

Dr. John Frederick Dawson
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Research interests

Electromagnetic interference: measurement techniques, mitigation, shielding and shielding enclosures and materials, circuit susceptibility, intentional interference, non-linear interactions.
Computational Electromagnetics: development of materials and small feature macro-models; modelling and optimisation of antennas.
Electromagnetic measurement systems: reverberation chambers, EMC test cells, field sensors etc.
Wireless propagation: in vehicles and buildings.
See the Applied Electromagnetics and Devices research group pages for more information

Career History

1988-1998 Lecturer, 1999-date Senior Lecturer in Electronic Engineering, Dept. of Electronics, University of York.

My current research is in: design for electromagnetic compatibility, numerical modelling of composite materials, EMC test cell design (including reverberation chambers), modelling of EMC effects in components, fast methods of computing electromagnetic coupling problems, optimisation of electromagnetic and industrial systems. I have managed a range of research programmes with funding from EPSRC, EU, government and industrial sources and have over 200 publications in the area of EMC. I am currently supervising 3 PhD students in shielding, coupling and EMC related work, and have successfully supervised more than 18 MSc by research and PhD students.
I have presented lecture courses in waves and transmission lines, analogue- and digital-systems, instrumentation, EMC (Design, Measurements, Test Environments, and Numerical modelling), and optical communications courses.
I was Chair of the Board of Examiners in Electronics 1997-2004, and chair of Computing resources Committee 2008-2011. I am currently deputy chair of the Extenuating Circumstances Committee, and Deputy leader for the Communications research group. I have also examined a number of internal and external PhD and MSc by Research submissions.
I have undertaken a number of consultancies for the York Electronics Centre and York EMC Services (now Eurofins) which include: Embedded system design, Reverberation chamber design, Shielding measurements, presentation of CPD courses including: RF measurement principles, Numerical Electromagnetic Modelling, and Design for EMC.
I review papers for a range of journals including IEEE Transactions on EMC, and conferences including EMC Europe, EMC Compo, and APEMC.

1982 - 1988 Technical Director, P.D. Electronics Ltd., Towcester, Northants.

The company provided an electrical/electronic design, consultancy and prototyping service for industry in the Milton Keynes area. My responsibilities included: preparation of initial specification in conjunction with the customer, quotation, electrical, electronic and software design, system documentation, software implementation, final test, and system commissioning. Projects undertaken included: control system for precision press-feed, pipe-bender control system, magnetic-card access control system(s), PLC based control panels, custom stepper motor control PCB(s), Video switcher, and hydrogen plant purity monitoring system.

1982 - 1985 Research assistant, Dept. of Electronics, University of York.

SERC supported project "The Application of Real-time Channel Evaluation (RTCE) to H.F. Communications in the band 2-30MHz". I also undertook various teaching duties within the department including tutorials and supervision of student projects and carried out consultancy work for York electronic centre.

1979-1982 PTO IV, R.N.S.D, Copenacre, Hawthorn, Wilts.

On leave to attend university - some vacation employment.

1975 - 1979 Technician apprentice, R.N.S.D, Copenacre, Hawthorn, Wilts.