

**Evening Talk**

PV XVI Thu 20:00 B Audimax

**Max-von-Laue Lecture: Scientific Work in Support of Bans on Nuclear Testing: Lessons for Science Advice** — ●PAUL G. RICHARDS — Lamont-Doherty Earth Observatory of Columbia University

The Comprehensive Nuclear-Test-Ban Treaty (CTBT) was finalized in 1996, but cannot enter into force until a few more key signatures and ratifications are obtained. In practice this treaty has stopped nuclear testing by all but North Korea. The CTBT is associated with a complex verification system. Several different approaches combine to give

excellent capability to monitor for nuclear explosions.

The talk will review the principal monitoring methods. Some of the most important are provided by seismology. The presentation also describes how most methods of explosion monitoring evolved, mainly from 1945 to 1996 when more than 2000 nuclear test explosions were conducted. The goal then was to monitor ongoing weapons development by potential adversaries. Today the treaty context is nuclear arms control, involving very different agencies, different objectives, and different attitudes to technical issues. The talk also describes several difficulties in giving valid science advice, eventually accepted, that was not initially welcomed by sponsoring organizations.