

Professor James Cornelis Elliott

Jim Elliott graduated from Cambridge, and then completed a PhD at the London Hospital Medical College in 1964, supervised by Professor Ron Fearnhead and Professor Dame Kathleen Lonsdale.

He was subsequently appointed Lecturer in Biophysics, and was appointed Professor in 1993, and then Professor of Biophysics in relation to Dentistry and Head of Department, Department of Biophysics in Relation to Dentistry, Queen Mary in 1995, and then in 1999, Head of the Centre of Oral Growth and Development in the Institute of Dentistry, QMUL until 2006.

His thesis work covered the crystallographic structure of dental enamel and related apatites, determined primarily using infra-red spectroscopy. He continued this work on the chemistry of apatites, and which led to the publication of what is considered the seminal work on the subject entitled " Structure and Chemistry of the Apatites and Other Related Calcium Orthophosphates" in 1994. He applied this chemical rigour to the understanding of the mineral chemistry of dental enamel and how this affected the progression of developing carious lesions.

His study of mineral distribution in biological hard tissues led him to develop novel X-ray microscopic instrumentation; initially scanning X-ray microradiography, and subsequently a 3D X-ray microscopic method. In 1982, with David Dover of KCL, he published the first ever X-ray microscopic tomographic image, of a snail shell. Over subsequent years, this methodology has developed into the well-known technique of microCT, which is now a standard tool in many laboratories around the world. There is no doubt that Jim Elliott's work in pioneering the microCT methodology has led to the development of the state of the art 3D X-ray microscopic imaging systems that are available today.

Jim Elliott was a dedicated researcher and wrote over 140 peer reviewed papers, and was awarded many substantial EPSRC and MRC grants. However, his pioneering work in crystallography and X-ray microscopy drew attention from other disciplines and he enthusiastically fostered collaborations between disciplines; recognising the power of interdisciplinary research. He set up the Bone Tooth and Biomaterials Research Group within the Medical School, and then became the Deputy Director of the Discipline Bridging Initiative at QMUL. He also developed many national and international research collaborations.

Amongst his colleagues, he was highly respected as a faithful mentor and diligent researcher.

Paul Anderson and Graham Davis