What’s Bugging You?
Microbes and the Human Body

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Session: Fall 2018 – Session II
Dates: November 2nd – December 7th
Time: 10:30 a.m. – 12:30 p.m.
Location: Room 124, Leeds House Bldg.

Schedule of topics:

Week 1 – A General Introduction to Bacteria and Viruses
What are bacteria? This series will begin our series with a general introduction to bacteria, fungi and viruses. We will then focus on the structure of bacteria and how we classify the millions of different species into categories. Lastly, this seminar examine the most common tools and techniques used by microbiologists in 2018. This foundational information will help participants to understand and enjoy the material presented throughout the rest course.

Suggested Reading:
- Bacteria Overview: https://askabiologist.asu.edu/bacteria-overview

Week 2 – Good Bugs: Beneficial Bacteria
Our body is full of good bacteria which provide countless benefits including improving digestion, producing vitamins, preventing infections, breaking down cancer-causing agents, and removing toxins. In this seminar we will examine how we live in harmony with the bacteria on and in us. Other topics will include:
- Why probiotics and “poop pills” are all the rage and how effective they really are.
- How can we have good oral health with billions of bacteria living in our mouths?
- Does bacteria in breast milk help develop a healthy digestive system in a child?
We will also take a look that some very timely local evidence that indicates an important link between the bacteria in our gut and our mental health.

Did you know? Your registration in the LinR program allows you to borrow materials from Carleton University’s MacOdrum Library. To receive a temporary borrowing card, visit the circulation desk and identify yourself as a participant of LinR.
Week 3 – Bad Bugs: An Introduction to Infection
Every day we fight off potential infections. Healthy people can ward off many pathogens with relative ease. However, sometimes the bad bugs win, and infection sets in. This seminar will explore the battle that occurs when our immune system goes to war with an invading pathogen. You will also learn why certain “pathogenic” bacteria are better able to colonize our bodies and the role bacterial toxins play in infection and illness. We begin with minor infections such as infected cut and move up to systemic blood infections which can prove deadly. A tooth infection, salmonella poisoning from improperly cooked chicken, heart valve infection and others will be used as examples.

Week 4 – Bugs on the Move – How Infectious Disease can Spread
Where did that infection come from? Why are certain body parts (the throat, the eyes, the ears, the digestive tract) more likely to get infected? Why is the Flu most common in the winter? A look at some unique infections and how they are spread. Examples will include water-borne diseases, sexually transmitted infections, airborne infections, insect-transmitted infections and more. We will also look at outbreak management from a public health perspective and examine how organizations such as the Canadian Food Inspection Agency prevent outbreaks.

Week 5 – Bad Bugs in the Body – A Look at Some Common Infections
There is a huge variety of infections and infectious diseases that can be detrimental to our health. This seminar will browse through some common and some infections that affect our bodies. Staph infection, the Common Cold, pneumonia, the flu, rabies, Strept throat, chicken pox, tuberculosis, shingles, athlete’s foot, and others will be discussed in this session.

Week 6 – Bugs and Drugs – Controlling Microbes and Viruses
Almost everyone has been on antibiotics at some point during their lives – they have revolutionized the medical field. However, drug-resistant pathogens are becoming major threat to public health in the coming years and we need to re-examine our practices. Learn why we have not been successful in developing promising antibiotics and the lack of incentive to fix the problem. What is the role of antibiotics in agriculture, is that contributing to the problem of resistance, and does it affect food safety? Lastly, we will look at vaccines – what are they, how do they work and how do we produce them? We will conclude our seminar series with an open discussion on the controversial issue of vaccine safety and examine the current evidence.