

## Nuclear Forensics Expert Pipeline Sustainability as a Key Component of Nuclear Security

The nature of nuclear forensic science as a rarely necessary but crucial component of national security presents many challenges in implementing and sustaining a national nuclear forensics program. One such challenge is recruiting and maintaining scientists with the specific skillsets needed for nuclear forensic analysis, particularly when such analysis is rarely performed or requested by prosecutors. As a result, the U.S. Department of Energy's National Nuclear Security Administration Office of Nuclear Smuggling Detection & Deterrence (NSDD) is increasingly working to address forensic expertise attrition through its capacity building program of assistance. NSDD largely aims to assist partner countries in increasing their capacities to detect, disrupt, and investigate radiological or nuclear (R/N) material found out of regulatory control. The program accomplishes these objectives through a variety of capacity building activities and provision of equipment spanning the spectrum of detecting R/N material to the discussion of technical forensic methods used in support of investigations. To specifically address personnel shortages in nuclear forensics investigation support, NSDD is preparing a new initiative aimed at addressing possible nuclear forensics expert attrition in a subset of countries. The initiative will fund four students to obtain Master's degrees in nuclear forensics-related disciplines in Moldova, Tajikistan, Armenia, and Serbia, and incorporate both in-country and U.S.-based expert mentorship throughout the educational program. Students will be contractually obligated to work within their country of citizenship for a period of two years following the completion of their studies to bolster the technical nuclear forensics structure within their country. NSDD will present on this initiative, highlighting the need for expert recruitment in the field of nuclear forensics.

Through this work, NSDD seeks to improve global resources to investigate and prosecute perpetrators of nuclear smuggling and to strengthen nuclear security culture through expertise sustainment.

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