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### On the color of voices

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# Stellingen

Behorende bij het proefschrift

## On the Color of Voices

van Nawal El Boghdady

1. Overall speech-on-speech intelligibility and perception are closely related to CI users' sensitivity to both F0 and VTL cues together, but not to either of them independently (Chapter 2).
2. CI users do not appear to benefit in speech-on-speech intelligibility from larger F0 and VTL differences between the two competing talkers when the masking speaker lies in the child voice space, contradicting patterns observed for NH listeners (Chapter 2).
3. CI users appear to draw benefit in speech-on-speech intelligibility from F0 and VTL differences when the masking voice falls in the male speaker voice space (Chapters 3 and 4), highlighting the observation that benefit from F0 and VTL differences in speech-on-speech for CI users may highly depend on the nature of the competing voices (Chapters 2, 3, and 4).
4. Increased channel interaction in the implant effectively impairs the overall spectrotemporal resolution which contributes to both worse voice cue sensitivity and reduced speech-on-speech perception (Chapter 3).
5. Using spectral contrast enhancement algorithms could improve speech-on-speech intelligibility in implant users, even though the underlying sensitivity to voice cue differences may remain unaffected (Chapter 4).
6. Because of the large inter-subject variability in performance, optimizing implant parameters, such as the frequency-to-electrode allocation map, in fashion customized for each CI user individually may help enhance the perception of voice cues, especially those related to VTL (Chapter 5).
7. Speech-on-speech comprehension (Chapters 2, 3, and 4) may be a quick tool to assess speech perception in adverse listening conditions, and as such may be a good candidate for clinical applications.
8. "You can learn all there is to know about [implants'] ways in a month, and yet after a hundred years they can still surprise you." -adapted from J. R. R. Tolkien
9. "If you dare nothing, then when the day is over, nothing is all you will have gained." - Neil Gaiman
10. "The path isn't a straight line; it's a spiral. You continually come back to things you thought you understood and see deeper truths." -Barry H. Gillespie