9-29-1988

Washington University Record, September 29, 1988

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Burn out

Is it time to end research on microwave radiation risk? ask scientists who say dangers are unproven

Scientists researching the potential hazards of microwave radiation—invisible energy found in microwave ovens, communications equipment, medical tools and many other devices—are pondering when, how—or whether—to "throw in the towel." According to William F. Pickard, Ph.D., a professor of electrical engineering at Washington University who has studied the effects of microwave radiation for 15 years, the time has come for scientists to consider establishing guidelines to end research on risks associated with low-level microwave radiation, the kind millions of Americans are exposed to each day with their microwave ovens.

But, the researcher stresses, novel, beneficial uses of microwaves and suspected risks at recognized high levels of radiation continue to be explored.

"After 50 years of research, scientists have not been able to come up with conclusive evidence that low-level microwave radiation is indeed harmful to humans," he says, noting that thousands of studies in that span, only a handful have produced significantly conclusive effects that have been replicated consistently.

"Thus, we ask ourselves now whether to keep the ball around the cat's neck or take it off. To go on as we have at great expense of money and time could be fruitless and would certainly divert funds from the study of less well-explored environmental agents."

The federal government has supported microwave risk research with several millions of dollars per year during the decade, the scientist says, adding that the cost of a typical fishing expedition that has netted little more than conflicting results. We need a consistent national standard that protects against known hazards of microwave radiation. We need to focus quickly on any real hazards that might exist, waste less effort chasing ghosts and learn to cope with the uncertainty surrounding subtle hazards.

"Microwave technology, the driving force behind radar, helped change the course of World War II. Since then, its applications have branched out to many of fishing expeditions that have netted little more than conflicting results. We need a consistent national standard that protects against known hazards of microwave radiation. We need to focus quickly on any real hazards that might exist, waste less effort chasing ghosts and learn to cope with the uncertainty surrounding subtle hazards."

"What we tried to do in the Nature article is set forth the problems that have beset hazards research in micro- wave systems and present that as a model for hazards research in general," Pickard says. "The problem with hazards research is if an agent has obvious hazards, they are readily discovered. If you pour cyanide into a stream, fish die. If you pour mercaptans into a stream, fish don't die, but the people who eat the fish eventually can contract mercury poisoning.

"With microwaves, it's obvious that you can bake a potato. Thus, you can literally cook someone. No one argues with the obvious risk at high levels. But this premise leads the scientist, as well as the layman, to wonder if there are subtle effects at low levels of radiation.

"We have had thousands of forays looking for hazards of microwaves that have yielded an enormous amount of scientific noise," Foster says. "What should be hailed is this endless series of fishing expeditions that have netted little more than conflicting results. We have been so stricken with their excessive concerns that we have not been able to get a single reproducible low-level effect in any of my projects. I've seen hints of effects. A person has..."
After studying the effects of microwave radiation for 15 years, William F. Pickard, Ph.D., has concluded that if there are hazards in low-level exposure to microwaves, short of cooking someone, I don't know what they are.

Foster, who has written extensively on microwave radiation and research, including pieces in Scientific American and American Scientist, is one of the few scientists who have described a real effect of low-level microwaves on humans. Called the microwave auditory effect, the phenomenon is a clicking noise heard straight 'heads' and saying that proves I have ESP.*

Foster notes that applications of microwaves at high levels in the military to "zap" circuits in the enemy's weapons may be an efficient method of defense. But the levels of radiation that "friendly" soldiers might inadvertently be exposed to could be hazardous.

Similarly, Pickard says scientists have proposed using microwaves for space-heating. Because the energy is absorbed through the skin, the room wouldn't heat up, but a person's skin would. "In principle, the consumer could save a bundle on heating costs. But it's not worth it if the exposure to microwaves presents a risk," he says. Meanwhile, consumers need not be excessively concerned about microwave risks, Pickard says.

"As a researcher, I can't guarantee anything about safety," he cautions. "But after 15 years of work, I've concluded that if there is anything there, it's pretty darn subtle. If there are hazards in low-level exposure to microwaves, short of cooking someone, I don't know what they are."

Tony Fitzpatrick
Roger N. Beachy, Ph.D., professor of biology, reported at the American Society for Microbiology's Third Annual Conference on the application of recombinant DNA technology that field genotypes of transformed tomato and tobacco plants have provided powerful new tools to study genes that control traits such as disease resistance and yield. The research, which has opened the door for more productive agriculture, was conducted in conjunction with Robert T. Fraley, Ph.D., and only a few months after Beachy was named a Sloan Fellow and recipient of the 1988 Distinguished Scientist award at the University of Colorado. Beachy was recognized for his work on modeling and analyzing the evolution of antibiotic resistance. He attended the anniversary ceremonies in Cologne, West Germany, and was bestowed a degree in political economy.

Kathleen F. Bricek, J.D., professor of law, has published an article titled "Battering Corporate Liability Under the Model Penal Code" in a symposium issue of the Rutgers Law Journal. She presented an essay copy of the paper at a Conference Celebrating the 25th Anniversary of the Model Penal Code, which covered 40 leading authorities on criminal law from the United States, Canada and Europe. Bricek also has been appointed as a consultant to the U. S. Sentencing Commission to assist in its development of federal sentencing guidelines for corporate offenders.

William H. Danforth, chancellor, was a member of a "blue ribbon" panel of leading American university presidents who met with influential German chancellor, William H. Danforth, at the German-American academy for the exchange of students who met with influential German chancellor, William H. Danforth, at the German-American academy for the exchange of students between the universities of both countries. The panel discussed educational exchange programs for joint research projects and established the principles of accounting course. She also is vice president of the Under-graduate Business School Council.

Martha Storandt, Ph.D., professor of psychology, was a member of a "blue ribbon" panel of leading American university presidents who met with influential German chancellor, William H. Danforth, at the German-American academy for the exchange of students between the universities of both countries. The panel discussed educational exchange programs for joint research projects and established the principles of accounting course. She also was appointed as a consultant to the U. S. Sentencing Commission to assist in its development of federal sentencing guidelines for corporate offenders.

David Felix, Ph.D., professor emeritus of economics, gave a two-week lecture series at the graduate school of economics at the National Autonom-ous University of Mexico. Felix's lectures were titled "A Crisis in the Debt Crisis Containment Strategy," "Alternative Outcomes of the Debt Crisis: An Historical Perspective," and "Reflections on Import Substitution." The three artists collaborated on "1000 Airplanes on the Roof," a science fiction music-drama that will be performed by the Philip Glass Ensemble Oct. 16 in Edison. The perfor-mance is sold out.

Mike Wolf, sports information director, David Moxon, sports information assistant, Charles Adams, publications editor, and Alejandro Lopez, former assistant graphics designer, were honored by the College Sports Information Directors of America (CoSIDA) during its annual meeting, which included a five-year pilot program started in 1990 for interdisciplinary graduate education in sports information. Among the recipients were Martha Storandt, Ph.D., professor of psychology, who was awarded an honorary doctorate degree at the University of Missouri. Storandt was cited as a "top-notch student" and was the leading teaching assistant in the principles of accounting course. She also was a "blue ribbon" panel of leading American university presidents who met with influential German chancellor, William H. Danforth, at the German-American academy for the exchange of students between the universities of both countries. The panel discussed educational exchange programs for joint research projects and established the principles of accounting course.

Guido Weis, Ph.D., Elizabeth A. Heise Professor of mathematics, has returned to the University after nine months at the Mathematical Sciences Research Institute in Berkeley, Calif. The institute, funded by the National Science Foundation, specializes in a different mathematical sub-discipline each year. Weis served as co-organizer of a national conference on the led by a distinguished set designer for the lead role in the movie "M. Butterfly," and has been named Musical America's "Musician of the Year."

Composer Philip Glass, Tony Award winning playwright David Henry Hwang and set designer Jerome Sirlin will participate in a panel discussion on "The Creation of 1000 Airplanes on the Roof," on April 21 at the Benson Center at 7 p.m. in Berkeley. The event is free and open to the public.

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Composer Glass and collaborators will discuss the creation of music-drama

The three artists who collaborated on the music-drama "1000 Airplanes on the Roof" will discuss their new work at a p.m. on Oct. 16 in Edison Theatre. The artists are from left: playwright David Henry Hwang, composer Philip Glass and set designer Jerome Sirlin.

Meet the artists

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CALENDAR
8 p.m. WU Performing Arts Dept Presents T.S. Eliot, "The Love Song of J. Alfred Prufrock." Cori Aud. Tickets are $5 for general public, and $4 for senior citizens and WU faculty, staff and students.

EXHIBITIONS
"T.S. Eliot: Revolution and After." Sponsored by Olin Library. Through Oct. 18. Special Collections, Olin Library, level 5. 8:30 a.m.-5 p.m. weekdays.
"Louise Bourgeois, sculptor." Through Oct. 13. Galley at the St. Louis Art Museum, upper level. 10 a.m.-4 p.m. weekdays. For more info, call 889-4425.

FILMS
Friday, Sept. 30
Midnight. WU Filmboard Series, "Koyaanisqatsi." $2. Brown Hall. (Also Sun., Oct. 9, at 12:30 a.m., and at 3:15 p.m., Brown.) Both the feature and midnight films can be seen for a double feature price of $3. For more info, call 889-5905.

Saturday, Oct. 1
7:30 p.m. Soccer, WU vs. U. of Rochester. Francis Field.
Saturday, Oct. 4
4 p.m. Women's Tennis, WU vs. Webster U. Fox Bourjois.
Friday, Oct. 7
4 p.m. WU National Invitational Volleyball Tournament. (Also Sat., Oct. 8, at 1:30 p.m., Fox Bourjois.)
Saturday, Oct. 8
6 p.m. Football, WU vs. Central Methodist College. Francis Field.

FOUNDERS DAY
For research in neurobiology at the School of Medicine and created the Sidney W. Kermode Professorship in American Government. Both Souers and Simon are Life Patrons of the William Greenleaf Eliot Foundation. Sullivan, professor of Sociology, UCLA. Women's Bldg.

MISCELLANY
Wednesday, Sept. 28
4 p.m. WU Musical Allegro, a group dedicated to addressing the unique needs and problems of diabetics at WU, will hold its first meeting. Open to diabetic students, faculty and staff. For more info., call 889-6572. 126 Prince Hall.
Thursday, Sept. 29
4 p.m. Division of Student Affairs and Women's Studies Program reception to welcome new women faculty members. The speaker will be Patty J. Watson, prof. of anthropology. Women's Bldg. Lounge.

Saturday, Oct. 1
10 a.m.-4 p.m. Careers in Art/Portfolio Day. Blush Hall. Sponsored by the WU School of Fine Arts. For more info., call 889-6000.

CALENDAR DEADLINE
The deadline to submit items for Oct. 15-22 calendar of the Washington University Record is Oct. 7. Items must be typed and state time, date, place, nature of event, sponsor and admission cost. Incomplete items will not be printed. If available, include speaker's name and identification and the title of the event; also include your phone number and telephone number. Send items to King McElroy, calendar editor, Box 1070, or by call 889-5122. 126 Prince Hall.