MATH and PIZZA

When Zombies Attack!

Mathematical modeling of an outbreak of zombie infection

Speaker

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Date: Wednesday, November 4, 2009

Time: 4:00pm - 5:00pm

Room: 204, Classroom Building

Abstract: Zombies are a popular figure in pop culture/entertainment and they are usually portrayed as being brought about through an outbreak epidemic. Consequently, we model a zombie attack, using biological assumptions based on popular zombie movies. We introduce a basic model for zombie infection, determine equilibria and their stability, and illustrate the outcome with numerical solutions. We then refine the model to introduce a latent period of zombification, whereby humans are infected, but not infectious, before becoming undead. We then modify the model to include the effects of possible quarantine or a cure. Finally, we examine the impact of regular, impulsive reductions in the number of zombies and derive conditions under which eradication can occur. We show that only quick, aggressive attacks can stave off the doomsday scenario: the collapse of society as zombies overtake us all.##

zombies

All ~~students~~

with an interest in Mathematics

are welcome to attend !!

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