DM vs DPhil case studies

Below are some illustrative ‘case studies’ to show how DM research may differ from DPhil.

Example 1

- **DM**
  Speciality Trainee neurologist whose clinical work is focused on the John Radcliffe Hospital. They wish to study the impact of flight on brain activity, in the context of healthy subjects compared to Parkinson's Disease sufferers whose symptoms may be alleviated by high altitudes. They will make use of CT and fMRI imaging and their studies will directly interface with their clinical care for consenting patients.

- **DPhil**
  Speciality Trainee infectious diseases physician whose clinical work has been focused on the John Radcliffe Hospital but who wishes to undertake DPhil research epidemiological modelling of emerging zoonotic viral disease. They have been awarded a clinical fellowship to support their studies.

Example 2

- **DM**
  Clinical trainee with an interest in upper GI cancer who wishes to research changes in cancer cell-derived circulating miRNA profile with cancer staging, in collaboration with a group who will provide the miRNA profiling data derived from clinical samples and training in bioinformatics and data analysis. The ultimate aim is the development of a circulating miRNA diagnostic test, seeking earlier diagnoses.

- **DPhil**
  Clinical trainee with an interest in upper GI cancer who wishes to study epigenetic changes occurring in tumours correlated to staging in cancers, against a background of normal epigenetic variability in non-cancerous upper GI tissue. They will be based in the Ludwig Institute and supported by collaborations with the Department of Oncology and surgical colleagues. They will be full-time on their DPhil but will spend one day a fortnight in clinical service.

Example 3

- **DM**
  Infectious diseases physician working for the OUH who wishes to make a study of the T cell repertoire arising in the following comparison groups: "fully vaccinated" (currently, 3 doses) UK-resident individuals with no reported history of SARS CoV-2 infection, fully vaccinated UK-resident individuals who report one or more episodes of symptomatic Covid-19 either before or after vaccination, and correlated to when in each case disease has occurred related to vaccine doses; and unvaccinated UK-resident individuals who have presented with symptomatic Covid-19 and received hospital care. They will be supported in this by supervision from and collaboration with a group based in the Medawar Building for Pathogen Research.

- **DPhil**
  Infectious diseases physician working in the Jenner Institute who wishes to explore the development of a "universal" coronavirus vaccine using one or more vaccine platforms (ChAdOx, protein nanoparticles, RNA) and building on insights gained from structure-based antibody mapping on the SARS CoV-2 Spike protein highlighting hotspots that include non-receptor-binding surface regions.