

CURRICULUM VITAE

GHASSAN H. ALUSI

MB, ChB, FRCS (Ed), FRCS (ORL-HNS) Ph.D.

Consultant in Otorhinolaryngology - Head and Neck Surgery, Barts and the
London NHS Trust
Honorary Clinical Lecturer The Institute of Laryngology and Otology,
University College London

PERSONAL DETAILS

Name:	Alusi Ghassan H.	
Date of Birth:	29 th October 1964	
Nationality:	British	
General Education:	Richmond High School, California	1980-1981
	Woodside Priory , California	1981-1982
Medical Education:	Leicester University Medical School	1982-1987
General Medical Council	Full Registration No. 3358304	1989

QUALIFICATIONS

Leicester University	MB, ChB	1988
Royal College of Surgeons of Edinburgh	FRCS (Surgery in General)	1992
Royal College of Surgeons of England	FRCS (Otolaryngology)	1994
Intercollegiate Speciality Board	FRCS (ORL-HNS)	1998
Leicester University	Philosophy Doctorate	2001
CCST Date	January, 2000	

PRESENT APPOINTMENT

Consultant Surgeon Otolaryngology, Head and Neck Surgery	4/9/00- date	Barts and the London NHS Trust
Honorary Clinical Lecturer	1/6/95 – date	Institute of Laryngology and Otology University College London

AWARDS

Scotia Travelling Fellowship*	1997
ENT NEWS BACO Award	1999
The Davies Medal +	2002

* The Scotia Travelling Fellowship award allowed me to travel on an exchange programme to Edinburgh. There I worked with Mr William Grant at the professorial unit. I gained valuable experience in major head and neck surgery as well as functional endoscopic surgery and facial plastic surgical techniques.

+ Awarded for significant contribution to imaging science

PREVIOUS APPOINTMENTS Higher Surgical Training

Specialist Registrar Head and Neck Surgery The Royal Marsden Hospital	4/10/99-31/8/00	Mr. P Rhys Evans, Mr. D J Archer and Mr. A. Searle
Specialist Registrar Royal National Throat Nose & Ear Hospital	1/10/98-30/9/99	Mr A Cheesman, Mr T Joseph and Dr G Scadding
Specialist Registrar St Bartholomew's Hospital	1/10/97-30/9/98	Mr M Dilkes, Mr M Keene, Mr G Kenyon and Mr John Rubin
Including SCOTIA Fellowship* Specialist Registrar Royal National Throat Nose & Ear Hospital	1/1/98-31/3/98 1/6/97-30/9/97	Mr P O'Flynn
Clinical Lecturer Institute of Laryngology & Otology University College London	1/6/95-31/5/97	Professor A Wright, Mr C East & Mr C Croft
Research Fellow Institute of Laryngology & Otology	1/6/94-31/5/95	Professor Anthony Wright
Locum Senior Registrar Royal National Throat Nose & Ear Hospital	1/4/94-31/5/94	Mr T Bull
Locum Registrar Royal Free Hospital, Hampstead	1/1/94-31/3/94	Mr R Quiney, Mr M Stearns & Mr G Radcliffe
Locum Senior Registrar St George's Hospital, Tooting	12/7/93-31/10/93	Mr S Saunders, Mrs V Moore-Gillon
Registrar (acting) St Bartholomew's Hospital	1/12/92-2/6/93	Mr A Swanston, Mr R Lavelle

PREVIOUS APPOINTMENTS

Basic surgical Training

Senior House Officer St Bartholomew's Hospital	3/6/92-31/11/92	Mr A Swanston, Mr R Lavelle
Senior House Officer East Birmingham Hospital	13/2/92-31/5/92	Professor Mathews, Thoracic Surgery
Senior House Officer East Birmingham Hospital	1/8/91 - 12/2/92	Mr M X Gannon, General/Vascular Surgery
Senior House Officer East Birmingham Hospital	1/2/91 - 31/7/91	Mr K Pearman & Mr R Simons Otorhinolaryngology
Senior House Officer St Cross Hospital	1/8/90 - 31/1/91	Mr A Hughes Orthopaedics & Trauma
Senior House Officer Birmingham Children's Hospital	1/2/90 - 31/7/90	Paediatric Neurosurgery Paediatric Orthopaedics/General Surgery
Senior House Officer Dudley Road Hospital	1/2/89 - 31/7/89	Accident and Emergency
House Surgeon Leicester General Hospital	1/8/88-31/1/89	General Surgery/Urology
House Physician Leicester General Hospital	1/2/88 - 31/7/88	Coronary Care Unit/General Medicine

PRACTICAL & OPERATIVE EXPERIENCE

In addition to a secure basic grounding in all aspects of otorhinolaryngology, I have the following specialist knowledge.

Rhinology

- Having spent 18 months working with Mr. Charles East, I developed my experience and techniques in all aspects of rhinology, in particular in septorhinoplasty and functional endoscopic sinus surgery.
- My time at the Royal Marsden Hospital allowed me to gain considerable experience in anterior skull base surgery. There, I worked closely with Mr. Daniel Archer and Miss Moore (at the Atkinson Morley Hospital).
- I have an ongoing interest in endoscopic dacryocystorhinostomy and have been performing these operations at St Bartholomew's Hospital in collaboration with the Ophthalmologists.
- Under the direction of Mr Charles Croft, I have developed my skills in sleep nas-endoscopy and the management of snoring and sleep apnoea.

Paediatric Otolaryngology

- Over the last year, I was involved in the paediatric Glue Ear, Asthma and Rhinitis Clinic, under the direction of Dr Glennis Scadding. This has afforded me a deep understanding of the medical issues relating to the management of Rhinitis, Asthma and Chronic Secretory Otitis Media in Children. The clinic cared for some of the more difficult conditions including Immune suppression and Immunoglobulin deficiency syndromes as well as some of the rarer ciliary dysmotility syndromes.
- I became familiar with paediatric airway assessment/endoscopic techniques, as well as foreign body removal whilst working at the Royal Free and Royal National hospitals. While at the Royal National, I had good exposure to choanal atresia cases.
- Experience in paediatric tympanoplasty, as well as mastoidectomy and pinnaplasty was gained at the Hospital for Sick Children, Edinburgh, the Royal Free and Royal National Throat Nose & Ear Hospitals.
- I have been directly involved with Dr. Vivian van Someron in paediatric sleep studies since 1996 (see Further Research in Progress). We have performed over 170 sleep studies thus far and this work has recently been submitted for publication (see Publications).

Otology

- I have extended my otological surgical exposure and repertoire to include most variations on mastoid tympanoplasty, including combined approach tympanoplasty, mastoid obliteration and posterior canal wall reconstruction techniques. I have developed my otoplastic techniques and resected numerous pre-auricular sinuses.
- My appointment with Mr Cheesman allowed me to gain extensive exposure to lateral and anterior skull base surgical techniques, including trans-labyrinthine and middle cranial fossa approaches to the cerebello-pontine angle, mid-facial degloving and craniofacial procedures. Working with Mr Joseph has given me a wide experience in other otological procedures including Bone Anchored Hearing Aids and Ossiculoplasties.

Laryngology / Head & Neck Surgery

- To date I have worked in several centres with a particular interest in head and neck cancer. During my time at St. Bartholomew's Hospital, major head and neck oncologic resections were undertaken most weeks, with good exposure to parotid and thyroid surgery. My positions at the Royal Marsden and the Royal National Throat Nose and Ear Hospital also afforded excellent training in all aspects of modern head and neck surgery. While there I performed and assisted in several laryngectomies, or pharyngolaryngo-oesophagectomies, as well as performed or assisted in a large number of oral cavity resections, parotidectomies, thyroidectomies, and pharyngeal pouch operation.
- Working with Mr Mike Dilkes and Mr Peter Rhys Evans, whose particular interest is in head and neck surgery, I gained extensive experience in both surgical and post-operative management of head and neck cancer cases. I have gained valuable experience in adjuvant therapies including photodynamic and chemo therapy.
- As well as major resections, working with Mr Michael Stearns and Mr W E Grant whose special interests include facial plastic surgery, I have had the opportunity to perform many small facial cutaneous excisions with local flap and free graft plastic reconstruction. With both surgeons I was involved in the combined radiotherapy and head and neck clinics.
- Experience with micro-vascular reconstruction was gained working in conjunction with Mr Charles East and Mr Paul O'Flynn, at the Royal National. I have also become adept at microlaryngoscopy techniques through my continuous exposure to phono surgery at the Royal National, St. Bartholomew's under the guidance of Mr John Rubin.

CLINICAL EXPERIENCE OUTSIDE OTOLARYNGOLOGY

Thoracic Surgery

Under the guidance of Professor Mathews at Birmingham Heartland's Hospital, I have gained invaluable experience in the management of major thoracic and abdominal trauma, pneumothorax, insertion of chest drains, mini tracheostomies, rigid oesophagoscopy and rigid bronchoscopies. I have also assisted with many thoracotomies, oesophagectomies, hiatus hernia repairs, pneumonectomies, lobectomies, excision of lung tumours and pleurectomies. I was also responsible for administering chemotherapy to patients with oesophageal carcinoma.

General Surgery

Management of the acute abdomen, ischaemic leg ulcers, appendisectomies, laparotomies, repair of perforated duodenal ulcers, small bowel anastomosis, cholecystectomies, varicose veins high ties and stripping, inguinal hernia repair, insertion of central venous catheters, rigid colonoscopies and haemorrhoidectomies. I have assisted in total gastrectomies, partial gastrectomies, hemi and total colectomies and many other major general surgical procedures.

Orthopaedic Surgery

Management of major trauma, head injuries, cervical vertebral fractures, burr holes, reduction and management of various fractures, hemi-arthroplasties, dynamic hip screw insertion, plating of fractures, application of skull traction. I assisted in total arthroplasties, tendon transfers for clubfeet and arthroscopies.

Paediatric Surgery

Management of premature babies, including daily nutritional requirement calculations, major surgical emergencies of the new-born, infant fluid and electrolyte resuscitation and hydrocephalus. I assisted in the insertion of ventriculo-peritoneal shunts and craniotomies for brain tumours.

TEACHING & OTHER ACTIVITIES***Undergraduate***

- My experience in undergraduate teaching is extensive, having taught undergraduate medical students, family practitioners at ENT study day meetings, student nurses and theatre nursing staff. I was directly responsible for the medical student teaching program at the Royal Free, St. Bartholomew's, and the Royal National Throat, Nose & Ear Hospitals, providing a series of lectures and tutorials as well as organising attendance at clinics and theatre sessions, and setting and marking examinations.
- Working at the Birmingham Heartland's hospital, I was closely involved in teaching third, fourth and final year medical students in general and ENT surgery. This included daily tutorials and formal lectures as well as case presentations.
- More recently, I was and continue to be responsible for teaching medical students from University College Hospital, giving both lectures and tutorials and providing tuition in both the outpatient and theatre setting.

Postgraduate

I have been involved in giving lectures to post graduate surgeons on the peri-fellowship course at the Royal National. Part of my teaching duties at the Royal National also included giving lectures to students on the MSc courses in Technical Audiology and Audiological Science & Medicine.

My involvement with the Semon Club included case preparation and presentation and lasted for the duration of my tenure as Honorary Clinical Lecturer at Gray's Inn Road.

I was also responsible for organising the Journal Club meetings that I extended to monthly meetings having managed to raise the necessary funds. These meetings were well attended by consultants, senior registrars, and junior surgeons training in Otolaryngology throughout London. I started the "Medico-legal Cases Revisited" symposia, where exposure to the medico-legal aspects of the speciality is provided by retrying cases from the past. These meetings were conducted in a manner similar to that of a real court and provide invaluable experience and insight into an aspect of surgery that is becoming increasingly important.

Others

I am responsible, along with others, for the supervision of three PhD students. The first is currently writing up his thesis at Imperial College, medical physics department. The second student is working at the Institute of Laryngology and Otology in our research laboratories. He is currently in his third year and expects to finish his thesis early next year. The third student is also registered with University College London and is in his first year.

CLINICAL AUDIT

- My involvement with audit started early during my general surgery senior house officer job in Birmingham. There, I conducted an audit of antibiotic use in post-operative patients. I investigated the costs of various types of antibiotics used and the duration of use after surgery. I compared the practices of all four consultants. The results showed significant differences in the practice between them and changes were implemented to adopt a uniform policy that reduced cost and minimised complications, without compromising patient care.
- Since then, I have participated in audit on both a general and a personal level. In 1992, I conducted an audit of pain post tonsillectomy in children at St. Bartholomew's Hospital. A comparison of pain levels was made between standard and diathermy tonsillectomy. This, along with evidence from publications by other practitioners has led to a change in my personal practice in performing tonsillectomy.
- I have continued to be actively involved in clinical audit at the Royal National Throat Nose and Ear Hospital, and more recently have audited the medical and surgical management of malignant otitis externa. I have, along with my senior house officer colleague, set-up a database for all parotid tumour cases. This database includes information regarding the patient, surgery, and histopathology of the tumours. This database will hopefully, continue to provide data for analysis and audit long after I have left.

MANAGEMENT

In 1994, I began applying for funding for my research in collaboration with the Medical Physics Department, University College London. The resulting funding from various organisations mentioned below led to the foundation of the Physics, Surgery and Instrumentation Laboratories (PSI labs.). The lab currently employs seven research fellows including three PhD students. The management of the research programme requires considerable effort and attention. The research programme is physics based and I have had to acquire additional skills not only in management, but also in computer science and medical physics. Funding for the group is ongoing for the foreseeable future.

MEDICO LEGAL/ RISK MANAGEMENT

In 95-97, I was responsible for organising the Journal Club at the Royal National Throat, Nose and Ear Hospital. I became interested in the medico-legal and risk management aspects of our speciality as these topics were beginning to gain in popularity at the time. I organised the journal club meetings to emulate a court setting with a judge and barristers for the defence and prosecution. The meeting involved a trial of a real court case from the past. The defence and prosecution had their own expert witnesses in the form of experienced clinicians. Apart from being entertaining, these meetings played an important role in bringing clinicians closer to the reality of medico-legal issues and of court settings. I believe that we must be constantly aware of the risks associated with our changing practices and that audit alone is not enough. Complications should be predicted and avoided.

CURRENT RESEARCH

Computer Guidance for Skull Base Surgery

The aim of the first part of the project is to provide an interactive teaching aid for otolaryngologists studying temporal bone anatomy. State of the art technology makes it possible to use virtual reality for such an application. This will enable the development of a cheaper and more effective training method for postgraduate surgeons other than those currently available. It will make better use of the limited time that working surgeons would spend in training.

The cost of litigation to health authorities for one poorly performed surgical procedure on the temporal bone would be several times that spent to equip one hospital with this teaching aid. This is not to mention the trauma caused to a patient following a catastrophic complication of an elective procedure that might have been avoided. Eventually, this project will set a standard for other areas of anatomy and surgery in other specialities.

The practice of surgery relies on the surgeon tailoring the relevant surgical procedures to the individual patient. This includes understanding the normal as well as the abnormal anatomy of that patient. Current surgical planning relies on diagnostic tools such as standard X-rays, CT and MRI scans. These diagnostic modalities offer the surgeon a “map” displaying the pathology and variations from normal anatomy that may be encountered. These scans and X-rays are presented 2-dimensionally, in film format that are usually viewed on an X-ray light box. In digital form they may be viewed on a video monitor. Typically, the surgeon mentally constructs an appropriate 3D picture of the planned surgical approach. As the surgical plan only exists in the surgeon’s mind, it is difficult to communicate to others. A better use of our existing imaging technology would be to reconstruct truly three-dimensional images that would be viewed pre-operatively. Furthermore, it would be a major advantage, if the surgeon could plan the surgery by use of realistic simulation on a 3D image, using virtual surgical instruments identical in shape and function to ones in actual use.

Therefore, the aims of the second part of the project are to create a tool based on the concept of ‘virtual reality’ that will allow surgeons to realistically plan and rehearse complex Otologic and base of skull surgery. The scientific and technical issues relate to creating dynamic 3D images with real time updating using parallel processing, developing and integrating an accurate tracking method and creating a suitable method for human conceptual appreciation and interaction using virtual surgical implements. For viewing, a binocular stereoscopic system, which can be used at surgery, will be developed.

I started work on this project in June 1994. It is my chosen subject for a PhD dissertation. This work has been approved by the Faculty of Medicine at Leicester University. My External supervisor for this project is Professor Anthony Wright, Institute of Laryngology & Otology, and the Internal supervisor is Professor Peter Bell, Professor of Surgery, Leicester University Medical School.

GRANTS AND FINANCIAL SUPPORT

- I am the co-author of grant applications for the above mentioned research project to the Engineering and Physical Sciences Research Council (EPSRC), Joint Research Equipment Initiative (JREI), Hearing Research Trust and Joint Information Systems Council (JISC).
- The application to the EPSRC titled: *Pre-operative computer monitoring for surgeons*, has been provisionally accepted subject to modifications. We aim to develop a fully immersive surgical simulation system for planning individual patient surgery based on the CT scan of that patient.
- The application to the (JREI) titled: *Per-operative 3D monitoring for skull base surgery*, has been funded at £530K.
- The application to the Defeating Deafness Charity Trust titled: *Per-Operative Monitoring Display Methods* has been funded at £20K in 1997, £28K in 1998 and £28K in 1999.
- The application to the Joint Information Systems Committee titled: *Virtual Medical Laboratory* has been funded at £278K. The aim of this grant proposal is to create a virtual medical laboratory, providing archived histological material and CT and MRI data. Central to this aim is the reconstruction of the internal anatomy of the temporal bone three dimensionally from two-dimensional histology slices, to create 3D views that may be used for anatomical simulation and surgical training in otolaryngology.
- The application to the Joint Equipment Initiative has been funded at £305K in 1998.
- The European Community has approved a grant proposal to fund a project titled: *Pre-operative surgical simulation and planning tool*. This is in conjunction with partners from Manchester, Italy, France and Germany. The total value of the grant is 2.1 million Euro.

FURTHER RESEARCH IN PROGRESS***Sleep Apnoea in children.***

In collaboration with Dr. Vivian Van Someron, Consultant Paediatrician at the Royal Free Hospital, we have conducted a pilot study on the incidence of sleep apnoea in children with adeno-tonsillar hypertrophy.

Equipment for this work was purchased with money from Dr. van Someron's research fund. We have conducted an outpatient survey to accumulate data for a grant application to study the psychological and intellectual effects of sleep apnoea in children, a previously unexplored field of research.

We have accumulated sleep studies from 160 children with adeno-tonsillar hypertrophy. This work has led to grant funding of a full time paediatrics research fellow who started in early 1999.

Texture Analysis of Cancer Cells

A research project has been started in collaboration with Dr. Stephen Roberts, Senior Lecturer at the Biomedical section of Imperial College. This work involves the analysis of mono-layer preparations of head and neck cancer cells. The results will be fed into a neural network (knowledge base system) and analysed to predict the prognosis of different forms of therapy. A Ph.D. student is currently working on this project for his thesis. I am directly responsible for supervising him during the first two years of his Ph.D. He has already published some of the early results from his work.

PUBLICATIONS

Developing a virtual reality environment in petrous bone surgery, A. Jackson, N.W. John, N.A. Thacker, R.T Ramsden, J E Gillespie, E. Gobbetti, G. Zanetti, R. Stone, A.D. Linney, **G.H. Alusi**, S.S Franceschini, A. Schwerdtner, A. Emmen "Otology & Neurotology, 2002, vol. 23, pp111-121

The EU project IERAPSI: Integrated environment for rehearsal and planning of surgical interventions E. Neri, D. Caramella, A. Jackson, **N.W. John**, S. Sellari Franceschini, N. Thacker, G. **Alusi**, G. Zanetti, C. Bartolozzi, , European Congress of Radiology 2001, Vienna, 2-6 March 2001

Clinical Applications of Computer Aided Visualization. Linney AD and **Alusi GH**, Journal of Visualization. Vol.1, No. 1, 95-109, 1998

Augmented Reality Computer Assisted Skull Base surgery. PhD Dissertation, University of Leicester, February, 2001.

Stereo depth assessment experiment for microscope-based surgery R. J. Lapeer, A. C. Tan, A. D. Linney, **G. Alusi**:. ISMAR 2003: 272-273

Computer Assisted ENT Surgery Using Augmented Reality: Preliminary Results on the CAESAR Project; R. J. Lapeer, P. Chios **G. Alusi**, A. D. Linney, M. K. Davey, A. C. Tan: . MICCAI 2000: 849-857

Are sleep studies worth doing? van Someren V, Burmester M, **Alusi G** & Lane R (2000) Arch Dis Child 83:76-81.

The Potential Use of an Autostereoscopic 3D Display in Microsurgery.. P. Chios, A. C. Tan, A. D. Linney, **G. Alusi**, A. Wright, G. J. Woodgate, D. Ezra: MICCAI 1999: 998-1009

The Treatment of Head and Neck Cancer with Photodynamic Therapy: Clinical Experience. Mike G. Dilkes, **G. Alusi** and Ben J. Djaezeri, Reviews in Contemporary Pharmacotherapy. Vol 10, 1 November, 1999, Marius Press. pp 47-57.

The Potential Use of an Auto-stereoscopic 3D Display in Microsurgery. P. Chios, A.C. Tan, A. D. Linney, **G. H. Alusi**, A. Wright, G. J. Woodgate and D. Isra. Lecture Notes in Computer Science LNCS (No. 1679) Medical Image Computing and Computer Assisted Intervention-MICCAI, 1999, edited by Chris Taylor and Alan Colchester. pp 998-1009.

Clinical Applications of Computer Aided Visualisation. A. Linney and **G. H. Alusi**. The Journal of Visualisation; Vol. 1 No.1 1998; pp 95- 109.

Oculopharyngeal Myopathy With Sensorineural Hearing Loss. **G.H. Alusi**, W. Grant, R. Quiney Journal of Laryngology and Otology, June 1996.

Bleeding Complications In von Willebrands Disease Following Tonsillectomy. **G.H. Alusi**, W. Grant, M. P. Stearns. Journal of Laryngology and Otology, 1995, 109: 437-439.

Peri-Umbilical Superficial Fascia Myringoplasty. S.O. Ajulo, H. M. Myatt and **G. H. Alusi**. Clinical Otolaryngology, 1993, 18:433-435

Tuberculosis Presenting as a Laryngeal Tumour. T. Delap, J. Lavy, **G.H. Alusi**, R. Quiney, Journal of Laryngology & Otology

Three Dimensional Tracking with Ultrasound for Augmented Reality Applications in Skull base Surgery. **G. Alusi**, A.C. Tan, A. D. Linney, K. Raoof, A. Wright, Proceedings of the CVRMed conference, Grenoble, France, March 1997.

Compact Hough Transform and a Maximum Likelihood Approach to Cell Nuclei Detection. Theodoros Mouroutis, S.J. Roberts, A. A. Bharath and **G.H. Alusi**, Proceedings of the 13th International Conference on Digital Signal Processing DSP '97, 2-4 July 1997, Santorini, Greece, pp. 869-872, 1997.

Tele-education: the virtual medical laboratory. **G.H. Alusi**, A.C. Tan, J.C. Campos, A. Linney, A. Wright. Conference Proceedings, TeleMed96, Nov 1996.

3D Tracking with Ultrasound for Virtual Reality Applications in Surgery. **G. H. Alusi**, A. Hadjiprocopis, A. Linney, A. Wright. Proceedings of the Digital Signal Processing DSP 95 conference, Paris. October, 1995.

Sleep Apnoea In Children. V. van Someron, **G.H. Alusi** Abstract, British Paediatric Association Annual Meeting.

2D Retrospective Image Registration Using Genetic Algorithms. **G.H. Alusi**, M. K. Davey, A. Linney Submitted IEEE.

PRESENTATIONS TO LEARNED SOCIETIES

Vagus Nerve Schwannoma. Case presentation at the Semon Club at the Royal National Throat, Nose and Ear Hospital, November, 1992

Myo-flap Repair of a Pharyngectomy Defect. Case presentation at the Semon Club at the Royal National Throat, Nose and Ear Hospital. June, 1995

Osteoma Of The Frontal Sinus. Case presentation at the Semon Club at the Royal National Throat, Nose and Ear Hospital October, 1995

Two Dimensional Retrospective Biological Sections Image Registration, Conference on Confocal Microscopy, Brighton, February 1995.

Three Dimensional Tracking with Ultrasound for Virtual Reality Applications in Surgery, paper presentation, October, 1995, Digital Signal Processing DSP 95 conference, Paris.

Clinical Evaluation Of The Upper Airway In Snoring And Sleep Apnoea, presentation, Brown-Kelly Symposium on Snoring & Sleep Apnoea, Glasgow, October, 1995.

Endoscopic Laser-Assisted Dacryocystorhinostomy, presentation, European Academy of Facial Surgery. Celerina, Switzerland. 22, March, 1996.

Hardware Accelerated Volume Rendering, Computer Guided Surgery Conference, Linz, Austria, September, 1996.

Virtual Medical Laboratory, presentation, MEDNET96 Medicine on the Internet Conference in Brighton, 15 October 1996.

Tele-education: the virtual medical laboratory, presentation TeleMed96, Medicine on the Super Highway, London, 13 November, 1996.

Three Dimensional Tracking with Ultrasound for Augmented Reality Applications in Skull base Surgery, Poster Presentation, Grenoble, France, March, 1997.

Hardware Accelerated Volume Rendering for Skull Base Surgery, 3D Visualisation and Virtual Reality in Medicine Conference, London, September, 1997.

Computer Aided Surgery. The Royal Society, Leeds, September 11th, 1997.

COURSES ATTENDED

Primary Fellowship Course, Leicester University	1990
Anastomosis Workshop Course, Dudley Road Hospital, Birmingham	1991
Part II Fellowship Course, Dudley Road Hospital, Birmingham	1992
Temporal Bone Dissection Course, Glasgow	1993
Vascular Anastomosis Course, St. Mary's Hospital	1994
Grays Inn Road ENT Fellowship course	1994
Temporal Bone Dissection Course, Institute of Laryngology and Otology	1995
Plastic Surgery of the Nose, Institute of Laryngology and Otology	1996
Techniques in Facial Plastics Surgery, Institute of Laryngology and Otology	1996
Head, Neck and Facial Reconstruction, Institute of Laryngology and Otology	1996
Microvascular Anastomosis Workshop	1998
Northwick Park Hospital, London	
Trans-temporal Approaches to The Skull Base, Royal College of Surgeons, London	1999
Salivary Gland Symposium	2001
Botulinum Toxin Symposium	2002
2nd Biennial International "Milano Master Class"	2002
Symposium on Lacrimal Surgery	2002
Advanced Head and Neck Surgery Conference	2003
Technical Advances in Skull Base Surgery	2003
Appraisal and Assessment Course	2003
Managing Poor Performance	2004

CONFERENCES ATTENDED

I regularly attend the Royal Society of Medicine Lectures

2nd Biennial International “Milano Master Class”	2003
Botulinum Toxin Aesthetic Indication International workshop	2002
Symposium on Lacrimal Surgery	2001
British Academic Conference in Otolaryngology	1999
Medical Physics Conference (MICCAI) Grenoble, France	1997
3D Visualisation and Virtual Reality in Medicine Conference, London	1997
MEDNET96 European Congress on the Internet in Medicine, Brighton	1996
TeleMed 96 Conference Medicine on The Internet, London	1996
Brown-Kelly Symposium on Snoring & Sleep Apnoea, Glasgow	1995
Confocal Microscopy Conference, Brighton	1995
Digital Signal Processing DSP95 conference, Paris	1995
Virtual Reality in Medicine and Surgery, Hammersmith, London	1994

PROFESSIONAL ASSOCIATIONS AND SOCIETIES
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British Medical Association.

British Association of Otorhinolaryngology-Head and Neck Surgery.

Royal Society of Medicine. Laryngology & Rhinology, and Otology sections.

REFEREES

Mr A. D. Cheesman FRCS
Consultant ENT Surgeon
Royal National Throat Nose and Ear Hospital

Mr Mike Dilkes FRCS
Consultant ENT Surgeon
St. Bartholomew's Hospital

Prof. A. Wright FRCS
Head of Department/Consultant ENT Surgeon
Royal National Throat Nose and Ear Hospital

Mr D. Archer FRCS
Consultant Maxillary-Facial Surgeon
Head of the Head and Neck Unit,
Royal Marsden Hospital