

Nicholas (Nick) Robin Hood

FRAeS CPhys FInstP SFHEA

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Synopsis

Science education and STEM specialist. Extensive international experience in teaching, aerospace and defence. GTCS registered teacher of physics and mathematics. 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 doctoral research in audio pedagogy.

Education

- Oct. 2022 – **PhD, Edinburgh University**
working thesis title: *Something Understood: an audio pedagogy for complex concepts in initial teacher education*
- 2003 – 2004 **PGCE, Edinburgh University**
Physics and Mathematics
- Nov. 2002 **B.Sc. (Hons)(Open), The Open University**
Physics, Mathematics, AI and Complexity Management

Professional 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, to January 2024**
- 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, L ^A T _E X, 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, Blackboard, Learn, Moodle, Apache/Nginx	Platforms, OS	MacOS, Raspbian/Debian, Centos, Fedora, Ubuntu, Windows

Public Examples

- 2020 - date **sptr.net, Quarto site**, A photography/storytelling site made with Markdown.
- 2016 - 2023 **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

- January 2025 **FRaES**, *The Royal Aeronautical Society*, Fellow
- April 2024 **SFHEA**, *AdvanceHE*, Senior Fellow
- July 2022 **FInstP**, *The Institute of Physics*, Fellow
- Feb. 2020 **LRPS**, *The Royal Photographic Society*, Licentiate
- 2018 – 2024 **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)**

Research and consultancy

- April 2021 to March 2027 **PhD research project**, *The University of Edinburgh*, Moray House School of Education and Sport

Professional Experience in Education

- Aug. 2016 to April 2024 **Senior Teaching Fellow / Lecturer 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 April 2024 **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 - **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 Simula-*
March 1989 *tion 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*,
Feb. 1986 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.

Service

Aug. 2022 – **Member**, *Scottish Initial Teacher Education Group*, Institute of Physics
Apr. 2024 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.

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

Languages

French Intermediate (CEFR B1)
German Basic (CEFR A1)