

KEYNOTE SPEECH

Date August 5, 2014 9:00-10:00
Speaker Professor David Stoten
Title An Overview of ACTLab Research
at the University of Bristol
- and Our Links with Japan -



Abstract

One purpose of this talk is to outline the development of the Advanced Control and Test Laboratory (ACTLab) at the University of Bristol, since its original inception around 2000, together with an appraisal of the research that is conducted in the laboratory. Hence, aspects of our work on adaptive control, dynamically substructured systems, data fusion and associated experimentation will be included in the talk.

Another purpose is to place emphasis on ACTLab links with Japanese researchers, since they have had (and continue to have) a very significant impact on the laboratory – both in terms of fundamental research concepts and the associated applications of the ideas.

Biography

David Stoten obtained a 1st-class BSc degree in Mechanical Engineering from the University of Salford, UK, in 1974, ranking first in his class. After a period as research engineer working on missile flight control systems at the British Aircraft Corporation, he studied for the degree of PhD at Trinity College, Cambridge, researching into the theory of decentralised control systems. He was appointed Fellow of Girton College, Cambridge, in 1978, and obtained his PhD later that year.

In 1979, he was appointed lecturer in Mechanical Engineering at the University of Liverpool. In 1983, he moved to the University of Bristol as lecturer, then reader, and was promoted to Professor of Dynamics and Control in 1994. From 1998-2004 he was Head of Department of Mechanical Engineering. He was awarded a DEng from the University of

Bristol in 1993 and subsequently elected Fellow of the Institution of Mechanical Engineers.

At Bristol, Professor Stoten's research has centred on the theory, synthesis and implementation of adaptive control, in particular the minimal control synthesis algorithm (which he established in 1990) and also dynamic substructuring methodologies. Since 1995, much of this collaborative work has been with the civil engineering community in the UK, Europe, USA, China and Japan. From 2002, the focus of this collaborative work has centred on Japan and, in particular, with colleagues at Kyoto University, Tokyo University of Agriculture and Technology, Nagoya Institute of Technology, Iwaki Meisei University, Tokai University, Yamaguchi University, the Railway Technical Research Institute (Kokubunji) and the National Research Institute for Earth Science and Disaster Prevention (Miki-shi).

Also at Bristol, Professor Stoten has established a number of research laboratories in the field of Automatic Control, culminating in the Advanced Control and Test Laboratory (ACTLab) - part of the successful £20m BLADE initiative, in which he played the leading role.