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# Grad student answers 'burning' question

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Photo credit: Getty Images | Flame Challenge Finalist, Ben Ames with [Alan Alda](#) attend Alan Alda's Flame Challenge Announcement at The Paley Center for Media in New York City. (June 1, 2012)

A graduate student studying [quantum physics](#) in Austria has won the [Stony Brook University](#) science award for defining what is a flame.

Ben Ames, 31, a native of Kansas City, Mo., and a PhD student at the University of [Innsbruck](#), is the first winner of the Flame Challenge, a contest that aims to explain scientific concepts to young

audiences and those without science training. His entry was a witty animated video that explains how clashing atoms create fire.

Actor Alan [Alda](#), a visiting professor at Stony Brook's Center for Communicating Science, was joined by his 12-year-old granddaughter to present a trophy to Ames Saturday at [Hunter College](#) in [Manhattan](#).

The winner was unveiled during the World Science Festival, a five-day event that brought together scientists, laypeople and school-age children.

"Every time I learn a new truth, it is a thrill ride. It is addicting. I always want to learn more," Ames said in an interview before receiving the award. "So I wanted to be able to instill this passion in children."

Ames' video, which is featured on [flamechallenge.org](#), was among 800 submissions worldwide that strove to answer the question, "What is a flame?"

Sixth-graders around the world, including 1,035 from 18 schools on [Long Island](#), reviewed the submissions. They selected Ames' entry based on whether they learned something, whether the answer was clear and if it encouraged them to learn more, among other criteria.

Richard Frauenglass, a retired engineer from Huntington, was among the six finalists.

The contest was inspired by Alda's experience as an 11-year-old, when he was flummoxed by a teacher's answer about how a flame was created.

" 'It's oxidation.' That's it. That's all she said," Alda told the audience before presenting the award. "It was like she was just calling it by another name."

Alda said it was among the reasons he challenged scientists to find ways to express their passion for science. "It is so important to have good scientists that are also good communicators," Alda said.

After learning about the contest while listening to an Alda interview on the radio, Ames worked around the clock to create his 7 1/2-minute video, which features Lego blocks, a boxing ring and original music -- a soft rock song that defines words such as pyrolysis (when fuel turns into a gas) and chemiluminescence (when atoms react to make a blue flame).

Ames lives in the Alps with his wife, Missy, and daughter, Adelaide, 2.

He is working on an experimental quantum physics project that combines tiny light particles with atoms that could be applied to building the computers of the future. He hopes to continue to do research and inspire young people interested in science.

During the awards ceremony, a sixth-grade class from [Mineola Middle School](#) joined Alda and Ames on stage to perform the tune from the video.

Ames said he developed the song some years ago.

Ames has talked to the creators of "Yo Gabba Gabba," the Nick Jr. show, about possibly producing educational science videos, he said. "But I'm in it for the science, so we'll see."

[Check out the winning submission here.](#)