# SRF Vacation Scholarship report 2018

The form below should be completed by the student, then forwarded to the supervisor for approval and submission to srf@conferencecollective.co.uk within 8 weeks of completing the project. Please submit the form as a Word document.

A maximum of one figure (with legend of less than 100 words) may be appended if required.

**Please note:** excerpts from this form may be published on the SRF website, so please ensure content is suitable for website publication, and does not compromise future dissemination of data in peer-reviewed papers etc. The SRF reserves the right to edit responses to ensure suitability for publication on the website, newsletter or in promotional material.

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| **Student’s Name:** | Sophia Mohammed | **Student’s Institution/University:** | University of St Andrews/ University of Manchester |
| **Degree Title and year of study:** | Third year, Medicine MBChB |  |
| **Supervisor’s Name:** | Dr Nick Wheelhouse | **Supervisor’s Department and Institution:** | Department of Microbiology, Edinburgh Napier University. |
| **Project Title:** | How does chlamydia affect fertility? |

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| **Briefly outline the background and aims of the project** *(max 200 words)* |
| Chlamydia is a common infection, which is linked to reproductive failure and miscarriage. We do not understand the mechanisms through which Chlamydia causes miscarriage, however we know that very low levels of infection in a few uterine cells appears to have measurable effects in gene expression on the remaining uninfected cells. We will determine whether the Chlamydia effects are acting only upon infected cells or if the effects of infection include wider acting paracrine mechanisms. To test this we will determine if filter sterilised medium from infected uterine epithelial and stromal cells inhibits decidualisation of SHT-290 cells.As well as understanding these effects, I hope to personally develop my lab skills in areas of PCR, handling pathogens and fluorescent immunocytochemistry. Previous research has been done on Chlamydial infection on endothelial stromal cells causing defective decidualisation and chemokine release by my supervisor, Dr Nick Wheelhouse. This study showed how the altered chemokine profiles caused by the bacterium can affect the immune cell profiles needed in viable pregnancies. |
| **Did the project change from that proposed in the application? If so, what changes were made and why?** *(max 100 words)* |
| We found that the SHT-290 cells were not decidualising as planned, so the research was then focused on the Hep2 and Ishikawa cells line. Similar experiments were conducted but on the other cell lines.  |
| **What were the main results/findings of the project?** *(max 300 words)* |
| In the Ishikawa and Hep2 cell lines, we looked for changes in IL8, TGFR1, TGFBR3, INH A, INH AB, INH BB. Unfortunately, there was no consistent results despite the experiments being completed multiple times. The results, despite being repeated, were subject to human error (from lack of lab experience) which could have affected the infecting process, the qPCR set up or both.  |
| **What do you conclude from your findings?** *(max 150 words)* |
| As the experiment did not go as planned, I would like to have repeated the experiments with the experience I have now of qPCR and immunocytochemistry.  |
| **How has this experience influenced your thinking regarding your future/ongoing studies, and/or career choice?** *(max 150 words)*  |
| Despite not getting the results expected, this experience was invaluable as it gave me insight into lab work. It has deepened my interest into research and opened up avenues for further research projects. In the future, I would love to see how STIs affect gynecological cancers and other obstetrics pathologies. I hope that this knowledge and experience will allow me to pursue a career in obstetrics and gynecology or microbiology.  |
| **Please use the space below to add any other comments/thoughts about the SRF Vacation Scholarship** *(max 100 words)* |
| ***Student:*** *Without the SRF scholarship, I would not have been able to develop my research skills and take part in this project. It would have made this experience difficult to achieve. I’m very grateful to have been awarded with this award and thank the SRF for this opportunity.****Supervisor:***  |