

EFTHYMIA C. KAPNOULA

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CURRENT POSITION

Postdoctoral Researcher at the Basque Center on Cognition, Brain and Language /
Juan De La Cierva Fellow

EDUCATION

- 2016 **PhD in Psychology** (Cognition and Perception)
University of Iowa, U.S.A.
- 2013 **MA in Psychology**
University of Iowa, U.S.A.
- 2009 **MSc in Basic and Applied Cognitive Science**
National and Kapodistrian University of Athens, Greece
- 2007 **BA in Psychology**
National and Kapodistrian University of Athens, Greece

RESEARCH FOCI

My research examines fundamental processes and representations that subserve language use, focusing on **speech perception**, **word recognition**, and **word learning**.

I am particularly interested in the structure and the dynamics of the **mental lexicon**, L1/L2 **phoneme categorization**, and the **interactivity** between different levels of language processing. In addition, I am interested in how these processes differ among individuals and the impact of these differences on language processing.

PUBLICATIONS

Articles in peer-reviewed journals

- Kapnoula**, E.C., Protopapas, A., Saunders, S., & Coltheart, M. (2017). Lexical and sublexical effects on visual word recognition in Greek: Comparing human behavior to the Dual Route Cascaded (DRC) model, *Language, Cognition, and Neuroscience*, 32(10), 1290-1304.
- Kapnoula**, E.C., Winn M., Kong, E., Edwards, J. & McMurray, B. (2017). Evaluating the sources and functions of gradiency in phoneme categorization: An individual differences approach. *Journal of Experimental Psychology: Human Perception and Performance*, 43(9), 1594-1611.

- Protopapas, A., Orfanidou, E., Taylor, J., Karavasilis, E., **Kapnoula**, E.C., Panagiotaropoulou G., Velonakis, G., Poulou, L.S, Smyrnis, N., & Kelekis, D. (2016). Evaluating cognitive models of visual word recognition using fMRI: Effects of lexical and sublexical variables. *NeuroImage*, *128*, 328-341.
- Kapnoula**, E.C. & McMurray B. (2016). Newly learned word-forms are abstract and integrated immediately after acquisition. *Psychonomic Bulletin and Review*, *23*(2), 491-499.
- Protopapas, A. & **Kapnoula**, E.C. (2016). Short-term and long-term effects on visual word recognition. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, *42*(4), 542-565.
- Kapnoula**, E.C. & McMurray B. (2016). Training alters the resolution of lexical interference: Evidence for plasticity of competition and inhibition. *Journal of Experimental Psychology: General*, *145*(1), 8-30.
- Kapnoula**, E.C., Packard, S., Gupta, P., & McMurray B. (2015). Immediate lexical integration of novel word forms, *Cognition*, *134*, 85-99.

Book chapters

- McMurray, B., **Kapnoula**, E.C., & Gaskell, M.G. (2016). Learning and integration of new word-forms: Consolidation, pruning and the emergence of automaticity. In G. Gaskell, & J. Mirkovic (Eds.), *Speech Perception and Spoken Word Recognition*. Psychology Press.
- Terkourafi, M., **Kapnoula**, E.C., Panagiotopoulou, P., & Protopapas, A. (2013). Triangulating the GRID: A corpus-based cognitive linguistic analysis of five Greek emotion terms. In J. Fontaine, K. R. Scherer, & C. Soriano (Eds.) *Components of emotional meaning: A sourcebook*. Oxford University Press.

Article in proceedings

- Protopapas, A. & **Kapnoula**, E.C. (2013). Exploring word recognition with selected stimuli: The case for decorrelated parameters. In M. Knauff, M. Pauen, N. Sebanz, & I. Wachsmuth (Eds.) *Cooperative Minds: Social Interaction and Group Dynamics*. Paper presented at the *35th Annual Cognitive Science Conference*, Berlin, Germany, 31 July–1 August, pp. 1169–1174.

In preparation/Submitted

- Bourguignon, M., Baart, M., **Kapnoula**, E.C., & Molinaro, N. (Submitted). Hearing through lip-reading: Synthesis of silent speech in auditory cortices.
- Kapnoula**, E.C., & Samuel, A.G. (Submitted). Voices in the mental lexicon: Words carry indexical information that can affect access to their meaning.

Gussow, A., **Kapnoula**, E.C., & Molinaro, N. (In Preparation). Sentence context and grammatical gender shape the time-course of lexical prediction: Evidence from eye-movements.

Kapnoula, E.C., Edwards, J., & McMurray, B. (In Preparation). Gradient phoneme categorization is beneficial for listeners' recovery from lexical garden paths, but not for perception of speech-in-noise.

Other manuscripts

Kapnoula, E.C. (2016). *Individual differences in speech perception: Sources, functions, and consequences of phoneme categorization gradiency*. Dissertation submitted in partial fulfilment of the requirements for the Doctor of Philosophy degree in *Psychology* in the Graduate College of the University of Iowa. [pdf](#)

Kapnoula, E.C. (2013). *Not everything that competes means something: Evidence for competition among word-forms in a novel-word learning paradigm*. Thesis submitted in partial fulfilment of the requirements for the Master of Arts degree in *Psychology* in the Graduate College of the University of Iowa. [pdf](#)

Kapnoula, E.C. (2009). *The dual-route theory of visual word recognition and reading aloud: Evaluation of the DRC (Dual-Route Cascaded Model) using Greek behavioral data*. Thesis submitted in partial fulfilment of the requirements for the Master of Science degree in *Basic and Applied Cognitive Science*, National and Kapodistrian University of Athens. [pdf \(in Greek\)](#)

INVITED TALKS

Kapnoula, E.C. (2017). Is it a word yet? Discussing the definition of lexicality in the context of word learning. Invited talk at the *Workshop on Conversational Speech and Lexical Representations*, Radboud University, Nijmegen, The Netherlands.

Kapnoula, E.C. & McMurray, B. (2016). On the “what”s and the “how”s of word learning: From learning words to learning how to use them. Invited talk at the *Sound to Word in Bilingual and Second Language Speech Perception* conference, University of Iowa, Iowa City, IA, USA.

Kapnoula, E.C. & McMurray, B. (2015). Immediate integration of novel word forms: Evidence from eye movements. Invited talk in Weighall, A. (chair) Timescales of word learning: From immediate to long-term representations across development presented at the *Experimental Psychology Society Meeting*, Leeds, UK.

CONFERENCE PRESENTATIONS AND POSTERS

Sarrett, M., **Kapnoula**, E.C., & McMurray, B. (2018). Realtime integration of acoustic cues and semantic expectations in speech processing: Evidence from EEG. Poster to be presented at the *40th Annual Meeting of the Cognitive Science Society*, Madison, WI, USA.

- McMurray, B., **Kapnoula**, E.C., & Sarrett, M. (2017). Contextual influences on speech perception. Poster presentation at the *University of Iowa Neuroscience Research Day*, Iowa City, Iowa, USA.
- Kapnoula**, E.C., & Samuel. A.G. (2017). Talker's voice can affect word meaning: Evidence from eye movements. Poster presentation at the *58th Annual Meeting of the Psychonomic Society*, Vancouver, British Columbia, Canada.
- Kapnoula**, E.C., & Samuel. A.G. (2017). Information about the talker's voice can affect word meaning. Poster presentation at the *20th Conference of the European Society for Cognitive Psychology (ESCoP)*, Potsdam, Germany.
- Behroozmand, R., Herath, P., Johari, K., Kelley, E., **Kapnoula**, E.C., Bryant, K., Narayanan, N., Greenle, J. (2016). Effects of STN deep brain stimulation on voice motor control in Parkinson's disease. Poster presented at the *46th Annual Meeting of the Society for Neuroscience*, San Diego, CA.
- Kapnoula**, E.C., Edwards, J., & McMurray, B. (2016). Phoneme categorization gradiency is advantageous for coping with ambiguities: Evidence from individual differences. Poster presented at the *2nd Workshop on Psycholinguistic Approaches to Speech Recognition in Adverse Conditions*, Nijmegen, The Netherlands.
- Castelluccio, B., Canfield, A., Green, J., Hogstrom, A., **Kapnoula**, E.C., Edwards, J., McMurray, B., & Eigsti, I. (2016). Are there phonological consequences of auditory processing differences in autism spectrum disorder? Evidence from phonological categorization tasks. Poster presented at the *International Society for Autism Research* conference, Baltimore, MD, USA.
- Kapnoula**, E.C., Edwards, J., & McMurray, B. (2015). Gradient categorization of speech sounds helps listeners recover from lexical garden paths. Poster presented at the *14th Annual Auditory Perception, Cognition, and Action Meeting*, Chicago, IL, USA.
- Kapnoula**, E.C. & McMurray, B. (2014). Evidence for experience-based changes in inter-lexical inhibition. Poster presented at the *55th Annual Meeting of the Psychonomic Society*, Long Beach, CA, USA.
- Kapnoula**, E.C., Winn M., Kong, E., Edwards, J., & McMurray, B. (2014). Listeners differ in whether they perceive speech gradiently or categorically: Consequences for cue integration. Poster presented at the *55th Annual Meeting of the Psychonomic Society*, Long Beach, CA, USA.
- Kapnoula**, E.C., McMurray, B., Kong, E., Winn M., & Edwards, J. (2014). Individual differences in phoneme categorization. Oral presentation at the *19th Mid-Continental Phonetics & Phonology Conference*, Madison, WI, USA.
- Schreiber, K., **Kapnoula** E.C., & McMurray B. (2014). Lexical effects on early sensory processing reveals the role of top-down feedback in speech perception. Poster

presented at the *19th Mid-Continental Phonetics & Phonology Conference*, Madison, WI, USA.

Protopapas, A., Smyrnis, N., Karavassilis E., Orfanidou, E., **Kapnoula**, E.C., Fotiadis, F., & Soldatos, T. (2013). An fMRI study of Greek word and pseudoword processing in the brain. Oral presentation at the *14th Panhellenic Conference of Psychological Research*, Alexandroupoli, Greece.

Kapnoula, E.C., Packard, S., Apfelbaum, K., McMurray, B., & Gupta, P. (2012). Lexical integration without meaning or sleep. Poster presented at the *53rd Annual Meeting of the Psychonomic Society*, Minneapolis, MN, USA.

Kapnoula, E.C., Packard, S., Apfelbaum, K., McMurray, B., & Gupta, P. (2012). The young and the meaningless: Novel-word learning without meaning or sleep. Poster presented at the *164th Meeting of the Acoustical Society of America*, Kansas City, KS, USA.

Terkourafi, M., **Kapnoula**, E.C., Panagiotopoulou, P., & Protopapas, A. (2009). Analysis of the meaning of words expressing emotions in relation to their location in the four-dimensional conceptual space of emotion words. *12th Panhellenic Conference of Psychological Research*, Volos, Greece.

RESEARCH EXPERIENCE AND COLLABORATIONS

- 2018 – present **Juan de la Cierva-Formación Postdoctoral Fellow**
Spanish Ministry of Economy, Industry & Competitiveness
Host institution: Basque Center on Cognition, Brain and Language (BCBL), Spain
- 2016 – present **Postdoctoral Researcher**
Basque Center on Cognition, Brain and Language (BCBL), Spain
Group Leader: Dr. Arthur Samuel
- 2011 – 2016 **Doctoral Research Assistant** at the Mechanisms of Audio-Visual Categorization Lab
University of Iowa, U.S.A.
Supervisor: Dr. Bob McMurray
- 2010-2011 **Doctoral Research Assistant** at the Language and Memory Lab
University of Iowa, U.S.A.
Supervisor: Dr. Prahlad Gupta
- Fall 2009 **Visiting Research Assistant** at the Psycholinguistics Research Group
University of York, U.K.
Supervisor: Dr. Silvia Gennari
- 2007 – 2009 **Graduate Research Assistant** at the Language and Learning Lab
National and Kapodistrian University of Athens, Greece
Supervisor: Dr. Athanassios Protopapas

Past and ongoing collaborations

Dr. Jan Edwards, University of Maryland, U.S.A.
 Dr. Matthew Winn, University of Washington, U.S.A.
 Dr. Marina Terkourafi, University of Illinois at Urbana-Champaign, U.S.A.
 Dr. Nicola Molinaro, Basque Center on Cognition, Brain and Language, Spain
 Dr. Eun Jong Kong, Korea Aerospace University, Korea
 Dr. Roozbeh Behroozmand, University of South Carolina, U.S.A.
 Dr. Litsa Chemariou, University of Alabama, U.S.A.
 Dr. Boaz Ben-David, The Interdisciplinary Center (IDC) Herzliya, Israel

INDIVIDUAL GRANTS AND SCHOLARSHIPS

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| 2018 | Marie Skłodowska-Curie Individual Fellowship, European Union/European Commission (€170,121.60) |
| 2017 | Juan de la Cierva-Formación fellowship, Spanish Ministry of Economy, Industry & Competitiveness (€50,000) |
| 2015 | Graduate Student Senate Travel Funds Award, University of Iowa, U.S.A. (\$400) |
| 2015 | Travel Award, Dept. of Psychological and Brain Sciences, University of Iowa, U.S.A. (\$200) |
| 2010 – 2016 | Doctoral Tuition scholarship, Graduate College University of Iowa, U.S.A. (~\$26,660) |
| 2008 – 2009 | Graduate Tuition scholarship, Interdisciplinary Program of Graduate Studies in Basic and Applied Cognitive Science, University of Athens, Greece (€1,000) |
| 2006 | Erasmus study abroad scholarship (Univ. Koblenz-Landau, Germany), European Commission (€1,000) |

OTHER GRANTS

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| 2018-2020 | PSI2017-82563-P. Project I+D Plan Nacional. MINECO, Spanish government. (€97.968) Project title: <i>Control de la Adquisición Léxica: Percepción o Producción.</i> Principal investigator: Dr. Arthur Samuel Associated investigator: Dr. Efthymia Kapnoula |
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HONORS AND AWARDS

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| 2017 | Marie Skłodowska-Curie Actions Seal of Excellence, European Union/European Commission |
| 2016 | ESCoP Early Career Publication Award 2016, European Society for Cognitive Psychology (plus monetary award: €1,000) |
| 2016 | D.C. Spriestersbach Dissertation Prize (biennial award for best dissertation in Social Sciences), University of Iowa, U.S.A. (plus monetary award: \$2,500) |
| 2009 | Top of graduate class (valedictorian equivalent), University of Athens, Greece |

TEACHING EXPERIENCE

- 2017 – present Co-instructor at the Basque Center on Cognition, Brain and Language
Mental Lexicon (grad-level course – Master’s program in Cognitive Neuroscience of Language)
Duties: Responsible for all aspects of course
- Summer 2017 Led workshop on “*Using the visual world paradigm to study speech perception: Advanced analysis of eye-tracking data*” at the Interdisciplinary Center (IDC), Herzliya, Israel.
Duties: Intro to the VWP, hands-on instruction on Experiment Builder script modification and pre-processing/analysis of pilot data
- Spring 2014 Teaching Fellow at the University of Iowa
Mixed Effects Modeling in Psychology (grad-level course addressed to Psychology PhD students)
Duties: Assist with material preparation, teaching, grading, and administration, office hours
- Spring 2012 Teaching Assistant at the University of Iowa
Research Methods in Psychology (undergrad-level course)
Duties: Teaching, grading, and office hours
- Fall 2011 Head Teaching Assistant at the University of Iowa
Elementary Psychology (undergrad-level course)
Duties: Material preparation, teaching, office hours, assist with exam preparation, grading, and administration
- Summer 2011 Co-instructor at the University of Iowa
Elementary Psychology (undergrad-level course)
Duties: Responsible for all aspects of course (under professor’s supervision)
- Spring 2011 Head Teaching Assistant at the University of Iowa
Elementary Psychology (undergrad-level course)
Duties: Material preparation, teaching, office hours, assist with exam preparation, grading, and administration
- Fall 2010 Teaching Assistant at the University of Iowa
Elementary Psychology (undergrad-level course)
Duties: Assist with grading and administration

STUDENT SUPERVISION AND MENTORSHIP

- 2017-2018 Lindsay Williams, Master’s thesis co-supervised with Dr. Angela De Bruin
Master in Cognitive Neuroscience of Language, UPV, Spain
Topic: *Short-term modulation of cross-linguistic interactions*
- 2016-2017 Arella Gussow, Master’s thesis co-supervised with Dr. Nicola Molinaro
Master in Cognitive Neuroscience of Language, UPV, Spain
Topic: *Prediction in sentence processing*
- 2016-2017 Bonnie Zuckerman, Master’s thesis co-supervised with Dr. Nicola Molinaro
Master in Cognitive Neuroscience of Language, UPV, Spain
Topic: *Lexical competition across L1 and L2*

2013-present Trained several doctoral and master's students in eye-tracking and electrophysiological techniques (set up experiment & data analysis); trained several undergraduate students in collecting eye-tracking and EEG data

MASTER AND PHD COMMITTEE MEMBER

July 2017 Jordi Martorell Serra, Master in Cognitive Neuroscience of Language, UPV, Spain
July 2017 Aurore Zelazny, Master in Cognitive Neuroscience of Language, UPV, Spain
Sept. 2017 Ahmed Mohammed, Master in Cognitive Neuroscience of Language, UPV, Spain

MEMBERSHIP

DeLTA Center at the University of Iowa
European Society for Cognitive Psychology
Psychonomic Society

SERVICE

Ad Hoc Reviewer for: *Journal of Experimental Psychology: Human Perception and Performance; Language, Cognition and Neuroscience; Cognition; Attention, Perception, and Psychophysics; Journal of Memory and Language; Cognitive Science Society; Laboratory Phonology; Cognitive Science*

2013 – 2016 Judge at the 2013, 2014, and 2016 Spring Undergraduate Research Festival
Fall 2011 & Spring 2014 Reviewer at the DeLTA Center Interdisciplinary Research Grant Reviewing Committee
Spring 2013 Reviewer at the Executive Council of Graduate and Professional Students
• Professional Advancement Grants (ECGPS – PAGs) Research Grant reviewing process
• Professional Advancement Grants (ECGPS – PAGs) Travel Grant reviewing process
Fall 2011 Reviewer at the DeLTA Center Interdisciplinary Research Grant Reviewing Committee

OUTREACH

2018 Outreach Talk at the BCBL Brain Awareness Week (Semana del Cerebro)
Don't be so sure! The role of uncertainty in language comprehension
2017-2018 Organization committee member - BCBL Brain Awareness Week (Semana del Cerebro)
Brain Awareness Week - Society for Neuroscience and Dana Alliance for Brain Initiatives

TECHNICAL AND COMPUTER SKILLS

Experiment building packages: DMDX, Experiment Builder, E-Prime, Psychtoolbox, Presentation

Programming/markup languages: Matlab, HTML, some Python, some Visual Basic, some SQL
Text and data processing: Microsoft Office (Word, Excel, Access)
Audiovisual processing: Praat, Audacity, Adobe Photoshop, Abrosoft FantaMorph
Statistical analysis packages: SPSS, R
Eye-tracking: Eyelink II, Eyelink 1000, Eyelink 1000 Plus
Electrophysiological signal processing: EEGLAB, ERPLAB, BrainVision Analyzer

Methodological and technical expertise: eye-movement data analysis; curve-fitting of time-series and categorization data; mixed-effects modeling; EEG set-up and recording (in charge of setting up the BrainVision EEG system in the Psychology Dept. at the Univ. of Iowa, 2014)

LANGUAGES

Greek native speaker
English high proficiency (Certificate of Proficiency in English - University of Cambridge)
Spanish intermediate level
German basic level (Zertifikat Deutsch - Goethe Institute)

LICENCES AND CERTIFICATIONS

Licensed psychologist in Greece

University of Iowa *Safe Zone* ally (trained to promote support, affirmation, and inclusion of LGBTQ people)