

# Human Microbiota and Its Influence on Human Health and Disease

The trillions of bacteria that colonize the human body starting at birth, and form distinct ecosystems in the mouth, respiratory system, intestines, reproductive tract and on the skin, have an enormous impact on human health.

Notable researchers from the University of Guelph are trying to shed light on how gut dysbiosis (bacterial imbalances) contributes to chronic conditions. We are looking for more than \$1,500,000 to continue this valuable work.

## Impact Statement:

The last decade has seen a major shift away from thinking about the human body in isolation and towards an idea that each person is a “super-organism” that includes countless microorganisms thriving inside and on the surface. Disease is no longer seen as the result of either genes, microbes, or the environment, but as a combination of all three.

The research in human microbiota performed at Guelph is crucial to finding treatment and cures for numerous conditions, including chronic clostridium difficile (*C. difficile*) inflammatory bowel disease, asthma, obesity, colorectal cancer and regressive autism. The Robogut has already played a key role by creating a synthetic stool substitute for use in fecal transplants to cure patients with *C. difficile*.

This funding would ensure that we continue to find the answers to fight these diseases.



## Goals:

Understanding the “communities” of bugs in a healthy gut will help researchers uncover their role in everything from digestion and nutrient absorption to conditions such as inflammatory bowel disease.

Many advancements have been made in this field by University of Guelph researchers exploring the human distal gut. The proposed initiative will allow the university to expand its efforts to understand the human microbiota and open new fields in personalized medicine.

Our goal is to increase the intensity of research and the number of experts trained in the field of human microbiota by raising funds for:

- A Chair in Human Microbiota and its influence on human health and disease
- A Professorship in Human Microbiota and its influence on human health and disease
- Undergraduate scholarships
- Undergraduate summer research assistantships
- Graduate scholarships

Learn more at [alumni.uoguelph.ca/funding-priorities](https://alumni.uoguelph.ca/funding-priorities) or contact [alumni@uoguelph.ca](mailto:alumni@uoguelph.ca)