

# *Colloquium*

**Department of Physics, Temple University**

**Modern Measurements of Parity Violation with Electron  
Scattering**

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## **Abstract**

The measurement of the violation of parity symmetry in electron scattering has proven to be a powerful technique for exploring nuclear matter and for the search for new fundamental forces. A successful history with the experimental technique has set the stage for a series of high precision measurements to be made over the next decade. Scattering from heavy, spinless targets will measure the neutron skin of heavy nuclei, providing a valuable calibration for the equation-of-state in neutron-rich nuclear systems. Searches for new neutral-current interactions will be performed in ultra-high precision measurements of scattering from protons and electrons at very low momentum transfer. In the DIS regime, scattering from deuterium will extend this search for new physics while also providing a unique window on nucleon partonic structure. The physics implications of recent results and development of the next generation of experiments will be reviewed.

**Monday, February 20, 2017 at 3:00pm  
SERC, Room 116  
Refreshments served at 2:45pm**