SU scientists refute 'hoax' climate claim

It is distressing to see the extreme misunderstanding of science presented by at least some of the participants in the recent event, "Man-Made Climate Change: Fact or Fiction," (reported in the July 22 *Sun*). One panelist was quoted as being of the opinion that human influences on the climate are "an out-and-out hoax." That opinion seriously misunderstands both how science is conducted, and the results of scientific inquiry on the Earth's climate. There would be no way for the scientific community to conduct a "hoax" of this magnitude because the scientific community is not a monolithic entity.

Many thousands of scientists study climate, in independent groups scattered all over the world. One of their principle activities is to carefully (often scathingly) critique the work of other scientists. The concept that humans are influencing the climate receives such widespread support among climate scientists, not because they are conspiring with one another, but because the evidence is so strong.

The scientific argument about human influences on climate change is based on a few incontrovertible facts.

Humans burn a large, and closely measured quantity of fossil fuels. Burning hydrocarbons releases carbon dioxide as a combustion product. With the large quantity of carbon dioxide released by fossil fuel use, concentrations in the atmosphere are rising (this has been directly measured for decades). Carbon dioxide acts as a greenhouse gas, differently affecting electromagnetic radiation entering and leaving the Earth-atmosphere system. This is a basic property of the molecule, and easily measured. The climate systems of Earth are profoundly influenced by such radiation (this is basic and incontrovertible physics).

One of the participants in the event noted, "there is much to learn … related to the oceans, clouds, the biosphere." That is absolutely true. There are many uncertainties about the details of how human activities are affecting climate and about the particular changes to expect in the future. However, there is no reasonable basis for doubting that humans are indeed having substantial impacts on the climate systems of the Earth.

DR. DANIEL TAUB
Professor of Biology
DR. KERRY BRUNS
Professor of Chemistry and Biochemistry
DR. ROMI BURKS
Professor of Biology
DR. MARIA CUEVAS
Professor of Biology
DR. MICHAEL GESINSKI
Assistant Professor of Chemistry
DR. MARTÍN GONZALEZ
Associate Professor of Biology
DR. SCOTT MCLEAN
Professor of Kinesiology
DR. BEN PIERCE
Professor of Biology
Southwestern University
Georgetown