

**Mo-99 2016 TOPICAL MEETING ON
MOLYBDENUM-99 TECHNOLOGICAL DEVELOPMENT**

**SEPTEMBER 11-14, 2016
THE RITZ-CARLTON
ST. LOUIS, MISSOURI**

**Development of Fission-Based Mo-99 Production
Process and Facility in Korea**

S. K. Lee, S. Lee, J. Lee, U. J. Park, W. J. Cho and T. W. Kim
Division of Radioisotope Research
Korea Atomic Energy Research Institute
989-111 Daedok-daero, Yuseong-gu, Daejeon, 305-353 – Republic of Korea

ABSTRACT

In 2012, new research reactor (KJRR) project has been launched in Korea to construct 15 MW thermal power reactor dedicated for the radioisotope production, in conjunction with the Mo-99 production facility. Now the project schedule is aiming the first criticality of KJRR in 2019. Simultaneously, KAERI (Korea Atomic Energy Research Institute) is developing own LEU target and process for Mo-99 production to be implemented in the KJRR. Construction of the full-scale mock-up to establish optimized Mo-99 production system is undergoing. First hot test for the verification of the process is scheduled in late 2016 in HANARO facility. KAERI's process facilitate handling of the intermediate level liquid wastes and reduces purification steps from the Mo-99 production. Additionally, compact chilled carbon column concept has been developed to mitigate xenon emission from the Mo-99 production for CTBT purpose.