

MANIPULATING THE GUT MICROBIOME FOR HUMAN HEALTH

MODERATORS

Beth A. McCormick, Ph.D. Department of Microbiology &
Physiological Systems

UMass-Worcester (UMMS)

Jeffrey Blanchard, Ph.D. Department of Biology

UMass-Amherst

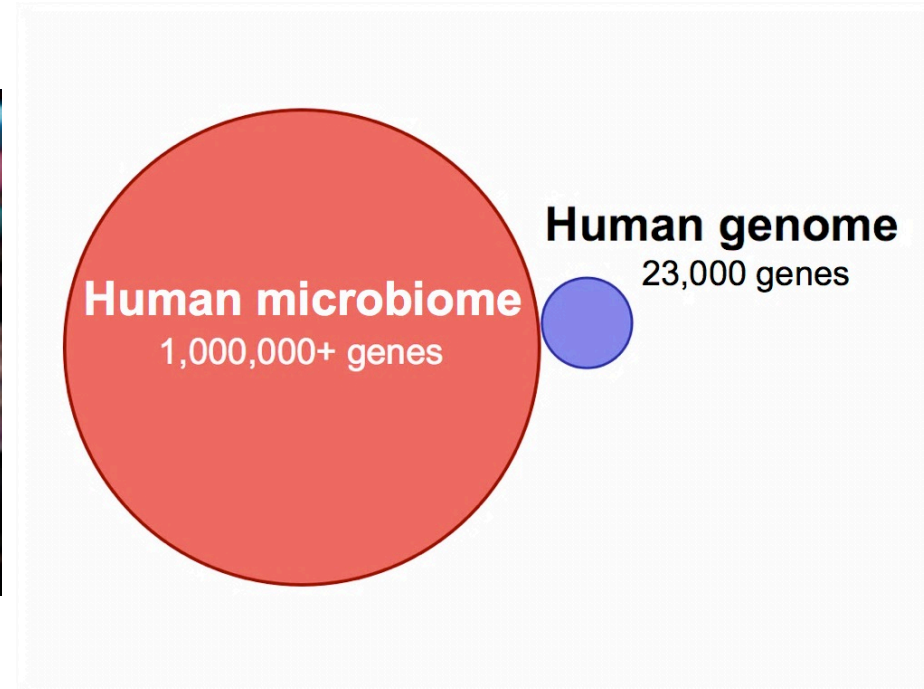
Microbes R Us



The second genome

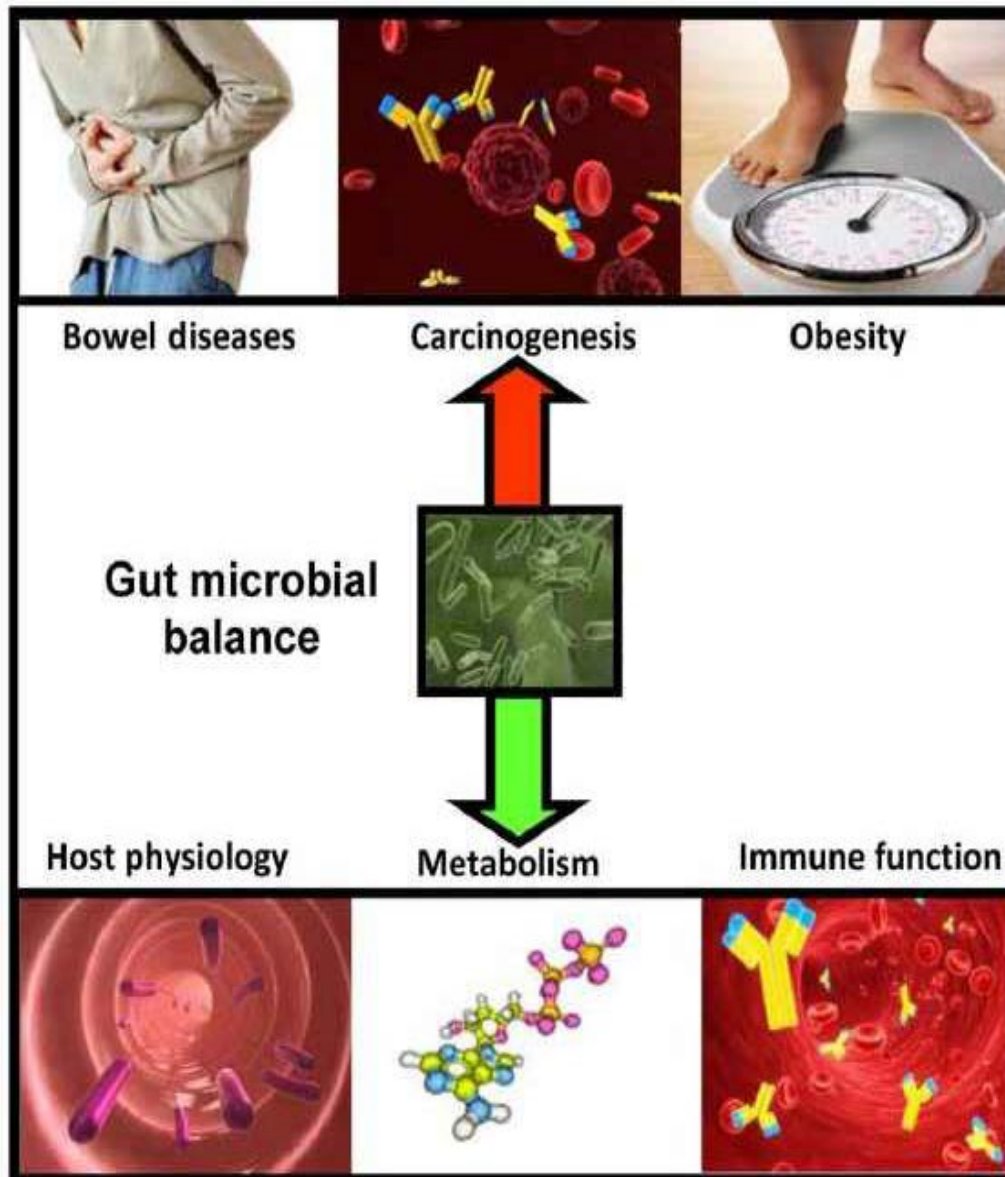


Science and Society By Matt Crenson, December 2013

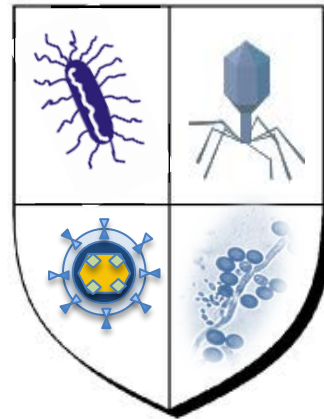


Bacterial cells outnumber your body cells 10:1 and comprise up to 4-6 lbs of your body mass

Microbiome: Role in Health and Disease



CMR



CENTER FOR MICROBIOME RESEARCH

Discovering novel microbials for disease prevention and treatment

Director: Beth A. McCormick, Ph.D. UMass-Worcester

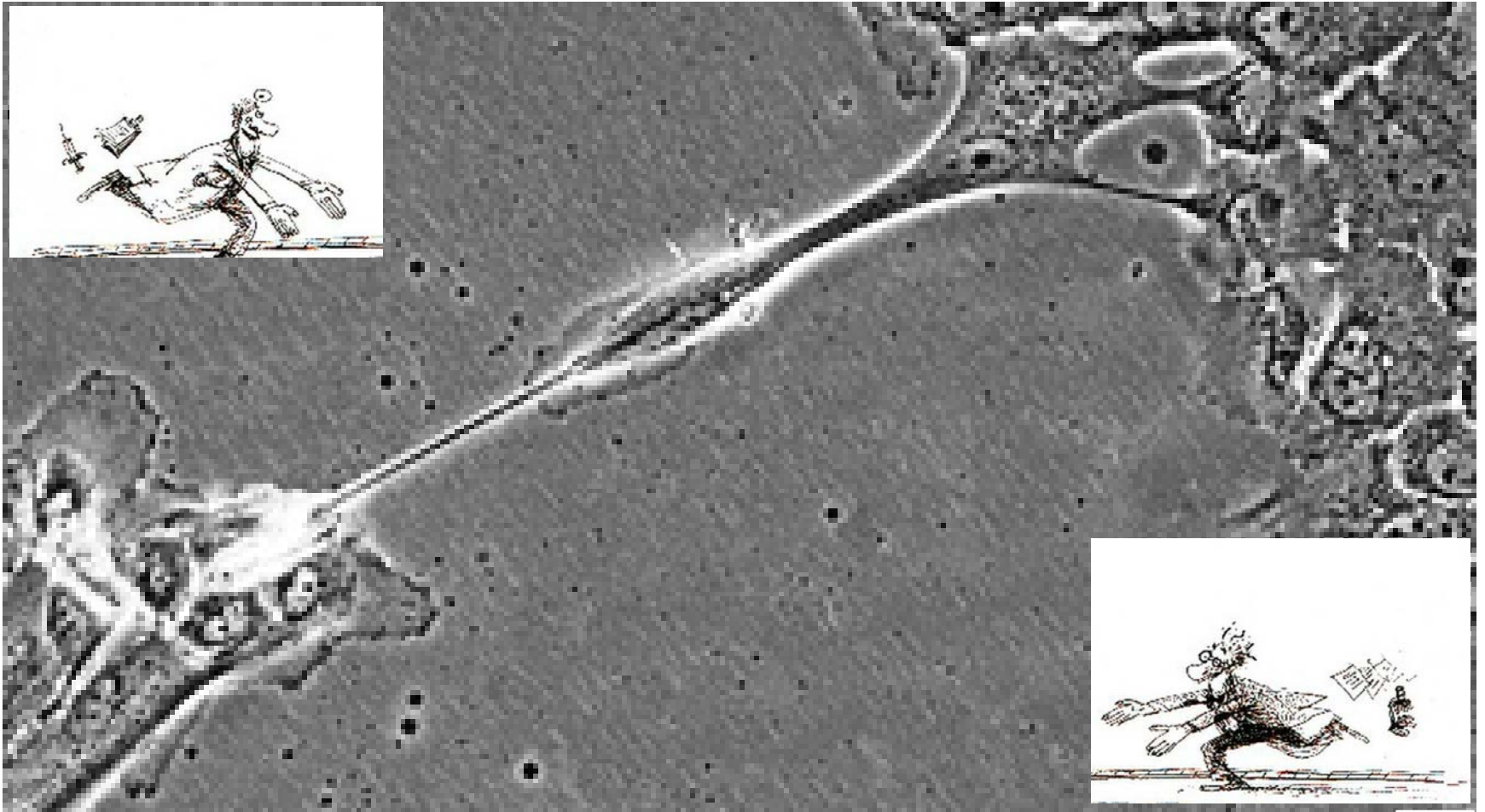
Co-Director: Jeffrey Blanchard, Ph.D. UMass-Amherst

Co-Director: Randall Pellish, M.D. UMass-Worcester

CMR Mission

- Define the interactions between the host, the microbes, and the unique environments that drive these ecological systems
- Discovery of novel microbials for disease prevention and treatment

Natural synergy



Gut microbiome and its role in health and disease

- C. difficile infection:
 - Clinical gut manipulation: Dr. Randy Pellysh, MD
Department of Medicine (Division of Gastroenterology), UMMS
 - Fecal Transplantation

 - Basic research approach: Dr. Vanni Bucci, Ph.D.
Department of Biology, UMass-Dartmouth
 - Antibiotic Treatment
- Intestinal Disease:
 - Clinical gut manipulation: Barbara Olendzki, R.D., L.D.N.
Center of Applied Nutrition, UMMS
 - Dietary Interventions

 - Basic research approach: David Sela, Ph.D
Department of Food Science, UMass-Amherst
 - Probiotic Delivery