

## The Boice Report #38



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### What's Your Acronym IQ?

### UNSCEAR, ISCORS, REB, ACR, CCSS, and ANS

Does anyone know all six? This past month I participated in them all, although unfortunately not “in person” at UNSCEAR (United Nations Scientific Committee on the Effects of Atomic Radiation). I wasn't allowed to board the flight to Vienna. Unbeknownst to me, Austria requires a passport that is valid for at least three months—mine expired in two months, three weeks!

**UNSCEAR.** It's more challenging to prepare material for others to present than to present yourself. For the 62<sup>nd</sup> session of UNSCEAR, I was to review the epidemiology of low-dose-rate exposures from environmental radiation. This session's report annex covers the important Techa River studies of [leukemia](#) and [solid cancers](#) following exposure to nuclear waste contamination from the Mayak Radiochemical Plant. Also covered are high natural background radiation studies in [India](#) and [China](#) and background radiation studies of childhood cancer, among others. It will be a few years before the annex is complete, but my take at the moment is that the studies, individually or collectively, will not provide the definitive answer for or against a “dose-rate effect,” (i.e., whether prolonged exposures give you the same, lower, or higher risks than acute exposures such as received by the Japanese atomic-bomb survivors). The excess number of cancers in the Techa River Study is relatively small, only about 61, and the excess cancers are not those convincingly linked to radiation (e.g., uterine and cervical cancer). The dosimetry is elegant but still uncertain. The epidemiologic patterns are not consistent with current understanding (e.g., it is peculiar that risks tended to increase with age at exposure and not decrease and that males were at higher risk than females) and the extent of [medical exposures](#) from fluoroscopic x-ray machines appears meaningful. The high-background studies are also of high quality, but the statistical ability to detect any excess cancers is low and the quality of outcome diagnoses is not as high as you'd like. Results from the ecological studies of childhood cancer in [Great Britain](#), [Switzerland](#), and the [United Kingdom](#) all differed and this lack of consistency tempers the strength of interpretations. Nonetheless, the studies are extremely [important](#) in providing bounds on the possible level of risk for exposure received gradually over time—the type of exposure we're all experiencing throughout our lives. They also point to the importance of the occupational studies being conducted in the [United States](#) and [internationally](#) and the frequently mentioned [Million U.S. Radiation Worker and Veteran Study](#).

### U.S. UNSCEAR Delegation—Vienna, June 2015



Left to right, Armin Ansari (Centers for Disease Control and Prevention), Bruce Napier (Pacific Northwest National Laboratory), Helen Grogan (Cascade Scientific), Wesley Bolch (University of Florida), Gayle Woloschak (Northwestern University), R. Julian Preston (U.S. Environmental Protection Agency, retired), Naomi Harley (New York University Medical Center), Vincent Holahan (U.S. Nuclear Regulatory Commission), and Lynn Anspaugh (University of Utah, retired); inset, top to bottom: John Boice (NCRP), David Pawel (U.S. Environmental Protection Agency)

**ISCORS (Interagency Steering Committee on Radiation Standards).** The descendent of [CIRRPC](#) lives! Check out the ISCORS website for the latest issues faced by our agencies in the radiation arena: cleanup, [Federal Guidance Report 14](#) on medical radiation, mixed waste, naturally occurring radioactive material, recycling, [risk harmonization](#), [sewage sludge](#), and the Multi-Agency Radiation Survey and Site Investigation Manual ([MARSSIM](#)). The 27 May 2015 meeting included updates on the Oak Ridge [Center for Radiation Protection Knowledge](#), the [Pennsylvania radon program](#) (perhaps you've read of the [recent home measurement](#) that was [the highest ever recorded](#) in the United States!), protection standards for uranium and thorium mill tailings ([40 CFR 192](#)), and more.

**REB (Radiation Epidemiology Branch of the National Cancer Institute).** Every four years REB offers a course on [radiation epidemiology and dosimetry](#). Over 200 attended this year. Check out the website and the topics—the course is open to all—and be aware of the opportunities next time around. The REB indulged me for 3½ hours, and I still needed more time to discuss the “classic studies in epidemiology” of the past 100 years!

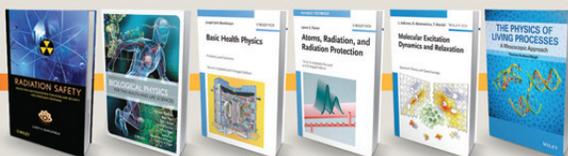
**ACR (American College of Radiology).** The ACR annual meeting was expansive and informative. The issue of [optimization](#) strategies in medical imaging was reckoned so relevant that the same symposium was offered on two different days! Mahadevappa Mahesh spoke on [dose-reduction strategies](#), Bill Mayo-Smith spoke on [how to manage radiation dose](#), Don Frush spoke on [communicating](#) benefits and risks to families, and I spoke on [health studies](#).

**CCSS (Childhood Cancer Survivor Study).** This [multi-institutional](#) study has been ongoing for 20 years (and I've been associated with it since the beginning). The focus is not only to evaluate the adverse consequences of the curative therapies that have kept children alive today, but to address [survivorship issues](#) such as quality of life, chronic conditions, insurance, psychosocial problems, and more. [Details](#) are now available. The CCSS is centered at St. Jude's Research Hospital in Memphis, Tennessee.

**ANS (American Nuclear Society).** The annual meeting was in San Antonio, Texas, and was remarkable. The last time I attended an ANS annual meeting was in 1968—before the escalation of the Vietnam War, when I was pursuing a degree in nuclear engineering at Rensselaer Polytechnic Institute. This year the [plenary session](#) featured [Tom Fanning](#), chief executive officer (CEO) of Southern Company, who spoke on [energy policy](#), communicating to stakeholders, and cybersecurity. [Scott Tinker](#), geologist from the University of Texas and star of the documentary [Switch](#), spoke clearly and comprehensively on fracking and [shale gas](#). [David Scott](#), an economist and architect of the United Arab Emirates (UAE) nuclear program, was meticulous in describing how the UAE planned and initiated the building of four large nuclear units to produce electricity in this desert environment. To me it was remarkable that the UAE program was able to recruit and train Emirate citizens and to attract the skilled professionals needed for this manufacturing-challenged country to move from a zero-nuclear-energy nation to one that will be operating nuclear power plants in 2017! A recent commentary in [The Washington Post](#) outlined many reasons why Saudi Arabia can't develop a nuclear program; this prediction might be tempered a bit given the UAE success. The ANS president's special session was [Radiation Conversations: Informing Consumers and Policy Makers](#). Check out [Atomic Insights](#) for informative reviews of the plenary session. Given that the nuclear engineering society had already featured a CEO (and member of the Federal Reserve Board), a geologist, and an economist, it perhaps wasn't surprising that the society would invite a radiation epidemiologist (aka me)!

We live in a 24/7 world with mobile technologies and instant everything. It's an extremely fast-paced existence, but showing up and participating at key conferences can be enriching (although exhausting!).

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