Reaching Out to the Public: A How to Guide

AALAS Foundation

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Introduction

Every person in the United States has benefited from the results of biomedical research. From the development of new drugs, vaccines, or procedures to prevent or treat diseases; to the safety testing of products we use every day of our lives; scientists strive to better understand the causes and treatments of disease

Through the similarities between humans and laboratory animals, we have learned much about our bodies and how they work. But there are two questions to consider:

1. How much information does the general public have about animal-based research?
2. From whom do they receive most of this information?

Talking about your work in laboratory animal research can help build understanding about biomedical research and laboratory animals.

Objectives

Upon completion of this presentation, you will be able to:

- Discuss the importance of public outreach.
- Explain how public outreach builds community relationships.
- Describe ways to communicate effectively with an audience.
- Determine the type of audience you have, so that you may convey an appropriate message effectively.
- Engage a variety of audiences.
- Identify community resources, for possible outreach opportunities, that best fit your comfort level of speaking.
- Describe the preparation needed for a public outreach visit.
- Identify the resources available for public outreach.

The Ongoing Need for Public Outreach

Public Outreach Builds Understanding

It is important for the laboratory animal science community to provide accurate information to the public. Providing avenues in which research and animals caregivers can speak about their work is the beginning of communicating our message.

- The message must include information about who takes care of our animals, how they are cared for, and how we feel about them.
- Some information about regulations and how the studies are conducted and monitored should be included.

Effective messaging ties all of this information to public and personal demands for treatments, cures, and other biomedical interventions that continue to improve the quality of human and animal lives.

The future of biomedical research and the future of human and animal medicine depend on how well the research community educates the public about the continued necessity of animal-based research for the well-being of all of our loved ones, including our pets.

Public support for biomedical research will be enhanced if we actively educate the public about our work. This can enhance political, legislative, legal and financial support for animal research.

Public Outreach Builds Understanding

The biomedical research community must:

- Make a concerted effort to educate the public about the importance of quality laboratory animal care and research.
- Work together to inform the public about what is learned from humane and responsible animal studies and show them why that matters to them on a personal level.
- Help the public understand the threat to valuable research efforts and what we all stand to lose if research with animals ends before we have viable and reliable alternatives that truly meet demands for treatments and cures.
- Inform the public about the care provided to animals in research. Individuals who work with laboratory animals are compassionate, specially trained professionals who are drawn to this work because they love animals and people.
- Educate the general public about how we tend to the physical, emotional, mental, and social needs of research animals.
- Express our respect and gratitude for the animals and researchers who continue to improve the quality of our lives.

Public Outreach Builds Understanding

- We must continue to enhance the public's awareness of how animal research generates medical advances that benefit both people and animals.
- Finding creative ways to encourage today's students to become tomorrow's research professionals is a key component for the future of animal-based research.
- This presentation will provide you with some tools and information to help you make a difference in our future by reaching out to your community. As you navigate through this presentation, think of ways you can enhance our efforts to build public understanding, respect, and support for animal-based research.

Building Relationships & Effectively Communicating to an Audience

Building Relationships in Your Community

Relationship building might come in the form of story time at your local library. It might be an opportunity to sit on a panel at a middle school career day. It could be over lunch at next month's Rotary meeting or on the plane ride home from vacation. The venues are endless.

Building Relationships in Your Community

In today's economy, teachers and community groups are looking for free resources. Become that resource. For example:

- Provide videos, posters, and brochures for your high school's science department.
- Offer to be a "celebrity" reader at community reader day in your local elementary school.
- Drop off outreach materials at your local library or middle school.
- If you are comfortable speaking to a group, ask to be included on your Chamber of Commerce's speakers bureau list or provide your name as a resource to local schools and civic groups, like Lions, Kiwanis, or Rotary.

Building Relationships in Your Community

Share YOUR stories and experiences working with animals in research. Use your animals' names and share your true feelings about them, what they mean to you and why. Speak to your neighbors, friends and acquaintances about the value of animal research in all of our lives. Every conversation counts!

<u>The message is simple:</u>

Science is good.
Animal research is necessary.
We care!

Building Relationships in Your Community

- Research shows that children, especially girls, lose interest in science as they move from elementary school into middle school. Studies also suggest that exposing young people to engaging educational activities during this critical period can substantially shape opinions and influence future academic and career choices. Provide a **face** for science in action.
- Use the relationships you have built in your community to inspire today's students to become tomorrow's laboratory animal science professionals.
- Participate in science teacher conferences, career fairs, or host a public outreach opportunity at your institution. If your facility will give you permission, include a tour of your research facility because seeing is believing!

Public outreach can take many forms. Find a form that works for you.

- Find a form of public outreach that works for you and allows you to share your story.
- Provide factual information, but speak from your heart too.
- Be genuine and tell your audience everything they are comfortable hearing.
- Be as transparent and truthful as possible.
- When we share ourselves in this manner, we instill trust and support for our role in laboratory animal science and biomedical research, in general.

Getting Started

To get started, you will need to decide on what your core message to your audience will be. Here are some examples:

- Science is good. Everyone benefits from scientific advances. Research scientists are professionals who care.
- Scientists and researchers work every day to improve human and animal lives through
  - Understanding health, disease, and injuries
  - Developing cures, treatments and preventions of disease
- Animal research works.
  - Humans and animals benefit from scientific advances made through research.
  - Animal research has been responsible for almost every major medical and veterinary advancement for the past 100 years.

Examples to get started

- Animal research is humane.
  - Research scientists, veterinarians, and animal care staff are good people who care about animals and work to ensure that animals receive excellent care
  - Institutions have individuals who are responsible for overseeing the animal care program and that research is performed to the highest standards and meets all individuals.90-95% of animals needed for research are mice, rats and fish.
  - Animals from shelters and stray animals are generally not included in research studies in the United States
  - Researchers are required to minimize pain and distress in animal studies. This requirement is critical for humane animal treatments, as well as reliable scientific results.

Examples to get started

- Animal research is regulated and ethical.
  - There are federal, state, and local regulations that govern the care and use of animals in research.
  - Research institutions are required to have an autonomous committee that oversees the use of animals in research and instruction. This Institutional Animal Care and Use Committee (IACUC) is advisory to the institution but does not answer to anyone in authority at the institution. This independence allows the IACUC to make unbiased decisions on whether or not to the proposed use of animals is justified.
  - Researchers must justify the need for animals, the procedures to be conducted, and the number of animals necessary for all studies.
  - Scientists and researchers are committed to the ethical treatment of animals. The 3Rs of biomedical research include:
  - Reducing the numbers of animals required to achieve valid study results
  - Replacing animal models with non-animal models whenever possible
  - Refining studies to ensure that animals receive the most humane care and treatment possible while on study.

Examples to get started

- Animal research is necessary.
  - The future of science and scientific advances rely on animal-based research.
  - While there are several non-animal alternative technologies used in conjunction with animal studies, full replacement of studies with animals is not yet possible.
  - We are not yet able to study a whole body system and how the body responds to the environment in a Petri dish.
  - We cannot program computers to mimic living systems completely without a full understanding of how living systems function in the first place.

Choose Your Words

- We must be careful about the words we choose when speaking about animal-based research. The first few lines of your ensuing conversation are the most critical and every word used must be chosen carefully. Along these same lines, avoid saying any of the other words used commonly in propaganda, like torture and vivisection. Do not say them even to disagree with them. These words can be interpreted as cues. Instead, share experiences that convey professionalism and compassion.

- Talk about your relationships with your animals and how you address their species-typical needs with environmental enrichment.

- Talk about the animals' endearing behaviors and how you work with them through positive reinforcement training to cooperate in studies. Point out that in doing so we shape the quality of lives today and tomorrow because outstanding animal care leads to outstanding biomedical discovery.

Choose Your Words

Table 10.2. Examples of words or phrases that may can affect your message.	
Words or Phrases to Avoid	Words or Phrases to Use
Use of animals/using animals, research on These are words used commonly to describe tasks done with things, not living beings.	Work with, research with, study Refer to promising "work with" animals and the hope that "research with" them brings to millions of people and animals suffering with serious and life-threatening illnesses.
Experiments Avoid using the word "experiment" as it may infer poorly conceived, mad science as illustrated in horror movies and books.	Studies Biomedical progress relies upon carefully designed studies of nature that allow us to improve the quality of human and animal lives.
The animal, it Words that may be perceived to objectify animals should be avoided because they may infer that animals are meaningless things.	Ours, yours, theirs You may also use your animals' names when you share your story and refer to them as yours to evoke the respect you feel for your animals and the quality of their lives.

Effective Messages

Delivering an effective message is not difficult and can be narrowed to 4 key ingredients.

- **Repetition**
  - Tell your audience what you are going to tell them. Tell them. Then, tell them what you told them.
- **Simplicity**
  - Use the old "kiss" cliché: Keep It Simple Silly.
  - Avoid industry specific jargon.
  - Resist the temptation to overload your audience with information. In most cases, you will have forgotten more science than your audience EVER knew.
  - Deliver simple, clear and concise ideas.

Effective Messages

- **Relevancy**
  - Your message needs to matter to your audience. *Make it personal for them.*
  - Ask yourself the 'so what' question. How does this information impact the audience?
- **Storytelling**
  - Tell your story. Nothing is more powerful than a personal narrative. Nothing.
  - Storytelling provides a common ground, a shared experience, and a sense of camaraderie with your audience.

Regardless of your work role, you represent science when doing public outreach. It is important that your message explains not only the scientific method, but also demonstrates how science is truly driven by objective proof resulting from observation and experimentation.

Elements of the Message

Your message should have three parts:

- **Introduction.** You do not need a catchy introduction. Introduce yourself and describe your job, but provide your audience with more than your title. Explain your role at your workplace and the far-reaching benefits of the work you do. This basic information can go a long way in dispelling preconceived notions.
- **Main body.** Do not try to cover more than 5-6 points in the main section of your talk. Consider using a real life anecdote to paint a picture for the listeners. Incorporate time for questions and conclude your presentation in an effective way.
- **Conclusion.** Try to end your message on a positive note.

If someone in the audience disagrees with you, remember that while you will not change everyone's mind, you can provide the facts. Remain calm and relaxed. Agree to disagree and go on with your program.

The Messenger

The audience will remember how they related to you as a person, not as a scientist. You are a good and caring person! Make eye contact, scan the room as you are speaking, and smile.

- Tell them about yourself and share what you care about. Establish your authority and outline your credentials. Let 'you' shine; remember a little humor can go a long way.
- Listen to the audience as well and never disrespect an audience member's opinion or position.
- Be animated, energetic, and have fun.

The Audience

- Your audience will typically fall into 2 categories: adults and students.
- The next 2 lessons will discuss each one and identify how you can tailor your message to fit their needs and interests. It is important to know your audience so that you can present the correct topic.

Speaking to Adults

The Basics

- Most American adults will have a positive impression of scientific community speakers providing information on biomedical research. A speaker should be aware, however, that demographics and attitudes do vary based on age, gender, culture, beliefs, and values.

- Construct your message to meet their expectations and include topics that are most relevant to them.
  - What message would appeal to them?
  - What beliefs do you share in common?

- For example, if a local neighborhood association has invited you to speak and you know they are heavily involved in cancer research funding, you can craft a message to coincide with this demonstrated interest.

Tell a Story

A story that people can relate to themselves or someone they know is a powerful message. For example, if you have a family member who has diabetes or heart disease, tell them how biomedical research has helped find better treatments. Tell them how biomedical research has helped animals, such as their pet dog. Here are some examples of how research with animals has benefitted people and animals that can help you relay that message.

Tell a Story: Polio

- **Polio.** In the late 1940s, polio crippled and killed thousands of people around the world every year. Polio reached a peak in the United States in 1952, with over 21,000 paralytic cases. After a vaccine was developed in the late 1950s and early 1960s, polio was brought under control and practically eliminated as a public health problem in industrialized countries. Today, the disease has been eliminated from most of the world; only 16 countries worldwide have cases of polio in limited areas (Cornell University Feline Health Center; UNICEF). Today's children routinely receive a vaccine that provides a lifetime of protection from the disease. Children are also immunized against typhus, diphtheria, whooping cough, smallpox, and tetanus. Untold millions of people around the world are healthy adults because of these vaccines, which were made possible through animal research.

Tell a Story: Diabetes

- **Diabetes.** This is another example of the importance of biomedical research. In the United States, 7% of the population (more than 20 million people) have diabetes. Over 1 million new cases of diabetes are diagnosed each year, and based on death certificate data, diabetes contributed to nearly 225,000 deaths in 2002 alone (American Diabetes Association; National Diabetes Information Clearinghouse). Without insulin treatments to regulate their blood sugar levels, many more diabetics would die. Dogs were crucial to the research that identified the cause of diabetes, which led to the development of insulin. Recently, researchers have developed insulin pumps to replace injections; and current transplant research and new therapies, such as pancreatic cell recolonization, offer the hope that diabetes can be cured.

Tell a Story: Heart and Circulatory Disease

- **Heart and circulatory disease.** The importance of animal research to those suffering from heart and circulatory diseases cannot be overlooked. According to recent estimates, one in four U.S. adults has high blood pressure, which can cause strokes, heart attacks, and heart disease, and nearly one-third of them do not know it (American Heart Association). Research involving animals has helped identify the causes of high blood pressure and develop more effective drugs to control the problem. Other research has resulted in treatments for strokes and heart attacks that save thousands of lives and reduce recovery time. Dogs have been especially important to researchers who developed open-heart surgery, pacemakers, and heart transplants. These techniques have revolutionized the therapy for people who have severe heart disease.

Tell a Story: Feline Viruses

- **Feline immunodeficiency virus and feline leukemia virus.** Animals benefit from biomedical research as well. Feline immunodeficiency virus (FIV) and feline leukemia virus (FeLV) infections are major causes of death in cats. In the U.S., it is estimated that 2–3% of all cats are infected with one or both of these diseases. A vaccine is available to prevent these diseases, but additional work is necessary to explain these diseases and their treatment.

Tell a Story: Parvovirus

- **Parvovirus.** Sometimes research can have unexpected benefits. In 1978, there was a sudden, worldwide outbreak of a virus among dogs which caused vomiting, diarrhea, dehydration and, frequently, death. Researchers soon discovered that this disease, called canine parvovirus, was similar to the feline panleukopenia virus. Since a vaccine was already available for the feline panleukopenia virus, a vaccine for parvovirus was developed, tested, and made available for distribution within a year. Now recognized as one of the most significant success stories of modern veterinary science, the parvovirus vaccine checked the spread of the disease among adult dogs in the United States almost immediately. However, puppies between 6 and 16 weeks of age are still at significant risk of being infected by the virus, and further research is needed to protect pets of all ages.

The Specifics

- Remind your audience about the basics of research. Research is the systematic process of compiling existing knowledge and understanding. Science is the desire to know and the methodology for figuring out answers to questions. Understanding is expanded even in failed experiments.
- Adult audiences will enjoy a timely message. Audiences cannot resist the appeal of new discoveries and cutting-edge science. As always, inside information sells.

The Specifics

Some topics to consider when addressing adult groups include:

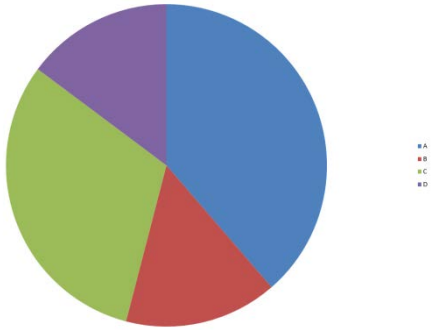
- Current research projects (permission may be required) and examples of biomedical progress
- Care of animals in a research setting
- Basic research and the drug discovery process
- The cost of medicines
- Personal health anecdotes

Senior Audiences

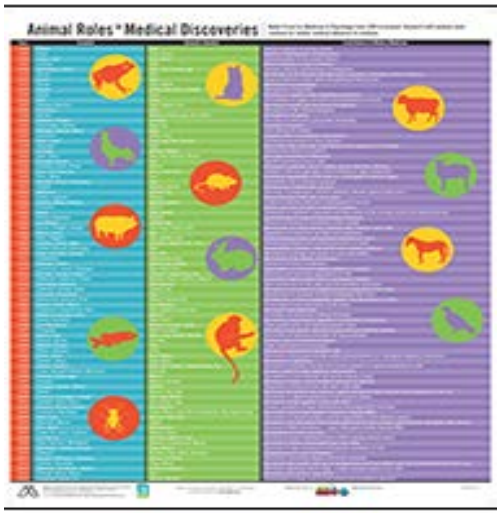
- Seniors may be the most powerful voice in our nation and continue to be some of the most active voters. They remember how things used to be and how medicine has changed and improved countless lives.
- They value the concept of legacy and leaving something for future generations. Finding topics to appeal to this age group is easy as most seniors use medications or have experienced surgeries developed through animal research. Personal anecdotes regarding cardiac care, diabetes, or even joint replacements will provide a shared experience moment for this audience.
- Since companion pets are important to this group, highlighting the benefits of research for the health and longevity of the family dog or cat is often well received.

Audiovisual Aids

- If you plan to use pie charts, graphs, or PowerPoint slides, keep them simple. They should enhance your message, not become the message.



- Use visual tools, such as posters to support the discussion and generate questions from the audience. For example, the AALAS Foundation publishes the Animal Roles in Medical Discoveries poster that provides information on Nobel Prize winning research and the animal model that helped the researcher develop that research. This could stimulate a discussion on what diseases have been cured with the research.



Just the Facts

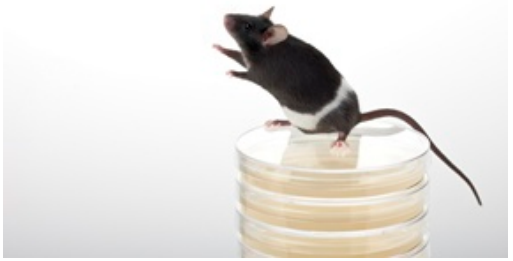
Again, no one knows your job better than you. Be ready to share your **knowledge**.

- Discuss regulations affecting research, including USDA regulations and how an IACUC functions.
- Explain animal models and their purpose. Be short, clean, and clear.
- Use comparative anatomy to explain research.
- Most audiences relate to sports injuries and pain from aging.
- Discuss how animals help us learn how our bodies work. We often share similar diseases like diabetes and cancer.
- Explain how the health of the family pet has been improved. Animal research helps animals, too.
- Describe enrichment for the animals, the cleanliness of the facilities and the 24-7 year round care, even on holidays. Animals used in research are cared for and maintained.
- Explain how animals are protected by numerous federal regulations.
- Remember to explain your role is not the beginning or the end of research. Give a brief outline of the WHOLE process. Do not forget to include how research ends up in human clinical trials.

Setting the Record Straight

Set the record straight.

- Rodents are used more than 90% of the time in research today.
- Companies that claim they conduct no animal testing either contract testing to an outside laboratory or use compounds known to be safe through previous animal testing.
- Highlight the difference between animal welfare and animal rights.
- Touch on the 12-15 year drug discovery process. Explain the process before new medication is available at the pharmacy.



Questions to Ask Yourself

Take some time to consider these questions as you prepare a message for an adult audience.

- What is your work story and what does it mean to you?
- Why is research critical and how does research work?
- Who is your audience and what do they care about?
- What do you share in common with them?

Speaking to Students

The Basics

- School age children are the most important audience you will address. They are eager to learn about you and your work. Teachers welcome the chance to have professionals speak to their students and talk about medicine, science, animals and research.

- When you visit a classroom, you have one primary goal. That goal is to be LIKED. Children can sniff out a phony from a mile away and authenticity is important. Share your story along with what you know and what you have experienced. No one knows your job better than YOU.

The Basics

- Older students, those in middle school and high school, will have questions about the future of medical research and are beginning to think about career opportunities. Elementary school students want to know how animals and people are similar and why science and research is important to both. Share your career path and express the importance of the next generation of laboratory animal science professionals to our future.

- **Never** belittle a student or attack a student for their beliefs. This will turn the whole class against you as the student's classmates will align with their fellow student.

The Specifics

Students must be encouraged to view science as a way to think, question, and solve problems. Students need to develop problem-solving skills to deal with life's realities. It is also important that you incorporate active learning into lessons for children. A good example of this is the article, Going Back to School that was published in Laboratory Animal Science Professional in June 2013. They are naturally hands-on learners. Here are a few ways to make the connection.

- Do you play with puzzles?
- Do you play detective games?
- Do you enjoy mystery books or TV shows?
- Do you know anyone who is sick?
- Do you have pets?

The Specifics

- Explain to the students that learning is problem solving and make the connection that science is about solving problems, just like a detective. Point out that many questions in science do not have answers yet.
- Children learn best when they can relate new information to their own experiences. Discover what they care about and use those topics as a launching point for a discussion on the past, present, and future of medicine.

The Specifics

- Incorporate examples of real life illness and disease as a basis for brainstorming.
  - What will the world be like when they grow up?
  - What kinds of medicines might be available?
  - What diseases will be cured?
  - Do animals have diseases?
  - How do you think we can cure or treat diseases?
- Encourage questions and model out loud thinking. Use wording such as "tell me more, do you mean, or let me build on that idea" so you can guide the conversation, provide information as needed, and engage the students.
- Be an active listener. Allow time for the students to think and respond.

Presentation Tools

- It is important to have the right tools for your presentation. Consider these resources for elementary, middle, and high school students. Keep in mind that 12 years of age seems to be a magic number. At age 12, most students begin to lose interest in science just as they are beginning to form opinions they may carry into adulthood.

- Personal protective equipment, enrichment, animals, animal caging, pictures, activities, games and trivia are all important tools to bring when speaking with students. Providing them with activities to engage them is important to ensure knowledge transfer.

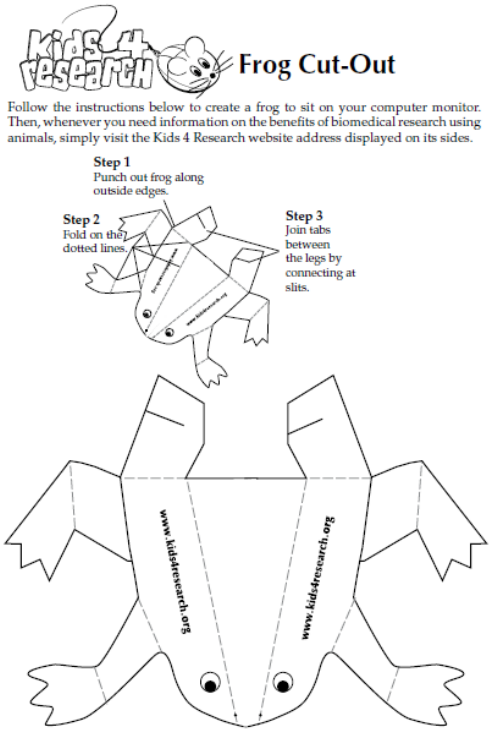
Presentation Tools

- Positive reinforcement via candy, pens, and materials you picked up at a conference, etc. Encourage dialogue (relevant to the discussion) by providing your audience with rewards for participation.

- Some resources can be used for more than one group, depending on your presentation's focus. Public outreach resources are available for free from the AALAS Foundation.

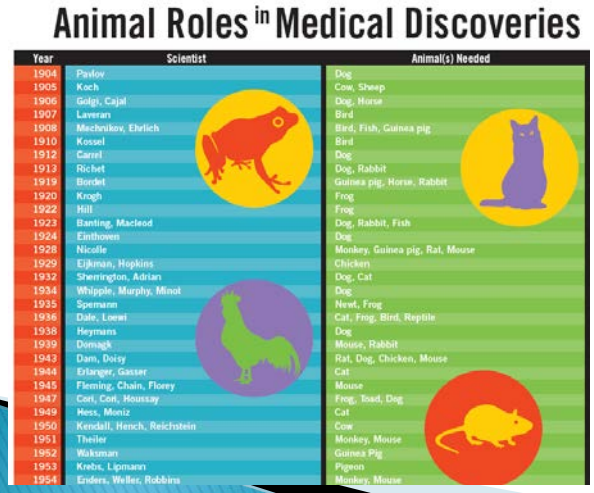
Elementary School Students/Teachers – Focus on Animal Welfare

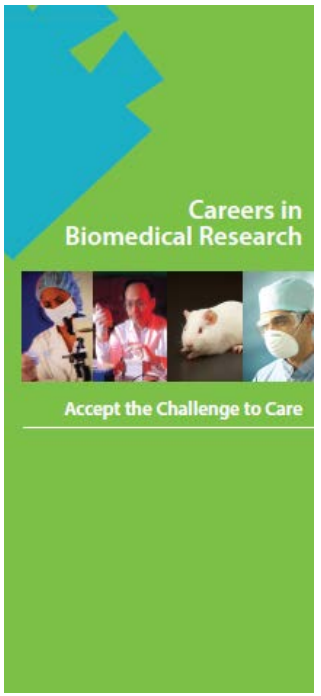
- Caring for Animals in the Classroom
- Kids 4 Research Frog Punch-Out Card



Middle School Students/Teachers – Focus on Science & Careers

- Careers in Laboratory Animal Science Brochure
- Careers Video
- Animal Roles in Medical Discoveries Poster
- Fun Activities





High School Students/Teachers – Focus on Science, Careers & Ethics

- Pfizer Animal Research Education & Awareness Program (AREA). Pfizer has established a Branch AREA Program Fund. A limited number of grants are available to AALAS Branches interested in conducting the AREA program
- Teacher Resources – all levels

Teacher Resources

area
animal research
education &
awareness

Preparing the Message for Students

Consider these suggestions as you prepare a message for students.

- Talk to the students at eye level (e.g., sit on floor with elementary school students).
- Dress the part and wear comfortable clothing.
- Talk **with** the students, not **at** the students.
- Keep the students busy to keep their interest in the subject. This can be done with interactive games with multiple stations to stimulate thinking.
- Encourage participation and the development of opinions (JS). Create a safe place for open discussions and sharing.
- Know the current age appropriate language and slang. Avoid industry specific jargon.

Let the students set the pace, and tailor your message to their attention span.

Finding an Audience in Your Community

Preparing Public Outreach Materials and Presentation

Before you run out and book yourself as a speaker, check with your supervisor and investigate your institution or company's policy in regard to public outreach. Once you have permission, and have developed your message, it is time to find your audience. If you are not allowed to publically represent your institution, you may be able to represent your local biomedical research association or AALAS branch as a volunteer.

First, practice on your family and close friends. Deliver your message to this audience first. Get comfortable and ask for feedback.

- Do you use your materials effectively?
- Are they appropriate for the target audience?
- Is the program too long or too short?
- Do you make eye contact?
- Do you have a good delivery pace, incorporating pauses and stories?
- How does your speaking voice sound?

Once you complete some self-editing you are ready to move on to people in the next 'ring' of your larger social circle.

Preparing Public Outreach Materials and Presentation

- Talk to friends, neighbors, and even coworkers. From there, branch out to people you know through religious affiliations, service groups, social clubs, and schools. Ask if they need a speaker and offer your services.

- Register as a speaker with the professional organizations in your community. Often the Chamber of Commerce or national service/civic groups will have speakers provide presentations at their monthly meetings.

- Tap into the current relationships you have in your community to begin to build relationships outside of your main social circle. Some of these contacts might include classroom teachers, Parent/Teacher Groups and school or public librarians. Teachers and Guidance Counselor are often looking for career speakers. Remember we are also educating them on the potential careers our field has to offer.

Prepare for the Visit

Before you arrive at the classroom or meeting room, a bit of preparation will insure your presentation goes well.

Use this checklist to identify issues easily addressed before you arrive.

- Order support materials from the AALAS Foundation, national or local biomedical research associations, your local branch, and/or vendors.
- Confirm your topic with the teacher or meeting moderator.
- Confirm your start and end times.
- Get to know and understand your audience (age, size of the group, interests, language barriers, learning disabilities, hearing or vision impairments).
- For school groups, find out if they have animals in the classroom. If so, incorporate this into your presentation (i.e., animal care, role that animal might have in research, medical advancements that have helped that animal, etc.)
- For school groups, find out what the students are studying currently. Use their current science topic as a launching point if possible.
- Confirm AV availability. Have a back-up plan, such as printed handouts, your own equipment, etc.
- Practice your presentation. Anticipate questions. FAQs at the websites listed at the end of this course provide support in anticipating questions.

Organize your material, handouts and visual aids. Find out if there will be someone available to help set up your presentation.

Conclusion and Resources

References

- Buckmaster, C. You're Heroes—Share Your Truth! LAS Pro. June 2013. Available at: https://www.aalas.org/articles/2013/06/01/youre-heroesshare-your-truth
- Huber, CH. Adventures in middle school outreach. LAS Pro. December 2013. Available at: https://www.aalas.org/articles/2013/12/01/adventures-in-middle-school-outreach
- Ogden, A. Going back to school. LAS Pro June 2013. Available at: https://www.aalas.org/articles/2013/06/01/going-back-to-school

Links

- AALAS Foundation
- Americans for Medical Progress
- AnimalResearch.info
- Cool Science
- Foundation for Biomedical Research
- Federation of American Societies for Experimental Biology
- Innovation.org
- NIH Office of Science Advocacy
- Partners in Research (Canada)
- Pro-Test (UK)
- Understanding Animal Research (UK)

SUBR Organizations

- States United for Biomedical Research
- California Biomedical Research Association
- Connecticut United For Research Excellence
- Massachusetts Society for Medical Research
- Michigan Society for Medical Research
- New Jersey Association for Biomedical Research
- North Carolina Association for Biomedical Research
- Northwest Association for Biomedical Research
- Ohio Scientific Education and Research Association
- Pennsylvania Society for Biomedical Research
- Southwest Association for Education in Biomedical Research
- Texas Society for Biomedical Research
- Wisconsin Association for Biomedical Research & Education

Student Sites

- About Bioscience - NCABR
- Breakthroughs in Bioscience Series - FASEB
- Electronic Zoo - WUSTL
- National Health Museum - Health HQ
- K-12 Overview - APS
- Kids 4 Research
- Kids Home Page - FDA
- MadSci Network
- National Association of Biology Teachers
- National Science Teachers Association
- NetVet Animal Resources
- Toxicology for K-12 Students - SOT
- Speaking of Research
- Students' Arena - CSBR
- Student Information - AAALAC
- What a Year! - MSMR
- Whyville

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