



Dr. Herbert and Nicole Wertheim Leadership in Healthcare and Medicine Lecture Series

Unlocking inflammatory bowel disease (IBD) pathogenesis through the microbiome

February 6, 2023 | 12:30 PM | Graham Center (GC) 316

Registration Link: <https://go.fiu.edu/register>

Professor Maria T. Abreu, MD,

Director, Crohn's and Colitis Center,
Professor of Medicine, Microbiology and Immunology,
University of Miami, Miller School of Medicine



Abstract: Inflammatory bowel disease (IBD) is a severe and complex gastrointestinal disease affecting about 3 million people in the USA. IBD encompasses two related disorders: Crohn's disease (CD), which can occur anywhere along the digestive tract but most commonly in the terminal ileum, and ulcerative colitis (UC), which affects varying degrees of the colon only. The root cause remains elusive, and so are the definitive cures. Many risk factors have been identified that are shared between CD and UC, including dysbiosis, i.e., a disruption of gut microbiota homeostasis away from beneficial symbionts and towards pathobionts. Dysbiotic trends in IBD at the phylum level include a reduction in Firmicutes and an expansion of Proteobacteria. Specific pathobionts such as adherent-invasive *Escherichia coli* (AIEC) and *Klebsiella pneumoniae* have been implicated. In addition, IBD patients have an increased risk of colitis-associated colon cancer (CAC), yet the mechanism, including the role of the gut microbiota, is poorly understood. Our laboratory seeks to understand the relationship between gut microbiota and IBD/CAC pathogenesis. The current research takes a multiomics approach (metagenomics, metaproteomics, and metabolomics), focusing on the phagocyte-associated microbiome within the gut lamina propria and the mucosa-associated microbiome dysplasia and colon cancer using IBD patients' samples.

Biography: Professor Maria T. Abreu has more than 20 years of leadership experience in basic, translational, and clinical research and mentoring. Dr. Abreu has spent most of her academic career focused on advancing inflammatory bowel disease (IBD) research with an emphasis on identifying novel therapeutic targets. She is the American Gastroenterological Association (AGA) current vice-president, past Councillor At-Large, and past chair of the AGA Institute Council. The Bruce and Cynthia Sherman Charitable Foundation bestowed Dr. Abreu with the 2019 Sherman Prize recognizing her outstanding achievements. In the Fall of 2020, she received Healio's Lifetime Disruptor Award, which identifies a gastroenterologist or hepatologist who consistently pushed the gastroenterology field forward through innovative treatments, practice management, patient care, or research. She also received the AGA Institute Council Section Research Mentor Award (2020). A graduate of the University of Miami Miller School of Medicine, she was recruited home after spending 17 years at the University of California Los Angeles (UCLA) and five years in New York Mount Sinai. Her research is well-funded by federal and foundation grants. She has more than 200 papers to her credit.

Department of Human and Molecular Genetics
T 305-348-9064 (Katyuska Hernandez)
khernan@fiu.edu or matheek@fiu.edu

FIU | Herbert Wertheim
College of Medicine
FLORIDA INTERNATIONAL UNIVERSITY