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The mathematics of in vitro culture for Plasmodium

There are many different species of malaria that are known to infect humans. Establishing a continuous in vitro culture system for these parasites in human blood is important because it allows human malaria infection to be studied in a controlled setting. Although there exists a robust culturing system for *Plasmodium falciparum*, there are important *Plasmodium* species that can still not be cultured in vitro in human blood. In this talk I will show how a mathematical model can be used to explain patterns in data from culture experiments and also identify properties of specific *Plasmodium* species that can be exploited in order to develop a continuous culture system.