We are here to celebrate science, to support science, to support the support of scientific endeavors, and to support the use of science, its facts and its conclusions, and its truth (however inconvenient) in the making of public policy.

My expertise is in computation and mathematical analysis and in deducing conclusions from data. I will leave the bench science to those better qualified to speak about that, and will speak about what I know: how to take data and turn it into information that makes sense, how to manage that information, and how to communicate it to those who want it and need it.

The young men and women who come to my classrooms have never known a world without the internet, and yet this is actually a very new thing. The person who sent the first electronic message over a computer network anywhere on this planet is still alive and an active scholar. The former senator and vice president who sponsored the legislation that would give all Americans access to what is now the internet is still writing and speaking. The physicist who invented the world-wide web is younger than I am.

We have always needed good information for our safety and security. We didn't use to be able to predict the paths of hurricanes and storms with anything like the accuracy we have today, and one of the milestone moments in computing history was the day in the early 1980s when it was possible to simulate 24 hours of weather in the US in less than 24 hours of compute time. Until that day, the best way to predict tomorrow's weather was to wait until tomorrow to see what happened.

More than ever, we are relying on information for everything, and we are relying on information that is stored digitally.

What this means is that we are relying on the security and privacy of that information about us.

Without support for research in cybersecurity, our income tax databases in South Carolina might well be downloaded to Ukraine.

Oh, sorry, that already happened.

Without support for research in cybersecurity, the federal databases of personal information of people with security clearances, who have access to sensitive and classified information, might get downloaded to a hostile nation intent on doing us harm.

Oh, sorry, that already happened.

Without support for research in cybersecurity, our banking and credit card information might be downloaded for use by criminals, and we would all be targets for identity theft.

Oh, sorry, that already happened.

Some information, like where an aircraft carrier task force is, is impossible to keep secret, but there is other information that we as individuals and that we as a nation need to keep to ourselves.

In my world, it all comes down to information: getting the data, turning the data into information, and making sense of that information.

For that we need science, and we need support for science.

And when the conclusions of science are clear,

we need to have public policy based on those conclusions and not on fantasy.

We should not be fudging the conclusions when we talk about coastal habitat change and erosion in the swamps of Louisiana or the low country of South Carolina, or melting of the polar ice caps, or the spread of disease in the annual flu season.

Data can be difficult to deal with. Truth can be inconvenient.

But making policy based on pure fantasy is like blindfolding the batter and sending her out of the dugout to find home plate by random chance, to know to face the pitcher, and to swing at an unseen pitch.

Taking the blindfold off doesn't guarantee a hit.
Leaving the blindfold on virtually guarantees failure.

Duncan Buell
22 April 2017