The growth of mechanisms that cause resistance to antibiotics for emerging and re-emerging bacterial pathogens is one of the most preoccupying problems in public health. In order to tackle this problem, the scientific community should identify new bacterial vulnerabilities and develop new antibacterial agents.

The majority of the most effective antibiotics concentrate on the biosynthesis of the bacteria’s cell wall. Ironically our knowledge of the building of the cell wall comes from the use of these antibiotics to identify the factors concerned: proteins binding penicillin (PLPs). These enzymes carry out the building of the peptidoglycane cell walls by means of their actions of transpeptidation and transglycosylation.

Dr. Paradis-Bleau will present a new genetic approach that will allow for the discovery of new factors involved in the building of the cell wall of peptidoglycane. Her work represents a major step towards a better understanding of how bacterial cell walls are built, so as to exploit them as a target for treatment.

Our guest speaker

Dr. Catherine Paradis-Bleau is a postdoctoral student in the Department of Microbiology and Immunobiology at Harvard Medical School. She recently published her discoveries in the scientific review Cell on the topic that is the subject of her presentation: Bacterial cell wall polymerases are activated by lipoprotein cofactors located in the outer membrane.

Before her postdoctorate studies in microbiology and molecular biology at Harvard, she was a postdoc at Brigham and Women’s Hospital. She completed her masters and doctorate in microbiology-immunology at Université Laval (QC, Canada) and her undergraduate degree in biology at Université de Sherbrooke (QC, Canada).

More information on CafesSciences.org.