Dr Mark George MARSHALL

Nationality	British.
Email	Work

Private

Marital status Engaged.

KEY QUALIFICATIONS

Mark Marshall is a qualified Engineer with extensive theoretical and practical experience in high-frequency (HF) high-power industrial/scientific dielectric/induction heating and medical Electrosurgical applications. Including 50 Ω systems with detailed knowledge of specialist measurement and simulation techniques in the optimization of such HF applications, including the writing of journal papers on the subject area.

Experience also includes Computer-Aided-Engineering (CAE), Advanced Manufacturing Systems (AMS) including production/corporate philosophies, CIM Marketing training and work experience in the German automotive industry.

Complimented with a full clean International Driving License (including Motorcycle) held since 1987.

ACADEMIC RECORD

1997	PhD (Cantab) <u>St. Johns</u> College, University of Cambridge, "A hybrid Electroheat Drying System". <u>Electricity Utilisation Group</u> .
1993	MSc. Kingston University, London, "Advanced Manufacturing Systems"
1992	B.Eng(1st Class Hons) , <u>Staffordshire University</u> , "Computer Aided Engineering", ImechE best final year project award.
1988	BTEC National Diploma (OND), Mid Cornwall College of Further Education, "General Engineering".

 $1981 \rightarrow 1986$ **Bodmin Comprehensive School**, Cornwall, including 8 GCE O' Levels and the Headmasters leaving prize.

EXPERIENCE RECORD

- $July `01 \rightarrow \frac{Gyrus \ Group \ plc.}{Director as the Senior Research Engineer} of a small team of engineers, with the responsibility of group wide research of new and novel Electrosurgical devices and power supplies. Work includes fundamental research, proof of principle and prototyping working closely with internal and external partners. Numerous patent applications have resulted directly from my activities at Gyrus.$
- Dec 1998.... \rightarrow July .' 01 Radyne Ltd. Berkshire. The company *Radio Frequency R&D Manager* I was responsible to the Research Director, to manage and advance all aspects relating to High Frequency products, applications and the training and development of subordinates throughout the company. Furthermore, I undertook Numerical Analysis of induction heating enquires supporting the sales team. I was considered a proactive team member working with sales, Service and Production ensuring customer delight in a very interesting and demanding post.
- Jan 1998.... Petrie Technologies Ltd. Lancashire. *Project Engineer*. Management and implementation of RF, Microwave and conventional process heating projects, reporting directly to the Managing Director. Secondment to other core businesses within the group.
- 1992 **Degree Final Year industrial project**, in collaboration with British and German manufacturers. I exploited the naturally occurring 'beat frequency' effect generated from combining oscillating quartz crystals signals to measure differential temperature to fractions of a milli-kelvin. This new measurement technique is used to determine the real time hydraulic efficiency of fluid pumps.
- Feb.1991**GKN Automotive AG**, R&D Centre, Germany. Industrial Placement Student
C programming of data acquisition and Quality-Control software developed to
govern a new 'Flexible Automated Assembly' line for the automotive industry.
- Aug.1989Advanced Energy Monitoring Systems Ltd., Devon. Industrial Placement→ Feb. 1990Student and Summer work. CAD of Analog/Digital Printed Circuit Boards,Summer '90systems engineering, fluid pumping energy management. Design and build of
an industry first electronic pump protection device.
- 1988 & 1989 Ranco Controls Ltd. (<u>Invensys</u>), Cornwall. Summer work & Project work I implemented Statistical Process Control and Statistical Quality Control techniques to increase Injection Molding process control and reduced scrap.
- Project For my <u>MSc</u>. Project, I used the '<u>Moldflow</u>. FEA' software to optimise the multi-cavity injection molding of composite

automotive parts.

REFEREED PUBLICATIONS

Journals · Marshall, M.G. & Metaxas, A.C. (1999). "*Radio frequency assisted heat pump drying of crushed brick*", <u>Applied Thermal Engineering</u> 19, pp375-388.

· Marshall, M.G. & Metaxas, A.C. (1999). "A Novel Radio Frequency Assisted Heat Pump Dryer Drying Technology, 17(7&8).

• Marshall, M.G. & Metaxas, A.C. (1998). "Modeling of the radio frequency electric field strength developed during the RF assisted heat pump drying of particulates" Microwave Power and Electromagnetic Energy, Vol. 33(3).

Conferences · Marshall, M.G. & Metaxas, A.C. (1998). "A Novel Radio Frequency Assisted Heat Pump Dryer", 11th International Drying Symposium, Halkidiki, Greece.

> • Marshall, M.G. & Metaxas, A.C. (1995). "A Combined Radio Frequency and Heat Pump Drying System", <u>Microwave and high frequency heating</u>, International Conference St. John's College Cambridge University, UK.

PATENTS

US Patent 20030176858

US Patent 20030139741

US Patent 20030060862 and GB Patent GB2379878

International Patent WO03055402

International Patent WO03024339

PDF version <u>here</u>

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