

## John T. Mihalcz



PhD. in Nuclear Engineering : University of Tennessee, 1970  
Masters in Physics: New York University  
BS in Mathematics: New York University

- Began career at ORNL in June 1958 in the Neutron Physics Division
- Joined the I&C Division in 1973.
- Appointed to a Ford Foundation professorship in Nuclear Engineering at the University of Tennessee, Knoxville in 1970.
- 40 years experience in measurements with fissile materials.
- Fellow of American Nuclear Society.

Recent work in Arms Control and Nonproliferation is impacting U.S. national security in the development of monitoring methods for dismantlement, just as his early work in experiments for nuclear criticality safety for Y-12 impacted national security by affecting safer assembly and handling of nuclear weapons components materials. The technologies of Dr. Mihalcz and his team were recently evaluated by a peer review group established by DOE was ranked first among five national laboratories.

Dr. Mihalcz invented the  $^{252}\text{Cf}$ -Source-Driven Noise Analysis Method (referred to as the “Mihalcz Method” in Japan), which has been applied internationally in nuclear criticality safety, nuclear weapons identification, nuclear materials processing, and nuclear safeguards applications. This measurement method evolved from simultaneous pulsed-neutron and Rossi- $\alpha$  measurements and is the only known method for determining the sub-critical neutron multiplication factor for fissile systems without requiring calibration measurements. Recent extensions of the applications of this method have made major impacts in domestic and international nuclear safeguards.

During his career, Dr. Mihalcz has produced 49 refereed journal papers, 241 professional meeting papers, and 88 ORNL or Y-12 reports (20 of which are classified). He has 376 literature citations in the citation index despite spending much of his career working on classified projects. He also has three recent patents, several patent disclosures, and two patents currently being reviewed by the U.S. patent office. During the past year, he has authored or co-authored 21 papers presented at various scientific meetings.