

Laudatio for the Fåhræus Lecture 2007

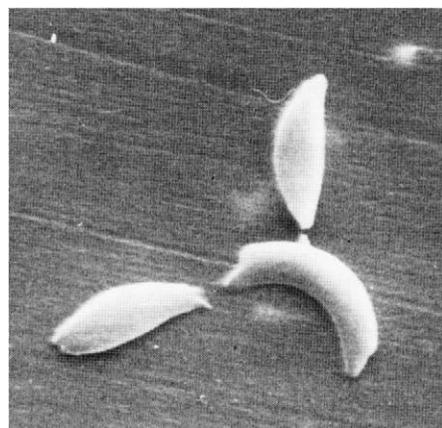
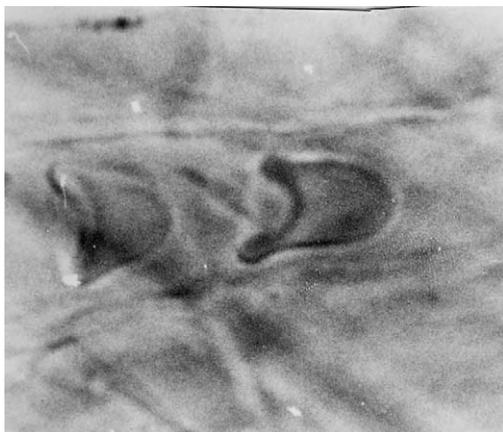
Fåhræus Awardee – Professor Dr. Michael W. Rampling, PhD

Mike Rampling received his BSc in Physics at the Imperial College in London, then joined the United Kingdom Atomic Energy Authority at Harwell as a Scientific Officer. Later at St. Mary's Hospital in London he began a research program leading to a PhD. These studies prompted a broad interest in the field of hemorheology and an interest in hemostasis.

First at St. Mary's, later at the Imperial College, London, and throughout his career, he was heavily involved in teaching statistics and most aspects of physiology as a Lecturer and later as a Reader. However, Mike Rampling was especially interested in teaching courses on the cardiovascular system and integrated body function and dysfunction.

His PhD thesis was entitled "The flexibility of the erythrocyte and the rate of sickling of cells containing hemoglobin S", with his thesis research conducted in Professor Sir's laboratory. In his first published scientific paper based on his doctoral work, Mike compared the biomechanical properties of healthy and diseased red cells. The figures below indicate the deformation of normal cells when flowing in a microvessel (left) and a scanning electron microscope image of sickled hemoglobin S erythrocytes (right). His research at that time also involved the study of erythrocyte deformability, a new technique for estimating this parameter, and studies of factors affecting this cellular mechanical property.

He has continued to pursue the area of erythrocyte rheology throughout his scientific career. He has published more than 200 papers in highly distinguished scientific journals such as *Biorheology*, *The British and The European Journals of Hematology*, *Thrombosis and Hemostasis*, *Atherosclerosis*, and of course, in the Society's journal, *Clinical Hemorheology and Microcirculation*. Furthermore, he has made



contributions to many books, including co-editing “Cardiovascular Flow Modeling and Measurement with Application to Medicine” with Gerald Nash from Birmingham. In a recent book edited together with Herb Meiselman, Oguz Baskurt and Max Hardeman, he summarized scores of contributions to recent advances in hemorheology, hemodynamics, and clinical aspects of hemorheology. The book is entitled “Handbook of Hemorheology and Hemodynamics” (IOS Press, 2007).

An abundance of laboratory findings and their applications in clinical medicine represent the hallmarks of Mike Rampling’s scientific work. In general, he has focused his research efforts on the following areas:

- Addressing questions regarding whole blood and plasma viscosity and red cell aggregation, with special emphasis on the comparison of different methods.
- Determining species and breed differences with respect to hemorheological factors.
- Conducting clinically-orientated investigations comparing healthy individuals and those with health-burdening factors such as pregnancy, smoking, cardiovascular illness and diabetes.

As a Professor in the Department of Physiology and Biophysics, his basic interest was to elucidate factors involved in blood viscosity, particularly in the formation of rouleaux and their development into three-dimensional structures. In particular, his work involved comparison of methods to determine red cell aggregation and blood viscosity. He has placed special emphasis on investigating different intrinsic and extrinsic factors which influence red cell aggregation and has investigated the effects of variations of such factors as time and temperature. He has also made substantial contributions towards elucidating the roles of cell-specific factors in red cell aggregation (e.g., membrane-bound factors such as erythrocyte glycoproteins) and had determined the effects of fibrinogen concentration and fibrin degradation products. On the hemostasis side, he studied platelet function and the physico-chemistry of fibrinogen and of other clotting factors. However, the reversible aggregation of red blood cells into linear and three-dimensional structures was the basis of scientific interest and clinical relevance throughout his career.

It is appropriate to close by reiterating that Professor Mike Rampling:

1. Represents an outstanding scholar and research scientist who has decisively furthered the advancement of knowledge in the field of clinical hemorheology.
2. Has an outstanding personality and a wonderful sense of humor.

We are fully convinced that among the many candidates eligible to receive this award, the ESCHM Committee has selected an individual who fully deserves this honor which is bestowed upon him today.

Mike, it is our privilege and pleasure to congratulate you on receiving this award.
And now, we are looking forward to listening to your lecture!

D. Seiffge
H.J. Meiselman
Giessen and Los Angeles, June 2007