SOCIETY OF PHYSICS STUDENTS (SPS) EVENT

My summer attempts to suppress the infection of a bacterium known to cause strep throat and other human diseases

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Abstract:

Group A *Streptococcus* (GAS) is a bacterium responsible for many human illnesses such as strep throat, scarlet fever and various skin infections. The bacterium has the ability to cause infection in humans by evading the immune system through the use of a surface protein called the M protein. The M protein helps with the evasion by preventing white blood cells from engulfing and destroying the bacterium in non-immune blood. In order to suppress infection, the production of the M protein in the bacterium needs to be reduced. In previous experiments, it was found that the inactivation of a likely transcription regulator, spy1870, drastically reduced the transcription of the M protein gene (*emm*). Since the transcription of *emm* was reduced, neutrophils effortlessly ingested the GAS bacterium with the inactivated spy1870. It is not known, however, whether the inactivation of spy1870 or a random mutation introduced in the bacterium reduced the production of the M protein. The purpose of my project this summer was to determine whether the inactivation of spy1870 in the bacterium directly reduced the production of the M protein. In this talk, I will present my research findings acquired this summer in a Research Experience for Undergraduates (REU) program at Montana State University.

WHERE

SI – 117 (room next to the Physics Computer Lab)

WHEN

Noon- 1pm
Thursday, November 18, 2010