

Said I. Abdel-Khalik

Southern Nuclear Distinguished Professor *Nuclear & Radiological Engineering*

Education

- Ph.D., University of Wisconsin-Madison, 1973
- M.Sc., University of Wisconsin-Madison, 1971
- B.Sc., Alexandria University, Egypt, 1967

Research Areas and Descriptors

- NRE/MP and Heat Transfer, Combustion, and Energy Systems;
Reactor engineering and thermal-hydraulics; two-phase flow and heat transfer; and inertial fusion technology.

Background

Dr. Abdel-Khalik started at Georgia Tech in fall 1987 as a Professor and Georgia Power Distinguished Professor. Previously was an Assistant, Associate, and Professor at the University of Wisconsin-Madison.

Research

Over the past twenty five years, Dr. Abdel-Khalik's research has covered a wide range of areas in both mechanical and nuclear engineering. Among those areas are reactor operations and safety, reactor engineering and thermal hydraulics, accident and transient analysis, transport phenomena, multiphase flow and heat transfer, microscale heat transfer, and vapor explosions. His current research deals with single and two-phase flow and heat transfer in high-power density systems. Applications of this work include compact fission reactor cores, accelerator targets, high power resistive magnets, and modular electronic components. The purpose of the research is to obtain the experimental database necessary for the thermal-hydraulic design of such systems under both normal and accident conditions.

Some of Dr. Abdel-Khalik's other research projects in progress include experimental and numerical investigation of nonequilibrium, two-phase mist flow in steam conditioning equipment; electrohydrodynamic enhancement of boiling heat transfer; experimental and theoretical study of high-temperature molten-carbonate fuel cells; and flow visualization within complex microbundle geometries.

The sponsors of his research are the Southern Nuclear Operating Company, General Atomics, Westinghouse Savannah River Company, Los Alamos National Laboratory, APT Southeast Consortium, Con-Tek Valves, Fisher Controls International, and the U.S. Department of Energy.

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