

Jieun Song, PhD

Assistant Professor

School of Humanities and Social Sciences, Korea Advanced Institute of Science and Technology

291 Daehak-ro, Yuseong-gu, Daejeon 34141, Republic of Korea

Email: jsong@kaist.ac.kr Website: www.jieunsong.com

Education

- 2018 **PhD** in Speech, Hearing and Phonetic Sciences
University College London, London, UK
Thesis: *The effects of adverse conditions on speech recognition by non-native listeners: Electrophysiological and behavioural evidence*
Supervisors: Prof. Paul Iverson (primary), Prof. Valerie Hazan (secondary)
- 2011 **MA** in Linguistics
Seoul National University, Seoul, South Korea
Thesis: *The interlanguage speech intelligibility benefit of English stress for Korean talkers and listeners*
Supervisor: Prof. Ho-Young Lee
- 2008 **BA** in Linguistics (Summa cum laude)
Seoul National University, Seoul, South Korea

Employment

- May 2021 - Present **Assistant Professor**
School of Humanities and Social Sciences, Korea Advanced Institute of Science and Technology (KAIST), South Korea
- Sept 2020 - Dec 2020 **Lecturer**
Dept. of Linguistics, Seoul National University, South Korea
- Oct 2017 - Aug 2020 **Postdoctoral Research Associate**
Dept. of Speech, Hearing and Phonetic Sciences, University College London, UK

Research Interests

Speech perception and production, Interface between speech and cognition, Neural signatures of speech recognition processes, Child language development, Naturalness of synthetic speech, Second-language speech learning

Peer-reviewed Publications

9. Cho, H.J., Kiaer, J., Choi, N. & **Song, J.** (2021). The role of prosodic and visual information in disambiguating wh-indeterminates: The case of Korean three-year-olds, *Journal of Child Language*, Published online 25 March 2021.

8. **Song, J.**, Martin, L. & Iverson, P. (2020). Auditory neural tracking and lexical processing of speech in noise: masker type, spatial location, and language experience, *Journal of the Acoustical Society of America*, 148(1), 253-264.
7. Lee, H-Y. & **Song, J.*** (2019). Evaluating Korean learners' English rhythm proficiency with measures of sentence stress, *Applied Psycholinguistics*, 40(6), 1363-1376.
6. **Song, J.**, Martin, L. & Iverson, P. (2019). Native and non-native speech recognition in noise: neural measures of auditory and lexical processing, *Proceedings of the 19th International Congress of Phonetic Sciences (ICPhS 2019)*, Melbourne.
5. **Song, J.** & Iverson, P. (2018). Listening effort during speech perception enhances auditory and lexical processing for non-native listeners and accents, *Cognition*, 179, 163-170.
4. Lee, G. G., Lee, H-Y., **Song, J.**, Kim, B., Kang, S., Lee, J. & Hwang, H. (2017). Automatic sentence stress feedback for non-native English learners, *Computer Speech and Language*, 41, 29-42.
3. **Song, J.** & Iverson, P. (2015). Measuring speech-in-noise intelligibility for spontaneous speech: The effect of native and non-native accents, *Proceedings of the 18th International Congress of Phonetic Sciences (ICPhS 2015)*, Glasgow.
2. **Song, J.**(2013). Variable Schwa Deletion in English: A Corpus Study, *Studies in Phonetics, Phonology and Morphology*, 19(1), 33-52.
1. **Song, J.**(2011). The interlanguage speech intelligibility benefit for experienced nonnative listeners: perception of English lexical stress produced by Korean native speakers, *Proceedings of the 17th International Congress of Phonetic Sciences (ICPhS 2011)*, Hong Kong.

*corresponding author

Books

1. Kiaer, J. & **Song, J.** (2019). 언어의 아이들: 아이들은 도대체 어떻게 언어를 배울까? ['How children learn language'], Seoul: Science Books. Selected as 2019 Sejong Academic Book

Papers in Preparation

2. Development of a Korean sentence materials set for speech perception research (with P. Iverson).
1. Disambiguating Wh-words in Korean: at the prosody-semantics interface (with H. Jeon and J. Kiaer)

Conference Presentations

14. **Song, J.** & Iverson, P. (2021). Investigating listening effort using neural speech tracking and alpha oscillations: the effects of acoustic distortion and language of materials, Society for the Neurobiology of Language (SNL) 2021.
13. Cho, H.J., Kiaer, J., Choi, N. & **Song, J.** (2019). Young children's use of prosody and contextual cues in disambiguating wh-specific/indefinite question: The case of Korean, The 14th Generative Approaches to Language Acquisition (GALA), Milan.

12. **Song, J.**, Martin, L. & Iverson, P. (2019). Coping with noise at multiple levels: Auditory cortical and lexical effects of maskers for native and non-native listeners, Speech in noise workshop (SpiN), Ghent.
11. **Song, J.**, Martin, L. & Iverson, P. (2018). Neural processing of attended speech in multi-talker environments: Effects of talker number and spatial cues, Attention to Sound, Milton Keynes.
10. **Song, J.** & Iverson, P. (2018). Exploring cortical and subcortical responses to continuous speech, Auditory EEG Signal Processing symposium (AESoP), Leuven.
9. **Song, J.** & Kiaer, J. (2018). The role of semantic cues in prosodic disambiguation of wh-phrases in Korean, The 2018 Colloquium of the British Association of Academic Phoneticians (BAAP), Kent.
8. Lee, H-Y. & **Song, J.** (2017). Features for evaluating Korean learners' English rhythm proficiency, The 5th International Conference on English Pronunciation: Issues & Practices (EPIP5), Caen.
7. **Song, J.** & Iverson, P. (2016). Cross-linguistic perception of continuous speech: Neural entrainment to the speech amplitude envelope, The 172nd meeting of the Acoustical Society of America (ASA 2016 Fall meeting), Hawaii.
6. Iverson, P., Brint, E., **Song, J.** & Wu, M. (2016). Listening effort and accent in competing-talker speech recognition by native and non-native listeners: Electrophysiological measures of auditory and lexical processing, The 172nd meeting of the Acoustical Society of America (ASA 2016 Fall meeting), Hawaii.
5. **Song, J.** & Iverson, P. (2016). An ERP study of speech recognition by native and non-native listeners: The effects of a competing-talker background and accent, The 3rd Conference on Experimental Approaches to Perception and Production of Language Variation (ExAPP 2016), Vienna.
4. **Song, J.** & Iverson, P. (2016). Is cortical entrainment to speech a neural correlate of listening effort?, The 8th Annual Meeting for the Neurobiology of Language (SNL 2016), London.
3. **Song, J.** & Iverson, P. (2016). Speech recognition by native and non-native listeners with a competing-talker background: An ERP study, The 8th International Conference on Second-Language Speech (New Sounds 2016), Aarhus.
2. **Song, J.** & Iverson, P. (2016). The effect of accent on speech recognition in a competing-talker background: Neural oscillations and the N400, Speech Processing in Realistic Environments (SPIRE) workshop, Groningen.
1. **Song, J.** (2010). Durational characteristics of English sentences produced by Korean speakers and their role in the degree of perceived foreign accent, Proceedings of the 2010 Fall Conference of the Korean Society of Speech Sciences, Seoul.

Invited Talks

7. Speech communication in everyday life. *2021 Fall Colloquium Series*, Graduate School of Software, KAIST, Seoul, South Korea Dec 9, 2021.

6. Metaverse and Spoken Language. *Deep Thoughts on Post Metaverse Forum: Various perspectives on Metaverse*, Graduate School of Culture Technology, KAIST, Dajeon, South Korea. Nov 19, 2021.
5. Electrophysiological investigation of speech processing in realistic environments: methodological and theoretical contributions. *2021 ALAK International Symposium for Young Researchers in Applied Linguistics & International Conference (Language Learning, the Brain and Computers)*, Hankuk University of Foreign Studies, Seoul, South Korea. Oct 2, 2021.
4. How we cope with speech recognition difficulties: electrophysiological indices of speech processing and listening effort. *Research Meeting at the Centre for Autism*, University of Reading, Reading, UK. Sept 1, 2021.
3. The role of listening effort in second-language speech processing. *The SNU Linguistics Colloquium Series*, Department of Linguistics, Seoul National University, Seoul, South Korea. Dec 3, 2019.
2. Interaction of semantic and prosodic cues in the disambiguation of wh-words in Korean (with J. Kiaer). *Departmental Seminar Series*, Oriental Studies, University of Oxford. Jan 29, 2019.
1. Second language speech processing in realistic environments: an electrophysiological investigation. *The SNU Linguistics Colloquium Series*, Department of Linguistics, Seoul National University, Seoul, South Korea. Sept 4, 2017.

Awards & Grants

- 2022 - 2023 Research Grant (Co-investigator)
Economic and Social Research Council, Arts and Humanities Research Council, UK
Project: *“UK-South Korea Prosody Research Network”*
Award Amount: £50,000, PI: Hae-Sung Jeon
- 2021 - 2022 Research Grant (Co-investigator of the whole grant, Principal Investigator of the Speech team)
KT Corporation (KAIST-KT Collaborative Research Grant), South Korea
Project: *“Toward naturalistic and attractive sound in AI: acoustical and cognitive approaches”*
Award Amount: ₩100,000,000
- 2020 - 2021 Research Grant (Principal Investigator)
National Research Foundation of Korea, South Korea
Project: *“Investigating listening effort using electroencephalography: the perception of second-language sounds”*
Award Amount: ₩14,000,000
- 2017 - 2020 Research Grant (named Research Associate)
Economic and Social Research Council, UK
Project: *“Listening effort and multilingual speech communication: Neural measures of auditory and lexical processing by adults and older children”*
Award Amount: £570,625; PI: Prof. Paul Iverson
- 2017 First Place Award in the poster competition (area: Speech Communication)
The 172nd meeting of the Acoustical Society of America 2016
- 2013 - 2017 Kwanjeong Overseas Scholarship (full stipend)
Kwanjeong Educational Foundation, South Korea
- 2013 - 2016 Overseas Research Scholarship (full tuition fee waiver)
University College London (UCL)
- 2010 Best Presentation Paper Award
The 2010 Fall Conference of the Korean Society of Speech Sciences
- 2010 Teaching Assistant Scholarship (1st Semester)
Dept. of Linguistics, Seoul National University (SNU)
- 2010 Superior Academic Performance Scholarship (1st Semester)
Dept. of Linguistics, SNU
- 2009 - 2010 Graduate Student Scholarship
Woosan Educational Foundation, South Korea
- 2009 Lecture & Research Scholarship
Dept. of Linguistics, SNU
- 2006 - 2007 Kwanjeong Domestic Scholarship
(one of the two recipients in the College of Humanities)
Kwanjeong Educational Foundation, South Korea
- 2004 - 2005 Merit-based Scholarship (full tuition fee waiver), SNU
- 2004 Superior Academic Performance Scholarship, SNU (2nd Semester)

Teaching Experience

Teaching at KAIST

2021 Module: Child Language Acquisition (Undergraduate), Fall Semester
 Module: Language, Mind & Brain (Undergraduate), Fall Semester

Lecturer

2020 Module: Language Acquisition (Undergraduate), SNU (Fall Semester)

Module Development

2019 Module: Language Acquisition, SNU
 Role: Providing the module outline and detailed content for lectures, tutorials & assessment

Guest Lecturer

2017 - 2020 Module: Second Language Speech Learning (MSc), UCL (Term 2)
 Lecture: Listening effort during second language speech perception

2019 Module: Development of Communication and Cognition (BSc), UCL (Term 1)
 Lecture: Using the ERP technique to explore phonological development

2018 Module: Development of Speech Perception and Production (MSc), UCL (Term 1)
 Lecture: Speech development in bilingual children

2016 Module: Introduction to Speech Sciences (MSc), UCL (Term 1)
 Module: Speech Production and Perception (BSc), UCL (Term 1)
 Lecture: The challenge of speech perception

2015 Module: Introduction to Speech Sciences (MSc), UCL (Term 1)
 Lecture: Fricatives and spectrograms

Teaching Assistant

2015 - 2017 Module: Introduction to the Event-Related Potential Techniques (MSc, MRes),
 UCL (Term 2)

2015 - 2016 Module: Phonetics and Phonology (MSc), UCL (Term 1)

2010 Module: World of Languages (Undergraduate), SNU (Spring Semester)

2009 Module: Experimental Phonetics (Postgraduate), SNU (Spring Semester)

Electroencephalography (EEG) Demonstrator

2015 - 2020 Module: Second-Language Speech Learning (MSc), UCL (Term 2)

2020 Module: Development of Speech Perception and Production (MSc), UCL (Term 1)

Student Supervision

2018 Supervising master student projects (with Prof Paul Iverson, UCL)
 Minjeong Kim (MA Linguistics), Miguel Garcia Tarifa (MSc Language Sciences)
 Project: Phonetic training under cognitive load

Other Professional Experience

I participated in the following research projects under the supervision of Prof. Ho-Young Lee at SNU.

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| 2011 - 2013 | Researcher, Dept. of Linguistics, SNU
Project: <i>“Building the Korean Learners’ English Accentuation Corpus for Automatic Accent Detection”</i> funded by SK Telecom
Role: Annotating sentence stress, data analysis & writing papers |
| 2008 - 2011 | Researcher, Dept. of Linguistics, SNU
Project: <i>“Modeling of Korean Prosody for HMM-based Spontaneous Speech Synthesis”</i> funded by National Research Foundation of Korea
Role: Annotating Korean intonation using SAIL (Semi-Automatic Intonation Labeling System) |
| 2011 | Researcher, Dept. of Linguistics, SNU
Project: <i>“A Study of Inter-speaker Variability in Emotional Speech for Speaker Identification”</i> funded by the Korean Institute of Forensic Sciences
Role: RA duties including collecting electroglottographic and audio recordings |
| 2009 | Researcher, Dept. of Linguistics, SNU
Project: <i>“Developing English Teaching Robots”</i> funded by Korea Institute of Science and Technology
Role: Developing content for English teaching robots, writing <i>‘Learning English with Robot –Elementary’</i> & other RA duties |
| 2010 | Laboratory Assistant, Phonetics Lab, Dept. of Linguistics, SNU
Role: Setting up recording equipment for students & maintaining equipment and supplies in the lab |

Professional Service

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| 2018 | Organising Speech Science Forum seminars
Dept. of Speech, Hearing & Phonetic Sciences (UCL) |
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Reviewing

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| Journals | <i>Journal of the Acoustical Society of America, Bilingualism: Language and Cognition, Language Learning, Scientific Reports, Language Research, International Review of Applied Linguistics in Language Teaching, PLOS ONE</i> |
| Conferences | The 9th International Symposium on the Acquisition of Second Language Speech 2019, The 19th International Congress of Phonetic Sciences |

Public Engagement

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| 2020 | Event at the Royal Institution: <i>“Easy speaking and effortless listening”</i>
Role: Leading the EEG demo session “EEG for speech perception research” for the general public |
| 2014 | Event at the Royal Institution: <i>“Good listeners and smooth talkers: Spoken communication in a challenging world”</i>
Role: EEG demonstration & presenting our research to the general public |

Other Skills

Languages	Korean (Native), English (Fluent)
Programming	Matlab, R, Praat
Statistics	R
EEG Analysis	Fieldtrip, EEG/ERPLab