

# LSU-PHYSICS IQ TEST (2013)

6 September 2013, start at exactly 4:00 PM

Hosted by Prof. J. Dowling

## QUESTION LIST

1. What is Einstein's equation relating mass and energy?
2. Here is a full Coke can and an empty Coke can, when I roll them down this ramp simultaneously, which reaches the bottom first, or do they get to the bottom simultaneously?
3. Here is a pendulum with a one meter string, what is its period?
4. What is Einstein's \*middle\* name?
5. What is the color of the Sun when viewed with it high up in the sky?
6. Name one of our professors working on the T2K experiment that has just announced definitive evidence of muon to electron neutrino oscillations?
7. What animal is shown on the front cover of Prof. Dowling's new popular book?
8. What did Einstein originally want to call what later became known as his 'Theory of Relativity'?
9. Spock is from the planet Vulcan, but there has long ago been a persistent claim to have a planet in our Solar System that was named Vulcan. Where was this planet supposed to be in our Solar System?
10. Numerically, what is the inverse of the atomic fine structure constant to five significant digits?
11. A few months ago, Prof. Pullin has published a very interesting and exciting paper in PhysRevLet about Loop Quantum Gravity and black holes. What is the essence of their discovery?
12. What particle is a flavor-neutral meson consisting of a charm quark and a charm antiquark?
13. What professor's home page has the "Britney Spears Guide to Semiconductor Physics?"
14. Name one professor in our department who speaks fluent Estonian?
15. What is the element just below ruthenium in the Periodic Table?