The trough effect – an aerodynamic phenomenon? Susanne Fuchs¹, Phil Hoole², Jana Brunner¹ & Miki Inoue³, ¹ZAS, Centre for General Linguistics, Berlin, ²IPKM, Institute of Phonetics and Speech Communication, Munich, ³Max-Planck Institute for Human Cognitive and Brain Sciences, Munich, Germany. [Full Paper Available on CD]

The trough effect is a phenomenon occurring in a VCV-sequence, where both vowels are identical and the consonant is produced with an articulator which is thought to be unspecified for vowel production. It can be described as a momentary deactivation of tongue movement when the consonant is a bilabial. Several interpretations have been given to the causes and implications of the trough with a speech material consisting of /b/ and /p/. In order to verify a possible aerodynamic effect we carried out three different experiments and included additionally /m/ in our corpus. Our results provide evidence that aerodynamic requirements play a role. Nevertheless, aerodynamics alone do not cause the troughs.