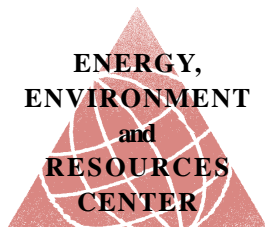


# HIGHLIGHTS and INITIATIVES



## EERC

Jack Barkenbus  
Executive Director

Center for Clean Products and  
Clean Technologies  
Jack Barkenbus,  
Acting Director

Office of Communications  
David Brill, Director

Oak Ridge Technology Research  
and Development Program  
Sheila Webster, Director

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David Feldman, Director

Water Resources Research Center  
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The EERC conducts unbiased,  
analytical, and multidisciplinary  
research designed to promote real-  
world solutions to problems in the  
fields of energy, environment, tech-  
nology, and economic development.

**APPOINTMENTS AND HONORS.** Senior Scientist **David Feldman** was named President-elect of the Tennessee chapter of the American Water Resources Association (AWRA) at the *13<sup>th</sup> Annual Tennessee Water Resources Symposium* held at Montgomery-Bell State Park near Nashville.

Research Ecologist **Jack Ranney** was appointed to represent the Tennessee Exotic Pest Plant Council (EPPC) as a voting member of the Southeast EPPC Board of Directors. **Ranney** was already serving as TN EPPC's vice president and as a nonvoting SE EPPC board member for SAMAB, the Southern Appalachian Man and the Biosphere program.

The University of Tennessee's highest student honor, the Torchbearer Award, was presented to Student Intern **Sarah Surak (Political Science)** and six other students for academic achievement and service. **Surak**, co-chair of UT's Recycling Task Force and president of Students Promoting Environmental Action in Knoxville (SPEAK), has conducted extensive recycling research and helped implement campus recycling activities. In addition, **Surak** serves as the Student Government Association's Campus Beautification Director and secretary of the Tennessee Recycling Coalition.

**PRESENTATIONS.** Senior Research Associate **Jack Geibig** served as keynote speaker at the *Electronic Design, Manufacturing, and the Environment* symposium in Irvine, California. **Geibig** presented "Life-cycle Comparison of Energy Use During the Application of Lead-free Solders," preliminary results of an overall assessment of lead and lead-free solders. This research was completed through EERC's Center for Clean Products and Clean Technologies in conjunction with the U.S. Environmental Protection Agency's Design for the Environment program.

Senior Research Associate **Maria Socolof** and **Jack Geibig** presented a tutorial on "Life-cycle Design and Electronic Products: Tools, Challenges, and Results" at the Institute of Electrical and Electronics Engineers' *International Symposium on Electronics and the Environment* in Boston. **Socolof** also presented "Cradle to Gate Toxic Impacts of Solders: A Comparison of Impact Assessment Methods," a paper she co-authored with **Geibig** and colleague **Mary Swanson**.

Senior Research Assistant **Ruth Anne Hanahan** recently gave a presentation on Adopt-a-Watershed and environmental education to African Regional Project delegates for the U.S. Department of State Bureau of Educational and Cultural Affairs' International Visitor Program. The project, which explored U.S. sustainable development efforts, is designed to promote greater understanding and cooperation between the United States and African countries on matters of environment, health, and economic development.

## Safety First



Each *Highlights and Initiatives* back page presents a closer look at one of our current projects or activities. This edition focuses on integrated pest management and highlights the work of EERC Faculty Associate **Mary Rogge (College of Social Work)** and colleagues.

continued on back ▶

# Safety First

*Protecting school children from common pests—and the chemicals used to control them—is a delicate balancing act.* • BY ELISE LEQUIRE

**“The aim of IPM is to balance the very real risks of pests against the risks of exposure to pesticides.”**

THE TRADITIONAL REGIME for pest control in the United States calls for regular application of insecticides: toxic chemicals designed to disrupt the nervous system, inhibit energy production, halt formation of the cuticle or outer shell, disrupt the endocrine system, or upset the water balance of targeted insects.

While pesticides registered by the U.S. Environmental Protection Agency (EPA) have been tested for adverse health effects in animals, we have no clear data on how pesticides are affecting human health, especially children's, because humans can't ethically be exposed and tested.

“Animal studies have documented that *in vitro* exposure to some of these chemicals has very precise effects, including neurological, developmental, and respiratory problems,” says **Mary Rogge**, a faculty associate with the University of Tennessee's (UT) Energy, Environment and Resources Center and associate professor in UT's **College of Social Work**.

We know, too, that children are more sensitive to chemicals, and pound per pound, kids breathe, eat, and drink more than adults, says Rogge. While most parents exercise good judgment in keeping their infants and toddlers safe, the issue of who's responsible for maintaining a clean and safe environment for children in schools and child care is not nearly so clearcut.

In nearly half of the 50 states, it's up to school officials to deal with most environmental hazards, including pests such as cockroaches, ants, head lice, and stinging insects. “Certain sets of children may also be more vulnerable to exposure because of poverty, lack of resources, poor nutrition,

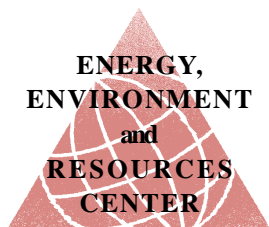
compromised immune systems, and chemical exposures outside the school environment,” says Rogge.

During 2001, Rogge and colleagues with UT's Youth, Environment, and Health (UT YEAH) Research Team conducted a series of six regional workshops to discuss the concept of Integrated Pest Management (IPM) with stakeholders across the state of Tennessee. The project was funded by UT's Environment and Natural Resources Research Council and Waste Management Research and Education Institute (WMREI), EPA, and the U.S. Department of Agriculture.

The aim of IPM is to balance the very real risks of pests against the risks of exposure to pesticides. We know what pests can do; it's less certain what the effects of pesticides are. A bill to require IPM programs in Tennessee's public schools died in committee in 2002, so for now it's primarily up to principals or purchasing agents to decide on pest-management programs. While implementation of IPM is strictly voluntary, Rogge says, input from concerned citizens and parents may sway decision makers.

“As more problems are identified, schools and other child-serving facilities will be faced with more liability issues,” Rogge says. In addition, while IPM may be more costly to implement at first, Rogge says officials need to consider that healthier kids get better test scores and have fewer absences.

We can't take the stand that chemicals are innocent until proven guilty, says Rogge. “It's just prudent to go another route when the options are available.” •



For more information, visit the UT YEAH Web site at <http://utyeah.utk.edu>. To read the full text of this article, access InSites volume 11, number 1 at <http://eerc.ra.utk.edu/insites/>.