

**6. Saturday, February 16, 2008, 1:45 PM to 3:15 PM**

*Atomic Detectives: Nuclear Forensics and Combating Illicit Trafficking*

**Session Title:** Atomic Detectives: Nuclear Forensics and Combating Illicit Trafficking

**Session Type:** 90-Minute Symposium

**Session ID:**

**Session Time:** 2/16/2008 1:45:00 PM

**Location:** Hynes Convention Center, Second Level

**Room:** Room 203

**Synopsis:** Nuclear and radiological terrorism as major security challenges for the 21st century are a fact, not a fictional threat. Citizens internationally are aware of efforts to prevent the proliferation of nuclear weapons and to protect them against the associated hazards, but are they fully in the picture with regard to what is going on behind the scenes and how science is playing a key role? This symposium reveals the forensic science, tools, and tactics developed by international teams of “atomic detectives.” Sessions focus on concrete examples demonstrating how, for example, environmental sampling techniques work in practice and how seized nuclear material is analyzed by forensic methods. Participating scientists show how nuclear materials from the smallest pellet or even dust samples can be “fingerprinted” or attributed. These fingerprints provide clues to the sample’s particular place of origin anywhere in the world. The session also details, via the participation of senior International Atomic Energy Agency, European Union, and American scientists, current challenges and the extent of ongoing international cooperation in this field.

**Organized by:**

Aidan Gilligan, European Commission, Joint Research Centre, Brussels, Belgium

**Presentations:**

Moderator--**Paul Thompson**, Atomic Weapons Establishment, Reading, United Kingdom

Combating Illicit Trafficking of Nuclear Materials: Global Perspective--**Anita Nilsson**, International Atomic Energy Agency, Vienna, Austria

Analysis of Seized Nuclear Material with Forensic Methods--**Klaus Lützenkirchen**, Joint Research Centre, Institute for Transuranium Elements, Karlsruhe, Germany

Tools To Detect Undeclared Nuclear Activities--**David K. Smith**, Lawrence Livermore National Laboratory, Livermore, CA