

2010 Roscoe Ellis, Jr. Lecturer

Dr. David Laird
Lead Scientist
USDA-ARS
National Laboratory for
Agriculture and the Environment
and
Professor USDA-Collaborator,
Department of Agronomy and
Environmental Science Program
Iowa State University
Ames, Iowa

Dr. David Laird earned a B.S. in Geology from the University of Kansas, a M.S. in Soil Science from Oregon State University, and a Ph.D. in Agronomy from Iowa State University.

He is an active member of the Soil Science Society of America, the Clay Minerals Society, and the American Society of Agronomy. Dr. Laird has been recognized as a Fellow in both the American Society of Agronomy and the Soil Science Society of America.



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He has received the Raymond and Mary Baker Agronomic Excellence Award in 2003 and the Marion L. & Chrystie M. Jackson Soil Science Award (2000)

He has chaired the Soil Chemistry Division (S2) of the Soil Science Society of America, currently serves as the Vice President of the Clay Minerals Society, and serves on the Board of Directors for the Nevada Iowa Public School District.

Dr. Laird has served as Associate Editor for both Clays and Clay Minerals and Soil Science Society of America Journal.

Dr. Laird is author or co-author of 72 refereed journal articles and 9 book chapters. Research interests include the use of pyrolysis to process biomass into bioenergy and biochar co-products, and the impact of biochar amendments on soil quality, the stability of biochar in soils, and the net impact of biochar on greenhouse gas emissions from soils.

Other research interests include the chemical, mineralogical, and surface properties of soil clays, interactions of pesticides and other organic compounds with clays, the nature of soil humic substances, clay-humic interactions, and the development of field-mobile near infrared diffuse reflectance spectroscopy for mapping soil organic carbon and other properties.

His current research is heavily focused on the influence of bio-char amendments on soil properties carbon sequestration and crop production. Dr Laird is leading the USDA-ARS Biochar and Pyrolysis Initiative.

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
- 2010: David Laird, USDA-ARS, Soil-Environmental Quality

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-seventh
Annual

Roscoe Ellis, Jr. Lectureship in SOIL SCIENCE

**“Global Imperatives
and the
Biochar Revolution”**

By Dr. David Laird

**Lead Scientist, USDA-ARS
National Laboratory for
Agriculture and the
Environment
Ames, Iowa**

**4:00 p.m. Wednesday,
March 10, 2010**

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

Refreshments @ 3:30 in TH 1013