

SYNOPSIS An educator, scientist and technologist with broad experience and an international track record in delivering intelligent solutions in education and training across sectors.

PROFILES uk.linkedin.com/in/cullaloe
about.me/cullaloe



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 2016 to date**
Senior Teaching Fellow in Secondary Education (Physics Specialist) Responsible for academic and professional development of teachers of science in Secondary and Primary sectors. Science strand leader for Primary PGDE and MA Science. Developing the Science programmes for Primary undergraduate MA and Post-Graduate Masters in Initial Teacher Education. Assessment of academic and professional competence through in-school observation, tuition and written assignments.

PROFESSIONAL EXPERIENCE (CONTINUED) **cullaloe.net trading as Al Muhandis**, Fife **April 2003 to date**
Technical services consultancy.
• Designed and implemented community website for Physics Teachers in Scotland using WordPress, PHP, MySQL, Javascript, JSON, WP Plugins including customisation.
• Designed and built the naturalpartnersproject.org web showcase for STEM projects in connection with the University of Edinburgh and the Forestry Commission.
• Designed, built and operated iopscompetition.org.uk, a website for national physics competitions the Higgs Boson competition (2014) and Reflections on Light (2016)
• Hosting several community and business websites using WordPress, Joomla!, Drupal at cullaloe.net and community sites using phpBB, MySQL (e.g. [the sptr mailing list](#))
• Unix server administration on shared hosting and VPS including configuration, upgrade, extension and scripting of tools

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.

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

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

PUBLIC SERVICE

• **District Commissioner, Forth Valley Branch of the Pony Club**

This youth organisation affiliated to the British Horse Society promotes good citizenship and develops young people through the care and responsible ownership of horses. I led the branch in Central Scotland from November 1994 to June 1997.

• **Member of Fife Region Children's Panel**

I served on this panel, which is the Scottish system for dealing with children in trouble, either as offenders or victims, from May 1993 to March 1996.

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 have published a number of text, audio and video blogs and podcasts.

PERSONAL
PROFILE

I am interested in good music and dance; the Internet; science, mathematics and education. I like animals and have experience of showing dogs and equestrianism (show jumping, cross-country and dressage). I like aviation, especially flying. I have been a member of Mensa for over 30 years. I play the guitar and have sung choral works from Mozart to Bernstein. I have lectured on Masonic Symbolism in England and the USA. I like archery for relaxation. I read as much as I can and write a little.

OTHER
QUALIFICATIONS

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

DECORATIONS

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

REFERENCES

Available on request.

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