

# hearing through the noise



Translating contemporary audiological topics into clinical practice

Automatic Hearing Aid Technology

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## Automaticity in Hearing Aids: Amplification at the Speed of Life

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There is no doubt that the scope of hearing aid sophistication has increased dramatically over time. No more are the days of single-channel, analog devices. Battery life has gotten longer, and hearing aid size has gotten smaller and hearing aid programs have become more sophisticated. With increased complexity comes a need to manage this complexity with no added responsibility on the part of the hearing aid user or audiologist.

Traditionally, it was common for audiologists to setup two programs: one for "everyday" and one for "noise". The nuances of listening environments are rarely this black and white, and the acoustics of a particular situation can change at any moment.

Automaticity is a necessary aspect to the increasing sophistication and specificity of hearing aid programs. As the number of these programs designed for specific environments increases, the more difficult the burden of hearing aid program-switching becomes for the hearing aid user. Automaticity is necessary so hearing aid users do not have to think about switching their hearing aid program. It is the desire of hearing healthcare providers to reintroduce a normal-hearing listening

experience. This goal should also extend to the role of the hearing aid in one's life—the hearing aid user should never have to think about his or her hearing aid, the way a normal-hearing listener never thinks about his or her listening environments.

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We are relying more heavily on the hearing aid to make its own "decisions" about the listening environment. A misclassification of listening environment could very well lead to substandard hearing. Today's automatic systems vary in the ability to detect acoustic characteristics within the environment, and the number of parameters that can be manipulated to accommodate that environment.

A recent study at the Phonak Audiology Research Center was designed specifically to assess the accuracy of automatic program-switching (AutoSense OS), and speech understanding performance of research participants as compared to a manual program. Audiologists should feel

#### About the author



Lori Rakita is a research audiologist at Phonak. She has managed a significant program of research including extensive technical assessments to participant testing to improve the application, evidence basis and clinical support of Phonak products. Lori received her Bachelor of Science in Psychology from the University of Wisconsin, Madison and Doctorate of Audiology from Washington University, St. Louis.

comfortable in giving patients any number of hearing aid programs, which may not have been a possibility had the hearing aid user been switching the programs manually. Automatic technology should also allow audiologists to feel comfortable in knowing that assigning an automatic program is not a compromise, can provide a much more consistent, listening setting.

Automaticity should be a priority for any hearing aid manufacturer, as it is a major contributing factor to an individual's experience. A "hands-free" listening experience allows hearing aid users to be truly present in every moment, and enjoy all of life in its complexity, without the interruption of a button-push.

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