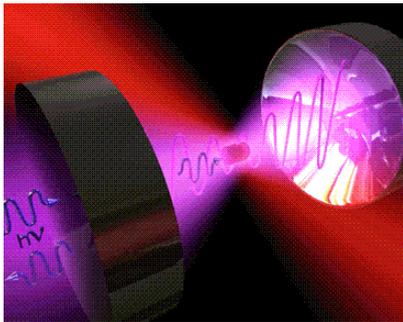


## Quantum Superpositions of Living Things

Editor's Note: I've often said I love this blue-sky big science stuff. If they can truly manifest quantum phenomena at the biological level, it will not only accomplish a lot for quantum physics in general, but also for the theory of the quantum mind and a possible solution for the mind/body problem.



([Technology Review](#) [1]) - First photons, atoms and molecules. Now physicists want to create a quantum superposition of a virus, which will allow them to perform Schrodinger's Cat experiment for real.

One of the great challenges for quantum physicists is to find quantum behaviour in macroscopic objects. There are obvious examples of quantum behaviour on a large scale, such as superconductivity and superfluidity, but physicists want more.

Having created quantum superpositions of photons, electrons, atoms and even molecules, one of the current obsessions is to create a quantum superposition of a living thing, such as a virus. The question is how to do this and whether it makes any sense to say these things are living at all.

This is an experiment that will be hard. But today Oriol Romero-Isart from the Max-Planck-Institut für Quantenoptik in Germany and a few buddies suggest that it is achievable with current technology and outline the challenges that will have to be tackled to pull it off.

The experiment will first involve storing a virus in a vacuum and then cooling it to its quantum mechanical ground state in a microcavity. Zapping the virus with a laser then leaves it in a superposition of the ground state and an excited one.

This works only if the virus behaves like a dielectric, can survive the vacuum and appears transparent to laser light, which would otherwise rip it apart.

[Click Here](#) [2] for the rest of the article.

Ref: [arxiv.org/abs/0909.1469: Towards Quantum Superposition of Living Organisms](http://arxiv.org/abs/0909.1469) [3]

# Quantum Superpositions of Living Things

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**Links:**

[1] <http://www.technologyreview.com/>

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