presentation, University of Illinois at Urbana-Champaign, August 30, 2007, Urbana-Champaign, Illinois.
- "Correlation Between Findings on Brain SPECT and Scores on Neuropsychological Testing in Patients Diagnosed as Mild Cognitive Impairment." Poster session, International Alzheimer's Disease International, 21<sup>st</sup> annual meeting, September 28-October 1, 2005, Istanbul, Turkey.
- "Effects of a Major Social Stressor (war) on the Patterns of Tumor Extension in Breast Cancer Patients." Poster session, American Society of Breast Disease, 29<sup>th</sup> Annual Symposium, April 14-16, 2005, Las Vegas, Nevada.

#### RESEARCH AND CLINICAL EXPERIENCE

- Post-doctoral Fellow at the University of Pennsylvania and Moss Rehabilitation Research Institute 2011-present.
- Research Collaborator, Moss Rehabilitation Research Institute, 2008-2011; University of Essex, 2010-present; University of North Carolina at Chapel Hill, 2012-present.
- Doctoral student, University of Illinois at Urbana-Champaign, 2006-2011.
- Researcher, Roozbeh Psychiatric hospital, Tehran University of Medical Sciences (in collaborative research with King's College London's Institute of Psychiatry. 2005-2006
- Medical Intern, 2004-2005 (Full rotation in multiple hospitals).

### **TEACHING EXPERIENCE**

- PURM (Penn Undergraduate Research Program) mentor, 2012-2013. Student awarded the Morris Viteles Award for Excellence in Undergraduate Research in Psychology.
- Cognitive Psychology Lab, Spring 2010.
- Geriatric Mental State training course for 10/66 interviewers (licensed by Institute of Psychiatry, King's College London), Iranian Alzheimer's Association, 2006, April-May

## **RESEARCH INTERESTS**

- Cognitive control and executive abilities
- Monitoring and error detection
- Language production, comprehension and learning
- Aphasia

## **RESEARCH METHODS/SKILLS**

- Behavioral testing
- Computational modeling
- Eye-tracking
- Transcranial Direct Current Stimulation (tDCS)
- Voxel-based Lesion Symptom Mapping (VLSM)

Advanced statistical modeling

### **CURRENT PROJECTS**

Brain stimulation (tDCS) projects

- The effect of prefrontal boosting on error detection, repair and disfluencies (with Sharon Thompson-Schill and Kristina Woodard).
- The effect of prefrontal boosting on the use of referential forms in language (collaboration with Dr. Jennifer Arnold, University of North Carolina at Chapel Hill).

## Eye-tracking projects

- Inhibition of irrelevant information during sentence processing (with Sharon Thompson-Schill, collaboration with John Trueswell)
- Facilitatory or inhibitory nature of hierarchical cueing in patients with LIFG damage (collaboration with Dan Mirman).

# Behavioral/computational projects

- The effect of aging on cognitive control: contrasting transient and sustained costs (with Sharon Thompson-Schill)
- Influence of successful self-monitoring on re-learning in aphasia (with Myrna Schwartz, collaboration with Erica Middleton).
- Monitoring through production or comprehension: evidence from children of different age groups (collaboration with Richard Hanley, University of Essex)

#### **PROFESSIONAL SERVICES**

- Reviewer for Frontiers in Psychology, 2013-present.
- Reviewer for the Journal of Experimental Psychology: Learning, Memory and Cognition, 2013-present.
- Reviewer for the Memory and Cognition, 2012-present.
- Reviewer for the PLoS One, 2012-present.
- Reviewer for the Language and Cognitive Processes, 2012-present.
- Reviewer for the Journal of Cognitive Neuropsychology, June, 2009- present.
- Reviewer for the Journal of Memory and Language, June, 2008- present.
- Coordinator, Memory and Behavioral Neurology Department, Tehran University of Medical Sciences, 2004-2006.
- Principle Investigator of 10/66 international dementia screening project in Iran, in collaboration with King's College London, 2004-2006.
- Executive director, First International Conference of Alzheimer's Disease in Iran, December 2005.

### **REFERENCES**

- Gary S. Dell, Professor of Psychology University of Illinois at Urbana-Champaign 217-244-1294, gdell@cyrus.psych.illinois.edu
- Sharon L. Thompson-Schill, Professor of Psychology Center for Cognitive Neuroscience, University of Pennsylvania 215-573-3533; 215-573-3536, sschill@psych.upenn.edu
- Myrna F. Schwartz, Associate Director of Moss Rehabilitation Research Institute Moss Rehabilitation Research Institute (215) 663-6000, mschwart@einstein.edu
- J. Kathryn Bock, Professor of Psychology University of Illinois at Urbana-Champaign (217) 244-1121, jkbock@illinois.edu
- Duane G. Watson, Associate professor of psychology University of Illinois at Urbana-Champaign (217) 333-0280, dgwatson@illinois.edu