

## Comment on the paper by Dazert et al. entitled ‘Off the ear with no loss in speech understanding: comparing the RONDO and the OPUS 2 cochlear implant audio processors’

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Received: 16 December 2016 / Accepted: 12 January 2017  
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Dear Editor,

We would like to address a statement in the above mentioned paper [1] on the RONDO speech processor for cochlear implants. In paragraph 2 of the discussion section of their paper, Dazert et al. wrote:

The fact that the RONDO offers the same speech perception performance in quiet and in noise as with the comparator BTE device contradicts the findings of Wimmer et al. (note: reference [2] to this letter), who found that RONDO users could have reduced understanding in noisy situations. Similar to the current study, Mertens et al. (reference [3] here) and Távora-Vieira and Miller (reference [4] here) found that RONDO users’ understanding was unaffected by the change in microphone position.

This text suggests that (a) the findings reported by Dazert et al. [1] contradict our findings reported in [2] and that (b) our findings in [2] are further contradicted by two other studies [3, 4]. To our knowledge there is no contradiction

between the results of any of these four studies, but there is a difference in the experimental setting, and thus ultimately, in the research question, which is being answered by the experiments.

The spatial arrangement of the loudspeakers used in the study by Dazert et al. [1] is not explicitly reported, but from the lack of a description and, more importantly, from their results we infer that testing was probably performed with the target signal (speech) and the noise signal both being emitted from the same direction and presumably from the front ( $S_0N_0$  setting). In the other two cited studies [3, 4], the spatial arrangement is explicitly reported as  $S_0N_0$ .

In our own study [2], we use 4 different spatial settings and one of them as  $S_0N_0$ . For this setting, our results are very much in agreement with Dazert et al. [1] as well as with the other 2 studies. [3, 4]: there is no significant difference in speech understanding in noise between the RONDO and the OPUS 2 audio processors in the  $S_0N_0$  situation.

However, we believe that in everyday life noise will often be emitted by one or several sources, which are spatially separated from the target signal source. This is addressed in our report, but not in the three others. Specifically, if the target signal arrives from the front and noise from the rear of the listener, speech understanding in noise will be poorer on average by  $-4.4$  dB with the RONDO because of its position lying further to the rear, when compared to the OPUS 2. We believe that such spatial settings may be relevant in everyday life and should be addressed besides the  $S_0N_0$  setting.

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This comment refers to the article available at doi:[10.1007/s00405-016-4400-z](https://doi.org/10.1007/s00405-016-4400-z).

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An author’s reply to this comment is available at doi:[10.1007/s00405-017-4469-z](https://doi.org/10.1007/s00405-017-4469-z).

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Kind regards  
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Marco Caversaccio  
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**Compliance with ethical standards**

**Conflict of interest** The others declare no conflict of interest.

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