

Call for papers

Claiming authority, producing standards: The IAEA and the history of radiation protection

Organizers:

Martin Kusch, Department of Philosophy, University of Vienna
Maria Rentetzi, Lise Meitner Fellow (FWF), Department of Philosophy,
University of Vienna

Venue: University of Vienna, Institute for Philosophy

Dates: 3-4 June 2016

Keynote speakers:

Angela Creager, Thomas M. Siebel Professor in the History of Science, Princeton University

Jacob Darwin Hamblin, Professor of History, Oregon State University

Deadline for submission: 31 January 2016

This workshop seeks to bring together scholars working on the history of radiation protection and the role of the International Atomic Energy Agency in shaping, standardizing, and controlling this field. We are interested in papers employing historical, philosophical, or sociological methods in order to investigate the notion of standardization as political, and to critically analyze those legal, political, and diplomatic interests that have shaped radiation protection standards in all major areas of radiation exposure. We wish to focus especially (but not exclusively) on the role of the International Atomic Energy Agency as scientific, metrological and – above all -- political organization responsible for (inter alia) the standardization and development of codes of practices in radiotherapy and diagnostics; for supporting the implementation in hospitals and calibration laboratories; for producing codes of conduct on the safety of radioactive waste and spent fuel management; for providing advisory services to all United Nations Members States; and for leading the international coordination of major institutions in the field such as the International Radiation Protection Association and the World Health Organization.

Radiation protection—the science and practices of preventing harmful effects resulting from ionizing radiation to humans and the environment—has a long history. Since the discovery of radioactivity more than a century ago, scientists have attempted to introduce radiation protection standards. Such standards are specifications and criteria for the evaluation of biological effects of radiation to human tissues and of the harmful effects to the environment. In the early days, producing such standards faced many challenges: how to define the appropriate unit of radiation; how to invent suitable measurement devices; how to detect, and agree on, the effects of radiation on biological systems; or how to settle the acceptable risk to radiation exposure. The evolution of standards, and the

controversies that emerged, reflect the complexity of scientists' collaborative production and dissemination of what eventually comes to be considered as objective and reliable knowledge. It also reveals the powerful role of those scientific institutions that assumed the task to create these standards. From the British Roentgen Society, and its first recommendations to users of x-ray technologies in 1915, to the establishment of the field of "health physics" at the Met Lab of the University of Chicago during World War II, scientific institutions enforced new attitudes towards acceptable risk, permissible radiation doses, and radiation protection.

After World War II the rapid development and adoption of new medical technologies -- such as the radioisotope teletherapy units and the development of nuclear industry -- posed numerous challenges in the field of radiation protection. During the era of what has been known as "the peaceful uses" of nuclear energy, the IAEA gradually took the lead in the field of radiation protection. At the same time it plays a crucial role in an exceptionally broad range of scientific and political matters: the establishment of nuclear industry worldwide, the provision of technical assistance, the education of generations of scientists in nuclear matters all over the world, the exercise of political power in order to safeguard the use of nuclear energy and to control the several national nuclear programs.

Today, the renewed interest in nuclear power plants and the use of advanced medical technologies pose new challenges to the field of radiation protection. IRPA's 2012 conference theme, "Living with Radiation, Engaging with Society" leaves no doubt that radiation protection is indeed a social and political concern.

We would like to make visible the tensions between politics and science in the field of radiation protection. Thus we invite papers primarily on the following topics:

1. **the notion of standardization** as a theoretical framework for understanding the set of practices that surround acts of radiation protection;
2. **the history of radiation protection** in relation to major scientific and international organizations with our main focus on the role of the IAEA;
3. **standards, radiation units, and notions of radiation risk:** What have been the changing notions of risk in relation to radiation? How have these notions shaped scientists' ideas about standards and radiation dosimetry?
4. **the collaboration between IAEA and WHO:** What kinds of research agendas have shaped the IAEA/WHO collaboration in the field of radiation protection?
5. **the role of international organizations** in the production and circulation of knowledge about the effects of radiation on humans and the environment;
6. **the handling and transportation of radioactive materials and waste:** What kind of diplomatic issues have arisen in relation to radioactive disposal for example? How have these issues shaped environmental policy making and public opinions around radiation protection?

Please send extended abstracts of 500 words and a one page cv to mrentetz@vt.edu by January 31, 2016.