GlaxoSmithKline

Since the beginning of 1998, the School has enjoyed a substantial and fruitful collaboration with GlaxoSmithKline (GSK) research scientists at Harlow, UK. The collaboration, which is facilitated through ANUTECH Pty Ltd, is headed by Dr Peter O'Hanlon from GSK and Professors Martin Banwell and Chris Easton of RSC, where six postdoctoral fellows are employed to work on the project.

The objective of the collaboration is to develop new anti-infective agents that are active against organisms such as *Staphylococcus aureus*. The project derives from GSK's Genomic Research Program. Although much of the work remains commercial-in-confidence, some of the earlier results are now being readied for publication. In terms of the general procedures involved, early stage lead compounds were identified, at GSK, by screening of natural products as well as large compound libraries derived by synthetic means. In the next step, optimisation of these leads is undertaken through evaluation of their interactions with the relevant enzyme targets and, thereby, identifying derivatives likely to display improved properties. This and the subsequent synthesis of such derivatives for biological evaluation represents a key activity of the group working in the RSC. The structure–activity relationships (SAR) resulting from such studies are being used in efforts to identify similar species with antibacterial activity, and to develop an understanding of molecular features that are important for selective inhibition of the bacterial targets (enzymes) over their mammalian counterparts.