

EHSRC UPDATE



Volume 4, Issue 1, Summer 2005

EHSRC Investigators Contribute to Multi-Center Study Linking Residential Radon and Lung Cancer

Two EHSRC researchers were part of a large multi-center study that provides compelling direct evidence of an association between prolonged residential radon exposure and lung cancer risk.

The study, an analysis of data pooled from seven different North American residential radon studies, demonstrates an 11 to 21 percent increased lung cancer risk at average residential radon concentrations of approximately 3.0 pCi/l of air, during an exposure period of 5 to 30 years. The lung cancer risk increased with increasing radon exposure. The U.S. Environmental Protection Agency's current action level for residential radon is 4.0 pCi/l.



R. William Field *Charles F. Lynch*

"This analysis, based on the largest radon data set assembled in North America, agrees with a similar large-scale radon pooled analysis performed concurrently in Europe. The North American and European pooling provides unambiguous and direct evidence of an increased lung cancer risk even at residential radon exposure levels below the U.S. EPA's action level," according to R. William Field, Ph.D., Associate Professor and Co-Director of the EHSRC Pulmonary Health Outcomes Research Core. Dr. Field is a co-author of the study, which is reported in the March 2005 issue of the journal, *Epidemiology*. Charles F. Lynch, M.D., Ph.D., Professor and member of the Pulmonary Health Outcomes Core also contributed to the research.

Field and Lynch were part of an international team of researchers who performed the combined analysis of the original residential radon studies, conducted in Connecticut, Iowa, New Jersey, Missouri, Utah and South Idaho, as well as Winnipeg, Canada. The original studies were funded from several federal sources, including the National Institute of Environmental Health Sciences and the National Cancer Institute. The investigators' review of 3,662 cases and 4,966 controls from these combined studies represents the largest analytic radon epidemiologic study ever performed in North America.

*Adapted for EHSRC Update from Story
Source: University of Iowa College of Public
Health Office of Communications, 4261 West-
lawn, Iowa City, IA 52242*

Reporting Air Quality Violations through The Iowa Department of Natural Resources

Iowa citizens need not suffer in silence when it comes to air pollution caused by vehicle exhaust or offensive odors emanating from farming practices such as manure spreading or concentrated animal feeding operations. The Iowa Department of Natural Resources (IDNR), Division of Air Quality offers reporting mechanisms for both offenses.

To report a vehicle that is emitting excessive amounts of tailpipe smoke, call **1-800-END-SMOG**, or report online at www.iowadnr.com/air/citizen/vehicle/report_form.html

To report excessive and offensive agricultural odors, call **1-800-961-ODOR**

The IDNR responds to reports by sending educational mailers to motorists and visiting the offending farm sites.



Pilot Grant Awards—Spring 2005

On March 31, 2005, the EHSRC funded three pilot grants. Designed to enhance and promote research and training in the environmental health sciences, the EHSRC Pilot Grant Program is open to all University of Iowa researchers interested in environmental health, with priority given to junior investigators. Applicants can apply for funding for U.S.-based projects or for collaborative, international projects. For more information, visit <http://www.ehsrc.uiowa.edu/PilotGrantPrgm.htm>

2005 EHSRC Pilot Grant Awards

- Kevin Doerschug, M.D., M.S. *Reactive Nitrogen Species and Injury in a Human Model of Oxidative Stress.*
- Jonathan A. Doorn, Ph.D. *Reactivity of Protein Nucleophiles toward an Aldehyde Intermediate of Dopamine Metabolism.*
- Suzana Hadina, D.V.M, Ph.D. *The role of MD-2 in endotoxin responsiveness.*

University of Iowa Research Week and Innate Immunity Symposium — May 18-21, 2005

The University of Iowa College of Medicine, College of Public Health, and the Veteran's Administration Hospital held *Research Week 2005* on May 18-21, featuring five public lectures on topics including childhood asthma, innate immunity, RNA interference (RNAi) and human bleeding and blood-clotting disorders. The EHSRC co-sponsored two visiting lecturers.; Carole Ober, Ph.D. from The University of Chicago, spoke on "Gene-Environment Interactions and the Search for Asthma Genes," and Erika von Mutius, M.D., of the Munich University Children's Hospital in Munich, Germany presented a lecture titled "Childhood Asthma: Defining the Role of the Environmental Exposure."



EHSRC Director Peter Thorne with Lecturer Carole Ober



EHSRC investigator Larry Robertson confers with Erika von Mutius and EHSRC Director Peter Thorne

In conjunction with Research Week, a two-day Symposium titled, "Evolution in Innate

Immunity, a Celebration of the Careers of Peter Elsbach, Bob Lehrer and Seymour Klebanoff" was held. A host of esteemed experts in innate immunity research, including Jules Hoffman (Universite Louis Pasteur, Strasbourg, France), gave presentations in the areas of innate immune recognition and function, oxidative metabolism and antimicrobial action of phagocytes, secretory antimicrobial peptides, and the past, present and future of innate immunity research. In addition, Gregory J. Hannon, Ph.D., of the Cold Spring Harbor Laboratory, NY gave a presentation on "RNAi: Mechanism and Application."

AWARDS

R. William Field, Ph.D., Co-Director, EHSRC Pulmonary Health Outcomes Core received the first U.S. EPA/NEHA Individual Achievement Award for Excellence in Radon Risk Reduction on June 26, 2005 in Providence Rhode Island.

Larry W. Robertson, Ph.D., EHSRC Oxidative Stress and Metabolism Research Core Co-Director, was selected by the Alexander von Humboldt Foundation for a three-month research appointment (June-Aug, 2005) in the laboratory of Prof. Michael Schwarz, University of Tübingen.

Peter S. Thorne, Ph.D., EHSRC Center Director, received The Thomas Bedford Memorial Prize from the British Occupational Hygiene Society.

GRANTS

Patrick T. O'Shaughnessy, Ph.D., Director, EHSRC Environmental Modeling and Assessment Facility.
EPA/NIOSH/NSF: *Assessment Methods for Nanoparticles in the Workplace*. \$400,000. 07/01/05—06/30/08 .

SELECTED PUBLICATIONS

Ayanian JZ; **Chrischilles EA**, Fletcher RH; Fouad MN; Harrington DP; Kahn KL; Kiefe CI; Lipscomb J; Malin JL; Potosky AL; Provenzale DT; Sandler RS; van Ryn M; **Wallace RB**; Weeks JC; West DW. *Understanding cancer treatment and outcomes: The Cancer Care Outcomes Research and Surveillance Consortium*, J Clin Oncol 22(24), 2004 Dec 15, 2004.

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Blanc PD; Eisner MD; Katz PP; Yen IH; Archea C; Earnest G; Janson S; Masharani UB; Quinlan PJ; Hammond SK; **Thorne PS**, Balmes JR; Trupin L; Yelin EH. *Impact of the home indoor environment on adult asthma and rhinitis*, J Occup Environ Med 47(4), Apr 2005.

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Hennig B; Toborek M; Ramadass P; **Ludewig G, Robertson LW**. *Polychlorinated biphenyls, oxidative stress and diet*, Reviews in Food and Nutrition Toxicity 3, 2005.

LeVan TD; Von Essen S; Lambert GP; Martinez F; Vasquez M; **Merchant JA**. *Polymorphisms in the CD14 gene are associated with pulmonary function in farmers*, Am J Respir Crit Care Med 171(7), 2005.

McConnell R; Milam J; Richardson J; Galvan J; Jones C; **Thorne PS**, Berhane K. *Educational intervention to control cockroach allergen exposure in the homes of hispanic children in Los Angeles: results of the La Casa study*, Clin Exp Allergy 35(4), Apr 2005.

Merchant JA, Naleway AL, Svendsen ER, Kelly KM, **Burmeister LF**, Stromquist AM, Taylor CD, **Thorne PS**, Reynolds SJ; **Sanderson WT**, Chrischilles EA. *Asthma and farm exposures in a cohort of rural Iowa children*, Env Health Perspect 113(3), 2005.

Ough M; Lewis A; Zhang YP, Hinkhouse MM; Ritchie JM, **Oberley LW**, Cullen JJ. *Inhibition of cell growth by overexpression of manganese superoxide dismutase (MnSOD) in human pancreatic carcinoma*, Free Radic Res 38(11), Nov 2004.

Ritchie JM, Vial SL; **Fuortes LJ, Robertson LW**, Guo H; Reedy VE; Smith EM. *Comparison of proposed frameworks for grouping polychlorinated biphenyl congener data applied to a case-control pilot study of prostate cancer*, Env Res 98(1), May 2005.

SEVENTEENTH CONFERENCE OF THE INTERNATIONAL SOCIETY FOR ENVIRONMENTAL EPIDEMIOLOGY

September 13-16, 2005

Johannesburg, South Africa

<http://www.iseepi.org/conferences/current.html>

THE AIR QUALITY V CONFERENCE: THE PREMIER INTERNATIONAL CONFERENCE ON MERCURY, TRACE ELEMENTS, SO₃, AND PARTICULATE MATTER

September 19-21, 2005

Arlington, VA

<http://www.undeerc.org/AQV/>

FIFTEENTH ANNUAL INTERNATIONAL SOCIETY FOR EXPOSURE ANALYSIS CONFERENCE

Oct 30 — Nov 3, 2005

Tucson, AZ

<http://www.scarrittgroup.com/scarrittgroup/isea/>

AMERICAN PUBLIC HEALTH ASSOCIATION 133RD ANNUAL MEETING

November 5-9, 2005

New Orleans, LA

<http://www.apha.org/meetings/>

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