

SYNOPSIS Educator, physicist and software engineer. Teacher educator. Broad and extensive experience of internet technologies and data-driven web solutions. International track record in Education, IT, Project Management, Simulation and Training. PhD student.

EDUCATION **Edinburgh University**, Moray House School of Education

- PhD student (part-time, September 2014 –)
- PGCE (Secondary: Physics and Mathematics), July 2004

The Open University, Milton Keynes

- B.Sc. (Hons), November 2002

QUALIFICATIONS **The General Teaching Council for Scotland**

- Full Registration: **Physics with Science**, July 2005; **Mathematics**, April 2006

The Science Council

- Chartered Scientist (CSci), July 2004

The Institute of Physics

- Member (MInstP), Chartered Physicist (CPhys), July 2003

The Microsoft Corporation

- MCP Charter Member, 1999
- Microsoft Certified Solution Developer, June 2001

The Royal Aeronautical Society

- Corporate Member (MRAeS), August 1999



PROFESSIONAL SERVICE **The Institute of Physics in Scotland**

- Member, Education Committee **February 2010 to August 2016**
- Member, IoP in Scotland Committee **September 2011 to October 2014**

NASUWT

- Health and Safety representative, Fife **March 2010 to Sep 2011**
- President, Fife Branch **March 2011 to Sep 2011**

PROFESSIONAL EXPERIENCE **Edinburgh University**, Moray House **August 2012 to August 2016**

Teaching Fellow seconded to lead and develop the PGDE Secondary Physics and General Science programme. Responsible for academic and professional development of teachers of science in Secondary and Primary sectors. Science strand leader for Primary PGDE, BEd and MA Science. Developed new MA Science programme for first and second year undergraduate Primary teachers. Assessment of academic and professional competence through in-school observation, tuition and written assignments.

Contributed to several University and School projects including the Tom Conlon Memorial lecture series (2012 and 2014), facilities and digital technology groups.

Fife Regional Council, Education Service **August 2004 to July 2012**

- Principal Teacher, Physics (Glenwood HS)
- Teacher of Physics & Mathematics (Kirkcaldy HS)
- Teacher of Physics & Mathematics (Probationer, Buckhaven HS)

cullaloe.net trading as *Al Muhandis*, Fife

April 2003 to date

Sole trader business providing consultancy and technical services.

- Designed and implemented community website for Physics Teachers in Scotland at <http://sptr.net> using WordPress, PHP, mySQL, Javascript, JSON, WP Plugins including customisation of these
- Designed, built and operated <http://iopscompetition.org.uk/>, a website for national physics competitions including the Higgs Boson competition (2014) and Reflections on Light (2016)
- Hosting several community and business websites using WordPress, Joomla!, Drupal at <http://cullaloe.net> and community sites using phpBB, mySQL (e.g. <http://lists.sptr.net/mailman/listinfo>)
- Unix server administration on shared hosting and VPS including configuration, upgrade, extension and scripting of tools

Cullaloe Project Resource Ltd

February 1997 – July 2003

Fixed rate, fixed price and cost-plus contracts for clients, including:

- **The Scottish Centre for Infection & Environmental Health**
Designed and built the medical reporting system ECOSS using SQL Server 7.0, NT4/IIS, .asp, XML, XSLT, VSS, UNIX
Designed and built the Quick Response (GP Medical) Surveillance System QRSS using SQL Server 7.0, NT4/IIS, MAPI (Exchange)
Delivered training and full documentation for users and support staff
- **Purves Plant Hire**
Design specification for plant tracking/scheduling database application using NT4, Access, Windows 2000
- **West Lothian Council**
Conversion of Pagemaker 6.5 forms to dynamic Adobe pdf forms
- **Scarlet Training**
Contract trainer, delivering courses on HTML 4 (Intro and mastering), Java programming, Dreamweaver 4/UltraDev, Adobe PDF programming, Microsoft Mastering VB6 series (Fundamentals, Development, Enterprise, Web App Development), MOC833 SQL Server 7
- **LearningIT**
Contract trainer, delivering courses in advanced HTML, CSS, Javascript, Java programming, Java for C programmers
- **Aspentech**
Design analysis & report on the Heysham 2 Process Plant Simulation upgrade
- **Greater Glasgow & Clyde Valley Tourist Board**
Design and implementation of the visitor information and accommodation booking system website using SQL Server, NT4/IIS, ASP, XLS/XSLT, Javascript, dynamic HTML
- **Deutsche Bank**
Design and development of Private Clients Investment management system using Access/VB6/NT/Win2K
- **Bull**
Design and development of Kwik-Fit Insurance call centre suite using Graham Technologies GT-X system, VB6/NT
- **ICL**
Systems update (Millennium Bug) for tools and utilities using VB4/SQL
- **Anglian Water**
Support and programming for systems roll-out using VB4/Windows98/2K/NT

GEC Marconi Simulation and Training **July 1991 – February 1997**

Senior Software Engineer

- GUI application development for auto-initialisation code generation in C
- Designed and coded a fault injection package, real-time process plant simulation models and a developer's toolkit for real-time parameter display
- Using: Microsoft VB 4.0, Access SQL, C/C++, VSS, NT3.51

Data Control Manager

- Software Configuration and Engineering Control, Shajiao , C Power Station

Bid/Project Manager - Military Operations

- Connah's Quay Power Station simulator
- AS 90 and Warrior OPV military vehicle simulator
- Sea King HAR Mk3A Radar Crew Trainer
- CATT Feasibility Study, MECCA/MARCAS IT system feasibility study
- Bids for AFV Turret (Kuwait) and Sea Harrier FRS.2 Maintenance Trainers

IMACS (UK) Limited, Worthing **February 1990 – May 1991**

Commercial Manager

- Business Planning and development. Contract negotiation. Facility management including bespoke MIS/IT Systems and Practices.

Aviation Resources Limited, West Sussex **March 1989 – February 1990**

Technical Director

- Lear Jet procedures trainer (Aylesbury). Technical staff recruitment and deployment (Broken Arrow)

British Aerospace Simulation Ltd, Weybridge **Sept 1988 – March 1989**

Chief Project Manager – Civil Aircraft Projects

- Jetstream J31 and BAe 146 Phase II Full Flight Simulators (Washington)
- Advanced Turboprop (ATP) Phase II FFS (Woodford)
- BAe146 Cockpit Procedures Trainer (Hatfield)
- Business Development within BAe and European Civil Markets
- Technical Consultancy for Reflectone, Inc., during acquisition by BAe (Tampa)

IMACS (UK) Limited, Worthing **February 1986 – September 1988**
Rediffusion Simulation Ltd, Crawley **August 1981 – February 1986**

Project Manager

- Visual Display Systems in Concorde, B737, B747, A320, BAe Jetstream Full Flight Simulators for BA, Lufthansa, KLM, SIA and British Aerospace
- Boeing B757/767 Maintenance Trainer update (Seattle)
- TWA B767 Flight Test Update (Kansas City)
- JAL B767 FFS installation and JCAB approval (FAA Phase II) in Tokyo

Systems Design Engineer

- EICAS systems expert for the Boeing B757/767 Maintenance Trainer update
- Designed and modelled the Autobrakes & Secondary Flight Controls Systems for a DC10-30 Cockpit Procedures Trainer.
- Designed and implemented real-time models of aircraft systems in B737, DC-10, L-1011 and B1-B Full Flight Simulators.
- Languages: FORTRAN77, Assembler, JCL & GENESIS.
- Operating Systems: GOULD-SEL32 RTM & MPX.

PROFESSIONAL
EXPERIENCE
(CONTINUED)

Freelance Sales, London

Life Assurance, Telecom and Medical

October 1980 – August 1981

Army (Royal Electrical and Mechanical Engineers) **April 1976 – October 1980**

Avionics Technician, Class II

Westland Scout, Gazelle, Lynx and DeHavilland Beaver

Wilbury Hotel, Letchworth

Bar / cellarman

October 1975 – April 1976

C. Hartley and Sons (China & Glass) Ltd, Letchworth

Driver/storeman

May 1975 – October 1975

Jones Cranes Limited, Letchworth

Sales Liaison Officer

May 1974 – May 1975

PUBLICATIONS

I occasionally have articles published in the Times Educational Supplement. In 1988, I published a paper in Seattle, Washington on “The Principal Officers and their Stations”. In 1994, my poem “Keen the eye” was included in an anthology of international poetry published in the USA. I maintain a web presence through *inter alia* <http://cullaloe.com/> and <http://mrhood.net> (closed 2012). I have published a number of text, audio and video blogs and podcasts.

OTHER
QUALIFICATIONS

- JAR Private Pilots Licence (Aeroplanes), July 2000
- CAA Radio Operators Licence, January 1999

DECORATIONS

- Rhodesia Medal (UK), 1980
- Independence Medal (Zimbabwe), 1980

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