Performing World Class Research

The U.S. and international nuclear physics community uses Jefferson Lab's state-of-the-art Continuous Electron Beam Accelerator Facility or CEBAF to conduct world-class fundamental research. The Lab supports more than 1,250 visiting researchers from more than 200 institutions and employs more than 700 people.

Exploring The Nature Of Matter

Scientists know that protons and neutrons consist of particles called quarks. How quarks bind together and why they cannot be isolated are two of the many mysteries that researchers using CEBAF at Jefferson Lab hope to unravel.

Accelerator Capabilities

- High-energy (~12 GeV), continuous wave (CW) polarized electron beams to probe the nucleus
- Continuous, high-current beams (85 pA at 12 GeV) for complete data collection at high rates
- Polarized parity-odd electrons for precise high-resolution measurements
- Simultaneous beams to multiple experimental halls