

2009 Roscoe Ellis, Jr. Lecturer

Dr. Paul Bertsch
Professor of Environmental
Chemistry and Toxicology
Department of Plant and Soil
Sciences
University of Kentucky

Paul M. Bertsch is professor of environmental chemistry and toxicology at the University of Kentucky. He is also Georgia Power professor emeritus of environmental and soil chemistry at the University of Georgia; a faculty member in the interdisciplinary toxicology program at the University of Georgia; an adjunct professor in the marine biomedicine and environmental sciences program at the Medical University of South Carolina; and an adjunct professor of environmental systems engineering and science at Clemson University.

His research focuses on the mechanisms controlling the fate, transport, and bioavailability/toxicity of contaminants in the environment and on the development of novel minimally invasive remediation strategies for contaminated sites.



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Dr. Bertsch has published over 150 articles in environmental chemistry, biogeochemistry, toxicology, and soil physical chemistry and mineralogy and holds a patent for a novel groundwater remediation technology. He has been invited to present his research at scientific meetings, universities, and research institutes world-wide.

Among his many professional activities, Dr. Bertsch currently is president of the Soil Science Society of America (SSSA), chairs the U.S. National Committee for Soil Science at the National Academy of Sciences, served on the Scientific Advisory Committee of the Advanced Photon Source at Argonne National Lab, and on a U.S. Environmental Protection Agency Task Force to develop criteria for natural attenuation of inorganic contaminants.

He has been elected a fellow of the American Society of Agronomy, the Soil Science Society of America, and the International Union of Pure and Applied Chemistry. He has received numerous awards for his research, including the Jackson Award for excellence in teaching and research in soil chemistry and mineralogy from the SSSA and two career achievement awards—the Soil Science Research Award from the SSSA and the D.W. Brooks award from the University of Georgia.

In addition to the Soil Science Society of America, Dr. Bertsch is an active member of the American Chemical Society, the American Geophysical Union, the Geochemical Society, the Clay Minerals Society, and the American Association for the Advancement of Science.

Roscoe Ellis, Jr. Lecturers

- 1984: Boyd Ellis, Michigan State, Soil Chemistry
- 1985: Larry Wilding, Texas A&M, Soil Classification
- 1986: Fred Adams, Auburn, Soil Fertility/Chemistry
- 1987: Don Nielsen, UC Davis, Soil Physics
- 1988: Joe Ritchie, Michigan State, Soil Water Management
- 1989: Jim Tiedje, Michigan State, Soil Microbiology
- 1990: Terry Logan, Ohio State, Soil Water Chemistry
- 1991: John Mortvedt, TVA, Soil Chemistry
- 1992: Larry Murphy, PPI, Soil Fertility
- 1993: Peter Wierenga, Arizona, Soil Physics
- 1994: Al Page, UC Riverside, Soil Chemistry
- 1995: John Norman, Wisconsin, Environmental Biophysics
- 1996: Willard Lindsay, Colorado State, Soil Chemistry
- 1997: Peter Bottomley, Oregon State, Soil Microbiology
- 1998: Tom Sims, Delaware, Soil Chemistry
- 1999: Rufus Chaney, USDA-ARS, Environmental Chemistry
- 2000: Gyles Randall, Minnesota, Soil Fertility
- 2001: Kevin McSweeney, Wisconsin, Pedology
- 2002: Kate Scow, UC Davis, Soil Microbial Ecology
- 2003: Hugo Rogers, USDA-ARS, Plant Physiology
- 2004: Donald Sparks, Delaware, Soil Chemistry
- 2005: Ray Weil, Maryland, Soil Science
- 2006: Ed Gregorich, Canada, Soil Biochemistry
- 2007: Andrew Sharpley, Arkansas, Soil Chemistry
- 2008: David Kissel, Georgia, Soil Fertility
- 2009: Paul Bertsch, Kentucky, Environmental Chemistry

Roscoe Ellis, Jr.

Roscoe Ellis began a career of contributions to science and society at Kansas State University as an instructor in 1949. After completing his Ph.D. degree at the University of Wisconsin in 1954, he resumed teaching and research responsibilities in the Department of Agronomy at Kansas State University. His career was marked by numerous scientific achievements up to his untimely death in 1982.

Roscoe became a highly respected soil chemist through his research in clay mineralogy, soil phosphorus and micronutrient chemistry. He researched the quantification of clay minerals in mixtures and greatly expanded knowledge on the mineralogy and chemistry of Kansas soils. His studies on the interaction of phosphorus and zinc chemistry in soils advanced theoretical horizons and provided practical implications for fertilizer management on Kansas farms.

Dr. Ellis's characterization of zinc levels in Kansas soils led to the development of a zinc soil test procedure. That test was used to determine when responsive additions of zinc fertilizer could be recommended.

Dr. Ellis advanced the frontiers of knowledge in soil phosphorus chemistry through a variety of research studies. Perhaps his most significant work investigated the complexity of polyphosphate reactions in soils and their conversion to the plant available orthophosphate form. These studies advanced both the theoretical aspects of polyphosphate chemistry and the adaptation of polyphosphate use in crop production.

Dr. Ellis was highly sought after to partnership in studies involving soil chemistry. His cooperative studies with the USDA on soil and environmental factors causing magnesium deficiency in cattle (grass tetany) led to a better understanding of this significant problem.

Dr. Ellis mentored 32 graduate students and their efforts resulted in 45 scientific publications. He served his profession as Associate Editor of both the Agronomy Journal and Soil Science Society of America Journal, Soil Chemistry Program Chairman in 1962 for the Soil Science Society of America, and in 1979 he was named Editor-in-Chief of the Soil Science Society of America Journal.

Dr. Ellis's career as a preeminent teacher, researcher and person provided an excellent example for all. He was recognized with memberships in the honor societies of Phi Kappa Phi, Sigma Xi, Gamma Sigma Delta, and Pi Mu Epsilon and as a Fellow of both the Soil Science Society of America and American Society of Agronomy.

Roscoe Ellis, Jr. Lectureship



Roscoe Ellis, Jr.

The Roscoe Ellis, Jr. Lectureship was established to advance soil science at Kansas State University by attracting prominent scholars to interact with students and faculty.

The lectures honor the career of Dr. Ellis and commemorate his many years of outstanding service to his students, Kansas State University, and the soil science community. His dedication, knowledge and helpfulness influenced many in their educational and scientific pursuits.

Donations by family, friends, and associates of Dr. Ellis in excess of \$10,000 endowed the Lectureship Fund with the Kansas State University Foundation. Income from this endowment supports expenses associated with providing this annual lectureship, but additional support is needed.

Please consider enhancing this fund so future soil scientists can continue benefiting from this lectureship. Your contributions and inquiries are encouraged and may be sent to:

Roscoe Ellis Lectureship
Department of Agronomy
2004 Throckmorton Hall
Kansas State University
Manhattan, KS 66506

Twenty-sixth
Annual

Roscoe Ellis, Jr. Lectureship in SOIL SCIENCE

**“Nanotechnology:
Technological
Revolution or Future
Environmental
Calamity?”**

By Dr. Paul Bertsch

**Professor of Environmental
Chemistry and Toxicology
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Soil Sciences
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**4:00 p.m., Wednesday,
April 1, 2009**

**1018 Throckmorton Hall
Kansas State University
Manhattan, KS**

Refreshments @ 3:30 in TH 1013