

## Enlightening lightning

Texas A&M and Tarleton State researchers to present thunderstorm safety show

By Amelia Williamson  
THE BATTALION

Not many people are aware of the science behind lightning and the dangers that lightning poses. For this reason, Richard Orville of the Texas A&M Department of Atmospheric Sciences, Edward Mansell, atmospheric scientist and lightning specialist of the Cooperative Institute for Mesoscale Meteorological Studies, Michael Hibbs, of the Tarleton State University Department of Physics, and Donald House, visualization specialist of the Visualization Laboratory in the College of Architecture at A&M, are teaming up to create a planetarium show for middle school children on thunderstorms, lightning and safety.

The project, Enlightening Lightning, was funded by the National Science Foundation and has been in progress for about a year and a half. In the production of this planetarium show, faculty and students from the fields of atmospheric sciences, physics and visual sciences are working together to apply their research to the education of middle school students. The 40-minute production will not only teach students about the science behind thunderstorms and lightning, it will teach them how to stay safe during a storm.

The show was made in the planetarium format for several reasons.

Orville said a planetarium show will make the students feel like they are right in the middle of a storm and will enhance the way that they learn about science. By making the information exciting, the students will be more interested in the material that is presented and will be able to learn in an interactive way outside the normal

classroom setting.

"I think that (the production of the show) is important as an educational project," House said. "We're trying to make science accessible and understandable to young people."

The show is being produced to run as a pilot in the new Tarleton Science Planetarium at Tarleton State in Stephenville, Texas. The show will debut this summer, be evaluated, and may

run nationwide soon after, Orville said. There are many planetariums throughout Texas and the United States, so the planetarium format will allow a diverse group of students to view the show.

The producers of the show use many different visualization techniques to convey their messages. The planetarium show uses animation, video, still pictures and simulations.

"We decided that one of the parts of the show should be a video of a family going on a picnic and getting (stuck) in a lightning storm, because that would be a really good vehicle for explaining especially the safety things, but also some of the simpler science things," House said.

The team asked Rebecca Miller, a former A&M student and NBC meteorologist in Fort Worth, to narrate the show. Miller said the production of the planetarium show is important.

"(Children) might not realize how frequently lightning strikes," Miller said. "Hopefully this program will teach them safety."

The group also decided there should be an animated cartoon figure in the show to explain some of the complex scientific processes. Luke Carnevale, an A&M architecture graduate student, is the animator of the show's electron character, Sparky.

Carnevale said Sparky will keep the children interested in the material.



A family sits safely away from lightning as the cast of the Enlightening Lightning project shoots the video portion of the production (above). Sparky the electron (left) will help warn kids about the dangers thunderstorms present.

"It takes the monotony out of some guy just narrating," Carnevale said.

House echoed Carnevale's sentiments.

"We needed something fun, a little bit of comic relief, and this guy's electric, he's really jumpy and hyper, and so he creates a little bit of excitement that isn't really in the other parts (of the show)," House said. "He knows everything about electricity, so he's pointing at things that are happening out on the (planetarium) dome."

Another part of the show is the simulation of storms and lightning produced by the digital star projector at the planetarium. The simulations illustrate the scientific processes of the formation of storms and lightning and help the stu-

dents to visualize the material being presented.

The content of the show focuses on the history of lightning discoveries, the current understanding of lightning formation and lightning safety, Orville said. The bits of science material that are covered in the show teach children how science is applied to things around them in the world.

"(Thunderstorms and lightning are) a common experience that everyone's had, but not everyone's thought about what's really going on," House said. "So (the show) will help people understand from the inside out what's going on inside clouds and what lightning and thun-

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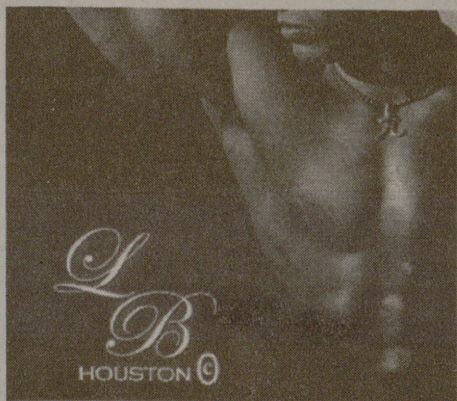
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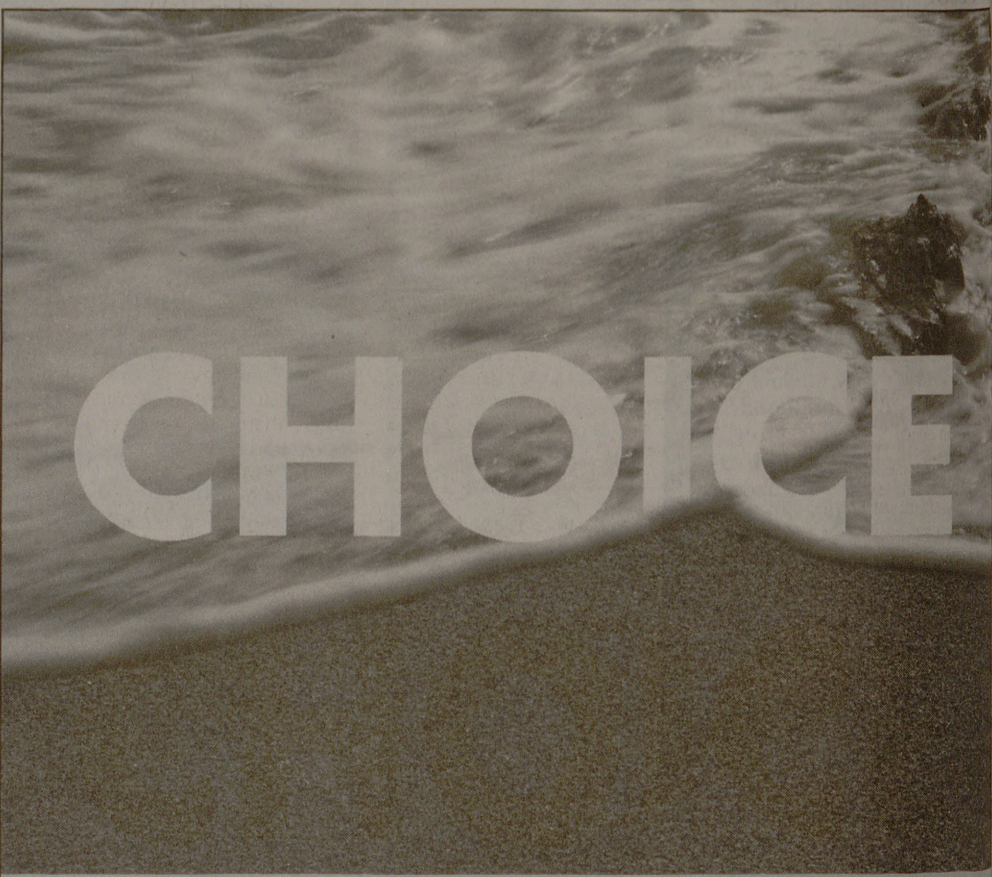
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