

CURRICULUM VITAE

NAME: Evelina (Ev) G. Fedorenko
 ADDRESS: Harvard Medical School / Massachusetts General Hospital
 Department of Psychiatry
 Athinoula A. Martinos Center for Biomedical Imaging
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 Charlestown, MA 02129
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POSITIONS:

01/14 – present *Assistant Professor*

Harvard Medical School / Massachusetts General Hospital
 Department of Psychiatry
 MGH/HST Athinoula A. Martinos Center for Biomedical Imaging
 Charlestown, MA

01/14 – present *Research Affiliate*
 07/11 – 12/13 *Research Scientist*
 09/07 – 06/11 *Postdoctoral Researcher*

Massachusetts Institute of Technology
 Department of Brain and Cognitive Sciences
 McGovern Institute for Brain Research
 Cambridge, MA

EDUCATION:

Massachusetts Institute of Technology (Cambridge, MA)
 09/02 – 08/07, PhD in Cognitive Science
 Advisors: Nancy Kanwisher, Edward Gibson; Committee: David Caplan, John Gabrieli and Ken Wexler
 Thesis title: *The nature of the working memory system underlying language processing and its relationship to the long-term memory system.*

Harvard University (Cambridge, MA)
 09/98 – 06/02, AB (Magna Cum Laude) in Linguistics/Psychology
 Advisor: Alfonso Caramazza

GRANT FUNDING:

Current:

- *The nature of the pragmatic impairment in autism spectrum disorders*
 Funding agency: The Simons Foundation via the Simons Center for the Social Brain at MIT
 Dates: Jan 2015 – Dec 2016
 Role: PI (Co-PI: Rebecca Saxe)
- *fMRI investigations of the functional architecture of the language system*
 Funding agency: NIH (NICHD)
 Pathway to Independence career development award (K99/R00)

Dates for the R00 phase: Feb 2014 – Mar 2017

Role: PI

- ***A Modern Approach to Compositional Knowledge Employment and Representation, Enhanced by Learning***
Funding agency: IARPA
Dates: Sept 2013 – Apr 2017
Role: Co-PI (PI: Francisco Pereira)
- ***Explaining the native-language listening advantage by charting neural response and perceptual adaptation across languages – but within individuals***
Funding agency: Australian Research Council (ARC)
Dates: Jan 2014 – Dec 2016
Role: Co-PI (PI: Anne Cutler)
- ***Translating the individualized functional connectome to surgical planning***
Funding agency: NIH, NINDS
Dates: Apr 2015 – Mar 2020
Role: Co-I (PI: Hesheng Liu)
- ***Cardiovascular, electrodermal, respiratory, gustatory, and pupillary response patterns to emotional stimuli in individuals with ASD***
Funding agency: The Simons Foundation via the Simons Center for the Social Brain at MIT
Dates: May 2016 (an equipment grant)
Role: PI (Co-PIs: Caroline Robertson, Olessia Jouravlev)

Pending:

- ***Functional reorganization of the language and domain-general multiple demand systems in aphasia***
Funding agency: NIH (type: R01)
Role: PI (2nd PI: Swathi Kiran, BU)
- ***Investigating the neural architecture of morpho-syntactic processing by cortical inhibition, neural recording and functional imaging***
Funding agency: NIH (type: R01)
Role: Co-I (PI: Ziv Williams, HMS)
- ***Collaborative research: The cognitive and neural mechanisms of computer programming in young children: storytelling or solving puzzles?***
Funding agency: NSF
Role: PI (2nd PI: Marina Bers, Tufts University)
- ***Learning with a damaged brain: Neural mechanisms of category learning in aphasia***
Funding agency: NIH (type: R21)
Role: Co-I (PI: Sofia Vallila Rohter, MGH-IHP)

Completed:

- ***Characterizing the cognitive and neural phenotypes of individuals with 16p11.2 deletions***
Funding agency: The Simons Foundation via the Simons Center for the Social Brain at MIT
Dates: Sept 2013 – Aug 2016
Role: Co-PI (PI: Nancy Kanwisher)
- ***Neural correlates of mental time travel: Evaluating the distinct modalities of prospection hypothesis***
Funding agency: The John Templeton Foundation
Dates: Oct 2014 – Aug 2016
Role: PI
- ***Brain regions for language and their anatomical connections in ASD***
(with Nancy Kanwisher and Rebecca Saxe)
Funding agency: The Simons Initiative on Autism and the Brain at MIT
Dates: 2012

- Role: Significant contributor (PIs: Nancy Kanwisher and Rebecca Saxe)
- ***fMRI investigations of the functional architecture of the language system***
Funding agency: National Institutes of Health, NICHD
Pathway to Independence career development award (K99/R00)
K99 phase: July 2009 – June 2011
Role: PI
 - ***Investigating the functional architecture of the language system using naturalistic stimuli***
Funding agency: MIT Health Science and Technology Martinos Catalyst Fund for Magnetic Resonance Imaging
Dates: 2010
Role: Co-PI (PI: Nancy Kanwisher)

ACADEMIC HONORS AND FELLOWSHIPS:

- U.S. Kavli Fellow, 2014, 2015.
- Summer Institute on Developmental Neuroscience at UMD, June 2012.
- Freiburg Institute for Advanced Studies (FRIAS) Visiting Fellow, November 2009.
- Recipient of the Best Article of the Year Award from the Psychonomic Society for “Structural integration in language and music: Evidence for a shared system”, 2009.
- Singleton Fellowship (MIT), 2006-2007.
- Summer Institute in Cognitive Neuroscience at Dartmouth College, summer 2006.
- Summer Institute of the Vivian Smith Advanced Studies Institute of the International Neuropsychological Society in Xylocastro, Greece, summer 2004.
- Presidential Fellowship (MIT), 2002-2003.

JOURNAL PUBLICATIONS (in reverse chronological order):

Google Scholar statistics as of November 6, 2016:
total: 2,538; h-index: 26; i10-index: 36

My primary line of work – investigations of the brain basis of language:

- Fedorenko, E.**, Scott, T., Brunner, P., Coon, W.G., Pritchett, B., Schalk, G. & Kanwisher, N. (2016). A neural correlate of the construction of sentence meaning. *PNAS*, 113(41), E6256-E6262. DOI: 10.1073/pnas.1612132113 PMID: 27671642, PMCID: PMC5068329
- Chai, L., Mattar, M., Blank, I., **Fedorenko, E.** & Bassett, D. (2016). Functional Network Dynamics of the Language System. *Cerebral Cortex*. DOI: 10.1093/cercor/bhw238 PMID: 27550868, PMCID: PMC5066829
- Jouravlev, O., Stearns, L., Bergen, L., Eddy, M., Gibson, E. & **Fedorenko, E.** (2016). Processing Temporal Presuppositions: an ERP study. *Language, Cognition & Neuroscience*, 31(10), 1245-1256. DOI: 10.1080/23273798.2016.1209531 PMID: NA, PMCID: NA
- Mahowald, K. & **Fedorenko, E.** (2016). Reliable individual-level neural markers of language activity: A necessary precursor for relating neural variability to genetic and behavioral variability. *NeuroImage*, 139, 74-93. DOI: 10.1016/j.neuroimage.2016.05.073 PMID: 27261158, PMCID: NA
- Scott, T., Gallée, J. & **Fedorenko, E.** (2016). A new fun and robust version of an fMRI localizer for the fronto-temporal language system. *Cognitive Neuroscience*. DOI: 10.1080/17588928.2016.1201466 PMID: 27386919, PMCID: NA
- Fedorenko, E.** & Varley, R. (2016). Language and thought are not the same thing: Evidence from neuroimaging and neurological patients. *Annals of the NY Academy of Sciences*, 1369(1), 132-153. DOI: 10.1111/nyas.13046 PMID: 27096882, PMCID: PMC4874898

- Blank, I., Balewski, Z., Mahowald, K. & **Fedorenko, E.** (2016). Syntactic processing is distributed across the language system. *Neuroimage*, 127, 307-323. DOI: 10.1016/j.neuroimage.2015.11.069 PMID: 26666896, PMCID: PMC4755877
- Gibson, E., Sandberg, C., Bergen, L., **Fedorenko, E.** & Kiran, S. (2015). A rational inference approach to aphasic language comprehension. *Aphasiology*. DOI: 10.1080/02687038.2015.1111994 PMID: NA, PMCID: NA
- Fedorenko, E.**, Morgan, A., Murray, E., Cardinaux, A., Mei, C., Tager-Flusberg, H., Fisher, S. & Kanwisher, N. (2015). A highly penetrant form of childhood apraxia of speech due to deletion of 16p11.2. *European Journal of Human Genetics*. DOI: 10.1038/ejhg.2015.149 PMID: 26763793, PMCID: PMC4717201
- Fedorenko, E.**, Fillmore, P., Smith, K., Bonilha, L. & Fridriksson, J. (2015). The superior precentral gyrus of the insula does not appear to be functionally specialized for articulation. *Journal of Neurophysiology*, 113(7), 2376-2382. DOI: 10.1152/jn.00214.2014 PMID: 25632073, PMCID: PMC4416598
- Fedorenko, E.**, Hsieh, P.-J. & Balewski, Z. (2015). A possible functional localizer for identifying brain regions sensitive to sentence-level prosody. *Language, Cognition and Neuroscience (formerly Language and Cognitive Processes)*, 30(1-2), 120-148. DOI: 10.1080/01690965.2013.861917 PMID: 25642425, PMCID: PMC4306436
- Fedorenko, E.** (2014). The role of domain-general cognitive control in language comprehension. *Frontiers in Psychology*, 5:335. DOI: 10.3389/fpsyg.2014.00335 PMID: 24803909, PMCID: PMC4009428
- Fedorenko, E.** & Thompson-Schill, S.L. (2014). Reworking the language network. *Trends in Cognitive Sciences*, 18(3), 120-126. DOI: 10.1016/j.tics.2013.12.006 PMID: 24440115, PMCID: PMC4091770
- Blank, I., Kanwisher, N. & **Fedorenko, E.** (2014). A functional dissociation between language and multiple-demand systems revealed in patterns of BOLD signal fluctuations. *Journal of Neurophysiology*, 112(5), 1105-1118. DOI: 10.1152/jn.00884.2013 PMID: 24872535, PMCID: PMC4122731
- Fedorenko, E.**, Duncan, J. & Kanwisher, N. (2013). Broad domain-generality in focal regions of frontal and parietal cortex. *PNAS*, 110(41), 16616-16621. DOI: 10.1073/pnas.1315235110 PMID: 24062451, PMCID: PMC3799302
- Fedorenko E.**, McDermott, J., Norman-Haignere, S. & Kanwisher, N. (2012). Sensitivity to musical structure in the human brain. *Journal of Neurophysiology*, 108(12), 3289-3300. DOI: 10.1152/jn.00209.2012 PMID: 23019005, PMCID: PMC3544885
- Fedorenko, E.**, Duncan, J. & Kanwisher, N. (2012). Language-selective and domain-general regions lie side by side within Broca's area. *Current Biology*, 22(21), 2059-2062. DOI: 10.1016/j.cub.2012.09.011 PMID: 23063434, PMCID: PMC3494832
- Nieto-Castañón, A. & **Fedorenko, E.** (2012). Subject-specific functional localizers increase sensitivity and functional resolution of multi-subject analyses. *NeuroImage*, 63(3), 1646-1669. DOI: 10.1016/j.neuroimage.2012.06.065 PMID: 22784644, PMCID: PMC3477490
- Julian, J., **Fedorenko, E.**, Webster, J. & Kanwisher, N. (2012). An algorithmic method for functionally defining regions of interest in the ventral visual pathway. *NeuroImage*, 60(4), 2357-2364. DOI: 10.1016/j.neuroimage.2012.02.055 PMID: 22398396, PMCID: NA
- Fedorenko, E.**, Nieto-Castañón, A. & Kanwisher, N. (2012). Lexical and syntactic representations in the brain: An fMRI investigation with multi-voxel pattern analyses. *Neuropsychologia*, 50(4), 499-513. DOI: 10.1016/j.neuropsychologia.2011.09.014 PMID: 21945850, PMCID: PMC3292791
- Fedorenko, E.**, Nieto-Castañón, A. & Kanwisher, N. (2012). Syntactic processing in the human brain: What we know, what we don't know, and a suggestion for how to proceed. *Brain and Language*, 120(2), 187-207. DOI: 10.1016/j.bandl.2011.01.001 PMID: 21334056, PMCID: PMC3108014
- Fedorenko, E.**, Behr, M. & Kanwisher, N. (2011). Functional specificity for high-level linguistic processing in the human brain. *PNAS*, 108(39), 16428-16433. DOI: 10.1073/pnas.1112937108 PMID: 21885736, PMCID: PMC3182706
- Bedny, M., Pascual-Leone, A., Dodell-Feder, D., **Fedorenko, E.** & Saxe, R. (2011). Language processing in the occipital cortex of congenitally blind adults. *PNAS*, 108(11), 4429-4434. DOI: 10.1073/pnas.1014818108 PMID: 21368161, PMCID: PMC3060248
- Fedorenko, E.** & Kanwisher, N. (2011). Some regions within Broca's area *do* respond more strongly to sentences than to linguistically degraded stimuli: A comment on Rogalsky & Hickok (2010). *Journal of*

- Cognitive Neuroscience*, 23(10), 2632-2635. DOI: 10.1162/jocn_a_00043 PMID: NA, PMCID: NA
- Fedorenko, E.** & Kanwisher, N. (2011). Functionally localizing language-sensitive regions in individual subjects with fMRI: A reply to Grodzinsky's critique of Fedorenko & Kanwisher (2009). *Language and Linguistics Compass*, 5(2), 78-94. DOI: 10.1111/j.1749-818X.2010.00264.x PMID: NA, PMCID: NA
- Fedorenko, E.**, Hsieh, P.-J., Nieto-Castañon, A., Whitfield-Gabrieli, S. & Kanwisher, N. (2010). A new method for fMRI investigations of language: Defining ROIs functionally in individual subjects. *Journal of Neurophysiology*, 104(2), 1177-1194. DOI: 10.1152/jn.00032.2010 PMID: 20410363, PMCID: PMC2934923
- Fedorenko, E.** & Kanwisher, N. (2009). Neuroimaging of language: Why hasn't a clearer picture emerged? *Language and Linguistics Compass*, 3, 839-865. DOI: 10.1111/j.1749-818X.2009.00143.x PMID: NA, PMCID: NA

My secondary line of work – behavioral investigations of language processing:

In press:

- Piantadosi, S. & **Fedorenko, E.** (in press). Infinitely productive language can arise from chance under communicative pressure. *Journal of Language Evolution*.
- Singh, R., **Fedorenko, E.**, Mahowald, K. & Gibson, E. (2015). Accommodating presuppositions is inappropriate in implausible contexts. *Cognitive Science*. DOI: 10.1111/cogs.12260 PMID: 26153044
- Scontras, G., Badecker, W., Shank, L., Lim, E. & **Fedorenko, E.** (2015). Syntactic complexity effects in sentence production. *Cognitive Science*, 39(3), 559-583. DOI: 10.1111/cogs.12168 PMID: 25256303
- Grosz, P., Patel-Grosz, P., **Fedorenko, E.** & Gibson, E. (2014). Constraints on Donkey pronouns. *Journal of Semantics*. DOI: 10.1093/jos/ffu009
- Gibson, E., Jacobson, P., Graff, P., Mahowald, K., **Fedorenko, E.** & Piantadosi, S. (2014). A pragmatic account of complexity in definite Antecedent-Contained-Deletion relative clauses. *Journal of Semantics*. DOI: 10.1093/jos/ffu006
- Gibson, E., Piantadosi, S. & **Fedorenko, E.** (2013). Quantitative methods in syntax / semantics research: A response to Sprouse & Almeida (2013). *Language and Cognitive Processes*, 28(3), 229-240. DOI: 10.1080/01690965.2012.704385
- Gibson, E. & **Fedorenko, E.** (2013). The need for quantitative methods in syntax and semantics research. *Language and Cognitive Processes*, 28(1-2), 88-124. DOI: 10.1080/01690965.2010.515080
- Levy, R., **Fedorenko, E.** & Gibson, E. (2013). The syntactic complexity of Russian relative clauses. *Journal of Memory and Language*, 69(4), 461-495. DOI: 10.1016/j.jml.2012.10.005 PMID: 24711687, PMCID: PMC3975271
- Perrachione, T., **Fedorenko, E.**, Vinke, L., Gibson, E. & Dilley, L. (2013). Pitch processing is shared between language and music. *PLoS ONE*, 8(8): e73372. DOI: 10.1371/journal.pone.0073372 PMID: 23977386, PMCID: PMC3744486
- Fedorenko, E.**, Woodbury, R. & Gibson, E. (2013). Direct evidence of memory retrieval as a source of difficulty in long-distance structural dependencies in language. *Cognitive Science*, 37(2), 378-394. DOI: 10.1111/cogs.12021 PMID: 23362990
- Mahowald, K., **Fedorenko, E.**, Piantadosi, S. & Gibson, E. (2013). Info/information theory: speakers choose shorter words in predictive contexts. *Cognition*, 126(2), 313-318. DOI: 10.1016/j.cognition.2012.09.010 PMID: 23116925
- Fedorenko, E.**, Piantadosi, S. & Gibson, E. (2012). The interaction of syntactic and lexical information sources in language processing: The case of the noun-verb ambiguity. *Journal of Cognitive Science*, 13(3), 249-285.
- Levy, R., **Fedorenko, E.**, Breen, M. & Gibson, E. (2012). The processing of extraposed structures in English. *Cognition*, 122(1), 12-36. DOI: 10.1016/j.cognition.2011.07.012 PMID: 22035959, PMCID: PMC3857735
- Frank, M., **Fedorenko, E.**, Lai, P., Saxe, R. & Gibson, E. (2012). Verbal interference suppresses exact numerical representation. *Cognitive Psychology*, 64(1-2), 74-92. DOI: 10.1016/j.cogpsych.2011.10.004 PMID: 22112644

- Fedorenko, E.**, Piantadosi, S. & Gibson, E. (2012). Processing relative clauses in supportive contexts. *Cognitive Science*, 36(3), 471-497. DOI: 10.1111/j.1551-6709.2011.01217.x PMID: 22256956
- Breen, M., **Fedorenko, E.**, Wagner, M. & Gibson, E. (2010). Acoustic correlates of information structure. *Language and Cognitive Processes*, 25(7/8/9), 1044-1098. DOI: 10.1080/01690965.2010.504378
- Gibson, E. & **Fedorenko, E.** (2010). Weak quantitative standards in linguistics research. *Trends in Cognitive Sciences*, 14(6), 233-234. DOI: 10.1016/j.tics.2010.03.005 PMID: 20363175
- Tily, H., **Fedorenko, E.** & Gibson, E. (2010). The time-course of lexical and structural processes in sentence comprehension. *Quarterly Journal of Experimental Psychology*, 63(5), 910-927. DOI: 10.1080/17470210903114866 PMID: 19746299
- Fedorenko, E.** & Gibson, E. (2010). Adding a third wh-element does not increase the acceptability of object-initial multiple-wh questions. *Syntax*, 13(3), 183-195.
- Fedorenko, E.**, Patel, A., Casasanto, D., Winawer, J. & Gibson, E. (2009). Structural integration in language and music: Evidence for a shared system. *Memory and Cognition*, 37(1), 1-9. DOI: 10.3758/MC.37.1.1 PMID: 19103970 (*Recipient of the Best Article of the Year Award from the Psychonomic Society*)
- Frank, M., Everett, D., **Fedorenko, E.** & Gibson, E. (2008). Number as a cognitive technology: Evidence from Pirahã language and cognition. *Cognition*, 108(3), 819-824. DOI: 10.1016/j.cognition.2008.04.007 PMID: 18547557
- Fedorenko, E.**, Gibson, E. & Rohde, D. (2007). The nature of working memory in linguistic, arithmetic and spatial integration processes. *Journal of Memory and Language*, 56(2), 246-69. DOI: 10.1016/j.jml.2006.06.007
- Fedorenko, E.**, Gibson, E. & Rohde, D. (2006). The nature of working memory capacity in sentence comprehension: Evidence against domain-specific resources. *Journal of Memory and Language*, 54(4), 541-53. DOI: 10.1016/j.jml.2005.12.006
- Costa, A., Kovacic, D., **Fedorenko, E.** & Caramazza, A. (2003). The gender congruency effect and the selection of freestanding and bound morphemes: Evidence from Croatian. *Journal of Experimental Psychology: LMC*, 29(6), 1270-82. PMID: 14622060

OTHER PUBLICATIONS (Conference proceedings, book chapters, etc.):

- Gibson, E., Tily, H. & **Fedorenko, E.** (2014). The processing complexity of English relative clauses. In Sanz, Laka & Tanenhaus (Eds.), *Language down the garden path: The cognitive and biological basis for linguistic structure*. Oxford University Press.
- Troyer, M., O'Donnell, T., **Fedorenko, E.** & Gibson, E. (2011). Storage and computation in syntax: Evidence from relative clause priming. *33rd Annual Meeting of Cognitive Science Society Proceedings*.
- Frank, M., **Fedorenko, E.** & Gibson, E. (2008). Language as a cognitive technology: English-speakers match like Pirahã when you don't let them count. *30th Annual Meeting of Cognitive Science Society Proceedings*. (*Recipient of the Marr Prize*)
- Fedorenko, E.**, Gibson, E. & Rohde, D. (2004). Verbal working memory in sentence comprehension. *26th Annual Meeting of Cognitive Science Society Proceedings*.
- Fedorenko, E.**, Babyonyshev, M. & Gibson, E. (2004). The nature of case interference in online sentence processing in Russian. *NELS 34 Conference Proceedings*.
- Jones, D., Wolf, F., Gibson, E., Williams, E., **Fedorenko, E.**, Reynolds, D. & Zissman, M. (2003). Measuring the readability of automatic speech-to-text transcripts. *Proceedings of Eurospeech*.

SELECTED MANUSCRIPTS IN PROGRESS (in alphabetical order):

Submitted or in revision:

- Anzelotti, S., **Fedorenko, E.**, Caramazza, A. & Saxe, R. Measuring and Modeling Transformations of Information Between Brain Regions with fMRI.
- Basilakos, A., Smith, K., Fillmore, P., Fridriksson, J. & **Fedorenko, E.** Functional characterization of the human speech articulation network.

- Jouravlev, O., Zheng, D., Balewski, Z., Goldin-Meadow, S. & **Fedorenko, E.** Gesture processing does not engage high-level language processing brain regions.
- Blank, I. & **Fedorenko, E.** Close tracking of linguistic input by language-selective brain regions but not domain-general regions.
- Blank, I., Duff, M., Brown-Schmidt, S. & **Fedorenko, E.** Expanding the language network: Hippocampal recruitment during high-level linguistic processing.
- Fedorenko, E.**, Stearns, L., Bergen, L., Eddy, M. & Gibson, E. The P600 ERP component indexes rational error correction within a noisy-channel model of human communication.
- Jouravlev, O., Mahowald, K., Paunov, A., Gibson, E. & **Fedorenko, E.** Evaluation of the Internal Consistency and Convergent Validity for Three Popular Measures Of Social Competence.
- Kline, M., Gallee, J., Balewski, Z. & **Fedorenko, E.** Understanding jokes relies on the Theory of Mind system.
- Woolgar, A., Duncan, J. & **Fedorenko, E.** The multiple-demand, but not language, system supports fluid intelligence.

INVITED TALKS (in reverse chronological order):

- Linguistic complexity: The contributions of language-specific vs. domain-general mechanisms.* Brain and Language Research Institute, LPL-CNRS & Universite d'Aix-Marseille (Aix-en-Provence, France). July 2016.
- The language system and its place within the broader architecture of the human mind and brain.* Bogazici University (Istanbul, Turkey). June 2016.
- The language system and its place within the broader architecture of the human mind and brain.* University College London (London, U.K.). May 2016.
- The language system and its place within the broader architecture of the human mind and brain.* Psycholinguistics in Flanders, PiF (Antwerp, Belgium). May 2016.
- The language system and its place within the broader architecture of the human mind and brain.* University of Barcelona (Barcelona, Spain). May 2016.
- The language system and its place within the broader architecture of the human mind and brain.* University of Iowa (Iowa City, IA). April 2016.
- Evolution of the human language system.* EvoLang Conference plenary debate (New Orleans, LA). March 2016.
- The language network and its place within the broader architecture of the human mind and brain.* Brown University, Department of Cognitive, Linguistic and Psychological Sciences. November 2015.
- The neurobiological basis of language.* Center for Cognition and Decision Making, National Research University, Higher School of Economics (Moscow, Russia). September 2015.
- The language network and its place within the broader architecture of the human mind and brain.* A FENS-Lundbeck Foundation Brain Conference, "Bridging neural mechanisms and cognition" (Rungstedgaard, Denmark). April 2015.
- The language network and its place within the broader architecture of the human mind and brain.* University of Delaware (Newark, DE). March 2015.
- Specialization for language in the human brain.* Center for Academic Research & Training in Anthropogeny (CARTA) symposium "How Language Evolves". February 2015.
- The language network and its place within the broader architecture of the human mind and brain.* Schultink lecture at the LOT Winter School. January 2015.
- The language network and its place within the broader architecture of the human mind and brain.* Bangor University, CogNeuro Colloquium (Bangor, Wales). December 2014.
- The language network and its place within the broader architecture of the human mind and brain.* Harvard University, Language Workshop (Cambridge, MA). December 2014.
- [DECLINED TALK INVITATIONS FROM ~ JAN THROUGH SEPT 2014 DUE AN ILLNESS IN THE FAMILY]
- A novel framework for a neural architecture of language.* California Institute of Technology (Los Angeles, CA). August 2013.
- A novel framework for a neural architecture of language.* Children's Hospital (Boston, MA). June 2013.

- A novel framework for a neural architecture of language.* Massachusetts General Hospital (Boston, MA). May 2013.
- Syntactic processing in language and music: Existence of overlapping circuits does not imply lack of specialized ones.* International Laboratory for Brain, Music, and Sound Research. University of Montreal (Montreal, Canada). April 2013.
- A novel framework for a neural architecture of language.* University of the Pittsburgh (Pittsburgh, PA). April 2013.
- A novel framework for a neural architecture of language.* McMaster University (Hamilton, Canada). March 2013.
- Domain-specific vs. domain-general mechanisms in language learning and processing.* The 26th CUNY Conference on Human Sentence Processing at USC (Columbia, SC). March 2013.
- A novel framework for a neural architecture of language.* Universite Paris Descartes, L'Institut de Psychologie (Paris, France). December 2012.
- A novel framework for a neural architecture of language.* University of Lyon (Lyon, France). December 2012.
- A novel framework for a neural architecture of language.* University of Potsdam (Potsdam, Germany). December 2012.
- A novel framework for a neural architecture of language.* CNRS and Aix-Marseille Universite (Marseille, France). November 2012.
- Individual subject analyses increase the sensitivity and functional resolution of fMRI analyses.* Radbound University / Donders Institute for Brain, Cognition and Behavior (Nijmegen, Netherlands). October 2012.
- Syntactic processing in language and music: Existence of overlapping circuits does not imply lack of specialized ones.* International Workshop "Language, Music and Cognition – LMC". University of Cologne (Cologne, Germany). September 2012.
- A novel framework for a neural architecture of language.* Max Planck Institute for Psycholinguistics, Colloquium (Nijmegen, Netherlands). September 2012.
- A novel framework for a neural architecture of language.* SUNY Buffalo, Psychology Department colloquium (Buffalo, NY). September 2012.
- A novel framework for a neural architecture of language.* Haskins Labs (New Haven, CT). May 2012.
- A novel framework for a neural architecture of language.* Princeton University, Program in Linguistics (Princeton, NJ). October 2011.
- A novel framework for a neural architecture of language.* Max Planck Institute for Human Cognitive and Brain Sciences (Leipzig, Germany). October 2011.
- Subject-specific functional localizers in fMRI studies of cognition.* Max Planck Institute for Human Cognitive and Brain Sciences (Leipzig, Germany). October 2011.
- The power of individual subject analyses in investigating the functional architecture of the language system.* Tufts University CBS lecture series (Medford, MA). March 2011.
- The power of individual subject analyses in investigating the functional architecture of the language system.* University of South Carolina colloquium (Columbia, SC). February 2011.
- The power of individual subject analyses in investigating the functional specificity of language-sensitive brain regions.* Northeastern University, Language and Cognition Area Meeting (Boston, MA). October 2010.
- The power of individual subject analyses in investigating the functional specificity of language-sensitive brain regions.* Harvard University, Cognition, Brain & Behavior Research Seminar (Cambridge, MA). October 2010.
- Functionally defining language-sensitive regions in individual subjects: A new way to study the language system and its relationship to the rest of cognition.* Dartmouth College, Cognitive Brown Bag talk series (Hanover, NH). May 2010.
- Functional localization in the domain of language: A new take on the questions of functional specificity.* Ghent University, Psychology Department (Ghent, Belgium). December 2009.
- Functional localization in the domain of language: A new take on the questions of functional specificity.* Universite Paris Descartes, L'Institut de Psychologie (Paris, France). November 2009.
- Functional localization in the domain of language: A new take on the questions of functional specificity.* Center for Cognitive Science, University of Freiburg (Freiburg, Germany). November 2009.

The nature of working memory resources underlying language processing. Center for Research on Language, Mind and Brain Distinguished Lecture Series, McGill University (Montreal, Canada). February 2009.

Working memory in language processing and other cognitive processes. A special colloquium, sponsored jointly by the Symbolic Systems Programs, the Department of Linguistics and SPLAT (Speech and Language Tea), Stanford University (Stanford, CA). March 2006.

OTHER TALKS:

The neural architecture of language and executive functions in adults with autism spectrum disorders.

Workshop at the Simons Center for the Social Brain at MIT. (Cambridge, MA). September 2013

A novel framework for a neural architecture of language. Stanford University, Vision Lunch Series (Palo Alto, CA). May 2013.

A novel framework for a neural architecture of language. INSERM-CEA Cognitive Neuroimaging Unit, Neurospin (Paris, France). October 2012.

A novel framework for a neural architecture of language. University of Oregon (Eugene, OR). January 2012.

The power of individual subject analyses in investigating the functional specificity of language-sensitive brain regions. MRC Cognition and Brain Sciences Unit, Cambridge University, Attention Group Meeting (Cambridge, U.K.). November 2010.

The power of individual subject analyses in investigating the functional specificity of language-sensitive brain regions. INSERM-CEA Cognitive Neuroimaging Unit, Neurospin (Paris, France). November 2010.

The power of individual subject analyses in investigating the functional architecture of the language system. New York University Cognition and Perception area seminar (New York, NY). March 2011.

Functional localization in the domain of language: A new take on the questions of functional specificity. McGovern Institute for Brain Research Retreat (Cambridge, MA). June 2009.

CONFERENCE PRESENTATIONS:

Oral presentations (in reverse chronological order):

Blank, I., Vallila, S., Kiran, S. & Fedorenko, E. *Functional reorganization of the large-scale brain networks that support high-level cognition following brain damage in aphasia.* The Neurobiology of Language Conference, London, U.K., August 2016.

Blank, I., Vallila, S., Kiran, S. & Fedorenko, E. *Functional reorganization of the large-scale brain networks that support high-level cognition following brain damage in aphasia.* Academy of Aphasia 53rd annual meeting, Tucson, AZ, October 2015.

Vallila, S., Blank, I., Fedorenko, E. & Kiran, S. *Neural correlates of recovery and rehabilitation.* Academy of Aphasia 53rd annual meeting, Tucson, AZ, October 2015.

Blank, I. & Fedorenko, E. *Inter-subject correlations of cortical activity during natural language processing in language-selective regions but not working-memory regions.* The 28th CUNY Conference on Human Sentence Processing, Los Angeles, CA, March 2015. (**Recipient of the Katz award for best student presentation.**)

Fedorenko, E., McDermott, J. & Varley, R. *The language system is not required for processing musical structure.* Society for Neuroscience Annual Meeting, Washington DC, November 2014.

Fedorenko, E., Gallée, J. & Balewski, Z. *The cognitive and neural basis of pragmatic processing: A case study of jokes.* AMLaP, Edinburgh, Scotland, September 2014.

Fedorenko, E., Gallée, J. & Balewski, Z. *The cognitive and neural basis of pragmatic processing: A case study of jokes.* The Neurobiology of Language Conference, Amsterdam, Netherlands, August 2014.

Gibson, E., Sandberg, C., Fedorenko, E. & Kiran, S. *A rational inference approach to aphasic language comprehension.* The 26th CUNY Conference on Human Sentence Processing, Columbia, SC, March 2013.

Gibson, E., Stearns, L., Bergen, L., Eddy, M. & Fedorenko, E. *The P600 indexes rational error correction within a noisy-channel model of human communication.* The 26th CUNY Conference on Human Sentence Processing, Columbia, SC, March 2013.

- Fedorenko, E. & Kanwisher, N. *Grammatical knowledge vs. syntactic processing in the human brain*. The 25th CUNY Conference on Human Sentence Processing, New York NY, March 2012.
- Fedorenko, E. & Hsieh, P.-J. *A functional localizer for identifying brain regions engaged in prosodic processing in individual subjects*. Experimental and Theoretical Advances in Prosody, Montreal, Canada, September 2011.
- Fedorenko, E. & Kanwisher, N. *Functional heterogeneity within Broca's area*. AMLaP, Paris France, September 2011.
- Levy, R., Fedorenko, E., Breen, M. & Gibson, E. *Input uncertainty and cue redundancy in syntactic comprehension and adaptation*. AMLaP, Paris France, September 2011.
- Fedorenko, E. & Kanwisher, N. *Investigating domain specificity of language-sensitive cortex using individually defined functional ROIs*. Society for Neuroscience Annual Meeting, San Diego CA, November 2010.
- Fedorenko, E., Woodbury, R. & Gibson, E. *Making the object noun phrase more easily retrievable from memory facilitates the processing of object-extracted relative clauses: Direct evidence for memory-based accounts*. The 22nd CUNY Conference on Human Sentence Processing, Davis CA, March 2009.
- Fedorenko, E., Cherkasskiy, L., Piantadosi, S., Scholz, J. & Saxe, R. *Speak Your Mind: Listeners' Representations of the Speaker's Thoughts Depend on Prosody*. Society for Psychology and Philosophy conference, University of Pennsylvania, June 2008.
- Fedorenko, E., Patel, A., Casasanto, D., Winawer, J. & Gibson, E. *Structural integration in language and music: A shared system*. Language & Music II Conference, Tufts University, July 2008.
- Frank, M., Fedorenko, E. & Gibson, E. *English as a cognitive technology: English-speakers match like Pirahã when you don't let them count*. The Annual Meeting of the Cognitive Science Society, Washington DC, July 2008.
- Fedorenko, E., Cherkasskiy, L., Piantadosi, P., Scholz, J. & Saxe, R. *The effects of prosody on the listener's representation of the speaker's thoughts*. Experimental and Theoretical Advances in Prosody, Cornell University, April 2008.
- Breen, M., Wagner, M., Fedorenko, E. & Gibson, E. *Prosody signals focus location, not focus type*. Experimental and Theoretical Advances in Prosody, Cornell University, April 2008.
- Fedorenko, E. & Gibson, E. *The relationship between lexical and structural retrieval in sentence comprehension*. The 21st CUNY Conference on Human Sentence Processing, Chapel Hill NC, March 2008.
- Jaeger, F., Fedorenko, E., Hofmeister, P. & Gibson, E. *Expectation-based syntactic processing: Anti-locality outside of head-final languages*. The 21st CUNY Conference on Human Sentence Processing, Chapel Hill NC, March 2008.
- Fedorenko, E., Patel, A., Casasanto, D., Winawer, J. & Gibson, E. *Structural integration in language and music: A shared system*. The 20th CUNY Conference on Human Sentence Processing, San Diego CA, March 2007.
- Levy, R., Fedorenko, E. & Gibson, E. *The syntactic complexity of Russian relative clauses*. The 20th CUNY Conference on Human Sentence Processing, San Diego CA, March 2007.
- Fedorenko, E., Gibson, E. & Rohde, D. *Working memory in sentence processing and beyond*. The 18th CUNY Conference on Human Sentence Processing, Tucson AZ, March 2005.

Select poster presentations (in reverse chronological order):
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- Blank, I. & Fedorenko, E. Different high-level language regions integrate information over the same time-window. The Neurobiology of Language Conference, London, U.K., August 2016.
- Blank, I., Duff, M., Brown-Schmidt, S. & Fedorenko, E. Hippocampal engagement in online, high-level linguistic processing. The Neurobiology of Language Conference, London, U.K., August 2016.
- Wehbe, L., Blank, I., Mahowald, K., Futrell, R., Piantadosi, S., Tily, H., Gallee, J., Vishnevetsky, A., Gibson, E., Kanwisher, N. & Fedorenko, E. Neural activity in the fronto-temporal language system predicts online language comprehension difficulty. The Neurobiology of Language Conference, Chicago, IL, October 2015.
- Paunov, A., Blank, I. & Fedorenko, E. The language network and the Theory of Mind network show synchronized activity during naturalistic language comprehension. The Neurobiology of Language Conference, Chicago, IL, October 2015.
- Kleinman, D., Ferreira, V., Balewski, Z. & Fedorenko, E. Semantic competition during word production is

- supported by the domain-general multiple-demand system. The Neurobiology of Language Conference, Chicago, IL, October 2015.
- Scott, T., Brunner P., Schalk, G., Kanwisher, N. & Fedorenko, E. The time-course of information processing within the language system. Organization for Human Brain Mapping Annual Meeting, Honolulu, HI, June 2015.
- Mahowald, K., Kline, M., Fedorenko, E. & Gibson, E. Informativity and efficient compression of sentences. The 28th CUNY Conference on Human Sentence Processing, Los Angeles, CA, March 2015.
- Breen, M., Rosen, S., Rohde, D., Fedorenko, E. & Gibson, E. Sentence reanalysis is more costly in reading than listening, but only in developing readers. The 28th CUNY Conference on Human Sentence Processing, Los Angeles, CA, March 2015.
- Fedorenko, E. The language network and its place within the broader architecture of the human mind and brain. U.S. Kavli Frontiers of Science symposium, Irvine, CA, November 2014.
- Blank, I. & Fedorenko, E. The functional dissociation between the language and the cognitive control systems persists in subcortical and cerebellar regions. Forth Biennial Conference on Resting State / Brain Connectivity, Cambridge, MA, September 2014.
- Mahowald, K., Isola, P., Fedorenko, E., Oliva, A. & Gibson, E. An information-theoretic account of word memorability. AMLaP, Edinburgh, Scotland, September 2014.
- Lim, E., Fedorenko, E. & Gibson, E. *Case-marking affects word order: Evidence from the gesture paradigm*. The 26th CUNY Conference on Human Sentence Processing, Columbia, SC, March 2013.
- Fedorenko, E., Balewski, Z., Gibson, E. & Kanwisher, N. *Sensitivity to syntactic complexity throughout the domain-general "multiple demand" system*. The Neurobiology of Language Conference, San Sebastian, Spain, October 2012.
- Fedorenko, E., & Kanwisher, N. *Brain regions that support sentence-level understanding are not engaged in domain-general cognitive control*. The 24th CUNY Conference on Human Sentence Processing, Palo Alto CA, March 2011.
- Fedorenko, E., Tily, H. & Gibson, E. *A comprehensive investigation of animacy effects in relative clauses*. The 24th CUNY Conference on Human Sentence Processing, Palo Alto CA, March 2011.
- Gibson, E., Fedorenko, E., Piantadosi, S. & Gualmini, A. *Inter-subject variability in the ability to use context during comprehension*. The 24th CUNY Conference on Human Sentence Processing, Palo Alto CA, March 2011.
- Fedorenko, E. & Kanwisher, N. *The functional profile of the left IFG: Evidence against domain-general cognitive control*. The Neurobiology of Language Conference, San Diego CA, November 2010.
- Fedorenko, E., Frank, M. & Gibson, E. *Syntactic complexity effects in Jabberwocky sentences*. The 22nd CUNY Conference on Human Sentence Processing, Davis CA, March 2009.
- Grodner, D., Fedorenko, E., Hsieh, M. & Glickman, E. *The role of verbal working memory in structural ambiguity resolution*. The 22nd CUNY Conference on Human Sentence Processing, Davis CA, March 2009.
- Fedorenko, E., Cherkasskiy, L., Piantadosi, S., Scholz, J. & Saxe, R. *Prosody influences the listener's online representation of the speaker's thoughts*. The Annual Meeting of the Cognitive Neuroscience Society, San Francisco CA, April 2008.
- Fedorenko, E. & Levy, R. *Information structure and word order in Russian sentence comprehension*. The 20th CUNY Conference on Human Sentence Processing, San Diego CA, March 2007.
- Fedorenko, E. & Gibson, E. *Independence of Syntactic Storage and Syntactic Integration Resources*. AMLaP, Gent, Belgium, September 2005.
- Jaeger, F.T., Fedorenko, E. & Gibson, E. *Dissociation between comprehension and production complexity*. The 18th CUNY Conference on Human Sentence Processing, Tucson AZ, March 2005.
- Fedorenko, E., Gibson, E. & Rohde, D. *Verbal Working Memory in Sentence Comprehension*. The 26th Annual Meeting of the Cognitive Science Society, Chicago IL, August 2004.
- Fedorenko, E., Gibson, E. & Babyonyshev, M. *The Bayesian Basis for Linguistic Expectations in Language Processing*. The 17th CUNY Conference on Human Sentence Processing, College Park MD, March 2004.
- Fedorenko, E., Babyonyshev, M. & Gibson, E. *The Role of Morpho-Syntactic Feature Repetition in Sentence Processing*. NELS 34, Stony Brook NY, November 2003.

TEACHING:

Lecturer, Cold Spring Harbor Laboratory, “Genetics and Neurobiology of Language”, July 2016.

Lecturer, LOT Winter School at UvA Amsterdam (Netherlands), course “Language and Music”, January 2015.

Lecturer, Cold Spring Harbor Laboratory, “Genetics and Neurobiology of Language”, July-August 2014.

Selected guest lectures:

- “*The neural basis of language*”
 - **9.71** (fMRI of High-Level Vision, undergraduate class): Fall 2006, 2007, 2009
 - **9.591** (Language Processing, graduate seminar): Fall 2006
 - **9.59** (Psycholinguistics, undergraduate class): Spring 2007, 2008, 2009, 2010, 2011, 2012
 - **9.10** (Behavioral Neuroscience, undergraduate class): Spring 2012, 2013, 2014
- “*Language deficits in autism spectrum disorders*”
 - **9.24** (Disorders and diseases of the nervous system, undergraduate class): Spring 2015, 2016
- “*Introduction to language*”
 - **9.65** (Cognitive Processes, undergraduate class): Spring 2006, 2007, 2008, 2009, 2010, 2011, 2012
- “*The short-term / working memory system*”
 - **9.012** (Introduction to Cognitive Science, graduate seminar): Spring 2005
 - **9.65** (Cognitive Processes, undergraduate class): Spring 2006, 2008, 2009, 2010
- “*Domain specificity of the working memory system underlying language*”
 - **9.591** (Language Processing, graduate seminar): Fall 2004, 2005

Co-Instructor (with Ted Gibson), Brain & Cognitive Sciences 9.591 (MIT), “Language processing: An introduction to the experimental investigation of language, above the word level”, Fall 2008.

Co-Instructor (with Ted Gibson), Linguistics Society of America Summer Institute (Stanford University), “Working memory and informational constraints in language processing”, Summer 2007.

Teaching Assistant, Psych 1 (Harvard University), “Introduction to Psychology”, Spring 2007.

Teaching Assistant, Science B-62 (Harvard University), “The Human Mind”, Spring 2006.

Teaching Assistant, Brain & Cognitive Sciences 9.65 (MIT), “Cognitive Processes”, Spring 2006.

Teaching Assistant, Psychology 1 (Harvard University), “Introduction to Psychology”, Fall 2005.

Teaching Assistant, Linguistics Society of America Summer Institute (MIT), “Sentence Processing” (Ted Gibson), “Making Syntax of Sense” (Kay Bock), “Semantic Development in First Language Acquisition” (Stephen Crain), “Syntactic Universals” (Martin Haspelmath), Summer 2005.

Teaching Assistant, Brain & Cognitive Sciences 9.012 (MIT), “Introduction to Cognitive Science” (graduate-level seminar), Spring 2005.

Teaching Assistant, Brain & Cognitive Sciences 9.59 (MIT), “Psycholinguistics”, Spring 2005.

Teaching Assistant, Linguistics 130 (Harvard University), “Psycholinguistics”, Spring 2005.

Teaching Assistant, Linguistics 88 (Harvard University), “Language and Cognition”, Fall 2004.

Teaching Assistant, Brain & Cognitive Sciences 9.00 (MIT), “Introduction to Psychology”, Fall 2003.

ADVISING:

Currently advising:

- Idan Blank, postdoc (MIT)
- Olessia Jouravlev, postdoc (MIT)
- Melissa Kline, postdoc (MIT/Harvard)
- Alex Paunov, graduate student (MIT)
- Zach Mineroff (full-time RA)
- Brianna Pritchett (full-time RA)
- Matt Siegelman (full-time RA)

- Dima Ayaash (full-time RA)

Former advisees / trainees:

- Caitlyn Hoeflin (full-time RA)
- Idan Blank, graduate student (BCS, MIT), graduated July 2016
- Moataz Assem, Masters student (Bogazici University, Turkey), graduated June 2016

Over the last 10 years, I have supervised over 50 undergraduate students from MIT, Wellesley, Harvard and other schools in the US (e.g., CalTech, Stanford, RPI) and Europe (e.g., Edinburgh Univ.). Many of them have gone on to pursue academic careers in Cognitive Science / Neuroscience or related fields.

PROFESSIONAL SERVICE:

Sixth Indo-American Frontiers of Science Symposium. August 2015. Irvine, CA. Organizing Committee member.

Ad-hoc reviewer: Amlap conference (2009-2011); Acta Psychologica; Applied Psycholinguistics; Behavior Research Methods; Brain & Language; Brain Imaging & Behavior; Brain Connectivity; Cerebral Cortex; Cognition; Cognitive Science; CUNY conference (2008-2014); Current Biology; Frontiers (Psychology, Neuroscience); Discourse Processes; Human Brain Mapping; Journal of Experimental Psychology: LMC; Journal of Memory & Language; Journal of Cognitive Neuroscience; Journal of Neurophysiology; Journal of Neuroscience; Language; Language & Cognitive Processes; Language and Linguistics Compass; Memory & Cognition; National Science Foundation; NeuroImage; Neuropsychologia; Proceedings of the National Academy of Sciences; Psychological Research; Psychonomic Bulletin & Review; Psychophysiology; Quarterly Journal of Experimental Psychology; Simons Foundation; Wiley Interdisciplinary Reviews: Cognitive Science; among others.

RESEARCH INTERESTS:

- The cognitive and neural architecture of the language system
- The relationship between the language system and other cognitive and neural systems (e.g., the domain-general “multiple demand (MD)” system, the system that supports social cognition, perceptual and motor systems, etc.)
- Linguistic and other cognitive deficits in autism spectrum disorders and other developmental and acquired disorders
- Inter-individual variability in the neural patterns of language activity, and the relationship between these patterns and i) behavior, and ii) genetic variation
- The nature of abstract conceptual representations and their relationship to linguistic representations
- Reorganization in the language system (and the rest of the mind and brain) after stroke damage or as a result of neurodegeneration