UCLA MATTEL Children's Hospital

Children's Discovery & Innovation Institute

UCLA Department of Pediatrics

2017 – 2018 William F. Friedman Endowed Fellow

Janice Bitong
Pediatric Fellow
Pediatric Gastroenterology

Project Title*: The gut microbiome, its metabolites, and their role in chronic intestinal pseudo-obstruction"*

Janice Bitong is a 2nd year fellow in the division of Pediatric Gastroenterology. She spent time in the basic science laboratory in college, continued to do laboratory work at Baxter after graduation, performed clinical research in medical school, and was involved in multiple quality improvement projects during my residency. With exposure to both clinical and basic science research, Dr. Bitong has learned new techniques, encountered different challenges, and discovered her interests. As a resident and now as a fellow, she has cared for multiple patients with CIPO and has been presented with the common challenges of diagnosis, management, and therapeutic options in this patient population. Ultimately, her goal for her research project is to develop therapies for patients with CIPO.

Chronic intestinal pseudo-obstruction (CIPO) is characterized by severe abdominal pain and bloating because the intestines do not move properly. This often forces people to receive nutrition through an IV only, and sometimes makes even a transplant of their intestines necessary. In children, the problem lies in the layers of the intestinal wall – the gut neurons, muscle cells, or pacemaker cells. In a large group of CIPO patients taken care of at UCLA, we have discovered mistakes in the genetic material that contribute to this problem. We believe this mistake and the resulting poor intestinal movement create an unwelcoming environment for the normal bacteria that live in the intestines, which results in fewer kinds of bacteria in the intestines – but also abnormal bacteria that thrive in this unusual, hostile environment of the slow moving, uncoordinated CIPO intestines. In this study, we will work in the lab to find out what bacteria live in the CIPO intestines, and using new technology, will also try to see what the bacteria and their products do to the intestines themselves. Ultimately, we would like to develop new treatments based on our results, and believe this study will help in the management of other gastrointestinal disorders.