

2013 Roscoe Ellis, Jr. Lecturer

Dr. Mike McLaughlin

Chief Research Scientist, Environmental Biogeochemistry CSIRO Land & Water, Professor, School of Agriculture Food & Wine, and Director of the Fertilizer Technology Research Center University of Adelaide, Australia



Dr. Mike McLaughlin

Dr. Mike McLaughlin is Chief Research Scientist in the Environmental Biogeochemistry program of CSIRO Land and Water. As well, he is Stream Leader of the Soil Nutrients and Contaminants Stream in CSIRO's Agricultural Sustainability Flagship. His other roles include: con-joint Professor in the School of Earth & Environmental Sciences, University of Adelaide; one of the five international scientists on the Metals Environmental Research Associations' Ecotoxicity Technical Advisory Panel, and President of the World Council of the Society of Environmental Toxicology and Chemistry.

2013 Roscoe Ellis, Jr. Lecturer

Dr. Mike Laughlin earned his B.S. with Honors from the University of Ulster, Ireland, in 1977; his M.S. in Agricultural Science with Distinction from the University of Reading, United Kingdom, in 1979; and his Ph.D. from The University of Adelaide, South Australia, in 1986.

In 2011 he was honored with International Plant Nutrition Institute's Science Award. He has also received Researcher of the Year from the Fluid Fertilizer Foundation (2008); the International Award from the Soil Science Society of America (2008); SSSA Fellow (2008); ASA Fellow (2008) and the first Leo M. Walsh Soil Fertility Distinguished Lectureship (2007).

Dr. McLaughlin is an internationally recognized leader in the study of trace elements and nutrients in the terrestrial environment.

His research interests are now principally in:

- biogeochemistry of nutrients and pollutants in soils
- environmental chemistry and toxicology, specifically the assessment and remediation of contaminated soils
- advanced techniques to measure and monitor nutrients and pollutants in the environment.

He also manages research related to the Infrared Soil Analysis Service, which uses mid-infrared (MIR) spectroscopy for the rapid non-destructive analysis of soil physical and chemical properties.

Before joining CSIRO in 1991, he worked as a research scientist at the Soil and Irrigation Research Institute in South Africa on sustainability issues relating to wastewater and sewage biosolids disposal on soils, particularly relating to metals and phosphorus. He has also worked on issues relating to acidic soils and reactions of fertilizer phosphorus and fluoride in soils.

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
- 2011: Sally Brown, Washington, Soil Remediation
- 2012: Henry Janzen, Canada Soil Biochemistry
- 2013: Mike McLaughlin, CSIRO Environmental Biogeochemistry

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

Thirtieth
Annual

Roscoe Ellis, Jr. Lectureship in SOIL SCIENCE

**"The Good, The Bad
and The Ugly –
Managing Nutrients
and Contaminants in
Soil"**

By Dr. Mike McLaughlin

**Chief Research Scientist
CSIRO Land & Water
Australia**

**Professor, School of Earth
& Environmental Sciences
University of Adelaide**

**2:30 p.m. Thursday,
February 21, 2013**

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

Refreshments @2:00 p.m. in TH Lobby