



University of St Andrews

School of Computer Science

**DISTINGUISHED LECTURE SERIES 2005/06**

**Thinking Out of the Computer  
Science Cargo Cult Box**

By

**Prof Harold Thimbleby  
University of Wales Swansea**

***Tuesday, 2<sup>nd</sup> May 2006***

***2<sup>nd</sup> Year Laboratory, Jack Cole Building)***

***North Haugh, St Andrews***

# Biography

Harold Thimbleby is Professor of Computer Science, Swansea University. He joined the Department in 2005, and he directs the Future Interaction Technologies Laboratory.

Harold published his first paper, on menu selection, in 1978, and has since written over 360 refereed papers and articles in many forms - from newspaper articles to Encyclopedia Britannica. He wrote *User Interface Design*, published in the ACM Press Frontier Series in 1990; he is currently writing his fifth book, *Press On*, to be published by MIT Press.

He is a Royal Society-Wolfson Research Merit Award Holder. He was 28th Gresham Professor of Geometry. He was awarded the British Computer Society Wilkes Medal, and won a Toshiba Year of Invention prize. He is a visiting professor at UCL and Middlesex University.

# Programme

2<sup>nd</sup> Year Laboratory, Jack Cole Building

Tuesday 2<sup>nd</sup> May, 2006

**10.00 – 11.00            The cargo cult of everyday computing (and a cure)**

We are surrounded by embedded computers in interactive devices – mobile phones, car radios, airplanes, medical devices, to name just a few. Although these are massive markets and certainly meet many consumer needs, the computer science behind them is seriously flawed, and makes these devices unnecessarily hard to use.

**11.00 – 11.30            *Coffee***

**11.30 – 12.30            The cargo cult of mobile phones (and a cure)**

The user interface of a mobile phone allows the user to search for phone functions, such as setting ring tones, dialing, texting, and so on. From a computer science perspective, this just requires a searching algorithm. We therefore compare typical phone algorithms with standard computer science algorithms -- and find that current phones are feeble compared to what they could be!

**14.30 – 15.30            The cargo cult of calculators (and a cure)**

Finally, we take a single, extended example of cargo cult computer science: despite their huge market and evident success, calculators are shown to be veritable weapons of maths destruction. After reviewing their problems, and diagnosing them as failures of applying elementary computer science, we show how and what solutions can be used to make them much better. A new and exciting approach (which we exhibited at the Royal Society summer science exhibition in July) will be demonstrated: indeed, a new weapon of maths construction.

**Departmental Seminar  
Room 1.33a Jack Cole Building  
Wednesday 3<sup>rd</sup> May, 2006**

**14.00 – 15.00            The cargo cult of scientific computing (and a cure)**

After exposing widespread problems in the consumer market of embedded computer systems in the previous day's three lectures, we now turn to the academic domain of serious computer science to seek refreshment... Unfortunately, we find the same problems, of unreliable and flawed results widespread throughout the scientific research literature... a cargo cult computer science indeed! More importantly, we move on to discuss what we can do about it.

*Note: Students required to attend the Distinguished Lecture Series are not required to attend this additional lecture, but are very welcome to.*