

Ninth Annual Gilbert W. Beebe Symposium
Wednesday, December 1, 2010

**Scientific Advances in Radiobiology and Radiation Epidemiology,
Implications for Radiation Exposure Regulations**

November 23, 2010 Draft

8:15 **Welcome and Introduction to the Ninth Annual Beebe Symposium** (15 minutes)

8:30 **Background on radiation exposure in medical, occupational, and environment settings** (20 minutes)

8:50 **Questions and discussion** (10 minutes)

Session 1: Scientific Advances in Low-Dose Radiation Biology

Topics: Mechanisms of response at low doses, including adaptive response and homeostasis; linearity/non-linearity of response at low doses; role of genetics and epigenetics; measurement challenges at cellular and molecular levels; response of animal organ systems to low dose/low dose rate radiation; early and late effects; and cancer and non-cancer effects.

9:00 am **Speaker 1: Cellular** (30 minutes)
William F. Morgan, Pacific Northwest National Laboratory

9:30 am **Speaker 2: Systems** (30 minutes)
Mary Helen Barcellos-Hoff, New York University School of Medicine

10:00 am **Questions/discussion** (15 minutes)

10:15 am **Break** (20 minutes)

Session 2: Scientific Advances in Low-Dose Radiation Epidemiology

Topics: Exposure measurement and modeling approaches; linearity/non-linearity in epidemiologic studies; gaps in knowledge and methodology

10:35 am **Speaker 1: RERF** (30 minutes)
Roy Shore, Radiation Effects Research Foundation

11:05 am **Speaker 2: Other low-dose studies** (30 minutes)
Ethel Gilbert, National Cancer Institute

11:35 am **Questions/discussion** (15 minutes)

Session 3: Panel Discussion

11:50 am **Discussion of key points from this morning's session to include how data from epidemiology and from radiobiology studies can synergize** (Speakers will be the panelists) (25 minutes)

12:15 **Lunch** (Available in 3rd floor refectory)

Session 4: Translating Radiation Biology and Epidemiology into Risk Estimates

1:30 pm **Lose Dose Risk Estimation** (30 minutes)
Julian Preston, Environmental Protection Agency

2:00 pm **Questions/discussion** (15 minutes)

Session 5: Using Low-Dose Radiation Biology and Epidemiology in Decision Making: Case Studies

2:15 pm **Case Study 1: Setting a national action level for radon** (25 minutes)
Paul Locke, John Hopkins School of Public Health

2:45 pm **Questions/discussion** (15 minutes)

2:55 pm **Break** (20 minutes)

3:15 pm **Case Study 2: Establishing a "Safe" or "Acceptable" level for diagnostic radiation use (CT)** (25 minutes)
David Hoel, Medical University of South Carolina

3:45 pm **Questions/discussion** (15 minutes)

3:55 pm **Case Study 3: Setting radiation protection standards for civilian nuclear facilities** (25 minutes)
Ralph Andersen, Nuclear Energy Institute

4:25 pm **Questions/discussion** (15 minutes)

Session 6: Panel Discussion and Closing Remarks

4:35 pm **Panel Discussion: Key points from this afternoon's sessions** (Speakers will be the panelists) (25 minutes)

5:00 pm **Closing remarks** (15 minutes)

5:15 pm **Adjourn**