

# BIR

The British Institute of Radiology



# News

## Winter 2009

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Sonography - Radiology - Oncology - Radiography - Dosimetry - Physics - Health Informatics - Industry - Surgery - Radiation & Cancer Biology - Management - Molecular Imaging - Engineering - Radiation Protection - Radiochemistry - Radiobiology - Magnetic Resonance - Nursing



### This issue:

@ Set of Roentgen's X-ray Machine , BIR

- X-ray machine voted best invention
- Forensics and the work of INFORCE
- Dr John Wild - Obituary
- Philips Healthcare sponsors *Strictly Come Dancing* tickets

## News on the BIR

## Gift Aid: did you know...?

**What is Gift Aid?**

Gift Aid is a statement by an individual taxpayer that they want a charity to reclaim from the Inland Revenue the tax paid on their donations.

**What does this mean?**

If you tick the Gift Aid box when giving a donation, the BIR can then claim back 25% of your donation amount from the taxman and the Government will give the BIR another 3%.

**Does it affect my tax status?**

No, not at all. Making your donation eligible for Gift Aid does not affect your personal tax situation or finances.

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**Where can I find more information about Gift Aid?**

Visit the website "Directgov". This is the website of the UK government for UK citizens, providing information and online services for the public. The actual page concerning Gift Aid is mentioned below: [http://www.direct.gov.uk/en/MoneyTaxAndBenefits/ManagingMoney/GivingMoneyToCharity/DG\\_078490](http://www.direct.gov.uk/en/MoneyTaxAndBenefits/ManagingMoney/GivingMoneyToCharity/DG_078490)

giftaid it

## Making a legacy

**Why leave a legacy to the BIR?**

Leaving a gift to charity in your will is an amazing way for your generosity to last beyond your own lifetime.

The BIR is building up its fundraising capacity to raise sufficient capital to undertake a number of projects that will benefit its current and future members. These projects include the provision of online CPD to practising members and increasing the availability of the library's resources via the internet. Such initiatives are expensive to deliver and cannot be achieved without securing additional external funds. There are also tax advantages of leaving a legacy to charity.

Thanks to your generosity, the BIR will be able to continue to ensure that the potential of image science and radiation technology to prevent, detect and combat disease is fully realised. Indeed, the BIR believes in the importance of research and education, and promotes collaboration and the sharing of knowledge and understanding.

**More information**

A leaflet enclosed with the newsletter gives you more information about legacies. If you wish to know more about the BIR's fundraising projects, please visit: <http://www.bir.org.uk/bir-about-us-home/fundraising.aspx>

## Single Donation

I would like to make a single donation for the amount of.....

Name:.....

Address:.....

.....

Signature:

Date:

**Gift Aid** Please treat all gifts of money that I make today, have made in the past, and will make in the future to The British Institute of Radiology, as Gift Aid donations

## Educational projects

By donating to the BIR, you will help develop current educational projects such as:

**- the Human Body Website**

This project is a web-based interactive experience, providing the general public with a unique insight into the capabilities of the advanced technology used in Radiology.

**- Radiology History Stories**

This project is an archive of primary source material, generated by those with direct experience of practice of radiology and radiotherapy during the development of the subject and is available to the general public.

**Please send your form back to:** The British Institute of Radiology, Membership Officer, 36 Portland Place, London W1B 1AT, UK.

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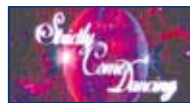
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## Upcoming Events

### Scientists in Training Day

**Monday 8 February 2010**

**Venue:** The British Institute of Radiology, London

CALL FOR PAPERS! Presentations are invited from all PhD students working in the field of Radiation and Cancer Biology.

**Deadline:** Friday 18 December 2009. Presenters of the proffered papers will be able to register at the reduced rate of £36.

Topics include: DNA repair, DNA damage signalling, cell death signalling, tumour microenvironment, translation and radiotherapy.

The Nic McNally prize for Cancer Research: The winner of the Nic McNally prize for Cancer Research will be selected from the proffered papers and will be presented with the award by our keynote speaker, Professor Steve Jackson.

Check out more information concerning this meeting on our website.



### Masters in Radiology: Prof Adrian Dixon. Multidisciplinary approach to diseases of the thorax and head and neck

**Thursday 18 & Friday 19 March 2010**

**Venue:** York (soon to be confirmed on the website)

A multidisciplinary meeting for radiologists, chest physicians, thoracic surgeons, ENT surgeons and trainees of these specialties, focused on a multidisciplinary approach to diseases of the thorax and head and neck, addressed at all levels of expertise, from basic knowledge to cutting edge techniques in thoracic and ENT diagnosis and treatment. The meeting is a tribute to Professor Adrian Dixon, for his role as a role model of excellence to radiologists worldwide.

### Imaging and Management of Male Urogenital Disorders

**Thursday 22 April 2010**

**Venue:** The British Institute of Radiology, London

This one-day meeting covers several hot topics in the imaging and management of the male urogenital tract given by experts in these fields. Recent advances in diagnosis and management of prostate cancer will be covered. Advances in testicular and penile imaging will be presented covering the topics of infertility, erectile dysfunction, biopsy of indeterminate testicular lesions as well as novel techniques in imaging the penis and urethra.

### Management of Adult Central Nervous System Tumours

**Friday 25 June 2010**

**Venue:** The British Institute of Radiology, London

CALL FOR PAPERS! Presentations are invited on interesting research and audits relating to the management of primary central nervous system tumours and secondary cerebral metastases (clinical, patient support, training related, service development or technical). Presenters will receive free registration for the meeting. **Deadline:** Friday 6 March 2010.

Topics include: Oncological management of primary CNS tumours including research, service development and novel treatments; Management of cerebral oligometastasis; Patient information and support. Interested in participating? Check out the website for more information.



Find out more information on our website:

[http://www.bir.org.uk/Forthcoming\\_Meetings.html](http://www.bir.org.uk/Forthcoming_Meetings.html)

## New BJR Honorary Editor (Scientific)

The BIR is pleased to announce that Professor Roger Dale has taken on the role of the BJR's Honorary Editor.



*Professor Roger G. Dale with the awarded Silvanus Thompson Memorial Lecture Medal in December 2006.*

The BIR is pleased to announce the appointment of Professor Roger G. Dale as the BJR's new Honorary Editor (Scientific), effective 1 October 2009. Professor Dale will be responsible for overseeing the review of papers

covering the scientific and technical aspects of the radiological sciences.

Professor Dale is currently Director of Radiation Physics & Radiobiology, Imperial College Healthcare NHS Trust, and Professor of Cancer Radiobiology, Faculty of Medicine, Imperial College, London.

The BIR would like to thank Dr Roger Harrison for his commitment and hard work over the last three years, which has seen the BJR make demonstrable steps towards becoming the UK's leading radiological journal.

We are confident that Professor Dale will be an excellent successor and an asset to the BJR's Publications Committee and the BJR editorial team.

## BJR - December forthcoming articles

The BJR December 2009 issue is now available online. If you haven't had the opportunity to check it out yet, here are some of the articles which can be found on <http://bjr.birjournals.org>

- Comparison between the image quality of multisegment and halfscan reconstructions of non-invasive CT coronary angiography
- The intravertebral cleft benign vertebral compression fracture: the diagnostic performance of non-enhanced MRI and fat-suppressed contrast-enhanced MRI
- Medico-legal claims against English radiologists: 1995-2006
- Assessment of early treatment response after CT-guided radiofrequency ablation of unresectable lung tumours by diffusion-weighted MRI: a pilot study
- Abnormally increased uptake of 18F-FDG in the forearm and hand following intra-arterial injection — hot forearm and hot hand signs
- High-precision radiotherapy for craniospinal irradiation: evaluation of three-dimensional conformal radiotherapy, intensity-modulated radiation therapy and helical TomoTherapy
- Radiation dose evaluation in 64-slice CT examinations with adult and paediatric anthropomorphic phantoms
- The effect of concurrent androgen deprivation and 3D conformal radiotherapy on prostate volume and clinical organ doses during treatment for prostate cancer.

For the full text of these and other articles in this issue, please visit:

<http://bjr.birjournals.org/content/vol82/issue984>

## Dr John Julian Wild - Obituary

# Dr John Julian Wild – Pioneer of Scanning

By **Dr Kit Hill**, Professor Emeritus, Institute of Cancer Research and Royal Marsden Hospital.



*Dr John Julian Wild (11 August 1914 - 18 September 2009).*

Twenty years before Hounsfield and Ambrose went public with CT, Dr John Wild – a British surgeon who had emigrated to the States in 1946 – was opening up a whole new world of tomographic imaging. By 1960 he had published a dozen journal papers that set out the basis for much of the present-day investigative ultrasound; reporting attempts to image (essentially in real time) breast, brain, heart and bowel (using a home-made, and possibly world first, intracavitary scanner), introducing the concept of objective tissue characterization, demonstrating the acoustic anisotropy of some

organized tissues, and checking on possible ill-effects of human exposure. But he was to suffer the proverbial fate of prophets, with a few exceptions, his work was ignored. He was not alone, however, and initially there was more interest, from both clinicians and industry, in the work of Douglas Howry, a radiologist working in Denver. Howry's concept was that ultrasonic echoes would come predominantly from organ surfaces, leading him to the use of so-called compound scanning and displays that imitated anatomical line drawings. This suited the current state of display technology and became

fashionable until, the early 1970s, when the value became apparent and was universally adopted, of Wild's use of the low-level echoes that corresponded to tissue structure.

One of the few to pick up on Wild's work in the early days was WV Mayneord, at the Royal Marsden Hospital. He saw possibilities for investigating the brain and was soon joined in this project by a young research neurologist – James Ambrose – cutting his teeth for later work with Hounsfield on CT. Mayneord, in turn, was visited by Ian Donald, newly appointed professor of midwifery in Glasgow, whose project was much more promising and which led to the development of the world's first commercial ultrasonic scanner, and thus opened up the whole field of obstetric scanning and much more.

Wild, meanwhile, had run into big problems: his NCI grant was being "sponsored" by the Minnesota Foundation with whom – and Wild was never an easy man to work with – he had spectacular arguments, as a consequence of which they withdrew his grant and locked him out of his lab. They had misjudged their man: he took them to court and, eventually in 1972, persuaded a jury to award him \$16.3 million in damages. The award was reduced on appeal but, nonetheless, the case left several marks on US legal history and earned an entry in the Guinness Book of Records.

Colourfulness of character may have contributed to the failure of his nomination for a Nobel Prize, but some compensation came, in 1991, with the award of the Japan Prize. Ahead of the game, as always, the BIR had in 1989 elected him to Honorary Membership.

He is survived by his wife, Valerie, their daughter Nellie and two sons from an earlier marriage.

# A Radiotherapy Learning Experience

The Mayneord-Phillips Summer School is a biennial residential course designed to accommodate a small group of PhD students and medical physics researchers early in their career. Held in July at the University of Oxford's St Edmund Hall, two students report on their experience. By **Eva Rutkowska** and **Mekala Chandrasekaran**, PhD students in radiotherapy physics, the University of Liverpool and Clatterbridge Centre for Oncology. (Publication - Courtesy of IOP)

## Highly recommended

The Mayneord-Phillips summer school delivered exactly what it promised: lectures encompassing the full range of radiotherapy, presented at just the right depth and which enabled the students to visualize their research in a wider perspective, as well as gain greater understanding in related areas.

## A full and interesting program

The Mayneord-Phillips Summer School is organised by Trustees of the Mayneord Phillips Memorial Trust, which is jointly sponsored by the BIR, IOP and IPEM. This year's school was entitled "21<sup>st</sup> century radiotherapy: state-of-the-art and predicting the future".

Colin Barker (University of Liverpool), 2009 organizer, opened the meeting followed by Steve Webb (Institute of Cancer Research; Royal Marsden NHS Foundation Trust) who outlined the evolution of intensity-modulated radiation therapy and pointed out the challenges encountered in radiotherapy that need to be addressed in the near future. Two of these challenges, organ motion and target delineation were discussed in detail later in the day, the former by Dan Low (Washington University School of Medicine) who looked at 4D CT, and the latter by Marcel van Herk (Netherlands Cancer Institute) who concentrated on different imaging modalities, image registration and fusion.

Lectures on the second day focused largely on radiobiology, kicked off by a talk on classical radiobiology from John Fenwick (Clatterbridge Centre for Oncology) and

followed by Bleddyn Jones (University of Oxford) who examined radiobiology for neutrons, protons and light ions.

Radiobiological modelling was examined in the afternoon sessions. Tumour control probability models were reviewed by Marco Carlone (University of Toronto) and normal tissue complication probability models by John Fenwick. Catherine West (University of Manchester), pointed out the necessity to change the radiobiological modelling framework to include the influence of chemotherapy on local tumour control. On a different note, Alan McKenzie (Bristol Oncology Centre) presented practical principles for cost-benefit management of resources in the radiotherapy department, with a judgment grown from much experience.

## Knowledge update

The third and fourth days covered a wide range of stimulating topics. Marcel van Herk intriguingly illustrated the necessity to manage errors in radiotherapy - both due to set-up inaccuracies and organ motion - in order to ensure tumour coverage and sparing of critical structures. He also presented possible solutions, for example, treatment planning on a CT series with the tumour in an average position over the breathing cycle, chosen from a 4D scan. Similarly, Rock Mackie (University of Wisconsin; TomoTherapy) emphasized the importance of image guidance for conformal treatments and explained the techniques of tomotherapy. Mackie also presented details of a dielectric wall accelerator for proton therapy, which he and his colleagues are currently developing.

Those who thought boron neutron capture therapy (BNCT) was a thing of the past learned differently when Stuart Green (University of Birmingham) presented new developments in this area. Green argued that BNCT is a modality that can bridge the visibility gap between chemotherapy and radiotherapy when it comes to locally spread disease.

A taste of the future was provided by Rob Edgecock (Particle Physics Department, RAL), who talked about the fixed field alternating gradient accelerator, and David Neely (Central Laser Facility, RAL), who discussed laser plasma-based accelerators that could be used to accelerate many different kinds of particles and deliver extremely high dose rates.

On the concluding day of the school, Glenn Flux (Royal Marsden Hospital; Institute of Cancer Research) provided an update on developments of dosimetry for radionuclide therapy. Markus Alber (University Clinic for Radiooncology, Tübingen) then spoke about physical and biological optimization and presented a recipe for quantifying intuitive dose-volume constraints for normal tissues. The influence of temporal modulation on treatment outcome was considered by John Fenwick, who is using delay differential equations to model the development of early complications during radiotherapy.

The summer school ended as it started, with a captivating lecture from Steve Webb, this time focusing on the likely areas in which radiotherapy will develop in the future.

**More information:** [www.m-pss.org](http://www.m-pss.org)

## BIR Branches

## EAST OF ENGLAND

The BIR is pleased to announce the appointment of Dr Teik Choon See, Consultant Interventional Radiologist at Addenbrooke's Hospital, Cambridge as Chair of the East of England Branch. This branch - launched in November 2009 - covers Bedfordshire, Cambridgeshire, Essex, Hertfordshire, Norfolk and Suffolk, and will hold its first educational meeting in Cambridge in October 2010.

"I am honoured and delighted to be appointed as the Chair of the East of England Branch. Our aim is to interact with multidisciplinary professionals to enhance the recognition of the BIR and to promote scientific and educational activities in the region. We would also explore the opportunity for collaboration with relevant regional authorities and welcome any new ventures that may benefit all. Your participation and support is much needed to pave the way for the branch to work with you!" Dr Teik Choon See, BIR East of England Branch Chairman.

## SCOTTISH BRANCH

The newly established Scottish Branch of the BIR in partnership with the Scottish Nuclear Medicine Group and supported by the Scottish Radiological Society, hosted a one day PET/CT Course in Glasgow (1 Oct 2009). The course attracted over 70 delegates and provided an excellent overview of the subject with keynote speakers from around Scotland in attendance.

Topics covered included PET/CT in lymphoma, colorectal, lung and breast cancer, cyclotron and FDG production and also looked forward to future developments. The Scottish Branch was delighted to welcome Professor Pat Price from Manchester to speak on PET for experimental medicine in oncology. Chloe Scragg, BIR Branch Coordinator commented "BIR regional events are always a pleasure to host due to the friendly and relaxed atmosphere - our first meeting in Scotland was no exception!"

WANTED:  
BIR members for  
regional branches

The BIR needs enthusiastic BIR members to help develop regional branches in the following areas:

- London
- Midlands
- South East
- Northern Ireland and Ireland

If you are interested in joining a regional committee please call **020 7307 1425** or email: [branches@bir.org.uk](mailto:branches@bir.org.uk) for further information.

# UKRC

NIA & ICC Birmingham,  
7-9 June 2010



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[WWW.UKRC.ORG.UK](http://WWW.UKRC.ORG.UK)  
BY 11 DECEMBER 2009





## Radiology in Ireland

Dr Anthony Ryan, guest speaker at the BIR Welsh Branch Autumn Meeting, is a consultant at Waterford Regional Hospital, Ireland. The BIR had the pleasure of meeting with him in person and learning more about imaging in Ireland.

### What is the current educational situation for radiologists in Ireland?

Radiology education in Ireland is in rude health. Entry into the National Training Scheme is extremely competitive, attracting the most talented and motivated young doctors. Because competition to secure a place on the scheme is so tight, the majority of applicants will have worked for a minimum of two years post internship and will have attained the membership of the Royal College of Medicine or Surgery. Traditionally, securing a job as a consultant has been even more competitive – real dead man's shoes posts, with the result that we have some of the most educated and well-trained radiologists in the world.

It is standard for all Irish radiologists to do a minimum of five years of basic training, followed by at least one if not two fellowships abroad, after which it is common to assume a consultancy in a major North American teaching hospital such as Vancouver General, Massachusetts General, the Mayo Clinic etc, while they wait for an appropriate job to be advertised. When this happens, they are in a strong position to apply, but then so is everyone else as they have also pursued the same course!

For radiologists in post, the Faculty of Radiology of the Royal College of Surgeons in Ireland runs a very strong CME programme with at least three scientific meetings per annum, with subspecialty groups also running additional meetings e.g. MRI, paediatric radiology and interventional radiology, the latter society (the ISIR) meeting twice annually. The Faculty oversees all aspects of radiology practice in Ireland, and although education

has in the past been its primary remit, it is taking a leadership role in clinical governance and validation/revalidation issues.

### After all this time abroad, do people want to come back to Ireland?

They do – and if they don't, their wife applies on their behalf! Joking aside, most people like to come home and contribute to the health care system which trained them. The training pathway described above runs the risk of a brain drain, and we temporarily lose talented individuals for periods of five to ten years, while they wait for the right post to come up. Although some Irish radiologists are lost to other health care systems in the long term, those who wish to come home usually do so eventually. Almost everyone you talk to will have enjoyed their time abroad immensely, and bring home a wealth of invaluable professional experience.

### How come there are so few positions in the imaging field in Ireland?

We have a relatively small population of around 4.5 million, so our eventual requirements will be less than other large European countries; however, as a health service, we are still playing catch up in terms of numbers of specialists per capita, particularly in comparison to mainland Europe and the States, and this applies to radiology more so than the so-called "clinical" disciplines. About nine years ago, our Health Minister pledged that there would be about 1,000 new consultants in the health system within two years. This increase hasn't happened in that time frame but the numbers are slowly increasing.

One of the significant drivers of change currently is the redesign of oncology services and we are currently employing



more radiologists to specifically address the imaging and interventional needs of oncology patients. Breast cancer services have been tackled first, with lung and prostate cancers following closely behind. Another exciting development in Irish radiology is the imminent roll-out of a national PACS system, due to go live next year, and, as films don't get lost in the world of PACS, this will eventually lend further impetus to increasing the numbers of Irish radiology posts.

### If our readers intend to visit Ireland, what would you recommend for them to see?

The west is the best! By all means visit Dublin on the way through (recently voted Europe's friendliest city), but keep going until you hit Galway city, a wonderful mixture of the medieval and the modern. Keep going west past Galway and you end up in Connemara, some of the most rugged and beautiful scenery in Ireland. If you're feeling energetic take a hike (or a bike) up the Twelve Pins mountain range. If you still have time head either south to Kerry and Cork or north to Sligo and Donegal for more of the same rugged beauty. If you're a surfer bring your board; the western Irish coast has some of the most exhilarating (and dangerous) surfing waters in Europe!

## Forensics

# Forensics and the work of INFORCE

Forensic science is defined as “the use of scientific methods in investigating questions of law”. The BIR met with Mr Mark Viner, CEO of INFORCE (International Centre for Forensic Excellence) to find out more!

### Forensic medicine

Forensic medicine provides scientific evidence to the causes of death or injury in humans and is provided through the identification and investigation of human remains or living tissues.

Radiology plays a significant role in the identification process of human remains and living tissues and can be extremely useful in determining the sex, age and stature of an individual. It can also be used to determine the identity of an individual by matching images of previous fractures or dental record images to victims.

Forensics can help determine the cause of death or injury, and in many cases radiological images are invaluable to this process. Imaging records are often used to help piece together the evidence to cases such as murder, assault, rape and abuse, which will provide answers to the legal questions that arise in the aftermath of such incidents.

### Teamwork

The forensic team on any case is comprised of many different groups of people. A range of forensic specialists work with the victim including police officers, coroner, pathologist, forensic odontologist, forensic anthropologist, radiographers and radiologists, depending on the case. Mark Viner, CEO of INFORCE, notes “that’s one of the things that interested me when I first became involved in this work. I don’t think, at that time, I really understood how many people and how many different skills and sciences were



*INFORCE training course for Iraqi forensic team. John Beamer (L) explains the use of fluoroscopy for the investigation of exhumed remains.*

involved in each case. To be part of that is fantastic. You never go on a case without learning something new.”

### Helping in potential forensic cases

More often than we think, forensic imaging is done without being realised. When faced with the imaging of injuries, professionals must be attentive to the circumstances in which the accident or assault occurred. Mark Viner stresses the importance of imaging professionals ensuring all appropriate information is included on any image when recording the information. For example, in the case of possible abuse, it is essential that each image is recorded and witnessed appropriately. This helps the forensic teams to build strong cases if needed when presented in the legal context.

### INFORCE - international forensics

During the mid-90s, the United Nations called for a multinational team of experts to undertake a large scale examination of the remains of individuals massacred in Bosnia, Croatia and Kosovo following the conflict. This was the first time that a specialist forensic team of this nature was called together to work on a forensic case of such a large scale.

Mark Viner was part of this team and commented “...these were large scale investigations. Even though massacres have occurred throughout history and many, certainly after the Second World War, have been well documented, the level of scientific rigour and forensic analysis had not been applied in this way before and there were really no protocols or procedures to help guide the teams.” With teams being of a large

scale, and spanning many different nationalities, the need for consistency became even stronger.

Following this project, Professor Margaret Cox (at the time Professor of Forensic Anthropology, Bournemouth University), together with a group of international experts founded INFORCE. Working with the collective experiences of the group of forensic professionals and lawyers active in the investigation of crimes against humanity, war crimes and genocide since the mid-90s, INFORCE was able to produce protocols and procedures to help those working on future large scale international forensic cases and has subsequently published an authoritative text to guide future teams<sup>1</sup>.

### INFORCE

In 2001 INFORCE became a charity and is now based at Cranfield University, Shrivenham. INFORCE is extremely active in education and



*Radiology played a key role in the identification and investigation process following the 7/7 bombings in London.*



*INFORCE delegation invited to speak at the 2007 Interpol Standing Committee on Disaster Victim Identification. From left to right, Mark Viner, Roland Wessling and Margaret Cox.*

training worldwide as well as providing specialist scientists to assist with the investigation of atrocity crimes. Most recently they have worked with teams in Iraq, Rwanda and Colombia and also train UK police forces in body recovery and identification procedures following mass fatality incidents. Each project comprises of new challenges and new educational areas for onsite team training. Earlier this year, INFORCE went to Rwanda at the invitation of the Rwandan government. Their role in Rwanda was to advise on how to preserve some remains as a memorial. The national government is keen to highlight the 1994 genocide in the hope that such atrocities will never again be repeated.

### Forensics – just for the deceased?

“I think that if radiology practitioners stopped and reflected upon the true definition of forensic investigation,

which is basically using radiology to answer questions of law, you would probably find that the majority of true forensic investigation is performed on living individuals. When you think about all those people who are involved in industrial accidents, road accidents with possible accountability, assault cases, all those sort of things, any event that might end up in court, there are a lot more of those than there are of the deceased!” says Mark Viner.

### INFORCE

[www.inforce.org.uk](http://www.inforce.org.uk)

### References

1. Cox, M., Flavel, A., Hanson, I., Laver, J. and Wessling, R., eds. *The Scientific Investigation of Mass Graves: Towards Protocols and Standard Operating Procedures*. Cambridge: Cambridge University Press

## Meeting BIR Members

# NHS Innovations South West

The BIR's corporate subscribers work in many and various sectors of the imaging field. For the winter edition, the BIR met Ray Boys - Business Development Manager - from NHS Innovations South West (NISW), a company looking for creativity.



**NHS Innovations South West**

## What is NISW all about?

NHS Innovations South West (NISW) is one of nine regional innovation hubs established by the Department of Health with a dual mission; to champion the cause of healthcare innovation and to identify, develop and commercialise innovations and intellectual property created by NHS staff. The multiple drivers for this activity include improved patient care, enhanced service delivery, increased productivity, cost reduction, and intellectual property revenue generation for NHS Trusts.

The South West Innovation Hub works across the 6 counties (Cornwall, Devon, Dorset, Gloucestershire, Somerset & Wiltshire) of the south west to develop ideas generated by NHS employees. The Hub consists of business development managers from the private sector, and a network of NHS Trust based Innovation Leaders (TILs) who have a proven track record in bring these ideas to reality.

## What services does NISW provide?

NISW provides a confidential and broad range of services designed to bring great health ideas into great products and services. The service includes initial advice and assessment, guidance regarding intellectual property protection, market analysis, project feasibility, prototyping and financial appraisal. For ideas with potential commercial value NISW help to identify and broker agreements with commercial partners to drive revenue back to the Trust and inventor.

## On your website, what do you mean by saying "Your ideas make a difference"?

The NHS has over 1.5 million employees with an enormous insight into how to improve patient healthcare. Total hip replacements, magnetic resonance imaging, CT and the development of diagnostic ultrasound are just a few pertinent examples of pioneering innovation within the NHS. Over the last four years the South West Innovation Hub has developed and commercialised over 22 ideas from the south west, below are two examples of local innovation in action:

### (1) *The Bandit Ligator*

The Bandit is a non-sterile, single use, multi-band applicator for the treatment of internal haemorrhoids. The multiband system offers an alternative choice to current single band devices by providing the user with a preloaded product with five bands. This dramatically reduces procedure times and discomfort to the patient. The idea was developed by Mr Noaman Mihssin, a surgeon from South Devon Trust. NISW helped Mr Mihssin to formalise the licence agreement with a manufacturer, Solar Medical.

### (2) *The IV Sty*

Intravenous (IV) drip lines often need to be connected together in piggy back configuration so that two sources of fluids both flow into one tube. Until recently nurses have traditionally overcome this by securing the parts with clinical tape. This improvised solution can create infection control issues, and may also increase the risks for staff of needle-stick injuries as they disconnect taped-up lines.

Nurse practitioner Sam McDonald recognised this issue and devised a small plastic clip which prevents the different parts of IV sets from separating. NISW have, on behalf of Cornwall & Isles of Scilly PCT, finalised a licensing deal with MDTi, a medical products manufacturer.

Both these local examples demonstrate the deep reservoir of ideas that can "make a difference" within the NHS. I am always surprised by the breath of ideas that filter into the innovation hub. They come from every quarter of the NHS, ranging from new technology down to smallest training projects.

Over the last quarter we are noticing a more cosmopolitan mix of new project applications. Service development, software and training projects are becoming as important as device type projects.

## How can people from imaging departments contribute their ideas?

The hub would be delighted to receive ideas from diagnostic imaging departments. Ideas can be submitted directly onto our web site at [www.nisw.co.uk](http://www.nisw.co.uk). Alternatively inventors and developers may wish to discuss their ideas face to face with one the hub's business development managers.

### Further details

\* Chris Sawyer, Business Development Manager - E: [chris.sawyer@nisw.co.uk](mailto:chris.sawyer@nisw.co.uk)

\* Ray Boys, Business Development Manager - E: [ray.boys@nisw.co.uk](mailto:ray.boys@nisw.co.uk)

NISW also has a network of on-site Trust Innovator leaders that can scope out concepts. Visit: [www.nisw.co.uk/Contact-Us/Contact-Details.aspx](http://www.nisw.co.uk/Contact-Us/Contact-Details.aspx)

## Alan Budge - Medal for Distinguished Service to the Institute

A member of the BIR since at least 1983, Alan Christopher Budge has always been very involved in the BIR's activities. A few of his numerous involvements include: Chairman/Secretary of the Industry Committee (1986 to present), the Health Informatics Committee, the IHE MIRO Committee and the Fundraising Committee; elected to Council where he was Honorary Secretary Scientific (1992-95 and 1998-2002) and Honorary Treasurer (2003-2009); and was the BIR's representative on the BSI Mirror Group.

Alan's enthusiastic support for all the BIR's activities, either through his committee membership or other activities – such as acting as unofficial photographer at BIR events, supporting the conference and events team of staff at UKRC and RSNA - is well known and valued. He is one of those people for whom the glass is always half full, never half empty.

With such contributions, it was an honour for the BIR to award him with the Medal for Distinguished Service to the Institute on Tuesday 22 September 2009. This medal was inaugurated in 1993 and since that time there have only been 11 recipients of this award which is a personal gift of the President. It is given to individuals who have made a substantial contribution to the BIR. In 1994, fittingly, George du Boulay and Don Mackintosh were the first recipients and there have been none since 2006, when Philip Dendy and Adrian Thomas were honoured. Alan is thus a deserving recipient of this medal in 2009.



*Alan Budge with his medal for Distinguished Service to the BIR on 22 September 2009.*

## BIR's New website

Since Thursday 12 November, you may have noticed that the Institute has revamped its website to make it more modern and offer a better experience for members and the general public. This is part of the process of upgrading our membership, events registration, online merchandising and finance system to better place ourselves for the needs of the present and the future.



*BIR's new Home Page since Thursday 12 November 2009: brighter and easier to navigate through.*

One of the past problems has been our online event booking system and we hope to address all those concerns with this upgrade. Coupled with a more streamlined look and easier navigation, we hope to offering more features and functions that will make our presence online more user friendly and accessible. Our goal over the coming months is to continue building content tailored for our broad spectrum of interested participants.

Please drop us an email if you have any feedback or ideas to improve our website at [marketing@bir.org.uk](mailto:marketing@bir.org.uk)

## Games and Competition

# Winter sudoku fun

For those who don't know this game yet, Sudoku is a logic-based, combination number-placement puzzle. The objective is to fill a 9x9 grid so that each column, each row and each of the nine 3x3 boxes (also called blocks or regions) contain the digits from 1 to 9 only once.

Completed puzzles are usually a type of Latin square with an additional constraint on the contents of individual regions. Leonhard Euler is sometimes incorrectly cited as the source of the puzzle, based on his related work with Latin squares.

(Source: Wikipedia)

	4	6			8			
	3					2		
			2		6			4
	1		8			5		
	8			7			4	
		4			5		6	
8			3		9			
		7						3
			6			8	2	

## "Strictly Come Dancing" - Two VIP Tickets to win!

### Donated by Philips Healthcare

For this last prize of the year, Philips Healthcare has very kindly donate two pairs of VIP tickets in the Philips' suite (so two seats each!) to go and see the show "Strictly Come Dancing" live at the O<sub>2</sub> arena on **Sunday 7 February 2010**. So if you like the show, this is your chance to go and see it live!

### Two winners! How to win this prize?

Very easy! Get your pen, read through the newsletter carefully and reply to the questions below.

Once done, send your answers to [marketing@bir.org.uk](mailto:marketing@bir.org.uk) with your name and contact details **by Monday 18 January 2010**.

This time there will be **TWO** lucky winners. So don't wait any longer and send your answers now!

(Terms and conditions apply)

### Questions:

1. When is the "Masters in Radiology" taking place?
2. Who organises the Mayneord-Phillips Summer School?
3. What did Dr Wild do by 1960?
4. What is Mark Viner's position?
5. Who is our new Honorary Treasurer?
6. What has Dr Teik Choon See recently been appointed as?
7. When and what did Alan Budge receive recently?
8. Who won the the Science Museum's Centenary Award?

**Winner of the Autumn BIR Newsletter prize (£75 voucher at Selfridges & Co):**

**Congratulations to Mr Bryan Douglas Aves!**

# PHILIPS

Philips Healthcare is a leading supplier of diagnostic imaging systems and related services. Following the recent programme of acquisitions the company offers a comprehensive portfolio of healthcare products including conventional X-ray systems, dedicated systems for cardiovascular and interventional procedures: CT and MRI scanners, nuclear medicine, radiation therapy planning, echocardiography, digital ultrasound, patient cardiac monitoring equipment and PACS.

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**Website:** <http://www.medical.philips.com>

# The X-ray Machine (and BIR President) wins British Science Museum Award!

By **Dr Adrian Thomas**, *Honorary Librarian and Archivist*

## X-ray - Winner of the centenary award

The X-ray machine has won the Science Museum's Centenary Award. The Science Museum in London has its origins in the Great Exhibition of 1851, which is coincidentally the birth date of Silvanus Thompson, our first President. The modern Science Museum was founded in 1909 and as part of their centenary celebrations held a public vote on the top ten icons in their museum. One of the icons is the Russell Reynolds X-ray apparatus which is on display in their 'Making of the Modern World' gallery.

## Russell Reynolds

In January 1896, as a schoolboy, Russell Reynolds (1880-1964) used an early Watson tube mounted on a retort stand

to demonstrate Röntgen's discovery (see illustration). Russell Reynolds went on to become our President in 1937-8 having become a member in 1901 whilst a medical student at Guy's Hospital. He was on the staff of Charing Cross Hospital and the National Hospital in Queen Square. Nearly 50,000 people voted and they voted overwhelmingly for the discoveries that transformed the way we look at our bodies and ourselves. The X-ray machine took the top place, followed by penicillin and then the DNA Double Helix <http://www.sciencemuseum.org.uk/Centenary.aspx>. We should also reflect that without X-ray crystallography the discovery of the structure of DNA (in 3<sup>rd</sup> place) would not have taken place. If you



*Early apparatus: gas tube on a wooden stand.*

have not been to The Science Museum recently then do make a visit. I particularly recommend the science in the 18<sup>th</sup> century gallery.

# 'Mr Cruikshank': Paolozzi's First Robotic Sculpture

(Art and Medical Physics)

By **Dr Adrian Thomas**, *Honorary Librarian and Archivist*

The Scottish sculptor Sir Eduardo Luigi Paolozzi (1924-2005) was one of the most influential British sculptors of the last century, and famous for works such as 'Newton after Blake' located outside the British Library, and 'Head of Invention' which is outside the Design Museum on the Thames in Butler's Wharf and close to the Society of Radiographers. Paolozzi is best known for his robotic iconography, and amongst

his most remarkable sculptures is the bronze head known as 'Mr Cruikshank' (1950s) (see illustration). A copy is in the Tate Gallery. Paolozzi was inspired by an article in a July 1951 National Geographic Magazine and found further images in "Popular Mechanics". The head that inspired Paolozzi is a wooden dosimetry phantom used for cranial radiotherapy. The name 'Mr Cruikshank' was chosen at random.

## Looking for information

Robin Spencer (an art historian currently cataloguing Paolozzi's work) is interested in the origin of the phantom before details were published in popular science magazines. In the article there is a reference to the Massachusetts Institute of Technology and to a two-million-volt X-ray generator. When visiting me, Robin Spencer was very interested to see the two volumes



*"Mr Cruikshank" in action.*

that I made on KC Clark's 'Positioning in Radiology' with the references to Francis Bacon. At the time he came across "Mr Cruikshank", Paolozzi was a close friend of Bacon and they saw each other frequently. Paolozzi was an admirer of Bacon and so it is possible that Bacon introduced Paolozzi to radiological imagery, and there are further implications which would flow from this for some of Paolozzi's subsequent robotic sculpture. Any thoughts about the origins of the phantom would be appreciated and I will pass them on to Robin Spencer.



*"Mr Cruikshank" by Paolozzi.*

# BIR looking at the short and long term



With a baby due next February, perhaps it is only natural that I have found myself spending more time pondering the future, both of my family and also that of the BIR.

At the Institute, we have a variety of plans for the short-term including consolidating and further developing our network of Branches, re-examining our membership offering and the value it brings to members, developing our journals and a number of others. These are all important and are aimed to bring greater involvement in and success for the Institute in the short term. But what about the longer term? Where should the Institute aim to be in 10 or 20 years from now? One of our major aspirations is to be the leading provider of education and scientific discussion in radiology and radiotherapy, whether this will be through our publications, our meetings or other activities. Another way of saying this is perhaps that we aim to provide the communal forum for all those interested in our subject, so they

can meet, discuss and gain mutual encouragement to do better in their own fields for the benefit of patients. How best to ensure that the Institute is able to continue this work in the longer term involves a complex set of issues, but there are some certainties.

One such certainty is that the involvement of our trainee members in shaping our activities and priorities for the future will be central to the vibrancy and relevance of our Institute in the longer term. We are just working through how best to achieve this but the recent formation of a Trainee Committee is a very important step. The views of this group will be particularly valuable in guiding our approach to provision of online educational CPD material, which is most useful and appropriate to our community. The pioneering work in Swansea supported by our Welsh Branch is an excellent example of how we might do this (see the article by Dr Sian Jenkins in BIR News Autumn edition), but there will be other ways and the views of trainees will provide valuable guidance.

Our future will certainly require that members are able to easily access the benefits of membership, and that some of the trials and tribulations of our website and events bookings system are put behind us. By the time you read this column, our new membership management system and website will have been launched, and I hope that any teething troubles will have been minor. This represents a substantial

investment by the Institute, and a huge amount of work by our team in Portland Place, so I hope you like the outcome. We are working towards having a truly world-wide market for all our output, with a responsive and straight forward interface.

For myself, to help ensure a successful future for the Institute I am doing two things. Firstly I am taking the good advice of Julie Olliff, who suggested that the best thing a president can do is to recruit excellent successors. For this reason I am very pleased to welcome our new trustees, Bob Brown as Honorary Treasurer, Roger Dale as Honorary Scientific Editor of the BJR and Andrew Jones and David Morgan as Ordinary Council Members. They all have excellent qualities which will bring great input and benefit to the Institute. Secondly, with a baby due soon, writing a will seems to be a good idea and I have decided to leave a part of whatever I have to the Institute. Luckily the BIR team have recently formulated a simple leaflet to help me in finding the right words for this. I have asked that one of these leaflets be included in the mailing with this issue of BIR News, so that those of you who wish to do the same might do so easily.

**Stuart Green, BIR President**

BIR News notes – November 2009



**Letters to the President:**

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