The Theory of Everything public lecture:

**QUANTUM COMPUTATION AND INFORMATION**

VITALY VANCHURIN, UNIVERSITY OF MINNESOTA, DULUTH, HTTP://D.UMN.EDU/COSMOLOGY
QUESTIONS TO GO

1. **Simple:** What will happen first?
   (a) creation of a quantum computer
   (b) destruction of humanity
   (c) impeachment of a president

2. **Difficult:** How to prevent q-bits from environment?
   (a) cool them down
   (b) put them in a vacuum
   (c) use error correction

3. **Very difficult:** How to describe space-time with q-bits?
   (a) entanglement structure
   (b) complexity structure
   (c) spectral properties
1) Try to learn as much as you can about classical fields such as electro-magnetic field.

2) And be ready to talk about an infinite collection of harmonic oscillators.