

# Power of nanoscience: HEAR LIKE NEVER BEFORE

“An amazing new hearing aid has just come out on the market,” announces Bonnie D. McGrath, LHAS, owner of Bonnie Hearing, Inc. in Melbourne. “Called *Avail*, it is a truly unique hearing instrument developed through nanoscience and powered by nFusion. My patients are raving about it.

“Though technology has exploded in this field over the last five years, this is the first circuitry ever that has been able to reduce multiple noise sources independently from each other.”

According to Bonnie, the *Avail* learns its wearers’ different environments and then remembers so the next time they experience a similar situation the instrument automatically corrects to make it a better listening experience.

Bonnie clarifies, “Let’s say someone is outside talking to a neighbor. It’s windy, someone is mowing the lawn, and children are screaming behind them. The new *Avail* will read the lawn mower noise and reduce it, read the sounds of the children and reduce them, and negate the noise from the wind because it also differentiates and reduces turbulence.

“Yet above all of this, the neighbor’s voice will be heard clearly and discernibly. This hearing instrument has the ability to separate all the sounds in our world, and then it enables speech to be audible and understandable.”

The *Avail* can analyze and adapt to the changing sounds around a person instantly and automatically.

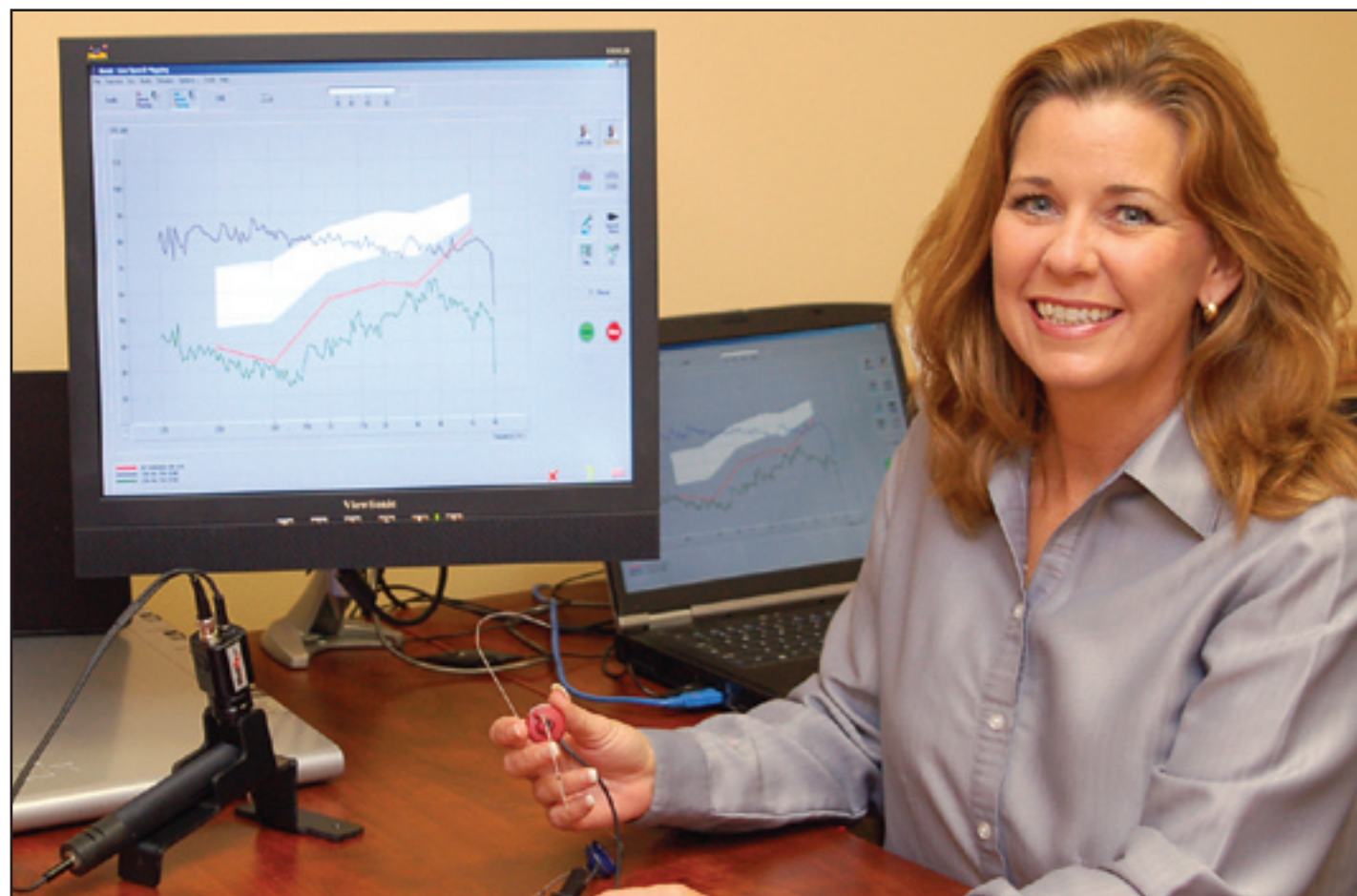
“One of the biggest problems in the past for hearing aid users has been feedback, which is a squealing-like noise that can happen under many everyday circumstances,” describes Bonnie. “The *Avail’s active feedback intercept* uses 16 sub-bands to virtually eliminate feedback within a few experiences.

“Another problem has traditionally been the *occlusion effect*, where persons’ voices sound very differently to them through hearing instruments. With *Avail*, the occlusion effect is eliminated.

“And *Avail’s directional speech detector* processes noise very closely to how the human ear does; it allows the wearer to focus on one voice in the midst of many competing sounds, while the *acoustic signature* — a sensor that classifies different sound environments and then transitions automatically through these sounds — suppresses errant noises so voices can be heard precisely and clearly.”

Additionally, for 85 percent of people with tinnitus, which is a sensation of noise — frequently of ringing — in the ears, *Avail* has virtually eliminated it.

*Avail’s* leading-edge technology, Bonnie explains, ensures that the features such as directional microphones, noise reduction, and feedback management are all used at the right time and in the right combination for each listening situation. The user does not need to push buttons, adjust anything, or be concerned about whether the instrument is set correctly. When the situation changes, the hearing instruments automatically change



FHCN PHOTO BY NERISSA JOHNSON

**“When it comes to a loud environment, nothing separates noise from speech like the *Avail*, an amazing new hearing instrument,” assures Bonnie.**

accordingly. The technology enables the hearing instruments to effectively integrate and manage the features automatically.

“This is something the industry has been trying to accomplish since its inception,” reflects Bonnie. “Its manufacturer, Qualitone, has been working for the past five years, at a cost of \$40 million a year, to hire exceptional people and then with their help to fulfill its research and development goals.”

*Avail* is obtainable in all sizes: com-

## Bonnie Hearing, Inc. Bonnie D. McGrath, LHAS

pletely in the canal, in the canal, in the ear, and behind the ear. Bonnie can provide patients with an individualized recommendation and rationale for a size based on each patient’s hearing needs and physiology. The instrumentation used in her office enables her to perform a comprehensive hearing evaluation and to effectively treat hearing impairments.

### Speech mapping

“The primary reason for fitting a hearing aid is to improve speech understanding,” reminds Bonnie. “Live speech mapping places real speech in the patient’s preferred listening range.”

Speech mapping is an innovative approach that provides hearing aid specialists with objective hearing aid measurements and is used as part of a hearing instrument fitting and verification protocol. “By using speech mapping, patients can see how well their digital hearing aids perform for soft, comfortable, and loud sounds, for music, or for speech,” educates Bonnie. “It is also a method by which I can see exactly how much information my patients are

receiving through their hearing aids.”

Bonnie describes the mapping device. “A screen displays all the different sounds in the English language. By inserting a probe into the ear of the hearing aid user and then speaking, I can see on a graph where the sound of my voice or a spouse’s is going and how it is relating to them. I can test to see if their hearing aids are hitting all of the necessary areas to assure they are receiving all of the high- and low-frequency sounds.”

Bonnie can program the hearing aid while her patient is hooked up to the computer, and as she makes adjustments she can see the changes throughout the frequency range. “We can pause the graph in real time,” she says, “and go into the program while patients are both listening and watching.

“When people get hearing aids, they want to know that they are hearing accurately,” reflects Bonnie, “and speech mapping gives us that verification. They can see for themselves how the hearing aid is reacting to my voice, and they can participate in the fitting process.

“Typically, sounds like *s*, *th*, and *v* are difficult to hear. If we need to, we can go into our patient’s hearing aid program and boost the instrument’s ability to hear just that frequency range.”

Speech mapping helps to ensure that the hearing aids are optimally programmed.

### Individualized hearing

When deciding on the style of a hearing instrument, Bonnie considers her patients’ hearing evaluations, lifestyles, cosmetic requirements, dexterity, and input. “We are here to find the best instrument for each and every patient,” she observes.

Bonnie notes that the more time a person spends in and out of background noise, the more benefits can be gained

from advanced technology.

“The more active individuals are, the more diverse their listening environments usually are,” notes Bonnie. “For instance, for someone who spends a significant amount of time at home, the noise environment is probably fairly consistent. However, for those who spend time at social functions, meetings, sporting events, restaurants, or the theater, their hearing needs will change throughout the day.”

At Bonnie Hearing, patients can test their present hearing aids or try out their new hearing aids in a listening environment called *surround town*. “Our patients can position themselves into different environments,” says Bonnie. “They can replicate all kinds of listening situations such as those of a restaurant with a waiter, a piano, and conversation or of being at home with children talking, a barking dog, and birds chirping outside.

“Each patient’s hearing loss is unique. That is why we are a multiline dispensary, using many quality hearing aid manufacturers. Companies offer different features in their hearing instruments. Finding the best hearing aid for a patient today is much easier than in the past because many manufacturers produce entry-level, mid-price, and high-end digital instruments.

“People owe it to themselves and their families to regain the quality of life improved hearing can bring.”

FHCN—Kris Kline

### Better hearing for YOU!

Find out if your hearing problems can be helped. Bonnie invites the readers of Brevard Health Care News to call for a consultation at (321) 254-6141. Bonnie Hearing is located in the Harbor Pines building, 700 N. Wickham Rd., Suite 109, in Melbourne.

Bonnie D. McGrath, LHAS, graduated from the University of Florida in 1985. She is a board-certified hearing instrument specialist and a member of the Florida Society of Hearing Healthcare Professionals.