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Collaborative on Health and the Environment

September
October 2014

Join CHE Feedback

Upcoming Partnership Events

CHE Partnership call:
Home Invaders: Are Flame Retardants Fattening Us Up and Harming Our Bones?
Thurs, Oct 9

CHE Partnership call:
Cold Feet: Perinatal DDT Exposure Increases Risk of Insulin Resistance
Wed, Oct 15
Hosted by the EDC Strategies

Electromagnetic Fields: The Chemical Connection

Elise Miller, MEd
CHE Director

As you probably remember from your high school biology class, our bodies function using electrical impulses to communicate between cells, such as telling your heart muscles to contract or signaling your brain that you just stubbed your toe. Since everything relies on these signals, any breakdown or disruption in your body's

Hosted by the EDC Strategies Group

CHE Partnership call:
Toxic Chemicals in Schools: Health Hazards to Children and What You Can Do
Wed, Oct 15
Hosted by the CHE Alaska Working Group

CHE Partnership call:
Four Years After the President's Cancer Panel Report: Recommendations and Next Steps
Mon, Oct 20

CHE Partnership call:
Type 1 Diabetes and the Environment
Wed, Nov 12
Hosted by the Diabetes-Obesity Spectrum Working Group

Visit the CHE Partnership call archives to listen to MP3 recordings of past calls.

Special Announcements

CHE's new quarterly Top 10

electrical system can become a real problem.

We also know that certain toxic agents, such as endocrine disrupting chemicals (EDCs), can alter our bodies' hormonal messaging systems (which, by the way, uses electrical signals to communicate). When exposures to these chemicals, even in tiny amounts, happen during critical windows of development, then a wide range of health problems can result over a person's lifetime.

So what do EDCs and electromagnetic fields (EMFs) have in common? As Henry C. Lai, professor of bioengineering at the University of Washington in Seattle and an expert in electromagnetic fields, explained in a recent email:

> "EMFs are nothing different from any physical entities, e.g., drugs, tobacco, alcohol, asbestos, psychological stress, etc., that can cause biological effects. The effect is based on the interaction of a particular entity at the biological site of action, e.g., tobacco smoke in the lung, psychological stress in the hormonal systems. Nonlinear dose-response is very common in biological systems....[That] low-level exposure has different effects than higher-dose exposure is not uncommon."

And there are other similarities to consider.

environmental health stories now available CHE offers this selection of research, news and announcements that were of special significance during the third quarter of 2014. Items include research that made a noteworthy contribution to the field, news and announcements that took a conversation to a new level and/or new audience and some welcome action. Visit the CHE blog to see this quarter's list. We invite comment and feedback.

Resources

CHE's Toxicant and Disease Databse

CHE's searchable Portal to Science of reports, books, videos, databases, and other resources.

CHE's searchable calendar of events related to environmental health.

CHE's blog of commentary on

Over three years ago, the International Agency for Research on Cancer (IARC) classified radiofrequency radiation (RF), such as that emitted by cellphones, as a "possible human carcinogen." That means your smart phone is in the same category as DDT, engine exhaust, lead and various industrial chemicals, which are all considered potential threats to human health. Other studies have pointed to associations between EMF exposure and the reproductive health problems. Plus, as highlighted in CHE's quarterly "Top 10" posted last week, emerging research suggests that EMFs can effect neurological development or performance as well.

In other words, though work to reduce toxic chemical exposures can be viewed as quite distinct from efforts to address EMF exposures, both EMFs and EDCs can disrupt the critical signaling systems in the body and lead to problematic health endpoints. The biological pathways and mechanisms of the two vectors may be different, and the entities that need to be educated on the science in order to improve regulation have their own politics and "cultures" -- such as the FCC as opposed to the EPA. But fundamental to both endeavors is the need to get smarter and more creative in designing new technologies and finding safer alternatives that minimize exposures across the board.

current topics.

CHE's podcast of teleconference call recordings.

CHE's news feed of news articles, studies, reports, calls for proposals, job openings and other announcements. Relevant items are sent to CHE's listservs several times each week, or visitors can subscribe via RSS.

Our newsletter format is now leaner, cleaner, and more accessible from mobile devices. Let us know how you like it or if you have any problems. We're listening!

The point is that emerging science in different fields is increasingly demonstrating connections and interactions between multiple contributors to chronic disease and disability. Though CHE's core mission continues to be bringing the science to light on the links between toxic chemicals and health, we also have working groups with different emphases, such as the CHE Working Group on Electromagnetic Fields. These colleagues, like our partners working on other issues, sort through the growing body of scientific literature in that field to discern the best research and the most effective actions to take based on that research.

This is why it's critical that we all keep an ecological model of health in mind, even as we dive deeply into our respective areas of expertise. It's the only way we will ultimately effect the systemic changes we need to secure a healthier world for all.

Working Groups and Initiatives

Visit the webpages of CHE's groups for the latest news, research, and announcements:

Topic-based Working Groups

Asthma
Autism
Breast Cancer
Cumulative Impacts
Database
Diabetes/Obesity
Integrative Health
Learning and Developmental Disabilities
Mental Health

Cancer	Electromagnetic Fields (EMF)	Pet
Children's Health	Fertility/Reproductive Health	Neurodegenerative Disease
Climate Change	Healthy Aging	Science

State-based and International Groups

Alaska	Oregon	Washington	Europe/HEAL

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