

University of Massachusetts Medical School

eScholarship@UMMS

---

UMass Center for Clinical and Translational  
Science Research Retreat

2014 UMass Center for Clinical and  
Translational Science Research Retreat

---

May 20th, 4:00 PM

## Manipulating the Gut Microbiome for Human Health

Beth A. McCormick

*University of Massachusetts Medical School*

*Et al.*

Let us know how access to this document benefits you.

Follow this and additional works at: [https://escholarship.umassmed.edu/cts\\_retreat](https://escholarship.umassmed.edu/cts_retreat)



Part of the [Dietetics and Clinical Nutrition Commons](#), [Digestive System Diseases Commons](#), [Food Microbiology Commons](#), [Gastroenterology Commons](#), [Microbiology Commons](#), and the [Translational Medical Research Commons](#)

---

McCormick BA, Blanchard J. (2014). Manipulating the Gut Microbiome for Human Health. UMass Center for Clinical and Translational Science Research Retreat. Retrieved from [https://escholarship.umassmed.edu/cts\\_retreat/2014/presentations/13](https://escholarship.umassmed.edu/cts_retreat/2014/presentations/13)

Creative Commons License



This work is licensed under a [Creative Commons Attribution-NonCommercial-Share Alike 3.0 License](#).

This material is brought to you by eScholarship@UMMS. It has been accepted for inclusion in UMass Center for Clinical and Translational Science Research Retreat by an authorized administrator of eScholarship@UMMS. For more information, please contact [Lisa.Palmer@umassmed.edu](mailto:Lisa.Palmer@umassmed.edu).

# **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

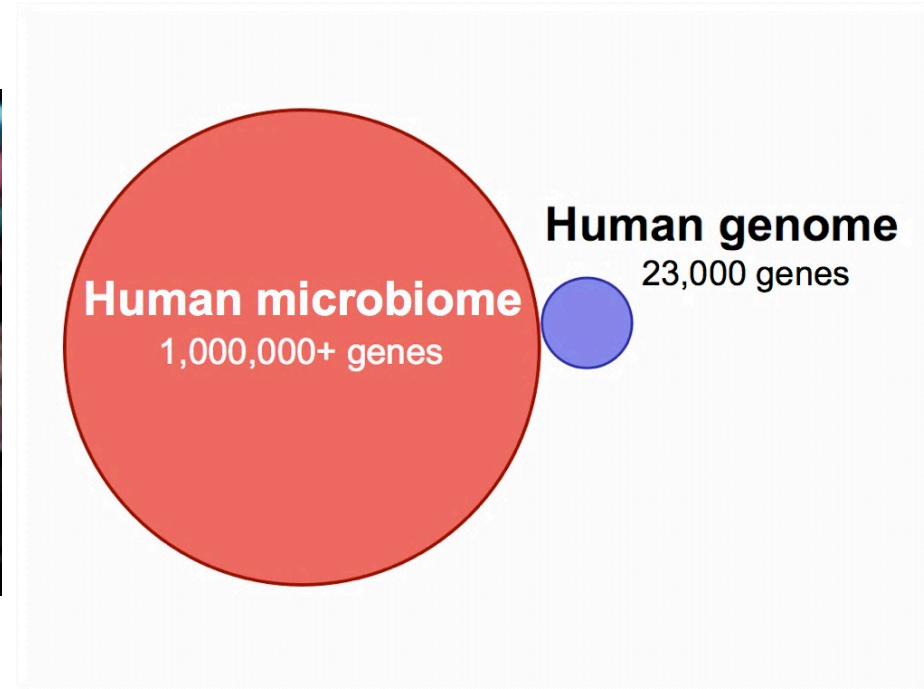
# Microbes R Us



# The second genome



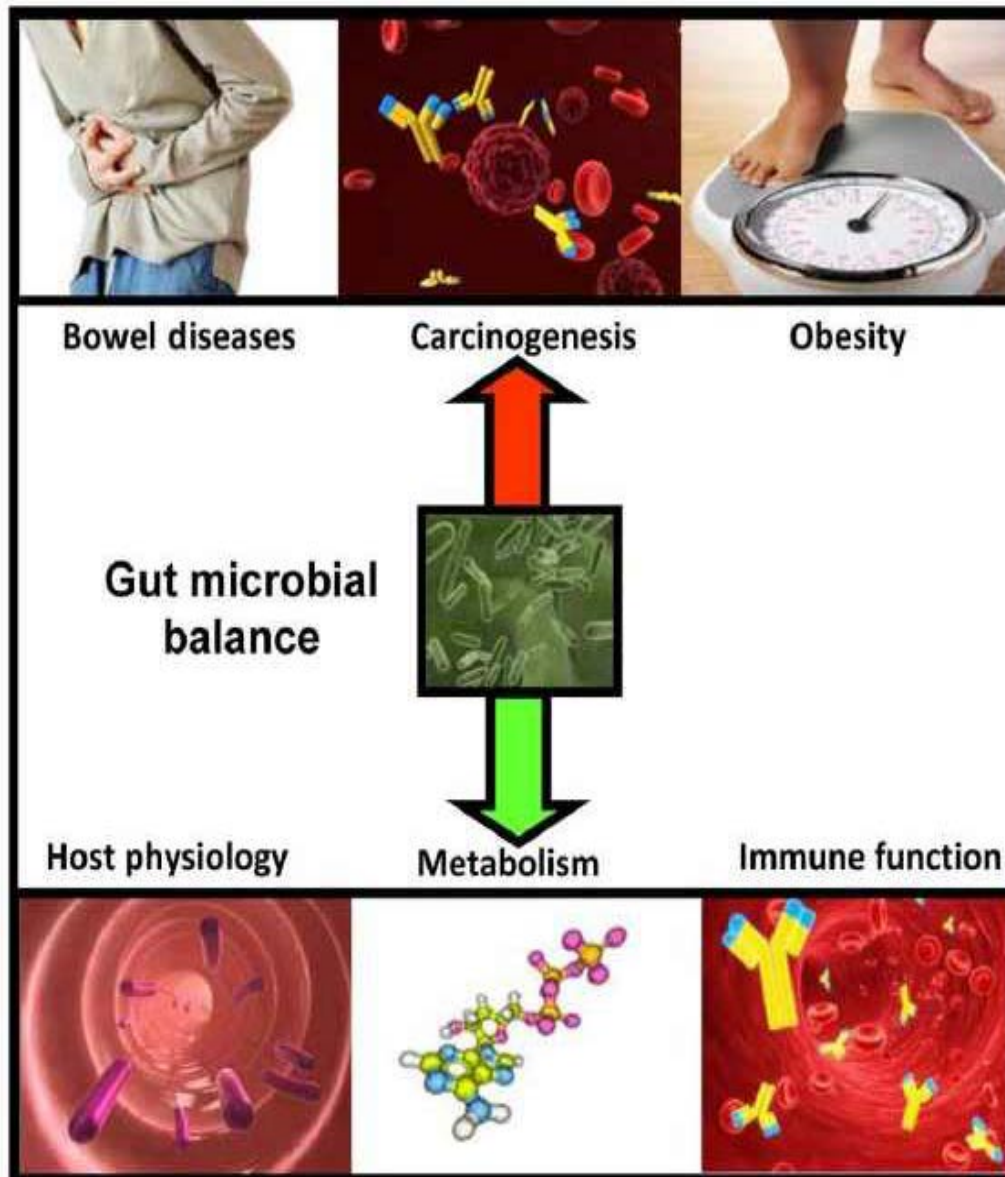
Science and Society By Matt Crenson, December 2013



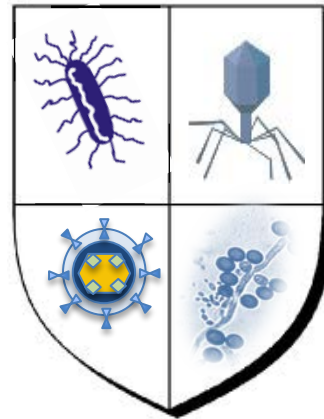
Bacterial cells outnumber your body cells 10:1 and comprise up to 4-6 lbs of your body mass



# 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

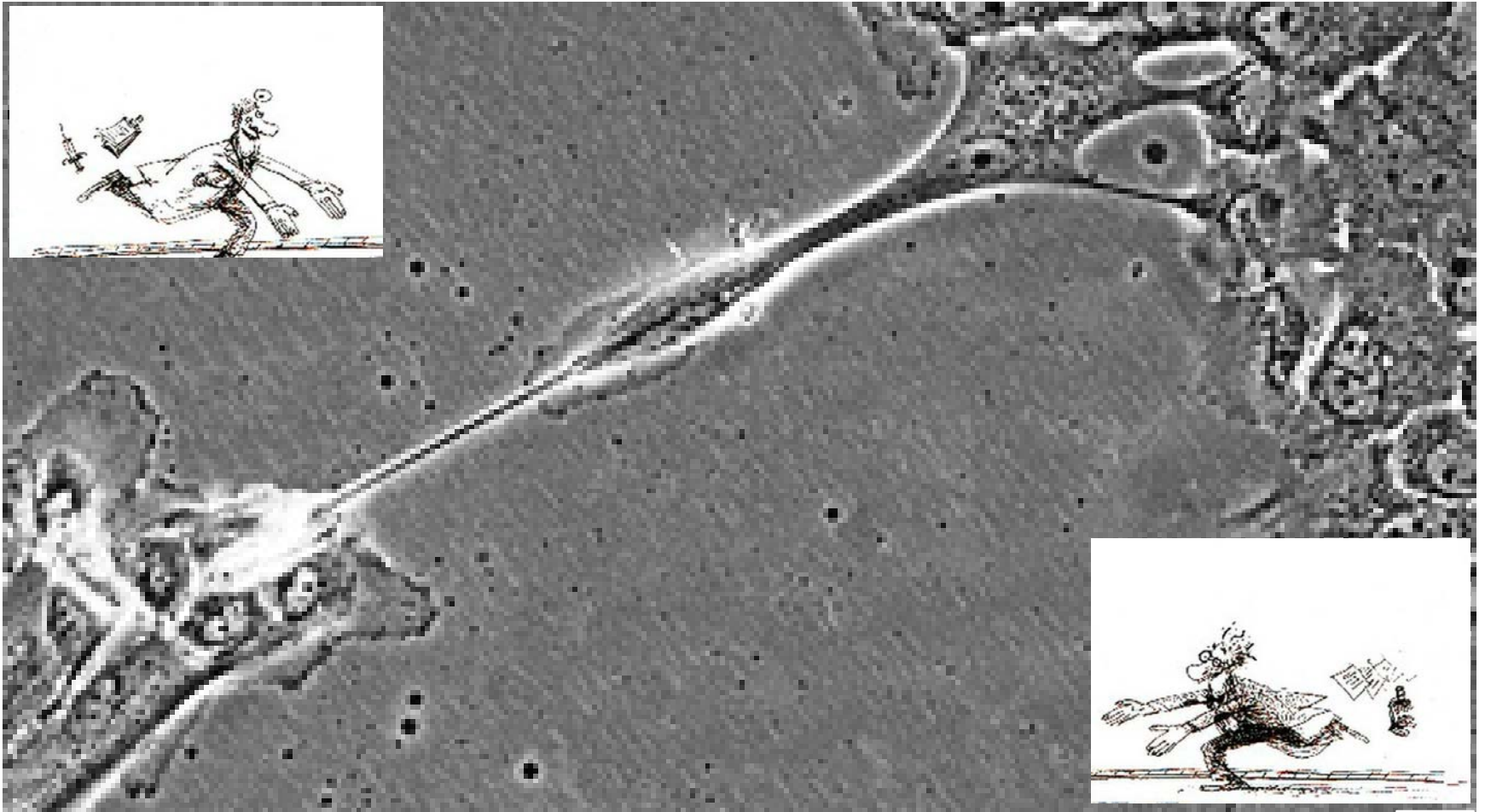
**Co-Director:** Jeffrey Blanchard, Ph.D. UMass-Amherst

**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