CURRICULUM VITAE

ANTHONY CHRISTOS BOUCOUVALAS

BSc (Hons), MSc, DIC, PhD, Fellow of IEEE, CEng, Fellow of IET, Fellow RSA

Professor in Communication Networks and Applications and Head of Department,

Department of Telecommunications Science and Technology,

University of Peloponnese

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IX. APPENDIX-PUBLICATIONS

I. GENERAL INFORMATION

I. 1. PERSONAL DATA

Name:	Anthony Christos Boucouvalas
Date of Birth:	January 1, 1957
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Citizenship:	Greek
Address:	Erymanthou 15 Tripolis Arcadia Greece.
Business Address:	Professor Communications Networks and Applications and Head of Department. University of Peloponnese, School Science and Technology, Department of Telecommunications Science and Technology Tripolis, Arcadia, Greece
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Languages:	English, Greek, some German.

I. 2. RESEARCH INTERESTS

- Optical Communications
- Optical and Wireless Communications
- Internet Communications
- Adaptive HCI

I. 3. EDUCATION

1975-1978	**University of Newcastle upon Tyne, BSc with Honours in Electrical and Electronic Engineering.**
1978-1979	**Imperial College**, MSc in Communication Engineering and Diploma of Imperial College (DIC).
1979-1982	**Imperial College**, PhD in Fibre Optics.
1983-1984	Served National Service in the Greek Army.

I. 4. AWARDS / ACCREDITATIONS

- GEC HRC publication prize, for the work 'Biconical Taper Coaxial Coupler Filter', March 1986.
- IEEE best paper prize for the paper 'IrDA IrLAP Protocol Throughput Performance', IWNA 2000, New Jersey, USA.
- Member Institution of Electrical Engineering (MIEE), 1978.
- Chartered Engineer (CEng), 2001.
- Fellow IEE (FIEE), 2001.
- Member of New York Academy of Sciences, 2002.
- Fellow IEEE (FIEEE).
- Fellow Royal Society of Arts (FRSA), 2002.
- Elected a Fellow of the Institute of Electrical and Electronic Engineers (USA) *'for his contributions to the understanding and development of optical fibre components and optical wireless communications'*
- Invited to join the '*Architectures Council'* of IrDA in 2003.

I. 5. STUDY AWARDS

- Undergraduate and M.Sc. studies in the UK were funded by Windward Shipping, having won a scholarship.
- Ph.D. degree studies were supported through a foundation by Andrew Corporation (USA).

I. 6. SUMMARY OF INDUSTRIAL EMPLOYMENT

11 years of Industrial Research experience in major laboratories as follows

1987 -1994	**Hewlett Packard Laboratories**, Bristol, Project Manager
1984 -1987	**GEC Hirst Research Centre**, Chief Divisional Scientist, and Group Leader

I. 7. SUMMARY OF ACADEMIC EMPLOYMENT

1994 - 2006	**Bournemouth University**
2006-Present	**University of Peloponnese**

I. 8. PUBLICATIONS SUMMARY

Over 220 publications in total (See Appendix for details)
Edited book Proceedings of CSNDSP 2000

3 chapters published in books

12 Patent Applications in the field of Fibre Optics

I. 9. MEMBER OF PROFESSIONAL BODIES

1978	Institute of Electrical Engineering (MIEE)
1981	Institute of Electrical & Electronic Engineering (MIEEE)
2000	Senior Member of IEEE (SMIEEE)
2001	Chartered Engineer (CEng)
2001	Fellow IEE (FIEE)
2002	Member of New York Academy of Sciences
2002	Member of ACM, IASTED, IEICE
2002	Fellow of IEEE (FIEEE)
2002	Fellow Royal Society of Arts (FRSA)
2003-present	Member of Architectures Council of IrDA

II. INDUSTRIAL EXPERIENCE

II.1. *SEPTEMBER 1987 – SEPTEMBER 1994 : Hewlett Packard Laboratories, Bristol*

Project Manager of the Optical Communications Group.
Set up a new group working on Optical communications for Networks.
During this period the research carried out was focused on Optical Systems and Subsystems for future networks.

Worked on the following projects:

1. **Very High Speed Optical Data Links, for Gbit/s LANs**.
2. **Subcarrier Modulation of optical sources** as a technique for future LANs.
3. **Optical Amplifiers and their application to networks and instrumentation** (project SUMONET). The use of semiconductor and fibre amplifiers as optical preamplifiers was studied, in conjunction with WDM and SCM systems for use in a passive optical LAN, with LEDs as optical sources.
4. **FDDI**: A passive network implementation of FDDI.
5. **Pen based data logging device**: This project was based on some novel work on coding for position location. I worked on inventing codes, which can be printed on surfaces and means of sensing and decoding them so as to allow determination of the position of the sensing pen. The applications of such technique range from passive whiteboard, to fax machines, etc.
6. **Infrared Optical Wireless Links for indoor environment**: Designed optical wireless infrared links for networking the HP next generation palmtop computers and printers. Low cost links, omnidirectional, 1Mbit/s, were designed. Researched into ways of increasing their speed to 16 Mbit/s and built and tested receivers.
7. **Optical Attenuator Instrument:** A technology developed in the labs by myself which became a product.

II.*2.2 MAY 1986 – SEPTEMBER 1987 : GEC Hirst Research Centre*

Chief Divisional Scientist
Worked with the Laboratory Manager on strategic aspects of the division.

Led the following Collaborative Projects:

1. JOERS Advanced Fibre Waveguide Devices
2. JOERS Advanced Fibre Measurements
3. JOERS Optoelectronics Sensors
4. RACE programme

- ***MARCH 1985 - MAY 1986 : GEC Hirst Research Centre***

Group Leader of the Optical Fibre Components, Measurements and Sensors Group in the Optical Fibres Division, with responsibilities for staff and research projects.

a. Led a team working on research and development of internal projects and external contracts. The group was involved in a number of collaborative UK and European projects such as JOERS, RACE.
b. Pioneering research was carried out on passive fibre optic components and optical fibre measurements, which is recognised worldwide.
c. Leading research was carried out towards the understanding and development of the fused fibre biconical technology for fabrication of fibre optic components. Research was carried out in the following areas :

a. Optical Fibre Measurements

Responsible for Research into characterisation of all aspects of optical fibres and supporting the GEC optical fibre manufacturing plant. The research in Optical Fibre Measurements was within JOERS (UK collaborative research programme).

Carried out novel methods of fibre characterisation (refractive index profiling and design, spot size, optical losses, fibre dispersion) and optical fibre design for special applications such as sensing.

Significant work was carried out on the development of Numerical Techniques for Optical Fibre Characterisation. The transverse resonance technique for determining the mode propagation constants, cutoff wavelengths, and mode field plots of optical waveguides was developed.

b. Optical Fibre Sensors

The focus of the research on sensor development was on manufacturing special fibres for sensing applications.

Techniques for pulling coaxial fibres, D-fibres, slab fibres and elliptical fibres were developed.

A novel remote temperature sensor using tapered coaxial couplers and dual mode fibres was developed.

A temperature sensor using the fluorescent properties of ruby was tested in a turbine generator.

c. Optical Fibre Devices

Actively led the R&D work in the fibre optic components area, specifically the following components: Coaxial Couplers, Tapered Coaxial Couplers, Filters, Four port Fused and Polished couplers, WDM couplers, Fibre Interferometers as Switches and Tunable Couplers, Attenuators, Tunable Attenuators, Liquid Crystal switches, Fibre Optic Switches, isolators, Sensors, Tapered Elliptical Core Fibres, gratings, fibre gap devices.

- ***APRIL 1984-MARCH 1985: GEC Hirst Research Centre***

Research Scientist in the Optical Fibres Division
Responsible for theoretical and experimental work on Optical Fibre Design, and Optical Fibre Components

- ***SUMMER 1977: Hitachi Shipbuilding and Engineering Co., Osaka, JAPAN***

Employer
Duties: Assistant to Marine Superintendent on the building of two 65000 ton bulk carriers.

II.3. Product development

Optical Attenuator Instrument: While at HP Labs, in close collaboration with the HP Division in Boeblingen, Germany I worked for the development of a new optical attenuator. The HP attenuator instrument HP 8156A was a technology transfer from my laboratory work, which became a market-leading product.

Optical Wavelength Meter: At HP Labs, I carried out a marketing, as well as a technology options study, for the development of a new hand held low cost optical wavelength measurement instrument of interest to some HP product divisions. I produced a technical report and consulted the divisions.

II.4 Development of Standards

Worked with the team who set an industry standard (IrDA IrPHY 1.0) for optical wireless infrared link technology, through the Infrared Data Association, (IrDA). Millions of IrDA products are now commonly available in computers and peripherals of all types.

III. RESEARCH EXPERIENCE

III.1. Current and Previous Academic Roles:

Present

- ***2006-Present: Professor in Communication Networks and Applications, University of Peloponnese, Greece.***

  Undertook this post and later in 2006 I became Head of the Department of Telecommunications Science and Technology. The department has now 12 academic staff, 5 technical and 3 administration staff.
  We have 550 registered students. It is the largest Telecom Department in the country, and apart from undergraduate studies, we offer a new MSc course in Telecommunication Systems and Networks, as well as PhD degrees.
  My research interests continue within the stated areas and I am research active.

Previous

- ***SEPTEMBER 1994 - JUNE 1996: Reader in Communications Engineering, Bournemouth University***
- ***JUNE 96 - 2006: Professor in Multimedia Communications, Bournemouth University***
- ***AUGUST 1999 - 2006: Director of the Microelectronics and Multimedia Communications Research Centre and Professor in Multimedia Communications, Bournemouth University***

  A new research centre the Microelectronics and Multimedia Communications Research Centre (MMCRC) was set up in 1999 at Bournemouth University within the School of Design Engineering and Computing with the aim to generate solutions to current and future challenges for the system and network infrastructure supporting effective multimedia communication The centre had grown to about 10 researchers in the fields of Wireless Communications Electronic Communication Wireless Communications Reconfigurable and Adaptive Systems, Internet Communication technologies, Human Computer Interfaces and Image Processing.

III.2. Undergraduate Student Thesis Supervision

Over 50 supervised student projects. Every year I have been supervising at least 5 final year undergraduate students.

III.3. Postgraduate Thesis Supervision.

I have 3PhD students completed their studies and 2 MSc students.
Currently supervising 3 PhD students.

III.4. PhD External Examiner.

- Sheffield Hallam University.
- University College London,
- Manchester Metropolitan University
- Oxford University

- University of East London, 2002
- Nanyang Technological University, Singapore, 2001
- Staffordshire University 2003
- Sheffield Hallam University 2003
- University of Kent Jan 2005
- University of Limerick , Ireland, 2005
- University of Essex 2006
- University of Athens 2007
- University of Aegean 2008
- University of Cork 2008

III.5. Consulting/Proposal Assessor

- BICC: Wireless networks
- SIFAM: Fibre Optic Components
- FLASH DESIGNS: Encrypted Software Distribution
- NATO: Optical Wireless
- External project Assessor for the Dutch Ministry of Economic Affairs , 2003.
- EPSRC Grants reviewer for applicants for years 1998 and 2001.
- Research proposal examiner to the European Institute of Technology, (EIT), 1989.
- EPSRC Grants Assessor 2003, 2004, 2005.
- Dutch Ministry of Economic Affairs on Research Proposals 2004,2005
- Irish Research Council, 2005

IV. CURRENT RESEARCH ACTIVITIES

My research activity over the years has been driven by an insatiable desire in working hard towards making significant contributions to knowledge, in trying to excel and lead by example.

The following projects are underway and I believe in the timeframe I have built a very strong team which works hard and believe in what they do.

The following projects are currently running by my students in the areas of Communications and Multimedia:

IV.1. Optical Fibre Communications

Based on our desire to make significant contributions, the realism of having to differentiate from other 'heavyweight' research establishments, while at the same time allowing us to build on our strengths and within our limited resources, I have nurtured the development of the following new projects within optical communications.

The next two projects are closely linked, and they are both related to design of optical components or generally waveguides, (since they are not restrictive to optics, and can be applied to microwaves for example), starting from their properties, rather than their physical parameters as it has normally been done so far.

- ***Optical Signal Processing***

This is a recent project in collaboration with Imperial College, and it is closely linked thematically to the 'Reverse Engineering' project. The purpose of this work is to use traditional and new electronic signal processing algorithms for the design of optical fibre components such as filters, dispersion and gain equalisers. This project also makes use of a technique I have developed in the early 90's which models optical fibres transversely as a cascade of equivalent T circuits. The T circuits can be represented using z-transforms in matrix form and therefore we can use signal processing techniques for the design of components which are vital to optical communications. The advantages here lie on the fact that the

components can be more precisely defined and also 'synthesized', making use the wealth of algorithms already developed for DSP.

- ***Reverse Engineering of fibre optic components***

Our existing research effort is focused on efficient algorithms for Reverse Engineering design problems (often called Inverse Problems). The usual approach to optical fibre design is based on solving the wave equation for a specific optical fibre refractive index profile in order to determine the optical fibre properties. However as modern fibre optic communication and components demand special designs which are difficult to satisfy by solving the forward wave equation. Solutions to the inverse problem are more appropriate to today's requirements. We desire certain optical fibre properties and based on those, we reverse engineer the optical fibre which allows this to happen. The solution to the inverse problem is not easy. We are focusing our work to the inverse solution of Maxwell's equations using the inverse equivalent circuit approach. We have made already in my view significant contributions first in the design of optical fibres of prescribed optical field shape.

Currently I supervise 6 students and an extra student is due to arrive in June 2003.

IV.2. Wireless Communications

My work on wireless communications originated historically in the early 90s when I was working at HP Labs on optical wireless, and where we set the first optical wireless standards based on HP technology, via the Infrared Data Association, IrDA. The accumulated experience in this area therefore runs for at least 10 years. After my move at Bournemouth University I have managed to not only maintain the research on IrDA, but also to achieve world leadership in this field, as evidenced by the number of publications produced.

At Bournemouth University I have developed a strong team with world leading reputation in this area. The following two projects are currently underway and are closely linked.

- **Optical Wireless and the IrDA User Model:**

The importance of IrDA can be illustrated by the millions of IrDA ports installed in numerous devices such as mobile phones printers watches and many other products, and also by recent payment applications based on the IrFM IrDA standard via IrDA products.

Our philosophy has been that even a small contribution to this field, if adopted would make a large difference due to the large installed basis of IrDA systems.

The aim of this research programme is to optimise the design of IrDA links for maximum performance all the way to the application.

For this optimisation it is necessary to be carried not only at the PHY layer but at higher levels.

Have worked developed expertise and published in the following topics:

- Advanced Infrared protocol (AIr)
- Eye Safety
- Transceiver hardware
- Encoding
- PHY layer performance
- Ambient noise
- Interference
- Asymmetries
- IrLAP protocol performance including IrLAP over IrDA PHY performance
- Adaptive IrDA links
- TCP over IrDA
- OBEX performance and now on IrBurst.
- Optical wireless systems

The output of this work has resulted in more than 60 publications.

The expertise for IrDA links and protocols has recently been applied to outdoor optical links where we have made contributions and where we expect to continue working due to the interest in last mile applications

- **Outdoors Optical Wireless Communications**

This project has come about as a result of EU IST funding from a STREP project called ATHENA. The project has to do with DVB-T infrastructure which includes internet services making use 802.11 technologies, UMTS and Optical Wireless Links (OWL) amongst others. As part of this work we have studied protocols for outdoors OWL for effective throughput all the way to applications. This project extends and compliments our work on indoors Optical Wireless Communications and further research proposals are in preparation in this area.

- **IEEE 802.11 LAN and Bluetooth protocols**.

My interest in IEEE 802.11 LAN protocols was developed over the last 2 years when I started a new project on mathematical modelling of MAC protocols in order to examine their performance. The protocol throughput and more recently packet delay as performance measures have been mathematically modelled using Markov chains and the results produced have also been verified using OPNET simulator. This work has recently been extended by the use of realistic finite retry limits and results have been published extensively in Journals.
This important work is expected to grow to the study of ad hoc networks with another PhD student arriving soon.
Recently we have started work on Bluetooth protocol performance evaluation and we have a paper ready for publication.

IV.3 Expressive Real Time Internet Communication Interfaces

'Expressive Real Time Communications Interfaces' are visual interfaces for online communication systems used for effective real time collaboration over the internet, among a group of people, capable of invoking expressions conveying feelings, without making use of video. Central to this project is the development of an "emotion detection engine" from text sentences typed by the users. The sentences are analysed by the developed 'emotion detection engine' and the detected emotive content is represented by an appropriate expressive facial image displayed automatically in the users communicating windows. The intensity and duration of the expression is also being calculated automatically. The interface allows the viewing at a glance of all the participants in the system, and those pairs engaged in conversation, as well as the expressive image of the user engaged in the conversation. Expressions displayed may alter and controlled remotely by the participants. The results of the emotion detection engine have been very encouraging and we have applied the engine in a variety of other applications. Another application variant of the system developed is an engine to determine stock market movements and also a variant which allows people to move within a room meet others and converse. The project can be extended to applications of virtual theatre, and also games and virtual worlds. MIT have expressed an interest in our results. This project was originally funded by BT Labs and has resulted in 9 publications.

IV.4 Adaptive User Interface Design

Research in the Internet communications and user interface design has started when I arrived at Bournemouth University and it is an extension of the previous projects which were at the 'Physical' and 'Link/Network' layers.
The need for Internet communications and multimedia communications will be attractive only when user interface design is appropriate and fit for purpose. Designing user interfaces for disadvantaged people started with the 'Telecare' project, which evolved into research on 'Adaptive User Interfaces' which addressed the issue of user performance on tasks when tasks are presented/displayed with appropriate interface.

The project examines the possibility of using individual's Cognitive Style Analysis (CSA) in designing Human Computer Interfaces for performance. The main thesis here is that people when confronted with interfaces matching their Cognitive Style, (CS), they would perform their tasks better. We have introduced a

new 'Performance Metric' defined as Score/Time. We have also re-examined CSA and introduced the new Audio dimension in the CSA for completeness, and introduced a new CSA test using audio. We have examined how multimedia interface design based on performance is influenced by CS. We apply this to Telecare for the elderly. Adaptivity to the CS of users has also been studied.

The project has resulted in 10 publications.

V. TEACHING EXPERIENCE

V.1. Undergraduate Course Taught (B.Eng, BSc)

- Mathematics,
- Open University, teaching/tutor a course in Mathematics, MST204, (1995-1996).
- Communication Systems,
- Multimedia Systems and Networks,
- Multimedia Distributed Systems,
- Multimedia Development
- Communications Engineering.
- Examiner of the British Computer Society Advanced Diploma in HCI.

V.2. Postgraduate Courses Taught (MSc).

- Communications Engineering.
- Digital Signal Processing

V.3. Short Courses

- Introduction to Fibre Optics
- Optical Fibre Components
- Introduction to Optical Fibre Amplifiers
- Optical Wireless Communication

VI. EXTERNAL PROFESSIONAL ACTIVITIES

VI. 1. Keynote Address/Invited Speaker

- Strathclyde, Oxford, Bristol Universities,
- US Naval research Laboratories,
- Technical University of Crete,
- University of Magallanes Chile,
- 24th International Conference on Information Technology Interfaces ITI 2002June 24-27 2002 Cavtat/Dubrovnik, Croatia, Keynote Opening Address.
- DTI/OSDA Photonics in Wireless Communications May 2005
- Northumbria University, April 2005
- TEI Thessaloniki, Greece May 2005.
- TEMU 2005, TEU Crete, Crete, Greece, 2005.
- ICTON 2005 Barchelona, Spain, 2005
- University of Peloponnese Greece, 2006

VI.2. ***IEEE Society responsibilities***

IEEE UKRI ComSoc Chapter Vice Chairman 2004-6.

VI.3. ***IEEE Journals Editor/Guest Editor***

- Editor of IEEE Wireless Communications 2002- 2006
- Editor of IEEE Transactions on Wireless Communications 2002 onwards.
- Guest editor for IEEE Wireless Communications Magazine, special issue on Free Space Optical Wireless Communications, 2003.
- Editor of EURASIP Journal of Wireless Communications and Networks
- Editor Journal of Wireless Communications and Mobile Computing

VI.4. ***IEE Society Activities***

- Member of the IEE Photonics Professional Network Technical Advisory Group since October 2002.
- Committee member of the I.E.E. PGE13 Optics and Infrared group, for 4 years.

VI.5. ***IEE Journals Guest Editor/Organiser of Colloquia***

- I.E.E. proceedings (Optoelectronics), special issue on Free Space Optical Wireless Communications, Dec. 1996.
- I.E.E. proceedings (Optoelectronics), special issue on Optical Amplifiers, December 1990
- I.E.E. Proceedings Optoelectronics, special issue on Optical Wireless Communications, 2000.
- I.E.E. proceedings (Optoelectronics), special issue on Free Space Optical Wireless Communications, 2003 Organised the following IEE Colloquia
- Submarine Optical Transmission Systems, held at Savoy Place, London, 24 March 1988.
- Fibre Optic LANs and Techniques for the Local Loop Held at Savoy Place, London, 17 March 1989.
- Optical Amplifiers for Communication. Held at Savoy Place, London, 27 October 1989.
- Colloquium on Optical Free Space Communication Links, 19 February 1996.
- Colloquium on Optical Wireless Communication Links, 22 June 1999.

VI.6. ***International Journals Editor/Guest Editor***

- Editor of EURASIP Journal on Wireless Communications and Networks (2003)
- International Journal of Communication Systems, guest editor of special issue on Optical Wireless Communications, 2000.
- Editor of IEEE Wireless Communications (Personal Communications Magazine), 2002-01-20
- Editor of IEEE Transactions on Wireless Communications 2002 onwards.
- Guest editor for IEEE Wireless Communications Magazine, special issue on Free Space Optical Wireless Communications, 2003.
- International Journal of Communication Systems, guest editor of special issue on Optical Wireless Communications, April 2005
- EURASIP Journal of Wireless Communications and Networks guest editor of special issue on Optical Wireless Communications, March 2005
- Applied Optics: Special Issue on Optical Wireless Communications 2005.

VI.7. ***IrDA Activities***

In November 2003 I was invited to join the prestigious IrDA Architectures Council. This is an international body which overseas the setting of high speed Infrared Data Link standards.

Organiser of the International Optical Wireless Communications Symposium: Warwick University (2003), which is the 1st IrDA technical symposium in Europe.

VI.8. ***Journal/Conference Paper Reviewer***

- Electronics Letters
- IEE Proceedings
- Journal of Optoelectronics
- IEE Circuits and Systems
- IEE Proc. Communications
- International Journal of Communications
- Optics Letters
- Optical Quantum Electronics
- Optical Computing and Processing
- IEEE Journal of Lightwave Technology
- Photonics Technology Letters
- Optics Express
- Applied Optics
- Optics Communications
- European Transaction on Telecommunications
- GLOBECOM 2001, 2002 ,2004
- ICC 2003, 2004
- IEEE Transactions on Wireless Communications
- IEEE Journal on Special Topics in Communications
- EURASIP Journal of Wireless Communications and Networking

VI. 9.*.** **Events Chairman*:

- IEE Colloquium on Optical Detectors and Receivers, IEE 27th October 1993.
- Second Communication Networks Symposium, Manchester Metropolitan University, 10-11 July 1995.
- IEE Colloquium on Optical Free Space Communication Links, London, 19th February 1996.
- Second Communication Networks Symposium, Manchester Metropolitan University, July 1995.
- Third Communication Networks Symposium, Manchester Metropolitan University, July 1996.
- Fourth Communication Networks Symposium, Manchester Metropolitan University, July 1997.
- IEE Colloquium on Optical Wireless Communications, July 1999.
- 2nd Electronic Circuits and Systems Conference, Sept.4-5 1999 Bratislava, Slovakia.
- Communication Systems Networks and Digital Signal Processing: 2nd International Symposium April 2000, organised and run at Bournemouth University.
- International Conference on Optical Wireless and Optical Communications (WOC 2001) June 27-29, 2001, Banff Canada.
- Vice Chairman GLOBECOM 2003 Symposium on Optical Networks and Systems SF, CA, USA.
- CSNDSP 2004: (Organising committee)
- International Optical Wireless Communications Symposium: Warwick University (2003).
- CSNDSP 2006: (Organising committee)
- Euro-IMSA 2006, Innsbruck Austria; Chairman.

VI. 10. **International Technical Programme Committee/Organising Committee**:

- International Programme Committee on Multimedia for the term 2001-2005 (IASTED)

- SPIE's International Symposium on Voice, Video and Data Communications, All Optical Communication Systems: Architecture, Control, and Network Issues II, 18-22 November 1996.
- 1st Electronic Circuits and Systems Conference, Sept.4-5 1997 Bratislava, Slovakia.
- 2nd Electronic Circuits and Systems Conference, Sept.4-5 1999 Bratislava, Slovakia.
- 3rd Electronic Circuits and Systems Conference, Sept.5-7, 2001, Bratislava, Slovakia.
- Communication Systems and Digital Signal Processing: 1st International Symposium 6- 8 April 1998, Sheffield, UK.
- Communication Systems Networks and Digital Signal Processing: 2nd International Symposium April 2000, organised and run at Bournemouth University.
- International Program Committee for the IASTED International Conference on Wireless and Optical Communications, June 27-29,2001 in Banff, Canada2001.
- International Programme Committee of EUROMEDIA 2002.
- International Programme Committee for SCI'2001 The Fifth Multi-Conference on Systemics, Cybernetics and Informatics, Orlando, Florida, USA, 22 – 25 July 2001.
- The 7th International Conference on Information Networks and Systems, Technologies (ICINASTe'2001) in Belarus State Economic University (Minsk, Belarus) in October 2001.
- International Conference on System Engineering, Communications and Information Technologies, April 16-19, 2001, Punta Arenas, Chile.
- 24th International Conference on Information Technology Interfaces ITI 2002, 24- 27 June 2002, Cavtat / Dubrovnik, Croatia Invited Lecture, Opening Address.
- Communication Systems Networks and Digital Signal Processing: 3nd International Symposium July 2002, organised and run at Staffordshire University.
- IASTED International Conference on Communication Systems and Networks CSN 2002, Sept. 9-12 2002 Malaga Spain.
- International Conference on Optical Wireless and Optical Communications (WOC 2002) July 17-19, Banff Canada.
- 6th IASTED International Conference on Internet and Multimedia Systems and Applications IMSA 2002, August 12-14, Hawaii USA.
- The 7th World Multiconference on Systemics Cybernetics and Informatics, 27-30 2003 July, Orlando Florida, USA.
- 4rd Electronic Circuits and Systems Conference, Bratislava, Slovakia., 11-12 September 2003, Globecom 2003, California USA,
- ICC 2003, Alaska USA
- International Conference on Optical Wireless and Optical Communications (WOC 2003) Banff Canada.
- IEEE VTC 2003, Florida, USA.
- IEEE ICC 2004 Paris, France.
- IEEE VTC spring-2004 Genoa Italy.
- 7th IASTED International Conference on INTERNET AND MULTIMEDIA SYSTEMS AND APPLICATIONS~IMSA 2003~ August 13-15, 2003, Honolulu, Hawaii, USA.
- ECS 2003 11-12th September 2003 Bratislava Slovakia.
- The IASTED International Conference on Communication Systems and Networks, CSN 2003, September 8-10, 2003, Benalmádena, Spain.
- Globecom 2004,
- ICC 2005
- Vice Chairman World Mobile Congress 2006

VII. UNIVERSITY COMMITTEE WORK AND ACTIVITIES

VII.1. Research Committee member

- Research Assessment Exercise: I was part of the team and contributed in the last RAE submission.
- Member of the School Research Committee.
- Member of the School Management Committee.

VII.2. Course Development-Recruitment-Assessor

Course leadership: B.Eng./M.Eng. course and B.Sc. courses on Multimedia Communications for one year each.

Course development:

- Lead the full development of a B.Eng./M.Eng. in Multimedia Communications and to a B.Sc. degree in Multimedia Communications, which is running since September 2000.
- Responsible for all course documentation, course internal approval process, and the running of the course during the first year.
- Contributed to the formation of the M.Eng./B.Eng. combined Electronics programme, and have been instrumental to the development of the new course, 'Business Communications Systems'.
- Set up a M.Sc. course on Information Engineering at Bristol University supported by H.P.

Recruitment: I have been responsible for a number recruitment fairs abroad and have been very successful in recruiting student for our courses.

External Course Assessor:
External course assessor in various courses to the following Universities:

- Anglia Polytechnic University
- Sheffield Hallam University
- Manchester Metropolitan University
- Hertfordshire University
- Cranfield University (Royal School of Signals)
- University of North London, 2003-2005
- Brunel University 2004-2006
- Oxford Brookes 2004-2006
- Brunel University 2006
- MSc Essex University 2006-2009

VII.3 Management Experience

I have 11 years experience as a manager in world class research laboratories where I managed researchers for performance.

During my time at GEC Hirst Research Centre I was managing a team of 10 people and at times larger of scientists working in various projects funded by the UK Government EU or Centrally funded.
At Hewlett Packard Laboratories I was also managing researchers who were attached into various projects on longer term research and technology transfer to the HP product Divisions. This resulted in products to the market.
In Bournemouth I have been assigned over the years with two members of staff to manage their research and this has been very successful as measured by the research throughput of everyone involved.

At HP and at Bournemouth University I have attended the following courses.

a. Managing at HP
b. Effective presentations
c. Interviewing and selection
d. Basic Finance
e. Time Management (Two courses)

f. Strategic Marketing
g. A Team Building Exercise in California.
h. High Performing Team
i. Process of Management
j. Consultative Selling