

IAFPA 2017

Keynote talk

Damir Kovačić: Voice gender identification in cochlear implant



Assistant Professor Damir Kovačić, B.Sc., PhD, is an experienced researcher, former Marie-Curie Intra-European Fellow at KU Leuven (Belgium) and currently head of the Laboratory for Biophysics at Faculty of Science, University of Split. He obtained diploma of engineer of physics (1999) at University of Zagreb (Croatia) and received PhD in Cognitive Neuroscience (2007) at International School for Advanced Studies (SISSA), Trieste (Italy). He was postdoctoral researcher in the Laboratory for Auditory Neurophysiology at KU Leuven (head Prof. P.X. Joris), as well as in the Group for neuro-electronic interfaces at IMEC, Leuven (Belgium). He is experienced in multiple aspects of auditory neurosciences, including cochlear implants (signal processing, clinical fittings), neuroimaging (optical topography, near-infrared spectroscopy, EEG & evoked potentials), psychoacoustics (Prime, Expe, Presentation) and auditory neurophysiology (high dense single cell extracellular electrophysiology). He developed reverse correlation analyses and across-fiber cross correlograms for neural responses from the auditory nerve and modulation spectra for CI stimulus output patterns. His research mobility experience includes long research stays at SISSA, Trieste (5 years), KU Leuven (2 years) and IMEC, Leuven (1 year), Polyclinic SUVAG, Zagreb (6 years) and Rijksuniversiteit Groningen (6 months) and short stays (<~2 months) at CNRS-EHESS

Paris (France), Ulaan Bataar (Mongolia), Dartmouth College (USA), the Bionic Ear Institute, Cochlear Ltd & University of Melbourne (Australia). He is author of 15 peer-reviewed papers with WoS 406 citations, h=8 (June 2017).

Five most relevant publications

¹ Kovačić, D., & Balaban, E. (2009). Voice gender perception by cochlear implantees. *J Acoust Soc Am*, 126(2), 762–775.

² Kovačić, D., & Balaban, E. (2010). Hearing History Influences Voice Gender Perceptual Performance in Cochlear Implant Users. *Ear and Hearing*, 31(6), 806–814.

³ Pena, M., Maki, A., Kovačić, D., Dehaene-Lambertz, G., Koizumi, H., Bouquet, F., & Mehler, J. (2003). Sounds and silence: an optical topography study of language recognition at birth. *Proc Natl Acad Sci U S A*, 100(20), 11702–11705.

⁴ Michelet, P., Kovacic, D., & Joris, P. X. (2012). Ongoing Temporal Coding of a Stochastic Stimulus as a Function of Intensity: Time-Intensity Trading. *Journal of Neuroscience*, 32(28), 9517–9527.

⁵ Mattotti, M., Micholt, L., Braeken, D., & Kovačić, D. (2015). Characterization of spiral ganglion neurons cultured on silicon micro-pillar substrates for new auditory neuro-electronic interfaces. *Journal of Neural Engineering*, 12(2), 026001.

Five most relevant projects or activities

¹ 2014-2016, Capacity building of University of Split for research, development and innovation in the field of medical neuroelectronics, Call for capacity building for research, development and innovation EU-Croatia Structural fund for research and innovation, Regional competitiveness . Amount: 783.740€

² 2013-2014, CortexSTIM – Enhancement of science-business cooperation for intraoperative neurophysiologic technology in Croatia, Science Innovation Investment Fund (SIIF) EU-Croatia Preaccession Fund - IPA IIIc Amount: 344.430 €

³ 2012-2013, Auditory neuro-electronic interfaces, Proof of Concept IV BICRO – Business Innovation Research Agency. Amount: 46.300 €

⁴ 2012-2014, BrainCI: Neural basis of auditory processing in young congenitally deaf subjects with cochlear implants, Research Career Integration Grant FP7-PEOPLE-2011-CIG-303927, European Commission, Amount: 75.000 €

⁵ 2008-2010, Neurophysiological correlates of the anatomically discrete organization of the auditory nerve, FP7 Marie Curie Intra-European Fellowship, FP7-PEOPLE-2008-IEF-221755, European Commission, Amount: 165.453 €