

# Nicholas (Nick) R. Hood

CPhys CSci FInstP MRAS FRSA LRPS

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*"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

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

## Public Examples

- 2020 - date **niximagery.com**, *Quarto 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.

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## 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 **MRAS**, *The Royal Aeronautical Society*, Member  
1980 **Rhodesia Medal (UK)**  
1980 **Independence Medal (Zimbabwe)**

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## 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.

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## 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

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## Professional Experience in Aerospace & Simulation

- Sep. 1996 - **Senior Software Engineer**, *GEC Marconi Simulation and Training*, Donibristle,  
Feb. 1997 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 - **Data Control Manager**, *GEC Marconi Simulation and Training*, Shajiao Power  
Sep. 1996 Station, China  
Configuration management, bug tracking and management of the simulator engineering team.
- July 1991 - **Bid/Project Manager - Military Operations**, *GEC Marconi Simulation and*  
July 1996 *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 - **Commercial Manager**, *IMACS (UK) Limited*, Worthing, West Sussex  
May 1991
- March 1989 - **Technical Director**, *Aviation Resources Limited*, Broken Arrow, OK and West  
Feb. 1990 Sussex
- Sep. 1988 - **Chief Project Manager – Civil Aircraft Projects**, *British Aerospace Simulation*  
March 1989 *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 - **Project Manager**, *IMACS (UK) Limited*, Worthing, West Sussex  
Sep. 1988 Visual Display Systems in Concorde, B737, B747, A320, BAe Jetstream Full Flight Simulators for BA, Lufthansa, KLM, SIA and British Aerospace

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

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## Service

Aug. 2022 – **Member**, *Scottish Initial Teacher Education Group*, Institute of Physics  
 date A group established by the education manager advising on physics initial teacher education in Scotland.  
 Oct. 2018 – **Member**, *Education Committee for Scotland*, Institute of Physics  
 Aug. 2022 A sub-committee of the IOP Scotland committee dealing with physics education at all levels.  
 2011 – 2014 **Member**, *IoP Scotland Committee*, Institute of Physics  
 This committee aims to influence government policy and decisions in Scotland, regarding the funding of scientific research, physics education at all levels, the public perception of physics, and regarding physics in industry.  
 Feb. 2010 – **Member**, *Education Committee for Scotland*, Institute of Physics  
 June 2016 A sub-committee of the IOP Scotland committee dealing with physics education at all levels.  
 Nov. 1994 – **District Commissioner**, *Forth Valley Branch of the Pony Club*, Fife  
 June 1997 This youth organisation affiliated to the British Horse Society promotes good citizenship and develops young people through the care and responsible ownership of horses.  
 May 1993 to **Member**, *Fife Region Children's Panel*, Fife  
 March 1996 This panel is part of the Scottish system for dealing with children in trouble, either as offenders or victims.

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## Early Career

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

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## Languages

French Intermediate