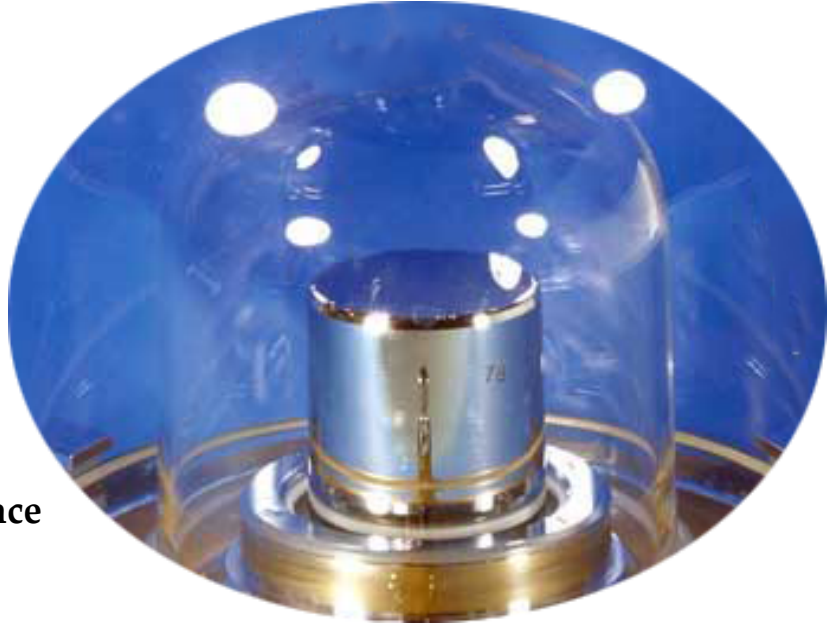


*The Research Scholars in Residence Program at Cal Poly  
is pleased to present a lecture for the University and Local Community*

# Science by Committee?

## The New Kilogram



**A presentation by Ted Hill,  
Cal Poly Research Scholar in Residence**

**February 20, 2019**

**4:10 - 5:00 p.m.**

**Fisher Science, Bldg. 33, Room 285**

**Light refreshments will be served.**

On November 16, 2018, the International Bureau of Weights and Measures voted to revise the International System of Units, changing the world's definition of the kilogram, the ampere, the kelvin, and the mole.

For the first time in history, as of May 20, 2019, the official definition of a kilogram will no longer be based on a unique platinum-iridium artifact housed in a vault in Paris. Instead, the kilogram will be based indirectly on other universal physical constants. Two main alternative definitions were proposed: one based on the mass of a carbon-12 atom, and the other based on Planck's constant. To many outside scientists, the new Planck definition is unnecessarily convoluted, and will be incomprehensible not only to the general public, but even to scientists not intimately familiar with relativity theory.

This talk will survey the colorful process of redefining the kilogram, the international politics behind it, and a new statistical principle that arose from studying alternative re-definitions.

*Ted Hill is Professor Emeritus of Mathematics at Georgia Tech, and Research Scholar in Residence at Cal Poly. He is a Distinguished Graduate of West Point's Class of 1966, and has a Master's from Stanford and a PhD in Mathematics from Berkeley. His main research area is probability theory, and his work on Benford's Law has been cited in New Scientist, The New York Times, and numerous foreign newspapers.*

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