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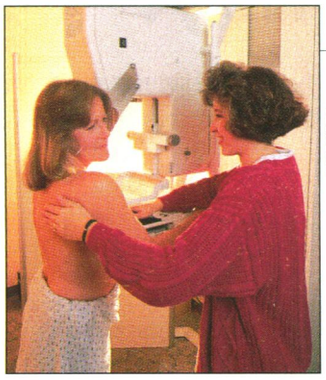

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Overestimated risk? Reviews of radiation data could suggest limits on x-rays are set too low.

Another Look at Low-Level Radiation Risks

A long-running debate about the dangers of getting cancer from low-level radiation is heating up again and will soon get a look from two expert panels. New research on how cells fix DNA damage, observers say, could lead scholars to adopt a less stringent estimate of radiation's risks.

At issue is a mathematical model for the health effects of radiation that implies that no amount is too small to cause harm and that DNA damage increases directly with a person's exposure. Regulators rely on this "linear no-threshold model" to restrict radon levels in drinking water, exposures for nuclear power workers, and limits on x-rays, among other health standards. But the model, first adopted 25 years ago, is a conservative estimate: Because there's a dearth of human data on low-level effects, scientists have extrapolated from higher dose effects on irradiated populations such as atomic-bomb survivors in Japan.

Critics have claimed that the human data suggest there's a threshold for radiation damage, and they point to cellular studies hinting that low doses may even help prevent cancer by stimulating DNA repair. Now, spurred in part by anti-regulatory sentiment, a panel of the federally chartered National Council on Radiation Protection and Measurements is revisiting the issue. Arthur Upton, the panel's chair, says its 2-year study will look in particular at recent research on DNA repair. "The issue then becomes, does the good outweigh the harm?" he says. Marvin Goldman of the University of California, Davis, also points to new studies on Russians living near a weapons factory that may help establish whether exposure is less risky if it is spread over time.

The National Academy of Sciences is also forming a small panel to see if the latest data warrant a longer study on low-dose radiation, says the NAS's John Zimbrick.

Science Agencies Win 1997 Funding

Science budget worries at NASA, the National Science Foundation (NSF), and the Environmental Protection Agency (EPA) were eased last week when House and Senate conferees approved a 1997 spending plan that leaves the three agencies largely unscathed. And the National Institutes of Health (NIH) is poised to celebrate a big increase.

As *Science* went to press, the odds were good that Congress would approve an omnibus bill funding NSF, EPA, and NASA and send it to the president for his signature. The conferees granted NSF an overall increase of 1.5%, to $3.27 billion. Research funds would rise by 3%, to $2.43 billion. NSF officials are calling it a 5% increase, a number that includes $50 million earmarked to buy equipment for universities. The agency also won its full $619 million request for education, up 3% from 1996. But House and Senate conferees restored $10 million for informal science education—museums and the like—that NSF had wanted to cut, paying for it with small cuts in other programs.

The news for NASA is mixed. Agency officials say they're happy with the $13.7 billion budget—about $100 million less than last year's budget and the 1997 request. But scientists are upset that lawmakers gave NASA the green light to transfer up to $177 million in space-station funds from science to engineering (*Science*, 6 September, p. 1333). The conferees also told NASA to find $12 million in its budget to start work on an observation satellite that would use a new cloud-piercing radar. In addition, they approved spending on the controversial Bion monkey program.

For EPA, lawmakers approved $542 million for the science and technology account, $36.7 million less than the president requested but a 3.3% increase over 1996. Hit hardest by cuts were the Environmental Technology Initiative and climate-change programs.

Even better off is the NIH, which may be in line for a whopping 6.9% increase, including $90 million for its clinical center, if Congress adopts a plan that was being negotiated this week.

DOE to Merge Genome Centers

Research programs that take root in the Department of Energy (DOE) have a way of sprouting many branches—as, for example, the human genome program has done in recent years. It began at the Lawrence Livermore National Lab and has flourished in many forms at many locations. But some of the unessential growth may soon be trimmed.

Ari Patrinos, associate director of DOE's office of health and environmental research, said at a meeting at the National Institutes of Health earlier this month that he hopes to announce that DOE's three genome centers—those at the Lawrence Berkeley, Livermore, and Los Alamos labs—will be joining together as a single scientific and management unit. The aim is to reduce overhead costs while increasing cooperation in DOE's genome program. Patrinos offered few details, saying the formal announcement is expected "within a month."

Other DOE officials say that Livermore has been chosen as the lead center for DOE's genome work, and that Livermore's Elbert Branscomb, whose work has been in informatics and comparative genome analysis, will be the new program's director. The combined centers will have a budget of about $24 million. Branscomb declined comment.

Moscow Provides Home for Math University

A Russian mathematics university born in post-Soviet volatility has just received a measure of permanence. Homeless since its creation in 1991, the Independent University of Moscow (IUM) has acquired its first campus and this week dedicated the site.

Like a major league baseball team that has lost its stars to free agency, the Russian math community has seen many luminaries leave for overseas posts. IUM, with an enrollment of 87 students, is trying to swell its ranks by training some of Russia's top mathematics prospects. For 5 years, IUM held classes after hours in a Moscow high school. Starting this semester, however, IUM has its own digs. Moscow's city government paid $1 million for renovations to a downtown building that will house IUM and provide a forum for other activities, including national math competitions and classes for top high school math students.

The building doesn't solve all the problems. IUM still depends on financial support from the International Science Foundation—funds that run out this year—and donations of books and journals from the American Mathematical Society and other groups. In addition, the university relies on itinerant faculty members who spend several months a year abroad but return for teaching appearances. Nevertheless, IUM can claim at least one sign of success: The first eight graduates from its 5-year master's program are about to begin Ph.D. studies at topflight schools, including Harvard, Moscow's Steklov Institute, and IUM.