



European Medical Physics News

Summer 2008

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What do you think about
your job:

Is it rather sunrise ...



Or sunset?

And what about your
colleagues?
What do they think?

A survey could benefit all of us in targeting
problems - and solving it.
See a start from our Swiss colleagues on
page 7.

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Editorial

The current news letter is just about in time to fill the silly season. The editors hope to have found something interesting for everybody. The articles of this issue were written in the blazing sun (as this editorial for instance) or with rain pouring down outside the window. Just pick what suits your situation best - worth reading is all we have put together for you.

We welcome our Portuguese colleagues in EFOMP. Read on page 3 about their plans both at home and with EFOMP.

In our section Reports of EFOMP Committees: Eduardo Guibelalde covers European Union Matters this time.

Many of us will be interested in the reprint of a survey published in the SGSMP Bulletin last year probing the pro and cons of a Medical Physicist's life. We feel, this inquiry should be generalized and conducted in all our member organizations.

Another regular issue we would like to kick off with this issue is the presentation of our member organization's journals. The opener is the 'Zeitschrift für Medizinische Physik', the national journal of our German colleagues. We hope to present, step by step, all our member's journals in the coming issues.

Talking about journals is talking about papers and contributions to the scientific communication in general: Following Stelios Christofides article on abstract reviewing at ECR congresses, Håkan Nyström and Dag Rune Olsen report about their experience in abstract scoring for the ESTRO meeting. An issue becoming more and more important with the increasing number of abstracts and papers submitted.

A report on the First European Conference on Medical Physics held last year in Italy rounds up this issue. Before closing it, though, do not miss the news from IAEA and last but not least the introduction of a medical physics related web-site and its editor.

2nd European Conference on Medical Physics & EFOMP Council

Check our Scientific meeting calendar: The 2nd European Conference on Medical Physics (Sep 17-21, 2008) is this time hosted by our polish colleagues in Krakow. Giving it a special flavour, they dedicate it to the 110-th anniversary of the Discovery of Polonium and Radium.

The EFOMP Council will take place during the meeting.

The team of editors has grown



Kay-Uwe Kasch

From this issue on, Kay-Uwe Kasch joins Nuria Jornet and Markus Buchgeister in the team of editors. He is a Professor of Medical Radiation Physics at the University of Applied Sciences (TFH) in Berlin, where he teaches possible future colleagues of ours in a Bachelor/Master Program dedicated to Medical Physics. He entered the field more than 15 years ago as a graduate student at the German Cancer Research Center Heidelberg (under the supervision of our current EFOMP President Prof. Dr. Wolfgang Schlegel). Following his Ph.D. over Proton Therapy he worked for more than 6 years as a clinical physicist at the Charité Medical School in Berlin. After very interesting 4 years in Jeddah, Saudi Arabia, where he worked as a Senior Medical Physics Consultant at the King Abdulaziz University he moved back to Berlin, where he was appointed as Professor of Medical Physics at the

TFH. Kay-Uwe is married and has two children.

Núria Jornet



Markus Buchgeister



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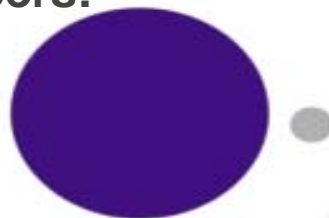
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DIVISÃO DE FÍSICA MÉDICA



It is for me a great honor to be the present Portuguese EFOMP NMO delegate, representing the Medical Physics Division of the Portuguese Physics Society (DFM_SPF). I am aware of the great challenges that have to be faced in the near future but the support of the vast majority of the medical physicists working in Portuguese hospitals give me the courage to face them with enthusiasm. I am certain that these are challenges for all of us.

Among the main challenging issues, it is definitely the Education, Training and Certification in Medical Physics in Portugal. The DFM as recently produced a report giving recommendations on these issues that closely follow the EFOMP points of view. This document is going to be presented to the Portuguese Health authorities, taking advantage of the restructuring process that is going on for the health professions and carriers.

In fact, there are some important points that have marked the recent evolution in the national health care system. On one hand, some changes in the financial management model for public hospitals, led to semi-private administration models preventing the maintenance of the traditional legal training program in MP. Furthermore, the appearance and increase of the number of private radiotherapy centers led to the fact that the number of installed linacs has doubled in just a few years. The tendency is to keep the increasing rate, which reinforces the need for better and stronger education and training schemes.

The urgent and only way to improve MP status in Portugal is through qualification, recognition and professional registration, which requires:

- Coordination between national authorities and universities to approve Master Degrees corresponding to theoretical curriculum contents according to European recommendations
- Accreditation of hospitals as national training sites (minimum requirements, staffing MP levels, etc.)

for subsequent pos-graduate on-job training – QMP diploma

- Approval of a national CPD scheme – MPE entry and renewal

A second issue that has recently motivated our efforts in DFM was the European discussion on the definitions of the radiation protection expert, the medical physics expert and the radiation protection officer in the Second EUTERP workshop (Vilnius, Lithuania, 23-25 April 2008). We have contributed to

the Portuguese presentation, including the perspective for the medical sector. We fully supported and reinforced the EFOMP Malaga Declaration (2006) because we are convinced that Radiation Protection in hospitals, involving patients, working staff and members of the public, must be performed by Medical Physics Experts (MPE).

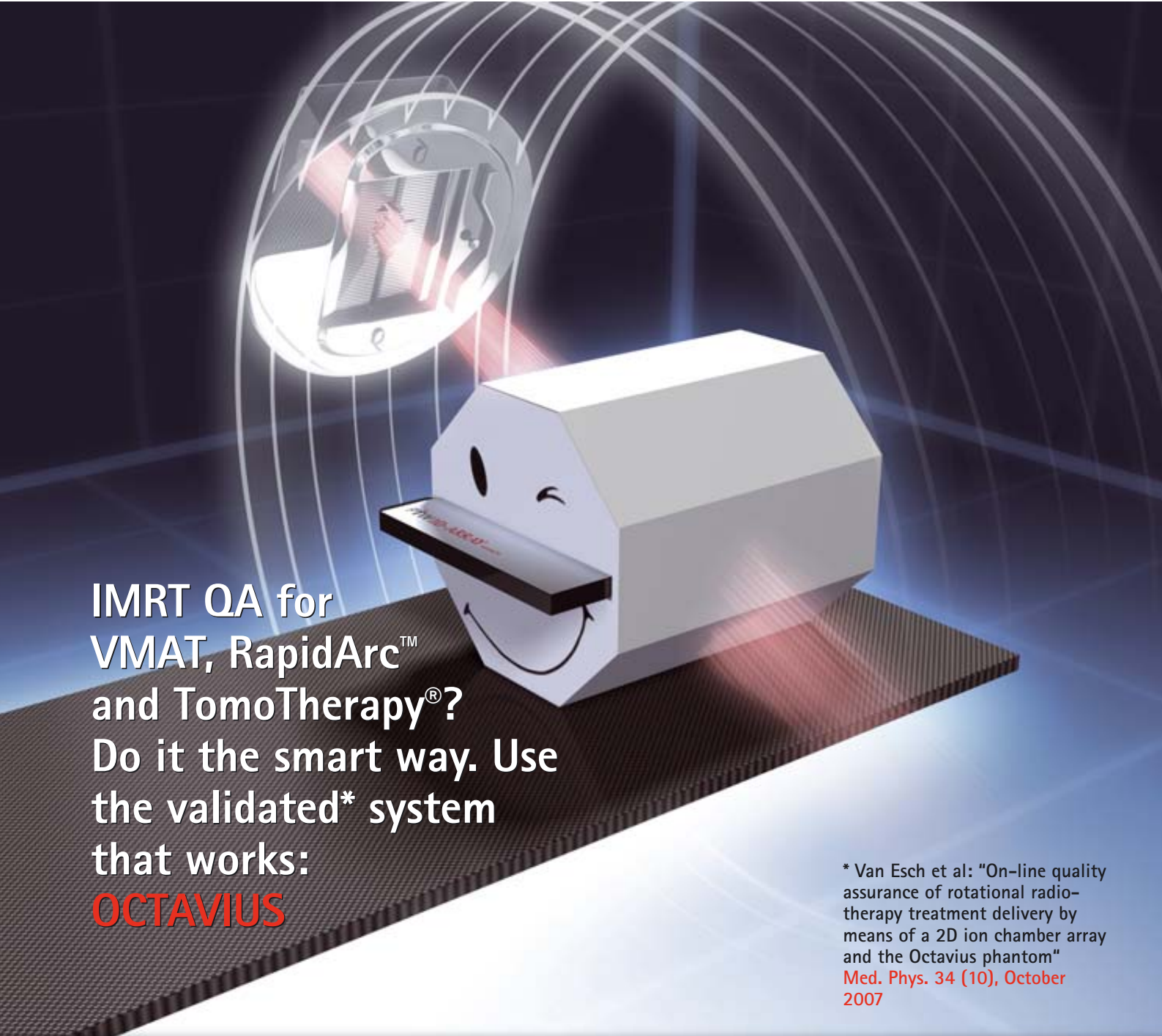
Finally we would like to announce a 2009 event that DFM is organizing. It will be a Medical Physics Workshop in Aveiro (see photo on the right), May 8,9, 2009. It will be called “Where is Portugal in the Medical Physics World?”. The idea is to put together different Portuguese experiences in the MP area. We are

inviting Portuguese medical physicists that work abroad, those that have made their PhDs abroad and are now working in Portugal and those that have always worked here. To open each of the sessions we are inviting an international reference name. We hope that this initiative can congregated the nationals and contribute to the improvement of MP in our country.

We are confident and motivated to assume the responsibility of being the Portuguese NMO. We hope to fulfill the expectations and needs of all medical physicists in Portugal – with the contribution of all, of course.

Maria do Carmo Lopes





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* Van Esch et al: "On-line quality assurance of rotational radiotherapy treatment delivery by means of a 2D ion chamber array and the Octavius phantom"
Med. Phys. 34 (10), October 2007

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KNOWING WHAT RESPONSIBILITY MEANS

Reports of EFOMP Committees:

Committee for European Union Matters

The Committee is chaired by *Prof. Eduardo Guibelalde del Castillo* since January 2007. Prof. Guibelalde was born in Madrid, Spain in 1960, graduated in Fundamental Physics in 1982 and obtained his PhD degree in Physics in 1985 at the University Complutense of Madrid (Spain). From 1983 to 1987 he was Assistant Professor of Medical Physics at the Department of Radiology at Faculty of Medicine, Complutense University, where he was awarded full professorship in 1987. During the pre-doc period he was Research Fellow at the Dept. of Electro-optical Engineering at Oxford University (UK) and also at the Jewish Hospital at Cincinnati (Ohio, US) with Dr. Leon Goldman, the so-called father of the Laser in Surgery. He was appointed Academic Secretary of the Department of Radiology in 1991 and Head of the Medical Physics Group at University Complutense of Madrid in 2005. He coordinates Medical Physics and Radiation Protection courses for students of Medicine and also lectures in a Master course for Physics in Biomedical Sciences, adapted to the European High Education Area.

From 1993 to 2001 Prof. Guibelalde worked in close collaboration with the Medical Physics Service at the *Hospital Clínico San Carlos of Madrid* mainly involved in developing Quality Assurance programmes and patient dosimetry in Diagnostic Radiology. In 2001 he obtained the specialization in Hospital Radiophysics, which is the regulated degree for the Medical Physics profession in Spain.

Since 1987 his scientific research has been strongly focused on the Optimization of Image Quality and Dose in Diagnostic X-ray and Interventional Radiology. Much of this work was carried out within different EU research projects and contracts (DIMOND, SENTINEL, etc.). He is author of more than 100 papers on this subject. He was one of the authors and Secretary of the Task Group that wrote the *Spanish Protocol for Quality Control in Diagnostic Radiology: Technical Aspects* and editor and author of the *Multimedia Audiovisual Radiation Protection Training in Interventional Radiology* (MARTIR course), an interactive CD_ROM based course produced and edited by the European Commission. He has been editor of the Spanish *Revista de Física Médica*, a journal sponsored by EFOMP, and member of a WG IEC subcommittee for Acceptance Testing in Diagnostic Radiology.

EFOMP Committee for European Union Matters Summary of current activities

The Committee for European Union Matters is currently involved in the following tasks:

- a) European Medical ALARA Network
- b) Criteria for harmonizing the competences for Medical Physics experts in Europe. European Commission project proposal
- c) Alliance for MRI in Europe
- d) European Commission Guideline on Clinical Audit for Medical Radiological Practices (Diagnostic Radiology, Nuclear Medicine, and Radiotherapy)

a) European Medical ALARA Network

European Medical ALARA Network (EMAN) decided in 2007 to present a project with full support from EU and with Art 31 WP approvals. The activities to be included are: ALARA culture improvements, Educational aspects in R.P, Qualified Expert compromise, Training and advertising aspects. This project should produce the guidelines for implementing ALARA. Furthermore, these guidelines will allow Health professionals to obtain a certification in R.P.

Four Working Groups are proposed: WG_1: Optimisation of radiological protection of patients in CT. WG_2: Optimisation of radiological protection of patients and personnel in interventional procedures WG_3: Optimisation of radiological protection of patients and personnel outside X-ray departments using fluoroscopy. WG_4: Radiological safety during installation and maintenance of radiological equipment including clinical application training. The main purpose of all working groups will not be to produce new information, but rather to gather useful information for the appropriate target collective. The main task will be to gather useful information for the different target collectives and to find communication channels for distributing the information to specialists, referrers, patients and even general public. These channels could be presentations or devoted sessions at the different congresses; pages on the web, articles in journals, elaboration of leaflets and so on. Cooperation with communication specialists might be needed. The project will soon be started and EFOMP representatives have been included in it.

b) Criteria for harmonizing the competences for Medical Physics experts in Europe. European Commission project proposal

In 2007 the EFOMP EU Matters Officer was invited to attend a first round negotiation with the European Commission to present a draft proposal for developing a guideline that could be used to harmonise the Medical Physics Expert competences on EU level. It was presented there an EFOMP draft proposal to

prepare a possible contract with the EC with the aim of producing a report on "CRITERIA FOR HARMONIZING THE COMPETENCES FOR MEDICAL PHYSICS EXPERT IN EUROPE"

The main objectives for the project would be:

- 1.-To prepare a widely accepted document on European level that eventually could be considered -partially or as a whole- as a European Guideline on the professional competences for Medical Physics Expert (MPE) and minimum requirements to be acknowledged as MPE according to 97/43/EURATOM directive.
- 2.-To make recommendations for the most appropriate education and training structure, based on the European High Education Area, to achieve the previously defined required professional competences.

Competency statements must describe the knowledge, skills, attitudes and values that a MPE must have, i.e. the required competence to carry out the tasks defined by the 97/43/EURATOM directive in an independent and safe way without direct supervision. The competency statements represent the "minimum" or "lowest common denominator" expected.

c) Alliance for MRI in Europe

Directive 2004/40/EC of the European Parliament and of the Council establishes minimum health and safety requirements to protect workers against the risks arising from exposure to electromagnetic fields. Article 13 of that Directive stated that Member States had to bring into force the laws, regulations and administrative provisions necessary to comply with the Directive no later than 30 April 2008. However, new scientific studies on the impact on health of exposure to electromagnetic radiation, made public after the Directive was adopted, have been brought to the attention of the European Parliament, the Council and the Commission. For those institutions, the time required to obtain and analyze that new information and to draw up and adopt a new proposal for a directive justifies the four-year postponement of the deadline for transposition of Directive 2004/40/EC that has been published as Directive 2008/46/EC on 23rd April 2008.

The 'Alliance for MRI' is a coalition of European Parliamentarians, patient groups, leading European scientists and the medical community, who together are seeking to avert the serious threat posed by EU health and safety legislation to the clinical and research use of Magnetic Resonance Imaging (MRI). The Alliance was launched on the occasion of ECR 2007. Recently the Alliance invited EFOMP to participate in this forum. Initially the EFOMP board of officers has decided to encourage National Member Organisations to promote studies about occupational and patient risks in MRI based on solid scientific

evidences, support national and International conferences, meetings and work groups formed for that task and support targeted research projects and contracts within the EU.

d) European Commission Guideline on Clinical Audit for Medical Radiological Practices (Diagnostic Radiology, Nuclear Medicine, and Radiotherapy)

The European Commission started in June 2007 a special project to review in detail the status of implementation of Clinical audits in Member States and to prepare European Guidance on Clinical Audits for diagnostic radiology, nuclear medicine and radiotherapy. The purpose of this EC Guideline is to provide clear and comprehensive information and guidance on the procedures and criteria for clinical audits in all radiological practices, in order to improve the implementation of Article 6.4 of the Council Directive 97/43/EURATOM (MED directive). The guidance should be flexible and enable the member States to adopt the model of clinical audit with respect to their national legislation and administrative provisions.

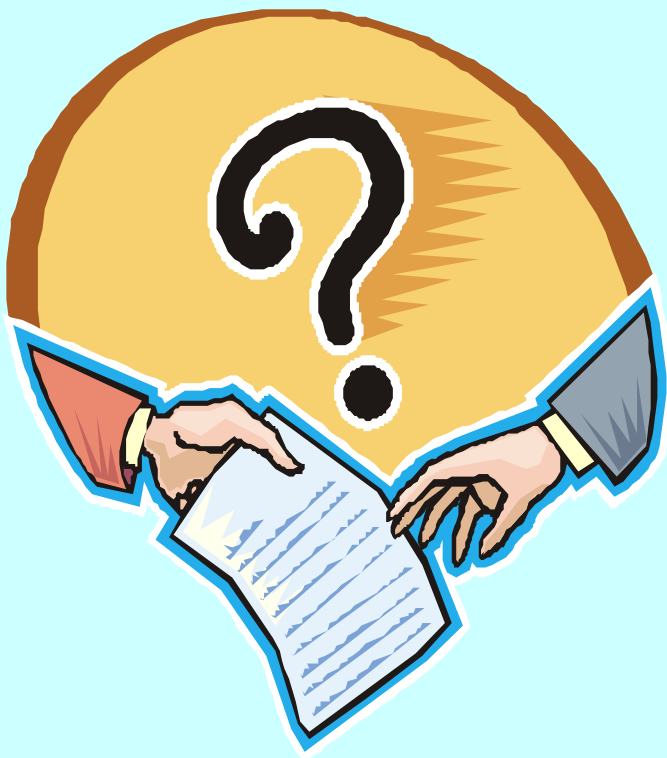
It has been considered to be of high importance that the draft EC Guidance is critically reviewed by the representatives of the European scientific and/or professional societies, quality assessment organizations and authorities. For that reason EFOMP has been invited to participate as follows: 1.- To assess the general acceptability of the recommendations, i.e. whether the recommendations are desirable, realistic and sufficiently flexible. It should be checked whether any of the recommendations are too definitive or go beyond the limit which might no longer be acceptable on a stockholder's point of view. 2.- To evaluate whether all aspects and viewpoints for the practical implementation of clinical audits have been appropriately and adequately covered by the EC Guideline. It should be understood, however, that the purpose of the Guideline is to suggest the general framework with same orientation to the details of the implementation, such as the criteria of good practices, but NOT to discuss in full detail all components and the most specific criteria of good practices. 3.- To check that all background information given in the document is relevant and the relationship of clinical audit with other quality assessment activities and with regulatory inspections, as well as the roles of scientific and/or professional societies and authorities, have been properly and adequately described, and to suggest any changes or additions. 4.- To check any mistakes, wrong data or statements, and to propose possible additional or supplementing data or information in order to improve the usability of the Guideline.



Eduardo Guibelalde,
Madrid, Spain

Survey about job-profiles of medical physicists - How to do it -

I am a secretary in the department of radiation oncology at the university hospital in Basel, Switzerland. Naturally as a woman I am interested in human relationships for example those between medical physicists and physicians, as they seem to be complex. Thus, in October last year I initiated a survey about job-profiles within medical physicists by contacting all members of SGSMP (society of medical physicists in Switzerland). I was particularly interested in their job motivation, focus and balance (in terms of hobbies, family etc., cf. Tables 1-3). Here, I would like to introduce this survey to you and present first results.



A starting point was to create a questionnaire. Here, I had to decide what I would like to know from the members and what I would like to focus on (Table 1). Therefore it is advantageous to have the e-mail addresses of all society members. I sent the questionnaire with a covering letter, in which I described who I am and the purpose of my inquiry. I asked for a reply within a prescribed time period of three weeks. Out of 214 questionnaires 61 were returned which is 28,5 %. From these 28,5 % I received information that 57,4 % do not work as a medical physicist in a hospital, but are members of the society. Hence, only 26 of the returned questionnaires were valuable. A scant result – this needs a lot of improvement and assistance from the readers of this journal. I will describe below, how to conduct and interpret a survey.

Generally, there are three types of questions: “percentage”, “multiple choice” and open questions. If there is a question in the inquiry people have to put down percentage numbers in the evaluation, I calculated the average value. In multiple-choice questions I added the values of each given answer and divided it by the total number of answers (Table 2+3). Additionally, I counted the number of not answered questions for better statistical data security (e. g. 23 of 26 people marked “joy at work” with “yes” = 88,5 %, round-off). The last part of this inquiry comprised open questions and answers, which are difficult to analyse. Here, I made a note for each of the different views. Some of the answers were similar to others and hence they received a higher significance. For example, people often wrote about stress due to non-regular time of work, not enough colleagues, and therefore a decline in motivation and creativity. Furthermore a lack of exchange between medical physicists, e. g. on dosimetry or quality assurance became apparent. The most dominant problem was the missing appreciation by the physicians and/or the according of equal status between medical physicists and physicians.

I would like to finish this article by saying, that although the feedback was not as good as expected (or wished), an evaluation is still fascinating, and the received answers showed that there is need for such a survey. If somebody wants to introduce reforms, she/he needs the opinions and beliefs of the group members – as I know by my own experience. As a member of the board of OViRO (secretaries of the radiation oncology in Germany), which is a part of DEGRO (German society of radiation oncology) I regularly do surveys. At the end of a congress our members only received the certification of their participation if they returned the inquiry to us. This will be an option to achieve a higher returning.



How about this procedure at e. g. the ESTRO conferences?

If you are interested in more details, please, do not hesitate to contact me.

With kind regards,

Evelyn Beckmann
beckmanne@uhbs.ch

A PDF of the bulletin with the survey is available at:
<http://www.sgsmp.ch/bullA73.pdf>

Jobprofile of medicine physicists

Survey published in SGSMP Bulletin 3/2007

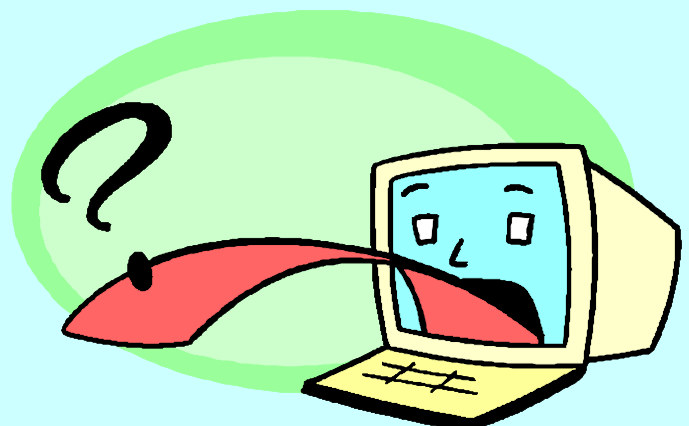
1) <u>What about your work day routine?</u>	Average (%)	No Statement (%)
LINAC related work	17	30
Dosimetry	13	19
Administration	18	19
Research	16	23
Teaching	8	30
Maintenance	6	46
Network administration	6	61
MU (Treatment Plan) Checks	16	19

2) <u>What does employment mean to you?</u>	Average (%)	No Statement (%)
Joy	88,5	11,5
Exchange of ideas	80,8	19,2
Effort	57,7	42,3
Stress	53,8	46,2
Trouble with physicians	30,8	69,2
Trouble with medical technical assistants	15,4	84,6

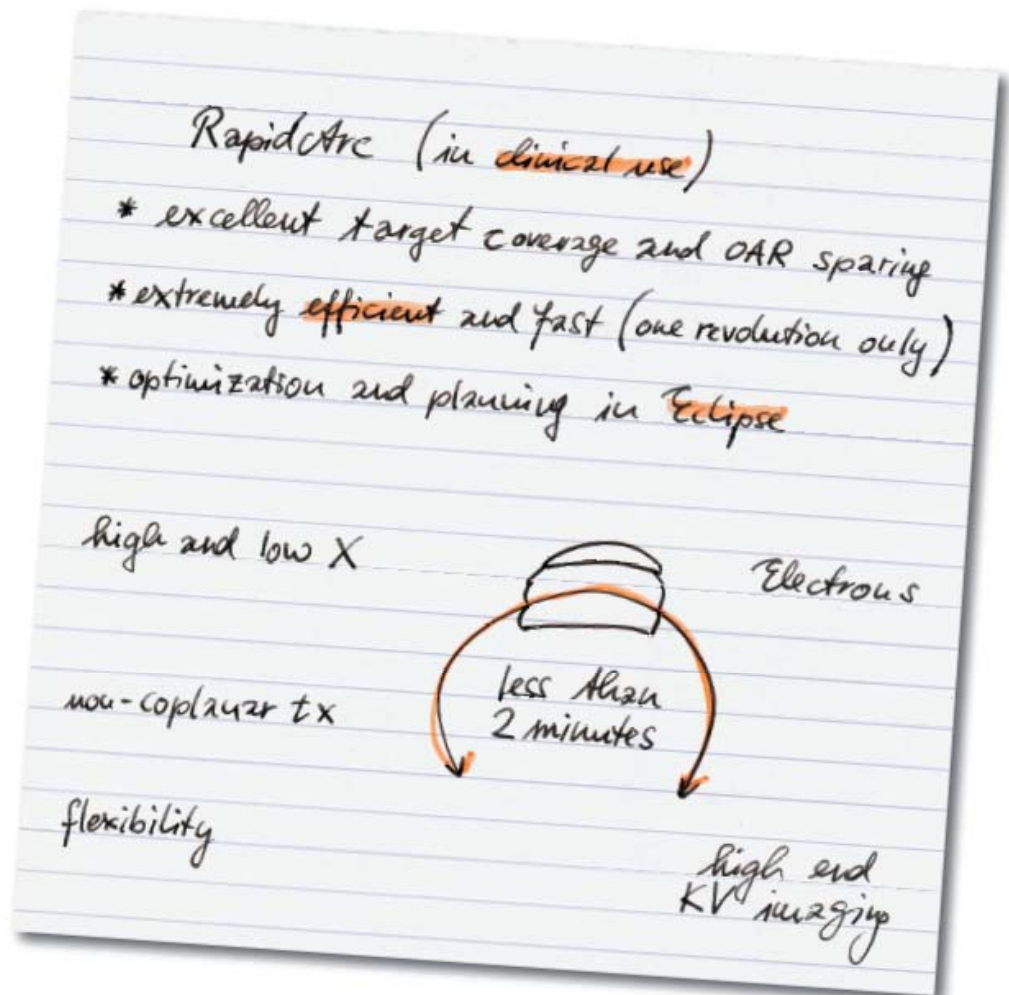
3) <u>How about your spare time?</u>	Average (%)	No Statement (%)
Family	76	24
Continuing Education	48	52
Travel	64	36
Hobbies in general	60	20

Questions with free text answers:

- 4) What's about your workaday routine?
What is generally your largest problem at work?
(main points)
- 5) What is your greatest wish for the field at work?
(main points)
- 6) What would you like to change in your life?
(main points)
- 7) What do you expect about the future of medicin physics in switzerland? (main points)



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News from the IAEA:

Code of Practice for Dosimetry in Diagnostic Radiology

Standardisation of dosimetric practice has been central to the IAEA's work in medical radiation physics for a long period. Recently the IAEA has published a document entitled *Dosimetry in Diagnostic Radiology: An International Code of Practice* (Technical Report Series No. 457) which complements previous work in radiotherapy dosimetry. The current report is the culmination of work begun in 2000 from a drafting team that included:

- G. Alm Carlsson (Sweden),
- D.R. Dance (United Kingdom),
- L. DeWerd (United States of America),
- H.-M. Kramer (Germany),
- K.-H. Ng (Malaysia),
- F. Pernicka (Czech Republic) and
- P. Ortiz Lopez (IAEA).

The report reflects the diverse nature of diagnostic radiology dosimetry, broadly covering the dosimetry framework, quantities and units, instrumentation and calibration procedures. The dosimetric quantities include both fundamental quantities describing radiation fields and the deposition of radiation in matter, and quantities used for applied dosimetry measurements for five main elements of clinical practice, namely general radiography, fluoroscopy, mammography, computed tomography (CT) and dental radiography. All application specific quantities used in the document are based on measurements of air kerma. They range from incident and entrance surface air kerma describing measurements in a single point, to quantities that integrate the air kerma over a specified length or area. Quantities related to effects of ionizing radiation, like absorbed dose with the example of quantity mean glandular dose as is the case for mammography, are calculated from the application specific quantities using appropriate conversion factors. These are based on models and include certain clinical assumptions. The instrumentation described in the document also varies notably with the inclusion of kerma area product (KAP) meters for fluoroscopic and radiography applications and pencil CT chambers for kerma length measurement in CT and some dental applications.

A unique feature of the report is the guidance to both calibration laboratories and clinical centres being contained in the one volume. In some cases a rigorous approach to diagnostic radiology dosimetry and calibration procedures is new, especially for CT dosimetry, KAP meters and emerging areas in dental dosimetry. For all the modalities mentioned above,

the report systematically describes phantom and patient measurement quantities, gives details of the measurement procedures, calculations and estimation of measurement uncertainties. To assist users with a practical implementation, the report also includes worked examples for clinical and calibration procedures and includes appropriate sections on estimation of measurement uncertainty. For those interested in details of dosimetry in diagnostic radiology, the report gives a sufficient amount of reading material and references.

The IAEA has developed an International Code of Practice for dosimetry in x-ray diagnostic radiology. The report puts strong emphasis on the practical aspects of calibrations at Secondary Standards Dosimetry Laboratories and measurements in clinical practice. It is believed that the document will help to achieve and maintain a high level of quality in diagnostic radiology dosimetry, to improve the implementation of traceable standards at the national level and to ensure better control of radiation dose in x ray medical imaging world-wide.

Dosimetry in Diagnostic Radiology: An International Code of Practice (Technical Report Series No. 457) is available at:

http://www-pub.iaea.org/MTCD/publications/PDF/TRS457_web.pdf



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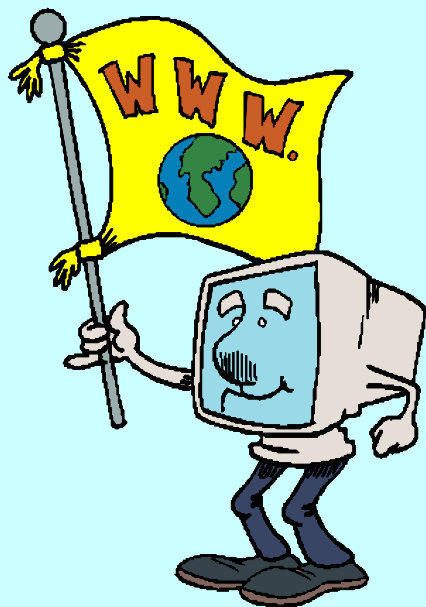


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Getting to know the website “www.medicalphysicist.co.uk” and its author

My website is a private undertaking fully funded by myself. It was launched in 2004, just after I started my medical physics training in Dundee, Scotland. I had looked at the other medical physics websites available at the time and decided that although they all provided useful physics information; they did not “connect” to the average medical physics trainee.



The website www.medicalphysicist.co.uk was initially designed to supplement my training and to have learning material readily available wherever I was able to access the internet. The material was based around my three main training subjects; radiotherapy, medical resonance imaging and radiation

protection. I sought to make available information relevant to the Part I viva in a question and answer format, using actual viva questions provided to me by other trainees. The whole point was to help trainees to prepare well and to remove some of the myth surrounding the viva exams. At a later stage I also uploaded copies of my Part I portfolios for RT, MRI and RP. Again, this was to serve as an example of the expected format as required by the UK medical physics governing body, the Institute of Physics and Engineering in Medicine (IPEM).

The radiotherapy section currently contains the most information, not surprising as this is my speciality. It contains sub-sections on intraoperative radiotherapy (IORT), radiobiology, tomotherapy and intensity modulated radiotherapy (IMRT). I spent 2 years working with very low kV photons and the IORT section contains a collection of abstracts and original papers produced by the IORT group in Dundee. The MRI section contains a useful presentation on “Artefacts in Clinical MRI” as well as a sample portfolio and links to external MRI sites. The radiation protection section contains viva review questions, a sample portfolio and a useful presentation on the Ionising Radiation Regulations 1999.

There are useful links to most of the major medical physics societies including the IPEM, IoP, ESTRO, AAPM and the EFOMP. A section on careers in

medical physics contains links to medical physics jobs and provides frank and entertaining information on interview techniques and “the interview itself – what to expect”. An on-going blog on the acceptance and commissioning of a new radiotherapy centre provides medical physicists and the public alike with a behind-the-scenes look at what such an undertaking entails.

The traffic on my website has gradually increased due to the fact that it has been around for 4 years and has now been indexed by most major search engines such as Yahoo! Google, Alta Vista and Metacrawler. My website receives hits from universities, institutes, companies and individuals from all over the world. In 2007, there were over 12000 page loads and more than 2200 unique visitors. Return visits make up 40% of the overall traffic indicating that my website is seen to be a useful resource.

www.medicalphysicist.co.uk has accompanied me throughout my training and it will continue to grow as my own knowledge and experience increases. I recognise that it is in need of a revamp and this will take place as time allows. It is gratifying to know that my website has been helpful to other medical physics trainees and I am very pleased to be able to contribute this description to European Medical Physics News.



About the author

Kris Armoogum was born in Trinidad in the Caribbean and did his first degree at the University of Dundee, Scotland (Bachelor of Engineering BEng in Electronic Engineering and Microcomputer Systems). After graduating he moved to Germany to learn the language and to gain his first work experience there. His first Masters Degree (MSc) is from Imperial College, University of London in Engineering and Physical Sciences in Medicine. On completion he returned to Hamburg, Germany to work for a small electronics company involved with the design of a data processing device for vending machines. After 5 years in Germany he returned to Dundee, Scotland and was employed as a Product Support Engineer in the field of transport telemetry at a market leading company.

In 2002 he began his second Masters Degree (MRes) in Tissue Engineering at the University of Dundee and shortly after began his Medical Physics

training at Ninewells Hospital in the same city. He began as a research assistant in Magnetic Resonance Imaging (MRI) and co-authored a paper on the relationship between kidney volume measurements and renal function in patients with renovascular disease. His main subjects during his 15 month basic training were radiotherapy, radiation protection and MRI and he specialized in radiotherapy during his 2 year advanced training period. His particular interest lies in intraoperative radiotherapy (IORT) using very low energy x-rays (50 kV). His work contributed to the introduction in Ninewells Hospital of a routine IORT service for patients with early stage breast cancer, the first of its kind in Scotland. He has published three peer reviewed articles based on his IORT research and has presented his work at international conferences in the UK, Switzerland and Portugal. He has written two book reviews on radiation treatment planning and is a peer reviewer for the British Journal of Radiology.



Mr. Armoogum currently resides in Regen, Germany with his wife and two children. He enjoys reading, indoor rowing and hill-walking and especially likes walking in the Scottish Highlands (see picture above).



Job advertisement



Consultant Physicist – Radiation Oncology

The London Clinic www.thelondonclinic.co.uk is an independent acute hospital situated in the heart of London's medical community on Harley Street, London, United Kingdom. We enjoy a long-standing international reputation for medical excellence in individual care spanning 75 years. The London Clinic is a non-profit organisation and the largest single private hospital in the UK.

We have invested over £100 million in the latest medical technology over the past five years across one campus. This includes major capital investment in a new 8 floor cancer centre designed by Anshen Dyer due to complete at the end of 2009. The Centre has 4 bunkers; on order are 2 Varian Trilogies, a Cyberknife and a GE CT simulator. We are committed to being a World Class Radiotherapy Centre with cutting edge radiotherapy delivery technology into the future.

We now require the services of a Consultant Physicist in Radiation Oncology with demonstrable experience of successfully setting up and leading a new Physics Service.

Essential Criteria:

- A minimum commitment of 2 years is required – relocation package available to applicants from abroad
- A minimum of 6 years senior level experience which must include experience of a broad ranging autonomous clinical workload. Able to use Stereotactic Radiotherapy, IMRT and IGRT technologies is desirable
- State Registration as a Clinical Scientist and corporate membership of a professional body e.g. IPEM, AAPM, COMP, EFOMP, ESTRO
- The successful applicant should be passionate about Radiotherapy, energetic, able to inspire the multi-disciplinary team and have excellent relationship skills

Our requirements are in exchange for a generous reward package and other benefits which include Life Assurance, Private Healthcare Insurance and a Portable Pension Scheme

For further details on the post please contact Michelle Snowden, Recruiter Medical Division – e mail: msnowden@deaconrecruiting.com also please e mail your curriculum vitae to this address or hard copy to: Michelle Snowden, Deacon Recruiting Inc. San Antonio, Texas 78258, United States of America. Direct telephone number 210.807.5631,(or toll free if calling from within the United States 877.507.1000 extension 260) fax number: 210.494.4924

Should you wish to discuss the role, please contact Dr David Landau, Consultant Clinical Oncologist at: david@landau.me.uk; or telephone 020 7317 2540 United Kingdom.

Closing date: 15 August 2008

The London Clinic employees over 900 staff including dedicated specialist nurses, clinical teams and medical support staff, and we have more than 250 internationally renowned consultants. Together we provide exceptional care to approximately 20,000 inpatients and 125,000 outpatients each year. It is an inspiring place to work. We pride ourselves on offering the most advanced and progressive services which allow us to be as responsive as possible to an individual's needs. We are uniquely able to concentrate our investment to give patients access to the latest medical technology and innovation, and provide dedicated training and staff development across all departments.

The London Clinic is well served by London underground stations and many bus routes. The shops, theatres, sights, restaurants and attractions of Oxford Street and the West End are only minutes away.

Some experiences from the abstract evaluation process for the ESTRO physics meetings

Håkan Nyström

The Skandion Clinic, Uppsala, Sweden

and

Dag Rune Olsen

Rikshospitalet, Oslo, Norway

Dr. Christofides raises some important questions in his article (European Medical Physics News, Winter 2007/2008) concerning the quality of abstracts for submitted for medical physics meetings and the process on how to evaluate them. The European meetings for medical physicists are important for developing the subject, sharing experiences within the profession and encourage good scientific work in our field around Europe. Not to mention the importance of networking! To attract attendees and to fulfill the mentioned criteria, the scientific quality of the conferences must of course be good. This includes teaching sessions, seminars, proffered paper sessions as well as poster exhibitions. This means that the quality of a medical physics conference to a large extent is dependent on the quality of the submitted abstracts.

Let us share some of the experiences we have gained as members of the scientific committee, abstract reviewing group for the last few ESTRO meetings, chairman of the ESTRO physics committee and, for the last two ESTRO physics meetings in Lisbon 2005 and Barcelona 2007, chairmen of the scientific committees.

Research in the field of medical physics and indeed in radiotherapy physics, has increased in volume dramatically during the last few decades. Thereby has also the competition increased; compared to the situation just ten years ago, the number of submitted abstracts to our main scientific journals have almost doubled. True is that also the number of publications have increased, but not at all to the same extent. As a consequence the probability, or risk, of rejection is drastically higher than in the past. A higher rejection rate and a stronger competition are likely to result in a higher quality of published papers.

Does the same tendency show up for submitted abstracts for medical physics conferences? Dr. Christofides has observed a trend toward lower and lower quality for these abstracts. We do not question his observations or judgment, but we think there might be more to the picture than Dr. Christofides points out.

First of all there are more conferences available now than just a few years ago. The number of medical physicists attending European meetings has probably never been higher. For many of the participants, in particular for many of the more junior physicists, just as pointed out by Dr. Christofides, an active

participation in the meeting is a prerequisite to be allowed to go. This means you have to submit an abstract in order to go. Almost certainly this may affect the quality in a negative way: Routine physics work becomes the topic for a poster or just recently designed ideas of future research become an abstract for an oral presentation.

For the ESTRO physics meetings, the number of attendees has increased from about 300 to over 1300 since the first meeting in 1991. During the same period the number of submitted abstracts has increased from 78 in 1991, to 604 in 2007. It is plausible that the absolute number of low quality abstracts has increased, but so has indeed the number of high quality abstracts!

The format of the ESTRO physics conference has remained basically the same over the years. This means that the space for proffered papers has not dramatically increased. As a consequence there are good reasons to believe that the general quality of the abstracts selected for oral presentation has improved with time. Just the best few abstracts are selected every year from an ever increasing number of submitted abstracts.

There is, however, another problem with this; what happens with the abstracts not selected for oral presentation? Traditionally, for the ESTRO physics meetings, those became posters. In 1991 this meant that 18 abstracts that did not qualify for oral presentation (or the author asked upfront for a poster), became poster presentations. In 2007 this figure was 425. We are pretty confident that the quality of poster on average was better in 2007 than 16 years earlier! This because of two main reasons:

- i) the relative fraction of "high quality" abstracts selected for oral presentation was significantly smaller and,
- ii) the abstract reviewing committee allowed themselves to reject "low quality" abstracts.

The problem that indeed deserves attention is two-fold. Firstly, since there are a lot of very good abstracts becoming posters, the size of the poster exhibition needs to be limited. Already 425 abstracts make a huge exhibition where good abstracts may get lost in the crowd. A higher rejection rate is one method to prevent this. Secondly, since only few abstracts are selected for oral presentation, and an increasing fraction of abstracts risk rejection, the process for selecting and scoring abstracts needs to be reviewed.

For the ESTRO physics meeting in 2007 about 5% of the abstracts were rejected. Some because they were outside the topic of the conference, and some because of low quality. For the reviewing process 25 reviewers were appointed and the aim was to ensure

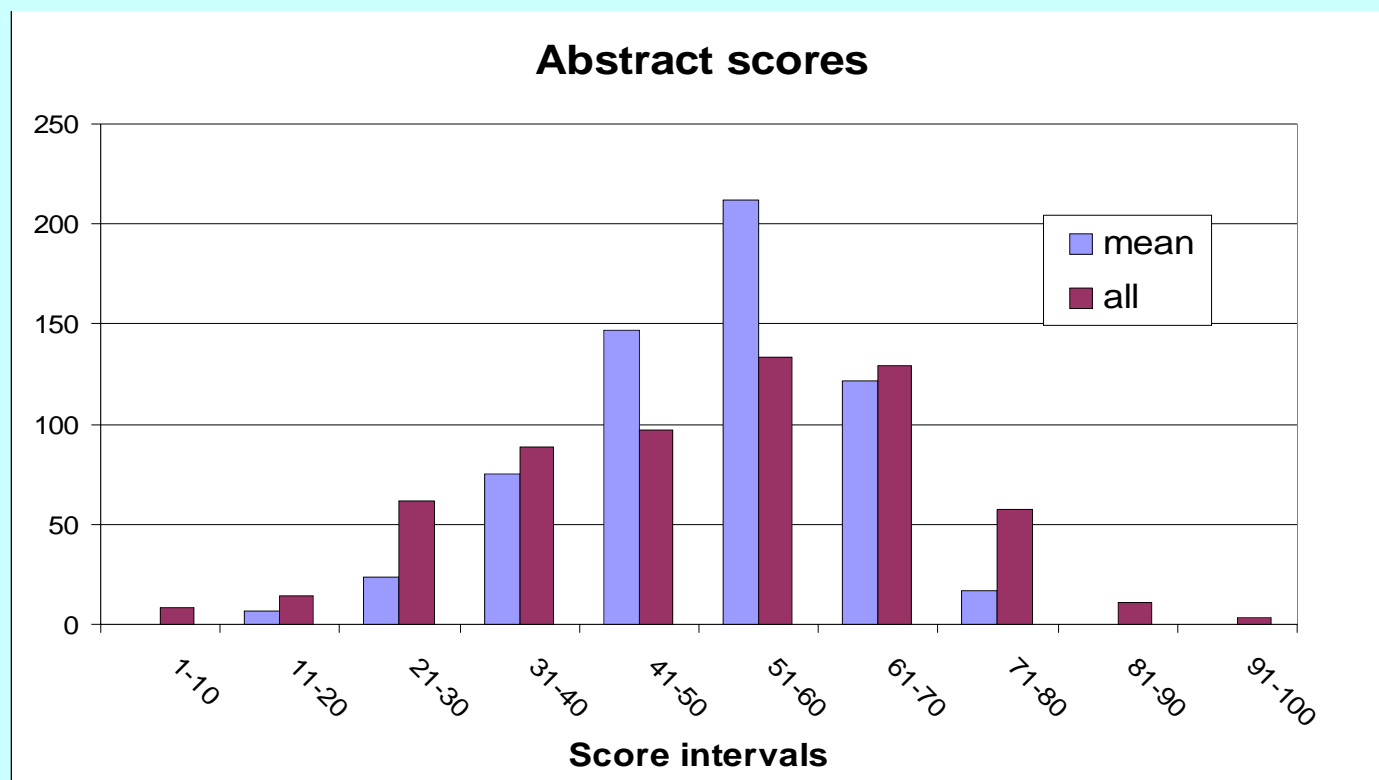


Figure 1: The mean scores for all abstracts ($N=604$) and the total number of scores (normalized to the same N).

no abstract being reviewed by fewer than five persons. This meant that every reviewer on average had more than 125 abstracts to review; a tedious task indeed. The scores could be given in the range from 1-100 and the average was used as the main selection criteria.

Already here the first hurdle appears. Since there always will be a spread of the scores, the average of the scores for individual abstracts will always express a smaller spread than the total scores from all reviewers (see Fig 1.)

If not all reviewers apply the same measure, reviewers using the extreme values will have a much larger impact on the average values. The first important message is hence to give as detailed instructions to the reviewers as possible. These should, beside defining the meaning of different scores, include an average that the reviewers should aim at. If some reviewers have an average much different from the others, this might indicate that different standards are applied. In such a case, since not all reviewers are scoring all abstracts, authors will be treated differently if they are exposed to "kind" or "nasty" reviewers. There should also be some quite strict criteria on what an acceptable abstract should contain. Research obviously not yet performed and results not yet obtained, should be banned. Also the presentation of results from routine medical physics work should, just like suggested by Dr. Christofides, not be accepted. It must be communicated clearly to those who consider submitting and abstract and also to abstract reviewers that scientific originality is an important acceptance criteria. As a further rule, applied for a long time by ESTRO, is to only allow one abstract per (first) author. This will encourage active

research groups to present only their best work and to promote several members of their group to act as authors.

In addition, we believe we need to significantly increase the rejection rate. There are several reasons for this. As mentioned above, the good posters risk drowning in a huge poster exhibition, which is not a fair way to handle the presentation of good science. There are of course also other ways to improve the poster exhibitions, but still, the rejection rate must increase. Another, and maybe even more important reason, would be to send a clear message that not everything will be accepted. When this becomes a well known fact, fewer will submit low quality abstracts just to justify their participation in the conference.

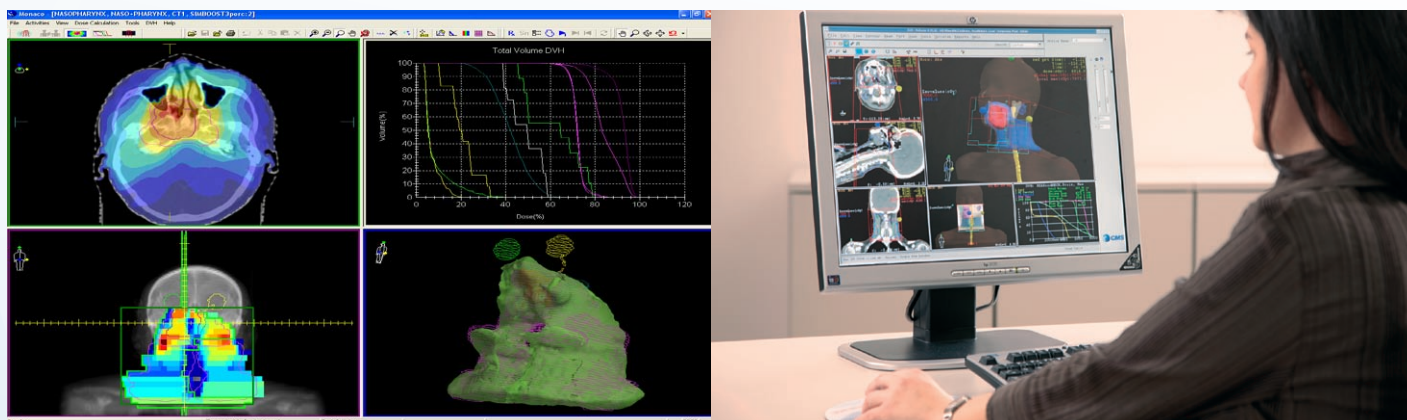
Finally, and this is an important area where ESTRO needs to improve: A higher rejection rate enhances the importance of a fair and objective evaluation of the abstracts. Just like many organizations do, the abstracts should be anonymised before scoring. This has, basically due to practical reasons, not been done earlier, but will be the case for the next ESTRO physics meeting in 2009.



Håkan Nyström



Dag Rune Olsen



CMS and Elekta Maintain Commitment to Open Platforms and Vendor-Independent Solutions

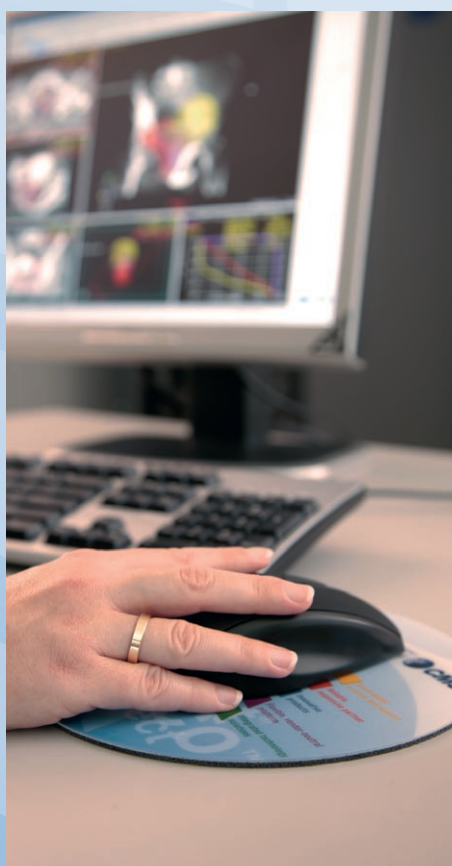
CMS is to form the basis of the treatment planning arm of Elekta and will work closely with IMPAC, also an Elekta company, to accelerate the development of a next generation EMR-centric distributed adaptive radiotherapy software solution that integrates the complementary capabilities of the entire product portfolio.

CMS will continue to develop, sell and support its products on a stand-alone basis and collaborate with all equipment providers in order to support emerging treatment technologies including VMAT for Elekta linacs with single- or multiple-arc treatments, as well as RapidArc for Varian linacs offering single arc only.

An announcement stated that open platforms and vendor-independent solutions will continue to be a primary objective for CMS and Elekta moving forward. "CMS will maintain its support for multiple vendors, including Varian and Siemens, while promoting freedom, flexibility and choice in any clinical environment."

CMS has been developing radiation treatment planning systems since 1979 and intends to remain a pioneer in treatment planning and workflow management. Our legacy of clinical excellence is reflected in a broad range of leading edge applications and comprehensive

workflow solutions designed to make all members of the radiotherapy team more effective in providing patient care. All together, the entire Elekta family of companies have over 2,500 employees around the world focused on delivering solutions for advanced and efficient patient care and our products are used to plan, treat and manage the care of over 100,000 patients each day at our 5,000 facilities worldwide.



For radiation treatment planning, CMS for solutions include:

- **XiO®**, a comprehensive 3-D / IMRT treatment planning platform
- **Monaco®**, a next generation IMRT featuring biological cost functions with multi-criterial constrained optimization, a powerful leaf sequence optimizer, and a Monte Carlo dose calculation algorithm, and represents "the most advanced IMRT solution on the market."
- **Focal** is a desktop PC-based distributed planning solution
- **Focal 4D**, a set of 4D visualization and contouring tools (work-in-progress)
- **CMS.Direct**, a suite of products that provide solutions to the radiation therapy clinic including CMS.Direct MultiVue, CMS.Direct Storage, and CMS.Direct Access
- **CMS Atlas-Based Autosegmentation**, a software solution to automate patient contouring and streamline the planning process (work-in-progress)
- **Virtual Reality Simulation**, an advanced visualization and planning tool that includes a rooms-eye view of the treatment room along with a full-motion linear accelerator and virtual patient in both a 2D and fully-immersive 3D viewing environment (work-in-progress)

Zeitschrift für Medizinische Physik

Das wissenschaftliche Journal der Deutschen Gesellschaft für Medizinische Physik (DGMP)

Abstract

Following its foundation in 1969 the German Society of Medical Physics (DGMP) soon published and distributed a small news bulletin. However, increasing relevance of Medical Physics as it became obvious from DGMP membership and the numbers of scientific contributions to the field quickly necessitated a dedicated journal for Medical Physics. After overcoming many obstacles the persistent efforts of the founding fathers paid off: The 'Zeitschrift für Medizinische Physik' was published for the first time in 1991. In spite of being a journal run by German speaking Medical Physics Societies, it accepts publications not only in German, but also in French and English, a rarely found multi-language orientation. The journal survived difficulties and is now published by Elsevier. Listed over the years in most of the established relevant online databases the 'Zeitschrift für Medizinische Physik' was recently accepted to the prestigious "Current Contents" database of the Institute for Scientific Information. Coming along with an Impact Factor this reward puts the journal now into the premium segment of scientific publications.



Medizinische Physik (ÖGMP) und später auch der Schweizerischen Gesellschaft für Strahlenbiologie und Medizinische Physik (SGSMP). Von den drei Fachgesellschaften wurde eine Schriftleitung eingesetzt, die für die fachlichen Inhalte und organisatorischen Belange der Zeitschrift verantwortlich war. Erster Koordinator der Schriftleitung war Dietrich Harder, der heute Ehrenherausgeber ist. Es ist zu bemerken, dass die 'Zeitschrift für Medizinische Physik' trotz ihres deutschen Titels und der Herausgabe durch deutschsprachige Fachgesellschaften nicht nur Manuskripte in Deutsch und dem vielfach zur Standardfachsprache Englisch, sondern auch in Französisch akzeptieren kann.

Die folgenden Jahre brachten uns durch Verkaufs- und Übernahmeaktionen der Verlage mitunter an den Rand des Untergangs der mit soviel Engagement gegründeten Zeitschrift. So kam völlig überraschend Anfang 1998 der Verkauf und die sofortige Kündigung des G. Braun Verlages, und nur unter großem persönlichen Einsatz der damaligen Vorstandschaft und der Schriftleitung konnte ein rascher Wechsel zum G. Fischer Verlag vollzogen werden. Seit Sommer 2003 befinden wir uns nun in der Obhut des Urban & Fischer Verlags im renommierten Verlagshaus Elsevier.

Durch die ständige, in guter Zusammenarbeit mit dem Urban & Fischer Verlag in Jena erreichte Verbesserung der Qualität unserer Zeitschrift wurde sie in den Jahren danach in diverse Datenbanken aufgenommen - bis zum Ritterschlag im Jahre 2007, als die 'Zeitschrift für Medizinische Physik' in die „Current Contents“ Datenbank des ISI (Institute for Scientific Information, Philadelphia) einging und einen Impact Faktor erhielt – ein großartiger Erfolg! Damit stieg unser Journal in die 1. Liga auf, in der bisher nur ca. 60 deutschsprachige Zeitschriften vertreten sind.

Heute sind wir in fast allen wichtigen Datenbanken zu finden: Medline (ca. 4 000 Journals) Scopus Direct (ca. 14 000) und im ‚Primesegment‘ Current Contents (ca. 7000). Die inzwischen feste Marktposition unserer Zeitschrift im deutschsprachigen Raum, die stabile Manuskriptlage sowie die gute Zusammenarbeit von Herausbergremium und Verlag lässt uns auch für die Zukunft hoffen,



viermal im Jahr ein gut gefülltes und ausgewogen gestaltetes Heft unserer 'Zeitschrift für Medizinische Physik' in den Händen zu halten.

Lothar Schad,
Editor of „Zeitschrift für
Medizinische Physik“

Schon bei ihrer Gründung im Jahre 1969 erkannte die Deutsche Gesellschaft für Medizinische Physik (DGMP) die Notwendigkeit eines schriftlichen Organs, und gut ein halbes Jahr später erschien dann ein eigenes kleines Mitteilungsblatt im DIN A5 Format. Mit dem Anwachsen der Bedeutung der Medizinischen Physik wuchs auch die Zahl der Mitglieder der DGMP und damit die Anzahl der wissenschaftlichen Beiträge auf den Jahrestagungen. Daher wurden schon in den siebziger und achtziger Jahren verschiedentlich Überlegungen angestellt, eine eigene Zeitschrift herauszugeben.

Der Realisierung standen allerdings finanzielle Hürden im Wege, die erst Ende der achtziger Jahre durch die Zusammenarbeit mit dem G. Braun Verlag überwindbar wurden. Mehr als zwei Jahren engagierter Arbeit der Gründungsväter unserer Zeitschrift folgte 1991 das Erscheinen des ersten Jahrgangs der Hefte 'Zeitschrift für Medizinische Physik' unter Beteiligung der Österreichischen Gesellschaft für

REPORT on the “Xth EFOMP CONGRESS” **FIRST EUROPEAN CONFERENCE**

Every second year the European Federation of Organisations for Medical Physics (EFOMP) is organizing its Biennial Congress together with a host national society of Medical Physics. In 2007 the Xth EFOMP congress has been organized in conjunction with the Italian Association of Medical Physics (AIFM) in the beautiful international resort “Il Ciocco” in the vicinity of Pisa, Italy. The event run from 20 to 22 September 2007 back to back with the Congress of the AIFM (Italian Association of Medical Physics) that was held from 17 to 20 September 2007 in the same location. AIFM took full responsibility of the local and technical arrangements, whereas EFOMP organized the scientific part with the help of the scientific committee.



FIG.1- *The three presidents.*

Left: the actual EFOMP president (Wolfgang Schlegel). Center: the EFOMP Past- president (Alberto Del Guerra). Right: the incoming EFOMP president (Stelios Christofides).

As President of the Xth EFOMP Congress I had the ambition to set up a scientific event fully autonomous and scientifically independent from the Italian Congress. For that purpose I decided to call this event “First European Conference on Medical Physics”. The special goal for this conference was to present the state-of-the-art of Medical Physics in its various subspecialties: from Radiotherapy to Diagnostic Radiology, from Nuclear Medicine to Medical Imaging, from Radioprotection to Physiological Measurement Techniques. For this purpose top scientists in these fields were invited to give overview talks. Since one of the main tasks of EFOMP is to promote and to harmonize the best practice of Medical Physics in Europe special sessions on training and education in Medical Physics were also set-up.

The abstract submission was done through the web-site kindly set-up by IEEE NSS-MIC (Many thanks go to Dr. Bo Yu, BNL, USA) and the scientific committee took full responsibility of the selection, rejection and allocation of the presentations to the various sessions. The total submission was of 227 abstracts, with 93 accepted as oral presentation (including the 25 invited oral), 109 as poster presentation and 25 rejections.

The attendance at the First European Conference on Medical Physics was 300 plus (at least this was the number of attendees at the congress dinner!). Some of these attendees had prolonged their staying after the preceding AIFM meeting, but most of the them came explicitly for the First European Conference on Medical Physics. The audience was fully international with attendees not only from all over Europe, but also from US, Canada, Japan and the Far-East.

The fascinating opening lecture on Thursday 20 September was delivered by the keynote speaker, Prof. Steve Webb. It was followed by the EFOMP Symposium, where all the activities and fulfillments of EFOMP were presented and discussed. The next day two plenary sessions covered the state-of-the-art of Nuclear Medicine and MRI, followed by three parallel sessions in the afternoon on CT, Nuclear Medicine and Radiotherapy, respectively. On the final day of the conference (Saturday 22nd) three parallel sessions in the morning and three parallel sessions in the afternoon covered all the other topics of the conference. In addition three poster sessions were run (one for each day of the conference) with no other concurrent session.

The conference was very successful and very well attended. We should not forget that this was the First European Conference on Medical Physics! With this response I am confident that the European Medical Physics community is now ready to run their own conference on a regular basis.

Since EFOMP is now running its scientific journal “**PHYSICA MEDICA-European Journal of Medical Physics**” published by Elsevier, it was decided to have a special issue of the journal where a selection of the papers presented at the Xth EFOMP Congress was going to be published. The title of the special issue is “**HIGHLIGHTS OF THE FIRST EUROPEAN CONFERENCE ON MEDICAL PHYSICS**”.

Congress was going to be published. The title of the special issue is “**HIGHLIGHTS OF THE FIRST EUROPEAN CONFERENCE ON MEDICAL PHYSICS**”.

All papers accepted at the Conference were eligible to be published in this special issue. The selection was done by the Scientific Committee and by the session chairs, based on the scientific quality of the abstract/summary and on its scientific presentation (either oral or poster). A total of 18 papers were selected, sub-divided as follows: 8 papers among the invited, 5 among the accepted oral communications, and 5 among the poster presentations.

Elsevier is planning to publish the HIGHLIGHTS issue as EJMP, Vol 24 (2), April-June 2008.

This successful conference could not have been run without the assistance and the support of the institutions and the many individuals that have contributed so much to its success. Hence my deepest acknowledgments go to:

- Department of Physics, University of Pisa

- University of Pisa
- INFN (Istituto Nazionale di Fisica Nucleare)
- AIFM (Italian Association of Medical Physics)
- Azienda Ospedaliera Universitaria Pisana, Pisa

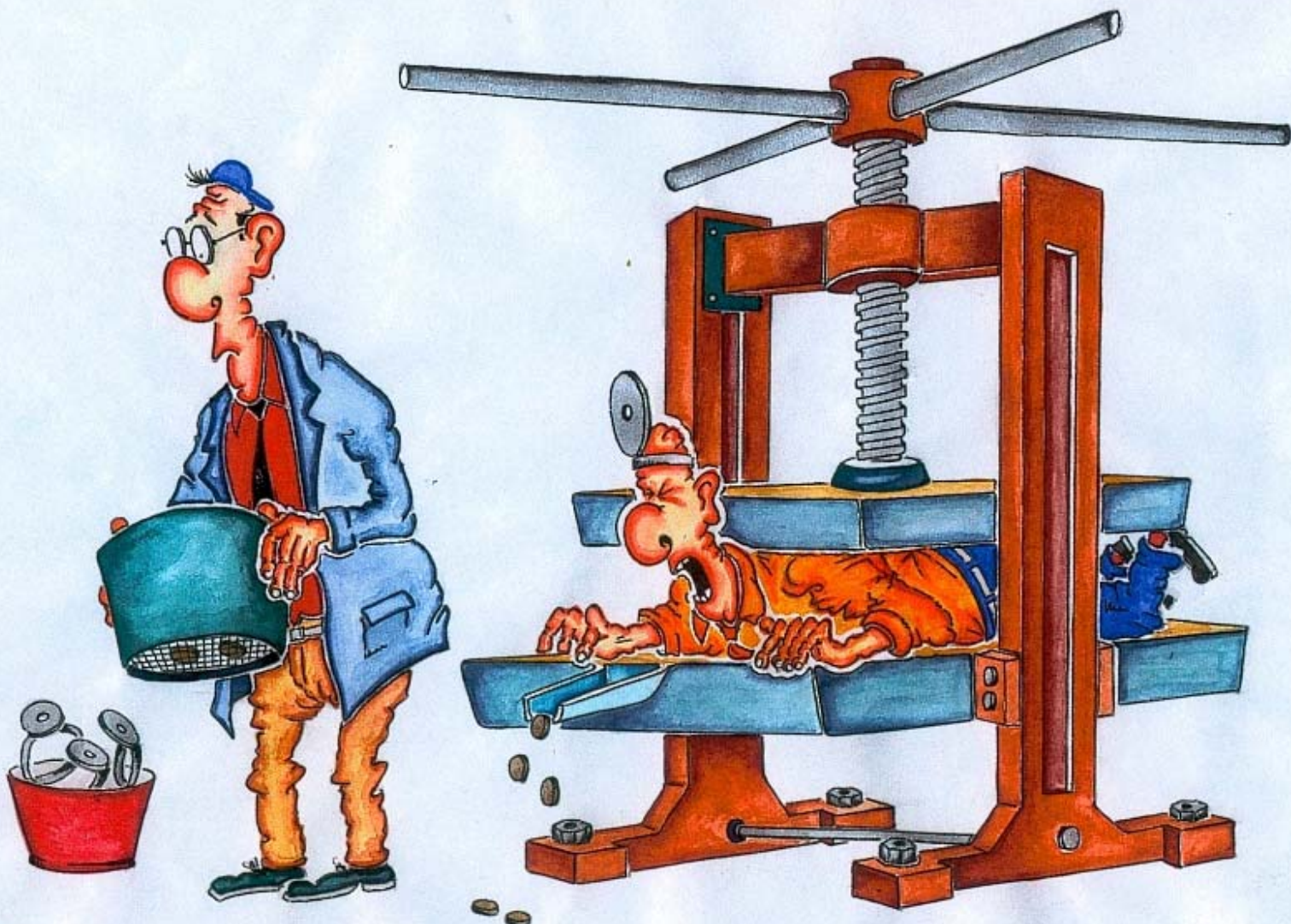
Last but not least, let me thank the actual and the incoming EFOMP President, Prof. Wolfgang Schlegel and Dr. Stelios Christofides, respectively. They have supported heartily this conference and assure its continuity for the benefit of the European medical physics community.



Alberto Del Guerra
President of the
Xth EFOMP Congress

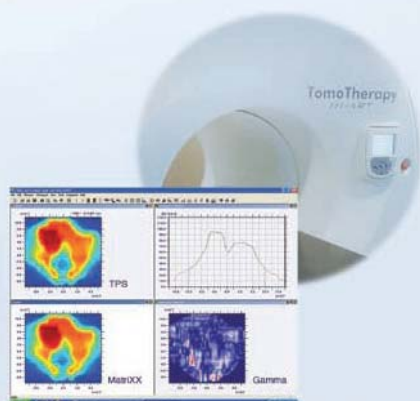
Cartoon

by U. Neumann, Germany

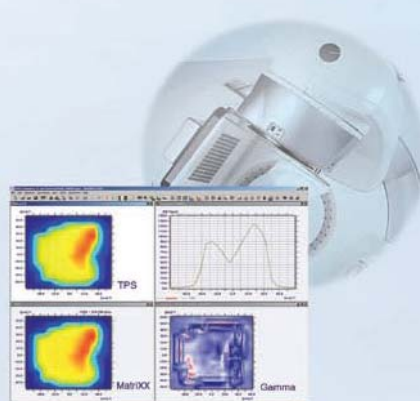


One evolution is all it takes

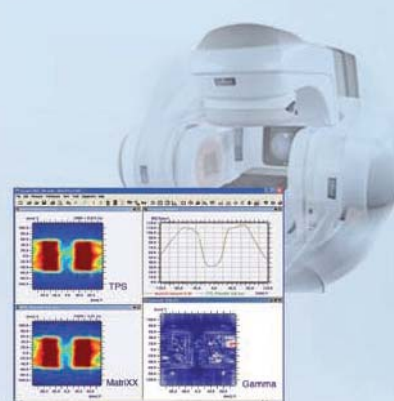
MatriXX^{Evolution}



Hi-Art[®]



VMAT



RapidArc[™]

MatriXX^{Evolution}

- QA for RapidArc[™], VMAT and Hi-Art[®]
- Efficiency & peace of mind

Please visit us at ESTRO, Gothenburg (September 14th – 18th), booth # B0602.

www.iba-dosimetry.com | info@iba-dosimetry.com

Scientific Meetings

EFOMP sponsored Meetings:

Sept 16 - 17, 2008:

EFOMP Workshop on the Radiation Protection of the Patient

Krakow, Poland,

Preceding the 2nd European Medical Physics Conference (see below)

Sep 17 - 21, 2008:

Medical Physics and Engineering

110 Years After the Discovery of Polonium and Radium —

2nd European Conference on Medical Physics

Krakow, Poland

Contact: mpekrak08@novell.ftj.agh.edu.pl, info: <http://mpekrak08.ftj.agh.edu.pl>

Sept 16 - 18, 2008:

ESTRO 27

Göteborg (Sweden)

Info: www.estro27.org

Sept 24 - 26, 2008:

Workshop IGRT Vienna 2008

Visions and Perspectives in Image

Guided Radiation Oncology

Vienna, Austria

Info: www.meduniwien.ac.at/igrtvienna08

Sept 29 - Oct 3, 2008:

5th International Conference on Radiotherapy Gel Dosimetry

Hersonissos, Crete, Greece

Info: www.dosgel2008.gr

Oct 2 - 4, 2008:

ESMRMB Congress 2008

25th Annual Meeting of the Society of Magnetic Resonance in Medicine and Biology

Valencia, Spain

Info: www.ESMRMB.org

Oct 11 - 15, 2008:

EANM'08

Annual Congress of the European Association of Nuclear Medicine

Munich, Germany

Info: eanm08.eanm.org

Oct 16 - 18, 2008:

10th National Conference On Biomedical Physics And Engineering with international participation

(conference languages: Bulgarian and English)

Sofia, Bulgaria

Info: www.usb-bg.org/Bg/BSBPE2008.htm

Oct 18 - 25, 2008:

2008 IEEE Nuclear Science Symposium and Medical Imaging Conference

Dresden, Germany

Contact: nssmic2008@fzd.de

Info: www.nss-mic.org/2008

Oct 20 - 24, 2008:

Joint ICTP-IAEA School on Advanced Radiotherapy Techniques

The Abdus Salam International Centre for Theoretical Physics,

Miramare, Trieste, Italy

Contact: smr1964@ictp.it

Info: www.ictp.it

Oct 23 - Dec 2, 2008:

European School of Medical Physics

Archamps, France

Info: lemoigne.web.cern.ch/lemoigne/esiweb/ESMPnn11.htm