CONTENTS

President’s Report 3
Report of the Company Secretary 4
Treasurer’s Report 6
Science, Engineering and Technology Committee 7
Clinical Engineering Special Interest Group 8
Diagnostic Radiology Special Interest Group 9
Emerging Technologies Special Interest Group 10
Health Informatics and Computing Special Interest Group 10
Magnetic Resonance Special Interest Group 11
Nuclear Medicine Special Interest Group 11
Physiological Measurement Special Interest Group 12
Radiation Protection Special Interest Group 13
Radiotherapy Special Interest Group 13
Rehabilitation Engineering and Biomechanics Special Interest Group 14
Ultrasound and Non Ionising Radiation Special Interest Groups 15
Academic Development Group 15
Publications Committee 16
Medical Engineering and Physics Journal 17
Physics in Medicine and Biology Journal 18
Physiological Measurement Journal 18
SCOPE 19
Journal of Medical Engineering and Technology 19
Accreditation and Training Committee 20
Clinical Scientists’ Education and Training Panel 21
Part I Registrar 21
Part II Registrar 22
Chief Examiner 22
Training Centre Accreditation Sub-Panel 22
Report of the Course Accreditation Sub-Panel 23
Clinical Technologists Education and Training Panel 23
Registrar’s Report 24
Chief Moderator’s Report 24
Training Centre Accreditation Sub-Panel 25
Course Accreditation Sub-Panel 25
Professional Development Panel 25
Ionising Radiation (Medical Exposure) Regulations 2000 Course Approval Panel 26
Membership Panel 26
CASE, CANME, CACMRE 27
Associate Physicists and Engineers Network (APEN) 27
Associate Technologists’ Network (ATeN) 28
Engineering Group Board 29
Clinical Technologists Committee (CTC) 30
Other Sub-Committees of Council 30
Awards Committee 30
Professional Conduct Committee 31
External Relationships 31
Institute of Physics Medical Physics Group 31
Liaison Group with the Royal College of Physicians 32
Science Council 32
Engineering and Technology Board/Engineering Council (UK) 33
RPA 2000 34
Royal Academy of Engineering: UK Focus for Biomedical Engineering 34
Association of Institutions concerned with Medical Engineering (AIME) 35
Radiology and Oncology Congresses 35
Association of Clinical Scientists 36
Federation for Health Care Science 37
BSI Standards 37
International Relationships 38
The European Alliance for Medical and Biological Engineering and Science (EAMBES) 38
International Organisation for Medical Physics (IoMP) 38
European Federation of organisations for Medical Physics (EFOMP) 39
International Federation of Medical and Biological Engineering (IFMBE) 40
International Union for Physical and Engineering Sciences in Medicine (IUPESM) 40
International Radiological Protection Association (IRPA) 40
Membership of IPEM Committees 2006-2007 42

IPEM Annual Review 2006 2
President's Report

The Institute continues to contribute to the health of our society by supporting and further developing research, education and publication programmes. This is a collective effort by all members contributing in a myriad of ways and supported by very able staff at York. Much of what is highlighted in this report over the past 12 months is due to the leadership of the past President, Peter Williams, with associated Officers helping set the direction.

The Research Fellowship scheme has required a large investment by the Institute and it is very pleasing to report that another award was made during the past 12 months. At present the Institute is supporting the research training of 3 scientists within the UK and early indications suggest that the outcomes will justify the investment and the continuation of the scheme. In furthering and disseminating knowledge the Institute continues to provide bursaries to either fully or partially support academic activities. In the days of constrained budgets the bursary scheme will prove ever popular as it enables individuals to undertake some aspect of education that the person would otherwise find difficult to achieve.

The Annual Scientific Meeting at Glasgow was a tremendous success in terms of scientific content and also for the opportunity to meet with colleagues. There appears to be much benefit in hosting the ASM ‘back to back’ with meetings of other kindred societies and also incorporating sessions within the ASM that generate scientific communication with other specific institutions. The Institute is very grateful for the generosity of members, local departments and industry for the success of the meetings programme and the ASM in particular. Recently Council has agreed that the Institute should take a lead in setting up an annual UK Bioengineering Congress that will act as an opportunity to present, learn and network for all those with interests in bioengineering and physiological measurement. This will provide a focus for those with academic interests and enable new partnerships with industry and other institutions to be forged.

Collaborating with other organisations is a very effective way of maximising opportunities and effort. The Institute continues to support the Mayneord-Phillips Trust that primarily organises a summer school on topics of emerging interest in health, and the Smallpiece Trust which is very much aimed at encouraging school children into the realms of science and engineering applied to health.

The Institute does a truly excellent job of communicating health related science by the organisation of meetings and the publication of journals. During the past year the Institute has signed an agreement with its owners and publishers to promote the Journal of Medical Engineering and Technology: this is a very important venture as it will support further those working in healthcare and academia to communicate research and technological developments.

Some Officers are regularly attending the Parliamentary & Scientific Committee at Westminster. This is important forum for further raising the
profile of the Institute, having greater awareness of future science and health policies and generally being available to discuss and inform decisions. For instance the Institute is trying to influence and find a way forward with government to ensure that an EU Physical Agents Directive will not have an adverse impact upon the practice and future development of magnetic resonance imaging in healthcare. It is perhaps an illustration whereby the Institute has an important contribution to ensure policies and legislation do not hinder the benefits that science, engineering and technology might bring to society.

Recently Council has set up working parties to examine both communications and governance arrangements. The Communications Working Party has particularly focussed upon the website and addressing the comments received. In retrospect the overall project of implementing a complete revision of a website and all IT systems within York was overly ambitious for the resources available. Council also agreed recently that the governance arrangements of the Institute should be reviewed. This is important as the Institute is required to satisfy the requirements of the Charity Commission and Companies House, and members of Council, being the Trustees, have particular responsibilities. Council has recently revised the way it undertakes business to give a clearer focus on charity governance. As the governance arrangements develop so there will be a succession of Rule changes for the membership to consider.

I am pleased to report that the Institute enjoys a high reputation both nationally and internationally and is fulfilling the objectives of the charity by promoting science, engineering and technology applied to health and biology, which is all due to the enthusiasm and efforts of members and staff.

Peter Jackson

Report of the Company Secretary

At July 2006 the membership of the Institute includes:

Fellows, including Honorary Fellows  290
Corporate                        1131
Incorporated                    650
Associate (Scientist)            772
Associate (Technologist)         327
Student                         137
Affiliates                      35
Overseas Affiliates             58
Medical Fellows                 1

The total individual membership stands at 3401.

In addition there are 31 Member Companies.

It is with regret that we record the deaths of the following members notified during the past year:

Mr Trevor Buttery, Dr Louis Philippe de Valence, Sir Richard Doll, Dr Frank
During the last 12 months the Council of IPEM has met in October 2005, and January, April and July of 2006. Each year, and it seems each meeting, brings a diversity of existing and new challenges to be addressed. Many require the continual realisation of our core charitable objective ‘to promote for the public benefit the advancement of physics and engineering applied to medicine and biology’; the progress of established channels to achieve this objective by promotion of, amongst others, publication, science, engineering, education and training, can be found elsewhere within this Annual Review.

A significant challenge gathering momentum this year required the Institute to focus and respond to the Charity Commissioners requirements for good governance, viz. compliance with charity law, to work efficiently and effectively, maximising potential and enhancing accountability. The responsibility for good governance rests with Council, the Trustees of IPEM, and some important steps have been initiated and achieved this year. A Governance Working Party was established to review the current position of the Institute and Council has subsequently received regular reports. The outcome of one such report was instrumental in Council restructuring its long established format for Council meetings. The working practice is now separate meetings conducting the Trustee and professional business, with the benefit that there is a strong focus to address Trustee issues and with it the governance of the Institute, although with it comes the burden of a greater time commitment required of Councillors.

Discussions are on going regarding ways in which the Trustee committee structure can be refined to better serve the governance of IPEM. It is acknowledged, for example, that the five members of the Office Working Group may not always have the appropriate mix of skills and expertise to address financial, human resource, employment, audit and related issues that is required of a modern and substantial charity. A financially successful charity, such as IPEM with income in excess of £1m, correctly brings ever-increasing challenges of external scrutiny. These issues are firmly on the Trustee agenda in the coming year.

Recognising the importance of communication with members, potential members (particularly from outside of the NHS), and the public, Council has agreed this year to the creation of a new post of Communications and Development Manager to further engage these constituencies. Similarly, a Communications Working Group has been formed under the Chairmanship of the Honorary Assistant Secretary to develop proposals impacting on the charitable objects for which the Institute was established. It is anticipated in the coming year that both of these initiatives will provide a platform from which to propel the Institute forward.

Changes to the IPEM Rules have been discussed this year and an
appropriate amendment will be put to the Membership at the AGM. Changes are believed necessary to support the growing work of the Standing Committees and to sustain the continuing success they bring to the Institute. It has been recognised that the demands placed upon the Committee Chairs need to be shared and to meet this a new position of Vice Chair within each Committee is proposed. There will be obvious benefits to the Institute, including continuity should the Vice Chair succeed the Chair.

On behalf of Council and the membership at large I should like to thank all Members who have contributed to the activities of IPEM over the last year. It is also a pleasure to thank the Institute’s staff for their service to the Institute and to Medical Physics and Engineering.

Simon Ryde

Treasurer’s Report

Financial Year 2005

Due to the efforts of a great number of our members, the charity can once again report another good financial year. Income during the year ending 31st December 2005 showed a 9% increase however when a significant income available on a bi-ennial basis is taken into account, the underlying figure shows only a 3.75% increase compared to a 7.5% increase in expenditure.

Perhaps the most disappointing aspect of the report is that the income from membership subscriptions showed a slight fall even with the increase passed at last year’s ASM. This was not as might be expected from a decrease in membership but for a number of reasons including the introduction of a new computer database system, which made it difficult to follow up non-payments until very late in the year. Many of the arrears for 2005 have been recovered in the first quarter of 2006 and will feature in the 2006 financial statements. On the plus side both training and publications performed well. As predicted, the commercial arm of the Institute, IEL, made slightly less profit than in the previous year, resulting in a reduced amount in gift aid to the charitable side of the Institute.

Whilst the charity is required to retain a reserve fund to ensure that it can suitably address any financial demands or changing financial situation, it must endeavour to fulfil its charitable aims. To this end the Trustees (Council) have been and are currently considering a number of one off projects on which some of the accrued surplus may be used effectively.

Patrick Hill’s term of office as Honorary Treasurer came to an end at the ASM in September 2005 and it would be remiss of me not to thank Patrick for his contribution over the last 5 years and for helping the organisation to be in a financially sound position.

We are also indebted to Ian Wolstencroft (Financial Controller) for his efforts in ensuring our finances are well controlled and that the Trustees remain well informed through the Treasurer’s reports.

The Report of the Trustees and Directors contains a concise Financial Review which the auditors examine for consistency with the financial
statements. To avoid duplication or potential confusion I will not comment further on the figures for 2005, but refer the interested reader to the audited report.

**Current Year 2006**

In accordance with our Financial Regulations, Council approved the budget for 2006 at its January 2006 meeting.

The risks to the Institute’s income streams remain, but until they transpire the aim remains to expand charitable work further, the result of which will be an increase in expenditure with a smaller end of year surplus.

In contrast to recent years, the budget forecast is for a cost neutral year. The reasons are mainly the inclusion of several initiatives in training, as well as an anticipated reduction in income due to the UKRO meeting not being held and some increase in staff costs as the Institute attempts to grow its income base.

Progress to date against this budget is satisfactory.

**Membership Subscriptions 2007**

It is important to realise that since the Institute is a charitable organisation, the benefits accrued by members should not be greater than the membership contribution. As with any organisation, costs increase on an annual basis and our Institute is no different. It is therefore inevitable that a similar inflation increase needs to be applied to membership fees on an annual basis. The proposed rates of subscription appear as a separate decision paper for the AGM agenda.

Alan Thompson

Science, Engineering and Technology Committee

The primary role of the Science, Engineering and Technology Committee (SETCom) is to organise the Institute’s scientific programme. Our one-day meetings provide opportunities to share new scientific results and techniques, and help ensure that clinical scientists and technologists who provide healthcare services are up to date with relevant developments. Over 20 of these meetings have been held in the past year, on topics as diverse as ‘Neurophysiological Intra-operative Monitoring’, ‘Clinical Magnetic Resonance Spectroscopy’, and ‘New Quality Assurance Techniques in Radiotherapy’. We are working with other Institute committees to examine ways of improving these training opportunities, particularly for clinical technologists as they move towards regulation.

The Committee also oversees the Institute’s Annual Scientific Meeting and our input to the UK Radiological Congress and UK Oncology Congress. We are working with other bodies to examine the possibility of establishing a UK Bioengineering Congress to provide a much-needed focus in this area, which is important both academically and in terms of patient care.

Much of the work of SETCom is conducted through our 12 Special Interest Groups (SIGs), each focusing on a different area of medical physics or engineering. As well as organising the majority of our scientific meetings, the SIGs establish working parties to develop professional guidelines and
so improve the quality and safety of service delivery. This year new working parties have been established to develop guidelines for provision of radiotherapy physics services and for radiation protection of medical cyclotrons used for Positron Emission Tomography (PET) scanning.

SETCom is also responsible for the Institute’s representation on a number of external bodies. Again, PET has been a prominent issue this year, with the Institute’s representatives on the UK PET-CT Advisory Board ensuring high quality scientific input as PET-CT scanners roll out nationally. There is also cross-representation with other relevant bodies such as the British Standards Institution (BSI) and the British Institute of Radiology (BIR).

The Committee advises on the Institute’s response to public consultations, or when input is needed to policy development and implementation. For example, the Department of Health 2006 strategy document on NHS research and development reflected comments made by IPEM regarding the role of clinical scientists and engineers as independent researchers. We are also engaging with the Centre for Evidence-based Purchasing (CEP), following its recent transfer to the NHS Purchasing and Supply Agency (PASA), to help ensure that benefits in terms of innovative procurement and patient service are maximised. This year, in conjunction with partner organisations and the charity Sense About Science, we have contributed to public debate about the impact of the Physical Agents (Electromagnetic Fields) Directive on MRI, and the Chair of SETCom appeared before the House of Commons Science and Technology Select Committee to give evidence on the issue on behalf of all the relevant professional bodies.

Across all these activities, SETCom is ever mindful of its role as an important vehicle for delivery of the Institute’s charitable object, to promote the advancement of medical engineering and physics for the public benefit.

Stephen Keevil

Special Interest Groups (SIGs)

Clinical Engineering

Clinical engineering supports a range of activities and areas within the healthcare organisation from equipment management, device training and servicing to equipment design and development. The SIG has focused its current activity on safe practice with two working parties established in “Electrical Safety Testing” and “Risk Management of Medical Devices”. Both are now delivering on publications for its members and meetings to disseminate and discuss these topics this year and next. A new working party is being proposed to extend this safe practice theme which will explore the quality aspects of Clinical Engineering.

Meetings have been designed to take account of scientist and technologist needs on issues, as indicated above and including “Equipment Management Strategy” and a Medical Technologists training day. The latter being fully endorsed by members and now being identified as a recurring sponsored event. Collaboration with RESIG also identified the potential to explore partnerships between Trust based clinical engineering departments.
and community equipment providers to improve access to clinical engineering skills.

Future needs of members have to be identified especially in the changing healthcare market. Whilst ongoing meetings will be planned to promote work in research and development and specific equipment management issues such as training in the servicing of medical equipment, risk management and quality. The SIG needs to consider and advise on the impact of professional issues such as mandatory state registration and CPD for technologists and the impact of regulation by the Department on the profession. It therefore calls upon its members who deem themselves Clinical Engineers to be more vocal and feedback issues and concerns to the SIG.

George Dempsey

Diagnostic Radiology

In July 2005 the DRSIG held a meeting to discuss the challenges facing diagnostic radiology physics over the coming years. A number of key areas were identified relating to changes in technology particularly the move to digital imaging. Despite a challenging agenda the DRSIG has been attempting to deal with these issues over the year. The following items represent the more visible aspects of this work.

Early in 2006 IPEM report 91, a replacement to IPEM 77 Recommended Standards for the Routine Performance Testing of Diagnostic X-ray Imaging Systems publication, was produced. IPEM report 91 updates its successful predecessor and the DRSIG are grateful to all involved for their efforts. This new publication extends the range of quality assurance standards to cover many of the newer imaging technologies such as computed and digital radiology and also now includes display and hardcopy devices. To publicise this document we will be reaching out to other professions with a training meeting on this subject in July 2006.

In February 2006 a meeting on digital mammography took place where delegates discussed the impact and challenges resulting from the introduction of digital mammography technology.

During 2006 the DRSIG working party on computed and digital radiography will continue its efforts on a publication in the IPEM report 32 series. This publication aims to establish standards for the assessment of performance characteristics for these devices. It is hoped that this work will be completed towards the end of 2006.

In order to improve the communication and collaboration between members with an interest in diagnostic radiology the DRSIG is planning to establish two user groups during 2006/7. The first group will focus on computed and digital radiology and the second on fluoroscopy. Operated in a similar way to the mammography and CT groups it is hoped that their meetings and a membership drawn from those with a relevant interest in these areas will contribute to the advancement of the Institute’s work in these fields.

Matthew Dunn
Emerging Technologies

The Emerging Technologies SIG has spent a considerable amount of time identifying how it can make a valuable contribution to the field. As a result, there has been a shift of focus towards identifying significant clinical issues, and then identifying new and emerging applications of technology that can be employed to address these issues. In the following year, meetings will be organised around themes identified in this way. ET SIG has also provided input into the 2006 ASM as the SIG chair is also Chair of the ASM Programme Committee.

Chris Monk

Health Informatics and Computing

We have recently revised our Terms of Reference, and one of the new responsibilities that we have given ourselves is to ‘encourage and stimulate Clinical Scientists in the innovative application of ICT to improve healthcare delivery’. Ian Beange’s report from last year mentioned the ‘pervasiveness’ of computing and informatics in healthcare. There is almost no development within healthcare that doesn’t involve ICT now, so we need to be

- Raising the profile of technicians, engineers, and scientists who use ICT to innovate and improve. Specifically we are trying to forge stronger links with other national bodies involved in healthcare IT, and have invited an Industrial Representative to join us.

- Raising the profile of IT, and encouraging IT innovation with the membership, through training and scientific meetings of high calibre, and wide interest.

We are continuing to debate whether the title ‘Health Informatics and Computing’ accurately expresses what our group is doing (or should be doing).

A successful meeting introducing Monte Carlo techniques to absolute beginners in the field was run during May 2006.

We contributed to a Royal Society Workshop on ICT in Healthcare in October 2005.

Our working party on image/data storage and retrieval in a PACS environment for non-Diagnostic Radiology modalities should be producing their report during 2006.

The SIG membership will show a distinct radiotherapy bias for the next year. Upcoming meetings include ‘Making use of your radiotherapy database’ (Oct 5th 2006), ‘Departmental intranets’, and a meeting on some aspects of networks.

Stephen Tozer-Loft
Magnetic Resonance

The MRI SIG has five members and two mentors. Over the past year, it has been involved in MRI safety, and future endeavours include quality assurance (QA) and clinical application of cutting-edge techniques.

In October 2005, the SIG hosted a very successful meeting that provided an update on current issues in MRI safety. Future meetings include one on the clinical applications of MR spectroscopy in November 2006 and a clinical functional MRI meeting in 2007.

The SIG, along with other members of IPEM, are actively involved in lobbying government over the implementation of the EC Physical Agents Directive that will seriously impact on certain aspects of MRI. The proposed occupational exposure limits are not based on sound science, and members of the MRI community are asking that MRI should be exempted from these limits and that a sensible ‘risk versus benefit’ approach should be applied instead.

A proposal has been drafted by the SIG for IPEM to set up a voluntary register of MR safety advisors. The aim is to ensure that all those people providing MRI safety advice possess a minimum level of competence as defined by the National Occupational Standards in MRI.

The SIG is setting up a working party to update Report 80 on QA in MRI. This new report will expand on the original report and include discussions on performing specialist QA for applications including functional MRI, spectroscopy and cardiac imaging.

Richard Nicholas

Nuclear Medicine

The Nuclear Medicine SIG has been active in promoting good scientific and technical practice in Nuclear Medicine Physics in the UK.

The SIG has been active on the educational front by facilitating meetings and sponsoring publications. A successful meeting has been held on PET-CT & SPECT-CT, providing information on practical issues and applications. A successful technologist meeting has also been held, covering a variety of topics. A new publication (An Introduction to Radionuclide Dosimetry) is in progress and two revised publications are nearing completion (Mathematical Techniques in Nuclear Medicine, Radiation Protection in Nuclear Medicine).

The SIG has also been active in promoting good scientific and technical practice. This is often performed in collaboration with other bodies. For example, the SIG is representing Clinical Scientists and Technologists on the recently formed ‘UK PET-CT Advisory Board’. This board is providing advice to UK health departments on aspects of provision of PET-CT services. Other activities include contributing to updated RCP guidelines on the use of radioiodine in the management of benign thyroid disease.

Ongoing activities of the SIG include sponsoring working parties e.g. the Nuclear Medicine software working party. This group is currently performing an audit of brain quantitation software and is planning an audit of myocardial perfusion imaging. Other ongoing activities include responding to proposals for changes to Regulations (e.g. MARS

Current issues for the SIG include the call for the provision of independent evaluations of Nuclear Medicine equipment (new service for PET ± CT, re-introduction of service for SPECT ± CT). The SIG is submitting a proposal for these evaluations to NHS Purchasing and Supply Agency Centre for Evidence-based Purchasing (joint with BNMS). The SIG is also urging IPEM members to submit similar requests for this service.

Alice Nichol

Physiological Measurement

The PMSIG was extremely active in the organisation and co-sponsorship of a number of meetings throughout the year viz:

- Medical Thermography and Thermometry
- Neurophysiological Intra-Operative Monitoring
- Measurement and Monitoring and Modelling of Autonomic Function

In addition to the above scientific meetings the SIG also provided tutorial/educational information for IPEM members, via publication of articles in Scope. *Digital Filtering-A Short Tutorial Guide* addressed issues and potential pitfalls surrounding filtering digital signals. The SIG also actively participated in collaboration with other professional groups such as the IOP and IEE and in the a number of jointly organised events

- 3rd IEE International Seminar on Medical Applications of Signal Processing
- 2nd European Outline Workshop on Medical Data Acquisition Standards and Protocols Joint Meeting
- Bone regeneration symposium
- 2nd Annual Meeting on Optical Sensors in Physiological Measurements

The SIG has plans for a further strand of scientific meetings and training events and publications. Included is this will be scientific meetings on evoked potentials, clinical applications of eye movement recordings and signal processing in clinical neurophysiology. Training publications and events will include a proposed article on digital sampling for JET (*Journal of Electrophysiological Technology*) and a Part 1 training day on Physiological Measurement.

Throughout the year the PMSIG was actively engaged in discussions regarding the future registration of clinical technologists in the area of physiological measurement and the relationship between IPEM and academia. The SIG will continue to provide constructive input into ongoing discussions on these issues.

Canice McGivern
Radiation Protection

The RP SIG has been actively involved in numerous workshops, most significantly the review of the National Strategy for the Management of Low Level Radioactive Waste, where it proved necessary to ensure the needs of hospitals were heard. The SIG also responded to the resultant draft policy, and will continue to represent the needs of hospitals in this matter.

We joined with other ionising radiation SIGs and the BIR in advising COREC on the IRMER requirements for research exposures. This will result in better use of radiation in research and the production of guidance for COREC and IPEM members.

The SIG contributed to Government workshops producing guidance relating to radioactive incidents, and is involved with DoH plans to review their Emergency Planning guidance.

We have embarked on a workshop to produce radiation protection guidance for members on medical cyclotrons.

Other consultations which we have contributed to include the High Activity Sealed Source Regulations and the HSE’s RPA Statement. Consultation on the ICRP draft Recommendations is now ongoing.

The SIG is collaborating with the BIR and the SRP and is planning to formalise links with DoH, HPA, and the Environment Agency.

We continue to arrange the annual RPA Update Meeting, which is central to the hospital RPA’s calendar. In collaboration with the Nuclear Medicine SIG we are planning a meeting on radiation protection in nuclear medicine, and hope to help the SRP stage a meeting on radiation protection in hospital design.

Peter Marsden

Radiotherapy

This year has presented opportunities to organise a number of meetings on recent developments in radiotherapy physics. The ‘Novel Imaging Modalities in Radiotherapy’ meeting in December 2006 was intended as a teaching opportunity and included reviews of the basic principles of different imaging techniques, in addition to proffered papers on recent developments, similarly a co-sponsored meeting with Clatterbridge Centre for Oncology offered physicists and other radiotherapy professionals the opportunity to attend a four or two day radiobiology course, an increasingly important area of radiotherapy physics. A successful joint meeting with the British Institute of Radiology in February on ‘Radiotherapy of the Thorax’ attracted a cross section of professionals from within the radiotherapy community. The biennial meeting arranged for the beginning of July is an opportunity to review recent advances and developments in radiotherapy physics within the UK, as well as providing the opportunity to hear keynote speakers from Europe.

Two reports were published in the last year ‘Balancing Costs and Benefits of Checking in Radiotherapy’ and ‘Guidance for the Commissioning and
Quality Assurance of a Networked Radiotherapy Department, both providing advice for physicists in the UK on current practice in quality assurance throughout the radiotherapy process and in particular in a networked radiotherapy department. Intensity modulated radiotherapy is a recent technological advance and two working parties have been established by radiotherapy SIG, one to provide guidance for clinical implementation of Intensity Modulated Radiotherapy and the other on the basic dosimetry of small radiation fields, which also has applications in stereotactic radiotherapy. Other working parties under the auspices of radiotherapy SIG include the interdepartmental audit group and one established to develop a code of practice for the calibration of high dose rate brachytherapy sources.

Radiotherapy SIG has sought to provide guidance over the past year on two topics; namely the implementation of the electron code of practice published in 2003 and the issue of the manufacture of devices for use during radiotherapy. The IPEM newsletter has proved an effective method of disseminating information.

Gill Lawrence

Rehabilitation Engineering and Biomechanics

In October 2005 REBSIG ran a meeting in York on the theme of collaboration between specialist NHS Rehabilitation Technology Services and Local Authority Community Equipment Services. The meeting highlighted the potential contribution that Clinical Scientists can make to patient well-being, both in providing services and professional support. Subsequent to this REBSIG has concentrated on scientific events planning with a collaborative ethos. In October 2006, REBSIG will run one scientific meeting on the theme of Cognition and Assistive technology. This is co-sponsored by the British Society for Rehabilitation Medicine. REBSIG has also planned two scientific/technical one-day meetings to explore different aspects of technology in patient care. The first is on the theme of technologies for human shape definition, which is an important tool in quantifying clinical outcome in the field of postural management. This is now at the stage of IPEM’s call-for papers and is anticipated to run, in York, in January 2007, in order to avoid clashing with the November 2006 RAATE conference (below). Seven co-sponsors for the REBSIG shape-definition meeting are confirmed; these are BAPO, ISPO, IoP, IMechE, Ergonomics Society, Posture and Mobility Group, Scottish Posture and Mobility Network. A second one-day meeting on the theme of smart switches for use in assistive technology is expected to run in March or April 2007.

REBSIG is available to assist in the delivery of the annual 2-day RAATE conference in November 2006. Planning is underway to explore the possibility for further scientific one-day meetings on the themes preventative technologies and clinical gait analysis.

In 2005 REBSIG organised and ran two sessions at the Glasgow ASM entitled Virtual & Digital Techniques in Rehabilitation Engineering: Measurement and Modelling. This event was a precursor to the planned shape meeting in 2007. However, the Cambridge 2006 ASM has attracted
only four proffered abstracts, so REBSIG intends to take a more proactive role in the staging of its session at the Cardiff ASM 2007. REBSIG has also opened a dialogue with the other SIGs to raise the profile of those on the engineering side of IPEM’s interests.

Robert Farley

Ultrasound and Non Ionising Radiation

The group has continued to organise meetings and workshops and to progress publications on topical and relevant issues covering a broad range of electromagnetic and acoustic radiations. We are fortunate to have members from a variety of backgrounds with expertise in these areas and also benefit from the contributions of representatives from other organisations including HPA, MHRA and NPL.

In the field of ultrasound, the meeting on ‘Quality Assurance of Ultrasound Scanners’ in March 2006 was felt to be a success and the associated workshop was fully attended. The Working Party on Ultrasound Quality Assurance has almost completed its task and the replacement for IPEM Report 71 is nearly ready.

For lasers and optical radiation, members have contributed nine articles to a special issue of SCOPE on lasers, and meetings are to be held in the Autumn of 2006 on ‘Laser and Optical Science’, ‘Optical Radiation towards the Light’ and a Laser and Intense Pulsed Lightsource (IPL) Measurement Workshop. There is a planned best-practice guide for UV dosimetry as a joint publication with NPL.

A Working Party has been set up to produce a report on ‘Guidance on the measurement and use of electromagnetic fields (EMF) and electromagnetic compatibility (EMC)’ and advice on ‘The role of Clinical Scientists and Technologists in the safe use and applications of electromagnetic fields’. There are long-term plans for a meeting on the Physical Agents (EM Fields) Directive in 2007.

Martin Robinson

Academic Development Group

The delivery of health care in the UK is undergoing dramatic change as a consequence of the Government reforms. In line with these changes the funding of clinical research within the NHS is also being reorganised. The launch of the DH research strategy document “Best Research for Best Health” will result in the creation of elite research institutes, virtual networks and technology platforms with funding allocated on a peer review basis rather than by the previous Trust R&D levy. It is vital that IPEM embraces these developments if we are to be of any relevance in R&D matters.

The Institute is responding to these reforms by engaging with the academic and private sector. The Academic Development Group comprises 12 senior academics who meet 3 times a year. It has continued to explore ways of making the Institute more relevant to scientists, engineers and technologists who work in educational and research institutions. The group has been monitoring relevant events and issues and is pursuing links with...
academic institutions and other organisations such as the IoP Medical Physics Group and the Royal Colleges. It is hoped that these activities will help increase the level of interest of students in medical science and engineering subjects and that those employed within university departments will see IPEM as a valuable resource in future.

The academic interface meeting organised last autumn identified a number of issues relating to the employment barriers between NHS and university staff. The group is examining ways to encourage the transfer of staff and researchers between hospital and academic departments. In addition the meeting identified a number of concerns relating to the significance of the Institute to academics working in university departments. It was clearly felt that maintaining a programme of high quality, timely and relevant scientific meetings was vital if we were to raise our influence with university staff.

One area of potential need that the Institute could assist with was in relation to the Diamond project situated near Didcot. The Diamond synchrotron is the largest UK-funded scientific facility to be built for over 30 years. Although there will be a number of biomedical projects carried out in the centre, there is no dedicated medical beam that would allow clinical research to be undertaken. It is planned that IPEM shall host an event later in the year in support of the clinical beamline initiative.

Alan Perkins

Publications Committee

The Publications Committee remit includes the scientific journals *Physics in Medicine and Biology* (PMB), *Physiological Measurement* (PM), (both these journals are published by Institute of Physics Publishing), *Medical Engineering and Physics* (MEP) (published by Elsevier) and *Journal of Medical Engineering Technology* (JMET) (published by Taylor and Francis).

*PMB* (Editor-in-Chief Prof Steve Webb) celebrates its 50th Anniversary in July and a Special Anniversary issue is being prepared for distribution in July 2006, with historical review articles from 26 very distinguished authors covering many of the fields of Medical Physics. *PM* (Editor-in-Chief Prof Mike Neuman) is issued 12 times per year, which is up considerably from the quarterly publication of just four years ago. MEP is currently edited by Dr Sally Clift, after seven very successful years by Prof Robert Allen.

The fourth journal (JMET) is new to IPEM. It has been owned and published by Taylor and Francis PLC for many years but, whilst remaining in Taylor and Francis’s ownership, now has the status, by agreement, of an official journal of IPEM. The current Editor, Professor John Woodwood, and Publications Committee invite all of the membership, with a special invite to clinical technologists, to subscribe and submit articles to this journal.

Publications Committee also takes responsibility for the in-house publications Scope and the Newsletter as well as the IPEM Website.

In addition its remit includes the working party reports, and another new category Briefing Notes; this year two briefing notes have been published
Spotlight on Optical Techniques in Medical Imaging and Spotlight on Position Emission Tomography/Computerised Tomography. Briefing

The published working party reports between July 2005 and June 2006 include the following

- Vascular Laboratory Practice: Upper Limb Arterial System Published in association with the Society of Vascular Technologists.
- Report 91 Recommended Standards for the Routine Performance Testing of Diagnostic X-Ray imaging Systems
- Report 92 Balancing Costs and Benefits of Checking in Radiotherapy
- Report 93 Guidance for Commissioning and Quality Assurance of a Networked Radiotherapy Department

Alun Beddoe

Medical Engineering and Physics

Medical Engineering & Physics saw a change in Editorial Team at the end of 2005. Robert Allen and Margaret Howls handed over to Sally Clift and Jacqui Braney. The transition progressed very smoothly much eased by the previous year's move onto an electronic submission and peer review system. A total of 373 submissions were received in 2005, with a further 200 having been received between January and May 2006.

The Editorial Board membership is being continually updated and an Editorial Board meeting is planned for early August at the World Congress of Biomechanics in Munich, Germany.

In 2005 full and part special issues were published on the topics of "e-learning in Medical Engineering and Physics", "Current developments in orthopaedic biomechanics", "Effects of mechanical forces engineering reactions at the cellular level" and "Advances in the finite element modelling of soft tissue deformation". In 2006 so far special section has appeared on "Physical, Mathematical and Numerical Modelling of Blood Flow in Cardiovascular Disease" and a full special issue on "Biosensors" is planned for publication in the autumn.

Perkins Prize Announcement Volume 27 (2005)

"Blood flow and structure interactions in a stented abdominal aortic aneurysm"
Zhonghua Li and Clement Kleinstreuer

Finally I would like to thank Jacqui Braney, Sarah Newman and Jake Holdridge at Elsevier; Bob Allen and Maggie Howls for all their good-humoured help; the Associate Editors, Editorial Board and the many international referees for their continued support and guidance.

Sally Clift

Physics in Medicine I became the new Editor in Chief on January 1st 2006 when Prof Alun
Beddoe stepped down. PMB continues to be published twice monthly and currently publishes about 7000 printed pages per annum. Suitable adjustments to the page budget have been made for 2006. The 50th Birthday Special issue was published in July 2006, but the articles were published electronically before print publication and have already broken records for access and download as pre-publication articles. The PMB Team in Bristol were without some key staff following some staff moves but a new Publisher, Simon Harris, and new Publishing Administrator, Jonathan Keen, have now been recruited to assist Jane Roscoe in the Bristol office. The Editor represented PMB at IPEM Publications Committee and IPEM/IOP Partner Meetings. New members of the Board and new International Board Members have been identified and contacted. All have accepted.

The new Board met for the first time in May 2006. All journal policies are continually reviewed by the Board. The Impact factor for 2004 was 2.368 up on all previous 5 years. The cited half life was 5.8 years in 2004. For 2005 receipt-to-first-decision mean time was 75 days and receipt-to-acceptance mean time was 102 days and acceptance-to-publication mean time was 47 days. Total article downloads in 2005 were 398,375 and total electronic accesses were 2,220,841. The citations Prize for 2005 was awarded to Paul Keall et al for a paper in 2001 on motion adaptive radiation therapy.

Steve Webb

Physiological Measurement is continuing to grow in size and stature as an international journal in the fields of medical physics and biomedical engineering. The journal received 270 manuscript submissions during 2005 and published 1776 pages during that year. It is important to note that the number of pages published has grown steadily each year during the past six years, and it is estimated that 2000 pages will be published in 2006. The Editorial Board and the publisher agreed to increase the publication frequency from bimonthly in 2005 to monthly in 2006, and the manuscript flow so far this year indicates that it should be possible to sustain this publication rate. There has been a steady increase in the journal’s impact factor with the latest available number for 2004 being 1.257. This places Physiological Measurement in about the middle of journals in the areas of medical physics and biomedical engineering as determined by ISI.

Two important aspects that distinguish Physiological Measurement are the relatively short review times and its growing international recognition. During 2005 the average time from receipt of manuscript to first decision was 51 days, approximately 10% lower than the previous year, and the average time from receipt to acceptance was 104 days also slightly lower than the previous year. Once accepted, the manuscript took an average of 33 days to appear on the Web. The percentage of papers coming from places beyond the UK is increasing with 12% originating in North America, 34% coming from continental Europe, 8% from China and Japan, and 29% from the rest of the world. UK submissions remain at 17%. We truly are becoming an international journal.
SCOPE

This has been a year of continuing development for SCOPE.

There has been a further change in personnel in the editorial team: Donna Cowan (Rehab Engineering, Chailey Heritage Clinical Service) has taken up the post of Engineering Editor. Also, SCOPE is hoping to have a new regular News column, gathering links to items of interest in the general medical and scientific literature relating to medical physics and engineering. A new News Editor, John McLean (Medical Physics, Glasgow) is looking after this feature.

SCOPE is now available as an internet version, e-SCOPE, on the IPEM website. This will assist in increase the public awareness of the work of the Institute and its members. It is hoped this will offer increased convenience and speed of publication and that useful web-based features will develop. The Tutorial feature continues to be a regular in SCOPE, which is encouraging. In addition, two further new regular features have begun. We now have a regular competition, with commercial sponsorship of the prizes. Also, Dick Mould has kindly provided a regular column on radiation history, which provides a consistent ‘back-page’ feature for SCOPE.

The SIGs continue to offer content for special issues and SCOPE will continue to reprint articles of interest from complementary sources of interest to members.

SCOPE aims to continue improving its broad appeal and to reflect the issues of the entire profession. It continues to develop in offering a useful facet of the public face of the Institute.

Journal of Medical Engineering and Technology

The Journal of Medical Engineering and Technology, published by Taylor & Francis, became an IPEM official journal from 1st January 2006. Although this title continues to be owned by Taylor & Francis, the agreement between IPEM and Taylor & Francis provides for a special personal subscription rate for IPEM members. However the agreement also includes a framework in which IPEM and Taylor & Francis will work together to develop the journal, which IPEM sees as complementary to the three titles it owns and publishes with other publishing partners.

Professor John Woodcock, an IPEM Fellow, who is the Honorary Editor of JMET, is working with his editorial board, many of whom are also IPEM members, to develop a section within the journal which has a particular emphasis on applications of clinical technology. The section will take some time to mature because, with a journal that has six issues each year, there is a significant lead time for fresh material to be published. However, it is hoped as this new section develops that JMET will be read by more Clinical Technologists and it will provide opportunities for Clinical Technologists and others to contribute articles relevant to their interests.
Accreditation and Training

ATC has spent the past year considering issues of potentially great significance to the future of the Healthcare Scientist professions, particularly in relation to Clinical Technologists Registration, and Clinical Scientist pre and post-registration training.

The agenda for ATC includes education, training, professional development and membership, and the committee oversees the work of four main panels: the Clinical Scientists Education and Training Panel (CSETP), the Clinical Technologists Education and Training Panel (CTETP), Membership Panel and the Professional Development Panel (PDP), under the chairs, respectively, of Harold Stockdale, Joanne Young (and latterly Christine Segasby), Malcolm Sperrin, and John Lutkin. The work of these Panels is reported below.

The major issues being considered by ATC at the present time are the Registration of Clinical Technologists, and the future of Clinical Scientist pre-Registration training, which we are required by the Department of Health to review with an emphasis on shortening the time to registration. ATC has supported a proposal for a professional doctorate to replace Part 1 and Part 2 of the current clinical scientist training, potentially leading to registration within 3 years of appointment to a training post. Post registration education and training for all healthcare scientists has also come onto the agenda, with initial thoughts centred on use of National Occupational Standards and the Knowledge and Skills Framework.

These issues are too detailed to be discussed in an Annual Report but members are encouraged to make every effort to appreciate the implications and register their opinions.

ATC also benefits from the participation of other groups within the Institute including Scientific Committee, Engineering Group Board, the Associate Physicists and Engineers Network, and the newly formed Associate Technologists Network. The contributions from APEN and ATEN, representing younger members in training, are particularly valuable. ATC also receives regular reports from RPA2000, the Association of Clinical Scientists, the Federation of Healthcare Scientists, and the Voluntary Register of Clinical Technologists.

It would be inappropriate to conclude this section of the report without recording the appreciation of ATC to Tracey Maddison and Robert Neilson from IPEM Office for supporting the Committee during the year.

Neil Lewis

Clinical Scientists Education and Training Panel [Harold Stockdale]

Incorporating:
Training Centre Accreditation Sub-Panel
Course Accreditation Sub-Panel
Part I Registrar
This year has seen a consolidation of the revised (2005) Training Prospectus with the enrolment process being strengthened. There was a detailed article in SCOPE outlining training and other supervised routes and the possible endpoints that are achievable. The Panel produced three sets of Guidance Notes on (i) the appropriateness of university degrees as a basis for IPEM training, (ii) allowable exemptions to Part I trainees who have a relevant PhD and (iii) the manner in which Part I equivalence can be achieved for those able to enrol directly onto Part II training. The Panel is about to set up a series of training seminars ("Training for Trainers") in a similar manner to those offered a few years ago and these seminars will soon become available to all involved in delivering training. The Panel took responsibility for the External Training Advisor arrangements and a Job Description and Person Specification was introduced for the appointments of new ETA's. There have been two appeals in respect of Part I viva examinations and, in each case, the IPEM Appeals Process was properly followed.

Formal terms of Reference of CSETP and its two Sub-panels have been agreed and these have now been incorporated into IPEM's policy and procedures.

Report of Part I Registrar [Alison Bolster]

This year has seen the introduction of new application forms for registration on the Part I scheme. The registration process is in two parts - an initial registration on the scheme where a check is made that the candidate has the basic qualifications required and is registered on an accredited MSc course. The second part of the registration procedure can be submitted concurrently, or later, and includes the details of the three clinical placements to be undertaken. These are now checked in detail to make sure that they are being undertaken on a site which has been accredited for the subject. This has improved the overall registration procedure enormously and means they we should no longer find ourselves in the position of candidates presenting for examination in a subject for which the centre did not have accreditation.

As Part I registrar I have found this new approach much simpler to operate and this will continue in the coming year as we strive to improve the overall training path for candidates.

Report of Part II Registrar [Geoff Lawrence]

Part II training prepares associate members of IPEM for registration with the Health Professions Council, for Corporate Membership of IPEM and for registration as a Chartered Scientist or a Chartered Engineer. It involves a period of structured, advanced training and supervised experience in a specialised area of medical physics or clinical engineering. In the last year some 80 associate members have enrolled for Part II and most of these
should achieve recognition as competent professionals after 2 years.

Training of clinical scientists is currently under review and may be radically restructured under proposals from the Department of Health, which would reduce the period of training and probably its breadth. IPEM is actively involved in these discussions to seek to ensure that professional standards, and the education and training underpinning them, are set appropriately in any new framework.

Meanwhile the success of the present scheme, and specifically Part II, owes much to our assessors and the office staff in York. Thank you.

Report of the Chief Examiner [Sally Powley]

The role of the Board of Examiners is to ensure that the high standard of Part I Training is assured through rigorous examination of candidates. These requirements are determined by experts from within the membership of the Institute.

It is essential that the quality of training of Medical Physicists and Engineers is assured since most of them will go on to work in the NHS where they are highly influential in the outcome of patient diagnosis and treatment.

Assessment of candidates is by portfolio and viva voce. The latter is carried out in the offices at York by trained Examiners during 3 sessions held throughout the year. Results are graded at Distinction, Merit, Pass or Fail. Feedback on the quality of training is given to the Training centres to enable them to improve on weaknesses or build upon their strengths.

The Board of Examiners formally meet once a year to discuss training issues such as how to improve either the training or the assessment of training. In addition the Chief Examiner provides advice to trainees and their supervisors through presentations at the ASM and the Trainee Induction Day.

The number of trainees presenting for examination has increased in recent years. Last year saw a rise of 30% to 86.

Report of the Training Centre Accreditation Sub-Panel [Wil Evans]

The primary role of the Training Centre Accreditation Sub-Panel is to assure that Part 1 training offered under the auspices of the Institute is of a consistently high quality throughout the United Kingdom. It has continued to fulfill this role by conducting audits of training provision and carefully scrutinising applications for accreditation; in both cases, detailed recommendations are fed back to the training centres. These recommendations are supported by analyses of comments made by the chief examiner, the external training advisers and the trainees themselves. In addition, training centre details shown on the IPEM website are regularly updated so that both existing and prospective trainees have easy access to
the opportunities available to them.

**Report of the Course Accreditation Sub-Panel** [Deric Jones]

The Sub-Panel has continued to carry out its primary role of accrediting MSc programmes associated with the Clinical Scientists’ Part 1 Training Scheme. Four MSc programmes at Aberdeen and one at Exeter were visited by assessors and all have had their accreditation renewed. The accreditation of the Leeds MSc has been extended by twelve months as the programmes at Leeds and Sheffield are to be amalgamated into a joint MSc programme starting in September 2007. The Sub-Panel looks forward to considering this new programme in due course. Two new members were welcomed during the year, namely, Fernando Schlindwein from the Engineering Department, University of Leicester, and Hamish Porter from the Edinburgh Cancer Centre at Western General Hospital. These additions strengthen the Sub-Panel’s expertise in Physiological Measurement and Radiotherapy Physics.

The Chair of the Sub-Panel and the IPEM General Secretary represented IPEM at the inaugural meeting of the new Engineering Accreditation Board whose aim is to develop consistent accreditation practices for programmes underpinning knowledge for Incorporated and Chartered Engineer registration. The increase in the number of degree programmes having a substantial Medical Physics or Medical Engineering component means that there is likely to be a role for IPEM in accrediting such programmes in collaboration with colleagues from the non-medical engineering institutions.

**Clinical Technologists Education and Training Panel**

[Christine Segasby]

*Incorporating:*

*Training Centre Accreditation Sub Panel*

*Course Accreditation Sub Panel*

The main role of the Clinical Technologists Education and Training Panel (CTETP) is to maintain and run the infrastructure of the IPEM Clinical Technologist Training Scheme. This has now been running for four years and the first cohort through the vocational degree route are about to complete. The training prospectus is under review but will not be issued until the process for regulation becomes clearer. The training scheme is important for those technologists in training now who will not complete until after the HPC register opens and who will need to register under transitional arrangements.

CTETP has two sub panels that are responsible for training centre accreditation and course accreditation.

The panel is also considering the higher training that may be required for Clinical Technologists to progress along the Healthcare Science pathway.

**Registrar's Report** [Barbara Dawson, Diane Allen]

This year has been extremely busy with the enrolment of more students
onto the scheme. The IPEM Clinical Technologist Training Scheme is also being taken up in some parts of the country for the first time and expanding more into the engineering areas of Medical Physics. This together with the changing requirements for regulation has put pressure on the administration and organisation. We are reliant on the good will of the moderators to enable the scheme to operate and are very grateful to those acting in this capacity. Many moderators have a number of students under their guidance and are giving a great deal of time and effort to the successful training of the students. We hope, in the near future, to add an engineering registrar to our team specifically to help with the registration of students in this area.

The numbers on the scheme are:
79 Students on the Vocational Degree
27 Students on the Education only route
12 Students on POST (Period of Orientation and Supervised Training)
3 Awaiting Moderators

There are 121 students on the scheme at present and so far 3 have successfully completed.

This year the first students complete the De Montford BSc Clinical Technology vocational degree. The college examinations and IPEM final assessments take place in May.

Chief Moderators report [Tina Jones]

The supervisors and external moderators reports continue to come through thick and fast and thanks go to everyone concerned for completing these in a timely manner. Whilst the majority of the students are progressing well, there are a few that need additional moderation and support in order to progress them through to the next academic year.

There is a great deal of interest in additional training for both supervisors and external moderators, which both De Montford University and IPEM are hoping to address in the near future. The Guidance Notes (May 2005) are also under review and should help clarify roles a little more.

Over the last year, IPEM have appealed for additional moderators as there is a large shortage in some areas of the country. A number of centres are providing moderators, but are finding it difficult to have their own students moderated.

As we say goodbye to our first cohort of students, we will ourselves be reflecting upon the process and taking forward lessons learned.

Training Centre Accreditation Sub-Panel [Alan Thompson]

Until the training scheme became more established it was decided that the Sub-Panel would have the same membership as CTETP. The membership of the Sub-Panel will be reviewed in the near future and allocation of additional specific roles made.
Accreditation so far has taken two forms:

- **Transitional Arrangement Application** - This is where temporary accreditation is given to a department that was already registered for Clinical Scientist training on submission of a satisfactory partial application. This was put in place to encourage and ease the movement to Accredited Training Centres for Technologists. Centres still accredited under this method are asked to submit a full application when the Clinical Scientist training is reaccredited. Currently there are 18 Centres accredited using this method.

- **Full Application** - A detailed application, providing information on the Centre, the Training to be provided and the staff who will provide the training. Currently there are 6 Centres accredited using this method and 3 applications are under consideration.

**Course Accreditation Sub-Panel** [Christine Segasby]

Although now a separate panel to the sub-panel that accredits courses for the Clinical Scientists Training Scheme, meetings of the two sub-panels are still held on the same day so that the Clinical Technologists can benefit from the Clinical Scientists experience of course accreditation.

Currently two degree programmes covering the radiation topics at De Montfort University and Homerton College have provisional accreditation. As the first cohort will complete the De Montford degree this year the course will be reaccredited in the autumn looking at the experience of the whole four years.

There are two vocational engineering degrees that will be applying for accreditation in the near future.

**Professional Development Panel** [John Lutkin]

*Incorporating:*

- Continuing Professional Development Panel
- IRMER Accreditation Panel

The year has seen the Professional Development Panel preside over the launch of the revised CPD scheme for the Institute. The expectation is that this programme will be more inclusive for the membership, easier to implement and enable members, who need to maintain HPC registration. Details can be found on the IPEM web site.

The Institute has identified that as a consequence of the recent and ongoing changes within the NHS particularly with the Knowledge and Skills Framework (KSF) there is a need for post registration training of members as well as a generic need for post qualification training and development for all members, including those working in industry and academe. PDP has been seeking to identify by survey what members consider to be relevant training and development needs for them and thanks are due to the many members who took time to complete and return the recent questionnaire on this subject. It is the hope of the Panel that in the coming
year the Institute will be able to support the provision of a number of events that will contribute to the continuing training and development of members.

**Ionising Radiation (Medical Exposure) Regulations 2000 Course Approval Panel** [Karen Goldstone]

The Panel consists of representatives from the nuclear medicine, radiotherapy, diagnostic radiology and radiation protection SIGs. The panel has had little to do this year since where there are specific needs for courses, eg cardiology, endocrinology, sentinel node detection, courses have been set up with the appropriate Royal College approval. Courses that are currently approved for operators are for bone densitometry and haematology tests.

In the light of the current legislation, the future of the Panel needs to be considered – whether it is necessary and if so what its remit and role should be and how it relates to other course approval systems.

**Membership Panel** [Malcolm Sperrin]

*Incorporating:*  
Fellowship, Membership and Incorporated Membership Panels  
ARCP (Associate of the Royal College of Physicians) Panel  

The Membership Panel has reconvened and has largely caught up with a back-log of items. These have included a reciprocal membership agreement with the Australasian College of Physical Scientists and Engineers in Medicine and a dual membership agreement with the Institute of Physics

Future agenda items suggest a more transparent approach to many membership issues such as more structured guidance for Fellowship and a clearer statement on the differences between clinical scientist and technologist membership.

Membership of the panel fully reflects clinical scientists, engineers and technologists and a decision has been made to include IPEM office representation with a standing invitation for Tracey Maddison to join the committee, which has been received with enthusiasm since the deliberations of the committee then become more efficient.

The committee will meet twice per year or as circumstances dictate.

**CASE, CANME & CACMRE**

CANME was established in 1994 as a collaborative venture between The College of Radiographers, Association of Medical Technologists, British Nuclear Medicine Society, British Nuclear Medicine Society Technologists Group and IPEM. It has also invited the Royal College of Radiologists to observe its proceedings. Similarly CACMRE exists as a sister consortium for postgraduate MR education, and CASE for Sonographic Education
The consortia oversee standards of postgraduate education and training and provide an accreditation pathway. All submissions for accreditation have been from existing approved radiography education providers. Although provision is intended to be multi-disciplinary, evidence shows that whilst most course participants are radiographers, there are a significant number of clinical technologists covered by CASE and CANME. Administrative support for the consortia has been provided by the College of Radiographers and is now inextricably linked to the wider Approval & Accreditation function of the College of Radiographers. Although the degree structure has been in place for Radiographers for some time, it is new to technologists and the postgraduate diploma will provide a route to registration for them. Because of this it is likely that more technologists will follow this route in future therefore it is important that IPEM continue to take an active role in the accreditation of such courses.

The consortia have reported that modular training is becoming more fashionable, whilst demand for highly structured courses diminishes. The consortia are considering the increasing requirements for skill mix and the use of occupational standards, in line with “Skills for Health”.

In the coming year the consortia will be addressing the following issues:

- Widening the remit to include education and training at all levels and in a multi-professional or multi-disciplinary environment
- Examination of the application of Occupational Standards to develop the learning outcomes for courses of education and training
- The monitoring and quality assurance of courses related to MR in isolation from other education provision within an HEI
- The practicalities of being able to provide ongoing expert advice to HEI’s in course development, provision and monitoring
- The resource implications for representatives and their parent bodies

The consortia are currently discussing whether they will continue in their present format, or whether their functions should now transfer to the College of Radiographers, as being the body most representative of the main users, whilst maintaining partnerships with the other professional bodies.

Neil Lewis

The last year has been an exciting and dynamic time for APEN, many things have been accomplished. The panel has grown from six members to seven to keep up with our increasing range of activities.

Communication is key to APEN

- APEN have produced many relevant newsletter articles along with an article in SCOPE
- The APEN website has been launched and two panel members been tasked with its upkeep
- APEN organised the 5th Part I training day last December
- Three Essential Communication Skills workshops have been held in the last year, all 33 attendees found the course useful and relevant.
**The Question and Answer Session at the Annual Scientific meeting was very well attended and the evening social event was an excellent chance for trainees to meet with each other.**

**Communication between Associate Physicists and Engineers and IPEM is facilitated by APEN members providing representation on four IPEM sub-panels.**

**Two APEN members attended a Science Question Time with the Parliamentary Science Select Committee at Westminster.**

A big change for APEN this year was the formation of the Associate Technologists Network. The aim is for them to provide a parallel service to Associate Technologist members of IPEM.

APEN also continues to support work with school children and university students by actively encouraging involvement of members with projects set up to help these key groups such as Science and Engineering Ambassadors Scheme and the Smallpiece trust.

Our 10th Anniversary is in 2007, we hope that next year is even more successful for APEN than this one!

---

**Gemma Whitelaw**

**Associate Technologists Network (ATeN)**

The Associate Technologists’ Network (ATeN) is the result of work by Jo Young of the Clinical Technologists Committee (CTC) and the Associate Physicists and Engineers Network (APEN) to create a panel to represent the views and opinions of trainee associate technologist members. ATeN has now been established for approximately six months and APEN continue to provide us with invaluable assistance whilst we are in this initial period of learning and development. We also collaborate with APEN on issues affecting all associate members and have representatives on the IPEM council, the Accreditation and Training Committee (ATC), the Clinical Technologists Education and Training Panel (CTETP) and the Professional Advisory Group (PAG).

Looking forward the initial big challenge for ATeN is to establish and improve communication links with trainee technologist members via development of dedicated pages on the IPEM website and also through contributions to the monthly newsletter. We plan to have a stronger presence at the 2007 ASM with a session dedicated to technologists, including the opportunity for those technologists wanting to present to a large audience.

---

**Julie Morgan**

**Engineering Group Board**

Once again, EGB promoted medical engineering through our running of the Smallpiece Trust Biomedical Engineering summer school in July 2005 in Southampton. This was a 4 day course for year 11 school students, organised by Tim Adlam and Duncan Wood and was based around the students, working in small project teams, solving practical problems in the area of rehabilitation and disability. Eleven students attended and several of our A grade trainees supervised the projects. Feedback from the students and the supervisors was very positive with the course greatly
benefiting both. We are repeating the course in July 2006 with funding by IPEM of £12500 and, with the active promotion by the Smallpeice Trust, are hoping to attract 20 students this year. Technologists are being encouraged to act as supervisors as well as the A grades. Tim Adlam (Bath) is the co-ordinator this year. Subject to review by Council, we hope to make this course an annual event.

EGB has supported an IPEM presence at the annual national Biomedical Engineering event run by Phillips in Birmingham and also the technician training day run by Ultramedic. The large and enthusiastic attendance at these meetings by EBME technologists has prompted EGB to consider ways of improving our liaison and involvement with the commercial sector and the medical equipment management community.

EGB also organised an Engineering Group session at the Institute’s Annual Scientific Meeting to promote Engineering within the Institute and to consider the future of Biomedical Engineering in the UK. Much of the research and development in Bioengineering is taking place in the University sector where IPEM has had reduced involvement in recent years. We hope to work with the Academic Development Group to redress this balance.

The secretary of EGB has been attending the Royal Academy of Engineering (RAE) Risk Working Group and chaired the IPEM Risk Management Working Group which has produced a guidance document to be published shortly. Following a very well attended meeting on Ethics in Engineering by the RAE, we propose a similar meeting for Ethics in Bioengineering to be organised by IPEM in conjunction with other interested professional bodies.

This year, communication channels within the IPEM committee structure have been improved to allow better interchange of views and matters of concern between the SIGs and both EGB and ATC. EGB now has formal representation on the two Education and Training panels of ATC. This is particularly relevant given the pending registration requirement for Clinical Technologists with the HPC and the interrelationship with EC(UK) registration.

We continue to assess candidates for EC(UK) registration and in addition to CEng and IEng have now registered our first Engineering Technician (EngTech) following the award of our licence last year. We are actively promoting EngTech registration to our members.

We intend to further develop our involvement with the Academic and Commercial / Industrial sectors of Biomedical engineering in the coming year and to continue our outreach to schools to promote Bioengineering as a career.

Mike Bolton
Clinical Technologists Committee (CTC)

The Clinical Technologists Committee (CTC) is a sub-committee of Council and is responsible for promoting the active involvement of Clinical Technologist members within IPEM and to deal with professional issues relating to Clinical Technologists.

One of the main roles has been to liaise with the Voluntary Register of Clinical Technologists Panel to help progress the regulation process and to work with CTETP to ensure processes are in place with the IPEM Training Scheme to enable Clinical Technologists to register under transitional arrangements once the HPC register has opened. This work is ongoing.

The Associate Technologist Network (ATeN) has now been set up to work with and mirror APEN. They are a very enthusiastic group who hope to have a parallel session with APEN at the 2007 ASM.

CTC continues to encourage Clinical Technologists to become involved with the Special Interest Groups that are part of SETCom and make suggestions for meetings that are suitable for the needs of Technologists.

Other areas of work include contributing to the website, careers leaflets and other publications, and discussions are ongoing regarding Membership issues.

Christine Segasby

Other Sub-Committees of Council

Awards Committee

During the past twelve months the Institute has awarded 4 bursaries totalling £2,700. The Bursary Scheme was established to provide awards of up to £1,000 to support development and scholarship in the application of physical science and engineering in medicine and biology, usually through funding for courses or conference attendance. Recipients are invited to share their experience through publication in SCOPE and are encouraged to publish relevant research in peer-reviewed journals.

The Research Fellowship Award for 2006 was awarded to Miss Joanne Hutchings for research into the application of Raman Spectroscopy to the Diagnosis of Oesophageal Cancer. This Fellowship is aimed at providing individual research training through the completion of a substantial research project. The first three Research Fellowships awarded are still in progress, with the initial Research Fellow due to complete towards the end of 2006. The total commitment for the first three Research Fellowships has been £155,263.

The response to the Institute’s invitation for nominations/applications for the Founders’ Prize, Roy Ellis Award, IPEM/AAPM Travel Award, IPEM/RCP Essay Prize and the Manufacturers Award has been disappointing and the Panel would like to encourage members to nominate recipients or apply for these awards in future.

Keith Ison
Professional Conduct Committee

Two potentially serious allegations of professional misconduct were received in the spring of 2006, one against an Incorporated Member (IIPEM) and the other against a Corporate Member (MIPEM) of the Institute. These were the first complaints received since the introduction of the third edition of the Institute’s Code of Professional Conduct and Disciplinary Procedure (previously circulated to all members and also published on the IPEM website). These are currently in the hands of two panels of PCC members appointed as Investigating Panels for these cases, who will determine whether there are grounds, in either case, for a full Disciplinary Panel hearing.

My term of office as a member of the Professional Conduct Committee and as its Chairman ends at the PCC’s annual review meeting in September. Council will appoint my successor as Chairman at its July meeting. I would like to thank members of PCC and the office staff at York for their support over the past few years.

† Peter Sharp

External Relationships

Institute of Physics Medical Physics Group

The Medical Physics Group is constituted as a Subject Group of the Institute of Physics, but is unique in that IPEM members can participate fully in its activities and have seats on the Group Committee. A key aim of the Group is to bring together physicists working in basic research and those in clinical areas, so that emerging areas of physics with potential for medical applications can be identified, and the experience of clinical scientists shared with those in more basic areas. The Group also provides an excellent opportunity for IPEM to engage with school level and undergraduate physics education, since its own physics education and training activities are geared primarily at postgraduate level. This is an important contribution to the public education aspect of our charitable objects. Medical physics is an ideal way of demonstrating the relevance of physics, and is attractive to students at a time when recruitment to physics A-level and degree courses is in decline.

The educational activities of the Group this year have included producing CD teaching materials for schools, advising on medical physics aspects of the A-level curriculum, and providing advice to individual teachers via the Physics Teacher Network. A highlight was the launch of the Inside Story website (www.insidestory.iop.org) - funded by MRC and the Institute of Physics as an Einstein Year project.

The Group also provides financial support for younger members to attend overseas conferences and organises an annual meeting as part of the IPEM ASM, providing an opportunity for physicists in basic research to meet their clinical scientist colleagues. We hope to further cement these links through the new dual membership agreement between the two institutes.

† Stephen Keevil
Liaison Group with the Royal College of Physicians

The Institute's links with the Royal College of Physicians (RCP) are of considerable value in advancing physics and engineering in medicine and biology. The value of these links lies in the potential for enhanced collaboration between clinicians and physicists, engineers, and in the outstanding opportunities the College presents for communicating with the public, policy makers and academia.

The President of IPEM and the Registrar of the College are now meeting quarterly to review the opportunities for collaboration.

During 2005-2006, Dr Steve Smye represented the Institute on the College’s Standing Committee on Academic Medicine. The principal topic for discussion, which is of particular relevance to the Institute, was the new Department of Health (DH) Research and Development. The Committee developed a response on behalf of the College, monitored implementation of the strategy following the launch of the strategy on 25th January 2006, and are developing a formal response to the Cooksey review of DH and MRC funding. Dr Wendy Tindale represented the Institute on the College Standing Committee for Nuclear Medicine. This committee has contributed significantly to the Intercollegiate advisory board for PET/CT.

The College also offers Affiliateship to those senior scientists in the Institute who have made a signal contribution to physics and engineering in medicine and biology and the Institute has a panel of six senior members who consider applications for Affiliateship. This is an excellent route for enhancing the link with the College, which should play an increasingly central role in advancing physics and engineering in medicine.

Steve Smye

Science Council

The Science Council now has 30 member bodies, 9 of which are also licensed by the Engineering Council to award one or more of CEng, IEng or Eng Tech. So far, 19 Science Council member bodies, including the 9 who are also engineering bodies, have been awarded licences by the Science Council’s Registration Authority to award the Chartered Scientist (CSci) designation and more than 12,000 awards of CSci have now been made. A further 52 awards of CSci were made to IPEM members in 2005 and 18 more in the first five months of 2006, bringing the total number of Chartered Scientists registered by IPEM to 790.

The Science in Health Group is one of a number of special interest groups that meet under the Sciences Council’s auspices. It now operates in partnership with the Academy of Medical Sciences, and a major project, a study of the potential to develop an integrated diagnostics service, has been underway during the year, and is expected to report within the next few months.

Sir Gareth Roberts, who is coming to the end of his term of office as the Science Council’s President, has been appointed Chairman of the Engineering and Technology Board in succession to Sir Peter Williams. Diana Garnham, formerly CEO of the Association of Medical Research Charities, became Chief Executive of the Science Council on 1st January 2006.
Robert Neilson

The Engineering and Technology Board (ETB) is a registered charity that aims to tackle the significant yet unaddressed needs of the UK's science, engineering and technology industry and to create a unified platform and voice.

We work in partnership with business and industry, Government, education and the profession to improve the perception of science, engineering and technology (SET) in the UK. The driving force behind this partnership is the desire to ensure a supply of appropriately skilled individuals to meet the present and future SET skills needs of UK plc. With more than 30 engineering institutions in the UK alone and equal numbers of science bodies the ETB aims to act as the voice for the sector.

The Engineering and Technology Board is financially supported by professional partners, the registration fees of 250,000 registered engineers and industry sponsorship. The ETB also receives core funding from the Department for Trade and Industry.” [Source ETB website]

The Engineering Council (UK)'s mission is to set and maintain realistic and internationally recognised standards of professional competence and ethics for engineers, technologists and technicians, and to license competent institutions to promote and uphold the standards. Under its Royal Charter, ECUK regulates the engineering profession in the UK and formally represents the interests of UK engineers abroad. It is a Designated Authority under the current General Systems Directives.” [Source ECUK website]

When the old Engineering Council was reshaped several years ago, and ETB and ECUK were formed in its place, it was widely assumed that ETB would be responsible for the promotion of the engineering profession and ECUK would be responsible for the regulation of the engineering profession.

ETB has, however, has seen itself as having a wider, unifying role and there have been some ambiguities and misunderstandings about its role and its relationships with ECUK, and its regulatory responsibilities for the engineering profession, and the Science Council, and its Royal Charter remit for the regulation and promotion of the science professions. The appointment of Dr John Morton in July 2005 as ETB’s second Chief Executive and the appointment of Sir Gareth Roberts as its second Chairman from 6th June 2006 give fresh opportunities for the relative roles of the three organisations to be clarified and for appropriate bi-partite and tri-partite working relationships to be developed. IPEM is a partner of all three bodies and will continue to work with them, individually and together, to ensure that the interests of science, engineering and technology in IPEM's industry sector are effectively represented.

Robert Neilson
During the calendar year 2005 there have been 48 applications for RPA certification, of which 15 were for renewal.

There have been 6 applications for the new Laser Protection Advisor certificate. Three of the LPA assessors have reviewed portfolios from 39 holders of the old ‘Specialist Certificate in Lasers’ and agreed that 16 could be awarded the new LPA certificate, 3 would probably be awarded the new certificate upon production of more evidence, but 20 would need to re-apply for the new certificate. Those that failed to gain the new LPA certificate did so because of a lack of evidence rather than lack of competence. This happened because the earlier portfolios were no longer available and the currently available evidence was not sufficient to meet the requirements for the new certificate.

The LPA re-certification scheme (LRS) has been agreed. It is very similar to the existing ionising radiation Re-Certification Scheme.

IPEM’s AWP has started to look at possible NIRPA Certificates, initially covering UV Radiation, EM Fields and MRI. This will continue through 2006.

The proposed update of the HSE Statement on Radiation Protection Advisers was not issued for consultation until June 2005. IPEM, SRP and RPA2000 have responded to it, but so far HSE have not issued an update. Once that is done then RPA2000 will need to agree new procedures for accreditation with HSE.

Application fees will be increased in 2006 to ensure that RPA 2000 remains financially viable.

Peter Sharp

The UK focus, established in 1993 by the Royal Academy of Engineering, provides a forum through which the principle organisations concerned with biomedical engineering can communicate, debate and influence high-level decision makers in the department of health, research councils and industry. This therefore contributes highly to the objectives of the IPEM, that is the advancement of physics and engineering in medicine and biology. The committee has moved forward strongly this year to do this, under the chairmanship of Professor Richard I Kitney, OBE, FREng. There has been four active committee meetings this year but also high profile public events. There was a new initiative in November: a high profile public lecture in with a dinner afterwards on medical technology innovations, given by Sir Chris O’Donnell, the CEO of Smith and Nephew. It was very well attended by the opinion formers and decision makers in the NHS, academia and industry. It is now planned that this will be a yearly sponsored event, around November each year. There have been external presentations at the committee meetings including: healthcare entrepreneurs, best research for best health, healthcare industry task force implementation update, and the European strategy forum on research infrastructures. There has been an afternoon/early evening public briefing session on e-health, and there is planned further briefing sessions on
personal medicine (integrating the bio-profile), and functional imaging. There is another young researchers event on Musculoskeletal biomechanics in Durham in September. The committee sent a full response to the best research for best health consultation document.

Mark Tooley

AIME co-ordinates medical engineering activities of the Institution of Chemical Engineers (IChemE), the Institution of Engineering and Technology (IET) (formerly the Institution of Electrical Engineers (IEE) and the Institution of Incorporated Engineers (IIE)), the Institute of Materials, Minerals, and Mining (IoMi3), the Institute of Physics and Engineering in Medicine (IPEM), the Institute of Healthcare Engineering and Estate Management (IHEEM), and the Institute of Physics (IoP). The Association of British Healthcare Industries (ABHI) is also represented.

In 2005-6 the Chair and Secretariat were provided by IoP. IMechE withdrew from AIME in 2005. In addition to providing a means of coordinating members’ meeting calendars and promoting joint ventures, AIME:

- reviewed its Terms of Reference (update of 1999 version to account for IHEEM and IoP membership)
- discussed the members’ activities aimed at highlighting medical engineering in schools and to undergraduates. These include the IEE Health Week, direct contact with schools (eg IoMi3 and IoP), work through SETNET (IIE), and preparation of teaching materials (IoP/IPEM). The committee is considering how these efforts can be synergistically coordinated
- contributed to a position paper on medical engineering education and degree qualifications written by Prof Tanner (IoMi3). This will be posted on the Royal Academy of Engineering’s website
- sponsored a presentation on The Physical Agents (EMF) Directive at the IHEEM Annual Conference in Nov 05.

In 2006-7 the AIME Chair and Secretariat will be provided by IET and the committee will consider how it can be more effective in linking with external groups regarding technical issues.

Jeff Hand

2006 saw the UK Radiological Congress (UKRC) return to Birmingham, with the scientific meetings being held in the International Convention Centre and Austin Court, and the associated commercial exhibition and poster displays located in the National Indoor Arena. A mark of the success of the scientific meeting, especially that part of the programme particularly attractive to medical physicists, was that some of the meeting rooms allocated could not accommodate all who wished to attend some of the sessions. Analysis of attendance and attempted attendance of the sessions indicated that this happened in 7 out of a total of 96 sessions during the three days. Assurances have been received that there will be greater scrutiny of the outline programme to identify events likely to be
popular in relation to lecture room allocation.

UKRC 2006 featured the second *John Mallard Lecture*, given by Professor Martin Leach, who spoke on current and future developments in Magnetic Resonance. There was a wide interest and a good attendance, including Professor John Mallard himself, who travelled from Aberdeen to hear Professor Leach.

This year is a fallow year for the biennial sister event, the UK Radiation Oncology Congress (UKRO) for which IPEM’s meetings and events team is contracted as organiser. However, preparations are already underway for UKRO 2007, which is to be held from 19th to 21st March at the James Watt Centre, Heriot Watt University, Edinburgh.

UKRC returns to Manchester in 2007, where it will be held at the G-MEX complex from 11th to 13th June.

Both these events are managed by Radiation and Oncology Congresses (ROC) (a charitable company) and its trading company ROC Meetings and Exhibitions Limited (ROCME). The members of these companies are the Institute of Physics and Engineering in Medicine, the Royal College of Radiologists, the British Institute of Radiology and the College of Radiographers.

Professor Peter Smith, a former Honorary Treasurer and Vice President of IPEM, was appointed as Company Secretary of ROC and ROCME by agreement of all four member organisations, to succeed Dr Henry Irving, a former Honorary Treasurer of RCR, who has been appointed Chairman of ROC and ROCME.

---

### Association of Clinical Scientists

In 2005 the Association received 213 applications of which 64 were for Medical Physics and Clinical Engineering. Since it was set up, ACS has now assessed over 500 applications.

HPC postponed the QA visit that they were planning for 2005 and we have yet to be given a new date. The annual meeting of assessors is a very important part of our quality process. A meeting was held in November 2005 at which the speaker was Marc Seale, the Chief Executive of HPC. As a result of comments made at the meeting we have instigated an induction programme for new assessors.

We responded to the Foster Review on non-medical registration. While the review has yet to be published, one of the consequences may be that the certification of competence for registration is taken out of the hands of ACS.

HPC’s CPD starts in 2006 although Clinical Scientists will not be one of the first groups to be audited. At the request of HPC ACS have produced example CPD profiles. These will be available on both the HPC and ACS websites.
Peter Sharp has been re-elected as Chairman of the Association for the coming year.

Peter Sharp

Members of the Institute and associated colleagues take an active role in the Federation and in representing physical science aspects of healthcare science. The Federation has continued to respond to requests for representation from Government and other bodies, and to contribute to consultations. The first annual report of the Federation’s activities is available on the website at www.fedhcs.net. Relationships have continued to develop between different healthcare science groups, and there have been a range of constructive initiatives across the country.

Links between healthcare science agendas in England, Wales, Scotland and Northern Ireland continue to develop. The minutes of the Scottish Forum for Healthcare Science can be found on www.nes.scot.nhs.uk/hcs. Following recommendations made in the SFHCS strategy document the SEHD have appointed a Chief Health Professions Officer for Healthcare Science, Jacqui Lunday. A project officer to work on manpower planning for healthcare science is being appointed.

With the merger of Strategic Health Authorities in England, developments in Scotland, and major changes in the training of clinical scientists and other groups proposed, it remains vital that the Institute actively supports the Federation and its unique role.

Keith Ison

IPEM members continue to contribute to the development of a wide range of BSI healthcare standards. Currently there are 32 IPEM members who are official IPEM representatives sitting on 40 healthcare committees. This, however, belies the true contribution to the standards setting process that IPEM makes, as additionally members sit on international, (IEC or ISO), standards committees, chair committees, or act as independent experts on joint working groups.

Standards development is a complex process, with a long learning curve for those who contribute to it, with many standards going through periods of intense activity from initial concept through often numerous draft documents, eventually resulting in published standards. Following publication committees may have little work to do until documents come up for revision, normally around five years after publication. Consequently dependent on the point in the cycle of a standard, members may vary from being extremely involved and active in standards drafting to remaining dormant following publication. Work is currently underway, in conjunction with IPEM SET Committee to review members involvement in standards, and to establish the current position with specific standards. The outcome of the review being to ensure that IPEM has adequate representation across the board, that those members remain able to commit time and energy to the process as and when necessary and to enable more effective feedback to members. Outcomes of the review will be presented to
members in the various publications of the Institute.

The last year has also seen the revitalisation of the “Healthcare Sector” within BSI and resulted in the reconvening of CH/100, a group which IPEM are represented on, which will contribute to developing standard setting priorities and provide UK input to various European standards forums. This is an extremely positive development at a time that will help to ensure that standards, technical reports and other published documents which meet the needs of the healthcare community.

Richard Scott

International Relationships

The European Alliance for Medical and Biological Engineering and Science (EAMBES) EAMBES has had considerable activity in the last year in pursuit of one of its major aims – raising the profile of MBES with the European Commission and its various Directorates. This is particularly important at present as the contents of the Seventh Framework are developed and formalised.

A questionnaire was prepared and circulated among the EAMBES members in order to determine their interests and activities, and identify those who could contribute to the development and dissemination of information. This was followed by a working meeting that led to the development of a draft white paper that was well received by the Commission. There will be a follow-up meeting later this month.

The number of members continues to grow and an additional Division – The Division of Fellows – has been established, although it is not yet active.

Joe Barbenel

International Organisation for Medical Physics (IOMP) The IOMP is a scientific, educational, and professional organization, charitable in nature, of 76 national adhering organisations (IPEM is one these), more than 16,500 individual members, several Corporate Members and four international Regional Organizations. The headquarters of IOMP is at the Fairmount House and IPEM provides administrative support under contract.

One of the principal objectives of IOMP is “To contribute to the advancement of medical physics in all its aspects”. It does this by sponsoring international conferences, workshops and courses. It also has a several programmes to assist medical physicists in developing countries and makes a number of awards. It recently sponsored (UNESCO was one of the co-sponsors) a world conference on Physics and Sustainable Development in South Africa. One of the themes was Physics and Health and two of the five projects supported by the conference were put forward by IOMP. The first of a new series of regionally based international conferences was held at Nuremberg, Germany last November and proved to be successful. The IOMP is currently reviewing its activities and has drafted a document on the way forward. This is being actively considered by the Council of IOMP.

Stephen Lillicrap, Keith Ison and Peter Jackson
The most recent EFOMP Council meeting was held in Nuremberg on Saturday 17th September following the 2005 EFOMP Congress.

**Finances**

EFOMP does not have a large budget. Officers and Council members, where possible, receive funding from their parent organisation to attend meetings. The major source of income is profit from biennial Congresses.

National Member Organisations (NMOs) of EFOMP pay a *per capita* charge for membership. On this basis IPEM is the largest contributor. Council approved an increase in membership fees from €3.20 to €3.50 *per capita* for 2006. The Treasurer (Professor Peter Sharp, IPEM) warned Council that this increase would not be sufficient to allow him to set a balanced budget. There was some discussion on the subject of differential charging with larger and more established NMOs contributing a greater proportion of the fees but no decision was taken.

**European Journal of Medical Physics**

A proposal to establish a European Journal of Medical Physics replacing Physica Medica has been championed by Professor Alberto del Guerra (Italy). The formal proposal was put to a vote and approved with only UK and the Netherlands voting against. A steering committee was proposed to nominate an editorial board. Those on the Steering Committee are:

- Professor Alberto del Guerra, Italy
- Dr Suzanne Naudy, France
- Dr Chris Gibson, UK
- Professor Wolfgang Schlegel, Germany
- Dr Pedro Galan Montenegro, Spain

**European Association of Medical Physics**

Professor del Guerra (President, until 12/05) has also been keen to champion the formation of a European Association of Medical Physics. This would be a trans-national membership association similar to EANM (Nuclear Medicine) and ESTRO (Radiotherapy/Oncology).

A paper describing the structure and financing of the proposed Association was circulated to NMOs following the meeting. The paper was subsequently considered at both ATC and Council and a decision to reject the proposal was taken.

Dr Chris Gibson and Dr Neil Lewis

**International Federation of Medical and Biological Engineering (IFMBE)**

The main activity of the Federation in the last year has been an increasing interaction with the World Health organisation. The precipitating factor in the interaction has been an initiative related to improved patient health and safety and this led to the President of IFMBE, Professor Joachim Nagel addressing the WHO Congress in Geneva. It is encouraging that the role of
medical and biological engineering has been increasingly recognised on an international scale.

The major IFMBE effort this year has been the World Congress in Seoul, which has produced an interesting and impressive programme.

Joe Barbenel

The Union is the umbrella organisation linking the International Organization of Medical Physics (IOMP) with the International Federation of Medical and Bioengineering (IFMBE). It is a member of the International Council of Scientific Unions (ICSU).

The principal objective of IUPESM is to contribute to the advancement of physical and engineering sciences in medicine for the benefit and well being of humanity.

A major activity is the organisation of triennial World Congresses on Medical Physics and Biomedical Engineering and a Congress is being held in Seoul, Korea in August.

The IUPESM is fully participating in a developing an ICSU initiative ‘Science for Health and Well-Being’ and funding from ICSU has been obtained to develop a number of multidisciplinary projects.

Peter Smith

There have been some changes in the membership of the International Committee (IC) in the last year, notably the Institute of Radiation Protection (IRP) has been subsumed into the Society for Radiological Protection.

The IC submitted a paper on Revised International Radiation Protection Association (IRPA) Governance, including the General Assembly voting procedures and Nominations Committee procedures, to IRPA Council in autumn 2005. The paper was also presented at the Associate Societies Forum at the 2nd European IRPA Congress in Paris in May 2006.

Also, the UK has gained wide support in the IRPA community in its attempt to bid for the International Congress of IRPA, IRPA 13, to be held in Glasgow in 2012. A bid team has been formed and will contact Partner Societies for financial involvement.

Ruby Fong (IPEM) has been invited to join the core IRPA 12 programme committee. She is responsible for the medical aspects. A first draft of the programme emerged as a result of the first programme committee meeting in November 2005. Two other members of the IC are corresponding members. IRPA 12 will be held in Buenos Aires in October 2008. It will be a good forum where knowledge and experience in radiation protection will be disseminated and advanced.

Since December 2005, IC items of note have been put on the IPEM Newsletters by Philip Clewer, one of two IPEM representatives on the IC.
This should help IPEM members to keep abreast of IC and IRPA matters.

Ruby Fong
### COUNCIL

**Officers**
- **Dr P C Jackson**  
  President  
  Southampton
- **Dr K T Ison**  
  Vice President  
  London
- **Dr D Pearson**  
  Vice President (Professional Issues)  
  Nottingham
- **Professor A C Perkins**  
  Vice President (Scientific Issues)  
  Nottingham
- **Dr S J S Ryde**  
  Honorary Secretary  
  Swansea
- **Dr D C Crawford**  
  Assistant Honorary Secretary  
  Cardiff
- **Mr A Thompson**  
  Honorary Treasurer  
  Newcastle Upon Tyne
- **Dr S F Keevil**  
  Chair, Science, Engineering and Technology Committee  
  London
- **Dr C A Lewis**  
  Chair, Accreditation and Training Committee  
  London
- **Professor A H Beddoe**  
  Chair, Publications Committee  
  Birmingham
- **Eur Ing L A Blache**  
  Chair, Engineering Group Board  
  London

**Elected Members**
- **Professor J W Hand**  
  Fellow  
  London
- **Dr D M Simpson**  
  Corporate Member  
  Southampton
- **Dr P A White**  
  Corporate Member  
  Cambridge
- **Ms L Sawyer**  
  Corporate Member  
  Bath
- **Mrs B Dawson**  
  Incorporated Member  
  Rotherham
- **Miss C Segasby**  
  Incorporated Member  
  Sheffield
- **Mr G Bee**  
  Associate Member, Clinical Technologist  
  Plymouth
- **Miss G Whitelaw**  
  Associate Member, Clinical Scientist  
  London
- **Mr P Robbins**  
  Co-opted, Chair, Clinical Technologists Committee  
  Cambridge

### SCIENCE, ENGINEERING AND TECHNOLOGY COMMITTEE

- **Dr S F Keevil** (Chairman)  
  London
- **Dr N Stone** (Vice Chairman)  
  Gloucester
- **Mr J Thurston** (Secretary)  
  London
- **Professor A C Perkins** (VP Science)  
  Nottingham
- **All Chairs of Special Interest Groups**  
  President or his nominee
- **Nominated Council Member**  
  Chairman of Publications Committee or nominee
- **A Representative of EGB**  
  Dr R Scott (BSI Liaison)  
  Sutton in Ashfield
  *Mr R Glover (MRHA Representative)*

### SPECIAL INTEREST GROUPS

#### CLINICAL ENGINEERING
- **Dr G Dempsey** (Chair)  
  Belfast
- **Mr G Aucott** (Secretary)  
  Leicester
- **Mr S Brown**  
  Truro
- **Mr D Hyde**  
  Bath
- **Mr T Spicer**  
  Derby
- **Mr M Durand**  
  Cranfield
- **Mr D Clarkson** (Mentor)  
  Coventry
- **Mr D Cook** (Industry Rep)  
  Wolverhampton
- **Mr J Mahady** (Biomedical/Clinical Engineering Association of Ireland Rep)
- **Mr J LeFever** (MDA Rep)
- **National Patient Safety Agency Rep** (To be advised)
- **National Association of Theatre Nurses Representative** (To be advised)
DIAGNOSTIC RADIOLOGY (DR)

Mr M Dunn (Chair) Nottingham
Secretary (TBA) Sulgrave
Ms L Leavesley Southampton
Ms D Hoban Coventry
Mr S Mutch Oxford
Ms P Blake London
Ms A Jeffries Birmingham
Mr A Workman (Mentor) Belfast
Mr D Grainger (MHRA Observer)
Mr B Wall (NRPB Observer)
BIR Observer (TBA)

EMERGING TECHNOLOGIES (ET)

Mr C Monk (Chair) Cambridge
Mrs J Wilson (Secretary) Hull
Dr J M Thompson Rugeley
Dr S Meldrum Norwich
Dr B Stansfield Strathclyde
Vacancy
Dr D J Hitchin (Mentor) Stone

HEALTH INFORMATICS AND COMPUTING (HIC)

Dr S Tozer-Loft (Chair) Sheffield
Mr B Bhatia (Secretary) West Bromwich
Mr E McDonagh London
Ms S DuPloy Hillingdon
Mr D Withers London
Mr D Carpenter Southampton
Mr E Claridge (Mentor) Birmingham
Mr K Boardman (Mentor) Coventry
Mr P Pringle (Industrial Representative) Reigate

NUCLEAR MEDICINE (NM)

Ms C Tonge (Chair) Manchester
Mr R Fernandez (Secretary) London
Dr P Marsden London
Ms P Todd Belfast
Ms W Waddington London
Miss M Dempsey Glasgow
Ms A Nicol (Mentor) Glasgow
Ms S Allen (BNMS Representative)
Mr S Ebdon-Jackson (DoH Representative)
Ms L Rahmann (BIR Representative)
Mr S Judge (NPL Representative)
Mrs M King (MHRA Representative)
Mr M Nettleton (HSE Representative)
Ms B Ellis (UK Radiopharmacy Group)

MAGNETIC RESONANCE (MR)

Dr S Semple (Chair) Aberdeen
Dr G Coutts (Secretary) Manchester
Dr E Moore Bromley
Dr J Thornton London
Mr D Price London
Dr T Redpath (Mentor) Aberdeen
Dr D McRobbie (Mentor) London

PHYSIOLOGICAL MEASUREMENT (PM)

Dr P Kyriacou (Chair) London
Dr J Pickett (Secretary) London
Dr C Degg Leicester
Mr J Britton Paisley
Dr P Beatty Manchester
Mr J S Mangat Cambridge
Dr Y Yang (Co-opted) Stoke on Trent
Cellular Engineering
Mentor (TBA)

RADIATION PROTECTION (RP)

Mr S Evans (Chair) London
Miss M Moore (Secretary) Newcastle Upon Tyne
Miss N Dulai London
Mr P Howells Scarborough
Miss J Smyth Dundee
Ms K Fuller Sheffield
Dr C A Lewis (Mentor) London
Dr P Allisy-Roberts (Mentor) France
Mrs J Stewart (NRPB Representative)
Mr M Nettleton (HSE Representative)
Mr A Bush (Environmental Agency Contact)

RADIOThERAPY (RT)

Mrs G P Lawrence (Chair) Newcastle upon Tyne
Dr C G Rowbottom (Secretary) Manchester
Mr J Sykes Leeds
Mr C Lee Wirral
Mr N Richmond Middlesbrough
Dr C E Edwards Stoke on Trent
Mrs C Brown Bebington
Mr S Slade-Carter Oxford
Dr D E Bonnett (Mentor) Maidstone
Dr S Duane or Dr M Sene (NPL Observers)
Mr M Nettleton (HM Specialist Inspector Radiation)
Mrs M King (MHRA Representative)
REHABILITATION AND BIO-MECHANICS (REB)

Dr A Shortland (Chairman) London
Dr R Farley (Secretary) Edinburgh
Mr P Dryer London
Dr P Chappell Southampton
Mr G Bush Leicester
Ms Z Robertson Derby
Mr R Caley Wakefield
Dr D Stefanov Cardiff
Mr J Currell (from April 2007) London

ULTRASOUND AND NON IONISING RADIATION (UNIR)

Chairman to be advised
Mr M Brewin (Secretary) London
Miss B Griffiths Nottingham
Dr C Moran Edinburgh
Mr M Mayo Plymouth
Dr D Allan Manchester
Mr P Daly London
Mr N Raj London
Ms J Browne Dublin
Dr P Verma Sheffield
Professor M Sperrin Reading
Professor J Hand (Mentor)
Mr G Smith MRHA Rep)
Ms M King (MHRA Rep)
Dr G Thorne (BMUS Rep)
Mr M Bradley (HSE Rep)
Dr J O Hagan (HPA Rep)
Mr M Hodnett (NPL Rep)
Dr N Saffari (IoP Rep)

PUBLICATIONS COMMITTEE

Professor A H Beddoe (Chair) Birmingham
Dr M M Arnell (Secretary) Manchester
Dr N Neuman (Editor of Physiological Measurement USA
Dr S Webb London
(Editor of Physic in Medicine and Biology)
Dr S Clift (Editor of Medical Engineering and Physics)
Dr M McJury (Editor of SCOPE)
Professor J P Woodcock (Editor of Medical Engineering and Technology)
Miss M Goodall (IPEM Office Representative)
Chair or Secretary of Scientific Committee
President or his nominee

SCOPE EDITORIAL TEAM

Dr M McJury (Editor) Belfast
Ms A Cotton (Meeting Reports Southampton
Dr D Cowan (Engineering Editor) North Chailey
Mr P Harding (Technology Editor) Leicester
Mr J McLean (News Editor) Renton
Miss S Misson (Book Review Editor) Southampton

ACCREDITATION AND TRAINING COMMITTEE

Dr C A Lewis (Chair) London
Ms T Crawley (Secretary) Oxford
Dr H R Stockdale (Chair of CSETP) Liverpool
Mr P Robbins (Chair of CTETP) Cambridge
Dr M Sperrin (Chair of Membership Panel) Reading
Dr J Lutkin (Chair of Professional Development Panel)
Dr D Pearson (Chair of Professional Issues)
Eur Ing L A Blache London
Mr C McGarry (Chair Engineering Group Board)
Mr C McGarry (Chair of Professional Development Panel)
Dr J Lutkin (Chair of Professional Development Panel)
Mr C McGarry (Chair of Professional Development Panel)
Ms T Crawford (IPEM Membership and Training Manager)
Ms R Maddison (IPEM Membership and Training Manager)
Ms R Maddison (IPEM Membership and Training Manager)
Ms R Maddison (IPEM Membership and Training Manager)
Ms R Maddison (IPEM Membership and Training Manager)
CLINICAL SCIENTISTS EDUCATION AND TRAINING PANEL (CSETP)

Dr H Stockdale (Chair) Liverpool
Dr A Bolster (Part I Registrar) Wirral
Dr G Lawrence (Part II Registrar and CS ci Registrar) Wirral
Mr A Rogers (Part I Training Centre Accreditation) Nottingham
Dr D Jones (Course Accreditation) London
Dr S Pye (Chief Examiner) Edinburgh
Ms J Dennis (APEN) Glasgow
Dr C Callicott (External Training Adviser) Bradford
Mr R Heggie (EGB Representative) Cardiff
Training Centre Representative (TBA)

Dr H Stockdale (Chair)
Dr A Bolster (Part I Registrar)
Dr G Lawrence (Part II Registrar and CS ci Registrar)
Mr A Rogers (Part I Training Centre Accreditation)
Dr D Jones (Course Accreditation)
Dr S Pye (Chief Examiner)
Ms J Dennis (APEN)
Dr C Callicott (External Training Adviser)
Mr R Heggie (EGB Representative)
Training Centre Representative (TBA)

CLINICAL TECHNOLOGISTS EDUCATION AND TRAINING PANEL (CTETP)

Mr P Robbins (Chair) Cambridge
Mr A Thompson (Secretary) Newcastle upon Tyne
Mrs B Dawson Rotherham
Mrs D Allen Leicester
Ms C Segasby Sheffield
Mr S Atherton Manchester
Ms T Jones Birmingham
Ms A Butcher Guildford
Ms A McIntosh Edinburgh
Vacancy Plymouth
Mr G Bee (Council Rep) London
Mr D Gandy (ART) Bradford
Mr M Wingell (IET) Guildford

Mr P Robbins (Chair)
Mr A Thompson (Secretary)
Mrs B Dawson
Mrs D Allen
Ms C Segasby
Mr S Atherton
Ms T Jones
Ms A Butcher
Ms A McIntosh
Vacancy
Mr G Bee (Council Rep)
Mr D Gandy (ART)
Mr M Wingell (IET)

MEMBERSHIP PANEL

Professor M Sperrin (Chair) Reading
Dr G Lawrence Wirral
(Corporate Membership Registrar/CS ci Registrar)
Ms C Segasby (Incorporated Membership Registrar)
Fellowship Registrar (TBA)
Professor R Smallwood Sheffield
(Chair of ARCP Panel)
Mr J McCarthy Cardiff
(C Eng Registrar)
Mr N Abraham London
(IEng Registrar)
Mr A Iles or Mr S Atherton Bristol and
(Eng Tech Registrars)
Ms T Maddison (Membership and Training Manager)

Professor M Sperrin (Chair)
Dr G Lawrence
(Corporate Membership Registrar/CS ci Registrar)
Ms C Segasby (Incorporated Membership Registrar)
Fellowship Registrar (TBA)
Professor R Smallwood
(Chair of ARCP Panel)
Mr J McCarthy
(C Eng Registrar)
Mr N Abraham
(IEng Registrar)
Mr A Iles or Mr S Atherton
(Eng Tech Registrars)
Ms T Maddison (Membership and Training Manager)

PROFESSIONAL DEVELOPMENT PANEL

Dr J Lutkin (Chair) Brighton
Ms S Buckley (Secretary) Swansea
Mr P Robbins (EGB Rep) Cambridge
Scientific Committee Rep (TBA)
Mrs K Goldstone (IRMER Accreditation Panel)
Ms C Hardiman (Post Registration Training)
Ms T Jones (CTETP Rep) Birmingham
Mr M Johnson (APEN Rep) Salisbury
Mr A Mitchell Devon
Professor M Sperrin (Chair of Membership Panel)
Mr C French Bristol

Mr C McGarry (Chair) Belfast
Mr M Johnson (Secretary) Salisbury
Ms J Dennis Glasgow
Ms J Hutchings Gloucester
Ms N Kent Newcastle Upon Tyne
Vacancy
Vacancy

ASSOCIATE PHYSICISTS AND ENGINEERS NETWORK (APEN)

Mr C McGarry (Chair) Belfast
Mr M Johnson (Secretary) Salisbury
Ms J Dennis Glasgow
Ms J Hutchings Gloucester
Ms N Kent Newcastle Upon Tyne
Vacancy
Vacancy

ASSOCIATE TECHNOLOGISTS NETWORK (ATeN)

Miss J Morgan (Chair) Portsmouth
Mrs Z Iyoob (Secretary) Oxford
Miss S Maddison (Vice Chair and ATC Representative)
Mr G Bee (Council and CTETP Rep) Plymouth
Miss C Muldoon (Newsletter) Carlisle
Mr A Stanton Manchester

Miss J Morgan (Chair)
Mrs Z Iyoob (Secretary)
Miss S Maddison (Vice Chair and ATC Representative)
Mr G Bee (Council and CTETP Rep)
Miss C Muldoon (Newsletter)
Mr A Stanton

PART I EXAMINERS

Dr A Bolster (Nuclear Medicine) Glasgow
Dr J N H Brunt (MRI) Wirral
Dr C Callicott (MEM/DMEI) Bradford
Mr P Childs (Radiotherapy) Surrey
Mr J Colvin (BEF/AT/MED) Glasgow
Dr N J Dudley (NM/MI/Ultrasound) Nottingham
Mr M J Dunn (Diagnostic Radiology) Leicester
Dr W D Evans (Nuclear Medicine) Cardiff
Mrs K Farrant (Diagnostic Radiology)
Mr P S Ganney (ICT) Hull
Mr M Graves (MRI) Cambridge
Dr N D Harris (Physiological Measurement)
Dr M Hillman (AT/MED) Bath
Dr A Hughes (Nuclear Medicine) Preston
Dr M Keir (Nuclear Medicine) Newcastle Upon Tyne

IPEM Annual Review 2006 45
Ms D Ingham (Radiotherapy) | Exeter
Mr S P Lake (ICT) | Liverpool
Mr G Lambert (Radiotherapy) | Newcastle Upon Tyne
Mr C Lawinski (Diagnostic Radiology) | London
Mrs G P Lawrence (Radiotherapy) | Newcastle Upon Tyne
Dr R Mackay (Radiotherapy) | Manchester
Dr W Martin (Nuclear Medicine) | Glasgow
Dr J Mills (Radiotherapy) | Coventry
Mr J M Parry (Radiotherapy) | Dundee
Dr G W Petley (PM/DMEI) | Southampton
Dr G Pitchford (Radiotherapy) | Lincoln
Mrs S K Powley (Moderator) | Lincoln
Mr R Price (DMEI/MEM) | Leeds
Dr S Pye (Chief Examiner) | Edinburgh
Professor M Sperrin (US/NIR) | Reading
Dr H Stockdale (Nuclear Medicine) | Liverpool
Professor I D Swain (BEF/AT) | Salisbury
Mr C Taylor (Rad Protection/DR) | Leeds
Mr A B Tyler (Radiotherapy) | Cardiff
Mrs A Walker (Rad Protection/DR) | Manchester
Mr K Willson (PM/DMEI) | London

Dr S Keevil (MRI) | London
Dr M J Keir (Nuclear Medicine) | Newcastle U T
Mr N Kenyon (Computer Science–Informatics) | Rotherham
Dr J Kotre (Diagnostic Radiology) | Newcastle
Dr K Langmack (Radiotherapy) | Nottingham
Dr G Lawrence (Nuclear Medicine) | Merseyside
*Professor M Leach (MRI) | Surrey
Dr J J Lloyd (Nuclear Medicine) | Newcastle

*Dr S Mason (Physiological Measurement) | Nottingham
Dr P Mayles (Radiotherapy) | Wirral
Mr J McCarthy (Biomedical Engineering) | Cardiff
Dr A Nisbet (Radiotherapy) | Oxford
Dr W G Pitchford (Radiotherapy) | Lincoln
Mr J Plane (Radiotherapy) | Middlesbrough
Dr J Ridgway (MRI) | Leeds
Mrs M Rose (Nuclear Medicine) | Manchester
Dr I Rosenberg (Radiotherapy) | London
Dr R Shields (Nuclear Medicine) | Manchester
Dr A Taktak (CE, PM/Computing) | Liverpool
Mr D H Temperton (Diagnostic Radiology/Radiation Protection) | Birmingham
Mr S J Thomas (Radiotherapy) | Cambridge
Professor D Thwaites (Radiotherapy) | Leeds
* Dr W Tindale (Nuclear Medicine) | Sheffield
Mr J F Townley (Radiotherapy) | Birmingham
Mr C Walker (Radiotherapy) | Middlesbrough
Dr T A Whittingham (Ultrasound) | Newcastle

Professor P C Williams (Radiotherapy) | Manchester
*Professor A Wilson (Instrumentation/Computing) | Coventry
Dr D Wood (Clinical Engineering) | Salisbury

**CORPORATE MEMBERSHIP/PART II**

**EXTERNAL ADVISORS**

*FELLOWSHIP PANEL*

Dr J Agnew (Nuclear Medicine) | London
Professor A T Barker (Physiological Measurement) | Sheffield
*Professor A H Beddoe (Radiotherapy) | Birmingham
Miss M Bidmead (Radiotherapy) | London
Dr K Boardman (Computer Science) | Walsgrave
*Dr D E Bonnett (Radiotherapy) | Maidstone
Professor B H Brown (Physiological Measurement) | Sheffield

Mr F Brunton (Radiotherapy) | Inverness
Dr I R Chambers (PM.Clin Instrumentation/CEng) | Newcastle
Mr S Chandler (Nuclear Medicine) | Darlington
Dr E Claridge (Computer Science) | Birmingham
Dr I Coles (Radiotherapy) | London
Dr G Couatts (MRI/Spectroscopy) | Manchester
Professor R Dale (Radiotherapy) | London
Dr C Daniel (Clinical Engineering) | London
Dr C Deehan (Radiotherapy) | London
Professor B Diffey (Radiation Protection - Non Ionising Radiation) | Newcastle
Dr N Dudley (Ultrasound/Medical Imaging) | Nottingham
Mr S Fielden (Biomedical Engineering) | Birmingham
Professor J Fleming (Nuclear Medicine) | Southampton
*Dr C I Franks (Computer Science) | Sheffield
*Dr C J Gibson (Nuclear Medicine) | Oxford
*Mrs K Goldstone (Radiation Protection) | Cambridge
*Eur Ing L Grant (Biomedical Engineering) | Bath
Dr N Gravill (Physiological Measurement) | Lincoln
Dr M Halliwell (Ultrasound) | Bristol
Professor P Horton (Radiotherapy) | Stirling
Dr A P Hufton (Diagnostic Radiology) | Manchester
Mr A P Jones (MRI/Non Ionising Radiation Techniques) | Manchester
Mr T J Jordan (Radiotherapy) | Clwyd

**ENGINEERING GROUP BOARD**

Eur Ing L A Blache (Chair) | London
Mr J P McCarthy (Vice Chair and C Eng Registrar) | Cardiff
Mr T Adlam (Secretary) | Bath
Dr A Taktak (CEng Asst Registrar) | Liverpool
Mr N Abraham (I Eng Registrar) | London
Mr C Glaister (I Eng Assistant Registrar) | Hemel Hempstead

Mr A Iles (Eng Tech Registrar) | Bristol
Mr S Atherton (Eng Tech Asst Registrar) | Manchester
Mr A Thompson (Council Representative) | Newcastle
Dr A Goldwyn | Upon Tyne
Mr R Heggie | Lewes
Dr N Chockalingam | Cardiff
Mr P Robbins | Staffordshire

4 vacancies
Chairman of the Professional Development Panel or representative
Chair of Membership Panel or Representative
## CLINICAL TECHNOLOGISTS COMMITTEE

<table>
<thead>
<tr>
<th>Name</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mr P Robbins (Chair)</td>
<td>Cambridge</td>
</tr>
<tr>
<td>Mr A Thompson (Secretary)</td>
<td>Newcastle upon Tyne</td>
</tr>
<tr>
<td>Mrs B Dawson</td>
<td>Rotherham</td>
</tr>
<tr>
<td>Mrs D Allen</td>
<td>Leicester</td>
</tr>
<tr>
<td>Ms C Segasby</td>
<td>Sheffield</td>
</tr>
<tr>
<td>Mr S Atherton</td>
<td>Manchester</td>
</tr>
<tr>
<td>Ms T Jones</td>
<td>Birmingham</td>
</tr>
<tr>
<td>Ms A Butcher</td>
<td>Guildford</td>
</tr>
<tr>
<td>Ms A McItnosh</td>
<td>Edinburgh</td>
</tr>
<tr>
<td>Vacancy</td>
<td></td>
</tr>
<tr>
<td>Mr G Bee (Council Representative)</td>
<td>Plymouth</td>
</tr>
<tr>
<td>Mr D Gandy (ART)</td>
<td>London</td>
</tr>
<tr>
<td>Mr M Wingell (IET)</td>
<td>Guildford</td>
</tr>
</tbody>
</table>

## PROFESSIONAL ADVISORY GROUP

<table>
<thead>
<tr>
<th>Name</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr D Pearson (Chair)</td>
<td>Nottingham</td>
</tr>
<tr>
<td>Dr P C Jackson (President)</td>
<td>Southampton</td>
</tr>
<tr>
<td>Dr D Crawford (Secretary)</td>
<td>Cardiff</td>
</tr>
<tr>
<td>Dr K T Ison (President, Federation of Healthcare Science)</td>
<td>London</td>
</tr>
<tr>
<td>Mr R W Neilson</td>
<td>York</td>
</tr>
<tr>
<td>(IPEM General Secretary)</td>
<td></td>
</tr>
<tr>
<td>Dr S F Keevil (Chair, Science, Engineering and Technology Committee)</td>
<td>London</td>
</tr>
<tr>
<td>Dr C A Lewis (Chair, Accreditation and Training Committee)</td>
<td>London</td>
</tr>
<tr>
<td>Professor P F Sharp (Association of Clinical Scientists)</td>
<td>Aberdeen</td>
</tr>
<tr>
<td>Ms C Segasby</td>
<td>Sheffield</td>
</tr>
<tr>
<td>(Clinical Technologists Committee)</td>
<td></td>
</tr>
<tr>
<td>Ms J Morgan (ATen)</td>
<td>Southampton</td>
</tr>
<tr>
<td>(APEN Representative)</td>
<td></td>
</tr>
<tr>
<td>Eur Ing L A Blache</td>
<td>London</td>
</tr>
<tr>
<td>(Engineering Group Board)</td>
<td></td>
</tr>
</tbody>
</table>

## ACADEMIC DEVELOPMENT GROUP

<table>
<thead>
<tr>
<th>Name</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professor A Perkins (Chairman)</td>
<td>Nottingham</td>
</tr>
<tr>
<td>Dr P C Jackson (President)</td>
<td>Southampton</td>
</tr>
<tr>
<td>Professor D Bader</td>
<td>London</td>
</tr>
<tr>
<td>Dr A El-Haj</td>
<td>Stoke on Trent</td>
</tr>
<tr>
<td>Professor J Barbenel</td>
<td>Glasgow</td>
</tr>
<tr>
<td>Dr I Chambers</td>
<td>Newcastle Upon Tyne</td>
</tr>
<tr>
<td>Dr S F Keevil</td>
<td>London</td>
</tr>
<tr>
<td>Professor P F Sharp</td>
<td>Aberdeen</td>
</tr>
<tr>
<td>Professor R H Smallwood</td>
<td>Sheffield</td>
</tr>
<tr>
<td>Professor M A Smith</td>
<td>Middlesbrough</td>
</tr>
<tr>
<td>Dr N Stone</td>
<td>Gloucester</td>
</tr>
<tr>
<td>Professor P C Williams</td>
<td>Manchester</td>
</tr>
<tr>
<td>Mr R W Neilson</td>
<td>York</td>
</tr>
<tr>
<td>Ms E-M Elsner</td>
<td>York</td>
</tr>
</tbody>
</table>