Biographical Note

A.G. Atkins BSc MA PhD ScD CEng FIMechE FIM3 FREng

Tony Atkins is Professor Emeritus of Mechanical Engineering at the University of Reading, and is currently Visiting Professor in Mechanical Engineering at Imperial College, London. He came to Reading from industry (Delta Group). Before that he had taught at the University of Michigan (Ann Arbor, USA) and the University of Oxford (British Steel Corporation Fellow in the Department of Engineering Science and Exeter College Lecturer in Engineering). He worked for US Steel in Pittsburgh after leaving Trinity College and the PCS Cavendish Laboratory at Cambridge, where he had been a research student (and later Tube Investments Research Fellow) under the direction of David Tabor FRS. His first degree was in Mechanical Engineering at University College, Cardiff.

He is a Chartered Engineer who researches in the general field of large deformation flow and fracture of all sorts of materials. His particular interest is the interplay of macro and micro aspects. Applications have been to a variety of materials – metal alloys, plastics, composites, ice and biological materials. He is consultant to a number of firms, among which are AEA, Alcan, CMB/Crown Cork, Marine Accident Investigation Branch, Marine Safety Agency, British Gas, TWI, Lloyd's Register, Rank-Hovis-McDougall, Unilever, United Biscuits. He has sat on a committee of the Task Group for Structural Integrity (UKAEA TAGSI).

He is a Fellow of the Royal Academy of Engineering, a Fellow of the Institution of Mechanical Engineers, and of the Institute of Materials 3. In conjunction with collaborators he has twice been awarded the American Society for Metals 'Wilson Award', the first time for a paper on the effect of creep on hardness and the second time for applying the concept of mutual indentation hardness to forensic investigations. NASA awarded him a citation for developing the world's toughest boron-epoxy continuous-filament-reinforced composite, simultaneously retaining high stiffness and strength (novel idea of 'intermittent bonding') which is now applied to other systems and to discontinuous fibres. He exhibited at the 1995 Royal Society Soirées and in 1996 he was awarded the Donald Julius Groen Prize by the Institution of Mechanical Engineers. He holds a number of patents including one relating to the employment of microtomes instrumented for cutting forces which enable them to perform as 'mechanical microscopes' for biological materials; and others on optimum ways of cutting foodstuffs.

He performed the usual sort of academic duties and was Head of Department, Head of School and a member of the University Council. He served on the EPSRC college and the Quality Assurance Agency for Higher Education. As an external examiner for u/g degrees, he has held appointments at the Architectural Association, Brunel, Birmingham, Cardiff, Hong Kong, Imperial, Liverpool, Oxford, Sheffield, Southampton and UMIST. He examines PhD's at various universities in UK and abroad, as well as refereeing home and overseas grant applications. His most recent appointment as external examiner was at the Architectural Association for its Master's degree in Emergent Technologies & Design, which teaches the application of principles from Nature to architecture.

He has written over two hundred papers published in refereed learned journals and is the co-author of 'Strength & Fracture of Engineering Solids' (Prentice-Hall), 'Elastic & Plastic Fracture' (Ellis Horwood/Wiley), 'Manufacturing and Process Engineering' (Prentice-Hall), 'A History of GWR Goods Wagons' (David & Charles/Tourret Publishing), and 'GWR Goods Services' (Wild Swan). 'The Cutting, Scratching & Piercing of Materials' is in preparation for Butterworth-Heinemann.

He has given invited lectures around the world, and international collaboration on research (including joint programmes) has included Australia, Austria, China, France, Germany, Denmark, Netherlands, Poland, Portugal, Romania, Russia, Singapore, USA.

He sits on various professional institution committees (eg past Chairman ESIS Committee on Metalforming Fracture, past Chairman of the Structural Technology & Materials Group, IMechE) and on editorial boards of journals and book series (eg Int. J. Mech. Sci., J Bionics Engr, J Damage Mechs). Sometime Secretary of the University Engineering Professors' Conference; Member of Council, British Non-Ferrous Metals Research Association; Advisor, NATO Science for Peace Programme; Chairman of COST Action E35 sub-group. Sometime University Governor, St Bartholomew's School, Newbury. Currently Churchwarden, St Michael & All Angels, Inkpen. Married with three children, his interests include music, skiing, woodworking, gardening and the history of the GWR.