

## ***Boundary integral solutions - Michael Page***

This project will examine the range of geometries for which Laplace's equation has an exact solution that can be represented as an integral around the boundary, with a known 'kernel'. One example is the Poisson formula in a 2D circular domain, but the project will involve seeking out and tabulating other known kernels from both textbooks and published papers for either Dirichlet or Neumann boundary conditions. Other similar PDEs, such as the Poisson and Helmholtz equations, may also be considered, as will some simple 3D geometries.