

## From the Editor

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Arthur N. Popper



We try to have wide-ranging content in *Acoustics Today* (AT), with the goal of having material that all members of the Acoustical Society of America (ASA) will find interesting, and from which they might learn about interesting things outside of their specialized areas. This issue is no different both in terms of species (fishes, humans, insects) and topics covered, although the brain is a part of several of the articles.

Past issues of AT have covered sound production mechanisms in many species (see [bit.ly/ATC-Bioacoustics](https://bit.ly/ATC-Bioacoustics)) but never in fishes. In our first article, Michael L. Fine and Eric Parmentier write about this fish sound production. Interestingly, acoustic communication arose early in the evolution of fishes (and thus of vertebrates). While many readers are familiar with sound production mechanisms that involve the movement of air (e.g., in mammals), the mechanisms involved in fish sound production are fascinating and quite different, and often involve a variety of different body parts.

In the second article, Steven Greenberg talks about speech but in terms of its rhythm and processing in the brain. At the same time, Steve points out that rhythm is not unique to humans but, in fact, is found throughout the animal kingdom, although it is especially important in human speech.

This is followed in an article by Bonnie K. Lau who talks about pitch perception, a critical part of speech, and its development in infants. Bonnie is particularly interested in how pitch is perceived by young children even before many of the auditory regions of the brain are fully developed.

In the fourth article, Jonathan E. Peelle and Arthur Wingfield provide insight into how the human brain processes speech. An important consideration of this article is how the brain deals with masking noise that could impair the detection of speech. And, as part of the

article, Jonathan and Arthur give a lovely “primer” on the human brain and where it processes speech.

The fifth article, by Louise Roberts and Kyle Wickings, introduces a new word to most readers, biotremology. Biotremology is the study of how signals are detected and used by both terrestrial and aquatic animals. In fact, many members of the ASA are familiar with the physical basis of biotremology, substrate vibration. In their article, Louise and Kyle give a broad overview of the topic and show how these signals have great importance to animals ranging in size from elephants to insects.

Our last article brings us to music. After reading this article on guitar sounds by Jesús Alejandro Torres, I can no longer listen to a guitar without thinking not only about the music I’m hearing but also how the music is produced. Jesús introduces us to both acoustic and electric guitars and the fascinating differences between them not only in structure but also in how they produce sounds and the sounds they produce. This article is one of a number we have had over the years about musical instruments, the complete collection of which can be found in “AT Collections” at [bit.ly/ATC-Music](https://bit.ly/ATC-Music).

As usual, there are several interesting essays in our “Sound Perspectives” section. Our new series, “Conversation with a Colleague” (CwC; see [bit.ly/ATC-CWC](https://bit.ly/ATC-CWC)), features Andone Lavery, an acoustic oceanographer well-known to many members of the ASA. In her article, Andone focuses on her fascinating work in acoustics in oceanography and about how she evolved her current interests and pursuits.

As an aside, Micheal Dent, my colleague who edits the CwC essays, will continue to reach out to technical committee chairs to get suggestions for possible people to include in the series. Our focus is on midcareer scholars, and we are hoping to include essays by people in a variety of different career paths. Indeed, the next CwC will be by a professional architect.

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## From the Editor

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We annually have an essay from the active and important ASA Student Council (see [bit.ly/ATC-Students](https://bit.ly/ATC-Students)). In this issue, Megan S. Anderson, Zane Rusk, Colby Cushing, Lucy Ruoqian Cheng, Hilary Kates Varghese, Mark Langhirt, and Elizabeth Weidner tell stories about their research as graduate students. It is great to see that our students are starting out with strong and interesting research programs. If they are, as I suspect, representative of the newer acousticians in the ASA, the Society has a great future not only for its membership but also for its contributions to the overall field.

Other potential acousticians are featured in the piece by Laurie M. Heller about the ASA participation in the International Science and Engineering Fair. However, these prize-winning students are in high school, and they, as demonstrated in the essay, are already doing amazing research in various aspects of acoustics. I propose the suggestion that any acoustics-related undergraduate programs try and “recruit” these remarkable young people.

The ASA is, as many readers know, looking for ways to educate members and the community about acoustics issues. Indeed, ASA members are increasingly engaging in improving communication in both the Society and the community, and *AT* has featured several articles and essays on this topic (see [bit.ly/ATC-Communications](https://bit.ly/ATC-Communications)). In this issue, Kathleen J. Vigness-Raposa, Holly Morin, Christopher Knowlton, and Gail Scowcroft discuss best practices for developing and using education tools online. They base this essay on 20 years of experience with online learning, including webinars, in the Discovery of Sound in the Sea (DOSITS) project. The lessons learned by DOSITS are highly applicable to the ASA and to all members of our community, and I encourage you to review what the authors share.

As you can see, I included several links to “*AT* Collections” in this column (see [bit.ly/AT-Collections](https://bit.ly/AT-Collections)). “*AT* Collections” is a relatively new feature of the *AT* website that is intended to bring together the more than 325 articles published to date into groupings that apply to a variety of topics, many of which can be used in college courses or for other educational purposes. We welcome new collections based on courses members teach, research interests, job function, or

any other purpose. Developing a collection is quite simple. If any reader would like to develop a collection, please drop me an email ([apopper@umd.edu](mailto:apopper@umd.edu)) with your ideas.

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