

NIEHS sponsors international conference on flame retardants

By Sara Mishamandani

Scientists and policymakers from around the globe met to discuss current research on the potential health effects of flame retardants April 7-10 at the [Sixth International Symposium on Flame Retardants](http://www.bfr2013.com/index.cfm) (<http://www.bfr2013.com/index.cfm>) in San Francisco. NIEHS and NTP Director Linda Birnbaum, Ph.D., is well known for her own research in this area. NIEHS, along with other sponsors, provided funding for the meeting.

Flame retardants are found in many consumer products, such as baby bedding, foam cushions, carpet padding, clothing, and electronics. The compounds are everywhere in the environment, and researchers are concerned that exposure to these chemicals, at an early age, may lead to a range of detrimental health effects later in life, either by increasing susceptibility to disease or by initiating disease processes.

Birnbaum presented an overview of the prevalence and toxicity of flame retardants, during a plenary lecture. She stressed the need to move to research that is predictive rather than reactive, with knowledge of health effects, before chemicals are added to consumer products. If alternative chemicals are needed, Birnbaum said we need to avoid regrettable alternatives that are just as harmful as the originals. She also emphasized that more attention should be paid to the need for flame retardants in products.

Birnbaum described methods to measure compounds and identify their toxicity. She said the chemically activated luciferase gene expression (CALUX) cell bioassay is an excellent example of an innovative tool to improve understanding of environmental exposures. CALUX is a rapid assay used to detect and quantify dioxin and dioxin-like chemicals that was developed through the University of California (UC), Davis, Superfund Research Program (SRP).

Superfund scientists lead the way

“The conference brought together a small community from around the world interested in the same topic,” said Candace Bever, Ph.D., from the UC Davis SRP. “Reports of flame retardants in environmental or human samples were presented from 16 countries on five different continents.”

NIEHS SRP grantees Heather Stapleton, Ph.D., from Duke University, and Thomas Webster, D.Sc., from Boston University, served as session chairs and members of the national organizing committee. Stapleton also gave a plenary talk.

“Almost half of the conference presentations referenced work by Stapleton or Webster, for comparison or justification of research,” said Bever. “The numerous citations and acknowledgements demonstrate their contributions to this field of science and the relevance of SRP-funded research.”

An emphasis on multidisciplinary research

“During the conference, it was great to have all of the attendees in the fields of chemistry, biology, industry, and policy in the same room,” said Bever. “Chemists need biologists to explain the issues surrounding health effects, biologists need chemists to explain how flame retardants travel through the environment, and everyone has to work together to inform policy.”

Because there were no concurrent presentations, all researchers from multiple disciplines participated in all sessions. The progression of talks began with scientists describing where they are finding flame retardants, movement of flame retardants in the environment, how these chemicals are getting into humans and affecting them, and ended with a discussion on public policies that address flame retardants in consumer products and the environment.



Bever, right, and Myrto Petreas, Ph.D., left, an environmental scientist at the California Department of Toxic Substances Control, were lead researchers on the NIH conference funding award. The award funded student travel and session support during the conference. (Photo courtesy of Candace Bever, UC Davis SRP)



Birnbaum, a leading authority in the field, presented a talk during a plenary session at the conference. (Photo courtesy of Candace Bever, UC Davis SRP)

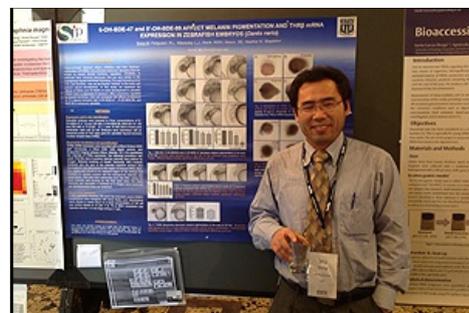


SRP investigators and session chairs Webster and Stapleton. (Photo courtesy of Candace Bever, UC Davis SRP)

Conference presenters stressed the emerging need to understand the fate and transport of flame retardant chemicals in the natural environment and human bodies. They agreed that public policy has focused on flame retardants in building and consumer products in the past, but acknowledged that many of these products are ending up in landfills, releasing flame retardant chemicals into the environment.

Abstracts from both **oral** (http://www.bfr2013.com/bfr2013_scientific_program.cfm) and **poster** (http://www.bfr2013.com/bfr2013_poster_program.cfm) presentations are available on the meeting website.

(Sara Mishamandani is a research and communication specialist for MDB Inc., a contractor for the NIEHS Superfund Research Program and Division of Extramural Research and Training.)



SRP trainee Wu Dong, Ph.D., presented a poster on the health effects of specific flame retardant chemicals. (Photo courtesy of Candace Bever, UC Davis SRP)

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