RANDOM SAMPLES

edited by CONSTANCE HOLDEN

NIH's Radiation License Challenged

A visiting biologist from China, claiming that someone deliberately spiked her food or water with a radioactive tracer (phosphorus-32) while she was working at the National Institutes of Health this summer, is asking the federal government to suspend NIH's license to use radioactive research materials.

Maryann Wenli Ma and her husband, Bill Wenling Zheng, also a biologist, claim that NIH's poor control of lab reagents contributed to an episode this summer when someone apparently contaminated drinking water and possibly Ma's lunch in one of the NIH buildings with P-32 (*Science*, 28 July, p. 483). Last week the couple petitioned the Nuclear Regulatory Commission (NRC) to lift NIH's license until it agrees to put tighter controls on radioactive reagents.

According to the couple's attorney, Lynne Bernabei of Washington, D.C., they have made no decision about whether to sue NIH for damages. NIH Deputy Director Ruth Kirschstein has conceded in a statement that Ma and 26 other NIH staffers were affected by an "apparently deliberate act." But she said NIH has an "excellent" record of managing radioactive reagents and rejected Ma's claim that she and her child were at risk, saying "There is no reason to believe that Dr. Ma [who is now 8 months pregnant] has been injured or her pregnancy compromised by the amount of radioactivity to which she was exposed."

Ma and her attorney, however, are disputing NIH's estimate of her radiation exposure, which NIH says was below the annual occupational exposure limit of 5 rem. Ma has hired a consultant who claims that, correcting for technical errors by NIH, the real dose was about 9 rem. In connection with her allegations about sloppy safety practices, Ma also alleges that her supervisor, John Weinstein, was pressuring her to get an abortion to avoid delaying her research. Although Weinstein obtained a pregnancy declaration form for her, required by radiation safety rules, she claims he "coerced" her not to submit it. Weinstein flatly denies the allegations.

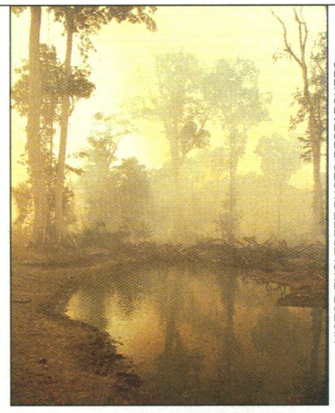
The charges will all be thrashed out in coming months as the FBI, the NIH, and the NRC all continue to investigate what an NIH official calls "one of the strangest occurrences we have ever had to deal with."

TOP TEN IN MATERIALS SCIENCE, 1990–1994

Rank	Institution	Citations	Rank	Institution	Impact
1.	IBM Corp.	1818	1.	Carnegie Mellon U.	34.1
2.	UC Santa Barbara	1174	2.	U. Illinois, Urbana	32.6
3.	AT&T Bell Labs	1095	3.	Lawrence Livermore NL	31.5
4.	Oak Ridge Nat'l Lab	866	4.	Lawrence Berkeley Lab	30.7
5.	Tohoku University*	753	5.	Kyoto University*	30.3
6.	Argonne Nat'l Lab	663	6.	UC Irvine	29.8
7.	Stanford University	663	7.	Argonne Nat'l Lab	28.8
8.	Nat. Inst. Stand. & Tech.	658	8.	Stanford University	28.8
9.	U. Illinois, Urbana	651	9.	Harvard University	28.1
10.	Naval Research Lab	645	10.	Oak Ridge Nat'l Lab	27.1

*Japan. All other institutions are in the United States.

Citations matter. IBM is the world's heavyweight when it comes to production of high-impact papers in materials science, according to the latest tally by the Institute for Scientific Information (ISI). It garnered 1818 citations in the first 5 years of this decade and ranked 17th in citation impact (it got 26 cites per paper). ISI also reports that the most oft-cited author—with 624 citations of 19 papers—was A.G. Evans of the University of California, Santa Barbara, who studies characteristics of composite materials. The rankings were based on the 300 papers in each of the last 5 years that were cited most often in 150 journals. For further information, e-mail **cking@isinet.com**.



VICTOR ENGLEBERT/PHOTO RESEARCHERS

Making way for cropland. North Perimeter Road, Roraima, Brazil.

Burning Questions

Fieldwork for the first large-scale assessment of how Brazil's slash-and-burn agriculture is affecting Earth's atmosphere has recently been completed by a team of three dozen U.S. and Brazilian scientists.

While greenhouse gases produced by heavy industry have been studied to a fare-thee-well, says expedition member Peter V. Hobbs, an atmospheric scientist at the University of Washington, little is known about the consequences of burning forests, mostly done to clear cropland, a process that accounts for about one quarter of global CO_2 emissions. Brazil contributes about 20% of that quarter.

Scientists have attempted to construct models, but they have been fatally flawed because "we have not had reliable, consistent long-term data sets," says Robert Dixon, director of the U.S. Country Studies Program, which is funded by the U.S. Global Change Research Program. "There's been a lot of work on emission factors of factories and homes, but we have just a handful of meaningful data sets for forests."

The Brazil experiment, SCAR-B (for smoke, cloud, and radiation in Brazil), should change all that. It involved flying specially equipped planes over a 1500-square-kilometer swathe of Brazil that included everything from dry savannas to Amazon rain forests. The team studied the physics and chemistry of fire smoke from the ground up using a low-flying University of Washington plane, high-flying aircraft from the U.S. National Aeronautics and Space Administration, and satellites.

The measurements from these forays will for the first time provide detailed data on the amount of various greenhouse gases and particulate material emitted by burning timber, including variations for wet and dry wood, smoldering and flaming fires, and for different types of vegetation. SCAR-B also gathered data on a paradoxical notion—that burning vegetation hastens not only global warming but also global cooling, by fostering the buildup of dense smoke and clouds which deflect sunlight. Data from this expedition should be available for modelers starting within the next 2 years.

The Un-Nobels

The ballerinas were wearing lab coats, Harvard astronomer Robert Kirshner delivered his Heisenberg Certainty lecture in reverse, and for the fifth year in a row, the annual Ig Nobel Prize Ceremony beat the Nobel Assembly in Stockholm (see pp. 380–383) to the punch.

The editors of the Cambridge, Massachusetts–based *Annals of Improbable Research* (*AIR*) took over a Harvard University lecture hall on 6 October to award Ig Nobels in 10 categories, from literature to dentistry. This year's theme was deoxyribonucleic acid, highlighted by the biochemical ballet, "The Interpretive Dance of the Nucleotides." Nobelists including physicist Sheldon Glashow, chemists Dudley Herschbach and William Lipscomb, and biologist Richard Roberts played adenine, thymine, cytosine, and guanine at center stage as dancers swooped and spiraled around them, recreating the timeless rhythms of recombination. The scientist-performers appropriately worked up quite a sweat. As emcee Marc Abrahams, editor of *AIR*, said later, "Progress depends on geniuses, crackpots, and people who are just 99% perspiration. Surely all of them deserve to be honored."