

**Au.D. Megan Quilter**  
**GN Hearing**

### **Perceived Audibility of Competing Talkers Across Spatial Locations with Advanced Hearing Aid Processing**

For people with hearing loss, understanding speech in the presence of competing speech is a major challenge. This is especially true when the competing speakers are louder than the target speaker, which is expected to impair speech understanding. This study investigated from which directions speakers are perceived as most audible when using two different hearing aids, while speech is presented simultaneously from three directions. The premium hearing aids from two manufacturers that were compared each feature deep neural network–based noise reduction and directional microphone technology, implemented in different ways.

Twenty participants with moderate hearing loss evaluated, across 96 listening scenarios, which speaker was most audible to them. The speakers were positioned to the left (45° or 90°), in front (0°), and back-right (225°). Different level differences between the front and other directions were tested, and the voices presented were varied.

The results show which signal processing strategies make certain presentation directions more dominant, and how the audibility of a target speaker can be effectively supported.