Reducing Outdoor Contaminants in Indoor Spaces

**2016 March Compendium of Events, News, Resources, Funding Opportunities, and R&D Results for ROCIS Stakeholders**

The themes for this edition of Tom Phillips’ Compendium include, but are not limited to, environmental justice, fossil fuels, environmental health, energy efficiency, and resilient design. Click here to sign up for this monthly compendium, ROCIS event updates and briefs, and to learn more about the ROCIS stakeholder air quality initiative involving low cost monitoring and interventions.

*In this compendium …*

**EVENTS – REGIONAL AUDIENCE**
- March and beyond: Various Green Building and Healthy Materials seminars and webinars.
- Mar. 29 and beyond, webinars. Residential energy efficiency webinars.
- Apr. 6, 2016. *Economic Inequality–Why should PSR Care?*

**EVENTS – NATIONAL AUDIENCE**
- Mar. 15, 2016 webinar. How to counsel patients on preventing environmental exposures.
- Mar. 24, 2016 webinar. Reducing In-Home Exposure to Air Pollution.
- Apr. 4-7, 2016. 2016 Affordable Comfort Home Performance Conference. Austin, TX.
- Apr. 13, 2016 webinar. Stress, Chemical/Non-Chemical Exposures: Recent Findings and Developments in Environmental Health.
- Apr. 19, 2016 webinar. Endocrine-Disrupting Chemicals - the latest research and how to counsel patients on reducing day to day exposures.
- Aug. 29-31, 2016. Austin, TX.
Reducing Outdoor Contaminants in Indoor Spaces

REGIONAL NEWS
IEQ

AIR POLLUTION
✓ Lawrenceville residents ask Allegheny County Health Department to strengthen steel foundry permit. Mar. 3, 2016.
✓ CMU proposes to measure, map, and model Mon Valley air pollution. Feb. 10, 2016.

FOSSIL FUELS
✓ Health researchers say fracking too close to schools, residences. Mar. 4, 2016.
✓ Calls to increase distance between shale gas well pads and people. Mar. 2, 2016.

ENVIRONMENTAL JUSTICE
✓ 670,000 Philadelphians Live In Economically Distressed Areas Mar. 1, 2016.

OTHER NEWS
IEQ
✓ CDC underestimated cancer risk from certain flooring; company shares sink. Feb. 22, 2016.
✓ Scented candles and air fresheners ‘are adding to pollution that kills 40,000 people a year in UK. Feb. 21, 2016.
✓ El Marino, CA school pilot tests air cleaning. Nov. 8, 2015.

HEALTH AND AIR POLLUTION
✓ Chronic air pollution associated with increased blood pressure. Mar. 2016.
✓ Air pollution from energy industry costs $130 billion a year. Feb. 23, 2016.
✓ 295,000 US deaths may be prevented by 2030 if greenhouse gases cut. Feb. 22, 2016.
✓ Court orders EPA to stop letting polluters off the financial hook for industrial contamination. Jan. 29, 2016.

ENVIRONMENTAL JUSTICE
✓ Governor Brown Jr. proposes a $177 M to cleanup at Exide battery plant. Feb. 27, 2016.
✓ Baby Booster Initiative in Portland to address newborn’s health and housing. Feb. 22, 2016.
Reducing Outdoor Contaminants in Indoor Spaces

OTHER NEWS  ENVIRONMENTAL JUSTICE (continued)

ENERGY EFFICIENCY AND GREEN BUILDINGS

RESILIENT DESIGN

FOSSIL FUELS

SENSORS
✓ Pollutant & pollen sensor network may help people better cope with pollution. Mar. 8, 2016.
✓ EPA Air Sensor Program and Real Time Data Viewer for citizen science. 2016.

RESOURCES
IEQ
✓ IOM Indoor PM Workshop.
✓ Weatherization and Indoor Air Quality: Measured Impacts in Single-family Homes under the Weatherization Assistance Program. Pigg et al., 2014.
✓ DOE Zero Energy Ready Homes webinars.
✓ Indoor Environment Research Group, Drexel University.
✓ Climate Change Vulnerability of Buildings, Power System, and People.

ENVIRONMENTAL HEALTH
✓ Every breath we take: the lifelong impact air pollution. Feb. 23, 2016.
✓ Synthetic Turf Studies.

ENERGY EFFICIENCY AND GREEN BUILDING
✓ QUALICHeCK Project.
✓ Cap and Trade Benefits for Disadvantaged Communities in California.

COMMUNITY DEVELOPMENT AND URBAN PLANNING
✓ Creating Aging-Friendly Communities.

AIR POLLUTION MONITORING
✓ Neighborhood-Scale Spatial Models of Diesel Exhaust Concentration Profile Using 1-Nitropyrene and Other Nitroarenes.

FOSSIL FUELS
✓ Pipeline spills of Diluted Bitumen: A Comparative Study of Environmental Fate, Effects, & Response.
✓ Air Pollution and Health Research at VTI (Swedish National Road and Transport Research Institute).
✓ Studies of air pollution near rail lines. Jaffe Research Group, University of Washington.
FUNDING OPPORTUNITIES

✓ CA Strategic Growth Council: GHG Reduction in Affordable Housing and Sustainable Communities. Due Mar. 16, 2016.

RESEARCH AND DEMONSTRATION

IEQ

✓ Indoor Air 2014 keynote papers. Various topics.
✓ Impact of residential building regulations on reducing indoor exposures to outdoor PM2.5 in Toronto. Zuraima and Tan, 2015.
✓ Perceptions in the U.S. building industry of the benefits and costs of improving indoor air quality. Hamilton et al., 2015.
✓ Economic, Environmental and Health Implications of Enhanced Ventilation in Office Buildings. MacNaughton et al., 2015.
✓ Using portable particle sizing instrumentation to rapidly measure the penetration of fine and ultrafine particles in unoccupied residences. Zhao & Stephens, 2016.
✓ Effects of exposure to carbon dioxide and bioeffluents on perceived air quality, self-assessed acute health symptoms, and cognitive performance. Zhang et al., 2016.
✓ Physiological responses during exposure to carbon dioxide and bioeffluents at levels typically occurring indoors. Zhang et al., 2016.
✓ Health benefits and costs of filtration interventions that reduce indoor exposure to PM2.5 during wildfires. Fisk and Chan, 2016.

ENVIRONMENTAL HEALTH

✓ Completed and active studies. Pollutant Lab, Vancouver General Hospital and UBC.
RESEARCH AND DEMONSTRATION  ENVIRONMENTAL HEALTH (continued)
✓ Preterm birth and air pollution: Critical windows of exposure for women with asthma. Mendola et al., in press.
✓ Venting for Health. NCHH, Steven Winter Associates, and HUD.
✓ Short-term exposure to traffic-related air pollution and daily mortality in London, UK. Atkinson et al., 2016.
✓ Impact of traffic-related air pollution on acute changes in cardiac autonomic modulation during rest and physical activity: a cross-over study. Cole-Hunter et al., 2016.
✓ Nrf2-related gene expression and exposure to traffic-related air pollution in elderly subjects with cardiovascular disease: An exploratory panel study. Wittkopp et al., 2016.
✓ Prenatal air pollution exposure induces sexually dimorphic fetal programming of metabolic and neuroinflammatory outcomes in adult offspring. Zhang et al., 2014.

ENERGY EFFICIENCY

RESILIENT DESIGN AND VULNERABILITY
✓ An update of the UK’s design summer years: Probabilistic design summer years for enhanced overheating risk analysis in building design. Eames, 2016.

ABSTRACTS AND LINKS (for the above items)

EVENTS – REGIONAL AUDIENCE

March and beyond: Various Green Building and Healthy Materials seminars and webinars, hosted by the Green Building Association of Pittsburgh (GBA) and others.

Mar. 6, 2016. The Plan for a Healthier Allegheny. Dr. Karen Hacker, Director of Allegheny County Health Department, presents the new “Plan for a Healthier Allegheny” and discusses how all county residents can participate in its implementation. The plan sets forth measurable goals and strategies to achieve sustainable improvements in the public, environmental, and community health of all country residents.

Mar. 8 and beyond, 2016 webinar. New York City Local Laws 87 and 88, requiring energy audits and retrocommissioning every 10 years, and lighting upgrades and sub-meters for larger commercial buildings.


Apr. 6, 2016. “Economic Inequality--Why should PSR Care?” Dr. Bill Davidson presentation Physicians for Social Responsibility (PSR). Harrisburg, PA.

EVENTS – NATIONAL AUDIENCE

Mar. 9-12, 2016. Toxic Substances in the Workplace and the Environment and Updates in Occupational and Environmental Medicine. UC San Francisco. This is course provides reviews and updates for occupational and environmental health professionals and persons from other health-related disciplines.
Reducing Outdoor Contaminants in Indoor Spaces

EVENTS – NATIONAL AUDIENCE (continued)


March 22 and beyond, 2016, training webinar. EPA’s Real-Time Air Mapping Tool (RETIGO). RETIGO is a free web-based tool designed to make it easier to explore air monitoring field data on map and graph interfaces, particularly complex data collected with portable air instruments while walking, biking, or driving. Register by contacting retigo@epa.gov.

Mar. 24, 2016 webinar. Reducing In-Home Exposure to Air Pollution. Brett Singer, LBNL. Results of CARB-funded study of air cleaning and ventilation strategies in homes in a test home near a freeway.

Mar. 31 - Apr 1, 2016. Green Schools Conference & Expo. Pittsburgh, PA. Green cleaning, purchasing, and teaching, plus energy efficiency, are on the program. A Student Summit will be included to educate, empower, and inspire middle and high school students as our next generation of leaders.

Apr. 4, 2016. Applications due. Existing Building (EBIE) Awards. The national juried competition recognizes improved environmental performance in existing buildings among building operators, facilities managers, owners, engineers, retro-commissioning agents and other professionals. Focus areas include energy, water, operations, materials use, lighting, portfolio-wide improvements, and tenant engagement.

Apr. 4-7, 2016. 2016 Affordable Comfort Home Performance Conference. Austin, TX. One of the premier conferences on energy efficiency in existing and new homes, for practitioners, researchers, and policy experts. Health and safety topics will also be addressed, including outdoor pollutant intrusion and climate change.

Apr. 6, 2016. National Healthy Schools Day. Whether you are at the beginning stages of investigating school environments or have an established Indoor Air/Environmental Quality program, you are invited to host a local activity that educates others and celebrates your school’s successes.


Apr. 11, 2016 registration ends. Health Effects Institute 2016 Annual Conference. May 1-3. Denver, CO. Topics include air quality, health, climate change, and interactions of traffic pollution, noise, and socioeconomic status.
Reducing Outdoor Contaminants in Indoor Spaces

EVENTS – NATIONAL AUDIENCE (continued)

Apr. 13, 2016 webinar. Stress, Chemical/Non-Chemical Exposures: Recent Findings and Developments in Environmental Health. NIEHS and EPA.

Apr. 19, 2016 webinar. Endocrine-Disrupting Chemicals - the latest research and how to counsel patients on reducing day to day exposures. Train the trainer, part 2. PSR.

May 2-6, 2015. Functional Materials for Environmental Sensors and Energy Systems (E-MRS) Spring Meeting 2016. Lille, France. Current R&D Various pollutant sensing technologies will be addressed, and a special issue will be produced for a scientific journal.


Jul. 3-8, 2016. Indoor Air 2016. Ghent, Belgium. The premier international scientific conference on IEQ. Short courses and social media discussions will be included.


Aug. 29-31, 2016. GHHI Executive Leadership Institute. Austin, TX.


Oct. 9-13, 2016. International Society of Exposure Science (ISES) 2016: Interdisciplinary Approaches for Health and the Environment. Utrecht, Netherlands. This multidisciplinary meeting includes topics such as pollutant exposure, dose, and health risk assessment, policy, emerging chemicals, and science education.


NEWS (see links above)

RESOURCES

IEQ

IOM Indoor PM Workshop. Videos and presentations from February 2016 workshop. Workshop summary will be available this summer.


Air Cleaners for Removal of Odorous Compounds Associated with the Aliso Canyon Natural Gas Leak. California Air Resources Board (CARB), Feb. 2, 2016. Background information on portable air cleaner performance and selection, and a list of CARB-approved air cleaners.
Reducing Outdoor Contaminants in Indoor Spaces

RESOURCES  IEQ (continued)


DOE Zero Energy Ready Homes webinars. Webinar videos and slides on topics such as air tight enclosures, moisture control, ventilation, filtration, and HVAC. Getting Enclosures Right in Zero Energy Ready Homes by Joe Lstiburek was the most recent event.

Indoor Environment Research Group, Drexel University, Philadelphia, PA. Indoor aerosol chemistry and mitigation, sustainable ventilation, and indoor microbiome research.

Climate Change Vulnerability of Buildings, Power System, and People. Chester et al., 2015. Mapping and assessment of building types, indoor thermal conditions, power system vulnerabilities, mobility, and populations vulnerable to extreme heat in Phoenix, AZ and Los Angeles, CA.

ENVIRONMENTAL HEALTH

Every breath we take: the lifelong impact air pollution. Feb 23, 2016. UK physician’s groups review health effects & costs of indoor and outdoor pollution, and call for action.


Synthetic Turf Studies. Ongoing health risk assessment of synthetic turf at playgrounds by California OEHHA. Workshops, webinars, factsheets, and slides.

ENERGY EFFICIENCY AND GREEN BUILDING

QUALICHeCK Project. EU project to improve compliance of net zero energy buildings with energy, ventilation, air sealing, summer comfort, and renewables targets. Workshops, reports, webinars, training, news, and best practices. The Lund 2015 workshop focused on lessons learned and successes in enforcing ventilation and air tightness standards – several countries now require periodic inspections and testing.

Cap and Trade Benefits for Disadvantaged Communities in California. News and information on implementation of SB 535, which requires 25% of cap and trade funds to go toward disadvantage communities.


COMMUNITY DEVELOPMENT AND URBAN PLANNING

Reducing Outdoor Contaminants in Indoor Spaces

RESOURCES (continued)
AIR POLLUTION MONITORING

Neighborhood-Scale Spatial Models of Diesel Exhaust Concentration Profile Using 1-Nitropyrene and Other Nitroarenes. Schulte et al., 2015.

FOSSIL FUELS


Air Pollution and Health Research at VTI (Swedish National Road and Transport Research Institute). Research on why and how PM is hazardous to human health and which emission abatement strategies are efficient.

Studies of air pollution near rail lines. Jaffe Research Group, University of Washington.

FUNDING OPPORTUNITIES (see list above)

RESEARCH AND DEMONSTRATION

IEQ (see links above)

ENVIRONMENTAL HEALTH


Health effect and mechanism studies on diesel PM, phthalates, other air pollutants, and antioxidants. Completed and active studies. Pollutant Lab, Vancouver General Hospital and UBC.

Gene by Environment Investigation of Incident Lung Cancer Risk in African-Americans. David et al., 2016 (see editorial and reply also).

Preterm birth and air pollution: Critical windows of exposure for women with asthma. Mendola et al., in press.

Venting for Health. Improved ventilation effects on health in 120 New York City homes. Results due in 2016. NCHH, Steven Winter Associates, and HUD.

Short-term exposure to traffic-related air pollution and daily mortality in London, UK. Atkinson et al., 2016.
Reducing Outdoor Contaminants in Indoor Spaces

**RESEARCH AND DEMONSTRATION  ENVIRONMENTAL HEALTH (continued)**

*Impact of traffic-related air pollution on acute changes in cardiac autonomic modulation during rest and physical activity: a cross-over study.* Cole-Hunter et al., 2016.

*Nrf2-related gene expression and exposure to traffic-related air pollution in elderly subjects with cardiovascular disease: An exploratory panel study.* Wittkopp et al., 2016.

*Prenatal air pollution exposure induces sexually dimorphic fetal programming of metabolic and neuroinflammatory outcomes in adult offspring.* Zhang et al., 2014.

**ENERGY EFFICIENCY**


**RESILIENT DESIGN AND VULNERABILITY**

*An update of the UK’s design summer years: Probabilistic design summer years for enhanced overheating risk analysis in building design.* Eames, 2016.


*That’s it for the March Compendium!*

Please send us event information, news, resources, research results for next month’s compendium. Visit the ROCIS website for current and past compendiums, as well as the ROCIS white papers, archives from meetings and webinars. Audio and video recordings from the Feb. 26, ROCIS Stakeholder meeting will be posted by March 14.

Cheers,
Tom

Thomas J. Phillips, Healthy Building Research
ROCIS Technical Lead (Commercial & Multifamily Buildings, Schools)
(California Air Resources Board - Ret.)
835 A St., Davis, CA 95616
530-756-6605 (office); 530-220-4854 (mobile)
tjp835@sbcglobal.net