

By Daniel Grushkin

## Try acting like a scientist

### Actor Alan Alda teaches a new generation of researchers how to communicate with the public

This is what happens when you cross doctoral work with improvisational acting: A line of fifteen PhD students face each other in an imaginary tug-of-war. "Make sure you're all holding the same rope," says [Valeri Lantz-Gefroh](#), their drama coach and a theater professor at SUNY, Stony Brook. "You don't want to hold a shoelace when the person in front of you is holding a python."

The line of researchers lurches back and forth across a lecture hall. "Put a little more elbow grease in there," shouts [Deborah Mayo](#), Lantz-Gefroh's colleague. Finally, the young researchers collapse into laughter as one side claims victory. Among theirs is the distinctive laugh of [Alan Alda](#), who's watching the tug-of-war from the sidelines. This strange fusion of serious science and absurd play-acting is the famous actor's brainchild. He believes that it's a first step in teaching scientists how to communicate with the public. Which may sound like a stretch -- at first.



*Researchers play imaginary tug-of-war as part of the workshop  
Image: Daniel Grushkin*

The students are part of a daylong seminar on communicating science to non scientists at Cold Spring Harbor Laboratory in New York. Prior to the imaginary tug-of-war exercise, they stood before each other and delivered short, off the cuff, introductions to their research meant for public consumption. Their talks were stilted and confused. Some swallowed their voices as they spoke. Others talked at the wall behind their audience.

Asked to describe their emotions during their presentations, one researcher complained, "It felt like I was almost insulting myself by dumbing it down." Others nodded in agreement. The doctoral students were playing out Alda's criticism of the science community. Alda believes scientists have been unable to make themselves understood by lay audiences. And as a result are failing to inform the public and policy makers.



*Researchers do a mirroring exercise  
Image: Daniel Grushkin*

"We need to talk to the public," Alda says. "This is holding back the country, and it's holding back the world from making progress on what we now know." He encountered this failure to relate ideas repeatedly when he interviewed hundreds of the world's top scientists about their discoveries for *Scientific American Frontiers*, a show that ran on public television from 1993-2005.

A 2009 [poll](#) conducted by the Pew Research Center reflects Alda's concern. Though the public ranks scientists third after military personnel and teachers in their contribution to society, only half of Americans believe in global warming and a mere 32 percent believe

in evolution. Meanwhile, scientists complain that they're not being heard. Half say that news media oversimplifies their findings, and 85 percent say the public doesn't know enough about science. The numbers show a clear gap between the esteem that scientists hold in the public and the knowledge they're able to transmit.

For Alda the problem starts at the most basic level of communication. "The affect, facial expression body language -- these are things that you wouldn't think are part of a scientific presentation," he says. "Emotion is so important. In scientific communication emotion is probably trained out of us, but there's no reason why it can't be included. Science is a great detective story, especially when you're talking to the public. You want them to get involved in this interesting, emotional tangle."

Last year, in an effort to start addressing the issue, Alda helped form [The Center for Communicating Science](#) at Stony Brook University. One of major thrusts of the center is to teach scientists to connect with their audiences by applying the training that made Alda a star on *M\*A\*S\*H* and winner of five Emmy Awards. Alda began his career in church basements performing the then-cutting-edge improvisational techniques of [Viola Spolin](#). Last summer he began training drama coaches to adapt the techniques for scientists.

Throughout the three-hour session, the doctoral students perform improv exercises like tossing an imaginary ball and adlibbing skits. Alda believes that after six months of classes like these, scientists will automatically become more natural and effective speakers. The idea is to get them to be less self-conscious and more animated with their body language.

At the session's conclusion the students re-explain their research. This time they pretend to have an imaginary audience -- for example, one explains his science to a make-believe child, another stands before an invisible congressional committee. The rest of the group guesses the identity of the audience, and gets it right every time. It's a remarkable transformation.

"When we give a speech we think of ourselves as being the only ones speaking, so everything is on us. But communication goes two ways. It's so important to be able to land what it is you're saying on someone across the room," Lantz-Gefroh says. "You're communicating back even though you aren't talking. It's about the whole exchange."