The Billions That Bug Us: A Genomic View of Humans & Their Microbes at American Society for Biochemistry and Molecular Biology Annual Conference

April 9, 2010

New frontiers in genomics is a theme at the upcoming American Society for Biochemistry and Molecular Biology (ASBMB) international scientific conference which will be held at the Anaheim Convention Center in Anaheim, California on April 24 – 28, 2010. Dr. Claire Fraser-Liggett will present "The Role of Microbial Communities in Health and Disease," an interdisciplinary perspective combining molecular biology and genomics at ASBMB.

Dr. Fraser-Liggett, director of the Institute for Genome Sciences at the University of Maryland School of Medicine and a globally recognized microbial genomics scientist, is a lead researcher with the Human Microbiome Project (HMP), an international NIH roadmap initiative to study the impact of microbes on human health and disease.

The human species is dependent for its survival on the billions of microorganisms that inhabit multiple environmental niches within and on the human body. While microbes are commonly associated with diseases and infections, they are vital in essential, beneficial roles such as digestion, where they help synthesize vitamins and ferment complex indigestible carbohydrates. The overwhelming majority of microbial species (>99%) resist cultivation in the laboratory but advances in microbial genomics and sequencing technology have allowed researchers to study microbes in their natural environment. The identification and characterization of these microbial communities will undoubtedly establish links between these microorganisms and disease, their roles in the development of the immune system and their overall impact on human evolution.

Dr. Fraser-Liggett's research focuses on microbes' roles in the development of the immune system and their overall impact on human health. Her HMP research has particular emphasis on the human gastrointestinal tract, since this environment is home to the largest number of microbial "partners." One of the ultimate goals of the HMP is to better understand our microbiota and in the future, to be able to optimize the beneficial effects of microbiota for each individual.

"The human GI tract contains the most dense concentration of bacteria in our bodies and studying these GI microbes gives us insights into health and illness in the developed world and in developing countries," said Fraser-Liggett.

Fraser-Liggett's talk on Microbial Communities will be held on Monday, April 26th from 3:30 – 5:30 pm in Room 304D.

About IGS

The Institute for Genome Sciences (IGS) at the University of Maryland School of Medicine is an international research center dedicated to advancing the use of genomics to improve healthcare. Led by Dr. Claire Fraser-Liggett, a preeminent genome scientist and microbiologist, IGS is located in a 10-acre BioPark in downtown Baltimore. IGS scientists are pioneers in the expanding fields of genomics, bioinformatics and metagenomics. For more information, see www.igs.umaryland.edu.