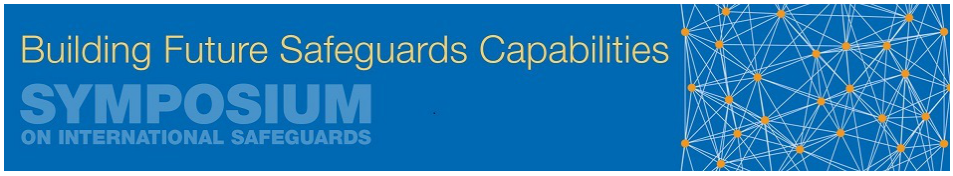

Contribution ID: **191** Type: **Panelist (Panel Session)**

Mapping technology and knowledge transfer networks

Tuesday, 6 November 2018 14:12 (7 minutes)

The scope and volume of transnational nuclear related trade and knowledge flows are expanding to new countries and regions with nascent nuclear related industries and research establishments, presenting new safeguards challenges. In this paper, we describe a method of using publicly available data to map the national and regional networks states use to trade in nuclear materials and technology, and to transfer nuclear related tacit knowledge. Analysing the structure of the networks themselves can determine crucial nodes and links within the networks, chokepoints and focal points for trade and knowledge flows, and the relative importance of different suppliers, knowledge and trade brokers, and buyers. In terms of safeguards analysis, this presents a low-cost way to identify initial areas of interest in nuclear knowledge aggregation, and in nuclear related trade flow and emerging roles in the nuclear supply chain. This is a particularly useful method to use with countries with nascent nuclear industries, and we provide examples of the analysis with reference to regional knowledge and trade networks in Southeast Asia. While the network analysis method is agnostic as to data sources, in this paper we use data from UNCOMTRADE, Web of Science, and several other public databases.

Which ”Key Question” does your Abstract address?

CHA3.1

Which alternative ”Key Question” does your Abstract address? (if any)

CHA3.3

Topics

CHA3

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Session Classification: [CHA] Globalization and the Changing Supply Chain for Knowledge, Expertise and Goods

Track Classification: Addressing Growing Safeguards Challenges (CHA)