1027-30-55 **Darren G Crowdy*** (d.crowdy@imperial.ac.uk), Dept of Mathematics, Imperial College London, 180 Queen's Gate, London, SW7 2AZ. *The Schottky-Klein prime function.*

This talk will survey a number of recent results, mostly motivated by applied mathematical problems in planar multiply connected domains, where the solution has been found in terms of a special transcendental function known as the Schottky-Klein prime function. Any compact Riemann surface has such a function associated to it and many results of classical analysis can be written in a particularly elegant way in terms of this prime function. In addition, we will discuss effective ways to compute this prime function on the Schottky double of planar multiply connected domains. (Received February 09, 2007)