

## **CV - Dr. Charles A. Bishop C.Eng**

Charles A. Bishop Ph.D., C.Eng., M.I.MMM., M.Phil., B.Sc., DIS., H.N.C., O.N.C.  
Toolmaker (Mechanical Engineering) by trade.

Winner of the B.P. Energy Conservation Awards. National Prize April.1982  
International Prize July 1982

Presented with a Mentor Award 2008 by the Society of Vacuum Coaters

Charles is an expert in vacuum deposition of thin film coatings and associated processes. This covers system design, process development and system control as well as troubleshooting existing processes. Other related expertise includes optical thin film modelling, radiation cure technology, teaching/training of vacuum technology, chemometrics and information mining. Additional areas of experience include product security, which includes brand protection, anti-counterfeiting and tamper evidence, technology scanning that includes technology road mapping and strategic planning.

His strong practical engineering background coupled with his scientific training is a rare mixture of skills that is ideally suited to dealing with scale-up issues and troubleshooting. He can work independently or as part of a team, at home or abroad as the need requires.

### **Education**

Charles served a four-year Apprenticeship at a Royal Ordnance Factory Completing H.N.C. & O.N.C at the local Technical College during this time and winning the Apprenticeship prize for his academic record.

On completing the apprenticeship he entered Loughborough University and studied for a B.Sc. in Materials Engineering. On gaining an Honours degree and a Diploma in Industrial Studies he moved over to the Physics Department and went on to gain both an M.Phil. & Ph.D. by research & thesis.

Since then, during his time in Industry, he has been through many of the management training courses, covering topics such as marketing, team-working, quality, safety, mistake-proofing, business finance and strategy, innovation and a number on a variety of computer skills.

### **Experience.**

The time at Loughborough provided a lot of experience of academic level research funded by many Industrial sponsors as well as by the European Union.

After a period of time as a Post Doctoral research scientist at University where Charles also took on consultancy work he was headhunted into Imperial Chemical Industries (ICI plc). His first position in ICI was as a senior research scientist in Surface Engineering within the New Science Group. During his time within ICI he worked for business as diverse as Nylons, Polyesters, Explosives, Imagedata and Flex Products Inc. Projects have included taking a laboratory process through to production, the technical input during the company selection process for the acquisition of a manufacturing company, troubleshooting a new \$45M production line, technology scanning to provide new technologies as part of a route to new markets as well as numerous smaller product development tasks. During this time, work was carried out in the USA as well as the UK & Europe.

Responsibilities included representing ICI on some government initiatives such as several committees of the Centre for Exploitation of Science & Technology (CEST). This included the topics of 'Surface Engineering', 'Brand Authentication, Anti-counterfeiting & tamper evidence' and 'Plasma processes for environmental clean-up operations'. He was also invited to be a referee on the DTI Foresight programme for applications relating to Surface Engineering. Following the purchase of ICI Polyesters by DuPont the final two and a half years in industry were spent in DuPont, another multinational company.

In December 1998 Charles elected to return to consultancy work and hence established his own business C.A.Bishop Consulting Ltd.

Charles has also served as Co-chair of the technical advisory committee on vacuum web coating to the Society of Vacuum Coaters in the USA and is currently their Assistant Programme Chair. He also helps on the programme committee for the Association of Industrial Metallizers, Coaters & Laminators (AIMCAL) and lectures regularly at the AIMCAL Converting School events. He is Editor for their Blog on metallizing at [www.vacuumcoatingblog.com](http://www.vacuumcoatingblog.com)

He has been consultant to companies as diverse as start-up companies through to multinational conglomerates. The topics have been equally as varied from stained glass windows and mining/drilling equipment through to the more conventional web coatings such as aluminium metallization and photovoltaics. This has included help in planning scale-up of laboratory processes into manufacturing through to troubleshooting of existing processes.