Professor Ivan M. Roitt

Professor Roitt graduated from Oxford University with a D.Phil in Chemistry in 1952, and a second degree in Physiology in 1953. He was Head of the Department of Immunology at University College London from 1967 to 1992, and is currently Honorary Director of the Centre for Investigative & Diagnostic Oncology at Middlesex University, Hendon. He is a Fellow of The Royal Society and of The Royal College of Pathologists, and is an Honorary Fellow of U.C.L., Balliol College Oxford and The Royal College of Physicians. He is currently interested in novel imaging technologies, the exploitation of gold nanoparticles and the development of diagnostic immunological microarrays.

Roitt & Doniach's original discovery of thyroid autoantibodies in patients with Hashimoto's thyroiditis, and of autoimmune reactions to gastric parietal cells in pernicious anaemia and to mitochondria in primary biliary cirrhosis helped to establish the now widely held view that the immune system could mistakenly turn against 'self' and produce a whole range of disorders. The concept of a spectrum of disease with organ-specific and non-organ specific disorders at each pole was elaborated. The tests for these autoantibodies which were developed laid the foundation for the modern laboratory investigations of autoimmune disease. Roitt showed that undegraded thyroglobulin leaving the thyroid by the lymphatics gave rise to circulating thyroglobulin with important implications for the establishment of tolerance to thyroglobulin and the availability of the antigen in the gland as a target for immune attack. Studies on the 'Obese strain' chicken model of human autoimmune thyroid disease showed that T-cells are critical for development of disease and that thyroid antigen itself rather than perturbation of the idiotype network or polyclonal activators was needed to provoke and sustain thyroid autoimmunity. He has shown that the development of experimental lesions provoked by thyroid autoimmunity can be blocked by generating anergic regulatory T-cells with a non-depleting anti-CD4 antibody. In the field of Rheumatoid Arthritis, Roitt early on developed solid phase assays for rheumatoid factors (autoantibodies to the subject's own immunoglobulin G) and showed them to be present, particularly those of the IgG class, in the serum of virtually all patients. Recent studies on abnormal glycosylation of IgG in the serum of patients with rheumatoid arthritis further points up the important role of this autoantigen in disease pathogenesis. Monoclonal internal image anti-idiotypes of hepatitis B surface antigen were established as potential epitope-specific vaccines. Current work is directed towards the genetic engineering of epitope-specific vaccines to avoid undesirable effects associated with the wild-type molecule, particularly with respect to a cancer vaccine based on human chorionic gonadotrophin. Other projects involve development of passive therapy for mucosal infections with antibody single variable domains and the development of a robust, generic diagnostic platform for multianalyte detection using nanodot arrays of ligand binding molecules. He has published over 280 scientific articles and several textbooks, of which the best known is “Roitt’s Essential Immunology”, now in its 11th edition.

He has held the following posts: Meetings Secretary & Chairman - British Society for Immunology

Organising Committee of 2nd International Congress of Immunology

Chairman, Education Committee - International Union of Immunological Societies

Royal College of Pathologists - Council Member
Arthritis & Rheumatism Council - Scientific Research Committee
President - Immunology Section, Royal Society of Medicine
University Grants Council - Biology Sub-Committee
University Funding Council Research Rating Review Committee Member
D.H.S.S. - Laboratory Advisory Development Group (Pathology Services)
W.H.O. - Appointed expert in Immunology & Chairman of Steering Committee on Immunological Control of Human Reproduction
Editorial Board of several journals.

He has been a member of the Royal Society of Medicine for over 40 years, and is a Past President of the Immunology Section.

Professor Roitt's main areas of interest, now he is a Member of the RSM Council, are Cancer and Immunological Disorders. He hopes to foster RSM programmes which provide excitement in cutting edge knowledge and technology for RSM Members.