

# Nuclear Engineering Seminar

## Dr. Yong Wan Kim,

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**3:30pm | WALC 1018**

Recent Nuclear R&D in Korea and Future Prospects

### Abstract

Ninety three percent of the total energy consumption is imported from abroad in South Korea. The role of nuclear power in the national energy mix has a very important meaning compared to other countries. In this talk, the research related to nuclear power that has been carried out at the KAERI(Korea Atomic Energy Research Institute) will be introduced. KAERI is the comprehensive R&D institution for nuclear power in Korea established in 1959. Over the past 60 years, KAERI covered most of nuclear technology research fields. Recent major R&Ds are nuclear safety issues, technology for safe processing/disposal of spent fuel, radiation technology, and reactor system technology. As for future nuclear energy system, R&D on VHTR(Very High Temperature Reactor) and hydrogen production technology are to be introduced among the diverse R&D being carried out in KAERI. Hydrogen is considered a promising future energy carrier, but mass production without carbon dioxide emission is a major technical barrier. Mass production technologies of hydrogen using VHTR has been researched in KAERI. Potential application of VHTR for process heat application and hydrogen including hydrogen iron ore reduction are to be discussed.



Yong Wan Kim is a principal researcher of KAERI (Korea Atomic Energy Research Institute) and a visiting scholar at the department of Nuclear Engineering, Purdue University currently. He has conducted the research and development work for more than 30 years in the field of high temperature gas-cooled reactors and small modular light-water reactors at the KAERI. He served as the VHTR project manager, nuclear hydrogen key technology development project manager, and the director of the nuclear hydrogen department. In the field of international cooperation, he served as the representative of Korea in the VHTR system steering committee of Generation IV international forum and participated in the VHTR working group member of the ASME B&PV code committee. Recent major fields of interest are VHTR and non-electric application of VHTR including nuclear hydrogen production.