Project Title	Computational design of antifungal drug treatment schedules
Supervisor	Dr Reiko Tanaka
Theme(s)	Computational and theoretical modelling
Project Type	Desk Based
Project Description	Through this project, you will have plenty opportunities to develop your Matlab skills through working on pressing clinical problems.

This project will benefit from all the MATLAB codes developed by previous students. The extensive deployment of conventional immunosuppressive therapies for cancer chemotherapy, organ transplantation, and inflammatory mediation increases the threat posed by fungal pathogens. It is hypothesized that chemotherapeutically-mediated neutrophil depletion provides an opportunity for the fungal spores to germinate in the host alveoli.

This project aims to computationally design the optimal strategies to administer antifungal drugs, based on a mathematical model of fungal infection we have already published (Tanaka et al. Scientific Reports 2015) and several other models. We will try to identify when preventive administration of antifungal drugs is effective, depending on the frequency of cancer chemotherapy.