



Dear Friend,

While summer was a great season for outreach and community events, the start of fall has been abundant with publications and conferences. The Center was well represented at the 23rd Congress of the International Society for Environmental Epidemiology held in September; we are also excited to update you on our most recently published manuscripts and findings, and some new papers that are works in progress. As always, we remain grateful for your continued commitment. It allows us to continue our work supporting families in urban communities through rigorous research, providing scientific data and educational resources to support effective preventative measures benefiting children's health.

Best wishes for a wonderful fall,

Director, Columbia Center for Children's Environmental Health

## SELECTED FALL PUBLICATIONS

### **Prenatal Exposure to Combustion-Related Pollutants Linked to Symptoms of Anxiety, Depression, and Attention Problems in Young Children**

Mothers' exposure during pregnancy to pollutants created by the incomplete combustion of fossil fuels and other organic material may lead to behavioral problems in their children, according to a new study.

Researchers found that within a sample of 215 children monitored from birth, those children with high levels of a pollution exposure marker in their cord blood had more symptoms of attention problems and anxiety/depression at ages 5 and 7 than did children with lower exposure.

The researchers measured a biologic marker or "fingerprint" of exposure to polycyclic aromatic hydrocarbons (PAH) and other combustion-related pollutants in newborns' cord blood. When inhaled by the mother during pregnancy, these pollutants can be transferred across the placenta and bind to the DNA of the fetus, forming "adducts" in blood and other tissues and providing a biologic measure of pollutant exposure.

This study is the first to examine the behavioral effects of prenatal exposure to these air pollutants in children using a biologic marker.

### **Prenatal Exposure to Phthalates Linked to Decreased Mental and Motor Development and Increased Behavioral Problems at Age Three**

Phthalates are a class of chemicals that are known to disrupt the endocrine system and are widely used in consumer products ranging from plastic toys, to household building materials, to shampoos. Our results suggest that prenatal exposure to phthalates adversely affects child mental, motor and behavioral development during the preschool years. The results add to a growing public health concern about its widespread use in consumer products.

### **Living in Urban Neighborhoods with High Traffic and Four-way Intersections Impacts Wheeze and Asthma among New York City Children**

The prevalence of asthma has continued to increase nationwide. Researchers examined geographic information systems (GIS) indicators of traffic related air pollution (a known trigger of asthma symptoms in children) and analyzed whether living near areas of high traffic density and stationary sources of air pollution is associated with the prevalence of wheeze, asthma, and a blood indicator of allergy (i.e. immunoglobulin (Ig) E) from birth through age 5 years. The findings of this novel longitudinal study suggest that living close to high density of traffic, four-way intersections, highways and commercial buildings is associated significantly with respiratory distress.



## International Society for Environmental Epidemiology

September, 13<sup>th</sup>-16<sup>th</sup> 2011

Palau de Congressos de Barcelona



The Center is a collaborative effort among investigators from different disciplines and expertise, who are brought together to uncover the dangers of environmental toxicants harmful to children, with the goal of preventing childhood disease. This was never more apparent at the most recent ISEE conference, where Center Investigators presented on a wide array of chemicals, and health effects:

- Relationship Between PAH DNA Adducts in Cord Blood and Child Behavior (F. Perera)
- Bisphenol-A and T Regulatory Cell Counts in an Inner-City Cohort (K. Donohue)
- Prenatal Exposure to PBDEs and Child Behavior at Age 3 to 5 years (J. Herbstman)
- 7 Year Neurodevelopmental Consequences of Prenatal Exposure to Chlorpyrifos, A Common Organophosphate Pesticide (R. Whyatt)
- Urinary Concentrations of BPA in an Urban Minority Birth Cohort in New York City (L. Hoepner)
- Prenatal Exposure to Butylbenzyl Phthalate and Early Eczema in Seroatopic Versus Nonatopic Children (A. Just)
- Variability in Associations Between Maternal Prenatal Urinary Phthalate Metabolite Concentrations and Child Mental, Motor, and Behavioral Development Vary By Child Sex (R. Whyatt)

### Healthy Tips for Fall

#### Minimizing Your Phthalate Exposure

- Use fragrance-free personal care products. Try to avoid labels with abbreviations: DBP, DEP, DEHP, BzBP, DMP or the word "fragrance."
- Choose plastics with recycling codes 1, 2 or 5. and avoid recycling labels 3, 4, 6, and 7.
- Try toys made from wood, cotton or wool.
- Use cloth shower curtains instead of plastic.

### Upcoming Event

#### Translating Research to Action: Community Briefing

Date: Tuesday, October 25, 2011

Time: 8 a.m. to 10:30 a.m.

Location: Columbia University, Lerner Hall

Address: 2920 Broadway

Alfred Lerner Hall, Room 555, NYC

Subway Directions: 1 train to 116th Street

RSVP: [blr2125@columbia.edu](mailto:blr2125@columbia.edu) & [nu2110@columbia.edu](mailto:nu2110@columbia.edu)

Center Investigators will report on 12+ years of research that has engaged a cohort of 720 pregnant women and their children living in Harlem, Washington Heights and the South Bronx. The briefing will focus on environmental exposures from diesel exhaust, pesticides, indoor air allergens and endocrine-disrupting chemicals. Please join us in this dialogue about the latest environmental health science research and what it means for human health.

### RESEARCH TRANSLATION ACTIVITIES

- Deputy Director Dr. Robin Whyatt was invited as a guest faculty at the Pediatric Environmental Health Symposium taking place at the North American Congress of Clinical Toxicology in Washington DC on Saturday, September 24th.
- Center Director Dr. Frederica Perera was a guest speaker as part of the *Collaborative on Health and the Environment* on September 27th. The topic of the presentation was on the Center's work on early life exposure to air pollutants and its implications for children's neurodevelopment.
- Deputy Director Dr. Rachel Miller will be speaking at a Grand Rounds presentation at the University of Medicine and Dentistry of New Jersey on November 17th. The title of the talk is "Environmental Epigenetics and Asthma: The Emergence of a New Paradigm?"

For the latest info about the Center, visit us at our website: [www.cceh.org](http://www.cceh.org), or contact us at 212-304-7283 or [nu2110@columbia.edu](mailto:nu2110@columbia.edu).