

Alan Alda at Dartmouth College: The Joy of Science

- Alan Alda , center, laughs as he oversees an improvisation exercise performed by Stephen Sigward, '16, left, of Pelham, N.Y, and Nate Grice, '16, from Alpharetta, GA during a combined physics class regularly taught by James LaBelle and Robyn Millan at Wilder Hall on the Dartmouth campus in Hanover, N.H., on Oct. 11, 2013. Alda, a well known actor, writer, and director, is a Montgomery Fellow at Dartmouth College and has been speaking to science classes on storytelling in science.
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Alan Alda has told the story plenty of times before, and on Thursday delivered it to a packed, rapt house at the Hopkins Center. It goes like this: About a decade ago, he was on location, shooting *Scientific American Frontiers*, the PBS science show he hosts, atop a mountain in Chile. He felt a pain in his side. It soon became unbearable.

He was taken down the mountain and to a doctor, who told him the pain wasn't appendicitis, the obvious culprit. A portion of Alda's intestine had died, the doctor said. He'd cut out the bad part, and sew the good ends together.

"I was so grateful for his explaining it to me in such clear terms," Alda said.

He knew the procedure was called an end-to-end anastomosis. It was one of the first surgeries he performed on M*A*S*H.

In the Moore Theater, the laughs subsiding, Alda, the third of Dartmouth's three Montgomery Fellows this year and a veteran actor known for M*A*S*H as well as *The West Wing* and *30 Rock*, launched into his *raison d'être*: his attempt to get those who work in the sciences to communicate more effectively to the intelligent layperson.

He's been doing it at the Alan Alda Center for Communicating Science at Long Island's Stony Brook University, where he teaches improvisation to memorization-happy science students. And he's just partnered with Dartmouth, for two years, to help collaborate on similar courses, according to David Kotz, Dartmouth's associate dean of faculty for the sciences.

According to Christianne Hardy Wohlforth, the director of the Montgomery Fellows Program, all three of this year's fellows — which include filmmaker Werner Herzog and author and philosopher Rebecca Newberger Goldstein — have similar goals.

"They all use the arts in some way to communicate complicated ideas," Wohlforth said before Alda took the stage. They specialize, she said, in bridging the gap.

Alda was quick to define that gap on Thursday, playing a video in which random Long Islanders were asked seemingly straightforward questions: What is physics? What is global warming? What is a quark?

Most had trouble putting words to the concepts. That's not because they lack intelligence, but they just don't know the terms that might seem basic for those in the scientific community. "You can't assume that they know what a nanoparticle is," Alda said.

He tells those who present their work to try to evoke emotion in their listeners, to find the amusing, the strange or the unusual. If the excitement is there, it becomes contagious, he said, going on to show before-and-after videos of students explaining their research. The afters, naturally, were looser, letting enthusiasm trump what had just hours before been rote.

He demonstrated the disconnect when he brought up an audience member, who he told to pick from a list of three songs and tap one of them out on the lectern. He asked her, before she tapped a rendition of God Bless America, how many people would recognize the song.

She assumed about 80 percent would, and tapped the tune. When Alda asked how many people got it, about eight raised their hands. The Moore Theater has a capacity of 181.

"If you hear the music and all they hear is the knocking, they're not going to get it," Alda concluded.

In a small way, Alda's thinking has already permeated Dartmouth. There's currently one experimental graduate class, taught by three professors — a scientist, a science journalist and an actor who had visited the Alda Center a few months before — in which science students of various disciplines play theater-style improv games. The goal is to improve communication between them and an interested, but uninformed, listener.

In four weeks of the class, Philip Fernandes, a physics student, said he's already seen improvement. Prior to this semester, his presentations were stiff, as he pointed at slides with his laser pointer, talking in monotone.

"You memorized your speeches," said Kate Farris, a computer engineering student standing nearby.

"I memorized my speeches verbatim," he said, but now he's learned to harness the space of the stage, to improvise and use other methods to engage an audience.

Farris noted the increased importance of learning to communicate in a simpler way, especially as interdisciplinary work becomes more important.

"I've felt a big change," Farris said. "For me, personally, it's making my research more exciting."

An added bonus: she can now talk to her family about her work, and they finally understand.

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