Abstrakt/an Abstract:

## 200 years of research on haemoglobin: the evolution of protein crystallography

Zygmunt Derewenda (University of Virginia, USA)

Haemoglobin (Hb) is one of the most important proteins in the history of science. Biochemical studies were initiated by Johann Engelhardt in 1825. Hb was the first protein to be crystallized (1840) and the first to have its molecular weight determined conclusively by ultracentrifugation (1925). Pioneering X-ray crystallographic studies were initiated in 1938 by Max Perutz and paved the way to the development of the science of protein structure. The structures of met- and deoxy-haemoglobin lead to the inception of the theories of allostery and cooperativity, as well as induced fit. Prof Zygmunt Derewenda was involved in the 1970s and 80s in the structural characterization of intermediate states of human haemoglobin, resulting in two papers in Nature (1984,1988). The seminar will trace the evolution of the research on haemoglobin, with special emphasis on the reliance of the progress of science on interdisciplinary interplay and serendipity. Importantly, the seminar will conclude that scientific investigations never end, and never achieve absolute explanations for natural phenomena.