

I am absolutely delighted to be here, representing the LIGO Scientific Collaboration, to receive the Trophy for Current Achievement. As the film you just saw made clear, it really **takes a village** – or a small city – to succeed in the science that LIGO has enabled. **Decades and decades** were spent to both understand the truly fundamental science limitations to our measurements, and here Einstein was again and again the key to mastering quantum noise and Brownian motion; then to develop technical solutions which could deliver measurements as limited by fundamental physics. **We tested these on a variety of test instruments**, or prototypes, ranging from table-tops to systems 100s or even 1000 feet in scale. We then needed to engineer solutions which would be reliable, stable, capable of being maintained over the lifetime of the observatories, and – very important – **affordable for the taxpayer.**

Along the way we have made a **number of advances** which help other fields of science, and also provide technologies which are driving progress in optics, lasers, servo-control systems, and computing. The other -- and I think most important and enduring -- so-called **'spinoff' from our work is a wave of students** who have sometimes continued in our field, but also populated other fields of science and technology – including NASA and SpaceX.

No description of how we got here would be complete without describing the **incredible support of the US National Science Foundation.** It took at first **visionary individuals** in the NSF who

could both see the beauty of the science and could assess the ability of the team to deliver, and then a **pervasive philosophy** of high-risk high-reward investments which carried us through those prototyping phases, to the building of the observatories, and then remarkably with no new physics results in hand to fund the Advanced LIGO upgrade I had the honor to lead. It is particularly **appropriate that France Córdova**, the Director of the NSF, is here to enjoy the award of the Trophy.

I also want to 'shout out' to the **Virgo Detector** community in Europe, our sister Collaboration, as the great success of the binary neutron star discovery was the result of a deeply synergistic effort of Virgo and LIGO.

We are about to start on our **next Observing run**, starting on April Fool's day, and while we don't know exactly what we will see and when, I am confident that we will have more exciting detections which can capture the imagination of people across the scientific community and also the greater public. The recognition by the National Air and Space museum shows how our reach has grown, and how the Nation – and the world -- has now embraced this new science.

I carry the appreciation of the entire 1,300-person LIGO Scientific Collaboration to you all for this Trophy.

Thank you.