

# European Medical Physics News

Published by the European Federation  
of Organisations for Medical Physics (E.F.O.M.P.)

## Editorial

As the role of physical science in medicine has become more widespread, over the last three decades, it has achieved a level of importance that is not fully appreciated by clinicians, hospital administrators or politicians concerned with health care.

In its early stages Medical Physics was almost entirely associated with x-ray diagnosis and therapy. The physicist used his basic knowledge of radiation physics to establish and maintain diagnostic standards and to calculate doses of radiation to be delivered to diseased sites. He was the 'back-room boy', unknown to the patients and considered by many clinicians to be just another paramedical accessory. As radioisotopes became more freely available and diagnostic nuclear medicine was introduced, the physicist's role in medicine became more important. His radiotherapy training was applied to the dosimetry of diagnostic radioisotopes and his engineering skills were in demand to aid the development of new imaging systems. Computer skills were required for analysing the data so that quantitative information could support the diagnostic image.

In parallel with these developments, over the last two decades, a revolution in instrumentation was producing dramatic advances in clinical measurement. Miniature pressure transducers and reliable, stable amplifiers appeared, allowing continuous patient monitoring; computers again successfully invaded this field.

The continual application of physical methods to medicine produced a significant impact upon diagnostic accuracy. Orthodox radiology and nuclear medicine had both used tomographic procedures but a major improvement in tomographic imaging was only achieved with the successful introduction of the CAT scanner. Diagnostic frontiers have also been extended by the use of ultrasound. This non-ionising radiation can safely investigate sensitive tissues, providing good resolution grey-scale pictures. Real time transducers are used to display moving organs with sharp definition. Developments in dermatology have been helped by a clearer understanding of ultraviolet radiation and its interaction with tissue. Laser technology has not only produced unique surgical instrumentation, but also promises to revolutionise tele-

communications with major implications for improved medical data communication and storage.

In this age of high technology medicine the expensive diagnostic machines which are demanded must be maintained and calibrated regularly. Carefully planned quality control procedures are required. Safety monitoring must be carried out for patients and staff. The responsibility for these procedures falls on the medical physicist. If carried out properly the work can result in substantial financial savings by reducing wastage and repeat studies. These problems are important issues now that the upper limit on financial investment in health care is more clearly evident.

Medical physics is now an established and important branch of medical science. The physical scientist has shown himself able to apply his fundamental scientific knowledge to problems appearing in radiology, nuclear medicine, ultrasound, physiological measurement, bioengineering, surgery, audiometry and photometry, together with new applications in the fields of psychiatry and forensic medicine. Yet because the work of the physical scientist is applied to so many branches of medicine requiring originality, inventiveness and diverse skills his job is almost impossible to define. In consequence he frequently fails to attain appropriate recognition and academic status.

Our concern must be to raise the status of the medical physicist and to convince our clinical and administrative colleagues of the value and necessity of an efficient medical physics service. We must also seek to change the attitude of the official world of physics which in many countries still treats medical physics with complete indifference despite the existence of other well established branches of applied physics.

In the next decade we must seek to use our influence more widely and be prepared to stand up and speak up for the profession of medical physics.

Certainly there is much to be done and we do not expect either to find anybody doing it for us or to find much comprehension of our problems. The existence of our European Federation will serve to unify and strengthen our efforts.

*Caferio Franconi*

## Message from the President

It took just twenty-seven months from the first initiative, by the Council of the Hospital Physicists' Association (H.P.A.) in February 1978, to reach agreement on the formation of the European Federation of Organisations for Medical Physics. Twelve months of correspondence was followed by an initial meeting in London in May 1979 at which organisations from fifteen countries were represented. At that meeting it was unanimously agreed to establish a Federation. A Steering Committee under the Chairmanship of Professor J.S. Orr was set up to draw up a draft constitution and working parties were formed to consider professional matters, education and training and publications.

The draft constitution of the proposed Federation was circulated to all interested national organisations and at a second meeting held in London, from 7th-9th May 1980, the constitution was formally accepted by delegates representing the medical physics organisations of fourteen countries, who thus became the founder members of the Federation. Delegates from several organisations who at that time had not approved the proposed constitution were able to express the wish of their respective organisation to join the Federation at an early date.

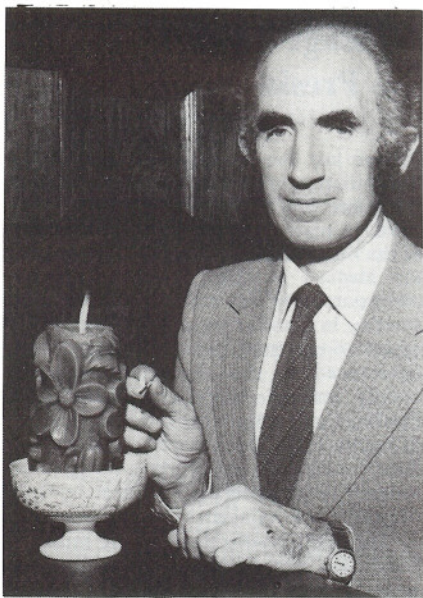
Such rapid progress, brought about by the commitment of the national organisations involved and their willingness to work together, augurs well for the future of our Federation. But let no-one think that having formed a Federation there is no more work to be done - our labours have only just begun. The success of the Federation and its ability to represent and advance the profession of medical physics throughout Europe will depend entirely on the effort that both national organisations and individuals are prepared to make.

The simple candle has a unique symbolism in civilisation, its flame representing simultaneously enlightenment, warmth and friendship and faith. The photograph below shows Professor J.S. Orr in the act of lighting what will surely be known in future as the EFOMP candle. This act marked the formal inauguration of EFOMP, a decision which we all believe to be a significant step in the development of the pro-

fession of medical physics throughout Europe.

In addition to our stated objectives of working together to improve both the scientific and professional standing of our discipline of medical physics and the dissemination of knowledge and information we must also spread the message of friendship. That our colleagues from the G.D.R. should have had the foresight to charge their delegate, Dr. Tautz, with the task of presenting this candle to the newly formed Federation is thus particularly significant for it illustrates in deed rather than by word this message of friendship amongst all medical physicists. Let us all endeavour to ensure that this flame, representing the objectives of our Federation, is seen throughout Europe.

John S. Clifton



Prof. J.S. Orr with the E.F.O.M.P. candle

## The E.F.O.M.P. Inaugural Meeting

Delegates representing fifteen countries met at the Medical Society of London on 8th and 9th of May, 1980 for the Inaugural Meeting of the Federation. A draft constitution had been prepared by the Steering Committee chaired by Professor J.S. Orr (United Kingdom) and previously circulated. Professor Orr, who chaired the opening session of this meeting, began by summarising the work that had been done in preparing the constitution. He commented that a fairly lengthy explanation of the term 'medical physics' had been found the most effective means of describing the scope of the Federation. He also made it clear that it is possible for more than one organisation in a country to join E.F.O.M.P. A short discussion on details of the constitution was followed by a 'round-table' session in which the delegates stated the position of their own organisations. Organisations from the following countries were able to accept the constitution:—

Austria	Italy
Belgium	Norway
Finland	Spain
France	Sweden
Federal Republic of Germany (F.R.G.)	Switzerland
Holland	Turkey*
	United Kingdom
	Yugoslavia*

\* These organisations signified their acceptance in correspondence.

Provisional membership was sought by organisations from Czechoslovakia, Denmark and Ireland. Dr. Tautz, from the German Democratic Republic (G.D.R.) attended as an observer. All the Associations so far involved are listed on page 4. When the formalities are completed E.F.O.M.P. will represent about 3000 medical physicists.

Having established formal acceptance of the constitution, subject to agreed changes in detail, the meeting went on to elect the Officers and Council of E.F.O.M.P. The following officers were elected:—

President: Mr. J. Clifton — U.K.  
Vice President: Mr. J. Chavandra — France

Past President: Prof. J.S. Orr — U.K.

Secretary-

General: Dr. A. Benini — Italy

Treasurer: Mr. F. Welde — Norway

The Ordinary Members of E.F.O.M.P.

Council are:—

Dr. H. Bergman	Austria
Mr. A.J. Piron	Belgium
Dr. M. Pitkänen	Finland
Dr. H. Agat	France
Prof. A. Kaul	F.R.G.
Prof. D.H. Bekkering	Holland
Prof. C. Franconi	Italy
Dr R. Saenz Gancedo	Spain
Dr. P.E. Asård	Sweden
Dr. G. Poretti	Switzerland

The Steering Committee had four working groups associated with it and these reported upon their activities at the meeting. After further discussion about objectives the groups were reconstituted as E.F.O.M.P. Committees.

### Education and Training Committee

Professor Kaul (F.R.G.) presented a table summarising the results of the survey on education and training methods for medical physicists in Europe, which he had coordinated. Full details are available in a written report. The post-graduate education schemes vary greatly in length from one year to four and just over half the countries have some formal post-graduate training.

It was agreed that work in the following areas of activity would be valuable:—

- (1) To attempt to catalogue the minimum content deemed satisfactory for mutually acceptable qualifications.
- (2) To consider relationships between physicists and engineers working in hospitals.
- (3) To consider the sharing of resources (e.g. the course modules provided in the F.R.G. are in fact open to all German speakers).

The new committee is to consist of:—

Professor A. Kaul	F.R.G.
(Chairman)	
Mr. J. Chavandra	France
Dr. A. Benini	Italy
Prof. R.E. Ellis	U.K.
Prof. D.H. Bekkering	Holland

### Committee on Professional Matters

Dr. Asård (Sweden) had conducted a survey on the role, responsibility and status of medical physicists in Europe. He had eighteen replies and had distributed twenty-two questionnaires. Information about the distribution of grading structures, independent medical physics departments, regional medical physics organisation, formal regulation of the profession, and salaries in relation to medical staff was presented. Discussion revealed a desire for policy statements from E.F.O.M.P. on various aspects and it was felt that a definition of the responsibilities of the medical physicist would best lead the way, with later documents on status, salary, manpower needs etc.

The new committee is to consist of:—

Dr. P.E. Asård	Sweden
(Chairman)	
Mr. A.J. Piron	Belgium
Dr. M. Tautz	G.D.R.
Dr. H. Agat	France
Prof. M.M. Black	U.K.

### Publications Committee

Professor Franconi (Italy) had begun the task of assessing the attitudes of member organisations towards an E.F.O.M.P. Bulletin. Replies so far indicated that existing Bulletins would continue in parallel with an E.F.O.M.P. publication. In general a publication with two issues per year and with advertising, appeared to be wanted. After discussion and an offer from Professor Ellis, it was agreed that the H.P.A. would finance three issues of the E.F.O.M.P. Bulletin. Issues would hopefully appear in December, 1980 and June, 1981 and be edited by Professor Franconi. The committee would produce proposals for subsequent production of the Bulletin.

Mr. Clifton explained the progress which had been made with the two journals 'Physics in Medicine and Biology' and 'Clinical Physics and Physiological Measurement'. It was proposed that E.F.O.M.P. negotiate to make these its official journals and this motion was carried.

The new committee is to consist of:—

Prof. C. Franconi	Italy
(Chairman)	
Mr. D.J. Dowsett	Republic of Ireland
Dr. G. Poretti	Switzerland
Dr. E. Claridge	U.K.

### Scientific Activities

Dr. Benini expected that it would be three or four months before her analysis of the scientific activity of the E.F.O.M.P. member societies was ready. A lengthy discussion upon the scientific role of E.F.O.M.P. was conducted. It was felt necessary to try to fill gaps left by other enterprises, for example clinical evaluation with a view to cost effectiveness. Matters such as the exchange of scientists the support of technicians, the relationship with engineers and the establishment of a unified approach to I.E.C. regulations were considered. Scientific co-ordination by the dissemination of information was considered very important. A group, to work by correspondence and co-ordinate scientific ideas is to consist of:—

Prof. R.E. Ellis	U.K.
Prof. D.H. Bekkering	Holland
Prof. A. Kaul	F.R.G.
Mr. A.J. Piron	Belgium
Prof. C. Franconi	Italy

### Future meetings

It was agreed that E.F.O.M.P. Council would meet at Brussels in 1981 (at the time of the International Congress of Radiology, in July) and at Hamburg in 1982 (at the time of the International Congress on Medical Physics and Biomedical Engineering). The officers would meet in Berlin in October 1980.

### Other Matters: (1) Finance

Following the guidelines already discussed at a national level it was agreed that a per capita subscription of 50p per member be levied. It was agreed that 1st January be taken as the start of the financial year. Dr. H. Bergmann (Austria) and Dr. G. Porretti (Switzerland) agreed to be auditors of E.F.O.M.P. Additional funds are likely to be required and may be sought from industry.

### (2) International Organisation for Medical Physics

Professor Mallard apologised for the fact that he could not attend the E.F.O.M.P. meeting. I.O.M.P. welcomed and supported the formation of E.F.O.M.P.

There is progress towards the formation of a union of I.O.M.P. with I.F.M.B.E. The constitution is agreed and the name is to be the International Union for Physical and Engineering Sciences in Medicine. Support is needed at national level for the acceptance of the new union to the International Council of Scientific Unions. National Academies send delegates to the I.C.S.U.

### (3) European Community

Professor Bekkering and Professor Black explained the problems and limited activity within the European Community concerning medical physics, which is seen by the community as a branch of biomedical engineering. Again our influence must be through national delegates on the Research in Medicine Committee and its sub groups.

*Edwin Claridge*

## A Brief History of E.F.O.M.P.

### Beginnings

It was with some trepidation that I approached the Council of the H.P.A. in February 1978 with the suggestion that the profession of Medical Physics in Europe would benefit if the various national associations could be brought together in an organisation that would concern itself with the wider issues of medical physics throughout Europe. To the suggestion was added the proposition that the H.P.A., as the oldest and largest association in Europe, should take the initiative. The minutes of that Council meeting indicate that Council agreed with the suggestion, approved the proposition and instructed their President to contact other associations throughout Europe. But where were the officers of these associations and which were the appropriate associations in each country? A letter to Rune Walstam, the Secretary General of I.O.M.P., produced a list of the associations in Europe affiliated to I.O.M.P. Enquiries among other contacts in Europe

produced a further and somewhat different list.

A questionnaire was drawn up asking associations to indicate whether they were interested in sending representatives to a meeting to discuss the formation of a European association, what form the representation should take, and what subjects should be discussed. The questionnaire was sent to officials of associations on both lists and to a number of other contacts in Europe. The questionnaire went to all countries in Europe and included Russia and Turkey. From the replies it was clear that the majority were strongly in favour of an exploratory meeting which would concern itself with professional matters relating to Medical Physics. It was also clear that a number of associations that claimed to represent medical physics, including some who were members of I.O.M.P., were composed entirely of non physicists. Clearly some diplomacy was required to ensure the appropriate representation!

Council of the H.P.A., caught in a generous mood, had been persuaded to underwrite the cost of a two day meeting in London. I.O.M.P., who had decided at its meeting in Ottawa to support the formation of regional medical physics groups, agreed to provide financial support. Encouragement and further help was offered locally by the British Institute of Radiology (B.I.R.). By the autumn of 1978 the date and venue of the meeting had been set for the 10th and 11th May 1979 at the Medical Society of London. To Peter Griffiths, the assistant Honorary Secretary of the H.P.A., was delegated the job of making the final arrangement. Having delegated all the work and handed over the Presidency of the H.P.A. to Professor Roy Ellis I retired, believing I had done my part to launch the 'European medical physics operation'. Little did I realise what was to happen in May 1980!

May 9th 1979 came and delegates from fifteen countries assembled at the Medical Society of London for what was to prove both a happy and eventful occasion. Between the buffet supper on the first night, the speeches of welcome and encouragement from Professor R. Ellis, Dr. N. Trott, President of the B.I.R., Dr. M. Snelling, President of E.A.R., and Professor J. Mallard, President Elect of I.O.M.P. and the dinner on the paddle steamer Old Caledonia on the second night, the delegates got down to the task of laying the foundations for uniting medical physics in Europe.

Reports were received on the status of medical physics from each of the countries represented. The requirement for a European organisation for medical physics, the form it should take and the objectives it should pursue were discussed at length. Many potential difficulties arose – not the least being the provision of a definition of 'medical physics' – but were overcome or diplomatically avoided. Such was the unique spirit of collaboration kindled by this first meeting.

By the end of the first full day it had been agreed to form a European organisation. Working parties had been set up to review Education and Training, Professional, Scientific and Publication matters, and a Steering Group appointed to draw up a draft constitution. A time scale of twelve months to formal inauguration of the organisation had also been agreed.

As invariably happens on these occasions a number of characters emerged, and were promptly given jobs to do leading working parties. Professor A. Kaul from the F.R.G. took on Education and Training, Dr. P. Asård from Sweden Professional matters, Professor C. Franconi from Italy Publications and Dr. A. Benini, also from Italy, Scientific matters. Professor Stewart Orr, with his Scottish sagacity, wit and experience in pacifying warring clans, was elected to chair the Steering Group charged with drawing up a constitution for the new organisation – later to become known as E.F.O.M.P. He now takes up the story.

*J.S. Clifton*

### Groundwork

At the end of the meeting in London in May, 1979, Jean Chavaudra offered to host a meeting of the Steering Group in Paris in early October. I prepared a first draft of a possible Constitution using assorted documents, from Brian Stedeford, out of the I.O.M.P. archives. I wrote to Rune Walstam to ask for the official definition of 'Medical Physics' but, unfortunately, it appears that none exists. Professor Alex Kaul was inspired by my first draft to spend a whole weekend in the Berlin countryside in producing a much longer and more rigorous Germanic version of the Constitution.

When the Steering Group met in Paris on 11th and 12th October, my arrival was late due to airport delays, when my British Airways plane found itself in the fog at Heathrow behind a number of other aeroplanes whose pilots could not see their way to the runway. However, I was eventually ruthlessly thrust into the Chair and told to get on with it. Each time the possibility of disagreement on any clause rose we found that by the time the various versions of European English had been harmonised with Scottish, it was rarely possible for anyone to object. All the disagreement eventually appeared to vanish in the course of a marvellous evening laid on by Jean and his wife, Nicole. Copious notes had been made by Anna Benini, who had undertaken the Secretaryship as she appeared willing to leave most of the talking to Cafiero Franconi.

It was agreed that it was both very desirable, and also possible, to complete the proposed Constitution in time to circulate to national organisations in January, 1980.

In accordance with the timetable laid down at the Paris meeting, Peter Griffiths organised the foundation meeting in London for May, 1980. We were too late in attempting to book the old Scottish paddle steamer 'moored on the Thames for our evening's entertainment but this was very fortunate as the boat was burned to the water line the night before we would have been on it. The meeting opened with a very pleasant evening in the library of the British Institute of Radiology, looked after by Douglas, whose fluency in French was as excellent as his knowledge of the wines which he discussed. The following day we met again at the Medical Society of London and by unanimous agreement of those present, representing fifteen countries in Europe, the European Federation of Organisations for Medical Physics was duly inaugurated.

*J.S. Orr*

## Organisations involved in E.F.O.M.P. negotiations, with the name of an officer

Austria: Dr. H. Bergmann  
Austrian Society of Hospital Physicists  
Department of Nuclear Medicine,  
2nd Medical Univ. Clinic,  
Garnisongasse 13,  
A-1090, Vienna, Austria.

Belgium: Mr. A. Piron  
Société Belge des Physiciens des Hôpitaux,  
Belgische Vereniging van Ziekenhuisfysici,  
Institut Jules Bordet,  
1 Rue Héger Bordet,  
1000 Brussels, Belgium.

Czechoslovakia: Dipl. Ing. J. Pecina  
National Organization of Physicists,  
Inst. of Clinical and Research Oncology,  
Zlutý kopec 7,  
6000 00 Brno, Czechoslovakia.

Denmark: Mr. N. Ulsø  
Dansk Selskab for Radioterapi Og  
Cancerologi,  
Radiofysisk Laboratorium,  
Aarhus Kommunehospital,  
Ek 8000, Aarhus C., Denmark.

Finland: Dr. J.T. Kuikka  
Finnish Association of Physicists in  
Medicine,  
Department of Clinical Physiology,  
University Central Hospital,  
SF-70210 Kuopio 21, Finland.

France: Mr. J. Chavaudra  
Société des Physiciens des Hôpitaux  
d'expression Française,  
Institut Gustave Roussy,  
Rue Camille Desmoulins  
94-800 Villejuif, France.

F.R.G.: Professor A. Kaul  
Deutsche Gesellschaft für  
Medizinische Physik, e.V.,  
Klinikum Steglitz der Freie Universität  
Berlin,  
Hindenburgdamm 30,  
D-1000, Berlin 45, F.R.G.

G.D.R.: Dr. M. Tautz  
Gesellschaft für medizinische Radiologie  
der D.D.R.,  
Section "Klinische Strahlenphysik",  
1115 Berlin-Büch, Wiltbergstrasse 50.

Holland: Professor D.H. Bekkering  
Nederlandse Vereniging voor  
Klinische Fysica (N.V.K.F.),  
Viowijkerwaard 1,  
3984 PD Odijk, Holland.

Republic of Ireland: Mr. D.C. Howett  
Irish Hospital Physicists' Association,  
153 Templeogue Road,  
Terenure, Dublin 6.

Italy: Professor C. Franconi  
Associazione Italiana di Fisica Biomedica,  
Istituto di Fisica Medica,  
Citta Universitaria,  
00100 Rome, Italy.

Norway: Mr. F. Welde  
Norwegian Society for Medical Radiation  
Physics,  
Radiofysisk Avd., Ulleval Sykehus,  
Oslo, 1 Norway.

Spain: Dr. S. Millan  
Spanish Society of Medical Physics,  
Hospital Clinico Universitario,  
Sección de Física,  
Av. Gomez Laguna, Zaragoza 9, Spain.

Sweden: Dr. P.E. Asård  
Swedish Hospital Physicists' Association,  
Dept. of Hospital Physics,  
Danderyds Hospital, S-18288, Sweden.

Switzerland: Dr. G. Poretti  
Société Suisse de radiophysique et  
radiobiologie,  
Dept. of Medical Radiation Physics,  
Inselspital,  
CH-3010 Berne, Switzerland.

Turkey: Mr. S. Kuter  
Turkish Association of Physicists,  
Physics Department,  
Institute and Clinic of Radiotherapy,  
University of Istanbul,  
Topkapi, Istanbul, Turkey.

United Kingdom: Mr. D. Field  
Hospital Physicists' Association,  
47 Belgrave Square, London, SW1X 8QX.

Yugoslavia: Dr. S. Tonković  
Yugoslav Society for Biomedical  
Engineering,  
Biomedical Measurements Laboratory  
(VIII floor), Electrotechnical Faculty,  
Unska 17, 41000 Zagreb, Yugoslavia.

## Extracts from the E.F.O.M.P. Constitution

### Preamble.

1. In most European countries there are National Organisations [(a) in which the principal defined category of members are persons  
– qualified with a University degree or equivalent in physics, mathematics, computing sciences, physical chemistry, mechanical, electrical or electronic engineering, etc., and  
– working in alliance with medical staff in hospitals, universities or research institutes, and [(b) which carry the responsibility of  
– guiding and supporting the professional character of the work of their members and  
– encouraging and promulgating the scientific work of their members.  
Their activities and field of work will be described in this document by the comprehensive expression: Medical Physics.
2. These National Organisations believe that their activities will be strengthened and made more effective by bringing about and maintaining systematic exchange of professional and scientific information, and by the formulation of common policies on the responsibilities and roles of their members and on training programmes, etc.

### Article 4

1. The aims and purposes of the Federation include:
  - (a) fostering and co-ordinating the activities of the Member Organisations in the field of Medical Physics, and collaborating where appropriate with national and international organizations, particularly the International Organisation for Medical Physics,
  - (b) encouraging exchanges between the Member Organisations and disseminating professional and scientific information through publications and meetings,
  - (c) encouraging scholarships and the exchange of Medical Physicists between countries,
  - (d) proposing guidelines for education, training and accreditation programmes,
  - (e) making recommendations on the appropriate general responsibilities, organizational relationships and roles of workers in the field of Medical Physics,
  - (f) encouraging the formation of Organisations for Medical Physics where such organizations do not exist.

### Article 6

1. Membership of the Federation may be applied for by the Organisation or Organisations in each European country responsible for the professional and scientific work of Medical Physics. Local sections of Member Organisations of the Federation will be admitted.
2. Organisations will be admitted to Membership of the Federation by the Council, if approved with a majority of two-thirds of the votes of members of the Council present and expressed.
3. Organisations applying for Membership of the Federation must submit copies of their rules, constitutions or statutes, and a statement giving the names and work places of officers, the number of members, and the activities of the Organisation.

### Article 7

At the discretion of the Council, any organisation may become a co-operating organisation. Such organisations shall pay dues as decided by the Council and they shall receive communications and publications of the Federation.