

Evie A. Malaia

Curriculum Vitae

University of Alabama
145 Speech and Hearing Center
Tuscaloosa, AL 35487

Email: eamalaia@ua.edu

Academic Appointments

- 2018 – current Associate Professor
Department of Communicative Disorders, University of Alabama
Tuscaloosa, AL
Affiliations: Life Research Institute; Autism Research Cluster
- 2017 – 2018 Marie Curie Senior Fellow in Cognitive Neuroscience
Institute for Advanced Studies, Albert-Ludwigs-Universität Freiburg
Freiburg im Breisgau, Germany
- 2015 – 2016 EURIAS Junior Fellow in Cognitive Neuroscience
Netherlands Institute for Advanced Studies
Wassenaar, the Netherlands
- 2011 – 2015 Assistant Professor
Center for Mind, Brain, and Education
University of Texas at Arlington, TX
- 2010 – 2011 Assistant Scientist
Department of Psychological and Brain Sciences
Indiana University, IN
- 2005 – 2010 Research Scientist
Department of Speech, Language, and Hearing Sciences
Purdue University, IN

Education and Training

- 2001 - 2005 Ph.D., Linguistics, Purdue University, IN
1996 - 2001 BS/MS, Applied Linguistics, Chuvash State Pedagogical University, Russia

Grants and Awards

Current Research Support

NSF #1734938 (8/15/2017 – 8/15/2020)
Title: NCS-FO: Neuroimaging to Advance Computer Vision, NLP, and AI
Role: co-PI
Total amount: \$1,000,000

Past Research Support / Fellowships

Maria Curie COFUND Senior Fellowship (10/1/2017 – 7/31/2018)
Title: Role of visual and linguistic complexity in language development

EURIAS Junior Fellowship (10/1/2015 – 7/1/2016)

Title: Development of cross-frequency network analysis technique for EEG data

Total amount: ~€100,000

Association of Psychological Science

Title: EEG workshop in Eastern Europe

Role: PI

Total amount: \$5,000

NSF #1434973 (7/2/2014 – 8/4/2016)

Title: Collaboration, Advancement and Translation in Mind, Brain and Education

Role: PI

Total amount: \$25,741

Ralph E. Powe Faculty Enhancement Award (8/1/2013-8/1/2014)

Title: Network analysis of electrophysiological activity in ASD youths

Role: PI

Total amount: \$10,000

UT Arlington Research Enhancement Program Award

Title: Neural processing of visual emotional cues in Children on Autism Spectrum

Role: PI

Total amount: \$10,000

Awards and Honors

2018 Excellence in Research Award, Purdue University

2015 Award for Teaching and Public Understanding of Psychological Science

Association of Psychological Science

2015 National Certificate of Merit in Research Advising, NACADA

2015 Outstanding Academic Advisor Award, University of Texas at Arlington, USA

2013 Best Article of the Year, College of Education, University of Texas at Arlington

Publications

Citations: 400+, i10-index: 14; G-index: 18

(*indicates student/trainee co-author)

- 2018 Malaia, E., Wilbur, R.B. Visual and linguistic components of short-term memory: Generalized Neural Model (GNM) for spoken and sign languages. *Cortex*
Impact Factor: 4.279
- 2018 Borneman, J. D., Malaia E., Wilbur, R.B., Motion characterization using optical flow and fractal complexity. *Journal of Electronic Imaging*, in press.
Impact Factor: 1.061
- 2018 *Krebs, J., Malaia, E., Wilbur, R. B., & Roehm, D. Subject preference emerges as cross-modal strategy for linguistic processing. *Brain Research*, 1691, 105-117.

Impact Factor: 2.746

- 2017 Malaia, E. Methodologies for quantitative analysis of information transfer in sign language and gesture data (commentary). *Behavioral and Brain Sciences*. DOI: 10.1017/S0140525X15002988 Impact Factor (IF): 20.771
- 2017 Malaia, E., Borneman, J.D., Wilbur, R.B. Information transfer capacity of articulators in American Sign Language. *Language and Speech*. DOI: 10.1177/0023830917708461 Impact Factor (IF): 1.041
- 2017 Malaia, E., *Cockerham, D., *Rublein, K. Visual integration of fear and anger emotional cues by children on autism spectrum and neurotypical peers: an EEG study. *Neuropsychologia* DOI: 10.1016/j.neuropsychologia.2017.06.014 Impact Factor (IF): 2.989
- 2017 *Cockerham, D., Malaia, E. Neuroscience-supported approaches to teaching students on the autism spectrum. *Zeitschrift fur Psychologie, Special Issue on Educational Neuroscience*, 224 (4), 290-293. IF: 0.82
- 2016 Malaia, E., Borneman, J.D., Wilbur, R.B. Assessment of information content in visual signal: analysis of optical flow fractal complexity. *Visual Cognition*, 24(3), 246-251. IF: 1.433
- 2016 Malaia, E., *Bates, E., *Seitzman, B., *Coppess, K. Altered brain network dynamics in youths with Autism Spectrum Disorder. *Experimental Brain Research*, 234, 3425–3431. IF: 2.057
- 2015 Malaia, E., Newman, S. Neural bases of syntax-semantics interface processing. *Cognitive Neurodynamics*, 9(3), 317-329. IF: 2.159
- 2015 Malaia, E., Newman, S. Neural bases of event knowledge and syntax integration in comprehension of complex sentences. *Neurocase*, 21 (6), 753-766. IF: 1.225
- 2015 Malaia, E., Tommerdahl, J., *Mckee, F.W. Deductive and heuristic reasoning processing markers in EEG. *Journal of Psycholinguistic Research*, 44 (5), 533-544. IF: 0.722
- 2014 Malaia, E., Talavage, T., Wilbur, R.B. Functional connectivity in task-negative network of the Deaf: effects of sign language experience. *PeerJ*, doi: 10.7717/peerj.446. IF: 2.183
- 2014 Malaia, E. It Still Isn't Over: Event Boundaries in Language and Perception. *Language and Linguistics Compass*, 8(3), 89-98. IF: 0.747
- 2014 Newman, S., Malaia, E., & *Seo, R. Does degree of handedness in a group of right-handed individuals affect language comprehension? *Brain and Cognition*, 86, 98-103.

IF: 2.399

- 2013 Malaia, E., Wilbur, R.B., *Milković, M. Kinematic parameters of signed verbs at morpho-phonology interface. *Journal of Speech, Language, and Hearing Research*, 56 (5), 1-12. IF: 1.926
- 2013 Newman, S., Malaia, E., *Seo, R., Hu, C. The effect of individual differences in working memory capacity on sentence comprehension: an fMRI study. *Brain Topography*, 26(3), 458-67. IF: 3.727
- 2012 Malaia, E., *Ranaweera, R., Wilbur, R.B., Talavage, T.M. Event segmentation in a visual language: Neural bases of processing American Sign Language predicates. *Neuroimage*, 59(4), 4094-4101. IF: 6.357
- 2012 Malaia, E., Wilbur, R.B., Weber-Fox, C. Down the garden path in EEG: telicity effects on thematic role re-assignment in relative clauses with transitive verbs. *Journal of Psycholinguistic Research*, 41(5), 323-345. IF: 0.722
- 2012 Malaia, E., Wilbur, R.B. Motion capture signatures of telic and atelic events in ASL predicates. *Language and Speech*, 55(3), 407-421. IF: 0.895
- 2010 Malaia, E., Wilbur, R.B. Early Acquisition of Sign Language: What Neuroimaging Data Tell Us. *Sign Language and Linguistics*, 13(2), 189-193.
- 2010 Malaia, E., Wilbur, R.B. Sign Languages: Contribution to Neurolinguistics from Cross-modal Research (commentary). *Lingua*, 120 (12), 2704-2706. IF: 0.547
- 2009 Malaia, E., Wilbur, R., Weber-Fox, C. ERP evidence for telicity effects on syntactic processing in garden-path sentences. *Brain and Language*, 108(3), 145-158. IF: 3.038
- 2008 Wilbur, R., Malaia, E. Contributions of Sign Language research to gesture understanding: What can multimodal computational systems learn from Sign Language research. *International Journal of Semantic Computing*, 2(1), 5-20. IF: 0.393

Peer-reviewed chapters and conference proceedings

- 2018 Malaia, E., *Milković, M. Aspect – theoretical and experimental perspectives. In J. Quer, R. Pfau and A. Herrmann (eds.) *Routledge Handbook of Theoretical and Experimental Sign Language Research*.
- 2018 Wilbur, R.B., Malaia, E. A new technique for assessing narrative prosodic effects in sign languages. In A. Hübl & M. Steinbach (eds.), *Linguistic Foundations of Narration in Spoken and Sign Languages*, Amsterdam: John Benjamins.
- 2016 McDonald, J., Wolfe, R., Wilbur, R.B., Moncrief, R., Malaia, E., Fujimoto, S. et al. (2016) A new tool to facilitate prosodic analysis of motion capture data and a data-

- driven technique for the improvement of avatar motion. Proceedings of Language Resources and Evaluation Conference (LREC), pp. 153-159. Portorož, Slovenia.
- 2016 Malaia, E., *Egorova, E., *Hinesley, V. Developmental Characteristics of Gifted Children: Educational Approaches. In J. Horvath, J. Lodge, and J. Hattie (eds.) *From the Laboratory to the Classroom: Translating the Science of Learning for Teachers*, pp. 215-228. Routledge, UK.
- 2014 Malaia, E., Wilbur, R.B. Enhancement of spatial processing in sign language users. In D. R. Montello, K. E. Grossner, and D. G. Janelle (eds.), *Space in Mind: Concepts and Ontologies for Spatial Thinking*, pp. 159-171, MIT press.
- 2014 *Barbu, A., Barrett, D., Chen, W., *Siddarth, N., Xiong, C., Corso, J., Fellbaum, C., Hanson, C., Hanson, S., Helie, S., Malaia, E., Pearlmutter, B., Siskind, J., Talavage, T., Wilbur, R. (2014). Seeing is Worse than Believing: Reading People's Minds Better than Computer-Vision Methods Recognize Actions. In D. Fleet et al. (eds.) *European Conference on Computer Vision 2014, Lecture Notes in Computer Science*, pp. 612–627. Springer: Lausanne.
- 2014 Malaia, E., Gonzalez-Castillo, J., Weber-Fox, C., Talavage, T.M., Wilbur, R.B. Neural processing of verbal event structure: temporal and functional dissociation between telic and atelic verbs. In: Mandouilidou, C., de Ameid, R. (eds.) *Cognitive Science Perspectives on Verb Representation and Processing*, pp. 131 - 140. Springer: Lausanne.
- 2013 Malaia, E., Wilbur, R.B., Weber-Fox, C. Event end-point primes the Undergoer argument: a look at neurobiological bases of event structure. In Gehrke, B., Arsenijevic, B. (eds.) *Subatomic semantics of event predicates*, pp. 231-248. Springer: Studies in Linguistics and Philosophy.
- 2013 Newman, S. D., Malaia, E. The neural bases of intelligence: a perspective based on functional neuroimaging. In Plucker, J.A. & C. Callahan (eds.) *Critical Issues and Practices in Gifted Education: What the Research Says*, pp. 451-464. Prufrock Press.
- 2012 Malaia, E., Wilbur, R.B. Telicity expression in visual modality. In McNally, L. & Delmonte, V. (eds.) *Telicity, change, and state: A cross-categorial view of event structure*, pp. 122-136. Oxford: Oxford University Press.
- 2012 Malaia, E., Wilbur, R.B. What Sign Languages show: neurobiological bases of visual phonology. Di Sciullo, A.M. (ed.) *Towards a biolinguistic understanding of grammar: essays on interfaces*, pp. 265-275. John Benjamins Publishing.
- 2012 Wilbur, R., Malaia, E., Shay, R. Degree Modification and Intensification in American Sign Language Adjectives. In Aloni, M., Kimmelman, V., Roelofsen, F. (eds.) *Logic, Language and Meaning*, pp. 92-101. Springer: Berlin.

- 2010 Malaia, E., Wilbur, R.B. Representation of verbal event structure in sign languages. Bertinetto, P.M., Korhonen, A., Lenci, A., Melinger, A., Shulte im Walde, S., Villavicencio, A. (eds.) Proceedings of the Interdisciplinary workshop on verbs: The Identification and representation of verb features, pp. 165-170. Pisa, Italy.
- 2009 Malaia, E. Ontological representation of event structure across languages: the case of psych verbs. Proceedings of International Congress of Linguists CIL-2008, pp. 2727-2740. Seoul, Korea.
- 2008 Malaia, E., Wilbur, R.B. The biological bases of syntax-semantics interface in natural languages: cognitive modeling and empirical evidence. Samsonovich, A. V. (ed.) Biologically Inspired Cognitive Architectures: Papers from the AAAI Fall Symposium, 113-116. Menlo Park, CA: AAAI Press.
- 2008 Malaia, E., Wilbur, R., Talavage, T. Experimental evidence of event structure effects on ASL predicate production and neural processing. Proceedings of the 44th meeting of Chicago Linguistic Society, 44(2), 203-211.
- 2008 Malaia, E., Borneman, J., & Wilbur, R. B. Analysis of ASL Motion Capture Data towards Identification of Verb Type. In J. Bos & R. Delmonte (Eds.), Semantics in Text Processing. STEP 2008 Conference Proceedings, 155-164. College Publications.
- 2004 Malaia, E. Event structure and telicity in Russian: an event-based analysis for telicity puzzle in Slavic languages. Ohio State University Working Papers in Slavic Studies, Vol. 4, 87-98. Columbus, Ohio.

Recent Conference Presentations

*Krebs, J. Malaia, E., Roehm, D. (June 2018) Age of sign language acquisition affects processing of word order: EEG evidence. Poster presented at Formal and Experimental Advances in Sign language Theory (FEAST), Venice, Italy

Siskind, J, Wilbur, R.B., Malaia, E. (April 2018) Neuroimaging to advance computer vision, NLP, and AI. Poster presented at 4th annual Brain Initiative Investigators' Meeting, Bethesda, MD

Malaia, E. (April 2018) Interaction of language comprehension and working memory: Cross-sectional analysis. Talk presented at Language Comprehension Across the Lifespan workshop, Freiburg, Germany

Malaia, E., Borneman, J. D., Wilbur, R.B. (June 2017) Information transfer analysis in optical flow data. Poster presented at the Brain Dynamics on Multiple Scales - Paradigms, their Relations, and Integrated Approaches workshop, Max Planck, Institute for the Physics of Complex Systems, Dresden, Germany

Malaia, E. (October 2015) Binding during garden-path recovery. Experimental Psycholinguistics Conference, Madrid, Spain

Malaia, E., Borneman, J.D., Wilbur., R.B. (May 2015). How does a language-ready brain recognize language? Information transfer in sign language as measured by fractal complexity of motion. Functional and Experimental Approaches to Sign Language Theory (FEAST), Barcelona, Spain

Malaia, E. (October 2014). The tradeoffs in generalized vs. specific memory resources for spatial and linguistic processing. International Mind, Brain, and Education conference, Fort Worth, TX

Malaia, E. Borneman, J., Wilbur, R.B. (June 2014). Bioinformatic properties of sign language motion as indicated by fractal complexity of optical flow. Talk at 79th CSHL symposium on Quantitative Biology: Cognition. Cold Spring Harbor, NY

Malaia, E., *Bates, E.,* Coppers, J., (April 2014) Network dynamics in EEG of youths with Autism Spectrum Disorder. 16th Poster presented at International Neuroscience Winter Conference. Sölden, Austria

Malaia, E. (May 2014). Event representation and processing in sign language users cross-linguistically. Talk presented at 26th meeting of Association for Psychological Science, San Francisco, CA

*Perry, T., Malaia, E. (April 2014) Working Memory Intervention: A Reading Comprehension Approach. Poster presented at American Educational Research Association meeting, Philadelphia, PA

*Seitzman, B., *Bates, E., *Coppers, J., *Poelhios, J., Malaia, E. (November 2013). EEG time series analysis and functional connectivity network measures of typically developing and autism spectrum disorder youths. Poster presented at Cell symposia: the Networked Brain. San Diego, CA

Malaia, E., Borneman, J., Wilbur, R.B. (July 2013) Bioinformatic properties of sign language motion: fractal complexity of optical flow. Talk presented at at Workshop on Advances in Biolinguistics, 19th International Congress of Linguists, Geneva, Switzerland

Malaia, E., *Shannon, N., Newman, S.D. (July 2013) Cognitive effort during reading in late bilinguals: an EEG study. Poster presented at 19th International Congress of Linguists, Geneva, Switzerland.

Malaia, E., Wilbur, R.B. (June 2013) Functional connectivity for visual language processing. Poster at Theoretical Issues in Sign Language Research-11, University College London, London, UK

Malaia, E., Wilbur, R.B. (June 2013) Functional connectivity for visual language processing. Poster at Human Brain Mapping-2013 conference, Seattle, WA

*Cockerham, D., *Rublein, K., Malaia, E. (May 2013). Processing of face and body emotional cues in children with autism spectrum disorders. Poster presented at International Mind, Brain, and Education conference, Quito, Equador

Malaia, E., *Shannon, N., Newman, S.D. (April 2013) Easy as pie: reading in late English-Spanish bilinguals: an EEG study. Poster presented at Cognitive Neuroscience Society meeting, San Francisco, CA.

Wilbur, R.B., Malaia, E. (March 2013) A new technique for assessing narrative prosodic effects in sign languages. Talk presented at German Linguistics Society Workshop on Linguistic Foundations of Narration in Spoken and Sign Languages, Potsdam, Germany

Malaia, E., Tommerdahl, J., *Mckee, F.W. (April 2012) Deductive vs. heuristic reasoning markers in EEG. Poster presented at Association for Psychological Science 24th annual convention, Chicago, IL

Malaia, E., Newman, S.D. (May 2012) Noun animacy and verbal telicity jointly modulate sentence processing: an EEG study. Poster presented at Cognitive Neuroscience Society meeting, Chicago, IL

Malaia, E., Wilbur, R.B. (March 2012) A neural link between processing event boundaries and verb meaning. Poster presented at Experimental Studies in Sign Language Research workshop, Frankfurt-am-Main, Germany

Malaia, E., Newman, S.D. (November 2011) Telicity effect on event segmentation in sentence reading: fMRI study. Poster presented at Society for Neuroscience conference, Washington, D.C.

Malaia, E., Newman, S.D. (September 2011) Resource allocation effect on reading times: an animacy-telicity interaction study. Poster presented at Structuring the Argument: A Multidisciplinary Workshop on the Mental Representation of Verbal Argument Structure, Paris, France.

Malaia, E., *Ranaweera, R., Wilbur, R.B., Talavage, T.M. (June 2011) Default network in the Deaf: fMRI evidence for modality-specific adjustments. Poster presented at Human Brain Mapping 2011, Quebec City, Canada.

Malaia, E., Weber-Fox, C., Wilbur, R.B. (December 2010). Syntax-semantics interface effects in online processing of relative clauses. Talk presented at On Linguistic Interfaces II conference, Ulster, UK

Malaia, E., Weber-Fox, C., Wilbur, R.B. (December 2010). Verbal event structure affects thematic role processing: neurophysiological evidence relevant for theory of lexicon-syntax interface. Talk presented at Verb Meaning, Event Semantics and Argument Structure, Barcelona, Spain

Malaia, E., Wilbur, R.B. (October 2010). Experimental evidence from sign languages for a phonology-syntax-semantic interface. Talk presented at The Language Design conference, Montreal, Canada

Malaia, E., Wilbur, R.B. (September 2010). Event structure: from perception to sign language production, and back again. Presentation, Theoretical Issues in Sign Language Research-10, Purdue University, IN, USA

Chaired conference panels

- 2014 Event representation and processing. *Association for Psychological Science*, San Francisco, CA; May 22 - 25
- 2014 Memory and learning. *International Mind, Brain, and Education conference*, Fort Worth, TX; November 6 – 8

Invited Talks

July 2018	Department of Psychology, Albert-Ludwigs-Universität Freiburg
May 2018	Department of Cognitive Science, Albert-Ludwigs-Universität Freiburg
April 2018	Freiburg Institute for Advanced Studies, Germany
February 2018	Department of Psychology, IUPU Columbus, IN
December 2017	Department of Psychology, Union College, NY
September 2017	Department of Linguistics (ILN), University of Oslo, Norway
July 2017	Centre for Cognitive Neuroscience, University of Salzburg, Austria
June 2017	Department of Linguistics, University of Stuttgart, Germany
April 2017	Department of Psychology, Lancaster University, UK
November 2016	Psychology, Norwegian University of Science and Technology (NTNU)
December 2015	Department of Psychology, Ashoka University, India
November 2015	Department of Linguistics, University of Amsterdam, the Netherlands
June 2015	Max Planck Institute for Cognitive and Brain Sciences, Leipzig, Germany
June 2015	Linguistics, University of Potsdam, Germany
May 2015	Gallaudet University, Washington, DC
February 2015	Literacy and Second Language Studies, University of Cincinnati, OH
October 2014	Department of Communication Sciences, University of Mississippi
July 2014	Department of Linguistics, Petersburg State University, St. Petersburg, Russia
June 2014	Cold Spring Harbor Symposium on Quantitative Biology: Cognition, NY
July 2013	Department of Mathematics, Indiana University, Bloomington, IN
March 2013	Department of Second Language Studies, Indiana University, Bloomington
November 2012	Department of Applied Mathematics, Southern Methodist University, TX
May 2012	Linguistics Department, Indiana University Bloomington, IN
December 2011	Cognition and Brain Sciences Unit, University of Cambridge, Cambridge, UK
October 2011	Speech and Hearing Sciences, Indiana University, Bloomington, IN

Grant Panels

National Institutes of Health: Language and Communication Section

National Science Foundation: Division for Research on Learning

Department of Defense: NDSE Graduate Fellowship

Ad-hoc ReviewingJournals:

<i>Behavioral and Brain Sciences</i>	<i>Language, Cognition, and Neuroscience</i>
<i>Journal of Cognitive Neuroscience</i>	<i>Journal of Autism and Developmental Disorders</i>
<i>Human Brain Mapping</i>	<i>Journal of Speech, Language, and Hearing Research</i>
<i>Neuroimage</i>	<i>Biologically Inspired Cognitive Architectures</i>
<i>Psychonomic Bulletin & Review</i>	<i>International Journal of Disability, Development and Education</i>
<i>Brain and Language</i>	<i>Journal of Educational Psychology</i>
<i>Cognitive Neurodynamics</i>	<i>Sign Language and Linguistics</i>
<i>Language and Cognition</i>	
<i>Visual Cognition</i>	

Grant Agencies: *National Science Foundation; European Research Council; European Institutes for Advanced Study*

Teaching

Introduction to Neuroscience: Instructor, University of Texas at Arlington
(upper undergrad/grad lecture, avg rating: 4.9/5)

Experimental Design in Language Research: Instructor, University of Texas at Arlington
(grad seminar, avg rating: 4.9/5)

Service

College Research Advancement committee, UT Arlington (2013-2014)

Graduate Studies Committee for Mind, Brain, and Education, UT Arlington (2011-2015)

Student Awards committee, UT Arlington (2014-2015)

Outreach events for Center for Mind, Brain, and Education, UT Arlington; Department of Psychological and Brain Sciences, Indiana University; Sign Language and Linguistics Lab, Purdue University

Former Students / Trainees

Julia Krebs, Ph.D. (2014-2018); doctoral student

Currently: postdoctoral research associate, University of Salzburg, Austria

Amber Harris, Ph.D.; Department of Psychology, University of Texas at Arlington, USA

Currently: Assistant professor, Psychological Sciences, Tarleton State University, TX

Nathaniel Shannon (2010-2011); undergraduate researcher

Currently: graduate researcher, ELDEN lab, University of Alabama

Charles Bradley (2013 – 2018, Purdue University); research assistant