

SYNOPSIS Educator and STEM specialist with extensive international experience in teaching, aerospace and defence. GTCS registered teacher of physics and mathematics. I have in recent years led the development and delivery of high quality initial teacher education in science at the University of Edinburgh. Specialist knowledge and experience of education technology.

PROFILE uk.linkedin.com/in/cullaloe



EDUCATION **Edinburgh University** Moray House PGCE (Physics and Mathematics), July 2004
The Open University B.Sc. (Hons), November 2002

QUALIFICATIONS **The General Teaching Council for Scotland** Physics, July 2005; Mathematics, April 2006
The Institute of Physics FInstP, July 2022
The Institute of Physics MInstP, CPhys, July 2003
The Science Council Chartered Scientist (CSci), July 2004
The Microsoft Corporation MCSD, June 2001
The Royal Aeronautical Society MRAeS, August 1999
The Royal Photographic Society LRPS, February 2020



**PROFESSIONAL
EXPERIENCE**

Edinburgh University, Moray House **August 2016 to date**

Lecturer in Secondary Education (Physics Specialism) (title change from April 2021)
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. Development and delivery of 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. Leadership of teaching and support staff across programmes.

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. Developed and delivered UG MA Primary Science programme. Assessment of academic and professional competence through in-school observation, tuition and written assignments. Active participation in several University and School projects including the Tom Conlon Memorial lecture series (2012 and 2014), facilities and digital technology groups.

cullaloe.net trading as Al Muhandis, Fife **April 2003 to August 2016**

Technical services consultancy. Recent projects include:

- Jekyll/Ruby website development and deployment, e.g niximagery.com.
- Markdown/L^AT_EX documentation solutions.
- Artificial Intelligence games solvers using neural networks, AC-3 and BTS algorithms.
- A responsive virtual learning environment (VLE) for PGDE students.
- The award-winning sptr.net which provided a resource and support base for those teaching Physics in Scotland.
- naturalpartnersproject.org web showcase for STEM projects in connection with the University of Edinburgh and the Forestry Commission.
- iopscompetition.org.uk, a website for national physics competitions the Higgs Boson competition (2014) and Reflections on Light (2016)
- cullaloe.net, hosting online communities and client professional websites.
- Unix server administration on shared hosting and VPS.

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 Project Resource Ltd

February 1997 – July 2003

Technology and education consultancy. Client portfolio included:

- **The Scottish Centre for Infection & Environmental Health:** Designed and built the medical reporting system ECOSS using an innovative application of SQL extraction as XML and XSLT transforms. Designed and built the Quick Response (GP Medical) Surveillance System QRSS using SQL/MAPI. Delivered training and 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 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, 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: VB4/W98/2K/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

Data Control Manager, Shajiao C Power Station

Bid/Project Manager - Military Operations: including Connah's Quay Power Station simulator; AS 90 and Warrior OPV military vehicle simulator; Sea King HAR Mk3A Radar Crew Trainer.

IMACS (UK) Limited, Worthing
Commercial Manager

February 1990 – May 1991

Aviation Resources Limited, West Sussex
Technical Director

March 1989 – February 1990

PROFESSIONAL
EXPERIENCE
(CONTINUED)

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.

Freelance Sales, London

Life Assurance, Telecom and Medical **October 1980 – August 1981**
Army (Royal Electrical and Mechanical Engineers) **April 1976 – October 1980**
Wilbury Hotel, Letchworth, Bar / cellarman **October 1975 – April 1976**
C. Hartley and Sons, Letchworth, Driver/storeman **May 1975 – October 1975**
Jones Cranes Limited, Letchworth, Sales Liaison Officer **May 1974 – May 1975**

LICENCES

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

FELLOWSHIPS &
DECORATIONS

- Fellow of the Institute of Physics, 2022
- Fellow of the Royal Society of Arts, 2018
- Rhodesia Medal (UK), 1980
- Independence Medal (Zimbabwe), 1980

REFERENCES Available on request.

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