

# Radiology 1998 - Imaging, Science & Oncology

International Convention Centre and

National Indoor Arena, Birmingham

1 - 3 June

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## ORGANIZING BODIES

Radiology 1998 is a joint meeting held by the British Institute of Radiology, the College of Radiographers and the Institute of Physics & Engineering in Medicine. The Congress is held in association with the British Medical Ultrasound Society, the British Nuclear Medicine Society, Computer Assisted Radiology and Surgery (CAR), the Royal College of Surgeons in Ireland - Faculty of Radiologists, the Institute of Health Services Management, the Institute of Physics, the Institution of Electrical Engineers - Science Division, the International Society of Radiographers & Radiological Technologists, the Irish Institute of Radiography, the Royal Society of Medicine - Radiology Section and the Scottish Radiological Society.

## ORGANIZING COMMITTEES

### Congress Committee

#### Members

Professor J E Adams *Chairman*

Dr A M Davies  
Mrs J A Shrimpton  
Dr P C Williams  
Professor M A Smith  
Ms D Hardy  
Professor P Sharpe  
Dr C A Lewis  
Dr J Olliff  
Mrs E Beckmann  
Dr S J Golding

#### Secretariat

Ms J Clark *BIR Conference & Events Manager*  
Miss D Huntley *BIR Events Assistant*  
Ms V Whitehead *BIR Conference Consultant*  
Miss F McClain *BIR Exhibition & Events Co-ordinator*  
Ms M-A Piggott *BIR Chief Executive*  
Mr S Evans *COR Chief Executive*  
Mr P Ingram *COR Marketing & Member Services Manager*  
Mr N Williams *COR Finance Director*  
Mr R Neilson *IPEM General Secretary*  
Mr A Hudson *BIR Administration Manager*

### Scientific Programme Committee

#### Members

Mrs J A Shrimpton *Chairman*  
Dr A M Davies *Co-Chairman*  
Dr P C Williams *Co-Chairman*

Professor A Beddoe  
Dr P Blake  
Dr W Morgan  
Mrs J Henderson  
Ms D Hardy  
Dr J Olliff  
Dr D Martin  
Mrs A Finch  
Professor J E Adams

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Ms M-A Piggott *BIR Chief Executive*  
Mr S Evans *COR Chief Executive*  
Mr P Ingram *COR Marketing & Member Services Manager*

## SPECIALIST AREA ORGANIZERS

#### *infoRAD*<sup>™</sup> Exhibition

Mrs E Beckmann  
Dr D J Harvey  
Mr M Tatlow  
Mr N McLaughlin

#### Scientific Poster Exhibition

Dr J Olliff

## **ACKNOWLEDGMENTS**

The Chairmen and Members of the Congress Committee for Radiology 1998 would like to thank the following organizations for their generous support of the Congress:

Agfa-Gevaert Ltd  
Boehringer Ingelheim Hospital Division  
Clinical Press Ltd  
European Association of Radiology  
HBO & Company  
HealthSouth (UK) Plc  
Imation UK Ltd  
Kodak Health Sciences Ltd  
M.A.S. Medical Ltd  
Mallinckrodt Medical UK Ltd  
Merck Imaging  
Novartis Pharmaceuticals UK Ltd  
Nucletron  
Nycomed Amersham Plc  
Philips Medical Systems  
RAD Magazine  
Siemens Medical Engineering Plc  
Toshiba Medical Systems Ltd

## **ACCREDITATION**

The Royal College of Radiologists has awarded 20 Continuing Medical Education (CME) credits.

The Institute of Physics & Engineering in Medicine has awarded Continuing Professional Development (CPD) credits at 1 unit per educational hour with a maximum of 10 units per day.

The Institution of Electrical Engineers has awarded 3/4 professional development units (pdu) per one hour of interactive CPD (not including questions and answers) and 1/2 pdu per one hour of attendance only CPD.

## MESSAGE FROM THE CHAIRMAN OF THE CONGRESS COMMITTEE

Dear friends and colleagues

It is my privilege and great pleasure to welcome you most warmly to the annual scientific congress RADIOLOGY 1998 - IMAGING, SCIENCE AND ONCOLOGY.

The contents of this programme and abstract book reflect the advances and diversity which we are witnessing in the clinical and technical arenas of the radiological sciences. As the millennium approaches we look towards developments in imaging and cancer therapies, and the challenges and dilemmas posed in providing equitable and high quality healthcare, scientifically evaluated and clinically effective, within contained costs. It is therefore essential that research flourishes, and that this Congress acts as a forum for the exchange of information, ideas and innovation in a stimulating and multidisciplinary environment.



The programme you will enjoy over the three days of the Congress includes topical and controversial issues, with workshops, refresher courses, "state-of-the-art" symposia and special focus sessions. There are over 150 invited speakers, seven parallel sessions and seven prestigious eponymous lectures, which will be delivered by distinguished speakers. We are delighted that this year we have been able to collaborate with CAR (Computer Assisted Radiology and Surgery) to organize several sessions in the forefront of information technology and we are indebted to Dr Uwe Busch and the Röntgen-Museum of Germany for providing the display "Women in Radiology". In the scientific sessions, colleagues will share with us their research data which are in the forefront of progress in imaging and improvements in patient care.

The Congress runs in parallel with MED X RAY<sup>®</sup>, the largest technical exhibition in the United Kingdom related to the radiological sciences. Together, these two events provide an environment which emphasizes the important collaboration between medicine, science and industry which is vital to advances in diagnosis and treatment of disease. In Britain, 1998 marks the fiftieth anniversary of the establishment of the National Health Service, and we reflect on the progress made in the radiological sciences over this time. I urge delegates to visit this industrial showcase, in which new and established products are on display, in the National Indoor Arena. This is also the venue for scientific posters and *infoRAD*<sup>™</sup> exhibits.

With such a full scientific programme it is important that delegates have time to relax and have fun. To provide this, the social events include a welcoming reception amid the fine collection of the Birmingham Museum and Art Gallery, buffet and a tour of Cadbury's Chocolate world, a disco at Bobby Browns and the Congress Dinner and Dance in the beautiful setting of the Botanical Gardens.

Organizing such a large, prestigious and multidisciplinary meeting is a considerable undertaking by many. I express my gratitude to the sponsoring organizations (British Institute of Radiology, College of Radiographers and Institute of Physics & Engineering in Medicine), colleagues on the Congress Committee, the Scientific Programme Committee and the Congress Secretariat. Dr Stephen Golding will take over as Chairman for Radiology 1999, and I wish him and the Congress Committee every success, and hope that discussions presently in progress will enable the Royal College of Radiologists to be included as a sponsor of the Congress in the future.

I extend a warm welcome to all delegates, and particularly to those from overseas. I hope that you find the Congress both stimulating and enjoyable. The success of the Congress depends on your enthusiasm and strong support. With this the meeting can go from strength to strength in the years ahead, and be an investment in scientific and technical developments of the future, providing an environment which can nurture and stimulate those who will innovate and lead such advances.

Professor Judith E Adams  
Chairman, Congress Committee.

## GENERAL INFORMATION

### Congress Site

Radiology 1998 takes place at the International Convention Centre (ICC) in Birmingham. MED X RAY® is situated a five minute walk away in the National Indoor Arena (NIA). The two sites are linked by a covered walkway - supported by Agfa-Gevaert Ltd. Signage throughout the NIA & ICC is supported by Toshiba Medical Systems.

Sessions will take place as shown on the timetable grid (see Programme pages 12 - 17). A layout map of the ICC can be found on the inside back cover of this publication.

### Registration

Registration will take place in the Registration Area of the ICC and will be open at the following times:

Radiology 1998 Opening Times	
Sunday 31 May	1400 - 1800
Monday 1 June	0700 - 1700
Tuesday 2 June	0730 - 1700
Wednesday 3 June	0730 - 1400

Upon registering you will be issued with a delegate badge, tickets for any social events booked and any relevant accreditation certificates. You will also receive a delegate bag, supported by Philips Medical Systems, containing important meeting information. This will include the Scientific Poster, infoRAD™ and MED X RAY® exhibition guides.

### Congress Badge

Your badge will be printed with your name and hospital/institution/company name and **must be worn at all times when attending the Congress**. This badge entitles you to admission on the days on which you are registered to all lectures at Radiology 1998 and the technical exhibition MED X RAY®.

Those badges that have ribbons attached indicate the following groups of people: Congress Chairman, Invited Speakers, Chairpersons, Presidents of Sponsoring Organizations, Guests, Secretariat, Congress Committee Members, Stewards, Helpers and Press.

### Accreditation

Members of the RCR and IPFM will be issued with accreditation certificates upon registration. Accreditation certificates for members of the IEE are available on request.

### Certificate of Attendance

Certificates of attendance will be issued by the Congress Secretariat on request.

### Women in Radiology

The *Women in Radiology Exhibition* organized by the Röntgen-Museum in Remscheid, Germany will be situated in the registration area of the ICC. We are grateful to Mallinckrodt Medical (UK) Ltd for supporting the exhibition. This fascinating exhibition offers interesting insights into the role of women and radiology from the first X-ray of Mrs Röntgen's hand to the award of the Nobel Prize for Physics to Marie Curie and much more.

### Messages

Messages for delegates will be posted on message display boards located in the Registration Area. The telephone number at the ICC registration area is 0121 644 6875. The main Convention Centre telephone number is 0121 200 2000.

### Telephones

Pay telephones are available throughout the ICC and NIA.

## MED X RAY® Exhibition

*All you need to know about Medical Imaging  
under one roof*

MED X RAY® provides the most comprehensive showcase of medical imaging in the UK. With over 120 companies exhibiting it offers a superb opportunity to catch up with developments in technology and supplies and gives you a unique opportunity to assess the relative merits of various suppliers' equipment.

Find out about the latest applications within radiology and healthcare informatics - the use of computers to help in the management, application and analysis of health related information.

For 1998, due to the increased demand for exhibition space, the balcony area within the National Indoor Arena (NIA) will be utilized to accommodate additional exhibition stands as well as the main catering area.

Your Congress badge will allow you free access to the MED X RAY® exhibition.

### **infoRAD™**

Situated within the MED X RAY® exhibition, infoRAD™ is an interactive display of computers and videos related to image presentation and transmission. This year's event is held in association with *Computer Assisted Radiology and Surgery (CAR)*.

infoRAD™ exhibits will cover topics such as computer aided education and training, computer aided diagnosis and therapy, radiological information systems, Internet applications, telemedicine, literature searching and more. Exhibitors will be on hand to provide in-depth demonstrations and discuss their work with visitors.

A significant element of infoRAD™ in 1998 will be a network demonstrating DICOM interconnectivity between exhibits. It is hoped to extend this DICOM network into the technical exhibition MED X RAY®.

Please see programme page 42 for a list of exhibits.

infoRAD™ is a trade name used by kind permission of the RSNA.

### **Scientific Poster Exhibition**

Posters, forming a major part of the scientific programme, will be displayed in the NIA within the MED X RAY® exhibition. Please see programme page 41 for more details.

MED X RAY®  
infoRAD™  
Scientific Poster Exhibition

Opening Times

Monday 1 June	0900 - 1730
Tuesday 2 June	0830 - 1730
Wednesday 3 June	0830 - 1600

### **Catering**

Points dispensing **complimentary** beverages will be open throughout the day in the MED X RAY® exhibition at the NIA. Lunch will be available on a cash basis within the balcony area of the NIA. There is a coffee shop in the ICC mall.

### **Cloakrooms**

Cloakrooms are available in the Mall at the ICC and in the foyer of the NIA.

### **First Aid**

A Medical Centre is located in the ICC and NIA and staffed during opening hours. The Medical Centre can be contacted by using the NIA or ICC house telephones and dialling 5155. In an emergency, dial 2222.

### **Facilities on Site**

The Mall at the ICC offers the following facilities:

- Box Office for booking tickets for events in Symphony Hall, NIA and NEC
- Post box and postage stamp machine
- Forthcoming events information
- National Westminster Bank (with cash dispensing facility)
- Freephone service for taxis (Taxi Owner's Association)
- Visitors' Services Centre providing - fax, photocopying and other business services and a local information and booking facility from the Birmingham Convention and Visitor Bureau

### **Car Parking**

There are 2600 car parking spaces available at the NIA. These are available on a pay and display basis.

### **Orientation**

Please see the back of this publication for layout maps of the ICC.

### **Spouses/Partners**

Accompanying spouses/partners of registered delegates will be entitled to visit, on production of a lapel badge available at registration, the technical exhibition and the eponymous lectures. Excursions and tours are available from Flights Conference Services Ltd, Birmingham, tel: +44 (0)121 212 4433.

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## **KEY TO SESSIONS**

### **SCIENTIFIC SESSION**

### **KEYNOTE LECTURE**

### **REFRESHER COURSE**

### **STATE OF THE ART SYMPOSIUM**

### **EPONYMOUS LECTURES**

### **WORKSHOP**

### **CONTROVERSY CORNER**

Proffered presentations on themed areas

One-off invited review

Invited reviews on areas of current standard practice

Invited reviews on the latest developments in topical areas

Invited reviews organized by sponsoring / supporting organizations

Invited reviews looking at approaches to clinical or technical problems

An exploration of an area of clinical practice or technique in which differing views exist

## PRIZES

The following prestigious prizes and awards will be awarded at Radiology 1998 - Imaging, Science & Oncology:

### **BIR Nycomed Amersham Prize**

This prize is open to all proffered papers on nuclear medicine. £100 is awarded through a generous donation by Nycomed Amersham plc.

### **BIR Clinical MRI Prize**

A cheque for £50 and a commemorative statuette are awarded to the presenter (a BIR Member) of the best proffered paper on MRI. There is no age limit, but preference will be given to members early in their career. This prize is generously donated by Clinical Press Ltd.

### **BIR Leonard Levy Memorial Prize**

This prize was established in 1992 by Mr Bennett-Levy and Levy Hill Laboratories in memory of the late Dr Leonard Levy. The prize takes the form of a book token or cheque up to the value of £125 and is open to members of the BIR under 30 years of age presenting the best paper at the Congress.

### **COR Beth Whittaker Memorial Poster Prize**

A prize of £50 is awarded to the best poster presented at the Congress by a radiographer or a team of presenters headed by a radiographer.

### **COR Alan Nicholls Award**

This award of £100 is awarded to the best proffered paper presented by a radiographer.

### **COR Forder Memorial Award (Students)**

A prize of £50 is awarded to the best proffered paper by a student at the COR Annual Students' Conference.

### **RAD Magazine Best Poster Prize**

This prize was established in 1992 by Kingsmoor Publications Ltd, publishers of RAD Magazine, to encourage and maintain a high standard of visual presentation for scientific posters. All posters will automatically be considered and prizes for 1st, 2nd and 3rd place are awarded.

### **IPEM President's Prize**

This prize is awarded for the best oral presentation by a member of the IPEM aged under 35 years.

### **IPEM Physics Poster Prize**

This prize is awarded to the best poster exhibit on a medical physics topic.

### **HBO & Company infoRAD™ Prize**

A prize of £150 will be awarded to the best exhibit on the use of information technology within the health care environment. A highly commended award (certificate only) will also be presented.

### **Radiology 1998 / Merck Imaging Annual Poster Quiz**

A poster quiz will be held in the National Indoor Arena as part of the Scientific Poster Exhibition. There will be four cases each day, using cases from The Royal London Hospital and The London Radiology Club. The overall winner will receive a cash prize towards a visit to RSNA. In addition there will be daily prizes of book tokens. The Radiology 1998 Poster Quiz is organised by Dr J Teh and Dr O Chan from the Royal London Hospital and supported by Merck Imaging.

## **RADIOLOGY 1997 PRIZE WINNER DETAILS**

Prizes awarded at Radiology 1997 - Imaging Science & Oncology 19 - 21 May 1997:

<b>BIR Amersham Prize</b>	Dr P Julyan, University Hospital Birmingham
<b>BIR Clinical MRI Prize</b>	1st Prize - Dr D J Lomas, Addenbrooke's Hospital 2nd Prize - Dr M P Callaway, Bristol Royal Infirmary
<b>COR Beth Whittaker Memorial Poster Prize</b>	Mr A L White and Mr M Benbow, Southampton Hospital
<b>COR Alan Nichols Award</b>	Mrs S Mather, Great Ormond Street Hospital for Sick Children
<b>COR Forder Memorial Award</b>	Mr D B Roberts, Christchurch College, Canterbury
<b>IPEM President's Prize</b>	D A Broadhead, Newcastle General Hospital
<b>IPEM Physics Poster Prize</b>	T C Parr, D J Taylor, S M Astley and C R M Boggis, University of Manchester
<b>RAD Magazine Poster Prize</b>	1st Prize: Mr A L White, Southampton General Hospital Joint 2nd Prize: Dr M M Morin, Mater Misericordiae Hospital and Dr S J Moss, Frenchay Healthcare NHS Trust
<b>HBO &amp; Co. infoRAD™ Prize</b>	Joint Prize Winners: Mr P Hogg, University of Salford and Mr S M Loft, Weston Park Hospital
<b>Radiology 1998/Merck Imaging Annual Poster Quiz</b>	Dr D Monaghan, Doncaster Royal Infirmary, Dr T Marshall, Norfolk & Norwich Hospital and Dr M Thornton, Bristol Royal Infirmary

## SOCIAL ACTIVITIES

An exciting social programme has been arranged to give delegates the chance to meet with old friends and new. The following programme of events, coupled with the excellent international cuisine on offer in Brindley Place will ensure delegates have plenty of opportunity for enjoyment and relaxation. The golfing and fishing competitions are always a great success.

### Sunday 31 May 1998

#### *Welcome Reception*

#### *Birmingham Museums & Art Gallery*

1830 - 2030 hrs

Birmingham's first Museum and Art Gallery was opened by Edward, Prince of Wales in 1885 and is situated within the very heart of the city. This event offers a wonderful opportunity to view the many stunning paintings on display at this unique gallery and museum, including displays of natural history, archaeology and a large Pre-Raphaelite collection of art.

Cost: £12.50 to include drinks, light buffet, tour and VAT.

### Monday 1 June 1998

#### *Buffet and Tour of Cadbury World*

1900 - 2300 hrs

Take part in the unique 'Chocolate Experience' at Cadbury World with a tour of the magnificent Cadbury World exhibition. The tour includes the new ride through the chocolate wonderland that is Cadabra and for chocoholics there will be plenty of time to visit the amazing Cadbury shop before departure!

Cost £34.50 to include coach transport, drinks reception on arrival, tour, ride and buffet and VAT.

#### *Disco at Bobby Brown's*

2100 - 0100 hrs

Now a regular event at Radiology, delegates will have the exclusive use of Bobby Brown's. A former canal side warehouse, it has been converted into the most original nightclub in town.

Cost £7.00 to include admission and VAT only.

### Tuesday 2 June 1998

#### *Congress Dinner and Dance*

#### *The Birmingham Botanical Gardens*

1930 - 0100 hrs

Set in the midst of some of the most exquisite landscaped gardens in Britain, this unique Victorian paradise is the perfect setting for a dinner dance. Guests will have access to the magnificent Tropical House and Terrace Glasshouses. Drinks reception on arrival followed by formal dinner and dancing. Coach transport will be provided for the outward journey only.

Cost £39.50 to include outward coach journey, tour, dinner, dance, wine and VAT.

Admission for these events is by ticket only

It may be possible to obtain tickets for some of these events from the Radiology 1998 registration area at the ICC.

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## SPORTING COMPETITIONS

### RADIOLOGY 1998 - FISHING OUTING

#### **SUNDAY 31 MAY 1998**

A fly-fishing outing will take place on Sunday 31 May 1998, on the Derbyshire Wye near Bakewell. This event is likely to coincide with the peak of the Mayfly hatch. A limited number of rods are permitted on this famous beat. If you are interested in taking part, please contact Dr N Cozens, Derbyshire Royal Infirmary, London Road, Derby DE1 2QY. Telephone +44 (0)1332 347 141 ext. 2351 or Fax No. +44 (0)1332 254 750. Supported by Kodak and Imation.

### RADIOLOGY 1998 GOLF COMPETITION

#### **MONDAY 1 JUNE 1998**

The competition is organized on behalf of the Radiology Golfing Society by Dr David Rickards. The competition will be held at South Staffs Golf Club near Wolverhampton. It is an all day event with a snack lunch and dinner with prize-giving in the evening. The cost is about £55 per person which includes all golf, lunch and dinner and VAT. For further details and to book, contact Dr David Rickards, 136 Harley Street, London W1N 1AH, telephone: + 44 (0)171 580 1772.

## ACCOMPANYING PERSONS

The Birmingham Convention & Visitor Bureau (BCVB) can provide details on places to visit, night spots and theatre information. Contact them in the ICC Mall or call on 0121 643 2514



## EPONYMOUS LECTURERS

### WILLIAM STRIPP MEMORIAL LECTURE

Monday 1 June 1200 - 1245

#### Mr B Tonello: The Role of Trauma Oblique Cervical Spine Radiographs in the Seriously Injured Patient



Bruno Tonello, BA(Hons), HDCR, PgDip HSM, qualified in 1981 at St Bartholomew's Hospital, London. After working there for a year he left to pursue a degree in Literature and Philosophy at Middlesex University.

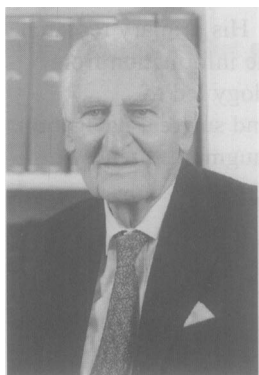
After graduating in 1985 he returned to radiography and held posts at the National Heart, Westminster and St Bartholomew's Hospitals prior to joining the Royal London Hospital in 1992 as A/E Superintendent. In 1995 he became the Deputy Lead Superintendent of the Radiology Department.

He has a strong interest in trauma care and is a founder member of the Trauma Imaging Group, contributing towards the first Trauma Radiographers Certificate. In 1996 he was part of a team that assisted the United Nations investigation of mass graves in Croatia. He regularly lectures throughout the country and is an external assessor for the University of Hertfordshire Radiographer Reporting Course. He also assists the College of Radiographers in validating post-graduate trauma courses.

### THE DOUGLAS LEA LECTURE

Monday 1 June 1300 - 1345

#### Sir Richard Doll: The Effects of Small Doses of Ionizing Radiation on Human Health



Sir Richard Doll was a member of the Medical Research Council's Statistical Research Unit from 1948 to 1961 and became a Director in 1961 until 1969. He was Regius Professor of Medicine, University of Oxford from 1969 to 1979. In 1979 he became Warden, Green College, Oxford until 1983.

He has been an Honorary Member of the Cancer Studies Unit since 1986.

Sir Richard Doll is currently at the Clinical Trial Service Unit & Epidemiological Studies Unit at the University of Oxford.

His professional interests include epidemiological research into the causes of cancer and the effects of smoking, occupational hazards, oral contraceptives, ionizing radiation and the conduct of controlled clinical trials.

### FINZI LECTURE

Tuesday 2 June 1200 - 1245

#### Dr M Overgaard: Breast Cancer - Which Patients Should Have Radiotherapy?



Dr Overgaard graduated from Medical School at the University of Aarhus in 1972. After postgraduate training at the University Hospital in Aarhus she became a specialist in oncology (radiation and medical oncology) in 1980. From 1976 to 1977 she was a Resident and Research Fellow at the Department of Radiation Medicine, Massachusetts General Hospital and Harvard Medical School, Boston.

In 1982 Dr Overgaard was appointed clinical fellow at the Department of Oncology, Aarhus University Hospital where she has held the appointment of Staff Chief Oncologist since 1987. She has been primarily responsible for the treatment of breast and head and neck cancers.

Dr Overgaard's research interests are mainly clinical, focusing on indication and optimization (improving tumour control and/or reducing morbidity) of radiation oncology in the context of the multimodal treatment approach. Her work has formed the basis for national guidelines and strategy on the use of radiation oncology in breast cancer which has been a prerequisite for the large Danish Breast Cancer (DBCG) Trials.

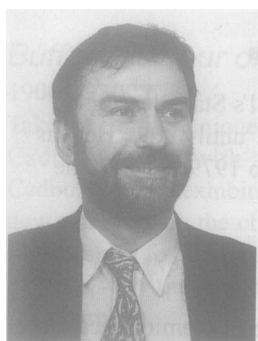
Another main activity is related to the role of radiation oncology in head and neck cancer through active involvement in the design and conduct of the large randomized trials by the Danish Head and Neck Cancer Study Group (DAHANCA).

An important part of Dr Overgaard's research activity includes studies of treatment related morbidity and clinical radiobiological investigations of, for example, fractionation sensitivity and factors of predictive importance for the outcome of radiation oncology. Dr Overgaard has been the Chairperson of the DBCG radiation oncology group since 1986 and is currently the president of the Danish Society of Head and Neck Oncology as well as a member of several international and national scientific societies and research groups. In September 1997 she received the FECS Clinical Research Award.

#### **SILVANUS THOMPSON MEMORIAL LECTURE**

**Tuesday 2 June 1300 - 1345**

##### **Dr D J Hawkes: Computer Assisted Navigation and Augmented Reality in Image Guided Interventions**



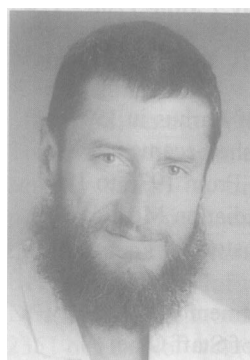
David Hawkes has been working in the physics and computation of medical imaging for over 20 years. Previously, he has undertaken research in nuclear medicine, CT and digital X-ray imaging. For the last 10 years he has headed the Computational Imaging Science Group at the UMDS, Guy's and St Thomas's Hospitals. His primary research interest has been in exploring computational methods to combine information from multiple imaging modalities. Advances in registration methodology led to development of novel methods for image guided interventions and surgical navigation. Recently, his group have been extending these ideas to develop augmented reality in the operating room.

He has published over 100 papers, is associate editor of *IEEE Transactions in Medical Imaging* and *Computer Aided Surgery* and is on the International Advisory Board of *Physics in Medicine and Biology*.

#### **MACKENZIE DAVIDSON MEMORIAL LECTURE**

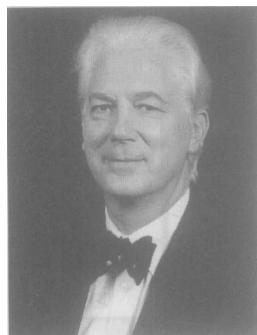
**Wednesday 3 June 1200 - 1245**

##### **Dr M T Modic: Degenerative Disc Disease: Natural History and Imaging**



Dr Michael T Modic received his MD degree from Case Western Reserve School of Medicine in 1975. He completed his residency in radiology and fellowship in neuroradiology at the Cleveland Clinic Foundation. In 1982 he was appointed Head of the Section of Magnetic Resonance. In 1985 he assumed the position of Director of Magnetic Resonance and Neuroradiology at CWRU School of Medicine/University Hospitals. During that time, he held the rank of Professor of Radiology, Neurology, General Medical Sciences and Neurosurgery. In 1989 Dr Modic returned to the Cleveland Clinic Foundation as Chairman of Radiology and in 1993 was appointed Professor of Radiology, Ohio State University.

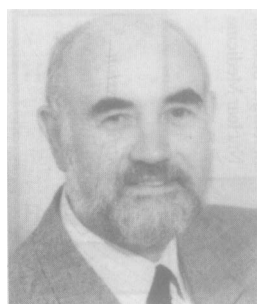
Dr Modic has served on the editorial boards of multiple journals and has served as a Member of the Board of Trustees of the SMRM and Board of Directors of the SMRI. He was President of the society Magnetic Resonance in Medicine for the 1992 - 1993 year and was the recipient of the Society Gold Medal and Clinical Science in 1991 for his research activity related to the spine. He is co-author of the text *Magnetic Resonance Imaging of the Spine* which is in its second edition and the author/co-author of over 150 peer reviewed articles related to neuroradiology.

**Professor J C Buckland-Wright: High Definition Macroradiography**

Professor J Christopher Buckland-Wright, BSc, PhD, DSc, is Professor of Radiological Anatomy in the University of London at the UMDS, Guy's and St Thomas's Hospitals. He gained his BSc and received his PhD in Anatomy in 1975, at Kings College, London University. In 1995, London University awarded him a DSc for his contributions to the fields of radiological anatomy and arthritis.

In 1973 he was appointed Lecturer in Anatomy, becoming Senior Lecturer in 1980, Reader in 1989 and was appointed Professor of the University of London in 1997. In 1982 he was appointed Head of the Department of Radiological Anatomy in the Division of Anatomy and in 1996 was elected Chairman of the Department of Applied Clinical Anatomy. He is a Fellow of the British Association of Clinical Anatomists, and member of the British Institute of Radiology, the British Society for Rheumatology, the Anatomical Society and the Osteoarthritis Research Society.

Since 1970, he has been involved with the development of microfocal X-ray units in this country and has been largely responsible for pioneering their application in the bio-medical field. Author of over 150 scientific publications, principally on development and application of techniques permitting quantitation of structural organization of bone, the extent and progression of diseases in the musculoskeletal system.

**Mr A Yule: Conflict or Partnership?**

Sandy Yule trained as a Student Radiographer in Aberdeen Royal Infirmary. After qualifying he worked in Aberdeen for ten years before moving to Cardiff to commission the new Imaging Department in the University Hospital of Wales in Cardiff in 1971. In 1985 he became a Fellow of the College of Radiographers and in 1976 gained the Diploma in Management Studies. In 1991 he received his MSc in Health Management.

From 1973 to 1981 he was in charge of the University Hospital and the Cardiff Royal Infirmary. In 1981 he was appointed Radiographic Advisor for the South Glamorgan District Health Authority. In 1992 he became the Service Centre Manager for Radiology, University of Wales and in 1994 he became Radiology Directorate Manager University Hospital of Wales NHS Trust. Since 1997 he has been managing the Clinical Risk Services within the Trust.

Overseas work has included visits to Sierra Leone, Hong Kong, Romania and Iceland. Mr Yule has also presented papers throughout the world on subjects including radiography, radiation protection and management.

He has been an active member of the College of Radiographers, serving as President (1984 - 1985) and chairman of the Education and Training Committee (1985 - 1987). He is currently chairman (since 1994) of the Radiographers Board, Council for the Professions Supplementary to Medicine. He is an active member of the board of the International Society of Radiographers and Radiological Technologists (ISRRT), serving as Treasurer since 1994. He has represented the UK on the ISRRT since 1990 and has represented the ISRRT at the WHO Health Conference 1994 - 1997 in Geneva. He is also a trustee and Treasurer of the World Radiography Education Trust Fund.



# PERSONAL PLANNER

# MONDAY 1 JUNE

Morning

Afternoon

Evening


<b>Hall</b>	<b>Morning</b>	<b>Afternoon</b>
Hall 1	Interventional Radiology 1 (SS) Education & Training in Interventional Radiology (SAS) Interventional Radiology 2 (SS)	IPEM Douglas Lea Lecture (EL) Imaging the Biliary Tree: The Current Role of Ultrasound, CT, ERCP, MRCP & CTC (SAS) Pancreas & Bile Duct (RC & SS)
Hall 9	Gastrointestinal Obstruction (SS) Gastrointestinal Tract (SAS) COR Presidential Address COR William Stripp Memorial Lecture (EL)	Fluoroscopy Dose Reduction (SS) Vascular Imaging (SS)
Hall 10a	<i>infoRAD</i> <sup>TM</sup> 1 - Information Systems (SS) Medical History (S)	Clinical Practice in Oncology (SS) Targeted Radiotherapy (SS)
Hall 10b	BIR Presidential Address Radiation Protection Dosimetry (WIP) Radiation Protection (SS) Minimum Standards for Quality in Diagnostic Imaging (RC)	New Dosimetry Protocols Implementation (SAS) Dosimetry (SS)
Hall 11a	Shoulder Imaging (RC) Musculoskeletal Trauma 1 (SS) Musculoskeletal Trauma 2 (SS) Spine MRI (SS)	Neuro & Trauma (WIP) Alternative Radiographic Techniques (KL) <i>infoRAD</i> <sup>TM</sup> 2 - Image Archiving (SS)
Hall 11b	How to Set Up & Run an Echo Service (RC) Nuclear Medicine & Hypoxia (SAS) Nuclear Medicine (SS) CT of the Pancreas (KL)	Nuclear Medicine - Pulmonary Embolism (SAS) Computing / Digital (WIP)
Olympian Suite	Oncological Imaging (SS) Radiotherapy Planning & Conformal Therapy (SS) Advanced Breast Imaging (SS)	Breast Diseases (SS) MRI for Radiographers - A Question of Field Strength (CC)

<b>SOCIAL EVENTS</b>	
Buffet & Tour of Cadbury World 1900 - 2300	Disco at Bobby Brown's - The Club 2100 - 0100



Morning

Afternoon

Evening


<i>Hall</i>	<i>Morning</i>	<i>Afternoon</i>
Hall 1	Occupational Standards (SS) Uroradiology (RC)	BIR Silvanus Thompson Memorial Lecture (EL) Interventional Radiology (KL) Film Viewing (SFS)
Hall 9	Neuroradiology 1 (SS) Neuroradiology 2 (SS) RSM Finzi Lecture (EL)	Integrated Workforce Planning (KL) COR Student Conference
Hall 10a	Paediatric Congenital Cranial Abnormalities (RC) MR Spectroscopy - Approaching Clinical Reality (SAS) Medical Infrared Imaging (SAS) Paediatric Imaging (SS)	Digital Imaging (SAS) Practical Aspects of Dental Radiography (RC)
Hall 10b	Hepatopancreatic Imaging (SS) Targeted Radiotherapy (KL) The Future of Fractionation Practices (SAS) Fractionation (SAS)	This House Believes Predictive Assays Have a Role to Play in Radiotherapy (Debate)
Hall 11a	Thromboembolism (SS) The Spine (RC) Pelvic Malignancy (RC) Vascular & Chest (WIP)	Computer Based Multimedia in Healthcare: The Salford Experience (SAS) infoRAD™ 4 - IT Security in the NHS (CC)
Hall 11b	Japenese Radiology Now (SAS) infoRAD™ 3 - Transmission, Teleradiology & Telemedicine (SS) Digital Radiography (SS)	MRI Vessels (SS) Dynamic Abdominal Imaging (SS) Gastrointestinal Tract (SS)
Olympian Suite	MRI for Radiographers: MRI of the Knee 1 (RC) MRI of the Knee 2 (RC) Future Applications (SAS) Musculoskeletal MRI (SS)	Dental & Maxillofacial Radiography (KL) Radiographic Reporting (RC) Skill Mix (SS)

**SOCIAL EVENTS**  
Congress Dinner & Dance at the Birmingham Botanical Gardens 1930 - 0100





Morning	Afternoon	Evening

<i>Hall</i>	<i>Morning</i>	<i>Afternoon</i>
Hall 1	Aortic Dissection - The Diagnosis (SAS) Interstitial Lung Disease (RC) BIR Mackenzie Davidson Memorial Lecture (EL)	BIR Imation Mayneord Memorial Lecture (EL) Chest (SS) CT Chest (SS)
Hall 9	British Institute of Radiology - Annual General Meeting & Awards Ceremony Forensic Radiography (KL) CT of Abdominal Trauma (KL) Continuing Professional Development (KL) Leonardo Goes LIVE (KL)	COR Welbeck Memorial Lecture (EL) College of Radiographers Awards Ceremony BIR Debate
Hall 10a	Bone Mineral Density Measurements (SS) Gastrointestinal & Renal (WIP) Lymphoma (RC) Lithotripsy (KL)	MRI Physics (SS) MRI for Radiographers - Practical MRI (W)
Hall 10b	Gamma Knife Practice (KL) Interaction of Imaging & Brachytherapy (SAS)	Image Guided & Intraoperative Brachytherapy (SAS) Brachytherapy Biophysical Planning (SAS)
Hall 11a	Cardiac Imaging (SS) <i>infoRAD</i> <sup>TM</sup> 5 - IT Integration into the Healthcare Environment (SS) Guidelines for the Imaging & Management of Metastatic Bone Disease in Breast Cancer (SAS)	How to Survive an Inspection by the Regulators (W)
Hall 11b	Audit & Management (SS) Management & Education (SS) Audit & Skill Mix (WIP)	Ear, Nose & Throat (SS)
Olympian Suite	How to Specify and Choose Imaging Equipment (W) Medical Devices - the Case for Innovation (CC)	Image Processing (SS) Ultrasound & Breast (WIP)

## LIST OF EXHIBITORS FOR MED X RAY® 1998

The following companies are exhibiting at MED X RAY®. A visit to this technical exhibition provides the ideal opportunity to view the very latest in equipment and services to the whole industry and to meet the leading manufacturers. Please see your MED X RAY® guide (distributed at the Congress) for further information. (*For opening times please see programme page 6*)

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Grahame Gardner Ltd	Rados Technology Ltd
Granta Book Exhibitions	Richardson Electronics (Europe) Ltd
Graytech	Sableline Ventures
Gulmay Medical Ltd	Schering Health Care Ltd
Harcourt-Brace	Scimed Ltd
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Health South (UK) plc	Siel Imaging Ltd
Healthcare Equipment & Supplier Co.	Siemens Medical Engineering
Helax UK Ltd	Sonotron Ltd
Hilger Crystals Ltd	Southern Scientific/Knight X-Ray
Horizon Imaging International Ltd	Sterling Diagnostic Imaging (UK) Ltd
Hydra Chemicals Ltd	StorComm. Inc
ICN Pharmaceuticals Ltd	Sunquest Information Systems
IGE Medical Systems	Technical Medical Services
Imagestore Ltd	The Radiology History & Heritage Charitable Trust
Imation UK Ltd	Toshiba Medical Systems Ltd
Impex Imaging Systems Ltd	Varian Oncology Systems
Institute of Physics Publishing	Vertec Scientific
International Medical Multi Media	Voxar Ltd
Institute of Physics & Engineering in Medicine	Wardray Products Ltd
ISRRT	Wisepress
Kenex (Electro-Medical) Ltd	Wolverson X-Ray Ltd
Keymed	X-Ograph Imaging Systems Ltd
Kodak Ltd	X-Rite Ltd
Konica (UK) Ltd	Zenith Medical Systems Ltd

**SCIENTIFIC SESSION Hall 1 0800 - 0850**  
**INTERVENTIONAL RADIOLOGY 1 [pp. 1-2]**

- Chairman: *T M Buckenham*
- 0800** Catheter-directed Venous Thrombolysis: an *In Vitro* Study Assessing Fluid Dispersion from a Pulse Spray System  
*C S Boyd, Royal Victoria Hospital, Belfast*
- 0810** Use of Intravascular Ultrasound in Stenting for Aortic Occlusive Disease  
*M J Thornton, Bristol Royal Infirmary, Bristol*
- 0820** Combined Radiological and Surgical Endovascular Remote Endarterectomy in Femoropopliteal Occlusion  
*E P H Torrie, Royal Berkshire Hospital, Berkshire*
- 0830** Outcome of Endovascular Stenting in Arterial Occlusive Disease  
*M J Thornton, Bristol Royal Infirmary, Bristol*
- 0840** Outcome Following Stenting for Aortoiliac Occlusive Disease  
*G S Dodge, Royal Free Hospital, London*

**SCIENTIFIC SESSION Hall 9 0800 - 0850**  
**GASTROINTESTINAL OBSTRUCTION [pp. 2-3]**

- Chairman: *tba*
- 0800** Assessment of Patterns of Large Bowel Dilatation on Plain Abdominal X-rays  
*C M Young, Groote Schuur Hospital & University of Cape Town, Cape Town SOUTH AFRICA*
- 0810** Water-soluble Contrast Follow-through Examination as a Simple Diagnostic Tool in Suspected Small Bowel Obstruction  
*J M Stringfellow, Hope Hospital, Salford*
- 0820** Distinction Between Post-operative Ileus and Small Bowel Obstruction: the Role of CT  
*C Tsompanlioti, Konstantopoulion Hospital, Athens GREECE*
- 0830** CT in the Diagnosis and Prognosis of Adhesive Small Bowel Obstruction  
*M Sy, Hôpital Erasme, Université Libre de Bruxelles, Brussels BELGIUM*
- 0840** CT Diagnosis of Strangulating Obstruction of the Small Bowel  
*M Zalzman, Hôpital Erasme, Université Libre de Bruxelles, Brussels BELGIUM*

**REFRESHER COURSE Hall 11a 0800 - 0850**  
**SHOULDER IMAGING [p. 3]**

- Chairman: *J P R Jenkins*
- 0800** MRI Shoulder Pain and Instability  
*Invited Review P M Hughes, Derriford Hospital, Devon*
- 0825** Rotator Cuff Disease  
*Invited Review J P R Jenkins, Manchester Royal Infirmary, Manchester*

**REFRESHER COURSE Hall 11b 0800 - 0850**  
**HOW TO SET UP AND RUN AN ECHO SERVICE [pp. 3-4]**

- Chairman: *R Keal*
- 0800** Echocardiography in a Cardiothoracic Centre  
*Invited Review R Keal, The Glenfield Hospital, Leicester*
- 0825** Provision of an Echocardiography Service in a District General Hospital  
*Invited Review D J Hardwick, Borders General Hospital, Roxburghshire*

**SCIENTIFIC SESSION Olympian Suite 0800 - 0900**  
**ONCOLOGICAL IMAGING [pp. 4-5]**

- Chairman: *S J Golding*
- 0800** How Adequately Do We Stage Hodgkin's Disease in the Northern Region?  
*J P Owen, Royal Victoria Infirmary, Newcastle upon Tyne*
- 0810** The Role of MRI in Lymphoma  
*C M Ramsey, Royal Marsden Hospital, Surrey*
- 0820** SPIO-Enhanced MRI and Dual Phase Helical CT for Liver Metastases: Comparison with AFROC Analysis  
*J Ward, St James's University Hospital, Leeds*
- 0830** MR Spectroscopy and Dynamic Contrast Enhanced MRI of Prostatic Carcinoma and Benign Prostatic Hypertrophy  
*G P Liney, Hull Royal Infirmary, Hull*
- 0840** The Value of Seminal Vesicle (SV) Biopsy in Suspected Prostate Cancer: Results in Patients with PSA levels greater than 10 ng ml<sup>-1</sup>  
*U Patel, St George's Hospital & Medical School, London*
- 0850** Review of Outside Cross-sectional Imaging by Oncological Radiologists: Does it Make a Difference?  
*G J Loughrey, Christie Hospital NHS Trust, Manchester*

**STATE OF THE ART SYMPOSIUM**

**Hall 1 0900 - 1030**

**EDUCATION AND TRAINING IN INTERVENTIONAL RADIOLOGY [p. 5]**

- Chairman: *A Adam*
- 0900** Virtual Reality and Simulation Techniques for Interventional Training  
*Invited Review S L Dawson, Massachusetts General Hospital, Boston USA*

- 0925** Fellowship Training in Interventional Radiology: is an Organ System Approach Appropriate?  
*Invited Review*  
*P R Mueller, Massachusetts General Hospital, Boston USA*
- 0950** The Animal Laboratory as a Training Resource  
*Invited Review*  
*R F Dondelinger, University Hospital Sart Tilman, Liege BELGIUM*

**STATE OF THE ART SYMPOSIUM**

**Hall 9 0900 - 1040**

**GASTROINTESTINAL TRACT [pp. 5-6]**

- Chairman: *P Shorvon*
- 0900** Abdominal Obstruction - a Radiographer's Perspective  
*Invited Review*  
*R Waterfield & L McNamee, Northern General Hospital, Sheffield*
- 0930** Plain Film Diagnosis of Intestinal Obstruction  
*Invited Review*  
*S Field, Kent & Canterbury Hospitals NHS Trust, Kent*
- 0950** Imaging in Intestinal Obstruction: After the Plain Film  
*Invited Review*  
*P J Shorvon, Central Middlesex Hospital NHS Trust, London*
- 1010** Metastasis to Gastrointestinal Tract from Breast Carcinoma: Lobular vs Ductal Carcinoma  
*J P Y Lay, Hope Hospital, Manchester*
- 1020** CT in the Non-traumatic Acute Abdominal Pain  
*I D Lyburn, Bristol Royal Infirmary, Bristol*
- 1030** Screening for Intraabdominal Drug Concealment: Does it Work?  
*F Lo, Wythenshawe Hospital, Manchester*

**SCIENTIFIC SESSION Hall 10a 0900 - 1000**

**infoRAD™ 1 - INFORMATION SYSTEMS [pp. 6-7]**

- Chairman: *E B Beckmann*
- 0900** Buying a Radiology Information System  
*Invited Review*  
*D J Harvey, Singleton Hospital, Swansea*
- 0930** Reporting with a Voice Recognition System - Effect Upon Radiologists' Time Compared with a Conventional System  
*R J Eiherington, Countess of Chester Hospital, Cheshire*

**BRITISH INSTITUTE OF RADIOLOGY**

**Hall 10b 0900 - 0945**

**PRESIDENTIAL ADDRESS [p. 7]**

- 0900** Evidence Based Imaging  
*M Smith, Research School of Medicine, Leeds*

**SCIENTIFIC SESSION Hall 11a 0900 - 1010**

**MUSCULOSKELETAL TRAUMA I [pp. 7-8]**

- Chairman: *P M Hughes*
- 0900** Paediatric Elbow Trauma  
*Invited Review*  
*P G White, Morriston Hospital, Swansea West Glamorgan*
- 0930** Diagnostic and Therapeutic Impact of MRI and Arthrography in the Investigation of Shoulder Pain  
*T K Blanchard, Addenbrooke's Hospital, Cambridge*
- 0940** Full Thickness Rotator Cuff Tears: Evaluation by Single Sequence (STIR) MRI  
*S J Wadsworth, John Radcliffe Hospital, Headington, Oxford*
- 0950** Visualization of the Coraco-acromial Ligament on Double Oblique Sagittal MRI of the Shoulder  
*A L Hine, Central Middlesex Hospital, London*
- 1000** Diagnosis of Rotator Cuff Tears by Dynamic Indirect MR Arthrography  
*K-H Allmann, Freiburg University Hospital, Freiburg GERMANY*

**STATE OF THE ART SYMPOSIUM**

**Hall 11b 0900 - 1030**

**NUCLEAR MEDICINE AND HYPOXIA [p. 8]**

- Chairman: *tba*
- 0900** Radiopharmaceuticals for Imaging Hypoxia  
*Invited Review*  
*C M Archer, Nycomed Amersham plc, Amersham*
- 0920** Hypoxia in Cardiology  
*Invited Review*  
*V Lewington, Southampton General Hospital, Southampton*
- 0940** Nuclear Medicine and Hypoxia in Oncology  
*Invited Review*  
*G J R Cook, Guy's & St Thomas' Hospitals, London*
- 1000** Identification of Hypoxic Regions in Traumatic Brain Injury  
*Invited Review*  
*S Vinjamuri, Royal Liverpool University Hospital, Liverpool*

**SCIENTIFIC SESSION Olympian Suite 0910 - 1000**

**RADIOTHERAPY PLANNING & CONFORMAL**

**THERAPY [p. 9]**

- Chairman: *D Tait*
- 0910** Acceptance Testing of a Helax Treatment Planning System: Irregular Field Evaluation  
*R J Lander, Singleton Hospital, Swansea*
- 0920** Beam Model Assessment on Plato RTS 2.0 (3D)  
*G Shentall, Royal Preston Hospital, Preston*
- 0930** An Investigative Study of Customized Compensation Using Dynamic Intensity Modulated Multileaf Collimator Fields  
*J H L Mott, North Western Medical Physics, Manchester*

- 0940** A Multidisciplinary Approach to Implement the Transition from 2D to 3D Conformal Therapy  
*A J Kendrew, Princess Royal Hospital, Hull*
- 0950** Virtual Dosimetry: Quality Control of Dynamic Intensity Modulated Radiation Therapy  
*A W Beavis, Princess Royal Hospital, Hull*

**WORK IN PROGRESS**

**SCIENTIFIC SESSION Hall 10b 1000 - 1050**

**RADIATION PROTECTION / DOSIMETRY [p. 119]**

- Chairman: *W Morgan*
- 1000** CT Scanner National Dosimetry Survey  
*S Edyvean, St George's Healthcare NHS Trust, London*
- 1010** An Investigation of Patient Doses for Routine Examinations in Irish Hospitals  
*D A Johnston, University College Dublin, Dublin IRELAND*
- 1020** Radiation Dose Reduction Using a Computerized Method of Patient Positioning - Clinical Trial Results  
*M McBride, Glasgow Caledonian University, Glasgow*
- 1030** The Use of a Semiconductor Detector for Measuring Low Dose Scattered X-radiation  
*A C Eyden, Canterbury Christ Church College, Kent*
- 1040** The Cost Effectiveness of Radon Remediation Programmes in NHS Properties, Domestic Housing and Schools  
*A R Denman, Northampton General Hospital NHS Trust, Northampton*

**SYMPOSIUM Hall 10a 1015 - 1230**

**MEDICAL HISTORY [p. 10]**

- Chairman: *I Isherwood*
- 1015** The Electron and the Atom - Contributions to Medicine  
*I Isherwood, University of Manchester, Manchester*
- 1100** The Society of Apothecaries and Women's Quest for Medical Qualification 1860-1895  
*D A Cook, The Worshipful Society of Apothecaries of London, Middlesex*
- 1120** Women-run Hospitals in Britain, 1872-1929  
*P D Mohr, Hope Hospital, Salford*
- 1140** Women in Radiology  
*U Busch, German Röntgen-Museum, Remscheid GERMANY*
- 1200** Pioneering X-rays at a Scottish Women's Hospital on the Western Front  
*E C Crofton, Edinburgh*

**SCIENTIFIC SESSION Olympian Suite 1020 - 1150**

**ADVANCED BREAST IMAGING [pp. 11-12]**

- Chairman: *M A Hall-Craggs*
- 1020** Diffraction Enhanced Imaging: a New Technique for Obtaining Superior Breast Images  
*W Thomlinson, National Synchrotron Light Source, New York USA*
- 1030** Region of Interest Analysis of Dynamic Breast MRI  
*P Gibbs, Hull Royal Infirmary, Hull*
- 1040** Use of MRI to Classify *de Novo* Architectural Distortion of the Breast  
*L W Turnbull, Hull Royal Infirmary, Hull*
- 1050** Assessment of Several Quantitative Measurements of Dynamic Contrast Enhanced MRI in the Differentiation of Primary Breast Tumours  
*G P Liney, Hull Royal Infirmary, Hull*
- 1100** Correlation of Maximum Tumour Enhancement on Dynamic MRI of the Breast with Histological Prognostic Factors  
*J M Stringfellow, University of Manchester, Manchester*
- 1110** Does a Single MRI Examination in Breast Cancer Follow-up Predict Clinical Outcome?  
*C J Beveridge, Royal Victoria Infirmary, Newcastle upon Tyne*
- 1120** The Value of Colour and Power Doppler in the Differential Diagnosis of Solid Breast Tumours  
*W L Teh, National Breast Screening Training Centre, Nottingham*
- 1130** US-guided Core Biopsy of Suspicious Mammographic Calcifications Using High Frequency and Power Doppler US  
*W L Teh, National Breast Screening Training Centre, Nottingham*
- 1140** Image-guided Breast Tumour Excision in an Interventional MRI Unit  
*S Gould, St Mary's Hospital, London*

**SCIENTIFIC SESSION Hall 11a 1030 - 1200**

**MUSCULOSKELETAL TRAUMA 2 [pp. 13-14]**

- Chairman: *J P R Jenkins*
- 1030** Is CT Scanning of C1-2 in a Trauma Environment Justified as a First Line Investigation?  
*R Hadley-Rowe, Royal London Hospital, London*
- 1100** The Paediatric Skeletal Response to Internal Fixation  
*M Lovell, Royal Manchester Children's Hospital, Manchester*
- 1110** Imaging of the Problem Scaphoid  
*M Taylor, Royal Orthopaedic Hospital, Birmingham*
- 1120** Femoral Neck Fractures: an Outcome Analysis  
*J V Patel, Birmingham Heartlands Hospital, Birmingham*

- 1130 The Use of Cross-sectional Imaging in Chronic Ankle Conditions and Its Influence on Management  
*P Robinson, Hope Hospital, Manchester*
- 1140 Accuracy of CT, MRI and Radiography in Orbital Floor Fractures and Tissue Prolapse: Endoscopic Correlation  
*S Grubnic, St George's Hospital, London*
- 1150 Managing Head Injuries in District General Hospitals: Assessing Criteria for Repeat Cranial CT Scans  
*D Nag, Barnsley District General Hospital NHS Trust, Barnsley*

**SCIENTIFIC SESSION Hall 1 1045 - 1235**  
**INTERVENTIONAL RADIOLOGY 2 [pp. 14-15]**

- Chairman: *A Adam*
- 1045 Interventional Radiology in the Chest  
*R W Günther, University Hospital, Aachen University of Technology, Aachen GERMANY*  
*Invited Review*
- 1115 Local Thrombolysis and Stenting in Obstruction of Large Veins  
*R F Dondelinger, University Hospital Sart Tilman, Liege BELGIUM*  
*Invited Review*
- 1145 The (B)leading Edge: Minimally Invasive Therapy Centres for Procedural Medicine  
*S L Dawson, Massachusetts General Hospital, Boston USA*  
*Invited Review*
- 1215 Inferior Vena Cava Filters: a Retrospective Review of Their Use and Associated Complications  
*I S Francis, Royal Free Hospital, London*
- 1225 Caval Filters: an Under-Utilized Vascular Intervention  
*K M Rosenfeld, Royal Free Hospital, London*

**SCIENTIFIC SESSION Hall 11b 1045 - 1155**  
**NUCLEAR MEDICINE [pp. 15-16]**

- Chairman: *D A Cunningham*
- 1045 PET Imaging with a Dual-headed Gamma Camera - Initial Experiences  
*K Johnson, Queen Elizabeth Hospital, Birmingham*
- 1055 PET Imaging with the Picker Gamma Camera PCD System  
*T D Fryer, Addenbrooke's Hospital, Cambridge*
- 1105 The Significance of Pulmonary Hot Spots in Routine White Cell Scintigraphy  
*P J Malby, Royal Liverpool University Hospital, Liverpool*
- 1115 Role of P-glycoprotein in <sup>99</sup>Tc<sup>m</sup> sestamibi Imaging for the Detection of Breast Cancer  
*M Mubashar, Hammersmith Hospitals NHS Trust, London*

- 1125 <sup>99</sup>Tc<sup>m</sup> MIBI Scintimammography in Suspected Recurrent Breast Cancer  
*J R Buscombe, Royal Free Hospital, London*
- 1135 Discordance Between <sup>67</sup>Ga SPECT Scintigraphy and CT in Follow-up of Lymphoma Patients  
*J Sosna, Hadassah University Hospital, Jerusalem ISRAEL*
- 1145 Positron Emission Tomography is Useful in Assessing Axillary Lymph Nodes in Breast Cancer  
*I C Smith, University of Aberdeen, Aberdeen*

**COLLEGE OF RADIOGRAPHERS**  
**Hall 9 1100 - 1145**

- PRESIDENTIAL ADDRESS [p.16]**
- 1100 I'm (Just) a Radiographer!  
*D Hardy, Dryburn Hospital, Durham*

**SCIENTIFIC SESSION Hall 10b 1100 - 1150**  
**RADIATION PROTECTION [pp. 17-18]**

- Chairman: *K Faulkner*
- 1100 An Investigation of the Relationship Between Image Quality and Entrance Surface Dose in Neonatal Chest Radiographs  
*A V Finch, University of Hertfordshire, N Harrow*
- 1110 Factors Affecting Patient Dose in Chest Lumbar Spine Examinations  
*P A Connolly, Integrated Radiological Services Ltd, Liverpool*
- 1120 Patient Radiation Dose Audit: Reducing Radiation Doses and Improving Equipment Performance  
*P R Clewer, Southampton General Hospital, Southampton*
- 1130 Fetal Distribution of Per technetate and <sup>99</sup>Tc<sup>m</sup>-MAA-relevance to Fetal Radiation Dose from Lung Scans in Pregnancy  
*A W Preece, Bristol Oncology Centre, Bristol*
- 1140 Mortality and Morbidity Study of Veterans of UK Nuclear Weapons Tests  
*S R Roff, Dundee University Medical School, Dundee*

**THE COLLEGE OF RADIOGRAPHERS**  
**Hall 9 1200 - 1245**

- WILLIAM STRIPP MEMORIAL LECTURE [p. 18]**
- 1200 The Role of Trauma Oblique Cervical Spine Radiographs in the Seriously Injured Patient  
*B Tonello, The Royal London Hospital, London*

**REFRESHER COURSE Hall 10b 1200 - 1245**  
**MINIMUM STANDARDS FOR QUALITY IN**  
**DIAGNOSTIC IMAGING [p. 18]**

Chairman: *K Goldstone*  
**1200** Minimum Standards for Quality in  
*Invited Review* Diagnostic Imaging  
*A P Jones, North Western Medical*  
*Physics, Withington, Manchester*

**SCIENTIFIC SESSION Hall 11a 1210 - 1300**  
**SPINE MRI [pp. 18-19]**

- Chairman: *V N Cassar Pullicino*
- 1210** The Influence of Lumbar Spine MRI on  
the Management of Patients with Low  
Back Pain  
*J J Rankine, University of Manchester,*  
*Manchester*
- 1220** Variations in the MRI Assessment of  
the AP Diameter of the Lumbar Spine  
Canal  
*S Treece, Hinchingbrooke Hospital,*  
*Cambridge*
- 1230** Reproducibility of Reporting of  
Vertebral End-plate Marrow Signal  
Changes on MRI  
*R S Shanbhag, Frenchay Hospital,*  
*Bristol*
- 1240** MRI in the Evaluation of Suspected  
Spinal Cord Compression in Malignant  
Disease  
*G J Loughrey, Christie Hospital NHS*  
*Trust, Manchester*
- 1250** Analysis of Intravertebral Axial  
Rotation in Adolescent Idiopathic  
Scoliosis Using 3D MRI  
*D Birchall, Hope Hospital, Manchester*

**KEYNOTE LECTURE Hall 11b 1215 - 1245**  
**CT OF THE PANCREAS [p. 19]**

Chairman: *D Martin*  
**1215** The Role of CT Scanning of the  
*Invited Review* Pancreas  
*S A Scott, Ysbyty Gwynedd, Bangor*

**INSTITUTE OF PHYSICS & ENGINEERING IN**  
**MEDICINE**

**Hall 1 1300 - 1345**  
**THE DOUGLAS LEA LECTURE [p. 19]**  
**1300** The Effects of Small Doses of Ionizing  
Radiation on Human Health  
*R Doll, University of Oxford, Oxford*

**WORK IN PROGRESS**

**SCIENTIFIC SESSION Hall 11a 1345 - 1445**  
**NEURO & TRAUMA [p. 120-121]**

- Chairman: *tba*
- 1345**  $T_2$  Hyperintensities in Children with  
Neurofibromatosis Type 1: a  
Proliferative Potential  
*W Mukonoweshuro, Royal Hallamshire*  
*Hospital, Sheffield*
- 1355** The Identification of Cerebral Volume  
Changes in Treated Growth Hormone  
Deficient Patients Using Serial 3D  
MR Image Processing  
*E R E Denton, Guy's Hospital, London*
- 1405** Introducing a New Projection  
Technique to Map the Sulcal Pattern of  
Brain MR Images onto a 2D Plane  
*M A Haidekker, University of Bremen,*  
*Bremen GERMANY*
- 1415** Assessment of the Cervico-thoracic  
Junction Using Digital Rotational  
Fluoroscopy - Comparison with the  
Swimmer's View  
*J T M Atchley, Southampton General*  
*Hospital, Southampton*
- 1425** Imaging of Hamate Bone Fractures in  
Conventional X-rays and CT: an  
Experimental Study and Clinical  
Experience  
*R Andresen, Behring Municipal*  
*Hospital, Berlin GERMANY*
- 1435** A New Positioning Aid for  
Radiographers Performing the  
Horizontal Beam Lateral Knee  
Projection  
*R Lawman, Frimley Park Hospital*  
*NHS Trust, Surrey*

**SCIENTIFIC SESSION Hall 9 1355 - 1515**  
**FLUOROSCOPY DOSE REDUCTION [p. 20]**

- Chairman: *R H Corbett*
- 1355** Fluoroscopy Dose Reduction  
*Invited Review* *S Field, Kent & Canterbury Hospitals*  
*NHS Trust, Kent*
- 1425** Development of Reference Dose Levels  
in Interventional Radiology  
*K Faulkner, Newcastle General*  
*Hospital, Newcastle upon Tyne*
- 1435** Knowledge of Patient Radiation  
Exposure Amongst Medical Staff  
*A O'Connor, Aintree Hospitals,*  
*Liverpool*
- 1445** Protection of the Unknown Pregnancy -  
Advice on Diagnostic Ionizing  
Procedures  
*C Sharp, NRPB, Oxon*
- 1455** Dose Reduction in CT Scanning by the  
Use of Male Gonad Shielding  
*R Price, Southampton General*  
*Hospital, Southampton*
- 1505** Monte Carlo Modelling in Chest and  
Lumbar Spine Radiography  
*G H McVey, Royal Marsden NHS Trust,*  
*London*

**STATE OF THE ART SYMPOSIUM**

**Hall 1 1400 - 1530**

**IMAGING THE BILIARY TREE:**

**THE CURRENT ROLE OF ULTRASOUND, PTC, ERCP, MRCP AND CTC [p. 21]**

Chairman: *D Martin*

**1400** The Role of US and CT  
Cholangiography in Imaging of the Biliary Tree  
*P J Shorvon, Central Middlesex Hospital NHS Trust, London*

**1415** MR Cholangiopancreatography  
*D J Lomas, University of Cambridge, Cambridge*

**1435** Direct Cholangiography and Pancreatography in the 1990s  
*M B Sheridan, St James's University Hospital Trust, Leeds*

**SCIENTIFIC SESSION Hall 10a 1400 - 1510**

**CLINICAL PRACTICE IN ONCOLOGY [pp. 21-23]**

Chairman: *C Beardmore*

**1400** Assessment of Bulk in Mediastinal Hodgkin's Disease: a Comparative Study of Plain Radiography and CT  
*A J Bradley, The Christie Hospital, Manchester*

**1410** Relation of Lectin Binding to Invasiveness and Lymph Node Metases in Oral Cancers  
*T Vijayakumar, Regional Cancer Centre, Trivandrum INDIA*

**1420** Dose Evaluation of 3D Conformal Radiotherapy of Nasopharyngeal Carcinoma  
*V Wu, Hong Kong Polytechnic University, Kowloon HONG KONG*

**1430** Is it Necessary to Treat Posterior Cervical Lymph Nodes in the Radiotherapy of Oral Cancer?  
*M Niewald, University Hospital of Saarland, Homburg GERMANY*

**1440** Concurrent Platinum and Docetaxel Chemotherapy Combined with External Irradiation for Patients with Transitional Cell Bladder Carcinoma  
*H A Varveris, University Hospital of Iralion, Iralion GREECE*

**1450** Old Almost as Good as New  
*R L Harris, Plymouth General Hospital, Plymouth*

**1500** The Experience of Radiation-induced Diarrhoea in Women Undergoing Pelvic Radiotherapy for Gynaecological Cancer  
*G Francis, Kingston University, Surrey*

**STATE OF THE ART SYMPOSIUM**

**Hall 10b 1400 - 1540**

**NEW DOSIMETRY PROTOCOLS IMPLEMENTATION [p. 23]**

Chairman: *A Morgan*

**1400** Overview of the kV X-ray and Electron Dosimetry Protocols  
*R M Harrison, Newcastle General Hospital, Newcastle upon Tyne*

**1425** Low kV Protocols  
*G Pitchford, Cookridge Hospital, Leeds*

**1450** Practical Experience of Implementing the IPEM Electron Protocol  
*T J Jordan, Christie Hospital NHS Trust, Manchester*

**1515** Practical Implementation of the New IPEM Very Low Energy Dosimetry Protocol  
*A G Greener, Guy's & St Thomas' Hospital Trust, London*

**STATE OF THE ART SYMPOSIUM**

**Hall 11b 1400 - 1530**

**NUCLEAR MEDICINE - PULMONARY EMBOLISM [pp. 23-24]**

Chairman: *M L Smith*

**1400** Perfusion Imaging in Pulmonary Embolism  
*M Buxton-Thomas, King's College Hospital, London*

**1425** Ventilation Imaging in Pulmonary Embolism  
*M J O'Doherty, St Thomas' Hospital, London*

**1450** Reporting Ventilation-Perfusion Scans  
*H W Gray, Glasgow Royal Infirmary, Glasgow*

**SCIENTIFIC SESSION Olympian Suite 1400 - 1520**

**BREAST DISEASES [pp. 24-25]**

Chairman: *P Pearce*

**1400** Expanding Professional Practice in Mammography  
*P L Williams, University of Salford, Manchester*

**1430** An Evaluation of Digitized Mammograms  
*J Murphy, Addenbrooke's NHS Trust, Cambridge*

**1440** How do Radiologists Interpret Mammographic Images?  
*M D Mugglestone, University of Derby, Derby*

**1450** Radiological and Pathological Correlations of Cancers Detected Preferentially with a Second View at Screening  
*R Given-Wilson, St George's Hospital, London*



- 1500** Database of Mammography Quality Control Phantom Images and Off-Site Evaluation System  
*K Imamura, St Marianna University School of Medicine, Kawasaki-City JAPAN*
- 1510** Is Mammography of Value in Women with Disseminated Carcinoma of Unknown Origin?  
*K Stevens, Nottingham City Hospital NHS Trust, Nottinghamshire*

**KEYNOTE LECTURE Hall 11a 1500 - 1530**  
**ALTERNATIVE RADIOGRAPHIC TECHNIQUES**  
[p. 25]

- Chairman: *M Viner*
- 1500** Half-axial Skull Radiography - a New Projection Described  
*B K Denton, University of Wales, Bangor*

**SCIENTIFIC SESSION Hall 9 1530 - 1700**  
**VASCULAR IMAGING** [pp. 26-27]

- Chairman: *R Orme*
- 1530** Does Hyoscine Butylbromide Affect the Incidence of Silent Ischaemia in Patients Undergoing Angiographic Procedures?  
*R Maher, John Radcliffe Hospital, Oxford*
- 1540** The Role of Rotational Angiography in the Assessment of Native and Transplant Renal Arteries  
*H R Seymour, St George's Hospital, London*
- 1550** Mid-term Results of Endovascular Repair of Abdominal Aortic Aneurysms: Sac Length Reduction and Graft Tortuosity  
*D Gould, Royal Liverpool University Hospital, Liverpool*
- 1600** The Role of Angiography in the Diagnosis of Meckel's Diverticulum  
*A W M Mitchell, The Hammersmith Hospital, London*
- 1610** A New Method of Simultaneous Measurement of Arterial and Venous Limb Blood Flow  
*A M Outif, University of Bristol, Bristol*
- 1620** Percutaneous Coil Embolization in the Management of Iatrogenic Pseudoaneurysms  
*G J O'Sullivan, St George's Hospital, London*
- 1630** The Use of the Angio-Seal Haemostatic Puncture Closure Device: Initial UK Experience  
*G J O'Sullivan, St George's Hospital, London*
- 1640** Carbon Dioxide Portography  
*G S Dodge, Royal Free Hospital, London*
- 1650** A Comparison of CO<sub>2</sub> and Iodinated Contrast Arteriography  
*N R Bees, St George's Hospital, London*

**CONTROVERSY CORNER**

*Olympian Suite 1530 - 1700*

**MRI FOR RADIOGRAPHERS - A QUESTION OF FIELD STRENGTH** [pp. 27-28]

- Chairman: *P Sharpe*
- 1530** Low Field Open MRI Scanners  
*S A Dunne, Bristol Oncology Centre, Bristol*
- 1600** 1.0 - 1.5 T Closed Field MRI Scanners  
*S J Boddy, Guy's & St Thomas' Hospitals, London*

**SCIENTIFIC SESSION Hall 10a 1535 - 1655**  
**TARGETED RADIOTHERAPY** [pp. 28 - 29]

- Chairman: *A Beddoe*
- 1535** Modelling Normal Tissue Complication Probability for Targeted Radionuclide Therapy  
*T Uttridge, Royal Adelaide Hospital, AUSTRALIA*
- 1605** Serial Quantification of <sup>131</sup>I-MIBG in Patients with Neural Crest Tumours  
*S L Smith, University Hospital, Nottingham*
- 1615** Targeted Radiopeptide Therapy - a Phase I Trial on High Dose <sup>111</sup>In Octreotide in Neuroendocrine Cancers  
*J R Buscombe, Royal Free Hospital, London*
- 1625** Development of New Fractionated Stereotactic Radiation Therapy Cones that can be Inserted Into the Wedge Mount  
*S G Ju, Samsung Medical Centre, Seoul KOREA*
- 1635** Using Fractionated Stereotactic Radiation Therapy for Nasopharynx Cancer Boost and Re-irradiation  
*M K Kim, Samsung Medical Centre, Seoul KOREA*
- 1645** The Use of Registered CT and MR Images in Radiotherapy Treatment Planning  
*P Dean, Cookridge Hospital, Cookridge Leeds*

**REFRESHER COURSE & SCIENTIFIC SESSION**  
**Hall 1 1545 - 1800**

**PANCREAS AND BILE DUCT** [pp. 29-31]

- Chairman: *M Sheridan*
- 1545** Pancreatitis: Imaging and Intervention  
*P R Mueller, Massachusetts General Hospital, Boston USA*
- 1630** Venous Invasion in Pancreatic Carcinoma: CT-Pathological Correlation  
*C S Ng, The University of Texas MD Anderson Cancer Center, Houston USA*
- 1640** The Dual Phase Spiral CT Scan in the Investigation of Pancreatic Disease  
*C C Dobson, Hull Royal Infirmary, Hull*

- 1650 Dynamic Contrast Enhanced MRI and Dual Phase Helical CT in the Pre-operative Assessment of Pancreatic Adenocarcinoma  
*J A Guthrie, St James's University Hospital, Leeds*
- 1700 Dual phase Helical CT of the Pancreas: Comparison to Endoscopic Ultrasonography in the Detection and Staging of Pancreatic Cancer  
*C L Kay, Medical University of South Carolina, Charleston USA*
- 1710 Gadolinium Enhanced MR vs Triple Phase Spiral CT in the Assessment of Pancreatic Carcinoma  
*C J Beveridge, Royal Victoria Infirmary, Newcastle upon Tyne*
- 1720 Comparison of Dynamic Contrast Enhanced Spiral CT and MRI Pre- and Post-mangafodipir Trisodium (Tscan) in the Staging of Pancreatic Cancer  
*I McCafferty, Queen Elizabeth Hospital, Birmingham*
- 1730 Is There Still a Role for Angiography in the Diagnosis of Pancreatic Masses?  
*J Y P Lay, Manchester Royal Infirmary, Manchester*
- 1740 Cholangiocarcinoma: Imaging and Management  
*W Jan, Royal Infirmary of Edinburgh, Edinburgh*
- 1750 The Role of Magnetic Resonance Cholangiopancreatography in a Range of Cases  
*I D Lyburn, Bristol Royal Infirmary, Bristol*

**SCIENTIFIC SESSION Hall 11a 1545 - 1645**

*infoRAD™ 2 - IMAGE ARCHIVING [p. 31]*

- Chairman: *M Tatlow*
- 1545 New Storage Media  
*Invited Review J N A Ridyard, Lanmark Medical Innovations, Bucks*
- 1615 Implementation of DICOM Message Exchange Architecture for Clinical PACS  
*T Kanchev, Markcare Medical Systems Ltd, Surrey*

**WORK IN PROGRESS**

**SCIENTIFIC SESSION Hall 11b 1545 - 1625**

*COMPUTING / DIGITAL [p. 121]*

- Chairman: *tba*
- 1545 Laser Versus Charged Couple Device Digital Radiographic Scanners: Qualitative Comparison at Different Compression Ratios  
*G W L Boland, Massachusetts General Hospital, Boston USA*
- 1555 Area Measurement and Volume Creation Using Simulated Materials  
*T R Bowles, University of Oxford, Oxford*
- 1605 Automated Registration of Similar Volumes  
*T R Bowles, University of Oxford, Oxford*
- 1615 Psychophysical Analysis of a Direct Digital X-ray Detector  
*J H Launder, FAXil, Leeds*

**SCIENTIFIC SESSION Hall 10b 1550 - 1630**

*DOSIMETRY [pp. 31-32]*

- Chairman: *tba*
- 1550 Fundamental Quantities and Units for Ionizing Radiation  
*W A Jennings, International Commission on Radiation Units & Measurements, Maryland USA*
- 1600 A Direct Method for Phantom Scatter Factor Measurement and Phantom Head Scatter Factor Determination  
*G A R Leslie, Peter MacCallum Cancer Institute, Victoria AUSTRALIA*
- 1610 A Monte Carlo N-particle-based Simple Model of a Linear Accelerator X-Ray Beam  
*R D Lewis, Singleton NHS Trust, Swansea*
- 1620 *In Vivo* Dose Measurements in Electron Therapy Using a p-Type Silicon Diode  
*A M Morgan, Cookridge Hospital, Leeds*

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**NOTES**

## TUESDAY 2 JUNE 1998

### SCIENTIFIC SESSION Hall 9 0800 - 0850

#### NEURORADIOLOGY 1 [p. 33]

Chairman: *A Gholkar*

- 0800** MR Angiography Visualization of Cerebral Aneurysms  
*W M Adams, Manchester Royal Infirmary, Manchester*
- 0810** Interventional Neuroradiology - in at the Back Door  
*N Hind, Newcastle Regional Neurosciences Centre, Northumberland*
- 0820** Embolization of Cerebral Arteriovenous Malformations; Early Haemorrhagic Complications Following Endovascular Treatment  
*P Flynn, Newcastle General Hospital, Newcastle upon Tyne*
- 0830** Superior Sagittal Sinus Thrombosis Treated by Local Thrombolysis  
*M P Callaway, Bristol Royal Infirmary, Bristol*
- 0840** Patterns of Acute Stroke on Diffusion Weighted MRI  
*G R Cherryman, Glenfield Hospital / University of Leicester, Leicester*

### REFRESHER COURSE Hall 10a 0800 - 0850

#### PAEDIATRIC CONGENITAL CRANIAL ABNORMALITIES [p. 34]

Chairman: *S Chapman*

- 0800** The Skull  
*Invited Review S Chapman, Birmingham Children's Hospital NHS Trust, Birmingham*
- 0825** The Brain  
*Invited Review T Jaspan, University Hospital, Nottingham*

### SCIENTIFIC SESSION Hall 10b 0800 - 0930

#### HEPATOPANCREATIC IMAGING [pp. 34-36]

Chairman: *M Sheridan*

- 0800** 5 Year Experience of Transjugular Intrahepatic Portosystemic Stent Shunts  
*P J Haslam, Freeman Hospital, Newcastle upon Tyne*
- 0810** The Impact of Octreotide and TIPSS on Mortality Due to Variceal Bleeding  
*C Rees, Freeman Hospital, Newcastle upon Tyne*
- 0820** Transjugular Intrahepatic Portosystemic Stent Shunt: Comparison of Intravascular Flow Measurement and Doppler US  
*M Libicher, University of Heidelberg, Heidelberg GERMANY*
- 0830** Contrast Enhanced Colour Doppler Sonography in the Follow-up of Transjugular Intrahepatic Portosystemic Stent Shunt  
*U C Leutloff, University Hospital Heidelberg, Heidelberg GERMANY*

- 0840** Assessing the Efficacy of Multihance (Gd-BOPTA/DIMEG) for the Detection of Focal Liver Lesions  
*M Bourne, University Hospital of Wales, Cardiff*
- 0850** The Evolution of Small "Indeterminate" Liver Lesions  
*P J Robinson, St James's University Hospital, Leeds*
- 0900** MRI of Liver Disease in Cystic Fibrosis  
*L J King, Chelsea & Westminster Hospital, London*
- 0910** Lymphadenopathy in Primary Sclerosing Cholangitis  
*K Johnson, Queen Elizabeth Hospital, Birmingham*
- 0920** US Findings in Patients Undergoing Extracorporeal Membrane Oxygenation  
*M Palaniappan, The Glenfield Hospital NHS Trust, Leicester*

### SCIENTIFIC SESSION Hall 11a 0800 - 0850

#### THROMBOEMBOLISM [pp. 36-37]

Chairman: *S Desai*

- 0800** The Radiology Department's Role in Setting up an Outpatient DVT Service  
*A H Troughton, Princess Margaret Hospital, Swindon*
- 0810** Lower Limb DVT as a Surrogate for Suspected PE - Which Imaging Modality?  
*N C Rowlands, Edinburgh Royal Infirmary, Edinburgh*
- 0820** Plasma D-dimer Levels - is that Venogram Really Necessary?  
*H S Khaira, Good Hope Hospital NHS Trust, West Midlands*
- 0830** Pulmonary Thromboembolism: the Utility of Spiral CT Pulmonary Angiography in a District General Hospital  
*C M Jones, North Staffordshire Hospital Trust, Stoke-on-Trent*
- 0840** Acute Right Ventricular Dilatation: A New Helical CT Sign of Massive Pulmonary Embolism?  
*J H Reid, Borders General Hospital, Roxburghshire*

### REFRESHER COURSE Olympian Suite 0800 - 0850

#### MRI FOR RADIOGRAPHERS - MRI OF THE KNEE I [p. 37]

Chairman: *P Cavanagh*

- 0800** MRI Techniques of the Knee  
*Invited Review T R Jones, The York & North Yorkshire MRI Centre, York*
- 0825** Patellar Tracking  
*Invited Review D J Wilson, The Nuffield Orthopaedic Centre, Oxford*

**SCIENTIFIC SESSION Hall 1 0830 - 1100**  
**OCCUPATIONAL STANDARDS [pp. 37-39]**

- Chairman: *A M Paterson*
- 0830** Occupational Standards - Establishing and Developing a Quality Service for the Future  
*Invited Review*  
*L H Mitchell, Prime Research & Development Ltd, Harrogate*
- 0900** Occupational Standards for the Practice of Diagnostic US  
*Invited Review*  
*R Fernando, University of Hertfordshire, Herts*
- 0930** How Radiographers Prefer to Learn - the Impact on Continuing Professional Development  
*P S Fowler, South Bank University, London*
- 0940** Clinical Assessment, Bridging the Theory/Practice Gap, Professional Development: are Professional Development Portfolios the Answer?  
*H A Best, Sheffield Hallam University, Sheffield*
- 0950** Continuing Professional Development for Radiographers: Should Radiologists Take the Lead?  
*D Nag, Barnsley District General Hospital NHS Trust, Barnsley*
- 1000** The Portfolio Approach to the Assessment of Competence in Ultrasound  
*E McInnes, Sheffield Hallam University, Sheffield*
- 1010** The Use of an Objective Structured Clinical Examination to Measure Clinical Competence in Student Radiographers  
*G A Marshall, University College of St Martin, Lancaster*
- 1020** Measuring the Reliability of an Assessment Tool Used for the Clinical Evaluation of Student Radiographers  
*C S Sloane, Royal Lancaster Infirmary, Lancaster*
- 1030** "Building the Bridge" - Teaching Social Science to Radiography Students  
*K Kinmond & D McCarrick, University of Central England, Perry Barr*
- 1040** "What Should I Do?" Supporting Ethical Decision Making in Radiographic Practice Through Objective Reasoning  
*C M Ferris, Sheffield Hallam University, Sheffield*
- 1050** Pan European Clinical Education for Undergraduate Diagnostic Radiographers  
*P Milburn, Canterbury Christ Church College, Kent*

**SCIENTIFIC SESSION Hall 9 0900 - 1130**  
**NEURORADIOLOGY 2 [pp. 39-41]**

- Chairman: *N M Antoun*
- 0900** Recent Advances in Endovascular Treatment of Intracranial Aneurysms and Arteriovenous Malformations  
*Invited Review*  
*A Gholkar, Newcastle General Hospital, Newcastle upon Tyne*

- 0930** Endovascular Treatment of Carotid Stenosis and Acute Stroke  
*Invited Review*  
*A G Clifton, Atkinson Morley's Hospital, London*
- 1000** The Value of the "Single Visit Clinic" in the Investigation of Headache  
*A D G Wood, Poole Hospital NHS Trust, Dorset*
- 1010** Evaluation of Brain CT Findings in Psychiatric Patients  
*M Palaniappan, The Glenfield Hospital NHS Trust, Leicester*
- 1020** Is a Simple Measure of Brain Volume Clinically Useful?  
*J J K Best, The University of Edinburgh, Edinburgh*
- 1030** Determination of the Response of Pituitary Adenomas to Dopamine Agonists by Dynamic MRI  
*C Rowland-Hill, Hull Royal Infirmary, Hull*
- 1040** MultiHance (Gd-BOPTA/DIMEG) in MRI of Intracranial Tumours  
*M Bourne, University Hospital of Wales, Cardiff*
- 1050** Automated Proton MRS of the Brain at 1.0 T: Reproducibility and Clinical Utility in Alzheimer's Disease  
*A D Waldman, University College London Hospitals, London*
- 1100** Comparison of the Diagnostic Information in rCBV: Maximum Concentration and Subtraction Maps Based on MRI of Gliomas  
*C Berchtenbreiter, University Hospital Großhadern, Munich GERMANY*
- 1110** Evaluation of Diffusion Weighted MRI in Patients with Amyotrophic Lateral Sclerosis  
*R Bruening, University Hospital Großhadern, Munich GERMANY*
- 1120** Diffusion weighted MRI in Patients with Transient Global Amnesia  
*C Berchtenbreiter, University Hospital Großhadern, Munich GERMANY*

**STATE OF THE ART SYMPOSIUM**

**Hall 10a 0900 - 1030**

**MR SPECTROSCOPY - APPROACHING CLINICAL REALITY [pp. 41-42]**

- Chairman: *I R Young*
- 0900** MR Spectroscopy in the Liver - Approaching Clinical Reality  
*Invited Review*  
*S D Taylor-Robinson, Imperial College School of Medicine, Hammersmith Hospital, London*
- 0925** Magnetic Resonance Spectroscopy of Newborn Infants  
*Invited Review*  
*A D Edwards, Imperial College School of Medicine, Hammersmith Hospital, London*
- 0950** Magnetic Resonance Spectroscopy in Oncology  
*Invited Review*  
*J R Griffiths, St George's Hospital Medical School, London*

**STATE OF THE ART SYMPOSIUM**

**Hall 11b 0900 - 1030**

**JAPANESE RADIOLOGY NOW** [pp. 42-43]

- Chairman: *I W McCall*
- 0900** The Role of CT and MRI for Staging Lung Cancer  
*Invited Review*  
*M Kono, Kobe University School of Medicine, Kobe JAPAN*
- 0925** Recent Advances in Liver Imaging - CT and MRI Diagnosis of Nodular Lesions Complicating in Liver Cirrhosis  
*Invited Review*  
*K Ohtomo, University of Tokyo, Tokyo JAPAN*
- 0950** Arterial Embolotherapy for Haemoptysis Caused by Benign Diseases  
*Invited Review*  
*S Kudo, Saga Medical School, Saga JAPAN*

**REFRESHER COURSE**

**Olympian Suite 0900 - 0950**

**MRI FOR RADIOGRAPHERS - MRI OF THE KNEE 2**  
[p. 43]

- Chairman: *T R Jones*
- 0900** Ligaments of the Knee - MRI Radiographer's Guide  
*Invited Review*  
*C R Kendell, Northampton General Hospital NHS Trust, Cliftonville, Northampton*
- 0925** Meniscal Tears  
*Invited Review*  
*P M Cavanagh, Taunton & Somerset NHS Trust, Somerset*

**REFRESHER COURSE Hall 11a 0915 - 1000**

**THE SPINE** [p. 43]

- Chairman: *V N Cassar Pullicino*
- 0915** MR of the Spine Post-operatively and Spinal Infection  
*Invited Review*  
*M T Modic, University Hospital of Cleveland, Ohio USA*

**KEYNOTE LECTURE Hall 10b 0945 - 1015**

**TARGETED RADIOTHERAPY** [pp. 43-44]

- Chairman: *J Fowler*
- 0945** Modelling Tumour Control With Targeted Radiotherapy  
*Invited Review*  
*T E Wheldon, CRC Beatson Laboratories, Glasgow*

**STATE OF THE ART SYMPOSIUM**

**Hall 10b 1015 - 1115**

**THE FUTURE OF FRACTIONATION PRACTICES**  
[p. 44]

- Chairman: *J Fowler*
- 1015** Outstanding Issues in Radiotherapy Dose Fractionation Studies  
*Invited Review*  
*J H Hendry, Paterson Institute for Cancer Research, Manchester*
- 1045** The Fractionation of External Beam Radiotherapy  
*Invited Review*  
*M I Saunders, Mount Vernon Hospital, Middlesex*

**REFRESHER COURSE & SCIENTIFIC SESSION**

**Hall 11a 1015 - 1150**

**PELVIC MALIGNANCY** [pp. 44-46]

- Chairman: *J Olliff*
- 1015** The Use of MRI in Staging and Post-treatment Evaluation of Female Pelvic Malignancy  
*Invited Review*  
*J M Hawnaur, University of Manchester, Manchester*
- 1035** Role of CT in Staging and Post-treatment Evaluation of Female Pelvic Malignancy  
*Invited Review*  
*J E Husband, Royal Marsden Hospital, Surrey*
- 1100** MRI Features of Normal and Metastatic Inguinal Lymph Nodes  
*J M Hawnaur, University of Manchester, Manchester*
- 1110** US Guided Cytology of Inguinal Nodes in Vulval Cancer  
*E Moskovic, Royal Marsden Hospital, London*
- 1120** The Effects of a Progestogen on the Endometrium of Long-term Users of Tamoxifen Treated Breast Cancer Patients Using TVS and MRI  
*L W Turnbull, Hull Royal Infirmary, Hull*
- 1130** Comparative Efficacy of Lumirem and Magnevist Enteral in Pelvic MRI  
*S Grubnic, Royal Marsden Hospital, Surrey*
- 1140** MRI in Radiotherapy Planning of the Pelvis  
*S A Dunne, Bristol Oncology Centre, Bristol*

**STATE OF THE ART SYMPOSIUM**

**Olympian Suite 1015 - 1145**

**MRI FOR RADIOGRAPHERS - FUTURE APPLICATIONS** [p. 46]

- Chairman: *C Kendell*
- 1015** Functional MRI and Human Brain Mapping  
*Invited Review*  
*A J Brennan, Institute of Neurology, London*
- 1040** Interventional Magnetic Resonance - The Way Forward at St Mary's Hospital, London  
*Invited Review*  
*A Gwynne Davies, St Mary's Hospital, London*
- 1105** Medico-legal MRI  
*Invited Review*  
*P Anslow, Radcliffe Infirmary, Oxford*

**STATE OF THE ART SYMPOSIUM**

**Hall 10a 1045 - 1215**

**MEDICAL INFRARED IMAGING** [pp. 46-47]

- Chairman: *J R Harding*
- 1045** Recent Advances in Infrared Imaging Systems  
*Invited Review*  
*M J Bosworth, AGEMA Infrared Systems Ltd, Beds*

<b>1105</b> <i>Invited Review</i>	The Development of Quantitative Infrared Imaging <i>E F J Ring, Royal National Hospital for Rheumatic Diseases, Bath</i>
<b>1125</b> <i>Invited Review</i>	Infrared Imaging in Venous Disease <i>J R Harding, St Woolos Hospital, Newport</i>
<b>1145</b> <i>Invited Review</i>	Infrared Imaging in Repetitive Strain Injury and Reflex Sympathetic Dystrophy <i>B L Hazleman, Addenbrooke's Hospital, Cambridge</i>

**SCIENTIFIC SESSION Hall 11b 1100 - 1150**  
*infoRAD™ 3 - TRANSMISSION, TELERADIOLOGY & TELEMEDICINE [pp. 47-48]*  
**in association with CAR**

Chairman:	<i>S Bowman</i>
<b>1100</b> <i>Invited Review</i>	Telemedicine and Teleradiology: Applications, Technologies and Legal Aspects <i>H U Lemke, Technical University Berlin, GERMANY</i>
<b>1130</b>	Implementation of a Browser-based Medical Image Viewing System <i>R T Black, Papworth Hospital NHS Trust, Cambridgeshire</i>

**REFRESHER COURSE & SCIENTIFIC SESSION**  
**Hall 1 1115 - 1250**

	<b>URORADIOLOGY [pp. 48-49]</b>
Chairman:	<i>J A W Webb</i>
<b>1115</b> <i>Invited Review</i>	Imaging and Management of Patients with Acute Renal Failure <i>M J Kellest, St Peter's &amp; The Middlesex Hospitals, London</i>
<b>1200</b>	Primary Antegrade Ureteric Stenting - Success Rate, Technical Factors and Cost Advantages <i>U Patel, St George's Hospital &amp; Medical School, London</i>
<b>1210</b>	Advantage of Air Contrast for Percutaneous Nephrostomy in Infected Systems <i>G J O'Sullivan, St George's Hospital, London</i>
<b>1220</b>	Prognostic Factors for the Development of Renal Impairment in Chronic Pyelonephritis <i>J P Owen, Royal Victoria Infirmary, Newcastle upon Tyne</i>
<b>1230</b>	CT Appearance of the Adrenal Gland in ACTH-dependent Cushing's Syndrome <i>J A Hanson, St Bartholomew's Hospital, London</i>
<b>1240</b>	The Value of Ultrasound Contrast Media in the Assessment of Testicular Pathology <i>M M Maher, Mater Misericordiae Hospital, Dublin IRELAND</i>

**STATE OF THE ART SYMPOSIUM**

	<b>Hall 10b 1130 - 1300</b> <b>FRACTIONATION [p. 49]</b>
Chairman:	<i>J F Fowler</i>
<b>1130</b> <i>Invited Review</i>	Experimental Fractionation Using Very Small Doses per Fraction <i>M C Joiner, Gray Laboratory Research Trust, Middlesex</i>
<b>1200</b> <i>Invited Review</i>	Fractionation in Radioisotope Therapy <i>V R McCready, Royal Marsden Hospital &amp; Institute of Cancer Research, Surrey</i>
<b>1230</b> <i>Invited Review</i>	The Economics of Fractionation <i>R G Dale, Hammersmith Hospitals NHS Trust, London</i>

**ROYAL SOCIETY OF MEDICINE**

	<b>Hall 9 1200 - 1245</b> <b>FINZI LECTURE [pp. 49-50]</b>
<b>1200</b>	Breast Cancer - Which Patients Should Have Radiotherapy? <i>M Overgaard, Aarhus University Hospital, Nørrebrogade DENMARK</i>

**WORK IN PROGRESS**

**SCIENTIFIC SESSION Hall 11a 1200 - 1310**  
**VASCULAR & CHEST [pp. 122-123]**

Chairman:	<i>A Adam</i>
<b>1200</b>	A Novel Method of Isotropic Limb Blood Flow Measurement to Predict the Level of Arterial Occlusion <i>A M Outif, University of Bristol, Bristol</i>
<b>1210</b>	Rotational Digital Arteriography of the Profunda Femoris Artery in Claudicants - Comparison with the Standard Anteroposterior Projection <i>J Hancock, Southampton General Hospital, Southampton</i>
<b>1220</b>	Evaluation of Prospective Cardiac Gating to Reduce Cardiac Motion on HRCT <i>A D Tasker, Papworth Hospital NHS Trust, Cambridge</i>
<b>1230</b>	The Use of Carbon Dioxide Contrast Agent in Renal Angiography - the St George's Hospital Experience <i>R C Beese, St George's Hospital, London</i>
<b>1240</b>	Assessment of Aortic Involvement in Patients with Marfan's Syndrome Using MRI <i>J M Francis, Royal Brompton Hospital, London</i>
<b>1250</b>	MRI in the Assessment of Chronic Cavitating Lung Conditions <i>M P Callaway, Bristol Royal Infirmary, Bristol</i>
<b>1300</b>	Computed Tomography of the Thorax in the Follow-up of Patients with Curative Resection of Colorectal Carcinoma <i>J M Stringfellow, Hope Hospital, Salford</i>

**SCIENTIFIC SESSION Hall 11b 1200 - 1250**  
**DIGITAL RADIOGRAPHY [p. 50]**

- Chairman: *N Martin*
- 1200** Novel Film Viewing Technology and the EC '96 Radiology Quality Guidelines  
*D Inbar, SmartLight Ltd, Nesher ISRAEL*
- 1210** Direct Radiology - First Practical Experiences  
*D L Richardson, Royal Victoria Infirmary & Associated Hospitals NHS Trust, Newcastle upon Tyne*
- 1220** The Impact of Digital Radiography on a Domiciliary Chest X-ray Service  
*J C C Elford, Derriford Hospital, Plymouth*
- 1230** Environmental and Ergonomic Considerations For a Multiple Computed Radiographic Facility  
*D Baker, Conquest Hospital, East Sussex*
- 1240** Single Point of Failure Avoidance in Multiple CR/PACS Network  
*K D Foord, Conquest Hospital, East Sussex*

**SCIENTIFIC SESSION Olympian Suite 1200 - 1300**  
**MRI FOR RADIOGRAPHERS -**  
**MUSCULOSKELETAL MRI [p. 51]**

- Chairman: *P Sharpe*
- 1200** Optimizing Sequences in the Musculoskeletal System  
*Inited Review P M Cavanagh, Taunton & Somerset NHS Trust, Somerset*
- 1230** Patellar Tendinitis and Patellar Tracking Abnormalities  
*G Allen, Nuffield Orthopaedic Centre, Oxford*
- 1240** Is Single Sequence MRI a Reliable Test for Suspected Meniscal Pathology?  
*B Burns, John Radcliffe Hospital, Oxford*
- 1250** Dynamic Real-time MRI - a New Diagnostic Modality for Occult Groin Pain?  
*S Gould, St Mary's Hospital, London*

**SCIENTIFIC SESSION Hall 10a 1230 - 1330**  
**PAEDIATRIC IMAGING [pp. 51-53]**

- Chairman: *S Chapman*
- 1230** The Value of CEC Image Criteria in Neonatal Radiography  
*A Finch, The Hillingdon Hospital, Middlesex*
- 1240** Dose Reduction in Paediatric HRCT of the Chest  
*M J Easty, Great Ormond Street Hospital, London*
- 1250** Patterns of Referral for X-rays from Neonatal Units; A Retrospective Survey  
*A Finch, The Hillingdon Hospital, Middlesex*

- 1300** Air-augmented Abdominal X-ray in Neonatal High Gastrointestinal Obstructions  
*R L Harrison, Addenbrooke's Hospital, Cambridge*
- 1310** US-Guided Cutting Needle Biopsy of Head and Neck Masses in Children  
*G A Bain, Addenbrooke's Hospital, Cambridge*
- 1320** Utilization of Gonad Protection for Female Paediatric Patients with Developmental Dysplasia of the Hip  
*C M Thompson, Sheffield Hallam University, Yorkshire*

**BRITISH INSTITUTE OF RADIOLOGY**  
*Hall 1 1300 - 1345*  
**SILVANUS THOMPSON MEMORIAL LECTURE**  
*[pp. 53]*

**1300** Computer Assisted Navigation and Augmented Reality in Image Guided Interventions  
*D J Hawkes, UMDS Guy's and St Thomas's Hospital, London*

**KEYNOTE LECTURE Hall 9 1315 - 1345**  
**INTEGRATED WORKFORCE PLANNING [p. 53]**

- Chairman: *V Gregory*
- 1315** Integrated Workforce Planning  
*Inited Review C S F Easmon, North Thames Regional Health Authority, London*

**KEYNOTE LECTURE Olympian Suite 1330 - 1400**  
**DENTAL & MAXILLOFACIAL RADIOGRAPHY [p.53]**

- Chairman: *S Barlow*
- 1330** Current Developments in Dental and Maxillofacial Radiography  
*Inited Review S M Bourne, St Bartholomew's & The Royal London Hospital School of Medicine & Dentistry, London*

**KEYNOTE LECTURE Hall 1 1400 - 1445**  
**INTERVENTIONAL RADIOLOGY [p. 53]**

- Chairman: *tba*
- 1400** Arterial Stents  
*Inited Review P A Gaines, Northern General Hospital, Yorkshire*

**THE COLLEGE OF RADIOGRAPHERS**  
**Hall 9 1400 - 1600**  
**STUDENT CONFERENCE [p. 133]**

Chairman: *A V Finch*

**tba** The Feasibility of Ultrasound Screening for Abdominal Aortic Aneurysms Within a General Practice Surgery  
*A J Tuck, South Bank University, London*

**tba** The Good, the Bad and the Audit!!  
*S Holmes, Sheffield Hallam University, Sheffield*

**DEBATE Hall 10b 1400 - 1520**

**FRACTIONATION DEBATE - THIS HOUSE BELIEVES PREDICTIVE ASSAYS HAVE A ROLE TO PLAY IN RADIOTHERAPY [p. 54]**

- Chairman: *J H Hendry*
- 1400** The Case for Radiosensitivity  
*Invited Speaker J Peacock, Institute for Cancer Research, Surrey*
- 1420** The Case Against Radiosensitivity  
*Invited Speaker S M Bentzen, Gray Laboratory Cancer Research Trust, Middlesex*
- 1440** The Case for Proliferation  
*Invited Speaker G D Wilson, Gray Laboratory Cancer Research Trust, Middlesex*
- 1500** The Case Against Proliferation  
*Invited Speaker G G Steel, The Institute of Cancer Research, Surrey*

**STATE OF THE ART SYMPOSIUM**

**Hall 11a 1400 - 1530**

**COMPUTER BASED MULTIMEDIA IN HEALTH CARE: THE SALFORD EXPERIENCE [pp. 54-55] in association with CAR**

- Chairman: *H Lemke & P Hogg*
- 1400** GEMISIS 2000 - Information & Communication Technologies and Tomorrow's Healthcare  
*Invited Review J Powell OBE, University of Salford, Manchester*
- 1415** Computer-based Multimedia Information Systems for Patients, Partners and Members of the General Public  
*Invited Review D A Farnworth, Hope Hospital, Manchester*
- 1435** The Development and Evaluation of Multimedia Health Education Materials  
*Invited Review T S Gambling, University of Salford, Manchester*
- 1455** Computer Based Information and Education Systems for Healthcare Workers  
*Invited Review P Hogg, University of Salford, Manchester*
- 1515** *J Powell OBE, University of Salford, Manchester (Discussion)*

**SCIENTIFIC SESSION Hall 11b 1400 - 1450**

**MRI VESSELS [pp. 55-56]**

- Chairman: *G R Cherryman*
- 1400** Assessment of Gd-BOPTA for MR Angiography: Results of a Phase I Study  
*M V Knopp, Deutsches Krebsforschungszentrum, Heidelberg GERMANY*
- 1410** MRI Following Aortic Root Replacement Surgery  
*M J Thornton, Bristol Royal Infirmary, Bristol*
- 1420** Dynamic Breath-hold 3D Gadolinium-enhanced MR Angiography of the Thoracic Aorta and Great Vessels  
*J J Entwisle, The Glenfield Hospital NHS Trust, Leicester*

- 1430** Optimization of Contrast-enhanced Magnetic Resonance Angiography of the Iliac Arteries by Injection Simulation  
*M A Schmidt, St George's Hospital, London*
- 1440** Stepping-table Gadolinium-enhanced Digital subtraction Magnetic Resonance Angiography of the Aorta and Lower Extremity Arteries  
*J F M Meaney, ULTH NHS Trust, Leeds General Infirmary, Leeds*

**SCIENTIFIC SESSION Hall 10a 1415 - 1555**

**DIGITAL IMAGING [pp. 56-58]**

**in association with CAR**

- Chairman: *A Todd-Pokropek*
- 1415** Co-registration and Analysis of Multi-modality Imaging  
*Invited Review D J Hawkes, Guy's & St Thomas' Hospital, London*
- 1445** How Low Can You Go? Noise and Exposure in Computed Radiography  
*P R Cole, IRS Ltd, Liverpool*
- 1455** Noise Estimation in Digital X-ray Imaging  
*P W E Schmidt, Royal Brompton Hospital NHS Trust, London*
- 1505** Technical Measurements of an Experimental Clinical Flat Panel Dynamic Digital X-ray Detector  
*E L Baker, LXI Research, The General Infirmary, Leeds*
- 1515** Clinical Experiences with an Experimental Flat-panel Dynamic Digital X-ray Detector  
*R F Bury, The General Infirmary, Leeds*
- 1525** Imaging Performance of a New Direct Radiographic Detector  
*S M Kengyelics, Leeds General Infirmary, Leeds*
- 1535** Photostimulable Phosphor Computed Radiography Versus Digital Projection Radiography  
*S Barrow, Royal Victoria Infirmary & Associated Hospitals NHS Trust, Newcastle upon Tyne*
- 1545** The Optimization of Radiographic Technique in Digital Chest Radiology  
*J H Launders, University of Leeds, Leeds*

**REFRESHER COURSE Olympian Suite 1415 - 1500**

**RADIOGRAPHER REPORTING [p. 58]**

- Chairman: *R Price*
- 1415** Perspectives on Radiographic Reporting: a Radiographer, Radiologist and Accident and Emergency Consultant Discuss Their Experiences  
*Invited Review M J Warren, B Turner & M Kotecha, Luton and Dunstable NHS Trust Hospital, Luton*



**FILM VIEWING SESSION Hall 1 1500 - 1700**  
**INTERNATIONAL FILM VIEWING [p. 58]**

- Chairman: *F Gilbert / I Isherwood*  
*S Kudo, Saga Medical School,*  
*JAPAN*  
*J Weir, Aberdeen Royal Infirmary,*  
*Aberdeen*  
*P R Mueller, Massachusetts General*  
*Hospital, Boston USA*  
*A Vasilyev, Central Military Research*  
*Hospital of Air Forces of Russia,*  
*Moscow RUSSIA*  
*M Cela, University Hospital Centre of*  
*Tirana, Tiran ALBANIA*  
*R W Günther, University of Technology,*  
*GERMANY*

**SCIENTIFIC SESSION Hall 11b 1500 - 1550**  
**DYNAMIC ABDOMINAL IMAGING [pp. 58-59]**

- Chairman: *S Halligan*
- 1500** Real-time 3D Electromagnetic Imaging of Small Bowel Intubation for Enteroclysis  
*S Halligan, St Mark's Hospital, Harrow*
- 1510** Imaging and Classification of Enteroceles Using Dynamic MRI  
*A Liennenmann, Klinikum Grosshadern, LMU University Munich, Munich GERMANY*
- 1520** The Benefits or Otherwise of Evacuation Proctography  
*N Hollings, St Mark's Hospital, Harrow*
- 1530** Dynamic MRI Defaecating Proctography - a New Method for Assessing Anorectal Dysfunction?  
*S Gould, St Mary's Hospital, London*
- 1540** Faecal Incontinence in Scleroderma: Assessment of the Anal Sphincter Using High Resolution Endoanal Magnetic Resonance Imaging  
*N M deSouza, Imperial College School of Medicine, Hammersmith Hospital, London*

**SCIENTIFIC SESSION Olympian Suite 1515 - 1705**  
**SKILL MIX [pp. 59-61]**

- Chairman: *J Leighton*
- 1515** Radiographer Reporting - Audit of Performance at 2 Years  
*Inited Review*  
*J S Raynor, Macclesfield District General Hospital, Cheshire*
- 1545** Radiographer Role Development in a District General Hospital  
*A M K Thomas, Bromley Hospitals NHS Trust, Kent*
- 1555** Double Contrast Barium Enema Performance: Evaluation of Three Different Investigators  
*J Howard, Manchester Royal Infirmary, Manchester*

- 1605** A Comparison of Double Contrast Barium Enemas Performed by Radiographers and Consultant Radiologists  
*A J Page, Selly Oak Hospital, Birmingham*
- 1615** Trauma Radiology: Extending the Red Dot System  
*D Remedios, Northwick Park Hospital, Middlesex*
- 1625** Radiographic Reporting: Subject Performance in Assessment as a Function of Specific Demographic Factors  
*I Henderson, South Bank University, London*
- 1635** A GP Based US Service  
*P Hussain, University of Portsmouth, Portsmouth*
- 1645** HyCoSy, an Ultrasonographer Led Service  
*R L Tetlow, Hull Royal Infirmary, Hull*
- 1655** Visual Search Strategies for the Lateral Cervical Spine Image  
*D Carr, Derbyshire Royal Infirmary NHS Trust, Derby*

**DEBATE Hall 10b 1545 - 1700**

**FRACTIONATION DEBATE - SUMMING UP THIS HOUSE BELIEVES PREDICTIVE ASSAYS HAVE A ROLE TO PLAY IN RADIOTHERAPY [p. 54]**

- Moderator: *J H Hendry, CRC Research Centre, Christie NHS Trust, Manchester*

**CONTROVERSY CORNER Hall 11a 1545 - 1715**  
**infoRAD™ 4 - IT SECURITY WITHIN THE NHS**  
**[pp. 61-62]**

- Chairman: *D J Harvey*
- 1545** Security Principals and How They Apply to the NHS  
*Inited Review*  
*S Hayes, Insight Consulting, Surrey*
- 1610** Are We Over-reacting to Security Issues?  
*Inited Review*  
*M F Smith, St Barts & The Royal London School of Medicine, London*
- 1635** Computer Security - a Suitable Case for Treatment  
*Inited Review*  
*N A C van der Bijl, Southmead Health Services NHS Trust, Bristol*
- 1700** Radiology Networks  
*D S Hicks, Hicks Associates, Hereford*

**SCIENTIFIC SESSION Hall 11b 1600 - 1650**  
**GASTROINTESTINAL TRACT [pp. 62-63]**

- Chairman: *D A Nicholson*
- 1600** Pain After Small Bowel Meal and Pneumocolon: Randomized Controlled Trial of CO<sub>2</sub> vs Air Insufflation  
*L Gellett, Royal Cornwall Hospital, Cornwall*
- 1610** Identifying a High Risk Group for Colorectal Neoplasia from the Barium Enema Request Form  
*J R Steel, Derriford Hospital, Plymouth*

- 1620 Contrast Agent for Imaging the Colon -  
is There a Way Forward?  
*J E Morris, Frimley Park Hospital,  
Surrey*
- 1630 Prospective, Blinded Assessment of 3D  
Spiral CT Pneumocolon in the Staging  
of Colonic Cancer  
*C J Harvey, Middlesex Hospital,  
London*
- 1640 Percutaneous Abdominal and Pelvic  
Interventional Procedures Utilizing CT  
Fluoroscopic Guidance  
*B D Daly, University of Maryland  
Medicine, Baltimore USA*

**REFRESHER COURSE Hall 10a 1615 - 1700**  
**PRACTICAL ASPECTS OF DENTAL RADIOGRAPHY**  
[pp. 63]

Chairman: *R Cannon*  
**1615** Practical Aspects of Dental Radiography  
*Invited Review S M Bourne, The Royal London Hospital,  
Dental Institute, London*

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**NOTES**

**DATES FOR YOUR DIARY**

**Radiology 1999**  
**Imaging, Science & Oncology**  
**17 - 19 May**

**Abstract Deadlines:**

<b>Proffered Papers</b>	<b>Monday 2 November 1998</b>
<b>infoRAD™ Exhibitors</b>	<b>Monday 18 January 1999</b>
<b>Work in Progress Papers</b>	<b>Monday 22 February 1999</b>
<b>Student Work Papers</b>	<b>Monday 22 February 1999</b>
<b>Early Registration Deadline</b>	<b>Monday 1 March 1999</b>

**BRITISH INSTITUTE OF RADIOLOGY**  
*Hall 9 0800 - 0850*  
*ANNUAL GENERAL MEETING [p. 65]*

**SCIENTIFIC SESSION Hall 10a 0800 - 0850**  
*BONE MINERAL DENSITY MEASUREMENTS*  
*[pp. 65-66]*

- Chairman: *J E Adams*
- 0800** Broadband US Attenuation Fails to Select Patients Who Should Have DXA Bone Densitometry  
*E Harrison, The University of Manchester, Manchester*
- 0810** Are Peripheral Bone Mass Measurements of Clinical Use in the Diagnosis of Spinal Osteoporosis?  
*J E Adams, The University of Manchester, Manchester*
- 0820** Pregnancy-associated Osteoporosis: Long-term Bone Mineral Density Follow-up  
*A J Phillips, Nuffield Orthopaedic Centre, Oxford*
- 0830** Trabecular and Cortical Bone Structure and BMD - a Multiparameter Assessment of the Degree of Osteoporosis in Comparison with the Fracture Load  
*M A Haidekker, University of Bremen, GERMANY*
- 0840** Spinal Bone Mineral Density in Paget's Disease Using DXA and QCT  
*R A Cherian, North Staffordshire Hospitals, Stoke-on-Trent*

**SCIENTIFIC SESSION Hall 11a 0800 - 0850**  
*CARDIAC IMAGING [pp. 66-67]*

- Chairman: *M Rees*
- 0800** CT Dimensions of the Normal Pericardium  
*R K Bull, Addenbrooke's Hospital, Cambridge*
- 0810** Pulmonary Arterial Hypertension and Associated Pericardial Effusion: a CT Study  
*M Baque-Juston, Royal Brompton Hospital, London*
- 0820** Efficacy and Safety of MultiHance (Gd-BOPTA/DIMEG) for MRI of Acute Myocardial Infarction  
*A Jivan, University of Leicester School of Medicine, Leicester*
- 0830** ECG Triggered Image Acquisition on a Sub-second CT System  
*S J Brown, Papworth Hospital NHS Trust, Cambridgeshire*
- 0840** Comparison of Myocardial SPECT Imaging with Left Arm Up vs Down  
*Y Allidina, The Toronto Hospital General Division, Ontario CANADA*

**SCIENTIFIC SESSION Hall 11b 0800 - 0900**  
*AUDIT & MANAGEMENT [pp. 67-68]*

- Chairman: *J P Owen*
- 0800** General Practitioner Upper Abdominal Ultrasound Requests: Effect on Management, Referral Patterns and Clinical Outcome  
*S E J Connor, The Royal Wolverhampton Hospitals NHS Trust, Birmingham*
- 0810** Peripatetic Radiographer-based US Service: an Audit  
*P Hussain, University of Portsmouth, Portsmouth*
- 0820** Metformin and Contrast Media: a Dangerous Combination?  
*M McCartney, Aberdeen Royal Hospitals NHS Trust, Aberdeen*
- 0830** Comparison of Imaging and Post-mortem Reports - a Valuable Method of Audit and Error Detection  
*C A Kingston, University College London Hospitals Trust, London*
- 0840** Providing a High Quality MRI & CT Scanning Service: What the Users Think  
*S J Moss, ESRU University of Wales, Cardiff*
- 0850** Departmental Accreditation  
*E P H Torrie, Royal Berkshire Hospital, Reading*

**KEYNOTE LECTURE Hall 10b 0815 - 0845**  
*GAMMA KNIFE PRACTICE [p. 68]*

- Chairman: *tba*
- 0815** Gamma Knife Stereotactic Radiosurgery - Equipment Considerations  
*L Walton, Royal Hallamshire Hospital, Sheffield*
- Invited Review*

**STATE OF THE ART SYMPOSIUM**  
*Hall 1 0900 - 1045*

- AORTIC DISSECTION - THE DIAGNOSIS [pp. 68-69]**
- Chairman: *J Partridge*
- 0900** The Case for CT  
*Invited Review A A Nicholson, Royal Hull Hospitals NHS Trust, Hull*
- 0920** The Case for MR  
*Invited Review I W Brown, Southampton General Hospital, Southampton*
- 0940** Angiography in Aortic Dissection  
*Invited Review P Gishen, King's College Hospital, London*
- 1000** The Case for Echocardiography  
*Invited Review D F Ettles, Hull Royal Infirmary, Hull*

**KEYNOTE LECTURE Hall 9 0900 - 1000**  
*FORENSIC RADIOGRAPHY [p. 69]*

- Chairman: *B A Snaith*
- 0900** Mass Grave Investigations  
*Invited Review B Tonello, The Royal London Hospital, London*
- 0930** The Role of Forensic Radiography in a Disaster Investigation  
*Invited Review M D Viner, The Royal London Hospital, London*

**WORK IN PROGRESS**

**SCIENTIFIC SESSION Hall 10a 0900 - 1030**  
*GASTROINTESTINAL & RENAL [pp. 124-125]*

- Chairman: *tba*
- 0900** The Assessment of Oropharyngeal Swallowing in Dysphagic Stroke Using Videofluoroscopy  
*M L Power, Hope Hospital, Manchester*
- 0910** A Comparison of Covered and Uncovered Ultraflex Metal Stents in the Palliation of Malignant Oesophageal Stents  
*P J Conlong, Hope Hospital, Manchester*
- 0920** Revelation of the Early Ascites as a Factor of Operability in Stomach Cancer  
*A M Ambartsoumian, Oncology Research Centre, Yerevan ARMENIA*
- 0930** Value of Radiopaque Markers in Localizing Stenoses in Partial Small Bowel Obstruction  
*S Hennigs, Städtische Kliniken Dortmund, Dortmund GERMANY*
- 0940** Clinical Utility of Immunoscintigraphy in the Diagnosis of Recurrent Colorectal Cancer  
*C D Collins, Christie Hospital NHS Trust, Manchester*
- 0950** Per Rectal Drainage of Peri-anastomotic Abscesses Following Surgery of Irradiated Rectal Cancer Patients  
*N A M Kumar, Hope Hospital, Manchester*
- 1000** Abdominal Tuberculosis - Clinico-radiological Study  
*W Szmigielski, Hamad General Hospital, Doha QATAR*
- 1010** Patient Dose Reduction and Image Enhancement in Intravenous Urography Using Computed Radiography  
*M B Lynn, Canterbury Christ Church College, Kent*
- 1020** Just How Important is the 1 Minute IVU Film?  
*N P Hollings, UCL Hospitals NHS Trust, London*

**STATE OF THE ART SYMPOSIUM**

**Hall 10b 0900 - 1045**

**INTERACTION OF IMAGING AND BRACHYTHERAPY**  
*[pp. 69-70]*

- Chairman: *P Blake*
- 0900** Towards Conformal Brachytherapy  
*B Jones, Clatterbridge Centre for Oncology, Merseyside*
- 0930** Routine Imaging During Brachytherapy  
*P Hoskin, Mount Vernon Hospital, Middlesex*
- 1000** Imaging During Radiotherapy and Brachytherapy for Cervical Carcinoma  
*L T Tan, Addenbrooke's Hospital, Cambridge*
- 1020** How Can Serial Imaging Improve the Results of Brachytherapy?  
*R Dale, Hammersmith Hospitals NHS Trust, London*

**SCIENTIFIC SESSION Hall 11a 0900 - 1000**  
*infoRAD™ 5 - IT INTEGRATION INTO THE HEALTHCARE ENVIRONMENT [pp. 70-71]*  
*in association with CAR*

- Chairman: *H Lemke*
- 0900** Integrating Imaging Systems: Why, How and If  
*D L Plummer, UCL Hospitals, London*
- 0930** Quality Assurance on a Network  
*P Clark, Maidstone Hospital, Maidstone Kent*

**WORKSHOP Olympian Suite 0900 - 1100**  
**HOW TO SPECIFY AND CHOOSE IMAGING EQUIPMENT [pp. 71-72]**

- Chairman: *E M Pitcher*
- 0900** What's in a Specification?  
*C P Lawinski, King's College Hospital, London*
- 0915** Do Evaluations Really Help?  
*J P De Wilde, Imperial College, London*
- 0930** Can NHS Supplies Assist?  
*J T Marshall, NHS Supplies, Bristol*
- 0945** Does the Manufacturer Have a View?  
*B G White, Siemens plc, Berks*
- 1000** What's the End Result Clinically?  
*E J Loveday, Southmead Hospital, Bristol*
- 1015** What Does the Customer Really Want?  
*P J Richardson, United Bristol Healthcare Trust, Bristol*

**SCIENTIFIC SESSION Hall 11b 0915 - 1040**  
**MANAGEMENT & EDUCATION [pp. 72-73]**

- Chairman: *S J Golding*
- 0915** Specific Features of Radiological Management in Russia  
*A Vasilyev, Central Military Research Hospital, Moscow RUSSIA*
- 0940** What Training do Gastroenterologists Want in Abdominal US? Results of a National Survey of Trainees  
*E R E Denton, Guy's Hospital, London*
- 0950** Collaborative Learning in the Radiology Department  
*C Smith, University of Derby, Derby*
- 1000** Setting Standards of Practice in Radiology Departments: the Radiographer's Role  
*D Nag, Barnsley District General Hospital NHS Trust, Barnsley*
- 1010** Medical Imaging: Challenges Associated with the Assessment of Study Validity in Systematic Literature Reviews  
*S Kelly, University of Leeds, Leeds*
- 1020** The Use of a Computerized Logbook Database in Radiology Training and Audit  
*R Burgul, Aberdeen Royal Hospitals NHS Trust, Aberdeen*
- 1030** Comparing the Performance of Consultants and Trainees in Interventional Radiology Using Dose-Area Product  
*D Johnson, The Royal Free Hospital, London*

**KEYNOTE LECTURE Hall 9 1015 - 1045**

*CT OF ABDOMINAL TRAUMA [p. 73]*

- Chairman: *K Carroll*  
**1015** CT of Abdominal Trauma: Diagnostic Features and their Clinical Significance  
*J A Spencer, St James's University Hospital, Leeds*

**STATE OF THE ART SYMPOSIUM**

*Hall 11a 1030 - 1200*

***GUIDELINES FOR THE IMAGING & MANAGEMENT OF METASTATIC BONE DISEASE IN BREAST CANCER [pp. 73-74]***

- Chairman: *H Bishop*  
**1030** Bone Metastases in Breast Cancer: Why Have Guidelines?  
*H M Bishop, George Eliot Hospital, Warwickshire*
- 1045** Detection and Diagnosis  
*A M Davies, The Royal Orthopaedic Hospital, Birmingham*
- 1110** The Radiologist's Role in Staging and Response Assessment in Advanced Breast Cancer  
*A J Evans, Nottingham City Hospital NHS Trust, Nottingham*
- 1135** Spinal Metastases  
*V N Cassar Pullicino, Robert Jones & Agnes Hunt Orthopaedic Hospital, Shropshire*

**REFRESHER COURSE Hall 10a 1045 - 1130**

*LYMPHOMA [p. 74]*

- Chairman: *tba*  
**1045** Lymphoma: New Concepts and Imaging  
*B Morgan, Leicester Royal Infirmary, Leicester*

**REFRESHER COURSE Hall 1 1100 - 1150**

*INTERSTITIAL LUNG DISEASE [p. 74]*

- Chairman: *A G Wilson*  
**1100** Interstitial Lung Disease  
*S Padley, Chelsea & Westminster Hospital, London*
- 1125** *S Desai, Royal Brompton Hospital, London*

**KEYNOTE LECTURES Hall 9 1100 - 1200**

*[pp. 74-76]*

- Chairman: *C A Beardmore*  
**1100** Continuing Professional Development for Radiographers  
*S Evans, The Society & College of Radiographers, London*
- 1130** Leonardo Goes LIVE (The Place of Satellite Broadcasting and CVE)  
*J Henderson, University of Hertfordshire, Herts*

**STATE OF THE ART SYMPOSIUM**

*Hall 10b 1100 - 1245*

***INTERACTION OF IMAGING AND BRACHYTHERAPY [p. 75]***

- Chairman: *P Blake*  
**1100** Follow-up Imaging: Necrosis or Recurrence  
*R P Beaney, St Thomas' Hospital, London*
- 1130** Future Developments in Brachytherapy  
*P G M Scalliet, University Hospital St-Luc, BELGIUM*

**WORK IN PROGRESS**

**SCIENTIFIC SESSION Hall 11b 1100 - 1200**

*AUDIT & SKILL MIX [pp. 125-126]*

- Chairman: *J Fisher*  
**1100** The Value of PET-FDG in the Management of Patients with Malignancy - a Clinical Audit  
*G R Kaplan, Paul Strickland Scanner Centre, Middlesex*
- 1110** Audit of Use of Abbreviations on Paediatric Imaging Request Forms  
*C A Kingston, UCL Hospitals Trust, London*
- 1120** A Method of Establishing Diagnostic Accuracy of Radiographer Performed Barium Enemas  
*S A Mathers, Aberdeen Royal Hospitals NHS Trust, Aberdeen*
- 1130** The Implementation of a Radiographic Reporting Service for Trauma Examinations of the Skeletal System  
*C M Ryan, Canterbury Christ Church College, Kent*
- 1140** Evaluation of the Implementation and Management of Skill Mix in Eight Diagnostic Imaging Centres  
*M J Lovegrove, South Bank University, London*
- 1150** Factors Contributing to Successful Performance on a Certification Examination in Magnetic Resonance Imaging  
*R Paschal, American Registry of Radiologic Technologists (ARRT), Illinois USA*

**CONTROVERSY CORNER**

*Olympian Suite 1115 - 1245*

***MEDICAL DEVICES - THE CASE FOR INNOVATION [pp. 75-76]***

- Chairman: *G Dombrowe*  
**1115** Practical Experience of the UK Regulations for Medical Devices  
*A Kent, Medical Devices Agency, London*
- 1135** Medical Device Technology Transfer and CE Marking  
*J K Haywood, South Cleveland Hospital, Middlesbrough*
- 1155** Are Innovation and Regulation Compatible?  
*I R Young, Imperial College School of Medicine, London*

**KEYNOTE LECTURE Hall 10a 1145 - 1245**

*LITHOTRIPSY [p. 76]*

Chairman: *M J Kellett*  
**1145** The Background and History of  
*Invited Review* Lithotripsy and its Applications  
*D K Jones, United Medical Systems (UK) Ltd, Gwynedd*

**BRITISH INSTITUTE OF RADIOLOGY**

*Hall 1 1200 - 1245*

*MACKENZIE DAVIDSON MEMORIAL LECTURE*

*[pp. 76-77]*

**1200** Degenerative Disc Disease: Natural  
 History and Imaging  
*M T Modic, Cleveland Clinic Foundation, Ohio USA*

**BRITISH INSTITUTE OF RADIOLOGY**

*Hall 1 1300 - 1345*

*IMATION MAYNEORD MEMORIAL LECTURE [p. 77]*

**1300** High Definition Macroradiography  
*C Buckland-Wright, UMDS Guy's & St Thomas' Hospital, London*

**THE COLLEGE OF RADIOGRAPHERS**

*Hall 9 1300 - 1345*

*WELBECK MEMORIAL LECTURE [p. 77]*

**1300** Conflict or Partnership?  
*A Yule, Council for Professions Supplementary to Medicine, Cardiff*

**SCIENTIFIC SESSION Hall 1 1400 - 1450**

*CHEST [pp. 77-78]*

Chairman: *S Padley*  
**1400** Bronchiolitis Obliterans Organizing  
 Pneumonia Stimulating Bronchial  
 Carcinoma  
*J Murphy, Addenbrooke's NHS Trust, Cambridge*  
**1410** Bronchopulmonary Dysplasia in ARDS  
 Survivors: a Consequence of Mechanical  
 Ventilation  
*S R Desai, Royal Brompton Hospital, London*  
**1420** Correlation of the Reimplantation  
 Response on the Post-transplantation  
 Chest Radiograph with Pulmonary  
 Oxygenation Efficiency  
*A J Grainger, South Cleveland Hospital, Cleveland*  
**1430** CT Appearances of the Thymus and  
 Anterior Mediastinum in Active  
 Cushing's Syndrome  
*S A Sohaib, St Bartholomew's Hospital, London*  
**1440** Tuberculosis in Immigrants  
*G R Kaplan, Northwick Park & St Marks NHS Trust, Middlesex*

**COLLEGE OF RADIOGRAPHERS**

*Hall 9 1400 - 1445*

*AWARDS CEREMONY [p. 78]*

Chairman: *D Hardy*

**SCIENTIFIC SESSION Hall 10a 1400 - 1450**

*MRI PHYSICS [pp. 78-79]*

Chairman: *A P Jones*  
**1400** Multislice Imaging Techniques for  
 Multiplanar Reformating and Image  
 Registration  
*J V Hajnal, Imperial College School of Medicine, Hammersmith Hospital, London*  
**1410** Cerebellum Segmentation From MRI  
 Scans Using Prior Knowledge and  
 Texture Analysis  
*N Saeed, Imperial College School of Medicine, Hammersmith Hospital, London*  
**1420** The Automatic Detection and 3D  
 Visualization of the Human Ventricular  
 System  
*F N Hatfield, University of Nottingham, Nottingham*  
**1430** Initial Benefits of an Automated Quality  
 Control System for Functional MRI  
*E Moore, King's College Hospital, London*  
**1440** Acoustic Noise from Fast Imaging: Safety  
 Evaluation of MR Scanners  
*D Price, MagNET, London*

**STATE OF THE ART SYMPOSIUM**

*Hall 10b 1400 - 1530*

*IMAGE GUIDED AND INTRAOPERATIVE BRACHYTHERAPY [pp. 79-81]*

Chairman: *P Blake*  
**1400** Prostate Implantation  
*Invited Review A Flynn, Cookridge Hospital, West Yorkshire*  
**1415** Image Guided Placement of  
 Brachytherapy Catheters for Gliomas  
*Invited Review P R Eldridge, Walton Hospital, Liverpool*  
**1430** ENT Techniques  
*Invited Review P Scalliet, UCL Clinique University St-Luc, Brussels BELGIUM*  
**1445** Conformal Brachytherapy for the  
 Treatment of the Parametria in  
 Gynaecological Malignancies  
*Invited Review A M Bidmead, The Royal Marsden NHS Trust, London*  
**1500** Parametrial Implants  
*Invited Review A E Howes, Joint Centre for Radiation Therapy, Massachusetts USA*  
**1515** The Interaction of Imaging and  
 Brachytherapy in Colorectal Cancers  
*Invited Review S Myint, Clatterbridge Centre of Oncology, Merseyside*

**WORKSHOP Hall 11a 1400 - 1545**

**HOW TO SURVIVE AN INSPECTION BY THE REGULATORS [p. 81]**

- Chairman: *D Sutton*
- 1410** An Inspector Calls .... The HSE  
*Invited Review* *J R Taylor, HCRCG - The Health & Safety Executive, Beds*
- 1430** An HSE Inspector Calls .... The RPA  
*Invited Review* *K E Goldstone, East Anglian Radiation Protection Service, Cambridge*
- 1445** How to Survive an Inspection by the Environment Agency  
*Invited Review* *I D Jackson, The Environment Agency, Hants*
- 1505** An Inspector Calls .... The RPA  
*Invited Review* *S Batchelor, Guy's & St Thomas' Hospital Trust, London*

**SCIENTIFIC SESSION Hall 11b 1400 - 1540**

**EAR, NOSE & THROAT [pp. 81-83]**

- Chairman: *J Kabala*
- 1400** PET FDG - Expensive Imaging Gimmick for Head and Neck Cancer?  
*Invited Review* *W L Wong, The Paul Strickland Scanner Centre, Middlesex*
- 1430** Comparison of Hertel Ophthalmometry with MRI Measurements of Proptosis  
*A Coulthard, Royal Victoria Infirmary, Newcastle upon Tyne*
- 1440** Nasolacrimal Stenting and Dacrocystoplasty for Epiphora  
*H R Seymour, St George's Hospital, London*
- 1450** Quantification of the Effects of the Topical Decongestant Oxymetazoline by MRI and Posterior Rhinomanometry  
*P Gibbs, Hull Royal Infirmary, Hull*
- 1500** Facial Swelling Due to Salivary Gland Disease: MRI as a Single Investigation  
*S J Golding, University of Oxford, Oxford*
- 1510** Video Fluoroscopic Assessment of Swallowing in Stroke Patients, is There a Reliable Alternative?  
*H Smith, Manchester Royal Infirmary, Manchester*
- 1520** Madelung's Disease: US, CT and MR Appearances  
*A D King, Prince of Wales Hospital, The Chinese University of Hong Kong, Shatin, NT HONG KONG*
- 1530** Ultrasound Features of Lipomas of the Neck  
*A D King, Prince of Wales Hospital, The Chinese University of Hong Kong, Shatin, NT HONG KONG*

**SCIENTIFIC SESSION Olympian Suite 1400 - 1430**

**IMAGE PROCESSING [p. 83]**

- Chairman: *D J Hawkes*
- 1400** Analysis of Dynamic Gd-DTPA Enhanced MRI of the Breast Using Neural Networks  
*A Knowles, Hull Royal Infirmary, Hull*
- 1410** Optimal Wavelet Transform Enhancement and Classification in Digital Mammography  
*T Lambrou, University College of London, London*
- 1420** Non-negative Steepest Descent Method for Image Reconstruction: Application in Single Photon Emission Computed Tomography  
*C K S Tong, Pamela Youde Nethersole Eastern Hospital, HONG KONG*

**SCIENTIFIC SESSION Hall 1 1500 - 1640**

**CT CHEST [pp. 83-85]**

- Chairman: *F Gleeson*
- 1500** Percutaneous Transthoracic Needle Biopsy: a Survey of Thoracic Radiologists in the UK  
*S Phillips, Llandough Hospital, Vale of Glamorgan*
- 1510** CT-guided Percutaneous Needle Biopsy of Lung and Chest Lesions: Our Experience in 66 Patients  
*J Kumaradevan, Royal Free Hospital NHS Trust, London*
- 1520** Incidence of Pneumothorax on Chest Radiographs After CT-guided Lung Biopsy  
*J Berger, The Churchill Hospital, Oxford*
- 1530** The Incidence of Pneumothoraces Post-transsthoracic Lung Biopsy and Subsequent Management  
*S L Smith, Nottingham City Hospital NHS Trust, Nottingham*
- 1540** Detection of Subtle Areas of Decreased Lung Attenuation on CT with Image Processing  
*S R Desai, Royal Brompton Hospital, London*
- 1550** A CT Study of the Mechanism of Mosaic Pattern in Obstructive Airways Disease  
*S R Desai, Royal Brompton Hospital, London*
- 1600** Mosaic Lung Attenuation on High-resolution CT: Differentiation Between Parenchymal, Airway and Vascular Aetiologies  
*S A Worthy, Royal Victoria Infirmary, Newcastle upon Tyne*

- 1610** Regional Pulmonary Perfusion Using Electron Beam CT in the Acute Respiratory Distress Syndrome  
*A T Jones, Royal Brompton Hospital, London*
- 1620** Bronchial Disease in  $\alpha_1$  Antitrypsin Deficiency Related Emphysema  
*K Johnson, Queen Elizabeth Hospital, Birmingham*
- 1630** Chest CT in the Paediatric Intensive Care Unit - Spiral or HRCT?  
*K Thomas, St Mary's Hospital, London*

- 1540** Sonographic Demonstration of the Brachial Plexus  
*D G Sheppard, The University of Texas, MD Anderson Cancer Center, Texas USA*
- 1550** The Usefulness of High Frequency Ultrasound as a First-line Diagnostic Tool in Non-palpable Breast Nodules  
*J G Sieluzicka, CSK WAM, Warsaw POLAND*
- 1600** Measurement of Breast Tumour Response to Hyperbaric Oxygen Therapy Using Dynamic Gd-DTPA MRI  
*F J Gilbert, Aberdeen Royal Hospitals NHS Trust, Aberdeen*
- 1610** Correlation Between Mammographic Findings, Ultrasound Characteristics and Histological Grade in Patients with Breast Cancer  
*P M Lamb, St Bartholomew's Hospital, London*

**BIR DEBATE Hall 9 1500 - 1700**  
*THIS HOUSE BELIEVES THAT THE PRIVATE FINANCE INITIATIVE HAS FAILED TO ACHIEVE ITS OBJECTIVES [p. 86]*

Chairman: *Dr S J Golding*

Speakers for the motion:  
*A T Carty, Royal Liverpool Hospital*  
*A Maynard, University of York*

Speakers against the motion:  
*M Porte, York District Hospital*  
*P Sharpe, The Somerset MRI Centre*

**WORKSHOP Hall 10a 1515 - 1645**  
*MRI FOR RADIOGRAPHERS - PRACTICAL MRI [p. 81]*

Chairman: *P Goddard*

**1515** Optimizing Image Quality  
*C A Westbrook, John Radcliffe Hospital, Oxford*

**1540** General Anaesthesia in Paediatric MRI  
*G Darwent, University of Sheffield, Sheffield*

**1605** MR Safety - Current Thinking  
*L Robinson, Hope Hospital, Manchester*

- WORK IN PROGRESS**  
**SCIENTIFIC SESSION Olympian Suite 1500 - 1620**  
*ULTRASOUND & BREAST [p. 126-128]*
- Chairman: *tba*
- 1500** US Training and Diagnosis with the Aid of Teleultrasound System in the Community  
*P Hussain, University of Portsmouth, Portsmouth*
- 1510** Measurement of Image Quality in Teleultrasound  
*R Burgul, Aberdeen Royal Hospitals NHS Trust, Aberdeen*
- 1520** An Analysis of the Effectiveness of a Computer-based Information Prototype for Obstetric Ultrasound  
*P Hogg, University of Salford, Manchester*
- 1530** The Risk of Cross-infection by Ultrasound Transducers and How to Reduce it  
*C Fowler, University Hospital of Wales, Cardiff*

**STATE OF THE ART SYMPOSIUM**  
**Hall 10b 1600 - 1700**  
*BRACHYTHERAPY BIOPHYSICAL PLANNING [pp. 86-87]*

Chairman: *P Blake*

**1600** Imaging, Planning and Biological Interactions  
*D A Ingham, Royal Devon & Exeter Healthcare NHS Trust, Exeter*

**1620** 3D Biological Effect Distributions in Brachytherapy  
*C Deehan, Dept of Clinical Physics and Bio-engineering, Glasgow*

## NOTES



## SCIENTIFIC POSTER EXHIBITION

Scientific posters will be displayed within the MED X RAY® technical exhibition at the National Indoor Arena.  
(For opening times please see programme page 6)

<b>Topic</b>	<b>Poster Nos.</b>	<b>Page Nos.</b>
Abdomen	0101 - 0106	89 - 90
Audit	0201 - 0202	90
Breast	0301 - 0311	90 - 92
Cardiovascular System	0401 - 0410	92 - 94
Central Nervous System	0501 - 0509	94 - 96
Chest	0602 - 0605	96 - 97
Education	0701 - 0708	97 - 98
Head & Neck	0801 - 0806	98 - 99
Interventional Radiology	0901 - 0914	99 - 102
Management	1001 - 1005	102 - 103
Musculoskeletal	1101 - 1125	103 - 107
Oncology	1201 - 1204	107 - 108
Physics	1301 - 1311	108 - 110
Radiation Protection	1401 - 1406	110 - 111
Radiotherapy	1501 - 1503	111 - 112
Skill Mix	1601 - 1603	112
Urogenital	1701 - 1711	112 - 114

### **Work in Progress Posters**

Abdomen	0107	129
Audit	0203	129
Cardiovascular System	0411	129
Chest	0606 - 0607	129 - 130
Education	0709 - 0712	130
Musculoskeletal	1126	130
Oncology	1205 - 1207	131
Physics	1312	131
Radiotherapy	1504 - 1506	131 - 132

<b>Student Posters</b>	1801 - 1803	134
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## **infoRAD™ - NATIONAL INDOOR ARENA**

The infoRAD™ event (*held in association with CAR*) is concerned with Healthcare Informatics - the use of computers to help in the management, application and analysis of health related information. The following exhibits will be on display in the National Indoor Arena. Abstracts for these exhibits can be found on pages 115-118. (*For opening times please see programme page 6*)

A Web-based Review and Teaching Tool Using Server-side DICOM Translation

**R T Black, Papworth Hospital NHS Trust, Papworth Everard**

A Web-based Radiology MCQ Tutor: a Novel Assessment Based Educational Aid

**M A Blake, St Vincent's Hospital, Dublin, IRELAND**

Stand-Alone Radiotherapy Appointment Booking System

**P Bridge, Christie Hospital NHS Trust, Manchester**

Wavelet-based Radiological Image Representation and Compression

**S Bunting, University College of St Martin, Lancaster**

ROSS: Radiation Oncology Supporting Software of Samsung Medical Center

**D R Choi, Samsung Medical Center, Seoul, KOREA**

Development of a System for the Automatic Scoring of TOMAM Images

**A R Davies, Princess Margaret Hospital, Swindon**

Real-time Attenuation-corrected Ultrasound Imaging in Obstetrics

**F A Duck, Royal United Hospital NHS Trust, Bath**

An Interactive Radiology Teaching Facility for Skeletal Trauma

**R D Eyres, University of Salford, Manchester**

An Estimation of Visual Image Degradation Related to Controllable Quality Factor Using JPEG Image Compression

**C Harrison, University College of St. Martin Lancaster**

BJR Online

**T R Hogan, British Institute of Radiology, London**

Multimedia Information System About a Diagnostic Imaging Department

**P Hogg, University of Salford, Manchester**

Computer Based Information System for Pregnant Patients and Members of the Public

**P Hogg, University of Salford, Manchester**

Teleultrasound

**P Hussain, University of Portsmouth, Portsmouth**

Novel Film Viewing Technology and EC'96 Radiology Quality Guidelines

**D Inbar, Smartlight Ltd, Neshet, ISRAEL**

Mobile Digital Rotational Fluoroscopy: a New Imaging Modality

**S Jackson, Southampton General Hospital, Southampton**

Medical Imaging and Volume Visualisation Software

**T Kehoe, Floating Point Systems, Berks**

Computerized Patient Dose Monitoring in Diagnostic Radiology

**J Kyriou, St George's Hospital, London**

A New Wavelet Based Compression Algorithm Optimized for Medical Images

**J Monaco, Line Imaging Systems, Georgia, USA**

BIR Library & Information Service

**K J Sanders, British Institute of Radiology, London**

Development of a PC-based Spreadsheet for Automated Analysis of MRI Quality Assurance Tests

**J A Williams, MAGNET, Imperial College of Science, Technology & Medicine, London**

Online Peer Review for Biomedical Journals? The ESPERE Project

**D J Wood, SALIX Education, Clevedon**

Create Your Own "ID-ENTITY" - a User-friendly Image Database for Multiplatform Delivery

**J M Young, Whittington Hospital, London**