

## **ASA Education and Outreach Program**

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Before discussing how to conduct outreach, I want to briefly reiterate its significance. Acousticians who do outreach are often introducing the public to acoustics for the first time and inviting them to not only get involved, but to also understand and value the field. These interactions generate public interest in and support for acoustic research. By developing and including outreach programs in research, acousticians increase their chances for funding from the National Institutes of Health (NIH), National Science Foundation (NSF), and other grant-funding organizations. Remember that anyone can benefit from doing outreach. Whether you are a university professor, a professional engineer, a graduate student, or any other kind of acoustician, you can contribute to the purpose of the Acoustical Society of America (ASA) to generate, disseminate, and promote the knowledge and practical applications of acoustics. For more information about why acousticians should do outreach, see my article in the Summer 2017 issue of *Acoustics Today* (<https://tinyurl.com/y83q3ohe>). Here I discuss how acousticians can develop their own acoustics-themed outreach program.

First, decide on the kind of outreach you would like to do. Remember that “acoustics” is a broad term. You could choose to focus on a specific topic, such as vibrational transducers, aeroacoustics, phonetics, or acoustic cloaking, or do acoustics more broadly. Below are some acoustics outreach ideas and examples. This list is based on the American Physical Society (APS) Outreach Ideas list. You can find more tips about implementing outreach on the APS Outreach Guide website (<https://tinyurl.com/ybed9oae>).

### **Acoustics on the Road**

Bring acoustics to your audience, such as K-12 schools, colleges, festivals, and conferences. This could be hands-on demonstrations, presentations, or a combination show. You can tailor your road kit for a specific age group or have variations for different kinds of audiences. The ASA Girl Scout Listen Up and Get Involved session (<https://tinyurl.com/ydc83xtut>) is an example of a road show. The ASA brings all the equipment and invites the guests.

### **Acoustics Lectures for the Public**

Lectures are a great way to introduce the public to acoustics research and to meet scientists in different departments, organizations, and businesses. Public lectures are different from academic lectures. They should be designed for people with little acoustics background. Typically, lectures are geared toward an adult audience, but you can choose themes or topics for any kind of audience. The Northeastern University ASA Student Chapter (<https://tinyurl.com/ybnt2hxd>) often has invited speakers at open meetings.

### **Science Cafés**

The purpose of cafés is to get people comfortably talking about acoustics and the science of sound with researchers. Because this event typically starts with a lecture component, it could easily be combined with a lecture series. A science café works

well with adults but can also work well for high-school students to connect with scientists and professionals. Check out <http://www.sciencecafes.org/for-organizers/> to learn how to start a new café.

**Open Houses**

A department or business open house can be a glimpse into the life of a scientist. Acousticians can give tours of their labs and research space to show what they do and how they do it. These events are also good for showcasing applications of acoustics or advertising acoustics education programs. The Brigham Young University (BYU) Acoustics Research Group (<https://tinyurl.com/y896xuwa>) offers educational tours of their anechoic and reverberation facilities to both school and family groups.

**On-Site Demonstration Shows**

Your audience will come to you to learn about acoustics through presentations and/or demonstrations. A campus demonstration show can be performed during campus visits or campus-wide science day events. The Austin Acoustics ASA Student Chapter (<https://tinyurl.com/y77oyhv8>) often takes part in University of Texas-sponsored outreach activities for children and families.

**Working with a Science Museum**

If you are located near a science museum, you may be able to design acoustics-themed outreach for museum guests. By working with the Oregon Museum of Science and Industry

and other public health organizations, the Oregon Health & Science University created Dangerous Decibels (<https://tinyurl.com/ycg3kgbh>), a 2001 to 2012 exhibit about noise and hearing loss.

Whatever outreach style or combination of outreach styles you choose, write specific outreach goals. This will help you to decide what kind of audience and activities you want to do and help you find the appropriate funding resources. For example, two goals for the ASA Hands-On Demonstration Session for Middle and High School Students (<https://tinyurl.com/y7wyeo98>) are to (1) expose young people to opportunities in acoustics and (2) provide young people with an opportunity to interact with acoustics professionals.

With your goals in mind, begin to work out the logistics of conducting outreach. **Table 1** answers some questions for the ASA hands-on session as an example of how you can get started.

The specific needs of your outreach program will vary. For a lecture series, you will need to secure space to have the talks. You will need to determine if it makes sense to have a fixed location or if the talks should be moved based on the topics. University-based science communicators should consider having the series off campus, which often results in higher public attendance. If a business or community center is the host, you may need to pay a reservation fee. For demonstration sessions, you can recruit a team to develop content or you can use and expand on preexisting materials (contact [kjones@acousticalociety.org](mailto:kjones@acousticalociety.org) for ASA demonstra-

*Table 1. ASA hands-on session*

Who is your audience?	Young people: middle- through high-school students
Where/how will you recruit your audience?	ASA will contact science teachers and coordinators and confirm attendance at least 1 month before event
How many will be in your audience?	We can accommodate about 50 attendees total
Will you do the outreach alone, or get volunteers?	ASA member volunteers
Where/how will you recruit volunteers?	Call for volunteers to Society members
How many volunteers will you need?	At least 20
Who will coordinate the event/program?	The ASA Education and Outreach Coordinator
How long will the event be?	The individual session will be 2.5 hours long, with additional time for setup and tear down
Where will the event/program take place?	Sessions will be held at the biannual ASA meetings
What type of equipment do you need?	Demonstration materials and signs for 18 stations
What does the budget need to include?	A pizza and soda meal for audience and volunteers as well as discretionary funds to update, replace, or fix demonstration equipment and materials

tion documentation). You will need a list of all demonstrations, materials, and equipment, and you may want to have guidelines or training sessions for volunteers. You will also need to be aware of safety protocols, especially if the demonstrations include fire or very loud noises. In all cases, you should think about how people will find out about what you are doing and when you are doing it. Word of mouth, email Listservs, and networking are all low-cost options, but you can also consider paid advertisements.

Different outreach programs have different financial needs. If you need to offset costs, you could choose to charge admission; however, this will limit who can attend. To keep the event free, check within your department, university, division, or business for funding options. Many institutions are more inclined to fund projects that have interdepartmental or interdivisional links and broad appeal, which suits acoustics quite well. No matter what your specialty is, you can find someone working with sound in another field, so consider collaborations. You might also have luck finding a large or

local corporate sponsor. You can also search for public and private grants. Grants often have specific requirements or goals, so you may want to look at grants before fully developing your program. The Center for Advancement of Informal Science Education (CAISE; <https://tinyurl.com/y8z-2t4yy>) has a great list of funding resources.

Make sure your outreach matches your audience. You can have lectures for kids and demonstrations for adults, but you will need to change not only how you present the material but also how you approach the audience. Consider taking part in one of the science communication training programs listed on the CAISE website (<https://tinyurl.com/ycmomcw3>) and look for science communication courses at nearby schools. These opportunities will provide you with the skills and knowledge required for interacting with audiences of all types. The best way to communicate science and be successful in outreach is to practice. Practice with others in a course or a workshop or with us at ASA meetings!

## NEWS from the Acoustical Society Foundation Fund

The Foundation Fund has two interrelated items of interest to announce. First, we are pleased to have received a generous donation from Peninsula Publishing, dedicated in honor of author Robert J. Urick, to commemorate the upcoming new and revised edition of *Principles of Underwater Sound*, to be released in the spring of 2018. This contribution will be used to support a scholarship for students of underwater acoustics and acoustic oceanography who are in need of financial aid. Details will follow.

Second, to serve this type of contribution, the Foundation Fund has established a new “designated donation” account that allows donors to recognize a proposed use or acknowledge a designated person (e.g., in honor of Robert J. Urick) without the obligation of establishing a large permanently endowed fund. For example,

in this manner, donors can support the Urick award or corporate donations can be made to support the Physical Acoustics Summer Session (PASS). The contributions through this account are tax deductible to the extent allowable under the law and will be professionally managed by the Acoustical Society of America Investment Committee.

If you are interested in making a contribution in honor of a particular person or in designating a contribution for a special program, please direct your inquiries to the Acoustical Society Foundation Fund.

Carl Rosenberg  
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### *Mission of the Acoustical Society Foundation Board:*

*To support the mission of the ASA by developing financial resources for strategic initiatives and special purposes.*

**ASFF** For more information, contact: Carl Rosenberg at [crosenberg@acentech.com](mailto:crosenberg@acentech.com)