

Curriculum Vitae

Juraj Šimko, PhD

Institute of Behavioural Sciences
P.O. Box 9, FIN-00014, University of Helsinki

08.05.2014

Education

- PhD in Computer Science**, University College Dublin, Ireland 2005-2010
Thesis: *The Embodied Modelling of Gestural Sequencing in Speech*
supervised by Dr. Fred Cummins
Conferral: April 2010, Dublin
- MSc in Mathematics**, Comenius University, Bratislava, Slovakia 1988-1993
Thesis: *Ergodic Theory and Algebras*
supervised by Prof. Pavol Zlatoš
Conferral: June 1993, Bratislava

Current Position

- Postdoctoral Researcher (Finnish Academy grant)** 01.09.2013-
Institute of Behavioural Sciences
University of Helsinki, Finland
Research: Production-Perception Trade-Offs, Prosody, Intonation

Full-Time Academic Positions

- Grant Researcher (von Humboldt Fellow)** 01.06.2011-31.08.2013
Faculty of Linguistics and Literary Studies
Bielefeld University, Germany
- Grant Researcher (DFG Stipendium)** 01.09.2010-31.05.2011
CITEC (Cognitive Interaction Technology Center of Excellence)
Bielefeld University, Germany
- Assistant Lecturer** 01.08.1995-14.09.1999
Department of Mathematics, Faculty of Chemical and
Food Technology, Slovak Technical University
Bratislava, Slovakia
- Researcher** 01.09.1993-31.07.1995
Mathematical Institute
Slovak Academy of Sciences, Bratislava, Slovakia

Part-Time Academic Positions

- Associate Lecturer (external)** 01.01.2006-31.08.2010
Department of Philosophy
Trinity College Dublin, Ireland

Non-Academic Employment

- Language Specialist** 15.09.1999-31.08.2004
Microsoft, EPDC, Dublin, Ireland

Major Research Funding

von Humboldt Fellowship Alexander von Humboldt Foundation, Germany	June 2011-June 2013
DFG Stipendium Deutsche Forschungsgemeinschaft, Germany Revoked by me upon the receipt of the von Humboldt Fellowship Award	September 2010- June 2011

Honors and Awards

The ISCA Award for Best Student Paper <i>Interspeech 2009</i> , Brighton, UK	2009
--	------

Teaching Experience

Bielefeld University, Faculty of Linguistics and Literary Studies Supervision of a PhD Thesis (Mr. Andreas Windmann)	2011-
Bielefeld University, Faculty of Linguistics and Literary Studies <i>Dynamical Modelling of Speech</i> , postgraduate course lecturer	2010
Trinity College Dublin, Department of Philosophy <i>Formal Logic</i> , undergraduate course lecturer	2006-2010
University College Dublin, School of Philosophy <i>Logic: Informal and Formal</i> , undergraduate course lecturer	2007
Slovak Technical University, Faculty of Chemical and Food Technology <i>Calculus, Statistics, Computer Science</i> , undergraduate course lecturer and assistant lecturer	1994-1999
Comenius University, Faculty of Mathematics, Physics and Informatics <i>Algebra</i> , undergraduate course assistant lecturer	1993-1994

Research Stays

University of Helsinki, Finland Institute of Behavioural Sciences, invitation by Adj.Prof. Martti Vainio	May-August 2012
University of Southern California, Los Angeles, USA Dornsife College of Letters, Arts and Sciences, invitation by Prof. Louis Goldstein	September 2008

Professional Memberships

<i>Full Member</i> , LabPhon , Association of Laboratory Phonology	2012-
<i>Full Member</i> , ISCA , International Speech Communication Association	2009-
<i>Full Member</i> , EUCog III , European Network for the Advancement of Artificial Cognitive Systems, Interaction and Robotics	2011-
<i>Full Member</i> , EUCog II , European Network for the Advancement of Artificial Cognitive Systems, Interaction and Robotics	2009-2011
<i>Student Member</i> , euCognition , European Network for the Advancement of Artificial Cognitive Systems	2006-2008

Peer-review Activities

Journal of Phonetics, Philosophical Transactions B

Selected Invited Talks and Lectures

- *Emergent phonetic, phonological and phonetic patterns*, Stockholm University, Sweden, 2012
- *Emergent phonological and phonetic patterns: An optimization account*, Workshop on Dynamic Modeling of Articulation and Prosodic Structure, Cologne, Germany, 2012.
- *Embodied task dynamics and emergent phonology*, University of Tampere, Finland, 2011.
- *Embodied speech, dynamics and efficiency*, Ruhr-Universität, Bochum, Germany, 2011.
- *Integrating speech production and perception: An embodied optimization approach*, Ludwig-Maximilians-Universität, Munich, Germany, 2011.
- *Optimality principles and articulatory speech synthesis* (with P. Wagner), Bielefeld Workshop on Developmental Speech Recognition, Bielefeld, Germany, 2011.
- *Embodied modelling of sequencing in speech*, Bielefeld University, Germany, 2009.
- *Sequencing embodied gestures in speech*, University of Southern California, USA, 2008.

Language Skills

Slovak (native), English (fluent), Czech (fluent), Polish (conversant), Russian (conversant), German (conversant), French (basic), Finnish (basic)

Juraj Šimko: List of Publications

Journal articles

- **Šimko, J.**, O'Dell, M. and Vainio, M. (2014). Emergent consonantal quantity contrast and context-dependence of gestural phasing, *Journal of Phonetics*, 44:130-151.
- Beňuš, Š. and **Šimko, J.** (2014). Emergence of prosodic boundary: continuous effects of temporal affordance on inter-gestural timing, *Journal of Phonetics*, 44:110-129.
- **Šimko, J.** and Cummins, F. (2011). Sequencing and Optimization within an Embodied Task Dynamic Model, *Cognitive Science*, 35 (3), p. 527-562.
- **Šimko, J.** and Cummins, F. (2010). Embodied Task Dynamics, *Psychological Review*, 117 (4), p. 1229-1246.
- Cummins, F. and **Šimko, J.** (2009). Notes on Phase and Coordination, and their Application to Rhythm and Timing in Speech, *Journal of the Phonetic Society of Japan*, 13 (3), p. 7-18.
- **Šimko, J.** (2001). Linear and R-linear betweenness spaces, *Mathematica Slovaca*, 51 (4), p. 365-370.
- **Šimko, J.** (1999). Metrizable and R-metrizable betweenness spaces, *Proceedings of the American Mathematical Society*, 127 (2), p. 323-325.

Book chapters

- **Šimko, J.** and Cummins, F. (2010). Sequencing Embodied Gestures in Speech, In Nefti-Meziani, S. and Grey, J. (editors), *Advances in Cognitive Systems*, Institution of Engineering and Technology, UK, p. 301-332.

Conference Proceedings

- **Šimko, J.**, Beňuš, Š. and Vainio, M. (2014) Hyperarticulation in Lombard speech: A preliminary study, In *Proc. 7th International Conference on Speech Prosody*, Dublin, Ireland.
- Windmann, A, **Šimko, J.** and Wagner, P. (2014) Probing Theories of Speech Timing using Optimization Modeling, In *Proc. 7th International Conference on Speech Prosody*, Dublin, Ireland.
- **Šimko, J.**, O'Dell, M., Nieminen, T., Vainio, M. and Lehtinen, M. (2013). Effects of anatomical differences on relative timing of tongue and lips, In *Proceedings of XXVII Finnish Phonetics Symposium 2013*, University of Turku, Turku, Finland, September 2013
- Aalto, D., **Šimko, J.** and Vainio, M. (2013). Pitch affects the duration judgements of non-speech sounds more for quantity-language speakers, *Proceedings of Interspeech 2013*, Lyon, France.
- Włodarczak, M., **Šimko, J.** and Wagner, P. (2013). Pitch and durational basis for entrainment of overlapped speech onsets, *Proceedings of Interspeech 2013*, Lyon, France.
- Windmann, A, **Šimko, J.**, Wrede, B. and Wagner, P. (2013). Modeling Durational Incompressibility, *Proceedings of Interspeech 2013*, Lyon, France.

- Włodarczak, M., **Šimko, J.**, Wagner, P., O'Dell, M., Lennes, M. and Nieminen, T. (2012). Finnish rhythmic structure and overlapping speech entrainment. In *Nordic Prosody: Proceedings of the XIth Conference*, Tartu, Estonia, August 2012.
- Włodarczak, M., **Šimko, J.** and Wagner, P. (2012). Temporal entrainment in overlapped speech: Cross-linguistic study. *Proceedings of Interspeech 2012*, Portland, Oregon, USA.
- Włodarczak, M., **Šimko, J.** and Wagner, P. (2012). Syllable-boundary effect: temporal entrainment in overlapped speech. In *Proc. 6th International Conference on Speech Prosody*, Shanghai, China, 2012, p. 611-614.
- Beňuš, Š. and **Šimko, J.** (2012). Rhythm and tempo in Slovak. In *Proc. 6th International Conference on Speech Prosody*, Shanghai, China, 2012, p. 502–505.
- **Šimko, J.**, Cummins, F., and Beňuš, Š. (2011). Investigating the stability of intergestural timing relations. In *Proceedings of Interspeech 2011*, Florence, Italy.
- O'Dell, M., **Šimko, J.**, Nieminen, T., Vainio, M. and Lehtinen, M. (2011). Relative timing of bilabial gesture in Finnish. In *Proceedings of the 17th International Congress of Phonetic Sciences*, Hongkong, p. 1518-1521.
- **Šimko, J.**, Cummins, F., and Beňuš, Š. (2011) An analysis of the relative timing of coarticulated gestures within VCV sequences. In *Proceedings of the 17th International Congress of Phonetic Sciences*, Hongkong, p. 1850-1853.
- O'Dell, M., **Šimko, J.**, Nieminen, T., Vainio, M. and Lehtinen, M. (2010). Timing of intervocalic consonant gestures in Finnish, In *Proceedings of XXVI Finnish Phonetics Symposium 2010*, University of Eastern Finland, Mekrijärvi Research Station, February 2010.
- **Šimko, J.** and Cummins, F. (2009). Sequencing of Articulatory Gestures using Cost Optimization, In *Proceedings of Interspeech 2009*, Brighton, UK, p. 60-63.
The ISCA Award for Best Student Paper
- Cummins, F., Grimaldi, M., Leonard, T. and **Šimko, J.** (2006). The Chains corpus: characterizing individual speakers, In *Proceedings of SPECOM'06*, St. Petersburg, Russia, June 2006, p. 431.
- d'Alessandro, C., D'Alessandro, N., Le Beux, S., **Šimko, J.**, Cetin, F. and Pirker, H. (2005). The Speech Conductor: Gestural Control of Speech Synthesis, In *eINTERFACE-2005*, July-August 2005, Mons, Belgium, p. 52-61.

Workshops and conferences (peer-reviewed abstracts)

- Windmann, A, **Šimko, J.**, Wrede, B. and Wagner, P. (2012). Optimization based model of speech rhythm, *Labphon 2012*, Stuttgart, Germany.
- Beňuš, Š. and **Šimko, J.** (2012). Vocalic and consonantal intervals under continuous rate variation, *Labphon 2012*, Stuttgart, Germany.
- Windmann, A, **Šimko, J.**, Wrede, B. and Wagner, P. (2012). Optimization based model of speech timing, *Perspectives on Rhythm and Timing*, Glasgow, UK.
- Włodarczak, M., **Šimko, J.** and Wagner, P. (2012). Evidence for coordination between overlap onsets and inter-stress intervals, *Perspectives on Rhythm and Timing*, Glasgow, UK.
- **Šimko, J.** (2007). Embodied Model of Speech Production. *Cognitive and physical models of speech production, perception and perception-production interaction*, Autrans, France

Theses

- **Šimko, J.** (2010) *The Embodied Modelling of Gestural Sequencing in Speech*, PhD Thesis, School of Computer Science and Informatics, University College Dublin, Ireland
- **Šimko, J.** (1993) *Ergodic Theory and Algebras*, MSc Thesis, Faculty of Mathematics and Physics, Comenius University, Bratislava, Slovakia