



GEORGIA SECTION

MEETING Announcement



ACS
Chemistry for Life™

Tuesday, November 14, 2017

Professor Barry Ryan
Rollins School of Public Health
Emory University

*Understanding the Impact of Chemical
Exposure on the Human Microbiome on
Pregnancy Outcomes in an African American
Population*

Location:

Atwood Building, Room 360
Emory University
1515 Dickey Dr.
Atlanta, GA 30322

Directions: [Click Here](#)

Parking: [Peavine Parking Lot and Deck](#)
29 Eagle Row, Atlanta, GA 30306
Free after 5:00pm

6:30 pm Meet and mingle
7:00 pm Dinner
8:00 pm Speaker

Menu:

Appetizers: Ranch potato salad, mixed greens salad with buttermilk ranch/aged balsamic vinaigrette, corn bread muffins.

Entrée: buttermilk soaked southern fried chicken, cornmeal crusted Carolina trout fillet with Creole mustard and zested lemon remoulade, chef's choice of vegetarian entrée.

Dessert: Assorted house made cookies and brownies.

Drinks: Freshly brewed iced tea and iced water

RSVP by 5:00 pm on Friday, November 10, 2017 at
<https://goo.gl/Wfv53V>

Price: \$35 regular; \$25 retired, current ACS members and K-12 teachers, \$15 students

Payment: At the door Cash, credit card, or check to: "Georgia Section ACS"

Note: *If you make a reservation and then do not attend, you will be charged for the meal as we have to guarantee the number of meals.*



Professor Barry Ryan

*Understanding the Impact of Chemical
Exposure on the Human Microbiome on
Pregnancy Outcomes in an African
American Population*

BIO:

Dr. Ryan is currently a Professor of Exposure Science and Environmental Chemistry in the Department of Environmental Health, Rollins School of Public Health of Emory University. He holds a PhD in Chemistry in Wesleyan University in Middletown, Connecticut. His work focuses on multimedia environmental exposure assessment and the impact of such exposures on health. He began this work over 30 years ago with work focusing on air pollution exposures, but soon came to the conclusion that even exposures that are dominated by the air inhalation route can have significant non-inhalation-related pathways. Since the early 1990s, Ryan has investigated multimedia exposure to metals, polynuclear aromatic hydrocarbons, pesticides, perfluorooctanoic acid, and more recently historical and current-use flame retardants, plasticizers, and other endocrine disrupting compounds. In his studies, they gather environmental and biological samples in the field, return samples to their laboratories for analysis, and work up the resulting data using sophisticated statistical methods. Ultimately, the exposures determined are combined with health-related data to suggest correlations of these outcomes with the exposures experienced. His research group maintains a busy and effective analytical chemistry laboratory now taking advantage of Emory's Rollins

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School of Public Health's Laboratory for Exposure Assessment and Development in Environmental Research (LEADER). Along with co-directing this research laboratory with Dr. Dana Boyd Barr, Ryan has served as Director of Laboratories for Rollins School of Public Health for the last 15 years. In both these capacities he has developed strong skills in research and laboratory management that can be brought to bear in the complicated targeted analysis centers. He has developed extensive skills in laboratory data management, quality assurance and quality control procedures, and in personnel management. His work for the EPA and NIEHS over the last 25 years has impressed upon him the need for detailed work protocols, management of laboratory sample and data flow, as well as data analytic skills. These coupled with an understanding of chemistry and the fate and transport of chemical compounds in the environment have helped him improve the understanding of the role environmental contamination plays in human health.

ABSTRACT:

Nationwide, African American women are substantially more likely experience adverse birth outcomes than other sub-populations or the population as a whole. This is particular true of pre-term birth, defined as delivery at less than 36 weeks' gestation. One current hypothesis is that the microbiome, that is, the totality of endogenous bacteria in the body and its diversity, may play a role in this outcome. Several studies at Emory are looking into hypothesis, most notably is the Center for Children's Health, the Environment, Microbiome, and Metabolomics (C-CHEM2), a multi-faceted investigation funded by the National Institute for Environmental Health Sciences (NIEHS) and the United States Environmental Protection Agency (USEPA), that is characterizing the impact of environmental contaminants on mother's and infant's microbiome, the effects of such modifications of the microbiome on the neurological development of the child, and how such modifications are manifested in mechanistic changes in the metabolism. Our study is now beginning its third year and data are now available. In this presentation, I will discuss the results of data collection of African American mothers during pregnancy leading up to delivery. Currently available are urinary measurements of certain plasticizers, i.e., BPA, and phtalates from the women at two clinical visits during pregnancy as well as one home visit. In addition to discussing these measurements, I will discuss the full data collection protocol including

follow-up visits and measurements taken on the children.