Nicholas (Nick) R. Hood

CPhys CSci FInstP MRAeS FRSA LRPS

102 Parkside Street
Rosyth, Fife KY11 2LT
📱 *+44 (0)770 207 2652*
✉ *nick@cullaloe.com*
technical blog: cullaloe.com

"Any teacher who can be replaced
by a machine, should be!" – Arthur C. Clark

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 digital education, currently pursuing a part-time PhD in radio pedagogy.

Education

Oct. 2022 –	**PhD**, *Edinburgh University* working thesis title: *Circles Around the Grit: an enquiry into multi-modal pedagogy*
2003 – 2004	**PGCE**, *Edinburgh University* Physics and Mathematics
Nov. 2002	**B.Sc. (Hons)(Open)**, *The Open University* Physics, Mathematics, AI and Complexity Management

Qualifications

April 2006	**Full registration**, *The General Teaching Council for Scotland*, Mathematics
July 2005	**Full registration**, *The General Teaching Council for Scotland*, Physics
July 2004	**CSci**, *The Science Council*, Chartered Scientist
July 2003	**CPhys**, *The Institute of Physics*, Chartered Physicist
June 2001	**MCSD**, *The Microsoft Corporation*, Certified Solution Developer
July 2000	**JAR Private Pilots Licence (Aeroplanes)**, *CAA*, not current

Computer Skills

Languages	HTML, LaTeX, R, Ruby, Jekyll, PHP, Python, SQL, XML, CSS, Javascript, C, Fortran 77	**Toolkit**	zsh, bash, git, ftp, ssh, pandoc, RStudio, VSCode, Mendeley/bibtex
CMS, suites	WordPress, MkDocs, Blackboard Learn, Moodle, Apache/Nginx	**Platforms, OS**	MacOS, Raspbian, Centos, Fedora, Ubuntu, Windows

Public Examples

2020 - date	**niximagery.com**, *Material for MkDocs site*, A photography/storytelling site made with Markdown.
2016 - date	**naturalpartnersproject.org**, *Jekyll site*, Web showcase for STEM projects in connection with the University of Edinburgh and the Forestry Commission.
2013 - 2018	**iopscompetition.org.uk**, *WordPress site*, a website for national physics competitions the Higgs Boson competition (2014) and Reflections on Light (2016)
2013 - 2016	**sptr.net**, *Wordpress portal*, The award-winning sptr.net which provided a resource and support base for those teaching Physics in Scotland.

Distinctions & Decorations

July 2022	**FInstP**, *The Institute of Physics*, Fellow
Feb. 2020	**LRPS**, *The Royal Photographic Society*, Licentiate
2018	**FRSA**, *The Royal Society for the Encouragement of Arts, Manufactures and Commerce*, Fellow
July 2003	**MInstP**, *The Institute of Physics*, Member
August 1999	**MRAeS**, *The Royal Aeronautical Society*, Member
1980	**Rhodesia Medal (UK)**
1980	**Independence Medal (Zimbabwe)**

Professional Experience in Education

April 2021 to date — **Lecturer in Secondary Education (Physics Specialism)**, *The University of Edinburgh*, Moray House School of Education and Sport, (title change)

Aug. 2016 to April 2021 — **Senior Teaching Fellow in Secondary Education (Physics Specialism)**, *The University of Edinburgh*, Moray House School of Education and Sport

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.

Aug. 2012 to Aug. 2016 — **Teaching Fellow**, *The University of Edinburgh*, Moray House School of Education and Sport

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.

Aug. 2004 to July 2012 — **Teacher of Physics & Mathematics**, *Fife Regional Council*, Education service

I taught for 8 years in Fife, progressing from probationer to principal teacher of physics.

Professional Experience in Software Development

April 2003 to date — **Web development**, *supplementary/pro bono*

Software and web development to support my role in education and other activities which include planning sites; a virtual learning resource for students; academic research and data analysis.

Feb. 1997 - July 2003 — **Software Contractor**, *Cullaloe Project Resource Ltd.*, Cowdenbeath, Fife

I ran a limited company software business, providing daily-rate and bespoke software solutions to these clients:

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

Professional Experience in Aerospace & Simulation

Sep. 1996 - Feb. 1997
Senior Software Engineer, *GEC Marconi Simulation and Training*, Donibristle, Fife

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

Feb. 1996 - Sep. 1996
Data Control Manager, *GEC Marconi Simulation and Training*, Shajiao Power Station, China

Configuration management, bug tracking and management of the simulator engineering team.

July 1991 - July 1996
Bid/Project Manager - Military Operations, *GEC Marconi Simulation and Training*, Donibristle, Fife

including Connah's Quay Power Station simulator; AS 90 and Warrior OPV military vehicle simulator; Sea King HAR Mk3A Radar Crew Trainer.

Feb. 1990 - May 1991
Commercial Manager, *IMACS (UK) Limited*, Worthing, West Sussex

March 1989 – Feb. 1990
Technical Director, *Aviation Resources Limited*, Broken Arrow, OK and West Sussex

Sep. 1988 – March 1989
Chief Project Manager – Civil Aircraft Projects, *British Aerospace Simulation Ltd*, Weybridge

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

Feb. 1986 - Sep. 1988
Project Manager, *IMACS (UK) Limited*, Worthing, West Sussex
Visual Display Systems in Concorde, B737, B747, A320, BAe Jetstream Full Flight Simulators for BA, Lufthansa, KLM, SIA and British Aerospace

Aug. 1981 - Feb. 1986	**Systems Design Engineer/Project Manager**, *Rediffusion Simulation Ltd*, Crawley, West Sussex 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; 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.

Early Career

Oct. 1980 – Aug. 1981	**Sales Consultant**, *Freelance*, London, Life Assurance, Telecom and Medical
April 1976 – Oct. 1980	**Soldier, Avionics Technician Class II**, *Royal Electrical and Mechanical Engineers* Rank on leaving: Corporal
Oct. 1975 - Apr. 1976	**Bar / cellarman**, *Wilbury Hotel*, Letchworth
May - Oct. 1975	**Driver/storeman**, *C. Hartley and Sons*, Letchworth
May 1974 - May 1975	**Sales Liaison Officer**, *Jones Cranes Limited*, Letchworth

Languages

French	Intermediate