The Current and Future Impact of Developments of Nuclear Power on Nuclear Nonproliferation and Energy Stability

November 28, 2023 | 12:00–12:50 pm PST | Spanagel Hall, Room #321

George Moore, PhD

Scientist in Residence

James Martin Center for Nonproliferation Studies

Abstract

Dr. Moore will address the current and future status of nuclear power in the United States and in the world. His talk will also address the ties between nuclear power and proliferation of nuclear weapons. The growth and decline of nuclear power in various countries will be considered along with the health of the Nuclear Nonproliferation Treaty (NPT) and the resulting IAEA Safeguards programs designed to detect proliferation. Starting from the nuclear fuel cycle, the technical and political decisions that resulted in the current problems currently faced by nuclear power developers will be considered. His talk will also briefly address the future of nuclear power reactors, including those involving the newly popular small modular reactors (SMRs) and currently designed Generation IV reactors and other future developments of large power reactors. In addition to commercial nuclear power plants, Dr. Moore will address military use of reactors, research reactors, and space reactor programs and the issues raised by these uses. Finally, based on current events in Ukraine, he will address the international agreement protections for nuclear power plants in times of conflict.

Biography

Dr. George Moore is a Scientist in Residence at the James Martin Center for Nonproliferation Studies (CNS-MIIS). He teaches courses and workshops in nuclear trafficking, nuclear forensics, cyber security, drones and surveillance, and various other legal and technical topics such as weapons testing, the CTBT, and nuclear security. From 2007-2012 he was a Senior Analyst in the IAEA's Office of Nuclear Security working with the IAEA's ITDB System and with the development of the top-level documents in the IAEA's Nuclear Security Series. He was also the Scientific Secretary for the Director General's Advisory Committee on Nuclear Security.

Dr. Moore is a former national laboratory staff member at Lawrence Livermore National Laboratory where he had assignments in nuclear physics, nuclear effects, radiation detection and measurement, nuclear threat analysis, and emergency field operations. He is a former licensed research reactor operator (TRIGA) and a retired Captain in the U.S. Naval Reserve. Dr Moore is a licensed professional nuclear engineer in California. He is also an attorney who is licensed to practice in California and Colorado and is a member of the U.S. Supreme Court Bar. He holds a commercial pilot's license and a remote pilot (UAV) license.