
BIOGRAPHICAL SKETCH

NAME: R. William Field

POSITION TITLE: Professor

EDUCATION/TRAINING

INSTITUTION AND LOCATION	DEGREE	COMPLETION DATE	FIELD OF STUDY
Millersville University of Pennsylvania Department of Biology, Millersville, PA	BS	05/1977	Biology
Millersville University of Pennsylvania, Department of Biology, Millersville, PA	MS	05/1985	Biology
University of Iowa, College of Medicine, Department of Preventive Medicine, Iowa City, IA	PhD	05/1994	Preventive Medicine and Environmental Health

A. Personal Statement

Dr. Field is Professor in the Department of Occupational and Environmental Health and Department of Epidemiology in the College of Public Health at the University of Iowa with a secondary appointment in the Department of Toxicology within the Graduate College at the University of Iowa. Primary areas of interest are cancer, occupational, environmental, and radiation epidemiology.

B. Positions and Honors

Positions

1982-1987	Health Physicist, University of California, Berkeley, Department of Environmental Health and Safety, Berkeley, CA.
1994-2003	Research Scientist, Department of Epidemiology, College of Public Health, University of Iowa, Iowa City, IA
2003-2005	Associate Professor, Department of Occupational and Environmental Health, Department of Epidemiology, College of Public Health, University of Iowa, Iowa City, IA
2005-Present	Director, Occupational Epidemiology Training Program, NIOSH Heartland Center for Occupational Health and Safety, University of Iowa, Iowa City, IA
2007-Present	Professor, College of Public Health, Department of Occupational and Environmental Health, University of Iowa, Iowa City, IA
2007-Present	Professor, Human Toxicology Biosciences Program, Graduate College, University of Iowa, Iowa City, IA
2007-Present	Professor, College of Public Health, Department of Epidemiology, University of Iowa, Iowa City, IA
2007-2018	Director, Environmental Lung Disease Research Cluster, National Institute of Environmental Health Sciences Research Center, University of Iowa, Iowa City, IA
2010-2018	Professor, Bioinformatics, Graduate College, University of Iowa, Iowa City, IA

- 2018-Present Co-Director, Population Health Thematic Area, National Institute of Environmental Health Sciences Research Center, University of Iowa, Iowa City, IA
- 2016-Present Deputy Director, NIOSH Heartland Center for Occupational Health and Safety, University of Iowa, Iowa City, IA

Other Experience

- 2004-2009 World Health Organization, International Radon Project (Workgroup Chair, Co-editor)
- 2005-2006 National Academy of Sciences Committee, Review of Worker and Public Health Activities Program Administered by the DOE and the DHHS
- 2007-Present Delta Omega, Public Health Honorary Society (Chapter President 2009-2010)
- 2008-Present International Commission on Occupational Health (ICOH)
- 2008-Present American College of Epidemiology, Fellow
- 2009-Present Presidential Appointee – CDC/NIOSH, Advisory Board on Radiation and Worker Health
- 2009-2014 U.S. EPA, Science Advisory Board, Radiation Advisory Committee (RAC)
- 2010-2012 National Academy of Sciences Committee, Uranium Mining in Virginia: Scientific, Technical, Environmental, Human Health and Safety, and Regulatory Aspects
- 2010-Present Council of Radiation Control Program Directors (CRCPD) - Honorary Member
- 2012-2016 Technical Advisor for Radiation – National Environmental Health Association
- 2012-2018 U.S. EPA, Science Advisory Board
- 2013-2014 U.S. EPA, Science Advisory Board, Radiation Advisory Committee Chair
- 2013-2014 National Academy of Science Committee, Analysis of Cancer Risks in Populations near Nuclear Facilities, Phase 2
- 2016-Present National Council on Radiation Protection and Measurements (NCRP), Committee – Environmental Radiation and Radioactive Waste Issues

Honors

- 2001 Staff Research Award, College of Public Health, University of Iowa, Iowa City, IA
- 2002 Scientific Research Award, American Association of Radon Scientists and Technologist
- 2005 United States Environmental Protection Agency/National Environmental Health Association, Individual Achievement Award for Excellence in Radon Risk Reduction
- 2005 Faculty Research Award, College of Public Health, University of Iowa
- 2005 United States Environmental Protection Agency, Children’s Environmental Health Recognition Award
- 2011 Distinguished Alumni Award, Millersville University of Pennsylvania
- 2012 Faculty Outreach Award, College of Public Health, University of Iowa
- 2012 Michael J. Brody Award for Faculty Excellence in Service to the University and the State of Iowa, University of Iowa
- 2017 Iowa Cancer Champion Award, Iowa Cancer Consortium, University of Iowa
- 2018 Iowa Radon Hero, Iowa Department of Public Health

C. Selected Contributions to Science

Pioneered enhanced exposure assessment methods for epidemiologic studies

The main methodologic problem in environmental epidemiology is exposure assessment that has been described as a towering obstacle in environmental epidemiology preventing identification of causal association between environmental risk factors and health effects. Non-differential exposure misclassification usually biases the measures of association towards the null. To reduce this misclassification, we pioneered enhanced methods to reconstruct retrospective radon exposure assessment for case-control studies examining the association between protracted radon exposure and lung cancer. The research team also developed a novel retrospective radon detector that could reconstruct radon decay product exposure in a home from measurements of embedded radon decay products in glass items within the home.

- Field RW, Steck DJ, Lynch CF, Brus CP, Neuberger JS, Kross BC. Residential radon-222 exposure and lung cancer: exposure assessment methodology, *Journal of Exposure Analysis Environmental Epidemiology*. 6(2):181-95, 1996. PMID: 8792296.
- Field RW, Steck DJ, Parhurst MA, Mahaffey JA, Alavanja MC. Intercomparison of retrospective radon detectors, *Environmental Health Perspectives*. 107(11):905-10, 1999. PMID: 10545336.
- Steck DJ, Field RW, and Lynch CF, Exposure to atmospheric radon, *Environmental Health Perspectives*. 107(2): 123–127, 1999. PMCID: PMC1566320
- Field RW, Smith BJ, Steck DJ, Lynch CF. Residential radon exposure and lung cancer: variation in risk estimates using alternative exposure scenarios, *Journal of Exposure Analysis Environmental Epidemiology* 2(3):197-203, 2002. PMID: 12032816

Discovered a new source of radon exposure from water distribution systems

Collaborative studies performed in the 1990s identified a new source of waterborne radon in the water distribution-systems originating from radium-226 adsorbed internal pipe scale deposits. Because the proposed national drinking water regulations for radon require sampling at the origin of the distribution system rather than at the point of use, the proposed scheme for collection of water samples may not represent actual consumer waterborne radon exposure in all cases. The findings have major implications for setting waterborne radon collection methods and standards.

- Field RW, Fisher EL, Valentine RL, Kross BC. Radium-bearing pipe scale deposits: implications for national waterborne radon sampling methods. *American Journal of Public Health* 85(4):567-570, 1995.

Assessed the lung cancer risk associated with protracted residential radon exposure and communicated the risk globally

The Iowa Radon Lung Cancer Study (Field et al. 2000) revealed that a protracted radon exposure even below the U.S. EPA's Action Level of 4 pCi/L increased lung cancer risk by 50%. The Iowa Study is considered the most scientifically rigorous radon epidemiologic study performed. Pooled analysis of North American residential radon studies (Krewski et al. 2005) provided further support of the risk posed by radon. Following publication of the radon pooling efforts, the World Health Organization concluded: "Recent findings from case-control studies on lung cancer and exposure to radon in homes completed in many countries allow for substantial improvement in risk estimates and for further consolidation of knowledge by pooling data from these studies. The consistency of the findings from the latest pooled analyses of case-control studies from Europe and North America as well as China provides a strong argument for an international initiative to reduce indoor radon risks." I served as working group chair and one of the editors for the WHO Radon Handbook (2009), which provides guidance for WHO member countries planning to develop their national radon programs or extend such activities and establishes a global radon action level of 100 Bq/m³ for radon. The Keynote Address presented at the International Radon Meetings in 2009 launched the WHO

Handbook on Indoor Radon - A Public Health Perspective on behalf of the WHO's International Radon Project.

- Field RW, Steck DJ, Smith BJ, Brus CP, Fisher EL, Neuberger JS, Platz CE, Robinson RA, Woolson RF, Lynch CF. Residential radon gas exposure and lung cancer the Iowa radon lung cancer study, American Journal of Epidemiology 151(11):1091-1102, 2000.
- Krewski D, Lubin JH, Zielinski JM, Alavanja M, Field RW, Klotz JB, Létourneau E, Lynch CF, Lyon JI, Sandler DL, Schoenberg JB, Steck DJ, Stolwijk JA, Weinberg C, Wilcox HB. Residential radon and risk of lung cancer: a combined analysis of 7 North American case control studies, Epidemiology, 16(2):137-145, 2005.
- World Health Organization Handbook on Indoor Radon: A Public Health Perspective, 2009, Publisher, WHO Press, Geneva, Switzerland.
- Field RW. Reducing the Risk from Radon: Information and Interventions: A Guide for Health Care Providers, Council of Radiation Control Program Directors, 2018.
http://www.radonleaders.org/sites/default/files/HealthCareProfessionalsGuide_Radon_2018_FINAL_CRCPPD%20E-18-2.pdf

Established an Active Neonicotinoid Research Collaboratory

Neonicotinoids, first introduced in the 1990s, are now the most widely used class of insecticide in the world. In 2013-14, most corn and soybean acreage in the U.S. was planted using neonicotinoid treated seeds. Not surprisingly, neonicotinoid use, particularly as a corn and soybean seed treatment, has become very intense in Iowa and neighboring states. In order to study the occurrence and potential exposures to neonicotinoids, we developed a Collaboratory to perform cutting edge research in regard to neonicotinoid exposure assessment including development and validation of various assays to detect neonicotinoids, neonicotinoid degradates, and neonicotinoid metabolites. The Collaboratory, funded by the Iowa Institute of Public Health Research and Policy in 2018, is a creative group process designed to solve complex problems that brings the opportunity for new organizational networks to form. The Collaboratory, which expands the scope, scale, and impact of public health research is comprised of members from the Department of Epidemiology at the University of Iowa, the Department of Occupational and Environmental Health at the University of Iowa, IHR Hydroscience and Engineering in the College of Engineering at the University of Iowa, the Iowa Geological and Water Survey, the Iowa State Hygienic Laboratory at the University of Iowa, the U.S. Geological Survey, the Center for Health Effects of Environmental Contamination (CHEEC) at the University of Iowa, and the National Cancer Institute.

- Thompson DA, Lehmler HJ, Kolpin DW, Hladik ML, Vargo JD, Schilling KE, LeFevre GH, Peeples TL, Poch MC, LaDuca LE, Cwiertny DM, Field RW. A critical review on the potential impacts of neonicotinoid insecticide use: current knowledge of environmental fate, toxicity, and implications for human health. Environ Sci Process Impacts. 2020 Jun 24;22(6):1315-1346. <https://pubs.rsc.org/en/content/articlelanding/2020/EM/C9EM00586B#divAbstract>

Published Work - Google Scholar:

https://scholar.google.com/citations?hl=en&user=Z9GJEccAAAAJ&view_op=list_works