Hello Again!

We hope you enjoyed your summer!

We have been busy this summer and want to give you an update on our progress!

Where are we?

- *Nearly 13,000 participants enrolled*
- *15 staff and students hired on project*
- *Two new Co-Investigators with expertise in biological specimens and air pollution modeling*
- *Over 300 participants in biomarkers study*

Thank you for your continued involvement with the study – together we can answer questions about the effects of air pollution in the community.

Below are some additional highlights of our ongoing efforts.

University at Buffalo
Environmental Health Study
for Western New York

Department of Epidemiology and
Environmental Health
University at Buffalo
270 Farber Hall
Buffalo, NY 14214-8001

NEARLY 13,000 PARTICIPANTS ENROLLED

The main reasons people participated were:

- Interested in the environment
- Interested in health
- Want to give back to the community

ENROLLMENT IS STILL OPEN

Encourage family and friends to participate!

- Look for advertisements in local newspapers
- Invite-a-friend campaign coming soon
- Contact us to give a presentation to groups you are involved with

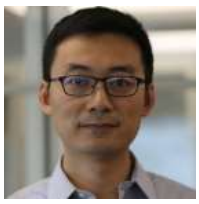
FAMILIES AND CHILDREN

Children's smaller bodies make them more vulnerable to the effects of pollution compared to adults. Their brain and nerves are still developing, and exposure to air pollution can affect brain and neurological development. To understand if children in the study area have been impacted by air pollution, we plan to open up study enrollment to children and families.

ADOLESCENT STUDY COMING

In 2020 we plan to invite adolescents to visit our laboratory at UB. Adolescents will complete computer tasks that will help us better understand how air pollution might affect memory, attention, and behavior.

INTRODUCING…



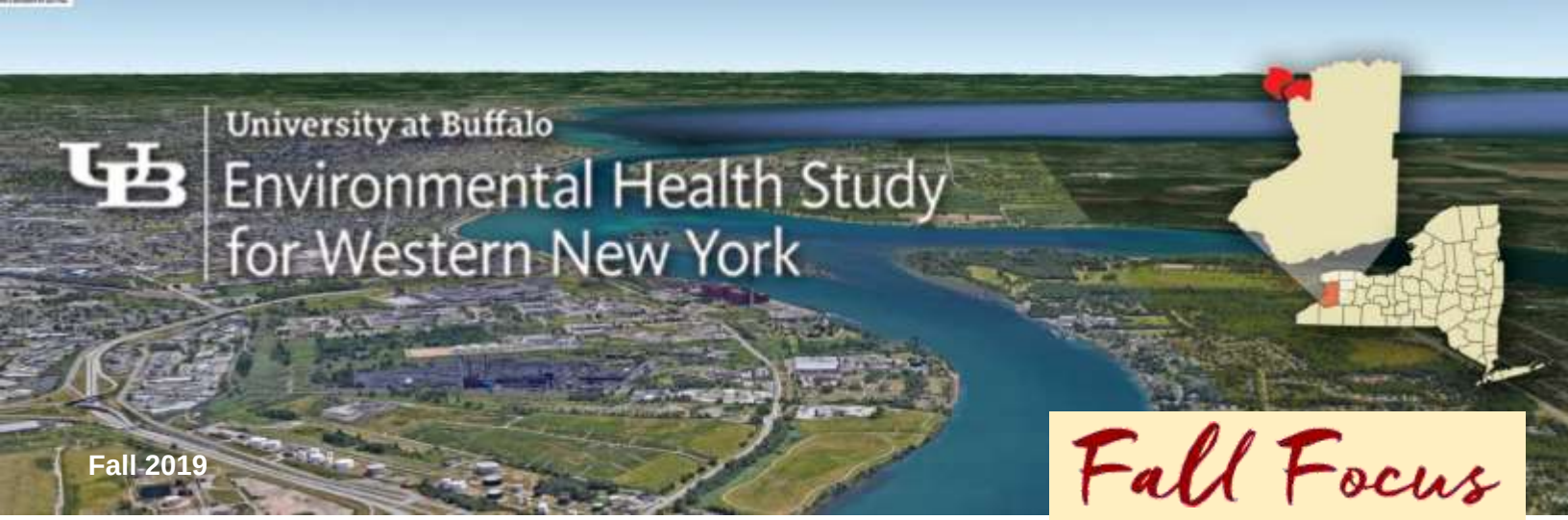
DR. MENG WANG
Dr. Wang is an expert in air pollution modeling. He will help our team develop exposure assessment models.

DR. RICHARD BROWN
Dr. Brown has expertise in laboratory methods to collect and analyze biological samples related to oxidative stress.

WHEN WILL THERE BE RESULTS?

We finished entering all 1,491 short form questionnaires and are now entering the long forms. We are adding more students to our data entry team and hope to have the majority of the questionnaires entered by spring 2020.

Look for our spring 2020 newsletter or website for updates.



Fall Focus

BIOSPECIMEN COLLECTION

In February 2019, we began contacting participants to donate blood and urine samples. Over 300 people have donated so far! We partnered with Kaleida Health, which allows us to have several locations to choose from, in addition to coming to UB.

Why collect biospecimens?

- First, we will estimate your exposure to chemicals like polycyclic aromatic hydrocarbons (PAHs) and benzene. These chemicals are part of coke oven emissions, but also come from other everyday sources like gasoline fumes, grilled foods, and wood burning. By getting current levels, we can determine exposure amounts from everyday sources. Then, we can incorporate these amounts with past air pollution data to estimate your total exposure to these pollutants when Tonawanda Coke Corporation was open.

- Second, we will be looking at genetic differences in how people break down chemicals in their bodies. Some people are able to break down chemicals faster than others, which may explain differences in disease.

EDUCATION

- Dr. Laurene Tumiel Berhalter leads our outreach efforts, assisted by Donna Wysokenski, our Environment and Health Education Coordinator.

Dr. Laurene Tumiel Berhalter and Donna Wysokenski at a community event in Tonawanda

- ***If you are interested in attending the workshops, have resource ideas, or want to participate in future focus groups, please contact Donna at 716-829-5608, or donnawys@buffalo.edu.***

What's next?

FOLLOW-UP QUESTIONNAIRES

Over the next several years, we plan to send short follow-up questionnaires asking about new medical history and changes in your health.

Follow-up is important because, even though Tonawanda Coke was shut down, it may take several years for diseases to develop that may be related to their emissions. We want to make sure we include all new cases of disease.

Please Stay Involved!

Please email or call us to update your contact information so we can keep in touch.

We encourage you to visit our website to check on our progress and to browse environmental health resources developed for you!

AIR POLLUTION AND NUTRITION

- Air pollution is a stress on our body. It can cause inflammation and oxidative stress, which can then trigger chronic diseases.
- Oxidative stress and prolonged inflammation can damage our DNA, proteins and cells. It is linked to a number of illnesses including:
  - Diabetes
  - Alzheimer disease
  - Respiratory Diseases
  - Some forms of cancer
- Lodovici, M., & Bigagli, E. (2011). Oxidative stress and air pollution exposure. *Journal of toxicology, 2011,* 487074. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3155788/

- Healthy eating habits may help reduce the negative effects of air pollution on your health.
  - New research shows that people who followed a Mediterranean diet had lower rates of death attributed to cardiovascular, ischemic heart, and cerebrovascular diseases associated with long-term air pollution exposure.
- What is a Mediterranean diet?
  - This is a diet high in vegetables, fruit, whole grains, beans, fish, nuts and seeds, and olive oil, with moderate consumption of dairy, poultry, and eggs, and limited intake of red meat.
- Lim et al. (2019). Mediterranean diet and the association between air pollution and cardiovascular disease mortality risk. *Circulation, 139*, 1766-1775. https://www.ahajournals.org/doi/full/10.1161/CIRCULATIONAHA.118.035742

University at Buffalo
Environmental Health Study
for Western New York

Website: ehstudy.buffalo.edu
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Do you know anyone who would like to participate in the study? If they are 18+ years old, lived or worked in the City or Town of Tonawanda or Grand Island, they can visit ehstudy.buffalo.edu, click on "Sign Up."