

Poiseuille Gold Medal Awardee 2023



Professor Gerard B. Nash
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The International Society for Biorheology has selected Professor Gerard Nash as recipient of the Poiseuille Medal for his seminal work on the role of leukocytes, platelets and the vessel wall in thrombosis and inflammation.

After studying engineering and physics as an undergraduate in Manchester, Gerard pursued a research career in the biophysical sciences and received a Ph.D. in London that focused on the development of flow-based instrumentation for automated cell characterization. These studies led to an interest in blood cell mechanics, which he pursued in post-doctoral studies at Guy's hospital and subsequently with Professor Herbert Meiselman at the University of Southern California. His post-doctoral studies centered on analysis of the physical properties of red cells and leukocytes, that influence their circulation. On returning to UK to work with John Dormandy at St. George's Hospital Medical School, he applied these analytical approaches to defining biomechanical abnormalities associated with vascular disease.

He subsequently obtained a faculty position with John Stuart at the University of Birmingham in 1989 where his interests expanded to include the cellular adhesive properties of leukocytes and red blood cells. In these studies, he developed novel flow-based culture and adhesion assays incorporating endothelial cells and platelets and characterized, for the first time, the adhesive behaviour of flowing malaria-infected red blood cells. His studies of the mechanisms by which flowing leukocytes bind to vessel walls were the first to describe the ability of surface-adherent platelets to capture flowing neutrophils. The inflammatory effects of leukocyte-platelet interactions continued to be a major theme of his work, along with studies of how the local physical and stromal environments in blood vessels condition the responses of endothelial cells and hence recruitment of leukocytes in health and disease.

During his five-decade academic career, Gerard has published over 200 research papers in scientific journals as well as reviews and book chapters in the fields of blood flow, cell mechanics, and leukocyte adhesion and migration. With funding from the British Heart Foundation, Leverhulme Trust, Wellcome Trust, Biotechnology and Biological Sciences Research Council (BBSRC), Medical Research Council (MRC), Engineering and Physical Sciences Research Council (EPSRC) and Cancer Research UK, Gerard developed a world class research laboratory.

The award of the Poiseuille Gold Medal to Professor Nash for 2023 is extremely well deserved.

Herbert H. Lipowsky and Brian M. Cooke

Editors-in-Chief

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