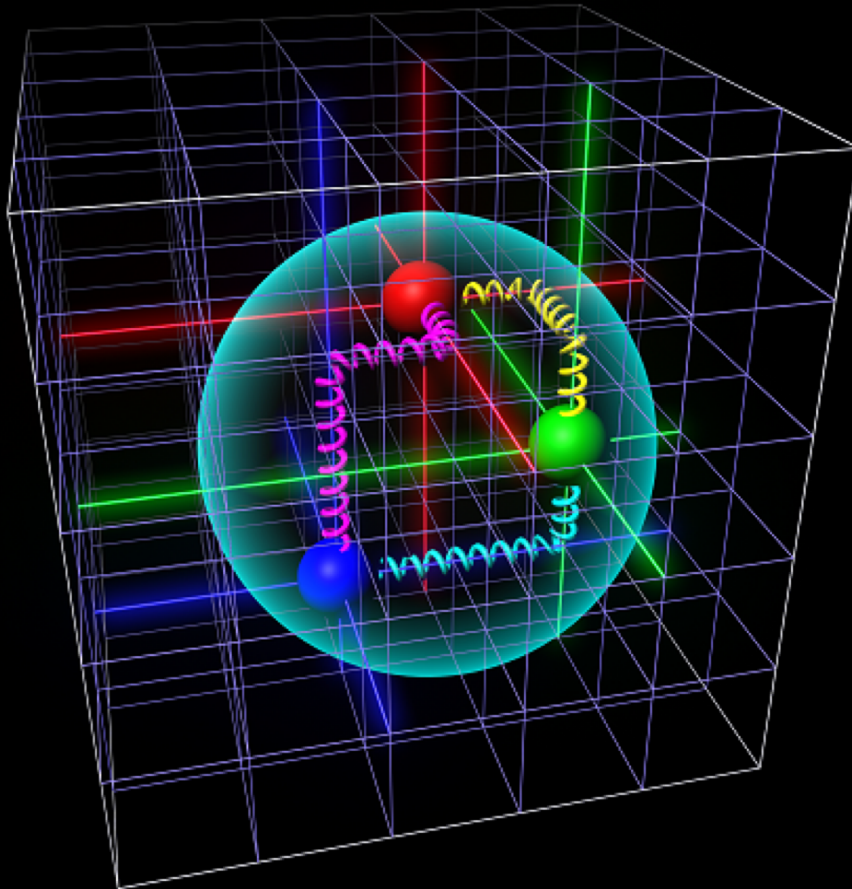


PHAS Colloquium:

Nuclear Physics from the Standard Model



ABSTRACT

I will discuss the status and future of numerical lattice Quantum Chromodynamics (QCD) calculations for nuclear physics. With advances in supercomputing, we are beginning to quantitatively understand nuclear structure and interactions directly from the fundamental quark and gluon degrees of freedom of the Standard Model. Recent studies provide insight into the neutrino-nucleus interactions relevant to long-baseline neutrino experiments, double beta decay, and nuclear sigma terms needed for theory predictions of dark matter cross-sections at underground detectors. I will also address new work constraining 'exotic glue' in nuclei, which will be measurable for the first time at a future electron-ion collider, and explain how machine learning tools are providing new possibilities in this field.

DATE: November 27th, 2018

TIME: 2:30 PM

LOCATION: PSE 317

SPEAKER

Phiala Shanahan

Department of Physics, MIT

**THERE WILL
BE SNACKS**

ALL ARE WELCOME

Image Credit: <https://www.ph.ed.ac.uk/exotics/research-experimental-facilities>

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