

## Curriculum Vitae

M.B. Kirkham (as of July 14, 2021)

### Education

B.A. (Honors) Biological Sciences, Wellesley College

M.S. Botany, University of Wisconsin, Madison

Ph.D. Botany; Minor: Soil Science (emphasis Soil Physics), University of Wisconsin, Madison

### Professional Experience

**University Distinguished Professor**, Department of Agronomy, Kansas State University, Manhattan, Kansas (April 16, 2018 - present)

**Professor**, Department of Agronomy, Kansas State University, Manhattan, Kansas

**Visiting Scientist**, Environment Group, The Horticultural and Food Research Institute, Ltd., Crown Research Institute, Palmerston North, New Zealand (sabbatical leave, 2005)

**Visiting Scientist**, Environmental and Risk Management Group, The Horticultural and Food Research Institute, Ltd., Crown Research Institute, Palmerston North, New Zealand (sabbatical leave, 1998)

**Visiting Scientist**, Landcare Research, Crown Research Institute, Canterbury Agriculture and Science Centre, Lincoln, New Zealand (sabbatical leave, 1998)

**Visiting Scientist**, Environmental Physics Section, Department of Scientific and Industrial Research, Palmerston North, New Zealand (sabbatical leave, 1991)

**Visiting Scholar**, Biological Laboratories, Harvard University, Cambridge, Massachusetts (sabbatical leave, 1990)

**Acting Laboratory Leader**, Evapotranspiration Laboratory, Department of Agronomy, Kansas State University

**Assistant Professor**, Department of Agronomy, Oklahoma State University, Stillwater, Oklahoma

**Summer Research Associate**, Evapotranspiration Laboratory, Kansas State University, Manhattan, Kansas

**Summer Faculty Participation Fellow**, Environmental Transport Division, Atomic Energy Branch, E.I. du Pont de Nemours and Company, Savannah River Laboratory, Aiken, South Carolina

**Assistant Professor**, Department of Plant and Soil Sciences, University of Massachusetts, Amherst, Massachusetts

**Plant Physiologist**, Ultimate Disposal Research Program, Advanced Water Treatment Research Laboratory, U.S. Environmental Protection Agency, Cincinnati, Ohio

**National Science Foundation Postdoctoral Fellow**, Institute for Environmental Studies, University of Wisconsin, Madison, Wisconsin

**Research Assistant**, Department of Soil Science, University of Wisconsin, Madison, Wisconsin

**National Defense Education Act Fellow**, Department of Soil Science, University of Wisconsin, Madison, Wisconsin

**Laboratory Technician**, Plant Analysis Laboratory, Iowa State University, Ames, Iowa (summers during college)

### Awards and Distinctions

- Fellow, American Society of Agronomy
- Fellow, Soil Science Society of America
- Fellow, American Association for the Advancement of Science
- Fellow, Crop Science Society of America
- Fellow, Royal Meteorological Society
- Recipient, Carl Sprengel Agronomic Research Award, American Society of Agronomy
- Recipient, 2010 Crop Science Research Award
- Recipient, 2010-2011 Dr. Ron and Rae Iman Outstanding Faculty Award for Research
- Recipient, 2013 Irvin E. Youngberg Award in Applied Science, one of the Higuchi-University of Kansas Endowment Research Achievement Awards
- Named University Distinguished Professor (2018)
- Elected President of the University Distinguished Professors Group (2020-2021)
- Elected President of The Honor Society of Sigma Xi, Kansas State University Chapter (2020-2021)
- Honorary Member, International Union of Soil Sciences (elected November, 2016)
- Distinguished Alumni Award, College of Agricultural and Life Sciences, University of Wisconsin (received October 19, 2017)
- Recipient, 2019 International Soil Science Award, Soil Science Society of America
- Wellesley College Scholar
- Mary White Peterson Prize, Wellesley College (given to top senior in science for excellence and ability in independent studies)
- Scholarship, Wellesley College
- Summer Graduate Fellow, University of Wisconsin
- Certified Crop Adviser (formerly called Certified Professional Agronomist); Certification Number 00042
- Member Joint/Federal/State Planning Committee for “A Plant Stress and Soil Moisture Conservation Laboratory” (now located in Lubbock, Texas)
- One of seven scientists in the U.S.A. to participate in “Workshop on Biological Treatment for Wastes Contained in Existing Non-Nuclear Hazardous Waste Dumpsites,” White House Science Office, Washington, D.C.
- Travel Grant from Soil Science Society of America to attend International Soil Science Congress, Kyoto, Japan
- Faculty Development Awards, Kansas State University, for travel to present invited papers at International Grassland Congress, Palmerston North New Zealand (1993) and Conference on Soil Contaminants, New Delhi, India (1999)
- Travel Grantee from the U.S. Department of Defense to present invited keynote talk at the Fifth International Conference on the Biogeochemistry of Trace Elements, Vienna, Austria
- Guest Lecturer: China, Italy, New Zealand, The Netherlands, South Korea, Spain, Germany
- William A. Albrecht Seminar Speaker, University of Missouri
- Elected First Vice Chairman, Commission I, Soil Physics, International Soil Science Society
- Selected by John Patrick Jordan, Administrator, U.S. Department of Agriculture, Cooperative State Research Service, to be panel member for Water Resource

Assessment and Protection Program, National Research Initiative Competitive Grants Program

- Elected Faculty Senator, Kansas State University (1998-2001)
- Re-elected Faculty Senator, Kansas State University (2001-2004)
- Elected Faculty Senator, Kansas State University (2008-2010)
- Re-elected Faculty Senator, Kansas State University (2010-2013)
- Invited Reviewer, Foundation for Research, Science, and Technology, Wellington, New Zealand; BARD (United States-Israel Binational Agricultural Research Development Fund); National Science Foundation, U.S. Department of Agriculture; U.S. Department of Energy
- Best Reviewer, Water Resources Engineering Division, Journal of Irrigation and Drainage Engineering, American Society of Civil Engineers
- Top Referee, *Industrial Crops and Products*
- Member, U.S. National Committee of Soil Science, a committee of the National Research Council that represents the National Academy of Science and U.S. soil scientists to The International Union of Soil Science
- The Honor Society of Phi Kappa Phi Faculty Scholar, Kansas State University Chapter
- President, The Honor Society of Phi Kappa Phi, Kansas State University Chapter, 2012-2014
- The Honor Society of Agriculture, Gamma Sigma Delta, Distinguished Faculty Award, Kansas State University Chapter
- Inaugural recipient, College of Agriculture Graduate Faculty Teaching Award, Kansas State University
- The Honor Society of Sigma Xi, Outstanding Scientist Award, Kansas State University Chapter
- Elected Vice-Chair, Commission C4.2, Soils, Food Security, and Human Health, International Union of Soil Science (2002-2006)
- Re-elected Vice-Chair, Commission C4.2, Soils, Food Security, and Human Health, International Union of Soil Science (2006-2010)
- Member, International Union of Soil Science (IUSS) Executive Committee and IUSS Council (2010-2018); Chair, Awards and Prizes Standing Committee
- Travel Grantee from NSF ADVANCE, College of Agriculture, Kansas State University, sabbatical leave, January – April, 2005, The Horticultural and Food Research Institute of New Zealand, Ltd., Palmerston North, New Zealand
- Chair, Division C-2, Crop Physiology and Metabolism Division, Crop Science Society of America (2006-2007)
- Best Reviewer Award from The Irrigation and Drainage Council, American Society of Civil Engineers for reviews done for the *Journal of Irrigation and Drainage Engineering*
- The Honor Society of Agriculture, Gamma Sigma Delta, Outstanding Research Award, Kansas State University Chapter
- Representative to the Crop Science Society of America Board of Directors for Seed Physiology, Production, and Technology, Division C-4 (2011-2014)
- Chair, Budget and Finance Committee, Crop Science Society of America, 2013-2019
- Certificate of Excellence in Reviewing 2014, *Agricultural Water Management*
- Inaugural recipient of recognition from the Soil Science Society of America: To a

Distinguished Scientist “for significant contributions to the Kirkham Conferences since their inception” (2016)

-Outstanding Peer Reviewer Award from the American Society for Horticultural Science for reviews done for the *Journal of the American Society for Horticultural Science* (2020)

-Listed in *Who's Who in America* and *Who's Who in the World*

#### Editorial Boards

**Current:** Soil Science (1997-); Journal of Crop Improvement (1998-); International Agrophysics (2000-); Soil Research (formerly Australian Journal of Soil Research; 2004-2010; reappointed 2010-); Agriculture, Ecosystems and Environment (2008-); Agricultural Water Management (2010-); Pakistan Journal of Agricultural Research (2010-); Journal of the American Society for Horticultural Science (2010-); Science of the Total Environment (2011-); Geoderma (2013-); Environmental and Experimental Botany (2014-); Journal of Agronomy and Crop Science (2014-); Pedosphere (2014-); Sarhad Journal of Agriculture (2016-); Advances in Agronomy (2017-); Soil and Plant Interactions (2020-)

**Past:** Plant Physiology (1982-1987); Crop Science (1980-1984; 2004-2015); Field Crops Research (1983-1991); BioCycle (1978-1982); Agronomy Journal (1985-1991); Plant and Soil (1979-2005); Journal of Environmental Quality (2002-2007)

#### Scientific, Professional, and Honorary Societies

Amer. Soc. Plant Biologists; Amer. Soc. Agronomy; Soil Sci. Soc. Amer.; Crop Sci. Soc. Amer.; Amer. Soc. Hort. Sci.; Int. Union Soil Sci.; Int. Soc. Hort. Sci.; Amer. Assoc. Advance. Sci.; Amer. Meteorol. Soc.; Plant Growth Regulator Soc. Amer.; Society for Exp. Biol. (London); Royal Meteorol. Soc.; Int. Soil Tillage Res. Organ.; Bot. Soc. Amer.; New York Acad. Sci.; Kansas Acad. Sci.; Soc. Environ. Geochem. Health; Scandinavian Soc. Plant Physiol.; Japanese Soc. Plant Physiol.; Int. Assoc. Vegetation Sci.; Federation of European Societies of Plant Biol.; Water Environment Fed.; American Geophys. Union; Int. Water Resources Assoc.; Int. Assoc. Hydrol. Sci.; Unsaturated Zone Interest Group; Royal Soc. New Zeal.; Amer. Physical Soc.; Math. Assoc. Amer.; Amer. Chem. Soc.; British Soc. Soil Sci.; Phi Kappa Phi; Gamma Sigma Delta; Sigma Delta Epsilon; Sigma Xi

#### Publications and Grants

Contributed, along with students and colleagues, over 300 articles to scientific publications

#### **Written three books:**

*Principles of Soil and Plant Water Relations*, Elsevier Academic Press, Amsterdam, Boston, Heidelberg, London, New York, Oxford, Paris, San Diego, San Francisco, Singapore, Sydney, Tokyo, 2005, xvii + 500 pages; ISBN: 0-12-409751-0

*Elevated Carbon Dioxide: Impacts on Soil and Plant Water Relations*, CRC Press, Taylor and Francis Group, Boca Raton, London, New York, 2011, xv + 399 pages; ISBN: 978-1-4398-5504-1

*Principles of Soil and Plant Water Relations, Second edition.* Elsevier Academic Press, Amsterdam, Boston, Heidelberg, London, New York, Oxford, Paris, San Diego, San Francisco, Singapore, Sydney, Tokyo, 2014, xviii + 579 pages; ISBN: 978-0-12-420022-7

**Edited six books with a seventh in preparation:**

*Advances in Carbon Dioxide Effects Research* (co-editors: L.H. Allen, D.M. Olszyk, C.E. Whitman) American Society of Agronomy, Crop Science Society of America, Soil Science Society of America, Madison, WI, 1997, xviii + 228 pages; ISBN: 0-89118-133-4

*Water Use in Crop Production*, Haworth Press, New York, London, Oxford, 1999, xv + 385 pages; ISBN: 1-56022-068-6

*Trace Elements in Soil* (co-editor: I.K. Iskandar) Lewis Publishers, Boca Raton, London, New York, Washington, D.C. 2001, xvi + 287 pages; ISBN: 1-56670-507-X

*Spoil to Soil: Mine Site Rehabilitation and Revegetation* (co-editors: Nanthi Bolan and Yong Sik Ok) CRC Press, Taylor and Francis Group, Boca Raton, Florida, 2018, xix + 371 pages. ISBN-13: 978-1-4987-6761-3

*Global Soil Proverbs: Cultural Language of the Soil* (co-editors: Jae Yang, Rattan Lal, and Sigbert Huber) Catena Soil Science, an imprint of Schweizerbart Science Publishers, Stuttgart, Germany, 2018, xv + 275 pages. ISBN: 978-3-510-65431-4; US-ISBN: 1-59326-271-X.

*Particulate Plastics in Terrestrial and Aquatic Environments* (co-editors: Nanthi Bolan, Claudia Halsband, Dayanthi Nugegoda, and Yong Sik Ok) CRC Press, Taylor and Francis Group, Boca Raton, Florida, 2020, xxiv + 441 pages. ISBN: 978-1-138-54392-8 (hardcover); ISBN: 978-0-367-51140-1 (softcover)

*Managing Soil Constraints for Sustaining Productivity* (co-editor: Nanthi Bolan). CRC Press, Taylor and Francis Group, Boca Raton, Florida. (In preparation; to be published in 2022)

**Grantee:**

U.S. National Science Foundation; U.S. Department of Energy; Pinchot Institute Consortium for Environmental Forestry Research; Cooperative State Research Service of the U.S. Department of Agriculture; U.S. Office Water Research and Technology; INSORMIL (International Sorghum and Millet Research funded by the Agency for International Development); Kansas Center for Agricultural Resources and the Environment; Kansas State University NSF ADVANCE Institutional Transformation Program; The Fred C. Gloeckner Foundation, Inc., Harrison, N.Y.; U.S. Department of Agriculture, National Institute of Food and Agriculture (NIFA)