

# Next Generation ORNL Safeguards Specialist Development

**M. Dawn Eipeldauer**

# Nuclear Nonproliferation Summer Seminar Series (NNSSS)

- **Informative seminar series detailing the different aspects of Nuclear Nonproliferation**
  - **Over twenty topics covered and these included presentations on the nuclear fuel cycle, GNEP, MC&A, International Safeguards, and the Global Threat Reduction Initiative**
  - **The series lasted from June to August, and twenty-five people attended on average**

# Future of the NNSSS

- **The seminar series was a pilot session to define improvements for future iterations**
- **Future sessions will include tours of ORNL facilities as well as local businesses**
- **Under consideration**
  - **Condensing the series into a weeklong workshop that would target professors and students, interns, staff members, visiting DOE members, and foreign nationals**

# Expanding the NNSSS

- **Under Consideration (cont.d)**
  - **Inviting guest speakers from other national labs come to Oak Ridge and present nuclear nonproliferation expertise**
  - **Conducting seminars at colleges around the country to help define Nuclear Nonproliferation and spark some interest in the field in the younger generations**
    - **Some universities include Tennessee Tech, the University of Tennessee, the University of Wisconsin, the University of Michigan, the Monterey Institute, and The Ohio State University**

# University Outreach

- **Many staff members who presented as a part of the Nuclear Nonproliferation Summer Seminar Series also expressed interest in presenting at colleges**
- **Speakers include: Michael Whitaker, Chris Pickett, David Snider, Ron Cain, Dawn Eipeldauer, and Bill Toth**
  - **Topics include: IAEA & International Safeguards, Containment & Surveillance Systems, Nuclear Export Control, IAEA Experience, Nuclear Nonproliferation Human Resource Development, Additional Protocol, and Comprehensive Safeguards & Security Program Development**

# NDA Summer Institute

- Was held from June 23<sup>rd</sup> to June 25<sup>th</sup> 2008
- 26 students from various universities and educational backgrounds
- 2 ORNL instructors – Alexander Solodov and Angela Thornton
- Numerous lectures and hands-on exercises performed in the Safeguards Laboratory at ORNL
- Tour of germanium crystal growing facility



# Nondestructive Assay Technologies for International Safeguards

- **Developed in conjunction with Texas A&M University (TAMU)**
  - March 2007 (graduate students)
  - November 2007 (graduate students)
  - May 2008 (undergraduate students)
- **Advanced hands-on training of NDA technologies and instrumentation**
- **Topics included:**
  - Handheld isotope identifiers
  - Uranium holdup measurements
  - Object counting systems
  - Isotopic (uranium) enrichment measurements
  - Unique tours available in Oak Ridge, Tennessee
    - CETE Demonstration
    - Canberra Germanium Crystal Production Facility
    - Other ORNL facilities



# Nuclear Engineering 403

- **Laboratory session that runs from mid-August through December**
- **Lectures are 8:10-9:25 on Tuesday and Thursday and laboratory times vary through the week**
- **Instructors: Jason Hayward, Jim Bogard, and Angie Thornton**
- **Date: undecided**

# Nuclear Engineering 550 "Radiation Measurements Laboratory"

- **Nuclear Engineering graduate level class that will include information on Radiation Measurements, Safeguards, and Medical Physics**
- **The course will be offered on Thursday evenings from 5:05 p.m. to 7:45 p.m. during the fall 2008 semester**
- **Instructors include: Jim Bogard, Chet Ramsey, and Laurence Miller**
- **There are currently agreements to conduct experiments at the Scintillation Materials Research Center and the Thompson Cancer Survival Center**

# Future Proposals

- **IAEA Intern cultural and technical collaboration**
- **Joint SRNL and ORNL Nuclear Nonproliferation education program**
- **Nuclear Nonproliferation Summer Institute with laboratory, industry and university lecturers**
- **Safeguards and Security Human Resource Development and Implementation Plans**
- **ANS Safeguards and Security Workshop, June 2009**
- **INMM 3-day Workshop ORNL and University of Missouri at Columbia – fall 2009**

# Thank You!

