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**Use of Second Life for interactive instruction and distance learning in nuclear physics and technology**

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The developing nuclear power renaissance, coupled with related environmental consequences, is forcing a re-examination of the manner in which nuclear science and technology is (or is not) being taught in the United States. The 20-year hiatus of the nuclear power industry has been a decided factor in the relatively stagnant growth of nuclear physics and nuclear technology instruction, from middle school to graduate education. Furthermore, the general public remains fairly ignorant of the various features of nuclear power, at best having been briefly exposed to the subject only in a middle-school course in Physical Science. Essential to this renaissance is the capacity to deal with the regulatory environment and safety standards that must be addressed prior to new plant certification. Regrettably, too few individuals who are trained in environmental science are adequately prepared in the basic concepts of nuclear physics to deal with such issues as radioactive waste storage and transportation, biological effects of ionizing radiation, geological repositories, nuclear fuel reprocessing, etc. which are of great concern to the Nuclear Regulatory Commission. We are developing a master's degree, to be taught online, in the area of environmental impact assessment as it relates to these and other issues. To accommodate the need for laboratory exercises, we have adopted the virtual world developed by Linden Laboratory entitled Second Life; it is here that the student, as an avatar, will gain knowledge of the nature of ionizing radiation, radioactive half-lives, gamma and beta ray spectroscopy, neutron activation, and radiation shielding, using virtual apparatus and virtual radiation sources. Additionally, a virtual Generation III+ power reactor has been constructed on an adjoining Second Life island (entitled Science School II) which provides the visitor with a realistic impression of its inner workings. This presentation will provide the details of this construct and how it is incorporated into the distance learning curriculum.