

HGS Environmental/Engineering Dinner Meeting, February 15, 1996

Bioremediation Processes for Ground Water Cleanup

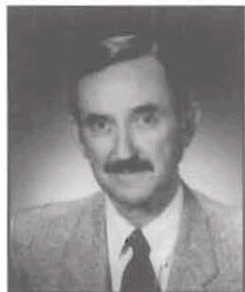
By Calvin H. (Herb) Ward

Most of the ground water associated with hazardous waste sites is contaminated. The National Research Council recently concluded in its report, *Alternatives for Ground Water Cleanup*, that the best available technology is inadequate for remediation of most contaminated aquifers. The critical shortage of proven cleanup technologies can be traced directly to:

1. lack of marketplace incentives to spur development of more effective technology
2. inadequate federal funding for subsurface research
3. a demonstrable gap or disconnect between research and the demonstration and commercialization of new environmental remediation technologies.

Lack of marketplace incentives and federal research support will continue to be serious problems for the foreseeable future; however, several new initiatives for quantitative demonstrations of innovative technology are expected to yield some

short-term benefits. The current status of bioremediation technologies for ground water cleanup will be reviewed to provide a basis for forecasting needs for future development. ■



Dr. Ward holds the Foyt Family Chair of Engineering in the George R. Brown School of Engineering at Rice University. He is also Professor of

Environmental Science and Engineering, and Ecology and Evolutionary Biology. Dr. Ward has undergraduate (B.S.) and graduate (M.S. and Ph.D) degrees from New Mexico State University and Cornell University, respectively. He also earned the M.P.H. degree from the University of Texas. Following 22 years as Chair of the Department of Environmental Science & Engineering at Rice University, Dr. Ward is now Director of the Energy and Environmental Systems Institute (EESI), a

university-wide program designed to mobilize both industry and academia to focus on problems related to energy production and environmental protection. Dr. Ward is also Director of the Department of Defense Advanced Applied Technology Demonstration Facility (AATDF), a consortium of university-based environmental research centers supported by consulting environmental engineering firms to guide selection, development, demonstration, and commercialization of advanced applied environmental restoration technologies for the DOD. For the past 14 years he has directed the activities of the National Center for Ground Water Research (NCGWR), a consortium of universities charged with conducting long-range exploratory research to help anticipate and solve the nation's emerging ground water problems. He is also Co-Director of the EPA-sponsored Hazardous Substances Research Center/South & Southwest (HSRC/S&SW) whose research focus is on contaminated sediments and dredged materials.