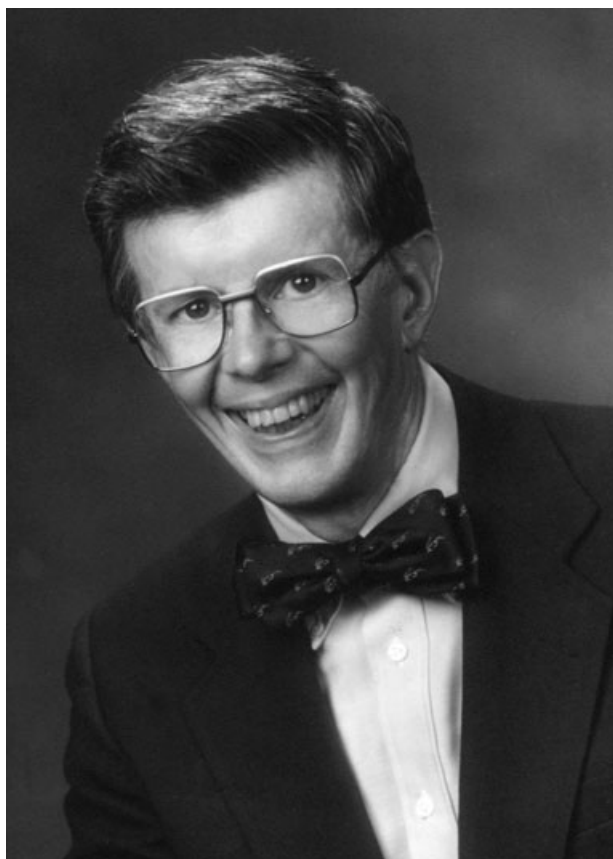


Obituary

This issue of *Environmental Microbiology* is dedicated to the memory of David C. White

In Memory of David Cleaveland White

On October 25, 2006, University of Tennessee/Oak Ridge National Laboratory Distinguished Professor David C. White died of injuries sustained in an automobile accident while he was on his way to scientific meeting in Oak Ridge, TN. For those of us at the meeting and with him the day before, it was particularly heart-wrenching since he was very excited about the work being presented and as always for David he was suggesting new techniques and suggesting new ways of looking at our results that were both thought provoking and providing us with valuable new science insights. As always, he was also looking for new collaborations for his own research and altruistically helping make introductions to the scientists he met with



other experts in different fields that might be able to help them advance their work. As this suggests David's impact on the field of environmental microbiology and science in general has been immense both directly and indirectly for more than 40 years.

David C. White was born in Moline, Illinois and took his first train ride when he started Dartmouth College, Hanover, New Hampshire, where he graduated in 1951 with a major in Geology and Chemistry. As he tells it, he didn't know what else to do at that time so he followed his college roommate to Tufts University School of Medicine in Boston where he obtained a degree in Medicine M.D. in 1955. He interned at the University of Pennsylvania Hospital where he met his wife Sandy. He joined the US Navy medical corps and worked on the 'human centrifuge' at Johnsville, PA developing space suits for chimpanzees. He then did a tour as a physician on a ship stationed in the Red Sea where he says he learned a lot more things than what he was taught in medical school. After being discharged, he worked at the University of Pennsylvania with Dr. A. N. Richards who defined the function of nephrons in the kidney. Dr. Richards encouraged him to apply for the new research program at Rockefeller Institute and become a Scientist, which he did, earning a Ph.D. in biochemistry in 1962. His first academic position was at the University of Kentucky Medical Center where he rose from Assistant Professor to Professor from 1962–1972. In 1973, he moved to Florida State University as Professor of Biological Sciences and Associate Director of the Program in Medical Sciences. It was while he was at Florida State University that he started his research on biomarker analysis of microbial communities, while working with medical students getting clinical experience. At FSU, he was also one of the most popular undergraduate teachers at the university, with waiting lines to get in to his classes. For his course in Biology for non-majors, which he taught in the FSU Opera House to nearly 2000 students, he published a paperback book for the course that was quite popular 'Sex Drugs, and Pollution – a Biological Basis for Human Decisions.' In 1986, he made his last move to Tennessee as the University of Tennessee/Oak Ridge National Laboratory Distinguished Scientist and Professor of Microbiology/Ecology

University of Tennessee, Knoxville. From 1991 to the present, he was Executive Director of the Center of Environmental Biotechnology and the Center for Biomarker Analysis, and from 1998–2000, he was Visiting Distinguished Scientist at the Jet Propulsion Laboratory, Pasadena, CA. He was also licensed to practice medicine in New York, Kentucky, Florida, and Tennessee.

Dr. White founded and served as Editor in Chief of the *Journal of Microbiological Methods* starting in 1982. He served on the editorial board or as associate editor for *Applied and Environmental Microbiology*, *Journal of Contaminant Hydrology*, *Annual Review of Microbiology*, and *Environmental Microbiology*. He served on the Scientific Advisory Board of the National Water Research Institute and Microbial Insights, Inc. He also served on many US and international government and research advisory and review boards.

Professor White showed us all how to use biochemistry to find biomarkers that could be used to measure biomass, physiological activity, stress, at the individual, population, and community level. He will perhaps be best known for his studies on phospholipid fatty acids (PLFA) and quantification techniques at picomolar quantities. He showed us that the changes that occur in cell walls and membranes are critical to how the cell, population and community function. Indeed, he was doing metabolomics and systems biology before any of us had ever heard these words. DC used his biomarkers to study the deepest underground subsurface microbes thousands of meters below the surface, deep ocean thermal vents, plant rhizospheres, Antarctic ice, medical devices, pipelines and the potential for life on Mars and other planets. Since the moment he won his first microscope in a science fair his passion has been to understand how the interaction of cells or microorganisms works to ensure the success of the whole (organism, community, ecosystem).

During his life David published more than 580 peer-reviewed papers and, considering that more than 12 have already come out in 2006, we can expect to see many more publications with his name from his many collaborators. The impact that these papers have had has been enormous if we just consider the more than 9,726 citations to his work that have already occurred in the peer-reviewed literature. He has many papers that have been cited by many of us hundreds of times. As if to accent his scientific accomplishments he received the Scientific and Technological Achievement Award from the US EPA in 1987, the Procter and Gamble Award in Applied and Environmental Sciences from the American Society for Microbiology in 1993, and the Athalie Richardson Irvine Clarke Prize for Water Science and Technology from the National Water Research Institute in 1995.

One of Dr. White's favorite expressions was 'Science is like a monastery where we work as replaceable

unknowns on [a] manuscript that is the ever-deepening view of the majesty of interactions in this incredible universe.' He was not only a great scientist but also a great teacher, a great mentor and a kind and gentle man that always had time to teach, train, and excite us about science and being good people. For many of us in environmental microbiology he was our mentor without peer. Our thoughts are with his wife Sandy, their three children and ten grandchildren and all of his many friends worldwide. He will sorely be missed by all of us.

Terry C. Hazen

*US DOE Distinguished Scientist
Lawrence Berkeley National Laboratory*

David White, Director of the Center for Biomarker Analysis (<http://cba.bio.utk.edu/cbcstaff.html>), University of Tennessee, Knoxville, died in an automobile accident on Wednesday the 25th of October, on his way to a DOE meeting at Oak Ridge. He was 77. Dave was a true pioneer, crisscrossing disciplinary lines, applying powerful new analytical methods from physics and chemistry to questions in environmental microbiology, and developing the concept of biomarkers as signatures of phylogenetic and functional groups of microbes to link organism to activity and gain new insights into what goes on in natural habitats. As one leading microbiologist expressed it: he was a hero.

Dave was a founding member of the Editorial Board of *Environmental Microbiology* and gave it everything, as was his character. He and his high standards profoundly influenced the Journal, its editors, its Editorial Board, and, most importantly, the papers he reviewed. A significant number of papers published in the Journal (and many more that were rejected and ultimately published in others), and their authors, were radically improved as a result of his incisive and constructive criticisms.

Dave was quick witted and had a sharp sense of humour, which was effectively deployed to encapsulate the essence of strengths and weaknesses of a manuscript in a few well chosen words. It was such comments that seeded the idea of our annual feature 'Referees' Quotes', and subsequently sustained it. Below are a few of them.

We all saw him for the last time at the ISME meeting in Vienna in August: he was as usual dynamic and full of ideas. It is difficult to imagine that we will no longer have the benefit of his wisdom, insight, humour and enthusiasm.

We are profoundly grateful to David for his contributions to the field of environmental microbiology and to our Journal, and will miss him terribly.

Our thoughts are with his family at this difficult time.

**Ken Timmis, Dave Stahl,
Ed DeLong and Michael Wagner**

Selection of Referees' Quotes from David White

- Beautiful study, well written: I wish I could have done it.
- This is a strongly written paper claiming elegance that is not backed up in the data.
- How much triglyceride was in the wastewater? That would certainly foul up their attributions.
- This is a paper written like a telegram.
- Because bacteria are found together . . . does not establish they interact.
- Well written paper with a poor method and a lot of conjecture. How about a little time off – I need to get some research done! (*Ed.: he was 73 at this point.*)
- Nice paper: he bit the Gordian knot!
- This is a stinker! (*Ed.: paper on methyotrophic microbes on feet, which he recommended for publication*)
- There is an obvious omission, the chemical structure . . . Surely there is an NMR in Sydney!
- This is the most convoluted paper I have seen in a very long time.
- Tank this turkey!
- I like lipids, but they have their limitations, which appear to have been overlooked.
- A terrible paper, not even a good science fair project. Please let me have some time to complete grant applications (*Ed.: he was 75 when he wrote this*).
- They need to learn that the fatty acids are in the cell membrane not the wall; that immediately tips off the reader to stop reading.
- This is an essentially unreadable paper sent to the wrong journal.
- Wow: this is a clear keeper. Merry Christmas!
- Giant step backwards.
- Co-inertial is wonderful jargon for bad methods application.
- When I saw the title and the author I could not put it down. Beautiful . . . thanks for letting me read it.
- This paper has a grandiose title for a complex multi faceted test . . . It is no trichorder that one passes over the water and detects specific life.
- What a beautiful paper. . . . You certainly get better papers than the stuff Ken sends me!