

**Title of Presentation: Basics of Plutonium Health Effects**

**Presenter:** Robert M. Gould, MD

**Speaker Bio:** Dr. Gould has been an Associate Pathologist at Kaiser Hospital in San Jose (Santa Teresa Community Hospital) since 1981. Since 1989, he has been President of the San Francisco-Bay Area Chapter of Physicians for Social Responsibility (PSR). Since 1993 Dr. Gould has served on the Board of Directors of National PSR, an organization of approximately 30,000 physicians and other health care professionals committed to the elimination of nuclear and other weapons of mass destruction, the achievement of a sustainable environment, and the reduction of violence and its causes. PSR is the U.S. affiliate of the International Physicians for the Prevention of Nuclear War (IPPNW), recipient of the 1985 Nobel Prize for Peace for its efforts to prevent nuclear war. Dr. Gould is currently serving as Immediate Past-President of National PSR. He is also currently Chair of the Peace Caucus of the American Public Health Association. Dr. Gould has written widely and routinely speaks on issues of nuclear war and militarism, public health issues related to biological weapons and terrorism, and other issues germane to public and environmental health.

**Brief Abstract of Presentation:** Dr. Gould will give a brief overview of the acute and chronic health effects of exposure to plutonium, which releases ionizing radiation in the form of "alpha" particles. The presentation will summarize the recognized pathways of potential plutonium exposure in Livermore (i.e., air and soil), explain how plutonium's alpha particles can enter one's body (i.e., inhalation and ingestion), and what can happen once alpha particles get inside the body. Dr. Gould will provide examples of environmental levels of plutonium that have been measured in the soil at three Livermore parks and discuss how these levels have been interpreted by government regulatory agencies, including the "acceptable" cancer risk estimates associated with exposure at these regulatory levels. Dr. Gould will also review the evolving nature of (and scientific uncertainty and controversy related to), our understanding of the health impacts of exposure to plutonium's alpha particles and other forms of ionizing radiation.

For example, over the last half-century, the accumulated scientific evidence has demonstrated lower levels of exposure to ionizing radiation to be associated with increasingly higher levels of risk. The presentation will contrast how the regulatory "risk-assessment" approach to interpreting the health impacts of ionizing radiation compares to a "precautionary-based" approach to illness prevention when dealing with scientific uncertainties. In conclusion, Dr. Gould will explore issues regarding the inter-generational health impacts of plutonium in light of its virtual timeless persistence in the environment.