

Radiology 1999 - Imaging, Science & Oncology

International Convention Centre and

National Indoor Arena, Birmingham

17 - 19 May

C O N T E N T S

Organizing Bodies and Committees	Programme 2
Acknowledgments	Programme 3
Accreditation	Programme 3
Message from the Congress Chairman	Programme 4
General Information	Programme 5
Key to Sessions	Programme 6
Prizes	Programme 7
Social Activities	Programme 8
Personal Profiles: Eponymous Lecturers	Programme 9
Daily Programme Grids and Personal Planners	
Monday	Programme 12
Tuesday	Programme 14
Wednesday	Programme 16
List of MED X RAY® Exhibitors	Programme 18
Scientific Programme	
<i>Invited review lecturers are shown in bold text</i>	
Monday	Programme 19
Tuesday	Programme 23
Wednesday	Programme 28
List of Scientific Posters	Programme 33
List of <i>infoRAD</i> ™ Exhibits	Programme 34
Abstracts	
Monday	1
Tuesday	23
Wednesday	45
Posters	63
<i>infoRAD</i> ™	85
Work in Progress	89
Student Work	103
Index to authors	107
Maps	Inside back cover

Published by The British Institute of Radiology on behalf of Radiology 1999

Supplement to Volume 72 of The British Journal of Radiology

© 1999 The British Institute of Radiology

Phototypeset, printed and bound by H Charlesworth & Co. Ltd, Huddersfield

ORGANIZING BODIES

Radiology 1999 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, British Oncological Association, Computer Assisted Radiology and Surgery (CARS), 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, Education and Technology Division, the International Society of Radiographers & Radiological Technologists, the Irish Institute of Radiography, the Royal College of Nursing - Radiology Nurses Forum, the Royal Society of Medicine - Radiology Section, the Scottish Radiological Society and the Society for Radiological Protection.

ORGANIZING COMMITTEES

Congress Committee

Members

Dr S J Golding *Chairman*
Dr P C Williams
Dr A M Davies
Mrs J A Shrimpton
Ms D Hardy
Mr J Leighton
Ms J Reid
Professor A Adam
Professor P Sharp
Dr C A Lewis
Dr J Olliff
Mrs E Beckmann

Secretariat

Miss D Huntley *BIR Radiology Co-ordinator*
Miss S E Nicholls *BIR Assistant Radiology Co-ordinator*
Miss F McClain *BIR Exhibitions Co-ordinator*
Ms M-A Piggott *BIR Chief Executive*
Ms V Whitehead *BIR Conference Consultant*
Mr R Neilson *IPEM General Secretary*
Mr S Evans *COR Chief Executive*
Mr P Ingram *COR Marketing & Member Services Manager*
Mr N Williams *COR Finance Director*
Ms C Curran *COR Events Services Manager*

Scientific Programme Committee

Members

Dr P C Williams *Chairman*
Dr A M Davies *Co-Chairman*
Mrs J A Shrimpton *Co-Chairman*
Professor A Beddoe
Dr P Blake
Dr D Martin
Dr J Olliff
Dr W Morgan
Ms J Reid
Ms D Hardy
Mrs E Beckmann
Mrs A Finch

Secretariat

Miss D Huntley *BIR Radiology Co-ordinator*
Miss S E Nicholls *BIR Assistant Radiology Co-ordinator*
Ms V Whitehead *BIR Conference Consultant*
Miss F McClain *BIR Exhibition Co-ordinator*
Ms M-A Piggott *BIR Chief Executive*
Mr S Evans *COR Chief Executive*
Mr P Ingram *COR Marketing & Member Services Manager*
Ms Carol Curran *COR Events Services Manager*
Mr R Neilson *IPEM General Secretary*

SPECIALIST AREA ORGANIZERS

infoRAD™ Exhibition

Mrs E Beckmann
Dr D J Harvey
Mr M Tatlow
Dr A Martel

Scientific Poster Exhibition

Dr J Olliff

ACKNOWLEDGMENTS

The Chairmen and Members of the Congress Committee for Radiology 1999 would like to thank the following organizations for their generous support of the Congress:

Clinical Press Ltd
E-Z-EM Ltd
HBO & Company
Hicks Associates
IGE Medical Systems Ltd
Kodak Health Imaging
M.A.S. Medical Ltd
Merck Pharmaceuticals - Imaging Division
Nycomed Amersham Plc
Philips Medical Systems
Picker International Ltd
RAD Magazine
Siemens Medical Engineering Plc
Toshiba Medical Systems Ltd

ACCREDITATION

The Royal College of Radiologists has awarded a maximum of 21 Continuing Medical Education (CME) credits.

The Institute of Physics & Engineering in Medicine has awarded a maximum of 21 Continuing Professional Development (CPD) credits.

Institution of Electrical Engineers: This Congress may be appropriate for the maintenance or enhancement of a competence relevant to an individual's Continuing Professional Development (CPD). It is the individual's responsibility to identify whether the activity is appropriate to their professional development.

WELCOME FROM THE CONGRESS CHAIRMAN

Dear friends and colleagues,

It's Congress time again, with all that this means. This week we all put aside the demands of normal work to have the chance of meeting colleagues and catching up on gossip, of recharging our intellectual stores and finding out what is going on in our specialities outside our own immediate spheres. The experience, we hope, contains familiar elements but also new experiences and insights.

Hopefully, all congresses offer something particular but this year is special in another sense, because it is the last in the line of the current format. Over the last few years we have been absorbing the implications of changes since the highly successful Röntgen Centenary Congress and when we all meet next year it will be for a Congress in a new style to take us into the next Millennium.



You do not need me to tell you that a show of this magnitude requires considerable effort from a large number of people and that someone in my position is merely the visible representative of many dedicated supporters. The list, were I to reproduce it, would take a large part of this book but I do want to thank particularly Dr Peter Williams and his colleagues in the Scientific Programme Committee for all their hard work.

Mostly, though, I feel our thanks should go to you, the delegates and industrial supporters of this, the UK's leading annual event in our field, for making our efforts worthwhile. If we have done our job properly this meeting should be both valuable and enjoyable for you. I hope you find it so.

Next year we meet again in Birmingham to take the UK Congress into its next major phase of development and I hope you will want to be with us. I shall enjoy seeing you at this meeting - I always do - and if you have views about the future, I shall be glad to hear them.

A handwritten signature in black ink that reads "Stephen Golding". The signature is written in a cursive, flowing style.

Stephen Golding
Congress Chairman

GENERAL INFORMATION

Congress Site

Radiology 1999 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. *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). This year the Congress is occupying Halls 5, 6, 8, 11a, 11b in the ICC and the Olympian Suite in the NIA. A layout map of the ICC can be found on the inside back cover of this publication.

Registration

The Registration Area has relocated this year and is situated at the quayside entrance to the ICC mall, and will include a delegate seating area, literature point and delegate message boards. The Congress Secretariat office will be situated in this area. The Registration Area will be open at the following times:

Radiology 1999 Opening Times	
Sunday 16 May	1500 - 1800
Monday 17 May	0730 - 1700
Tuesday 18 May	0730 - 1700
Wednesday 19 May	0730 - 1600

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 1999 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, Secretariat and AV Stewards.

Accreditation

Delegates who have indicated when registering that they are members of the RCR or the IPEM will be issued with accreditation certificates. 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.

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 335 8401. The main Convention Centre telephone number is 0121 200 2000.

Telephones

Pay telephones are available throughout the ICC and NIA.

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 1999 (CARS'99)*.

infoRAD™ exhibits will demonstrate the practice of Healthcare Informatics - the use of computers to help in the management, application and analysis of health related information, covering topics such as Internet applications, computer aided diagnosis, radiological information systems and telemedicine. Exhibitors will be on hand to provide in-depth demonstrations and discuss their work with visitors.

A network, launched at *infoRAD™* 1998, demonstrating DICOM interconnectivity will again be a major part of the event. This provides exhibitors and delegates with the perfect opportunity to see inter-vendor communication in practice. You will find your *infoRAD™* exhibition guide in your delegate bag.

Please see programme page 34 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 around the concourse area, with access via the lifts to the first floor or through the balcony refreshments area in the MED X RAY® exhibition. For a list of posters please see programme page 33. The Scientific Poster Exhibition Guide is in your delegate bag.

MED X RAY® <i>infoRAD™</i> Scientific Poster Exhibition	
Opening Times	
Monday 17 May	0900 - 1730
Tuesday 18 May	0900 - 1730
Wednesday 19 May	0900 - 1600

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 1999, as in 1998 the balcony area within the National Indoor Arena (NIA) will be utilized to accommodate the main catering area, it also provides access to the Scientific Poster Exhibition.

Your Congress badge will allow you free access to the MED X RAY® exhibition. An exhibition guide can be found in your delegate bag.

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 terrace in the ICC mall.

Cloakrooms

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

Photography

A photographer has been employed to take photographs during the Congress and proofs will be displayed in the NIA on the exhibition floor during Congress hours where orders may be placed.

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 which are available on a pay and display basis. Delegates for the Congress should go to the north car park.

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 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)121 322 2722.

Accommodation

A representative from *In Business Reservations* will be on-site (Congress Office) to assist with any accommodation requirements or queries.

KEY TO SESSIONS

SCIENTIFIC SESSION (SS)

KEYNOTE LECTURE (KL)

REFRESHER COURSE (RC)

STATE OF THE ART SYMPOSIUM (SAS)

WORKSHOP (W)

CONTROVERSY CORNER (CC)

EPPONYMOUS LECTURES (EL)

WORK IN PROGRESS (WIP)

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 looking at approaches to clinical or technical problems

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

Invited reviews organized by sponsoring / supporting organizations

Research work not yet complete, but with early results believed to be significant.

PRIZES

The following prestigious prizes and awards will be awarded at Radiology 1999 - 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 40 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 1999 / 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 1999 Poster Quiz is organised by Dr J Teh and Dr O Chan from the Royal London Hospital and supported by Merck Imaging.

RADIOLOGY 1998 PRIZE WINNER DETAILS

Prizes awarded at Radiology 1998 - Imaging Science & Oncology 1 - 3 June 1998:

BIR Amersham Prize	<i>I C Smith, University of Aberdeen, Aberdeen</i>
BIR Leonard Levy	<i>S E Connor, Heartlands Hospital, Birmingham</i>
BIR Clinical MRI Prize	<i>M B Sheridan, St James's University Hospital, Leeds</i>
COR Beth Whittaker Memorial Poster Prize	<i>C L Brown & G Robinson, Leicester Royal Infirmary, Leicester</i>
COR Alan Nichols Award	<i>R L Tetlow, J L Gamble, L W Turnbull & S R Killick, Hull Royal Infirmary, Hull</i>
COR Forder Memorial Award	<i>A Tuck, South Bank University, London</i>
IPEM President's Prize	<i>J H L Mott, North Western Medical Physics, Manchester</i>
IPEM Physics Poster Prize	<i>C A Bennett, North Western Medical Physics, Manchester</i>
RAD Magazine Poster Prize	
WINNER	<i>R A Lewis, CLRC, Cheshire</i>
2nd Prize	<i>A E Drury, St George's Hospital, London</i>
3rd Prize	<i>A J Grainger, South Cleveland Hospital, Cleveland</i>
HBO & Co. infoRAD™ Prize	<i>F A Duck, Royal United Hospital, Bath</i>
Radiology 1998/Merck Imaging Annual Poster Quiz	<i>R Rodry Davies, Prince Charles Hospital, Methyr Tydfil, C Roche, Royal Liverpool University Hospital, Liverpool and Dr S Howling, The Middlesex Hospital, London</i>

SOCIAL ACTIVITIES

An exciting and varied social programme has been arranged to give delegates the chance to meet with old friends and new. The following programme of events, which includes the popular golf and fishing competitions, will ensure delegates have plenty of opportunity for enjoyment and relaxation.

Monday 17 May 1999

The Barber Institute of Fine Art - Private Tour

1830 - 2100 hrs

Supported by Picker International

Delegates are invited to an evening reception at one of the finest small picture galleries in the world. The gallery houses an outstanding collection of Old Master and modern paintings, drawings and sculpture, including major works by Bellini, Poussin, Rubens, Gainsborough, Rossetti, Monet, Renoir and Magritte.

Cost: £15.00 to include buffet, wine, tour, coach transport 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 18 May 1999

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. (Black Tie)
Cost £39.50 to include coach transport, 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 1999 Secretariat Office in the Congress registration area.

SPORTING COMPETITIONS

RADIOLOGY 1999 - FISHING OUTING SUNDAY 16 MAY 1999

A fly-fishing outing will take place on Sunday 16 May 1999, on the Derbyshire Wye near Bakewell. This event is likely to coincide with the start of the Mayfly hatch. A limited number of rods are permitted on this famous beat, which offers superb dry fly fishing in idyllic surroundings. 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.

RADIOLOGY 1999 GOLF COMPETITION MONDAY 17 MAY 1999

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

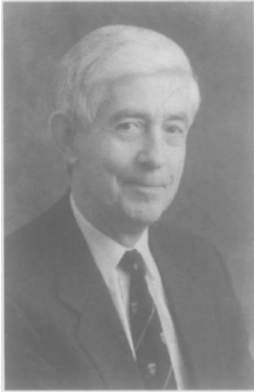
The Birmingham Convention & Visitor Bureau (BCVB) can provide delegates with a host of information to make your visit to the area more enjoyable. They have details of events happening during your stay, on places to visit, night spots, theatre information and different places to eat. Contact them at their office in the ICC Mall or call on 0121 780 4321.

EPONYMOUS LECTURERS

KODAKMAYNEORDMEMORIALLECTURE

Monday 17 May 1999 1200 - 1245

Professor P N T Wells: Advances in ultrasound: from microimaging to telerobotics



Peter Wells was a research assistant in the United Bristol Hospitals from 1960 until 1972 when he became Professor of Medical Physics in the Welsh National School of Medicine. He was appointed Chief Physicist to what is now the United Bristol Healthcare Trust in 1975.

His main research interest is in the applications of ultrasound in medicine. He described the pulsed Doppler system in 1969 and discovered the ultrasonic Doppler signal due to neovascularization of malignant tumours. He is now investigating novel kinds of microscopies and telepresence.

He is an Honorary Professor in the University of Bristol and Past-President of the BIR, BMUS and IPEM. He is a Fellow of the Royal Academy of Engineering.

MACKENZIE DAVIDSON MEMORIAL LECTURE

Monday 17 May 1999 1300 - 1345

Professor D Vorwerk: The percutaneous management of arterial disease



Professor Vorwerk was born in Dueren, Germany in 1958 and graduated from Mainz University Medical School, Capetown University in 1983. He was awarded his Dr.med from Mainz in 1984.

Since beginning his radiological training in 1984 Professor Vorwerk has become both a Consultant and then a Deputy Chairman. He is currently Chairman, Department of Diagnostic and Interventional Radiology at Klinikum Ingolstadt, Ingolstadt, Germany.

Professor Vorwerk has produced more than 470 papers, book chapters and abstracts and lectures in the field of diagnostic radiology with a special focus on ultrasound, interventional radiology and CT. He became a Professor of Radiology in 1996.

In 1993 Professor Vorwerk was awarded the Wilhelm Conrad Röntgen Award, and in 1996 the Herman Holthusen Award. He is on the Editorial Board for European Radiology, CVIR and RoeFo.

SILVANUSTHOMPSONMEMORIALLECTURE

Monday 17 May 1999 1615 - 1700

Professor J W Hopewell: Dose fractionation and normal tissue tolerance: In search of the holy grail



Professor John Hopewell has been Director of Radiobiological Research at the University of Oxford and Director of the Research Institute, The Churchill Hospital, Oxford since 1981, having first joined the staff of that Institute as a post-doctoral scientist in 1970. He obtained his PhD in Radiation Biology at the University of London in 1968 for work on the effects of radiation on the central nervous system and in 1997 he was awarded a DSc by that same University for his extensive contributions to the field of normal tissue radiobiology.

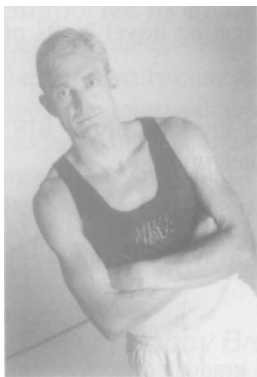
Professor Hopewell's major research interests have been and remain in the field of dose fractionation and volume effects as applied to radiotherapy and in the study of the mechanisms of radiation-induced damage to normal tissues, including the skin, kidney, heart, rectum and lung, in addition to the CNS, the topic in which he began his research career. This combination of interests has recently lead him to become involved in pre-clinical studies in boron neutron capture therapy for the treatment of glioblastoma. He has also been involved in work related to radiological protection and was a major contributor to ICRP 59 and a NCRP report on the biological effects of hot particles to be published shortly.

Professor Hopewell is the current Chairman of the European Late Effects Project Group (EULEP) whose mission is to co-ordinate research into radiation late effects in 24 designated laboratories throughout the European Union. He is also a visiting Professor in the School of Physics, University of Birmingham and has previously been awarded the Röntgen Prize (1985) for his contributions to Normal Tissue Radiobiology by the British Institute of Radiology.

WILLIAMSTRIPPEMEMORIALLECTURE

Tuesday 18 May 1200 - 1245

Dr D Chapman-Jones: The management and ultrasound imaging of chronic tendon pathology



Dr David Chapman-Jones states that he has two main professional interests - sport and musculoskeletal ultrasound. To be more precise, the biological adaptations to sport and exercise with particular reference to the musculoskeletal system and the imaging based diagnosis of musculoskeletal disorders resulting from inappropriate overload.

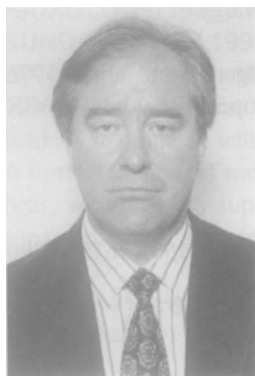
In 1966 David was granted a year long, full-time sabbatical from his post at Christ Church University College, in order to study Sports Medicine at the Queens Medical Centre, Nottingham under the guidance of Professor Angus Wallace. This MSc, run by the Faculty of Medicine at Nottingham, enabled a practical and clinical development of his PhD study which examined tendon pathology, its diagnosis and treatment.

David is an active middle distance athlete and also is the fitness coach and general 'sports med.' person for Canterbury City Football Club, his local semi-professional soccer team.

FINZILECTURE

Tuesday 18 May 1999 1300 - 1345

Professor C Metreweli: Lymph node imaging: the shadowy past, colourful present and bright future



Professor Metreweli was born during World War II in the Ukraine, and owes everything to his parents and English Education: Latymer (London), Cambridge and Oxford, graduating in 1967.

Professor Metreweli trained under Robert Steiner at the Hammersmith Hospital, obtaining a Fellowship of the Royal College of Radiologists in 1976.

He has worked in The Hospital for Sick Children, GOS, Armed Forces Hospital Riyadh (maintaining the eastward migration) and is currently Professor and Chairman of Diagnostic Radiology and Organ Imaging at the Chinese University of Hong Kong.

His main area of interest centres around ultrasound. 230 publications cover a wide range of applications. Current work includes paediatric UTI, recurrent abdominal pain, torticollis, thyroid, and lymph nodes.

Mr N S Peckitt: Stereoscopic lithography and the manufacture of customized implants in facial reconstruction



Mr Ninian Peckitt has been Consultant Oral & Maxillofacial Surgeon at Doncaster Royal Infirmary since 1994. A department of Oral, Aesthetic Maxillofacial and Reconstructive Surgery has evolved in Doncaster on his appointment in respect of a combined Dental, Medical and Surgical service for patients requiring 'Oral, Aesthetic Maxillofacial and Reconstructive Surgery', with the emphasis on the maintenance of 'Form & Function'.

Mr Peckitt is also Director of ComputerGen Implants Ltd. This company was formed in July 1998 to manage the research and development of the patent related to facial reconstruction utilizing computer generated implants. ComputerGen was launched at the Medilink Meeting in York (1998) with an emphasis on the partnership between Industry, Academia and the Providers of Health Care, with Government support. Currently, they are working through Medilink to establish a Centre of Excellence for Biotechnology and Design. Links are being forged with the Neurosurgery Unit in Sheffield for the management of joint craniofacial cases.

Patients are beginning to contact Doncaster from all over the United Kingdom, with respect to treatment using this technology and they have seen their first patients from Mainland Europe and the USA.

DOUGLAS LEA LECTURE

Wednesday 19 May 1999 1300 - 1345

Professor T E Wheldon: Radiation physics and genetic targeting: New directions for radiotherapy



Professor Wheldon's initial training was in radiotherapy physics at the Beatson Oncology Centre in Glasgow, followed by work in experimental and mathematical radiobiology at the MRC Cyclotron Unit, Hammersmith Hospital.

His present position is Top Grade Clinical Scientist at the Beatson Oncology Centre and Head of the Radiobiology Group at CRC Beatson Laboratories in Glasgow. Previous work has been on several aspects of radiobiology, including radiation effects on normal tissues and optimal fractionation of radiotherapy.

Present studies are focused on targeted radiotherapy, with applications to neuroblastoma, lymphoma and glioma; this is now being extended to application of gene therapy within radiotherapy.

PERSONAL PLANNER

MONDAY 17 MAY

Morning

Afternoon

Evening

Morning

Afternoon

Hall 5	Tuberculosis in the Millennium (SAS) Skill Mix and Changing Roles for Radiographers: The Evidence (SS) BIR Kodak Mayneord Memorial Lecture (EL)	BIR Mackenzie Davidson Memorial Lecture (EL) A&E Imaging (SS) BIR Silvanus Thompson Memorial Lecture (EL) Society of Radiographers - AGM
Hall 8	Genitourinary Imaging (SS) Imaging Prostatic Cancer (SS)	MR Topics (WIP) Tumour Imaging (SS)
Hall 11A	New Views on Gastrointestinal Investigation (SS) Vascular Imaging & Intervention 1 (SS)	Vascular Imaging in Ultrasound (W) Radiographers: Professional Development (SS)
Hall 11B	Progress in Positron Imaging (SAS) Review of Image Guided Surgery (SS)	Update on Radionuclide Imaging (SAS) Vascular Imaging and Intervention 2 (SS)
Olympian Suite	CiRiS (SS) Whither Film & DR? (SAS)	Implementing a PACS (SS) Digital Imaging (SS)

SOCIAL EVENTS

The Barber Institute of Fine Art - Private Tour
Supported by Picker International
1830 - 2100

Disco at Bobby Brown's - The Club
2100 - 0100

TUESDAY 18 MAY	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1															
Hall 5																												State of the Art Symposium Management Issues		BIR Presidential Address		WIP Dose Reduction & Intensifier Perf.		Eponymous Lecture Finzi Lecture RSM		Scientific Session Obstetrics & Gynaecology		Film Viewing														
Hall 6																												Scientific Session Hardware Developments in MR		Scientific Session Head & Neck Imaging 1		Scientific Session Breast Imaging 1		Scientific Session Breast Imaging 2																		
Hall 8																												Scientific Session The Chest Vascular		State of the Art Symposium MR of the Chest		Refresher Course Chest		Scientific Session New Studies in Chest Imaging																		
Hall 11A																												State of the Art Oncology Skill Mix		Controversy Corner Competence to Practise		COR Presidential Address		Eponymous Lecture William Stripp COR		Keynote Lectures Head & Neck Imaging 2		Scientific Session Dose Reduction & Audit														
Hall 11B																												Scientific Session New Technologies Evaluation		Scientific Session Imaging in Radiotherapy		Scientific Session Radiotherapy: Quality & Other Issues		Scientific Planning & Conformal Radiotherapy																		
Olympian Suite																												Radiological History History of Radiotherapy & Contrast Media		Scientific Session Audit & Management		College of Radiographers Student Radiographer Conference																				

PERSONAL PLANNER

TUESDAY 18 MAY

Morning

Afternoon

Evening

<i>Hall</i>	<i>Morning</i>	<i>Afternoon</i>
Hall 5	Management Issues (SAS) BIR Presidential Address Dose Reduction & Intensifier Performance (WIP)	RSM Finzi Lecture (EL) Obstetrics & Gynaecology (SS) Film Viewing
Hall 6	Hardware Developments in MR (SS) Head & Neck Imaging 1 (SS)	Breast Imaging 1 (SS) Breast Imaging 2 (SS)
Hall 8	The Chest Vascular (SS) MR of the Chest (SAS)	Chest (RC) New Studies in Chest Imaging (SS)
Hall 11A	Oncology Skill Mix (SAS) Competence to Practise (CC) COR Presidential Address COR William Stripp Memorial Lecture (EL)	Head & Neck Imaging 2 (KL) Dose Reduction & Audit (SS)
Hall 11B	New Technologies Evaluation (SS) Imaging in Radiotherapy (SS) Radiotherapy: Quality & Other Issues (SS)	Bioeffect Planning & Conformal Radiotherapy (SS)
Olympian Suite	History of Radiotherapy & Contrast Media (SS) Audit & Management (SS)	COR Student Radiographers Conference

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

WEDNESDAY 19 MAY	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Hall 5	<i>State of the Art Symposium</i> Pelvic Floor & Fistula Imaging		<i>Workshop</i> Abdominal Fistula Imaging		<i>Best Practice</i> Imaging Liver Metastases			<i>Eponymous Lecture</i> Stanley Melville COR			<i>State of the Art Symposium</i> Paediatric Interventional Radiology					<i>Work in Progress</i> Education Topics																						
Hall 6	<i>Work in Progress</i> Mammography/Imaging for Oncology			<i>Controversy Corner</i> Radiographic Practice in Non-Accidental Injury in Children & Child Protection						<i>Osteoporosis</i> Radiological Diagnostic Service and Research			<i>Congress Awards Ceremony</i>		<i>State of the Art Symposium</i> The Future of Musculoskeletal Imaging		<i>WIP</i> IMRT/IT for Radiotherapy																					
Hall 8	<i>Scientific Session</i> Advances in Neurovascular Radiology 1			<i>Scientific Session</i> Advances in Neurovascular Radiology 2						<i>Scientific Session</i> Hepatobiliary Imaging				<i>Scientific Session</i> The Future for the Barium Enema																								
Hall 11A	<i>State of the Art Symposium</i> Post-mastectomy Radiotherapy 1				<i>State of the Art Symposium</i> Post-mastectomy Radiotherapy 2				<i>Eponymous Lecture</i> Douglas Lea Lecture IPEM			<i>State of the Art Symposium</i> Radiotherapy of Breast Cancer Technical Developments 1					<i>State of the Art Symposium</i> Radiotherapy of Breast Cancer Technical Developments 2																					
Hall 11B	<i>AGM</i> British Institute of Radiology		<i>State of the Art Symposium</i> The Revision of the Ionising Radiation Regulations						<i>State of the Art Symposium</i> The New Quality Criteria in CT			<i>Scientific Session</i> Paediatric Radiation Protection					<i>Scientific Session</i> Risk & Optimization in Radiation Protection																					
Olympian Suite	<i>Scientific Session</i> Advances in Musculoskeletal Techniques							<i>Best Practice</i> Imaging Spinal Trauma			<i>Work in Progress</i> New Observations					<i>Work in Progress</i> CT Topics																						

PERSONAL PLANNER

WEDNESDAY 19 MAY

Morning

Afternoon

Evening

<i>Hall</i>	<i>Morning</i>	<i>Afternoon</i>
Hall 5	Pelvic Floor & Fistula Imaging (SAS) Abdominal Fistula Imaging (W) Imaging Liver Metastases (BP) COR Stanley Melville Memorial Lecture (EL)	Paediatric Interventional Radiology (SAS) Education Topics (WIP)
Hall 6	Mammography/Imaging for Oncology (WIP) Radiographic Practice in Non-Accidental Injury in Children & Child Protection (CC) Osteoporosis Radiological Diagnostic Service and Research	Congress Awards Ceremony The Future of Musculoskeletal Imaging (SAS) IMRT/IT for Radiotherapy (WIP)
Hall 8	Advances in Neurovascular Radiology 1 (SS) Advances in Neurovascular Radiology 2 (SS)	Hepatobiliary Imaging (SS) The Future for the Barium Enema (SS)
Hall 11A	Post-mastectomy Radiotherapy 1 (SAS) Post-mastectomy Radiotherapy 2 (SAS)	IPEM Douglas Lea Lecture (EL) Radiotherapy of Breast Cancer Technical Developments 1 (SAS) Radiotherapy of Breast Cancer Technical Developments 2 (SAS)
Hall 11B	British Institute of Radiology - AGM The Revision of the Ionising Radiation Regulations (SAS) The New Quality Criteria in CT (SAS)	Paediatric Radiation Protection (SS) Risk & Optimization in Radiation Protection (SS)
Olympian Suite	Advances in Musculoskeletal Techniques (SS) Imaging Spinal Trauma (BP)	New Observations (WIP) CT Topics (WIP)

LIST OF EXHIBITORS FOR MED X RAY® 1999

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 5).

Acuson	Lafayette Healthcare
Adac Laboratories (UK) Ltd	Landauer
Advanced Medical Technology Ltd	Lanmark
Agfa-Gevaert Ltd	Laser Lines Ltd
Alliance Medical Ltd	Lindgren-Rayproof
Amersham Medical Systems	Lister BestCare Ltd
ATL UK Ltd	Lodestone Patient Care
Aura Scientific Ltd	Lupprian's Computer Express Ltd
Bioglan Laboratories Ltd	Mallinckrodt Medical (UK) Ltd
British Institute of Radiology	Mangar International
BT Health	MAS Medical Ltd
Bull Healthcare	McKesson HBOC
Calumet Coach Company Ltd	MDI Systems Ltd
Cares Built, Inc.	Media Resources
Champion Photochemistry Intl Ltd	Medical Devices Agency
College of Radiographers	Medical Imaging Systems Ltd
Comet AG	Metafix
Computerized Medical Systems GmbH - CMS	MXD Ltd
Connect Biomedical Resources Ltd	National Radiological Protection Board
Cook (UK) Ltd	Northern Physics Services
Corinth Medical	Nucletron UK Ltd
Creos Ltd	Nycomed Amersham plc
Data General Ltd	NAI-Oatencourt Ltd
Diagnostic Sonar Ltd	Philips Medical Systems
Du Pont Pharmaceuticals Ltd	Photosol Ltd
E C De Witt & Co Ltd	Picker International Ltd
E-Z-EM Ltd	Planmeca
Ecoscan Hitachi Ultrasound	Protape Ltd
Edelchemie (UK) Ltd	Qados Ltd
EMD Services Ltd	Qualisys DB
Esaote Biomedica UK Ltd	Radiation Consultancy Services Ltd
European Congress of Radiology - ECR	Radiological Protection Centre
Eurosite Recruitment	Radiological Research Trust
Fuji Photo Film (UK) Ltd	Richardson Electronics (Europe) Ltd
Gammex RMI Ltd	RRPPS
GE Ultrasound Europe	Schering Health Care Ltd
Glosrad	Shimadzu Europa (UK Branch)
Gothic Crellon Ltd	Siel Imaging Ltd
Grahame Gardner Ltd	Siemens Medical Engineering
Granta Book Exhibitions	SMR Ltd
Graytech Ltd	SNE
Health South (UK) plc	Southern Scientific/Knight X-Ray
Helax UK Ltd	Sterling Diagnostic Imaging (UK) Ltd
IGE Medical Systems	Sunquest Information Systems
Imagestore Ltd	Tetenal Ltd
Imaging Diagnostic Systems Inc.	Thames Medical Ltd
Impex Imaging Systems Ltd	The Radiology History & Heritage Charitable Trust
Innervision MRI Ltd	Toshiba Medical Systems Ltd
Institute of Physics and Engineering in Medicine	Trophy Trex Group
International Medical Multi Media Ltd	Varian Oncology Systems
International Medical Systems UK Ltd	Vertec Scientific
ISRRT	Walter Graphter UK Ltd
Kenex (Electro-Medical) Ltd	Wardray Premise Ltd
Keymed	Westminster Health Care
Kimal plc	Wolverson X-Ray Ltd
Kodak Ltd	X-Ograph Imaging Systems Ltd
Konica (UK) Ltd	X-Rite Ltd

List of exhibitors correct as at 30.3.99

MONDAY 17 MAY 1999

EPONYMOUS LECTURES

**BRITISH INSTITUTE OF RADIOLOGY
KODAK MAYNEORD MEMORIAL LECTURE**

Hall 5 1200 - 1245 [p. 11]

Chairman: *Dr P A Griffiths*

- 1200 Advances in ultrasound: from microimaging to telerobotics **Prof P N T Wells, Bristol General Hospital, Bristol**

**BRITISH INSTITUTE OF RADIOLOGY
MACKENZIE DAVIDSON MEMORIAL LECTURE**

Hall 5 1300 - 1345 [p. 11]

Chairman: *Prof A Adam*

- 1300 The percutaneous management of arterial disease **Prof D Vorwerk, Klinikum Ingolstadt, GERMANY**

**BRITISH INSTITUTE OF RADIOLOGY
SILVANUS THOMPSON MEMORIAL LECTURE**

Hall 5 1615 - 1700 [p. 21]

Chairman: *Dr P A Griffiths*

- 1615 Dose fractionation and normal tissue tolerance: in search of the holy grail **Prof J W Hopewell, The Churchill Hospital, Oxford**

IMAGING FOR ONCOLOGY

(See also BIR Presidential Address - Tuesday & WIP Mammography/Imaging for Oncology - Wednesday)

**TUMOUR IMAGING
1530 - 1715 Hall 8 [p. 15]**

Chairman: *Dr D MacVicar*

- 1530 CEA immunoscintigraphy in the investigation of colorectal cancer recurrence *Dr M W Nelson, Royal Hull NHS Hospitals Trust, Hull*
- 1540 Dynamic contrast enhanced MRI fails to differentiate malignant from benign lesions in recurrent colorectal adenocarcinoma *Mr M Lowry, Hull Royal Infirmary, Hull*
- 1550 PET scanning in carcinoma of the oesophagus *Dr R J Chambers, Royal Brompton & Harefield NHS Trust, Harefield*
- 1600 Metal stenting for malignant oesophageal dysphagia – 5 years experience in 100+ patients *Dr I G H Renwick, Scarborough Hospital, Scarborough*
- 1610 Endoscopic ultrasound guided transoesophageal biopsy of sub-carinal lymph nodes *Dr G J Davies, Singleton Hospital, Swansea*
- 1620 CT assessment of ovarian tumour masses prior to surgery *Dr S Swift, St James's University Trust Hospital, Leeds*
- 1630 Evaluation of adrenal masses using F-18 fluorodeoxyglucose PET and SPECT imaging *Dr K Sandrasegaran, VA Medical Centre, Indianapolis, USA*
- 1640 CT guided peritoneal biopsy with immunohistochemistry cytokeratin analysis for primary site diagnosis in peritoneal carcinomatosis *Dr S Swift, St James's University Trust Hospital, Leeds*
- 1650 Imaging of neuroendocrine tumours: does 3D registration of CT and Octreoscan SPECT data improve diagnostic accuracy? *Dr J M McAllister, Royal Hospitals Trust, Belfast*
- 1700 Discussion

**PROFESSIONAL ISSUES FOR
RADIOGRAPHERS**

(See also Competence to Practise & COR Presidential Address - Tuesday)

**SKILL MIX & CHANGING ROLES FOR
RADIOGRAPHERS: THE EVIDENCE**

Hall 5 1015 - 1130 [p. 7]

Chairman: *Mr M Viner*

- 1015 Recommendations for the implementation and management of skill mix in diagnostic imaging *Mrs M J Lovegrove, South Bank University, London*
- 1025 Changing times: a national survey of extended roles in diagnostic radiography *Mr R C Price, University of Hertfordshire, Hatfield*
- 1035 A national survey of extended roles in therapeutic radiography *Ms J High, University of Hertfordshire, Hatfield*
- 1045 The changing role of the superintendent radiographer *Mr N J Prime, University of Hertfordshire, Hatfield*
- 1055 A clinical radiographer in medical physics: a career opportunity *Mrs C Chapman-Jones, Kent and Canterbury Hospital, Canterbury*
- 1105 The medical physics radiographer: the physicist's view of creating and managing the post *Mr M Hanson, Kent and Canterbury Hospital, Canterbury*
- 1115 Maximum activity with minimum resources *Mrs S McWilliam, Derriford Hospital, Plymouth*
- 1125 Discussion

**RADIOGRAPHERS: PROFESSIONAL
DEVELOPMENT**

(See also WIP Education Topics - Wednesday)

Hall 11A 1545 - 1700 [p. 18]

Chairman: *Mr R Cannon*

- 1545 Mentoring female undergraduate students into employment: a European community funded initiative *Mrs G Marshall, University College of St Martin, Lancaster*
- 1555 An investigation of clinical decision making in diagnostic radiography *Mr N J Prime, University of Hertfordshire, Hatfield*
- 1605 A comparative study of the reporting accuracy of clinical radiographers and radiology registrars *Mrs R D Eyres, University of Salford, Salford & Dr N Thomas, North Manchester General Hospital, Manchester*
- 1615 The development and implementation of a realistic, positive approach to Personal Performance Development Review *Ms A J Kendrew, Princess Royal Hospital, Hull*
- 1625 Evaluating CPD – can we make it effective? *Mrs S M Henwood, City University, London*
- 1635 Over 1000 consecutive Barium Enema examinations performed by Radiographers - quality assured! *Dr J Oommen, Royal Hallamshire Hospital, Sheffield*
- 1645 Discussion

**ANNUAL GENERAL MEETING
HALL 5 1715 Onwards
SOCIETY OF RADIOGRAPHERS**

COMPUTER APPLICATIONS & DATA PROCESSING 1

infoRAD™ in association with CARS '99
REVIEW OF IMAGE GUIDED SURGERY
Hall 11B 1030 - 1130 [p. 9]

- Chairman: Prof D J Hawkes*
- 1030 Enabling technologies for image guided surgery
Prof H U Lemke, CARS '99, Berlin, GERMANY
 - 1100 A dynamic approach to computer modelling of bone
Mr T Bowles, University of Oxford, Oxford
 - 1110 Skeletal growth estimation using an automated knowledge-based vision system
Dr J P Owen, Royal Victoria Infirmary, Newcastle upon Tyne
 - 1120 Discussion

infoRAD™ in association with CARS'99
DIGITAL IMAGING
Olympian Suite 1545 - 1715 [p. 19]

- Chairman: Prof A Todd-Pokropek*
- 1545 Digital radiography - too many numbers?
Mr M Tatlow, South Bank University, London
 - 1615 First 43 x 43 cm flat panel silicon X-ray detector for digital chest imaging in clinical comparison with screen-film radiography
Dr S Hennigs, Städtische Kliniken Dortmund, GERMANY
 - 1625 Small field mammography: digital vs film-screen imaging
Mr D S Evans, Kings College Hospital, London
 - 1635 The evaluation of four small field digital mammography systems
Miss D Smith, Kings Centre for the Assessment of Radiological Equipment (KCARE), London
 - 1645 Wavelet transform analysis and classification in digital mammography
Mr T Lambrou, University College, London
 - 1655 Assessment of wavelet compression for angiograms
Dr Y Xue, Bristol Royal Infirmary, Bristol
 - 1705 Discussion

infoRAD™
IMPLEMENTING A PACS
Olympian Suite 1400 - 1515 [p. 14]

- Chairman: Prof A Todd-Pokropek*
- 1400 Implementing a PACS
Dr Y Rees, Leicester General Hospital NHS Trust, Leicester
 - 1430 Teleradiology - its role in urban and rural Australia
Mr R P George, Dr Jones & Partners, Adelaide, AUSTRALIA
 - 1440 A low cost telemedicine facility for general practice
Prof M R Rees, University of Bristol, Bristol
 - 1450 A strategy for the recording and presentation of medical images in radiological multimedia reports
Dr N J G Brown, University of Birmingham, Birmingham
 - 1500 Discussion

WHITHER FILM & DR?
Olympian Suite 0945 - 1145 [p. 6]

- Chairman: Mr K Haydon*
- 0945 DirectRay direct digital capture technology - its role in the future of the radiology department
Mr J Bell, Stirling Diagnostic Imaging (UK) Ltd, Herts
 - 1000 Technology available
Mr J Garbutt, Philips Medical Systems, London
 - 1015 Potential benefits of the new direct digital flat detector technology
Mr J Levett, Siemens plc, Berkshire
 - 1030 The clinical use of DirectRay Radiography - the first year's experience, The Royal Victoria Infirmary
Dr D L Richardson, Royal Victoria Infirmary, Newcastle upon Tyne
 - 1050 Comparison of CR and DR
Ms P Hawkrige, The General Infirmary at Leeds, Leeds
 - 1110 Integration of CR/DR into PACS
Mr C Bull, Kodak Health Imaging, Berkshire
 - 1130 Discussion

CLINICAL UPDATE SYMPOSIUM: GENITOURINARY IMAGING

GENITOURINARY IMAGING
Hall 8 0830 - 0950 [p. 1]

- Chairman: Dr D MacVicar*
- 0830 Imaging in haematuria
Dr J A W Webb, St Bartholomew's Hospital, London
 - 0900 Spiral CT angiography in the assessment of renal artery stenosis: which post-processing method to use?
Dr M R M Thomas, Derriford Hospital, Plymouth
 - 0910 Accuracy of visualization of renal arterial anatomy and stenosis using gadolinium enhanced MR angiography
Dr T K Mittal, University of Wales, Cardiff
 - 0920 Urological surveillance in patients with spinal dysraphism: the value of MR urography
Dr M M Maher, Mater Misericordiae Hospital, Dublin, IRELAND
 - 0930 Ureteral strictures in renal transplants - management by antegrade balloon dilatation and temporary internal stenting
Dr A A Yong, St Mary's Hospital, London
 - 0940 Prevalence and practice regarding testicular microlithiasis in a symptomatic population referred for scrotal ultrasound
Dr M Nelson, Hull Royal Infirmary, Hull

IMAGING PROSTATIC CANCER
Hall 8 1015 - 1130 [p. 8]

- Chairman: Dr J A W Webb*
- 1015 Imaging prostate cancer
Dr D MacVicar, The Royal Marsden NHS Trust, Sutton
 - 1045 Does adopting free/total PSA improve diagnostic yield in TRUS guided biopsies of the prostate?
Dr M E K Sellars, Kings College Hospital, London
 - 1055 Management of patients treated with aspirin/warfarin prior to prostatic biopsy: survey of current practice
Dr S E J Connor, Birmingham City Hospital, Birmingham
 - 1105 Accuracy of endorectal MRI in prostatic carcinoma - comparison with pathological findings
Dr M J Cleasby, Birmingham Heartlands Hospital, Birmingham
 - 1115 The use of restricted diffusion in distinguishing between benign and malignant tissues in the prostate
Mr D J Tozer, Hull Royal Infirmary, Hull
 - 1125 Discussion

ADVANCES IN CLINICAL IMAGING

NEW VIEWS ON GASTROINTESTINAL INVESTIGATION

Hall 11A 0830 - 1030 [p. 2]

Chairman: Dr A H Chapman

- 0830 Ultrasound of the stomach and duodenum
Professor J H Lim, Samsung Medical Centre, Seoul, KOREA
- 0900 Unenhanced spiral CT for evaluating acute appendicitis Dr D Pickuth, Martin-Luther-Universität, Halle, GERMANY
- 0910 Diagnostic management of the acute abdomen: unenhanced spiral-CT vs abdominal plain radiography and sonography Dr A J Ruppert-Kohlmayr, University Hospital, Graz, AUSTRIA
- 0920 Helical CT of the small bowel with an alternative oral contrast material in patients with inflammatory bowel disease Dr O Doerfler, Karl Franzens University, Graz, AUSTRIA
- 0930 Outcome for patients with suspected perianal fistula but negative MR imaging Dr J Morris, St James's University Hospital, Leeds
- 0940 Imaging the incontinent anal sphincter: endoanal MR or endosonography? Dr S Dhillon, St Mark's Hospital, Middlesex
- 0950 Dynamic MRI of the pelvic floor in asymptomatic subjects Dr V J Goh, Northwick Park and St Mark's NHS Trust, Middlesex
- 1000 Percutaneous core biopsy of lesions of the gastrointestinal tract Dr K D Farmer, Royal Cornwall Hospital, Truro
- 1010 The changing role of mesenteric angiography in the management of gastrointestinal haemorrhage: an audit of the past 10 years Dr M P Callaway, Bristol Royal Infirmary, Bristol
- 1020 Gastrointestinal bleed scintigraphy can help when other imaging fails Dr L Biassoni, St George's Hospital, London

VASCULAR IMAGING & INTERVENTION 1

Hall 11A 1045 - 1215 [p. 10]

Chairman: Mr T Watkinson

- 1045 Three point compression ultrasound in the imaging of acute symptomatic DVT
Dr C Lee-Elliott, St George's Hospital, London
- 1055 The value of contrast-enhanced 3D MRA in the pre-operative evaluation of patients with aortoiliac disease Dr W C Torreggiani, Beaumont Hospital, Dublin, IRELAND
- 1105 The role of interventional radiology in the management of failing Brescia - Cimino arteriovenous fistulae Dr S Mandumula, Charing Cross Hospital, London
- 1115 Percutaneous transluminal angioplasty of post-endarterectomy internal carotid artery stenosis Dr R Razzaq, South Manchester University Hospitals NHS Trust
- 1125 Radiological placement of subcutaneous arm ports - indications, technique and complications Dr R Vaidhyanath, Pilgrim NHS Trust, Lincolnshire
- 1135 Lower limb angioplasty - a day case procedure? Dr C Keogh, Mater Misericordiae Hospital, Dublin, IRELAND
- 1145 Angiography and angioplasty in patients with scleroderma; 5 years experience Dr R Aviv, Royal Free Hospital, London
- 1155 Assessment of a computerised strain-gauge plethysmograph in patients presenting with clinically suspected deep venous thrombosis Dr A Goddard, Bradford Royal Infirmary, Bradford
- 1205 Discussion

VASCULAR IMAGING & INTERVENTION 2

Hall 11B 1530 - 1730 [p. 17]

Chairman: Mr M Dean

- 1530 Risk factors for the embolizing carotid plaque
Dr A W M Mitchell, Charing Cross Hospital, London
- 1540 Audit of intra-arterial thrombolytic therapy at Blackburn Royal Infirmary Dr R W Jackson, Blackburn Royal Infirmary, Blackburn
- 1550 Treatment of malignant inferior vena caval obstruction with metallic stents Dr I G H Renwick, Scarborough Hospital, Scarborough
- 1600 Visualization of blood flow with phase inversion tissue harmonic imaging Dr B A McDermott, Siemens Medical Systems Inc., Issaquah, USA
- 1610 Malignant superior vena caval obstruction: stenting via the subclavian approach Dr J H Miller, Edinburgh Royal Infirmary, Edinburgh
- 1620 Endovascular stenting: our experience with a new stent and the use of non-invasive surveillance Dr I S Francis, Royal Free Hampstead NHS Trust, London
- 1630 Should anticoagulation be stopped or reversed prior to venous intervention? Dr D J Sadler, University of Calgary Foothills Hospital, Calgary, CANADA
- 1640 Analysis of early failure of tunnelled haemodialysis catheters Dr D J Sadler, University of Calgary Foothills Hospital, Calgary, CANADA
- 1650 Assessment of the new Easy Wallstent in vascular stenting Dr S Hennigs, Staedtische Kliniken Dortmund, GERMANY
- 1700 Contrast enhanced MR angiography: a review of clinical referrals in a specialist cardiovascular unit Mrs J M Francis, Royal Brompton & Harefield NHS Trust, London
- 1710 Evaluation of carotid stenosis by ultrasound, MRA, first-pass gadolinium-enhanced MRA, and conventional angiography Miss M B Johnson, Royal Hallamshire Hospital, Sheffield
- 1720 Evaluation of portal venous system patency, contrast enhanced MRI vs FISP Dr S A Cooper, Queen Elizabeth Hospital, Birmingham

A&E IMAGING

Hall 5 1400 - 1530 [p. 11]

Chairman: Mr B Tonello

- 1400 Blunt abdominal trauma: maximizing resource utilization by limiting CT scanning to peritoneal lavage - positive cases Dr B Sharma, St Thomas Hospital, London
- 1410 Guidelines for emergency cranial CT in adults with no history of head trauma Dr J E Harris, St Mary's Hospital, London
- 1420 Assessing the impact of timing of cranial CT in patients with skull fractures on outcomes Dr D Nag, Barnsley District General Hospital NHS Trust, Barnsley
- 1430 A comparative evaluation of radiographs, CT and 3D imaging in facial trauma Dr A Reuben, University of Oxford
- 1440 Nurse practitioner radiograph requests: a comparison of positivity rates with those of junior doctors Dr A Troughton, Princess Margaret Hospital, Swindon
- 1450 Is there a role for formal reporting of A&E radiographs? Dr I D Lyburn, Frenchay Hospital, Bristol
- 1500 Radiographic misinterpretation by casualty staff Dr P A Davison, Bristol Royal Infirmary, Bristol
- 1510 Ankle trauma: what is the best radiographic approach for associated midfoot injuries? Dr R Bramley, Royal Bolton Hospital, Bolton
- 1520 Discussion

SPECIAL FOCUS SESSIONS

TUBERCULOSIS IN THE MILLENNIUM

Hall 5 0830 - 1000 [p. 1]

Chairman: *Dr A K Banerjee*

- 0830 Tuberculosis of the chest
Dr S Padley, Chelsea & Westminster Hospital, London
- 0855 Abdominal tuberculosis
Dr J Healy, Chelsea & Westminster Hospital, London
- 0920 TB in the Millennium: spinal and skeletal manifestations
Dr R W Kerslake, University Hospital, Nottingham
- 0945 Discussion

CiRiS

In Association with the CiRiS Working Party

Olympian Suite 0830 - 0930 [p. 6]

Chairman: *Dr E P H Torrie*

- 0830 Continuous Improvement for Radiological Imaging Services
Dr E P H Torrie, Royal Berkshire Hospital, Berkshire

WORK IN PROGRESS

MR TOPICS

Hall 8 1400 - 1500 [p. 89]

- 1400 Incidence of lumbar disk high-intensity zone on MRI among young women *Dr G Kawakami, The Jikei University School of Medicine, Tokyo, JAPAN*
- 1410 MR features of spinal tuberculosis *Dr A Kapoor, All India Institute of Medical Sciences, New Delhi, INDIA*
- 1420 MRI of the pre-term neonate using a dedicated 0.2 T magnet on the SCBU *Dr E H Whitby, University of Sheffield, Sheffield*
- 1430 Perfusion weighted MRI in a normal aging population *Dr N Hoggard, University of Sheffield, Sheffield*
- 1440 Effects of MR-related acoustic noise on hearing: otoacoustic emission measurements *Mr P Radomskij, St George's Hospital, London*
- 1450 Discussion

**CLINICAL UPDATE SYMPOSIA:
NUCLEAR MEDICINE**

PROGRESS IN POSITRON IMAGING

Hall 11B 0830 - 1015 [p. 4]

Chairman: *Dr J Fleming*

- 0830 Overview of positron emission tomography and its clinical benefits **Dr M J O'Doherty, Guy's & St Thomas' Hospital, London**
- 0855 Positron emitting radionuclides and radiopharmaceuticals for PET imaging: current status and future developments
Dr J Zweit, UMIST and Paterson Institute for Cancer Research, Manchester
- 0910 PET instrumentation - what is available
Dr P H Jarritt, Royal Free & University College Medical School, London
- 0930 Optimizing the performance of gamma camera PET and 511 keV SPECT systems
Dr T D Fryer, University of Cambridge, Cambridge
- 0945 A clinical role for positron imaging in cardiology
Dr U M Sivananthan, The Yorkshire Heart Centre, The General Infirmary, Leeds
- 1000 Discussion

UPDATE ON RADIONUCLIDE IMAGING

Hall 11B 1400 - 1515 [p. 14]

Chairman: *Dr M J O'Doherty*

- 1400 Radionuclide diagnosis and therapy of cancer
Prof K E Britton, St Bartholomew's Hospital, London
- 1430 Imaging occult infection and pyrexia of unknown origin **Prof A M Peters, Hammersmith Hospital, London**
- 1500 Discussion

HANDS ON WORKSHOP

VASCULAR IMAGING IN ULTRASOUND

Hall 11A 1400 - 1530 [p. 13]

Chairman: *Mrs V Gregory*

- 1400 How to scan for deep vein thrombosis - a Magical Mystery Tour of calf veins
Ms B Sarker, Queen Elizabeth Hospital, Tyne & Wear
- 1425 Carotid Doppler **Ms O M Clarke, KeyMed, Derbyshire**
- 1450 Duplex ultrasonography is useful and valid in the diagnosis and assessment of lower-limb vascular disease **Miss Y Morarji, Royal London Hospitals NHST, London**
- 1515 Discussion

NOTES

TUESDAY 18 MAY 1999**BRITISH INSTITUTE OF RADIOLOGY
PRESIDENTIAL ADDRESS**

Hall 5 1015 - 1100 [p. 32]

- 1015 Interventional radiology in cancer
Prof A Adam, Guy's Hospital, London

**COLLEGE OF RADIOGRAPHERS
PRESIDENTIAL ADDRESS**

Hall 11A 1130 - 1200 [p. 35]

- Chairman: Miss J Reid
1130 Strength through diversity
Mr J Leighton, Hope Hospital, Salford

EPONYMOUS LECTURES**COLLEGE OF RADIOGRAPHERS
WILLIAM STRIPP MEMORIAL LECTURE**

Hall 11A 1200 - 1245 [p. 35]

Chairman: Mr J Leighton

- 1200 The management and ultrasound imaging of
chronic tendon pathology
**Dr D Chapman-Jones, Canterbury Christ
Church University College, Canterbury**

**ROYAL SOCIETY OF MEDICINE
FINZILECTURE**

Hall 5 1300 - 1345 [p. 36]

Chairman: Dr A M K Thomas

- 1300 Lymph node imaging: the shadowy past,
colourful present and bright future
**Prof C Metreweli, Chinese University
of Hong Kong, Shatin N.T., HONG KONG**

MANAGEMENT ISSUES**MANAGEMENT ISSUES**

Hall 5 0830 - 1000 [p. 23]

Chairman: Mrs E Beckmann

- 0830 Risk management related to clinical governance
**Mr A Yule OBE, University of Wales,
Cardiff**
- 0900 Strategic thinking in radiology **Dr R B
Schilling, RBS Consulting Group,
California, USA**
- 0945 Discussion

AUDIT & MANAGEMENT**Olympian Suite 1100 - 1230 [p. 33]**

- 1100 Plain film hot reporting – a survey of current
practice in the UK *Dr J V Patel, City Hospital
NHS Trust, Birmingham*
- 1110 Error in CT reporting: does clinical
information affect reports? *Dr A Leslie, Bristol
Oncology Centre, Bristol*
- 1120 The effects of vetting requests for in-patient CT
*Dr R L Harrison, Addenbrooke's Hospital,
Cambridge*
- 1130 MRI and CT scanning services: a pan-European
perspective of patient experience *Mr A C
Eggleton, Cardiff University, Cardiff*
- 1140 Radiology day beds within the department: a
cost/benefit analysis *Dr I G H Renwick,
Scarborough Hospital, Scarborough*
- 1150 Seven day radiology - the Torbay experience
Dr P G Kember, Torbay Hospital, Torbay
- 1200 Missed barium enema appointments: why do
they occur? *Dr A Troughton, Princess
Margaret Hospital, Swindon*
- 1210 An epidemiological study into back pain amongst
diagnostic radiographers *Mr S S A Capel,
Canterbury Christ Church University College,
Canterbury*
- 1220 Discussion

DOSE REDUCTION & AUDIT

Hall 11A 1515 - 1715 [p. 43]

*(See also Clinical Update Symposium:
Protecting the Patient - Wednesday)*

Chairman: Dr D Temperton

- 1515 National CT scanner characterization dose survey
Mr H Kiremidjian, St George's Hospital, London
- 1525 Determining minimum dose for acceptable image
quality in CT of the brain by computer simulation
Ms M Crotty, St George's Hospital, London
- 1535 Solid state or xenon: CT scanner detector choice
revisited *Ms J P Wade, Aberdeen Royal
Hospitals NHS Trust, Aberdeen*
- 1545 X-ray frequency survey for the UK in 1998
*Dr R J Tanner, National Radiological
Protection Board, Didcot*
- 1555 Irish reference dose levels for common diagnostic
X-ray examinations *Miss D A Johnston,
University College Dublin, Dublin, IRELAND*
- 1605 The evaluation of radiation dose and image quality
on modern mobile image intensifier systems
*Mr C P Lawinski, Kings College Hospital,
London*
- 1615 Comparing the performance of uni-planar and
bi-planar systems in neuroangiography using
dose-area product *Dr D Johnson, The National
Hospital for Neurology and Neurosurgery,
London*
- 1625 Photoconductor-based digital projection
radiography - effect of dose reduction on image
quality *Dr D Richardson, Royal Victoria
Infirmary, Newcastle-upon-Tyne*
- 1635 Direct staff dose measurement in orthopaedic
trauma theatre during DHS procedures
*Mr A Maxwell, Bradford Royal Infirmary,
Bradford*
- 1645 Estimation of effective dose from radiographic
examination of the ankle *Miss A C Eyden,
Canterbury Christchurch University College,
Canterbury*
- 1655 Display of isodose rate curves in an
interventional screening room *Mr B R Walmsley,
Royal Free Hospital, London*
- 1705 Discussion

**CLINICAL UPDATE SYMPOSIUM:
THE HEAD AND NECK**

(In association with the British Head & Neck Imaging Society)

HEAD & NECK IMAGING 1
Hall 6 1000 - 1200 [p. 29]

Chairman: Dr J Kabala

- 1000 Imaging sensorineural deafness
Dr J Casselman, Dienst Radiologie, Brugge, BELGIUM
- 1030 Imaging for cochlear implants: the importance of the latest techniques for pre-operative assessment
Dr P D Phelps, The Royal National Throat, Nose & Ear Hospital, London
- 1040 MRI in the investigation of sensorineural hearing loss: is contrast enhancement still necessary?
Dr D J Annesley-Williams, Manchester Royal Infirmary, Manchester
- 1050 Imaging of bone destruction in squamous cell carcinoma of the mandible
Dr E Thwaite, University Hospital Aintree, Liverpool
- 1100 Non-contrast MRI for assessment of lymph node involvement in oral cavity tumours
Dr F Alaeddin, Leicester Royal Infirmary, Leicester
- 1110 Investigation of the parotid – where are we?
Dr C Roche, University Hospital Aintree, Liverpool
- 1120 Prevalence of dental disease as a cause of maxillary sinusitis on screening sinus CT (SSCT)
Dr S E J Connor, Birmingham City Hospital, Birmingham
- 1130 Quantification of the effects of the oral decongestant pseudoephedrine by MRI and posterior rhinomanometry
Dr G P Liney, Hull Royal Infirmary, Hull
- 1140 CT of orbital dermoids: a 20 year review
Dr S J Chawda, Moorfields Eye Hospital, London
- 1150 Meningiomas involving the petrous temporal bone
Dr P D Phelps, The Royal National Throat, Nose & Ear Hospital, London

HEAD & NECK IMAGING 2
Hall 11A 1400 - 1500 [p. 38]

Chairman: Dr P D Phelps

- 1400 Anatomy and pathology of the suprahyoid neck
Dr J Casselman, Dienst Radiologie, Brugge, BELGIUM
- 1430 Anatomy and pathology of the infrahyoid neck
Dr J Kabala, Bristol Royal Infirmary, Bristol

FILM VIEWING

Hall 5 1530 - 1700 [n/a]

Chairman: Dr A Freeman

The film viewing session will display the diagnostic talents of a panel of four recognized expert radiologists. Each panellist will be presented with two unknown cases in their areas of expertise. The cases will be challenging and the experts' presentations will emphasize their approaches to problem solving and methods of arrival at their considered opinions. The session aims to be of practical educational value. The images will be displayed during the scientific meeting for delegates to view at leisure. Following the film viewing session the diagnosis will be displayed with the images.

- Dr J Healy, Chelsea & Westminster Hospital, London
- Dr S Halligan, St Mark's Hospital, Harrow
- Dr J Karani, King's College Hospital, London
- Dr M C Collins, Royal Hallamshire Hospital, Sheffield

RADIOLOGICAL HISTORY

HISTORY OF RADIOTHERAPY & CONTRAST MEDIA

Olympian Suite 0830 - 1030 [p. 27]

Chairman: Prof I Isherwood CBE

- 0830 The beginnings of radiotherapy
Dr K E Halnan, Hampton, Middlesex
- 0850 History of radium in medicine in Manchester
Prof B W Fox, Paterson Institute, Christie Hospital, Manchester
- 0920 History of contrast media
Prof P Dawson, UCL Hospitals, London
- 0940 The early development of radiographic contrast agents
Dr A M K Thomas, Bromley Hospital NHS Trust, Bromley
- 1010 A hundred years of radiotherapy at The London Hospital 1886–1996
Dr H F Hope-Stone, The Royal London Hospital, London
- 1020 All radiant within: radium as a poison
Dr J M Guy, West Suffolk Hospital, Bury St Edmunds

SPECIAL FOCUS SESSIONS

ONCOLOGY SKILL MIX

Hall 11A 0830 - 0930 [p. 26]

Chairman: Mrs B Cassidy

- 0830 An empirical, theoretical and practice based perspective
Dr M Hammick, Oxford Brookes University, Oxford & Ms E Glean, College of Radiographers, London

COMPETENCE TO PRACTISE

Hall 11A 0945 - 1115 [p. 29]

(See also Professional Issues for Radiographers - Monday & COR Presidential Address - Tuesday)

Chairman: Miss D Hardy

- 0945 Academic viewpoint - both therapy and diagnostic
Mr D Adrian-Harris, University of Portsmouth, Portsmouth
- 1010 Clinical diagnostic manager's view
Ms N Skivington, Royal Free NHS Trust, London
- 1035 Therapy radiographers - newly qualified and fit for what?
Ms K Westbrook, Bristol Oncology Centre, Bristol
- 1100 Discussion

ADVANCES IN CLINICAL IMAGING

OBSTETRICS & GYNAECOLOGY

Hall 5 1400 - 1515 [p. 36]

Chairman: Dr J McHugo

- 1400 MRI in female infertility: an imaging step forward?
Dr S J Golding, University of Oxford, Oxford
- 1430 Infertility: the incidence of proximal tubular occlusion and its treatment by transvaginal recanalization
Dr C Roche, University Hospital, Aintree
- 1440 Continuous audit of "lap and dye" following selection by HyCoSy
Ms R Tetlow, Hull Royal Infirmary, Hull
- 1450 An *in vitro* study of 3D imaging of the uterine cavity, with suprising findings
Dr R A O Maher, University of Oxford, Oxford
- 1500 The manager's role in minimizing difficulties encountered by obstetric sonographers imparting bad news
Ms R Simpson, City University, London
- 1510 Discussion

CLINICAL UPDATE SYMPOSIUM - RADIOTHERAPEUTIC TREATMENT*(See also Radiotherapy of Breast Cancer & WIP IMRT/IT for Radiotherapy - Wednesday)***IMAGING IN RADIOTHERAPY****Hall 11B 1000 - 1100 [p. 31]***Chairman: Dr D Cole*

- 1000 Use of MRI in radiotherapy treatment planning
Ms H J Appleby, Bristol Oncology Centre, Bristol
- 1030 SPECT/CT image registration using a stereotactic radiosurgery planning system *Prof A H Beddoe, Queen Elizabeth Hospital, Birmingham*
- 1040 Comparison of voxel similarity measures for automatic image registration using treatment planning CT images *Dr J Vaarkamp, Weston Park Hospital, Sheffield*
- 1050 Registering electronic portal images to CT: feasibility study for verification of radiotherapy in the thorax *Miss H V James, Christie Hospital, Manchester*

RADIOTHERAPY: QUALITY & OTHER ISSUES**Hall 11B 1110 - 1200 [p. 34]***Chairman: Dr A L McKenzie*

- 1110 A comparison of fatigue experienced by patients undergoing different radiotherapy regimes *Mr D M Flinton, City University, London*
- 1120 Patients' satisfaction with a pre-treatment information video *Ms C Sheehan, Addenbrooke's Hospital Cambridge University NHS Trust, Cambridge*
- 1130 A simple method for matching electron beams in radiotherapy *Dr A L McKenzie, Bristol Oncology Centre, Bristol*
- 1140 An intercomparison of two types of beam direction shell used for the treatment of macular degeneration *Mrs R L Harris & Mrs N Blackler, Derriford Hospital, Plymouth*
- 1150 Dosimetric evaluation of ultrasound guided iodine-125 implants for prostate cancer *Dr D A Wilkinson, The Cleveland Clinic Foundation, Ohio, USA*

BIOEFFECT PLANNING & CONFORMAL RADIOTHERAPY**Hall 11B 1400 - 1630 [p. 39]***Chairman: Mrs C Beardmore*

- 1400 Status of bioeffect planning **Dr C G Orton, Harper Hospital / Wayne State University, Michigan, USA**
- 1430 Conformal treatment delivery and verification - how accurate are we? **Mrs V Walker, The Royal Marsden NHS Trust, London**
- 1500 Cost benefit for 3D conformal therapy **Dr S H Levitt, Radiological Society of North America, Illinois, USA**
- 1530 A comparison of coplanar four-field techniques for conformal radiotherapy of the prostate *Dr J L Bedford, Institute of Cancer Research & Royal Marsden NHS Trust, Sutton*
- 1540 Intensity modulation in breast radiotherapy: Breast Dosimetry Trial Ethics No. 1244 *Ms E M Donovan, The Royal Marsden NHS Trust, Sutton*
- 1550 The accuracy and reproducibility of a new breast technique - from simulator computer tomography planning to day 1 portal imaging *Miss J Arnfield, Christie Hospital, Manchester*
- 1600 Evaluation of a Vac-Fix immobilization device in routine breast radiotherapy using electronic portal imaging *Mr C A Nalder, Royal Marsden NHS Trust, London*
- 1610 Lens and thyroid doses in patients undergoing SMART treatment for acoustic neuromas *Miss J C Todd, The Middlesex Hospital, London*
- 1620 Film dosimetry for intensity modulated radiotherapy *Dr A W Beavis, Royal Hull Hospitals NHS Trust & University of Hull, Hull*

ADVANCES IN TECHNOLOGY**NEW TECHNOLOGIES EVALUATION****Hall 11B 0830 - 0930 [p. 26]**

- 0830 The Medical Devices Agency Evaluation Service in the next Millennium *Mr A D Sant, Medical Devices Agency, London*
- 0840 KCARE - the technical evaluation of X-ray equipment *Mr C P Lawinski, KCARE, King's College Hospital, London*
- 0850 KCARE - the role of user assessment in equipment evaluation *Mr N S A Wells, KCARE, King's College Hospital, London*
- 0900 Imaging equipment and the Millennium Bug - how prepared are we? *Mr G H Dombrowe, Siemens plc, Bracknell*
- 0910 Institution-wide image distribution using the Internet/Intranet: a solution for image archive, primary interpretation, physician desk-top PC access *Prof G W Boland, Massachusetts General Hospital, Boston, USA*
- 0920 Evaluation of PACS: results of relevance to staff who are planning to install a system *Mrs G C Weatherburn, Brunel University, Uxbridge*

HARDWARE DEVELOPMENTS IN MR**Hall 6 0830 - 0945 [p. 23]***Chairman: Dr P Goddard*

- 0830 Hardware developments in MR: how and why do we need them? **Prof I R Young, Hammersmith Hospital, London**
- 0900 Safety evaluation of high field MRI systems *Mr D L Price, MagNET, Imperial College of Science, Technology & Medicine, London*
- 0910 Quality assurance for MRI: practical experience *Dr M J Firbank, Royal Victoria Infirmary, Newcastle upon Tyne*
- 0920 Application of neural networks to fMRI: increased sensitivity at low CNR compared with statistical methods *Mr A J Knowles, Hull Royal Infirmary, Hull*
- 0930 Accuracy of volume estimation of small lesions with MRI *Dr M J Firbank, Royal Victoria Infirmary, Newcastle upon Tyne*
- 0940 Discussion

CLINICAL UPDATE SYMPOSIUM - THE CHEST

THE CHEST VASCULAR
Hall 8 0830 - 1030 [p. 24]

Chairman: Prof A Moody

- 0830 Current imaging techniques in pulmonary embolism **Dr C J Herold, University Hospital of Vienna, Vienna, AUSTRIA**
- 0900 Severity stratification of pulmonary embolism by helical CT **Dr J H Reid, Borders General Hospital, Melrose**
- 0910 CT pulmonary angiogram (CTPA): our experience in a regional cardiothoracic centre **Dr A P Higginson, Glenfield Hospital, Leicester**
- 0920 Cardiac pathology demonstrated during CTPA **Dr J H Reid, Borders General Hospital, Melrose**
- 0930 MR first pass imaging vs ²⁰¹Tl SPECT in acute myocardial infarction **Professor G R Cherryman, University of Leicester, Leicester**
- 0940 Intravascular ultrasound in coronary artery disease: development of a decision analytic model
Mr S Kelly, University of Leeds & Leeds Teaching Hospitals NHS Trust, Leeds
- 0950 Coronary artery blood flow waveforms derived from biplane digital X-ray angiograms
Mr J G McNeill, Royal Brompton Hospital, London
- 1000 Systematic literature review: electron beam CT and symptomatic coronary artery disease
Dr E Berry, University of Leeds, Leeds
- 1010 The age-sex frequency of coronary artery calcification on 900 consecutive thoracic CT scans: a comparison of detection on conventional and spiral CT scanners **Dr M P Callaway, Bristol Royal Infirmary, Bristol**
- 1020 Discussion

CHEST REFRESHER COURSE
Hall 8 1400 - 1500 [p. 38]

Chairman: Dr R Coulden

- 1400 Rings, slings and other things
Dr A E Boothroyd, Royal Liverpool Children's NHS Trust, Liverpool
- 1425 "Things" that appear in the chest
Dr N Hudson, Glenfield Hospital, Leicester
- 1450 Discussion

NEW STUDIES IN CHEST IMAGING
HALL 8 1515 - 1645 [p. 42]

Chairman: Dr S Desai

- 1515 Nosocomial pneumonia: the role of radiology revisited **Dr C J Herold, University Hospital of Vienna, Vienna, AUSTRIA**
- 1545 Optimization of spiral CT for detection of bronchial stenoses **Dr P D Edwards, Addenbrooke's Hospital, Cambridge**
- 1555 Thin collimation spiral CT of bronchi with bronchoscopic correlation **Dr W Bhatti, Warrington Hospital NHS Trust**
- 1605 Correlation of CT, ultrasound and clinical history in patients with complicated parapneumonic effusions/empyema **Dr S Kearney, Churchill Hospital, Oxford**
- 1615 Chest radiograph findings and pulmonary complications in bone marrow transplantation recipients **Dr I D Lyburn, Royal Hospital for Sick Children, Bristol**
- 1625 Sarcoidosis or sarcoid-like reactions in patients with malignancy **Dr P J Haggett, Churchill Hospital, Oxford**
- 1635 Fast MRI in lung cancer **Dr V B Sharov, Ural State Medical Academy for Additional Education, Chelyabinsk, RUSSIA**

MR OF THE CHEST
Hall 8 1045 - 1215 [p. 32]

Chairman: Dr S Blease

- 1045 MR pulmonary angiography **Prof A Moody, University of Nottingham, Nottingham**
- 1110 MR ventilation perfusion scanning and the use of hyperpolarized gases **Prof M O Leach, The Institute of Cancer Research & The Royal Marsden NHS Trust, Sutton**
- 1135 MRI of pulmonary malignancy
Dr P Goddard, Bristol Royal Infirmary, Bristol
- 1200 Discussion

CLINICAL UPDATE SYMPOSIUM: THE BREAST

(See also WIP Mammography/Imaging for Oncology - Tuesday)

BREAST IMAGING 1
Hall 6 1400 - 1500 [p. 37]

Chairman: Prof G Whitehouse

- 1400 Breast MRI - how to do it **Prof L W Turnbull, Hull Royal Infirmary, Hull**
- 1430 Breast MRI using the short TAU inversion recovery sequence: utility in the post-treatment breast **Dr C J Beveridge, Royal Victoria Infirmary, Newcastle upon Tyne**
- 1440 Dynamic contrast enhanced MRI in the differentiation of breast tumours: the effect of region-of-interest **Dr G P Liney, Hull Royal Infirmary, Hull**
- 1450 Dynamic MRI appearances of breast lesions following fine needle or wide bore core biopsy
Dr B K Shah, Northwick Park & St Mark's NHS Trust, Harrow

BREAST IMAGING 2
Hall 6 1515 - 1645 [p. 41]

Chairman: Prof G Whitehouse

- 1515 Breast MRI - role **Prof L W Turnbull, Hull Royal Infirmary, Hull**
- 1545 Efficacy of digitized mammograms in the detection of mammographic abnormalities: preliminary findings **Dr W L Teh, Northwick Park Hospital, Harrow**
- 1555 Mammographic location of breast cancer
Dr J R Asquith, South Manchester University Hospitals NHS Trust, Manchester
- 1605 Results of stereotactic breast biopsy in suspicious mammographic lesions **Dr S Hennigs, Städtische Kliniken Dortmund, GERMANY**
- 1615 Can we be sure about a radiological diagnosis of fat necrosis of the breast? **Dr R L Harrison, Addenbrooke's Hospital, Cambridge**
- 1625 Value of image providing techniques in pregnancy-associated tumours of the breast
Dr K Bock, Women's Hospital, University of Marburg, GERMANY
- 1635 Discussion

COR STUDENT RADIOGRAPHER CONFERENCE

Olympian Suite 1400 - 1630 [p. 103]

Chairman: Mrs J Fisher

- 1405 Improving C7/T1 visualization in blunt cervical spine trauma on the lateral radiograph, using an aluminium filter *Mr S H A Stevens, University of Central England, Birmingham*
- 1415 An analysis of cervical spine imaging after trauma *Mr H Parker, University of Derby, Derby*
- 1425 Testicular cancer and the feasibility of a screening program for the disease *Mr D M Walls, University of Ulster at Jordanstown, Co. Antrim*
- 1435 The feasibility of the postero-anterior projection in mobile chest radiography on the coronary care unit *Miss S Parsons, The Royal Liverpool & Broadgreen Univ. Hospitals NHST, Liverpool*
- 1445 Erbium filtration maintains image quality and reduces dose *Miss C A Doyle and Dr P C Brennan, University College Dublin, Dublin, IRELAND*
- 1455 Technetium 99m macroaggregated albumin is stable for clinical use, for up to 9-hours post-reconstitution *Mrs R T Puncher, Canterbury Christchurch University College, Canterbury*
- 1505 Image quality vs radiation dose in computed radiography of the pelvis *Mr J Gan, South Bank University, London*
- 1515 The effects of various protocols on absorbed radiation dose during coronal CT of the sinuses *Miss S Kaur, South Bank University, London*
- 1525 The measurement of thyroid dose in occlusal radiography *Miss V Nessling, South Bank University, London*
- 1535 A reflective analysis of an intraEuropean student exchange scheme for radiographers *Miss V Lohikoski & Miss R Hokkanen, Helsinki Polytechnic, Helsinki, FINLAND*
- 1545 Presidential Address
Mr J Leighton, College of Radiographers
- 1600 Debate with the President

WORK IN PROGRESS**DOSE REDUCTION & INTENSIFIER PERFORMANCE***(See also CUS Protecting the Patient - Wednesday)***Hall 5 1115 - 1145 [p. 92]**

- 1115 Reduction in patient dose by use of a direct-capture digital imaging system *Mr P Colls, Royal Victoria Infirmary, Newcastle-upon-Tyne*
- 1125 Geometric calibration of image intensifier images without reference objects *Dr M A Schmidt, St George's Hospital, London*
- 1135 Evaluating the entrance dose for hysterosalpingography (HSG) using non-digital and digital equipment *Dr D D Maudgil, Royal Free Hospital, London*

NOTES

WEDNESDAY 19 MAY 1999

ANNUAL GENERAL MEETING

Hall 11B 0800 - 0900
BRITISH INSTITUTE OF RADIOLOGY

CONTROVERSY CORNER

RADIOGRAPHIC PRACTICE IN NON-ACCIDENTAL INJURY IN CHILDREN AND CHILD PROTECTION
Hall 6 1015 - 1145 [p. 115]

Chairman: Miss J Reid

- 1015 The role of the radiographer in cases of suspected non-accidental injury Mrs S E Taylor, Royal Liverpool Children's NHS Trust, Liverpool
- 1045 Child protection in radiographic practice - is it more than imaging? Mr P Hogg, University of Salford, Salford
- 1115 Discussion

EPONYMOUS LECTURES

COLLEGE OF RADIOGRAPHERS
STANLEY MELVILLE MEMORIAL LECTURE
Hall 5 1200 - 1245 [p. 54]

Chairman: Mr J Leighton

- 1200 Stereoscopic lithography and the manufacture of customized implants in facial reconstruction
Mr N S Peckitt, Doncaster Royal Infirmary, Doncaster

INSTITUTE OF PHYSICS & ENGINEERING IN MEDICINE

DOUGLAS LEA LECTURE
Hall 11A 1300 - 1345 [p. 54]

Chairman: Prof P Sharp

- 1300 Radiation physics and genetic targeting: new directions for radiotherapy Prof T E Wheldon, University of Glasgow, Glasgow

CLINICAL UPDATE SYMPOSIUM: GASTROINTESTINAL IMAGING

PELVIC FLOOR AND FISTULA IMAGING

Hall 5 0815 - 0915 [p. 45]

Chairman: Dr P Shorvon

- 0815 MRI defaecating proctography Dr W W Gedroyc, St Mary's Hospital, London
- 0840 Functional pelvic floor imaging Dr S Halligan, St Mark's Hospital, Middlesex
- 0905 Discussion

IMAGING LIVER METASTASES

Hall 5 1015 - 1145 [p. 50]

Chairman: Prof P J Robinson

- 1015 Imaging liver metastases with ultrasound Prof D O Cosgrove, Hammersmith Hospital, London
- 1040 Imaging liver metastases - CT Dr J Karani, King's College Hospital, London
- 1105 Imaging liver metastases - MRI Prof P J Robinson, St James's University Hospital, Leeds
- 1130 Discussion

HEPATOBIILIARY IMAGING

Hall 8 1330 - 1445 [p. 55]

Chairman: Prof P J Robinson

- 1330 Modern approach to correlated imaging of the biliary system Prof J H Lim, Samsung Medical Centre, Seoul, KOREA
- 1400 Diagnosis and management of common bile duct stones Dr D Pickuth, Martin-Luther-Universität, Halle, GERMANY
- 1410 Detection of choledocholithiasis: comparison of unenhanced spiral CT, ultrasonography, and endoscopic retrograde cholangiopancreatography Dr D Pickuth, Martin-Luther-Universität, Halle, GERMANY
- 1420 Dual phase liver CT - does liver attenuation vary with the direction of table movement? Dr E O'Riordan, St James's University Hospital, Leeds
- 1430 CT arteriportography vs high flow multiphasic helical CT in the detection of focal liver lesions Dr T Riepl, University Hospital Graz, Graz AUSTRIA
- 1440 Discussion

ABDOMINAL FISTULA IMAGING

Hall 5 0915 - 1000 [p. 49]

Chairman: Dr P Shorvon

- 0915 Abdominal fistulae: how I image and manage them Dr M C Collins, Royal Hallamshire Hospital, Sheffield

THE FUTURE FOR THE BARIUM ENEMA

(In association with the Special Interest

Group in Barium Enema & supported by E-Z-EM Ltd)

Hall 8 1500 - 1700 [p. 59]

Chairmen: Dr A H Chapman & Mrs J Bewell

- 1500 Colorectal cancer screening: a role for the barium enema Dr S N Glick, MCP - Hahnemann University Hospital, Philadelphia, USA
- 1530 Does digital imaging reduce barium enema radiation dose? Dr E O'Riordan, St James's University Hospital, Leeds
- 1540 Double contrast barium enema sensitivity: a comparison of radiographer and radiologist performed studies Mr D G Culpan, St James's University Hospital, Leeds
- 1550 Radiographer performed barium enemas - an audit of a training programme in a district general hospital Ms F A Hawke, Borders General Hospital, Melrose
- 1600 What features at barium enema are useful predictors of a benign or malignant sigmoid stricture? Dr A Blakeborough, Royal Hallamshire Hospital, Sheffield
- 1610 Caecal visualization at barium enema examination Dr N Dugar, Royal Hallamshire Hospital, Sheffield
- 1620 Barium enema in the over 80s - why bother? Dr M L Abbotson, Royal Hallamshire Hospital, Sheffield
- 1630 CT for colonic symptoms: an alternative to barium enema Dr P Robinson, Hope Hospital, Salford
- 1640 Virtual colonoscopy: early experience with endoluminal CT appearances of colonic disease Dr W M Nelson, Hull Royal Infirmary, Hull
- 1650 Can CT air contrast enema be used as the primary investigation of frail elderly patients? Dr D Murray, Royal Free Hospital, London

CLINICAL UPDATE SYMPOSIUM: ADVANCES IN NEUROVASCULAR RADIOLOGY

ADVANCES IN NEUROVASCULAR RADIOLOGY 1
Hall 8 0830 - 1000 [p. 45]

Chairman: Dr D Yates

- 0830 Endovascular treatment after aneurysmal subarachnoid haemorrhage **Dr J V Byrne, Radcliffe Infirmary NHS Trust, Oxford**
- 0900 Spectrum of MRI abnormalities in neurosarcoidosis *Dr D Pickuth, Martin-Luther-Universität, Halle, GERMANY*
- 0910 Distribution of cranial MRI abnormalities in patients with symptomatic and subclinical CADASIL *Dr A Coulthard, Royal Victoria Infirmary, Newcastle upon Tyne*
- 0920 MRI in acute neurological emergencies *Prof P D Griffiths, University of Sheffield, Sheffield*
- 0930 A new scale for assessing white matter low attenuation on CT *Dr H K Bungay, Radcliffe Infirmary NHS Trust, Oxford*
- 0940 Validation of quantitative CT perfusion imaging with H₂¹⁵O PET *Dr J H Gillard, University of Cambridge, Cambridge*
- 0950 Idiopathic cervical dystonia: evaluation of degenerative changes in patients referred for surgery *Dr S J Chawda, National Hospital for Nervous Diseases, London*

PAEDIATRIC INTERVENTIONAL RADIOLOGY
Hall 5 1400 - 1530 [p. 56]

Chairman: Dr S Chapman

- 1400 Interventional vascular radiology in children **Dr P John, The Birmingham Children's Hospital NHS Trust, Birmingham**
- 1440 Aspects of presentation and management of childhood neurovascular disease **Dr W J Taylor, The National Hospital for Neurology & Neurosurgery, London**
- 1505 Biopsies in children – radiologist or surgeon? **Dr J M Somers, Nottingham City Hospital NHS Trust, Nottingham**

ADVANCES IN NEUROVASCULAR RADIOLOGY 2
Hall 8 1015 - 1200 [p. 51]

Chairman: Prof I Isherwood CBE

- 1015 Differential diagnosis of brain tumours with MR diffusion and perfusion **Dr M Takahashi, Kumamoto University, Kumamoto, JAPAN**
- 1045 The use of quantitative diffusion weighted imaging in childhood stroke *Miss C L Johnson, Great Ormond Street Hospital for Children, London*
- 1055 Using functional MRI to probe brain laterality in visuo-spatial processing *Dr V Ng, Institute of Psychiatry, London*
- 1105 Transient alteration in blood–brain barrier permeability to Gd-DTPA resulting from carotid angioplasty/stenting demonstrated by MRI *Dr I Wilkinson, University of Sheffield, Sheffield*
- 1115 Reorganization of sensorimotor function in hemispherectomized children *Miss V Holloway, Great Ormond Street Hospital for Children, London*
- 1125 Incidence and appearance of haemorrhagic transformation in acute infarction as demonstrated on susceptibility weighted EPI *Dr M Aslam, Glenfield Hospital, Leicester*
- 1135 MR imaging findings in hypoxic-ischaemic encephalopathy *Dr S Hennigs, Staedtische Kliniken Dortmund, GERMANY*
- 1145 When is mesial temporal sclerosis formed? A study of pathology and IHMRS in epileptic rats *Dr W B Zhang, Tianjin Medical University First Central Hospital, Tianjin, P R CHINA*
- 1155 Discussion

CLINICAL UPDATE SYMPOSIUM: RADIOTHERAPY IN BREAST CANCER

(See also CUS: Radiotherapeutic Treatment - Tuesday)

POST-MASTECTOMY RADIOTHERAPY 1
Hall 11A 0930 - 1045 [p. 49]

Chairman: Dr D Tait

- 0930 Meta-analysis of radiotherapy trials **Prof R Peto, Radcliffe Infirmary, Oxford**
- 1000 Who gets post-mastectomy radiotherapy? **Dr P Barrett-Lee, Cardiff Breast Unit, Cardiff**
- 1030 Discussion

POST-MASTECTOMY RADIOTHERAPY 2
Hall 11A 1100 - 1200 [p. 53]

Chairman: Dr D Tait

- 1100 Current UK practice for post-mastectomy radiotherapy **Dr I H Kunkler, Weston General Hospital, Edinburgh**
- 1130 Breast set-up **Ms C Beardmore, Royal Berkshire Hospital, Berkshire**

RADIOTHERAPY OF BREAST CANCER: TECHNICAL DEVELOPMENTS 1
Hall 11A 1400 - 1545 [p. 56]

Chairman: Dr D A L Morgan

- 1400 Quality assurance in breast radiotherapy: a multicentre programme **Ms E Winfield, Mount Vernon Hospital, Middlesex**

- 1430 The clinical need for 3D planning in breast cancer **Dr J R Yarnold, Royal Marsden NHS Trust, Sutton**
- 1450 Physical aspects of breast radiotherapy **Dr P Evans, Institute of Cancer Research & Royal Marsden NHS Trust, Sutton**
- 1510 Indications and techniques for nodal irradiation in breast cancer **Prof A Fourquet, Institut Curie, Paris, FRANCE**
- 1530 Discussion

RADIOTHERAPY OF BREAST CANCER: TECHNICAL DEVELOPMENTS 2
Hall 11A 1600 - 1700 [p. 62]

Chairman: Dr D A L Morgan

- 1600 Adjuvant radiotherapy for breast cancer: late effects/clinical issues **Dr P A Canney, Weston Infirmary, Glasgow**
- 1625 The use of physical and biological dose distributions in breast treatments **Dr C Deehan, Weston Infirmary, Glasgow**
- 1650 Discussion

CLINICAL UPDATE SYMPOSIUM: PROTECTING THE PATIENT

(See also WIP Management Issues & Dose Reduction & Intensifier Performance - Tuesday)

THE REVISION OF THE IONISING RADIATION REGULATIONS

Hall 11B 0930 - 1045 [p. 49]

Chairman: Dr R H Corbett

- 0930 The need for the revision of IRR85 and regulatory aspects Mr M Williams, Health & Safety Executive, London
- 1000 Clinical implications of the revision of IRR85 & IRR88 Dr L K Harding, City Hospital NHS Trust, Birmingham
- 1030 Discussion

PAEDIATRIC RADIATION PROTECTION

Hall 11B 1400 - 1500 [p. 57]

Chairman: Mrs P Wade

- 1400 A study of the application of paediatric radiology reference levels Miss A Montgomery, Western Infirmary, Glasgow
- 1410 A multicentre analysis of variations in dose to children undergoing micturating cystograms Mr A T Rogers, Nottingham City Hospital, Nottingham
- 1420 Assessment of the effect of additional copper filtration on paediatric dose rates and image quality Ms E M Pitcher, United Bristol Healthcare Trust, Bristol
- 1430 Paediatric pelvic imaging - optimization of dose and radiographic technique using digital fluoroscopy Mrs R Waugh, South Tees Acute Hospitals NHS Trust, Middlesbrough
- 1440 Radiation dose reduction in paediatric cranial CT Dr C Y Chan, Tuen Mun Hospital, HONG KONG
- 1450 An objective way to standardize the mAs for CT of the paediatric brain Mr T H Wong, Tuen Mun Hospital, Tuen Mun, HONG KONG

THE NEW QUALITY CRITERIA IN CT

Hall 11B 1100 - 1200 [p. 54]

Chairman: Dr S J Golding

- 1100 Disseminating information about the criteria and promoting implementation Dr A-G Jurik, Kommunehospital, Aarhus, DENMARK
- 1125 Reference dosimetry for CT Dr P C Shrimpton, National Radiological Protection Board, Didcot
- 1150 Discussion

RISK & OPTIMIZATION IN RADIATION PROTECTION

Hall 11B 1515 - 1630 [p. 61]

Chairman: Dr D Sutton

- 1515 Revisiting the Airburst Mrs S R Roff, Dundee University Medical School, Dundee
- 1525 Ionizing radiation risk assessment in hospitals Mrs K E Goldstone, Addenbrooke's Hospital, Cambridge
- 1535 Extremity dose during endoscopic retrograde cholangiopancreatograms Mrs A Walker, Christie Hospital, Manchester
- 1545 Doses to hospital staff caring for a helpless patient following treatment with ¹³¹I Ms C D Greaves, Northern General Hospital, Sheffield
- 1555 Predictivity and optimization in diagnostic radiology Dr B M Moores, Integrated Radiological Services Ltd, Liverpool
- 1605 IPeM/HSE national survey of the routine performance testing of diagnostic X-ray imaging systems Ms E M Pitcher, United Bristol Healthcare Trust, Bristol
- 1615 Common findings in radiation protection audits Mrs J L Lynch, Integrated Radiological Services Ltd, Liverpool
- 1625 Discussion

WORK IN PROGRESS

MAMMOGRAPHY/IMAGING FOR ONCOLOGY

Hall 6 0830 - 0945 [p. 94]

Chairman: Dr R M L Warren

- 0830 The prediction of pathological breast cancer response to primary chemotherapy using 18F-FDG PET Dr I C Smith, University of Aberdeen, Aberdeen
- 0840 Relationship of MRI and clinical staging to outcome in invasive bladder cancer treated by radiotherapy Dr P Robinson, Christie Hospital NHS Trust, Manchester
- 0850 Digital luminescence mammography in clinical use Dr R Schulz-Wendtland, Erlangen, GERMANY
- 0900 Breast screening interval cancer targets: can they be met? Dr R M Given-Wilson, St George's Hospital, London
- 0910 A method of simulation to improve system parameters in digital mammography Mr I A J Fife, Royal Free Hospital, London
- 0920 Gamma camera PET in suspected chest malignancy Dr J Dyer, City Hospital NHS Trust, Birmingham
- 0930 Discussion

EDUCATION TOPICS

Hall 5 1545 - 1700 [p. 96]

Chairman: Mrs J Shrimpton

- 1545 A simple example of continuing professional development for all Mr N J Inns, Chesterfield & N Derbyshire Royal Hospital, Chesterfield
- 1555 A new approach to clinical assessment in undergraduate education Ms S Shaw, South Bank University, London
- 1605 CDROM image database for medical physics training - EMERALD Dr S D Tabakov, King's College, GKTSM, EMERALD Project Consortium, London
- 1615 A multidisciplinary approach to clinical education Mrs M McBride, Glasgow Caledonian University, Glasgow
- 1625 Integration of problem based learning as a major component of an undergraduate radiography curriculum Mr I Henderson, South Bank University, London
- 1635 The lecturer practitioner - a new breed for diagnostic imaging Miss M Buck, South Bank University, London
- 1645 Discussion

CLINICAL UPDATE SYMPOSIUM: MUSCULOSKELETAL IMAGING**ADVANCES IN MUSCULOSKELETAL TECHNIQUES****Olympian Suite 0830 - 1030 [p. 46]***Chairman: Dr V Pullicino*

- 0830 Chronic recurrent multifocal osteomyelitis
Dr A-G Jurik, Aarhus Kommunehospital, Aarhus, DENMARK
- 0900 Radiological assessment of the Charite prosthetic intervertebral disc *Dr J J Rankine, University of Manchester, Manchester*
- 0910 Power Doppler ultrasound in the assessment of small joint activity in rheumatoid arthritis
Dr D Bergin, Mater Misericordiae Hospital, Dublin, IRELAND
- 0920 Sonographic assessment of shoulder congruity in obstetric brachial plexus palsy *Dr A Saifuddin, Royal National Orthopaedic Hospital, Stanmore*
- 0930 Pre- and post-operative quantitative evaluation of supraspinatus muscle atrophy in rotator cuff tear with MRI *Dr K H Allmann, University Hospital Freiburg, GERMANY*
- 0940 The acceptability and accuracy of MRI in children with acute non-traumatic hip pain
Mr M Hurst, Royal Hospital For Sick Children, Edinburgh
- 0950 The value of the bow tie sign in the MRI diagnosis of bucket handle tears *Dr A J B Watt, Western Infirmary, Glasgow*
- 1000 Adequacy of MRI of primary bone and soft-tissue tumours from referral centres
Dr A Saifuddin, Royal National Orthopaedic Hospital, Stanmore

- 1010 Annular tears: the clinical significance of the high intensity zone on lumbar spine MRI *Dr J J Rankine, University of Manchester, Manchester*
- 1020 MRI of osteoarticular tuberculosis *Dr A V Bryukhanov, Altai State Medical University, Barnaul, RUSSIA*

IMAGING SPINAL TRAUMA*(See also A&E Imaging - Monday)***Olympian Suite 1045 - 1215 [p. 53]***Chairman: Dr V Pullicino*

- 1045 The radiograph **Dr P N M Tyrrell, Robert Jones & Agnes Hunt Orthopaedic Hospital, Oswestry**
- 1110 CT in spinal injuries **Dr R Bodley, Stoke Mandeville Hospital NHS Trust, Aylesbury**
- 1135 Imaging spinal trauma – MRI **Dr V Pullicino, Robert Jones & Agnes Hunt Orthopaedic Hospital, Oswestry**
- 1200 Discussion

THE FUTURE OF MUSCULOSKELETAL IMAGING**Hall 6 1500 - 1600 [p. 58]***Chairman: Mr R Cannon*

- 1500 Osteoporosis – the silent epidemic, let's shout about it in the Millennium **Ms S Barlow, Royal Devon & Exeter Healthcare NHS Trust, Exeter**
- 1525 Radiographers reporting on ankle trauma
Ms K Wainford, Leeds General Infirmary, Leeds
- 1550 Discussion

WORK IN PROGRESS**CT TOPICS****Olympian Suite 1545 - 1700 [p. 97]***Chairman: Dr R Bodley*

- 1545 Comparative evaluation of urinary tract tuberculosis by intravenous urography, sonography and multiphasic CT
Dr A Kapoor, All India Institute of Medical Sciences, New Delhi, INDIA
- 1555 Intravenous CT portography: a new method to evaluate extrahepatic portal hypertension and surgical portosystemic shunts
Dr M S Gulati, All India Institute of Medical Sciences, New Delhi, INDIA
- 1605 Marked hemithorax volume loss seen at CT: incidence and aetiology in Wegener's granulomatosis *Dr S E J Connor, Queen Elizabeth Hospital, Birmingham*
- 1615 Correlation between linear ultrasound measurements of splenic size and 3D CT volumetric analysis
Dr P M Lamb, St Bartholomew's Hospital, London
- 1625 The value of prone imaging in CT pneumocolon
Dr J Harris, Central Middlesex Hospital, London
- 1635 Towards a computer simulation of CT images of the head *Mr J Henderson, Newcastle General Hospital, Newcastle upon Tyne*
- 1645 Discussion

NEW OBSERVATIONS**Olympian Suite 1400 - 1515 [p. 95]***Chairman: Iba*

- 1400 The Toronto Hospital CT productivity study
Ms C McCallum, The Tri-Hospital, Toronto, CANADA
- 1410 Radiological investigation of chronic scrotal pain *Dr A A Adeniyi, St Peter's/Middlesex Hospital, London*
- 1420 An analysis of the effectiveness of a computer based information system for general medical ultrasound patients *Mr P Hogg, University of Salford, Salford*
- 1430 Mucosal integrity of sigmoid strictures: a reliable sign of benign disease *Dr J Dyer, City Hospital NHS Trust, Birmingham*
- 1440 Radiographic positioning of patients for knee examinations using a computerized patient positioning device *Mrs M McBride, Glasgow Caledonian University, Glasgow*
- 1450 Transactional analysis and its application to diagnostic radiography *Ms L A Booth, St Martin's College, Lancaster*
- 1500 Discussion

WORK IN PROGRESS

IMRT/IT FOR RADIOTHERAPY

(See also *CUS Radiotherapeutic Treatment - Tuesday*)

Hall 6 1615 - 1645 [p. 98]

Chairman: Dr P C Williams

- 1615 Intensity modulated radiotherapy (IMRT) in tumours of the head and neck *Dr C M Nutting, Inst. of Cancer Research & Royal Marsden NHS Trust, Sutton*
- 1625 Development of an intelligent oncology workstation for the 21st century *Dr O C L Haas, Coventry University, Coventry*
- 1635 On compensator design for intensity modulated radiation therapy (IMRT) *Mr J Meyer, Coventry University, Coventry*

CONGRESS AWARDS CEREMONY

Hall 6 1400 - 1445

Prizes of the BIR, COR and IPEM will be awarded along with *infoRAD™* and poster prizes.

NEW SESSION.....

OSTEOPOROSIS RADIOLOGICAL DIAGNOSTIC SERVICE AND RESEARCH

Hall 6 1200 - 1330 [n/a]

Chairman: Professor J E Adams

Industry led session on key elements of science and technology relevant to setting up and running an osteoporosis service.

NOTES

DATES FOR YOUR DIARY

Imaging, Oncology & Science 2000

incorporating Radiology and MED X RAY®

22 - 24 May 2000

Abstract Deadlines:

Proffered Papers

***infoRAD™* Exhibitors**

Work in Progress Papers

Student Work Papers

Early Registration Deadline

Wednesday 1 December 1999

Monday 17 January 2000

Monday 21 February 2000

Monday 21 February 2000

Monday 6 March 2000

SCIENTIFIC POSTER EXHIBITION

Supported by IGE Medical Systems Ltd

Scientific posters will be displayed on the concourse area of the National Indoor Arena within the MED X RAY® technical exhibition.

For opening times please see Programme page 5.

Topic	Poster Nos.	Page Nos.
Audit	0101 - 0108	63 - 64
Breast	0501 - 0502	64
Cardiovascular System	0601 - 0603	64 - 65
Chest	0701 - 0703	65
Education	0201 - 0206	65 - 66
Gastrointestinal	0901 - 0909	66 - 67
Genitourinary	1001 - 1006	68 - 69
Head & Neck	0401 - 0408	69 - 70
Hepatobiliary	0801 - 0806	70 - 71
Musculoskeletal	1101 - 1113	71 - 73
Neuroradiology	0301 - 0311	73 - 75
Physics	1501 - 1510	76 - 77
Radiation, Safety & Protection	1401 - 1409	77 - 79
Radiotherapy & Oncology	1301 - 1310	79 - 81
Vascular & Interventional Radiology	1201 - 1212	81 - 83
Work in Progress Posters		
Audit	0109	100
Breast	0503	100
Education	0207	100
Gastrointestinal	0910 - 0913	100 - 101
Musculoskeletal	1114	101
Physics	1511	101
Radiation, Safety & Protection	1410	101
Radiotherapy & Oncology	1312 - 1313	102
Vascular & Interventional Radiology	1213 - 1214	102
Student Posters	1601 - 1607	105 - 106

infoRAD™ - NATIONAL INDOOR ARENA

The *infoRAD™* event demonstrates the use of Healthcare Informatics—the use of computers to help in the management, application and analysis of health related information. This year *infoRAD™* is held in association with Computer Assisted Radiology & Surgery 1999 (CARS '99) and is situated within the technical exhibition MED X RAY® in the National Indoor Arena. A significant element of *infoRAD™* is a network demonstrating DICOM interconnectivity between exhibits, which will be extended into the MED X RAY® exhibition.

Exhibits cover topics such as computer aided education and training, computer aided diagnosis and therapy, radiological information systems, telemedicine and literature searching. Authors will be on hand each day between 1200 -1400 to assist with demonstrations and answer your questions. A separate *infoRAD™* exhibition guide is included in the delegate bags.

A series of invited and proffered *infoRAD™* lectures are also featured in the main Congress Programme.

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

<i>Booth Number</i>		<i>Booth Number</i>	
01	A PC based CT/MR image registration system for radiotherapy treatment planning Mr J Henderson, Newcastle General Hospital, Newcastle	09	Digital ultrasound capture - the Swansea experience Dr D J Harvey, Singleton Hospital, Swansea
02	Software for quality assurance and radiation protection Dr R G Cameron, Bradford Royal Infirmary, Bradford	10	Patient Radiology Information Services - an online information source for the public about diagnostic radiology Dr N Hollings, UCL Hospitals NHS Trust, London
03	The Poole approach to objective assessment of digital image quality Mr R Jepson, Poole Hospital, Poole	11	CiRiS—Continuous Improvement in Radiology Imaging Services (software) Dr P Torrie, Royal Berkshire Hospital, Reading
04	CAMRA - Cardiac Magnetic Resonance Image Analysis, Mr M Graves, Addenbrooke's Hospital, Cambridge	12	Extending an existing multimedia delivered radiography Master's programme, to allow global delivery using Internet based resources Mr C J Harrison, St Martin's College, Lancaster
05	Cruise telemedicine using high security internet transmission of X-ray images and associated medical data Mr S R Dodds, Integrated Dynamics Ltd, Cambridge	13	Multimedia radiology teaching using Macromedia Authorware 4 Dr H W Godfrey, Royal Liverpool University Hospital, Liverpool
06	The digital film viewer: an innovative technology Mr D Inbar, SmartLight Ltd, Nesher, ISRAEL	14	The establishment of a new radiographic and medical imaging resource on the World Wide Web Mr M Tatlow, South Bank University, London
07	Developments in surgical planning, study visualization and teleradiology Mr T R Bowles, University of Oxford, Oxford	15	ECTMUS - Education and Clinical Training in Medical UltraSound Mr M Tatlow, South Bank University, London
08	A demonstration of multimodal PC based telematic solutions Mr S Patefield, St Martin's College, Lancaster	16	Information on CARS '99 Professor H U Lemke, Technische Universität Berlin, GERMANY