

Name	Dr Stephen Peter CASTELL PhD AFIMA MInstP MBCS MCMi CPhys MIOd CITP MEWI
Position	Chairman and Principal, Castell Computer and Systems Telecommunications Limited (' <i>CASTELL</i> ' or ' <i>CASTELL Consulting</i> ')
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Experience	<p>Dr Stephen Castell is an independent computer expert who has been involved in a wide range of computer litigation over many years.</p> <p><i>CASTELL Consulting</i>, currently in its thirty-third year, provides independent professional consultancy and expert services in computer systems, software, project management, strategy, contracts and disputes. As an Expert Witness in computer litigation Dr Castell has acted in many cases including the largest and longest computer actions to have come to trial in the English High Court. He is the author of the best-selling <i>Computer Bluff</i> (1983), and of <i>The APPEAL Report</i> (1990) on the admissibility of computer evidence in court and the 'legal reliability' of information systems and technologies.</p> <p>Dr Castell has been appointed an expert in a wide variety of disputes over failed software construction projects and the conduct of software development, across numerous jurisdictions including the UK, Europe, the Arabian Gulf, Australasia and the USA.</p> <p><i>CASTELL Consulting</i> has over the years developed a range of analytical techniques, <i>Forensic Systems Analysis</i>, for assessing failed, stalled, delayed or generally troublesome software development and implementation projects. These techniques are particularly important where software projects involve a mixture of 'customised' software packages and 'bespoke' software construction.</p>
Qualifications	<ul style="list-style-type: none"> • 1972 PhD in Mathematics (University of Nottingham). • 1969 MSc in Mathematics - Computer Science and Fluid Mechanics (University of Nottingham). • 1968 BSc First Class Honours in Mathematics, Physics and Psychology (University of London). • 2000 CEDR-trained Mediator. • 2000 ICC Arbitrator.

Career Summary

1978 – Present

Chairman and Principal, **Castell Computer and Systems Telecommunications Limited** (*CASTELL Consulting*)

As principal of *CASTELL Consulting*, Dr Castell undertakes professional consultancy in IT and communications software or systems development, management and strategy. As a consultant, Dr Castell was involved for five years in building the BBC's professional databroadcasting business, *BBC Datacast*, for BBC Enterprises Limited, effectively acting as its managing, marketing and sales director.

Dr Castell has also recognised experience in preparing detailed business plans and strategies for a number of clients including BBC Enterprises and British Telecommunications. Dr Castell previously assisted the UK's largest licensed dealer in securities, Harvard Securities plc, in launching the professional Over-The-Counter (OTC) share market in the UK, focused on new technology based companies in the computer, communications, software and systems sectors.

Over the last twenty years, Dr Castell has been appointed as an independent expert witness in over 100 major disputes and litigated cases. Dr Castell's tasks as an expert in these disputes and cases has been to:

- review and assess the documents, people and systems involved in the IT systems projects which have, typically, failed and are in dispute as to the cause and responsibility of such failure;
- to carry out examinations, analyses and investigations, and where relevant, independent software testing, to arrive at insights, findings and conclusions specific to the identified technical issues in the dispute or case; and
- to arrive at his own independent expert opinion, presented in a written expert's report designed to set out clearly the issues, and his analysis and views, to a lay reader.

1978 - 1984

Director, **Infolex Services Limited**

Dr Castell co-founded Infolex with Neil Maybury, solicitor, which was the UK's first commercially available computer-assisted legal information retrieval service for practising lawyers. Dr Castell constructed and computerised Infolex's new indexes to English Law, the *CLARUS* (Case LAW Report Updating Service) and *STALUS* (STAtute LAW Updating Service) databases. He programmed and established these databases on *Prestel*, British Telecommunications then newly-launched public viewdata computer and communications network (the forerunner of today's internet).

Dr Castell promoted and sold the first subscriptions to Infolex to law firms and corporate legal counsel nationally and internationally. He has spoken and presented at many legal and technology conferences worldwide as one of the acknowledged pioneers in the professional theory and practice of computerised legal information retrieval and database services.

1975 - 1978

Manager, Group Management Services (equivalent to CIO, Chief Information Officer, in today's terminology), **Bremar Holdings Ltd**, International Merchant Bankers. Bremar was a boutique merchant bank, with a special reputation in constructing innovative complex deals in the secondary eurocredits market.

Reporting directly to the Chairman of the bank, Dr Castell was responsible for:

- development, operation and support of the primary banking and trading computer systems, particularly as regards Eurodollar investments and instruments business. Dr Castell led a team of computer software designers and programmers to build and develop one of the first online eurocredit merchant banking administration and transactions systems, automating and diarising the financial management of many hundreds of such transactions per annum for Bremar; and
- development and testing of mathematical models in support of dealing and trading in investment products. Dr Castell produced theoretical analyses and novel computer software to assist valuation of and dealing in 'warehoused' banking instruments.

1974 - 1975

Consultant, **Touche Ross & Co**, Management Consultancy

Management Consultant involved in commercial computer software and systems engineering and implementation projects in a variety of industries, particularly in banking and financial services.

1973 - 1974

Senior Mathematician, Bearing Research Centre, **RHP plc**.

Leading the development of mathematical analyses, computer software development, hardware and software procurement, and assessment of testing of rolling bearing engineering problems, noise and tribology/lubrication issues.

1971 - 1973

Applied Mathematician, Chalfont Park Research Laboratories, **BACo plc**.

Mathematical modelling and computer software and simulation of process engineering problems in aluminium smelting.

Expert briefs

As an Expert Witness in Information and Communications Technology (ICT) disputes and litigation, Dr Castell has over the past twenty years, been retained as an expert in over 100 substantial software and systems disputes and litigation including the largest and longest software development contract trials to have been heard in the English High Court.

Sempra Metals Ltd v Brady plc

Dr Castell was appointed as expert on behalf of Sempra, a leading City metals trader, in proceedings it commenced against Brady, a specialist front-to-back commodities trading and back-off software package supplier. Sempra sued Brady in relation to the termination of an AS400 replacement systems contract, with a claim of £5m. The proceedings were heard in the Technology and Construction Court of the Queen's Bench Division of the English High Court.

The technical issues to be addressed concerned *inter alia* functional and performance deficiencies in the software, delays and specification drift. Dr Castell investigated the alleged functional and performance defects in the software, carrying out his own independent testing, and, in meetings with the expert appointed on behalf of Brady, identified, narrowed and agreed the principle technical issues involved in the case, producing a Part 35 Joint Statement for the benefit of the court.

Joint expert testing was carried out which revealed more clearly the nature and severity of the software defects, delivering agreed testing results upon which both experts could rely in forming their opinions. Shortly after serving Dr Castell's expert report the case satisfactorily settled in early 2007.

Airtours plc (Airtours) v Electronic Data Systems Ltd (EDS)

Dr Castell was appointed as the software expert on behalf of Airtours, now MyTravel plc, in this high-profile action heard in the Technology and Construction Court of the Queen's Bench Division of the English High Court.

This was at the time the largest computer software and outsourcing contract litigation to have been heard by the English High Court (£200m claim; £50 counter-claim).

Dr Castell led his expert team of five independent consultants and technical specialists to examine over 15,000 technical documents and a large and complex bespoke software system built by EDS and intended to provide a real-time package holiday and travel sales, reservations and administration application capable of supporting some 2,000 online operators simultaneously in real-time.

The technical examinations and investigations carried out by Dr Castell and his team included extremely detailed analysis of the design (for example, Logical and Physical Data Models, Normalisation versus Denormalisation of key databases), programming, testing, and tuning of the substantial software

system involved (some 1 million delivered lines of source code). These analyses determined the causes of one of the principal defects of the system, namely its poor runtime performance and throughput under load, which greatly assisted in providing clear opinion on the technical issues raised and agreed to be determined in the litigation.

The matter settled in October 2001 following demonstration of the system's real-time function and performance, proposed on the joint recommendation of the experts.

Transfield Pty Ltd & Obayashi Corp. Joint Venture (TOJV) & Transurban City Link Ltd & Ors

Dr Castell was appointed as the expert investigator on behalf of TOJV in this Melbourne arbitration concerning Australia's then largest infrastructure project (\$A3bn), the *CityLink* toll-motorway construction project. This project utilised sophisticated electronic passive-tagging/tolling and computer information systems for tariffing, marketing interfaces and financial control and management functions.

Dr Castell carried out a preliminary assessment of the principal complaints concerning the systems involved, namely the poor performance under load and frequent crashes of the computer and communications network. Dr Castell reviewed many hundreds of documents containing the system requirements, design and testing plans, and carried out an initial analysis of the records pertaining to testing and actual operation of the live system.

Global settlement of all disputes under the TOJV franchise agreement was reached in late 2001.

CHA Computer Solutions Pty Ltd. v. UniPower Australia Pty Ltd

Dr Castell was retained as expert on behalf of CHA Computer Solutions by its UK parent company Misys plc. This case concerned the termination by the Association of Vice-Chancellors of Australian Universities of a contract for supply of a multi-module core management information system for nine Australian universities.

Prior to proceedings being issued, Dr Castell and his team of three independent experts first carried out their own testing of the software whose acceptance had failed to be achieved. Dr Castell provided his initial views to the parties as to whether or not the Project could be rescued, the faults remedied and the system successfully delivered and installed. Negotiations between the parties were unsuccessful with proceedings then being commenced by CHA in the NSW Supreme Court.

Dr Castell gave his views on the possibility of project rescue based on the techniques of *Forensic Systems Analysis* which he had developed of analysing failed and stalled software projects. Dr Castell and his team carried out controlled retesting of the main disputed software module to arrive at an

independent opinion as to whether or not any alleged software fault was a *material defect*, that is, whether any alleged software fault was to be determined, in his opinion, as:

- of large, consequential (business) effect; and
- impossible, or would have taken, (or had taken) a long time to fix; and
- incapable of any practical workaround.

This independent software testing was supported by extensive analysis undertaken by reference to the historical documents of the project and what had been said between the parties as to the consequential business effect, by examination of the technical development logs for the software showing the 'find and fix' record for each software bug, and assessment as to whether there had been found any practical workarounds by either party during the testing phase of the project.

Publications

Dr Castell has published a large number of papers and articles, and a bestseller book "*Computer Bluff*", 1983. He authored "*The APPEAL Report*", May 1990, a major study commissioned by the CCTA (HM Treasury) on admissibility of computer evidence in court and the legal reliability/security of IT systems. Other examples of Dr Castell's work includes:

- *Forensic Systems Analysis: A Methodology for Assessment and Avoidance of IT Disasters and Disputes*. 8 March 2006, Vol. 3, No. 2 of the Cutter Consortium, Enterprise Risk Management & Governance Advisory Service series.
 - Author and Presenter of *Avoiding IT Disasters – the Expert Way* Course, Nice, France, March 2005.
 - *Using the Forensic Systems Analysis methodology for expert opinion for online dispute resolution*. 12 January 2004, Vol. 5, No 5 of the ADR Bulletin.
 - Author of *The Benefits of ODR in Complex Software Contract Disputes*, paper presented at the Third Annual Forum on Online Dispute Resolution hosted by the International Conflict Resolution Centre at the University of Melbourne, Australia, 5-6 July 2004.
 - *How to avoid disaster projects*. September 2003, Butler Group Review, p. 23.
 - *The role of the IT expert witness in software and systems development/implementation contract disputes and litigation*, 10 October 2002, The Expert Witness Institute Newsletter.
 - *Computer Litigation – Somewhere in Your Future?* June 1998.
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Information Security Bulletin, Vol. 3, Issue 4, pp. 23-26.

- *Ironing out the bugs. When it comes to solving computer disputes, an independent expert may well prove more effective than a heavily armed lawyer.* November 1997, Charter (Journal of the Institute of Chartered Accountants in Australia), pp. 44-45.

Awards

Medallist, IT Consultant of the Year (British Computer Society Professional Awards, 2004)
