Medical Physics World

International Organization for Medical Physics

www.iomp.org

Bulletin of the International Organization for Medical Physics 78 Adhering National Organizations 2007

Algeria • Argentina • Australia • Australia • Bangladesh • Belgium • Brazil • Bulgaria • Cameroon • Canada • Chile • Colombia • Croatia • Cuba
Cyprus • Czech Republic • Denmark • Ecuador • Egypt • Emirates • Estonia • Finland • France • Georgia • Germany • Ghana • Greece • Hong Kong
Hungary • India • Indonesia • Iran • Ireland • Israel • Itali • Japan • Jordan • Korea • Lithuania • Macedonia • Malaysia • Mexico • Republic of Moldova
Mongolia • Morocco • Nepal • Netherlands • New Zealand • Nigeria • Norway • Pakistan • Panama • People's Republic of China • Philippines • Poland
Portugal • Republic of China Taiwan • Romania • Russia • Singapore • Slovenia • South Africa • Spain • Sri Lanka • Sudan • Sweden • Switzerland
Tanzania • Thailand • Trinidad & Tobago • Turkey • Uganda • Ükraine • United Kingdom • United States of America • Venezuela • Zambia • Zimbabwe



Professor Barry J Allen, Ph.D.; DSc; President IOMP

Table of Contents

News & Views from the President	1
Secretary-General's Report	2
Editor's Choice	5
BBS Report	6
Treasurer's Report	9
Donation of Used Equipment	11
7th AOCMP Meeting	12
Status of IOMP/AAPM Libraries	15
IOMP Specialized Medical Physicis	
Calendar of Events	18

News & Views from the President

Professor Barry J Allen, Ph.D.; DSc; President IOMP

he past year has seen a number of new initiatives and developments by the IOMP. First among many was the formation of the international Health Technology and Training Task Group (HTTTG), formed last year at wc2006 in Seoul, under the auspices of the IUPESM. Our integration with the engineers continues via IUPESM, and of which I am now the Vice-President. HTTTG provides an excellent opportunity for further collaboration in its role to optimize appropriate health technologies so as to benefit the majority of people in developing countries. HTTTG comprises more than 50 experts in medical physics and biomedical engineering, clinicians and consumers. As founder and Chair of the HTTTG, I can report considerable progress has been made in the last 12 months. I arranged a tour of the Mekong Delta in Vietnam, with visits to Choray Hospital in Saigon, the Kian Giang provincial hospital, several district hospitals and numerous health stations. Recom-

mendations were made in a joint meeting with Choray Hospital staff, and Action Groups for each recommendation have been formed. It is expected that the Action Groups will report within a year. Their job is to evaluate a specific problem, then specify and cost the solution. The overall report will provide the basis for requests for funding to implement a demonstrated health technology system. This would empower doctors and allied staff in the Mekong Delta and allow a higher level of medicine to be practiced at the village or regional level.

The IOMP continues to grow in its membership. Macedonia has formally joined IOMP and the Jordanian Association of Medical Physics has reformed. Several other countries have indicated an interest in joining IOMP. The Vietnamese Society for Biomedical Physics and Engineering is based on a founding committee.

President's Report continued on page 16

Secretary-General's Report

Peter H S Smith, B.A., Ph.D., FIPEM; Secretary General, IOMP

he IOMP holds an international regionally based conference on medical physics approximately half way between World Congresses. The first of these was in Nuremberg, Germany in 2005 and the next one is in Dubai, United Arab Emirates, in April (14-16th) 2008. The theme of the conference is 'Current and Future Sciences in Radiation'. This series of IOMP conference has the aim of being flexible in format and meeting the specific needs of the region whilst maintaining the highest international standards. The mix of scientific, educational and professional topics varies, as does the size. Please consider attending and participating in the Dubai meeting - see http://www.icmpdubai.com for further information.

There will be another of these conferences in 2010/2011 between the World Congresses in Munich, Germany (2009 – please note changed date, now the 7-12 September 2009) and Beijing (2012). If your national or regional organisation is interested in hosting this international medical physics conference then please let me know. A formal invitation to host the 2010/2011 international conference on medical physics (ICMP 18) to national and regional organisations will be issued next year.

An upgrade to the IOMP's website is overdue and Council and the Executive have placed a high priority on this. The appearance of the current site is not of high enough standard but far more important it does not have the functionality we need. The first part is relatively easy but including additional functionality, such as password protected areas, discussion facilities for on-line meetings, inclusion of databases, access for different people from around the

world to update specific areas etc is more difficult and expensive. Also it is not just a question of creating a new website but its support, maintenance and development and how it is managed.

Council have set up a working group led by Dr. Slavik Tabakov to take the task forward. A specification for the new website is nearing completion. Invitations to express interest in developing the site will be sent to national medical physics organizations, to commercial organisations and to any other organisation that members of IOMP can suggest. Many

... it is not just a question of creating a new website but its support, maintenance and development and how it is managed.

countries have an abundance of IT skills and resources and IOMP as a world organisation needs to ensure that it finds an organisation that not only can develop the site but can manage, maintain and develop it at a very modest level of funding. Voluntary involvement by IOMP members would be wonderful but we need to ensure that there is continuity and resilience. Comments and expressions of interest in being involved are welcome.

Please see the IOMP website for the activities of Council and the Executive Committee – minutes or notes of meetings are available on the IOMP website under 'Council' and 'Officers and Ex. Com'.

Officers and Council of IOMP-2007

President: Barry Allen, Ph.D., DSc. St. George Hospital Cancer Care Centre Gray St., Kogarah, NSW 2217 Australia Tel: +61(0)2 9113 3855 Fax: +61(0)2 9113 4044 Email: barry.allen@sesiahs.health.nsw.gov.au

Vice-President: Fridtjof Nüsslin, Ph.D. Klinik für Strahlentherapie and Radiologische Onkologie Klinikum r.d.lsar Technischen Universität München Ismanigerstr 22 81675 München, Germany

Tel: +49(089) 4140 4517 Fax: +49(089) 4140 4882 Email: nuesslin@lrz.tum.de Secretary General: Peter H. Smith, Ph. D. Northern Ireland Regional Medical Physics Agency

Musgrave and Clarke House
Royal Hospitals Site
Grosvenor Road
Belfast BT12 6BA
Tel: +44(0) 28 9063 Fax: +44(0) 28 9031 3040
Email: peter.smith@mpa.n-i-nhs.uk

Queen Elizabeth II Health Sciences Centre 1278 Tower Road Halifax, Nova Scotia Canada, B3H 2Y9 Tel: (902) 473-2677 Fax: (902) 473-2018 Email: gmawko@dal.ca

IOMP Committee Chairs

Treasurer: George Mawko, Ph.D.

Professional Relations Committee Kin Vin Cheung, Ph.D. Department of Clinical Oncology Prince of Wales Hospital Shatin; Hong Kong SAR, China Tel: 852-2632 2110 Fax: 852-2632 4558 Email: kychueng@ha.org.hk

Education and Training Committee
Anchali Krisanachinda, Ph.D.
Department of Radiology
Faculty of Medicine Chulalongkorn University
Rama IV Road
Bangkok 10330 Thailand
Tel: 662 256 4283-4 Fax: 662 256 4162
Email: kanchali@yahoo.com

Publication Committee William Hendee, Ph.D. P.O. Box 170970 Whitefish Bay, Wisconsin 53217-8086 USA Tel: (414) 351-6527 Fax: (414) 456-6654 Email: whendee@mew.edu

Science Commitee Caridad Borras, D.Sc. Radiological Physics Consultant 1501 44th St. NW Washington, D.C. 20007 Tel: (202) 974-3222 Fax: (202) 974-3610 Email: Borrasc@hotmail.com

Curator of IOMP Libraries Allan Wilkinson, Ph.D. Department of Radiation Oncology, Desk T-28 The Cleveland Clinic Foundation 9500 Euclid Avenue Cleveland, Ohio 44195 USA Tel: (216) 445-8289 Fax: (216) 444-8934 Email: wilkina@ccf.org@radonc.ccf.org

Editorial Board

E. Ishmael Parsai, Ph.D., Editor
Department of Radiation Oncology
University of Toledo, College of Medicine
3000 Arlington Aveune
Toledo, Ohio 43614-2598, U.S.A.
Tel: (419) 383-4541 Fax: (419) 383-3040
Email: e.parsai@utoledo.edu

Vrinda Narayana, Ph.D., Associate Editor Radiation Oncology Department Providence Cancer Institute 2301 Foster Winter Drive, 1st Floor Southfield, Michigan 48075, U.S.A. Tel: (248) 849-8622 Fax: (248) 849-8448 Email: vrinda@med.umich.edu

Carter B. Schroy, Ph.D., Associate Editor Calendar of Events 424 Stratford Ct., #B34 Del Mar, California 92014-2734 U.S.A. Fax: (309) 276-7728 Email: eventsed@aol.com IOMP correspondence should be addressed to:

IOMP correspondence should be addressed to: IOMP Secretary General Dr. Peter Smith. Advertising requests should be addressed to: Drs. Parsai and Narayana. Event information should be addressed to: Dr. Carter Schroy. Trade in your Old and Tired Machines for Huestis Medical's Remanufactured Units with a 1 or 2 year warranty **HUESTIS**MEDICAL making it affordable[™] a Best Medical company

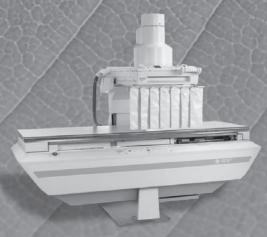
ISO REGISTERED

green Products are 80% New, 20% Original revolution

Huestis Medical has been practicing green for over **20 years**

Radiographic / Fluoro Systems

- ► New X-ray tubes
- ▶ New image intensifier
- ▶ Extended 2-year warranty at no additional cost
- ► C-Arms, CT, and MR
- ▶ Mammography Units



R/F Systems



Our Remanufactured

Liebel-Flarsheim Hydradjust IV Urology Systems



AMX IV Portable



All trade names are property of their respective owners



Huestis Medical 597 Winthrop Street, Taunton, MA 02780-2166 USA 508 824 8628 800 333 6070 Fax: 508 824 8629 www.huestismedical.com



ACCU-PRO™ Multi-Purpose Analyzer - basic and advanced Dose and kVp functions with mAs. For Radiography, Fluoroscopy, Mammography, CT, Dental, and Survey.

Increased Productivity

- Intuitive use, quick setup, small footprint, convenient portability.
- · Ion chambers for critical acceptance testing and dose diodes for QA consistency tests.
- Flash HVL, beam hardness, scatter and leakage, invasive/non-invasive mAs.

Accuracy and Confidence

- "Gold Standard" ion chambers used and trusted by professionals worldwide.
- Auto-ranging, filtration compensated, FFT kV. Accurate kVp for AMX4+ and AMX 700 portables.

Value

- Basic and advanced function choices add utility at no extra cost. Transforms into Survey Meter.
- Radcal designed for durability; 30+ years of know-how.

Also available as ACCU-DOSE™ and ACCU-kV® models

www.radcal.com

426 West Duarte Road • Monrovia, California 91016 p. 626 357-7921 f. 626 357-8863 • sales@radcal.com • © Aug 2007

Editor's Choice

E. Ishmael Parsai, Ph.D., MPW Editor

In this column we strive to provide the MPW readers with current news and information related to the fields of Medical and Health Physics. Often, list of references to review articles, useful websites, and summaries of current innovative advances will be provided. As always, your suggestions to enhance this column are welcomed. In addition, if you have other ideas or issues that you believe should be brought to the attention of the MPW readers, please send them to the MPW editor, Dr. Parsai, at: E.Parsai@utoledo.edu

MRI IS MORE SENSITIVE AT DETECTING EARLY SIGNS OF BREAST CANCER THAN MAMMOGRAPHY

In a recent article published in the Lancet, on October 7, 2007, MRI is noted to be much more sensitive than mammography for detecting breast cancers before they have developed to an invasive stage, and particularly good at identifying those lesions which are more likely

to progress to dangerous forms of cancer, if used with appropriate diagnostic criteria. This finding is in stark contrast to previous studies comparing the two techniques that concluded MRI cannot detect early cancers as effectively as mammography. Debates over which screening modality is best for detecting ductal carcinoma in situ (DCIS) have in the past focused on identification of microcalcifications being bet-

ANNOUNCEMENT

Congratulations to Authors for the Highest Cited Paper

The publishers of Physics in Medicine & Biology (PMB) are delighted to announce the winner of the 2007 Prize for the Highest Cited Paper. The prize awarded to the article published in PMB that has received the most citations in the previous 5 years (2002-2006) goes to:

S.S. Vedam, P.J. Keall, V.R. Kini, H. Mostafavi, H.P. Shukla and R. Mohan for their paper 'Acquiring a four-dimensional computed tomography dataset using an external respiratory signal' Phys. Med. Biol. vol 48 45-62.

Since its publication in 2003, the winning article has received over 100 citations. In fact all of the top 10 papers have had at least 50 citations (according to ISI).

A full list of the top 10 most cited papers, along with a discussion of the significance of the winning paper can be found on medicalphysicsweb: at http://herald.iop.org/medphysweb/m176/rsw/119796/link/870

Congratulations to the winning and shortlisted authors, and thank you once again to all our authors whose high-quality papers continue to shape the future of (bio)medical physics.

Simon Harris; Publisher, PMB pmb@iop.org; www.iop.org/journals/pmb

ter visualized in a mammogram as compared to MRI. However, scientists have recently found that MRI can detect another feature of DCIS - the growth of new blood vessels around the cancerous cells by virtue of the fact that the contrast agent will be seen outside its usual domain of the intravascular space in places where the vessel wall is corrupted by new vessel growth. What is more, MRI seems to be able to distinguish between subsets of DCIS which are high-grade and low-grade classifications that refer to the likelihood of these lesions progressing to invasive breast cancer, in which the cancerous cells break out of the ducts and invade surrounding breast tissue. In high-grade DCIS, the density of small new blood vessels is high, showing up as a higher level of enhancement on MRI images, more so than in low grade DCIS, making the former easier to spot.

Using this new observation of MRI's DCIS identification potential, C. Kuhl, et al, from the University of Bonn's compared the technique with mammography and assessed the two screening modalities' effectiveness at diagnosing DCIS, which is treated surgically to remove the risk that it will develop into invasive cancer. The researchers identified their study sample from the 7319 women who were referred to their breast centre over a 5 year period and received MRI in addition to mammography for diagnostic assessment and screening. The final study cohort consisted of the 167 patients who had undergone both mammography and MRI before biopsy and who had received the final surgical pathology diagnosis of pure DCIS. They report in this study that 93 (56%) cases of DCIS were diagnosed by mammography and 153 (92%) by MRI. Of the 89 cases of high-grade DCIS, 43 (48%) were missed by mammography, but diagnosed by MRI alone and all 43 of the cases missed by mammography were detected by MRI. Overall, MRI

Editor's Choice continued on page 11

Participation by the IOMP in the IAEA Technical Meeting on the Revision of the Basic Safety Standards (Safety Series 115)

By Kin Yin Cheung, Ph.D., Stelios Christofides, Ph.D., Hans Svensson, Ph.D.

BACKGROUND

The document 'International Basic Safety Standards for Protection against Ionizing Radiation and for Safety of Radiation Sources' (BSS) was drafted in the early 1990's and published by the IAEA in 1996 (Safety Series 115). The report was jointly sponsored by FAO, IAEA, ILO, OECD/NEA, PAHO and WHO. The Standards have been transferred into national laws or regulations in many countries and have certainly been of great importance to ensure safety when using ionizing radiation. The practices for which the Standards are intended include a broad variety of fields as the use radiation and radioactive substances in medicine, generation of nuclear power, mining and processing of radioactive ores, etc. The BSS was the result of the involvement of a large number of experts from many countries. The BSS is now being revised.

For the IOMP, the safety in the medical uses of radiation belong to our specialty. This is the reason why IOMP should take an active part in drafting the revised document. IOMP was represented by Prof. Hans Svensson together with regional representatives: Dr. Stelios Christofides (EFOMP) and Dr. Kin Yin Cheung (AFOMP). Drs Cari Borrás and Pablo Jiménez were representing WHO and PAHO respectively; they are medical physicists with great experience, mostly from the American regions. Below there is a photo with the five of us outside the IAEA Headquarters' building in Vienna:

THE MEETING

The meeting was held 16-20 July,

2007 at the IAEA head-quarters in Vienna, Austria. 119 experts from the potential cosponsoring organizations (WHO, PAHO, NEA/OECD, ILO and the EC); from national organizations of IAEA Member States, and from professional international organizations (ICRP, ICRU, ISR, ISRRT, and IOMP) participated in the meeting. Most of the participants were experts in nuclear industry

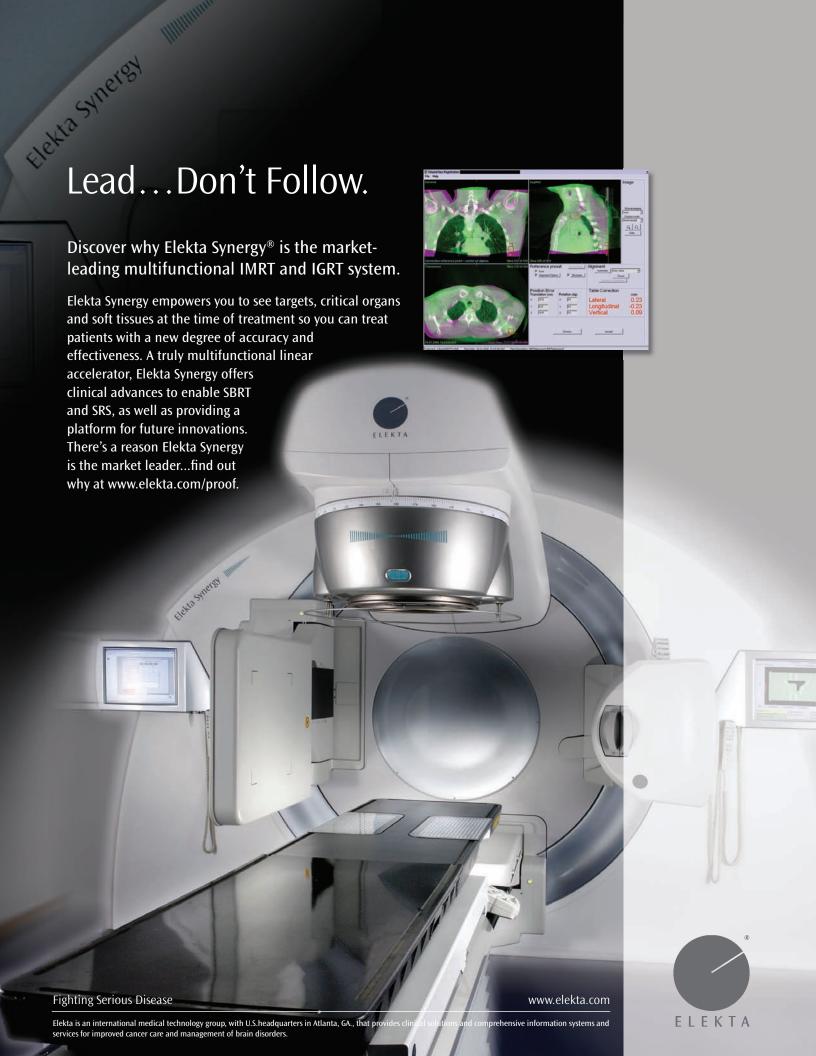
and safety; only about 10 of them were medical physicists or had any background in medical physics. The main justifications for the revision of the BSS were the need to adopt the new ICRP recommendations and terminology, the need for BSS to be consistent with current IAEA publications in the Safety Standards Series, and the fact that there is a fast development of methods applying radiation in different fields.

The new draft document put more emphasis on the regulatory framework and requirements on regulation of practices, including medical exposure. The control of medical exposure as proposed in the draft document was the one written with most details and clarity amongst the chapters on practices. The current BSS has many shortcomings. The main problem with the current document is that the safety requirements for medical exposure are either not clearly specified or lack details and depth, so that they are subject to open interpretations. This has provided flexibility for individual countries to establish their own safety standards. On the other hand,



this can be problematic in developing countries, where resources are in greater shortage. The tendency in many developing countries is to implement what is in the BSS. With the current BSS, this has often meant doing nothing in medical exposure. In the current version of BSS, the term "medical physicist" is not defined or mentioned in medical exposure. This has been interpreted in some countries that a medical physicist is not a necessity in any practice of medical exposure. In order to be able to improve the radiation safety in medical exposure on a global basis, the safety requirements must be clearly stated in the BSS. For instance, if a medical physicist with a special qualification is a requirement for calibration of a therapy radiation source, then it must be stated. A working group was set up at the meeting to work out an acceptable structure and standard for medical exposure. The group agreed to shift the details of the safety requirements to safety guides while keeping the key requirements in the BSS. The possibility of putting links in BSS to the relevant safety guides will further

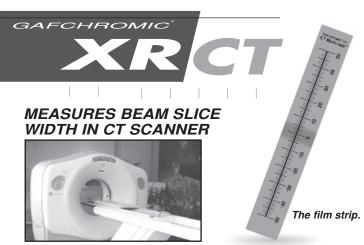
BBS Report continued on page 9



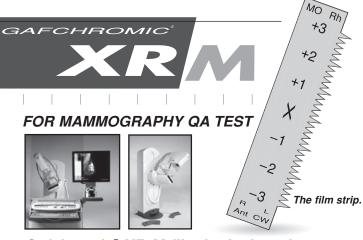
THEXR FAMILY OF PRODUCTS

NOW AVAILABLE!

FOR RADIOLOGY AND DIAGNOSTIC
IN A PROCESSOR-LESS ENVIRONMENT



Gafchromic® XR-CT film calibrates the beam slice width with very high accuracy, and develops in a realtime, processor-less environment.



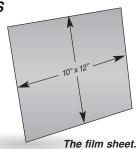
Gafchromic® XR-M film is designed to determine and align light field and radiation field with respect to the detector.



FOR RADIOLOGY QA TESTS







Gafchromic® XR-QA determines the light field and radiation field congruence.

XR RV2

FOR PEAK SKIN DOSE MEASUREMENT



Gafchromic® XR-RV2 is specifically developed to accurately measure surface peak skin dose in interventional procedures guided by fluoroscopy.





For product information call: 973-628-3531 or 973-628-3688 For technical assistance call: 973-628-3138 or 866-218-0594 For information on other RT films including RTQA, MD and HD, please visit our web site at: www.gafchromic.com

TREASURER'S and FINANCE COMMITTEE REPORT 2006

— George Mawko, PhD, FCCPM, Treasurer IOMP

2006 has been a particularly active year for IOMP, with involvement in the scientific programme of the World Congress (WC) 2006 held in Seoul in August 2006, and also the associated IOMP committee and Council meetings. It has also been another financially successful year.

The finances of Medical Physics World have now been fully integrated into the IOMP accounts, and we continue to be grateful to Dr. Ishmael Parsai and his colleagues for their efforts in producing Medical Physics World (MPW), which helps bring the international community of Medical Physicists closer together.

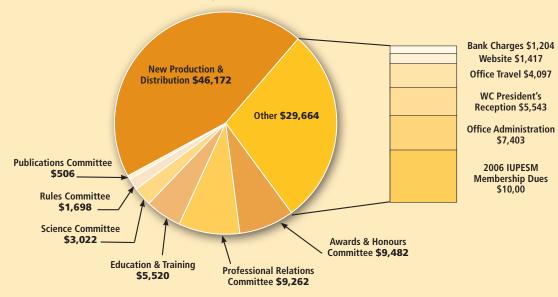
At the end of 2006 there was a surplus of \$25,283 compared with \$27,279 in 2005. Our total income

was \$130,609, mostly from national organization dues, Medical Physics World advertisement space sales and profit share from World Congress 2006. Total expenditures amounted to \$105,326. A breakdown of the expenditures is provided in the following chart.

A copy of the 2007 budget can be found at http://www.iomp.org/bugets.htm

Currently the members of the Finance Committee are Dr. George Mawko, Chair (Canada), Dr. Nisakorn Manatrakul, (Thailand), Dr. James B. Smathers, (USA), Dr. Peter H.S. Smith, IOMP S-G (UK) and Dr. Saiyid M. Sha, (USA). Supporting the work of this committee is Mr. Ian Wolstencroft, IOMP office. Mr. Wolstencroft has been an invaluable asset to us all.

2006 Summary of Expenditures (US \$105,326)



BBS REPORT

CONTINUED FROM PAGE 6

be explored, an arrangement that can effectively transfer the statutory status of the BSS to the relevant safety guides.

CONCLUSIONS

 a) The new Basic Safety Standards will replace a document written in the beginning of the 90's.
 Techniques using ionization radiation develop rapidly in the medi-

- cal field. A medical physicist with sufficient theoretical and practical training is a 'must' to achieve acceptable safety and quality to control medical exposure.
- b) It is of great importance that the new BSS be sufficiently detailed in defining the requirements without making it impossible for developing countries to introduce different types of therapeutic and diagnostic methods using ionization radiation.
- c) As the BSS is used as background for laws and regulations in many countries, the IOMP must be very active in defining requirements. This will improve the quality and safety in the medical use of radiation.
- d) We were a bit worried about the fact that many of the participants representing regulators from different countries did not know very much about medical physics.

The Dynamic Thorax Phantom is a precision tool for investigating and minimizing the

The Dynamic Thorax Phantom is a precision tool for investigating and minimizing the impact of organ motion and patient positioning errors in radiation therapy. It is the first commercially available dynamic QA phantom, developed for image acquisition, treatment planning and dose delivery



Stationary target



Target with S/I motion amplitude of ± 5mm

- Complex 3D tumor motion within the lung
- Sub-millimeter accuracy and reproducibility
- Motion software enables different cycles, amplitudes and wave forms
- Tissue equivalent from 50keV to 25 MeV
- TLD, MOSFET, micro-chamber and film can be placed within the tumor volume
- Breathing platform accommodates numerous gating devices



"Strict QA procedures for the imaging, planning and delivery of radiotherapy using respiratory management devices are required to ensure the safe and effective use of these devices."

> AAPM TG-76 report The management of respiratory motion in radiation oncology



phantom includes soft tissue, bone and lung



Precision motion actuator



Programmable controller



Interchangeable inserts of 1, 2 and 3 cm target diameter



Gating Platform



Donation Of Used Equipment – PRC Report For Jul-Dec 2007

— Mohammed K. Zaidi, Program Manager, IOMP Professional Relations Committee

arah Bull, Chief Physicist, NY Presbyterian/Columbia University, Regional Cancer Center, New Milford Hospital, New Milford, CT 06776, USA has very kindly donated a Treatment planning CAD system including monitor with software installed and two color printers. The IOMP Donations Program appreciates her support for the program and the hospital administration for this gift. This donated used equipment is awarded to Nile Badri Hospital and Medical Center, Department of Radiation Oncology, Cornish Elmaadi, Cairo, EGYPT. Dr Eldesouky Abdulhakiem, is the medical director of the Center.

Used equipment needed:

Treatment planning systems, Mevatron 67 linear accelerator, Theratronic, automatic film processor, block

cutter, patient dose monitor and ultrasound machine.

Shipping arrangements:

The institutions needing used equipment should mention in their response that they would pay or make arrangements for shipping at a very short notice. AAPM Africa Outreach program also will support used equipment shipment to African countries, so please send your requests to us. We do have some financial support for shipping which will be provided only on need basis.

Dr. Ajai Kumar Shukla from India will be helping me in IOMP efforts to deliver quality service in getting and transferring used equipment from generous donors to those who need them badly. He may be reached at Department of Nuclear Medicine,

SGPGIMS, Raebarelli Road, Lucknow (UP), 226014, INDIA. His phone number is 91-0522-2668700 extension 2615 and e-mail address is akshukla@sgpgi.ac.in.

The equipment donated to IOMP Used Equipment Donation Program is generally in good working condition but we don't guarantee its usefulness. The donation of used equipment to IOMP are sometime tax deductible. IOMP will not be responsible for warehousing expenses or loss if the used equipment donated couldn't be shipped.

Please update your needs for used equipment donation to your organization. Please contact Mohammed K. Zaidi, Professional Relations Committee at our website www.iomp.org or e-mail to zaidimk@gmail.com.

Editor's Choice (CONTINUED FROM PAGE 5)

detected significantly more cases of any grade of DCIS than did mammography and produced a lower proportion of false negatives: mammography was falsely negative in 74 (44%) cases, whereas MRI was falsely negative in 14 (8%) cases. The authors indicate "Our study suggests that the sensitivity of film screen or digital mammography for diagnosing DCIS is limited". "Mammography tends to identify breast cancers with comparatively benign biological profiles and although more low-grade DCIS will be diagnosed if MRI is used in addition to mammography, and thus more women could be overdiagnosed with a possibly prognostically irrelevant disease, one should note that 60% of the cases of DCIS diagnosed by MRI alone were high grade." There is,

therefore, the researchers conclude, reason to assume that MRI helps anticipate the diagnosis of lesions that, if left undetected, would progress to invasive breast cancer. However, the researchers caution that since breast MRI is currently used only rarely in clinical practice, their results are not really applicable to a general screening setting because few radiologists can offer a level of expertise for MRI that comes close to that required for diagnostic mammography. Nevertheless, they firmly conclude that current recommendations regarding the use of MRI for screening for DCIS are not appropriate. [Kuhl CK, et., al, MRI for diagnosis of pure ductal carcinoma in situ: a prospective observational study. Lancet 2007; 370: 485-92].

HPV TESTING MORE SENSITIVE THAN PAP SCREENING FOR DETECTING CERVICAL NEOPLASIA

According to the findings of two randomized trials appearing in The New England Journal of Medicine in October 2007, testing for oncogenic human papillomavirus (HPV) DNA is more sensitive than Pap testing in detecting cervical intraepithelial neoplasia (CIN), and its use can reduce the occurrence of cancer on subsequent screening exams. In the first trial, E.L. Franco, et. al, from McGill University in Montreal, compared HPV testing and conventional Pap testing as a screening method for detecting high-grade CIN in 10,154 women. HPV testing

Editor's Choice continued on page 15

INTEGRATION OF MODERN MEDICAL IMAGING WITH RADIATION ONCOLOGY

— Kin Yin Cheung, IOMP Professional Relations Committee and Yimin Hu, Cancer Institute, Beijing, China

"Integration of Modern Medical Imaging with Radiation Oncology" was the main theme of the 7th AOCMP and 13th Annual Physics Meeting of CSMP, which was held in the beautiful ancient city of Huangshan, Anhui, China during 23-27 August 2007. The conference was Co-sponsored by AFOMP and the Chinese Society of Medical Physics (CSMP) and supported by IOMP, Chinese Society of Radiation Oncology (CSRO) and North American Chinese Medical Physicist Association (NACMPA) and organized by Huangshan People's Hospital and Anhui Bengbu Medical College. The Chairman of the Organizing Committee was Professor Yimin Hu of Cancer Institute, Beijing, China. This was the first time AFOMP collaborated with CSMP in hosting a scientific event in China. The meeting, which was a complete success, laid the foundation for closer collaborations between CSMP and AFOMP-IOMP.

The meeting was attended by 376 participants (313 local and 63 overseas) and 26 technical local and international exhibitors. Twenty four experts from 10 countries were invited to present their research work and conduct training courses on or related to the main theme of the meeting. A total of 225 scientific abstracts were presented, mostly in parallel sessions. 71% of the presentations were on radiation oncology, 11% on imaging, 6% on medical physics education and training, and 12% on other medical physics specialties. The abstracts will be published in Biomedical Imaging and Intervention Journal (http://www. biij.org), one of the official AFOMP journals.

One of the highlight events of the conference was the IOMP Symposium on Professional Development of Medical Physics. Four speakers, namely Professor Raymond Wu, Dr. Jose Carlos da Cruz, Professor KH Ng, and Dr. H. Zaidi (presented on his behalf by KY Cheung) were invited to report on the current status of medical physics development in North American, South American, African and AFOMP countries, respectively. The fifth symposium speaker, Professor TS Suh was invited to give a review on the nature and achievements of the past AOC-MP meetings and the importance of such meetings in promoting the collaboration between medical physicists from different countries and the development of medical physics in the AFOMP region.

A survey was conducted during the symposium with questionnaire designed to collect participants' views on current status and future directions of professional development of the medical physicists in the AFOMP region. 88 participants responded to the survey. The key results of the survey were: 60% of the respondents were not satisfied with the professional status of medical physicists in their own countries; 79% of them indicated that a professional certification or accreditation system was useful or very useful in promoting the professional status of the medical physicists; 83% of them preferred a national organization rather than an international organization to run the certification/accreditation system; 95% of the respondents indicated that an official definition of medical physicist was important or very important for professional development of medical physicists; 98%

indicated that a formal structured professional training system was important for promoting professional development of medical physicists; 71% of the respondents were not satisfied with the professional training system for medical physicists in their own countries; 72% were not satisfied with the education system for medical physicists in their own countries; 57% indicated that IOMP was helpful in promoting professional development of medical physicists in their own countries (25% indicated don't know); 69% indicated AFOMP was helpful in promoting professional development of medical physicists in their own countries (21% indicated don't know); 43% indicated formal professional training was the most important factor in promoting professional status of medical physicists in their own countries (25% indicated legislative registration, 14% indicated professional certification and 18% indicated academic qualification were the most important factors); 100% indicated professional recognition was important in promoting the standard of medical physics service in their own countries.

Although, the data was collected from a sample of the participants at the Huangshan meeting who mainly came from AFOMP countries, China in particular, the result of the survey may still be relevant to IOMP and its Committees in their planning of future tasks. It may be useful to collect similar information from medical physicists from other parts of the world by conducting similar survey in meetings to be held in other regions, especially South America, Africa and Far-Middle-East.

12 MPW Vol. 23 (2), 2007



Featuring independent bias and range control on two channels, powerful, intuitive color touchscreen interface, super-low 1 fA resolution, and built-in chamber library for real-time dose display – the **NEW SuperMAX** is all that you want in a next generation reference grade electrometer. To learn more, visit supermax.standardimaging.com

ADVANCING RADIATION QA™

















kVue™IGRT Couchtop

Now WITH

STEALTH BEAM

TECHNOLOGY



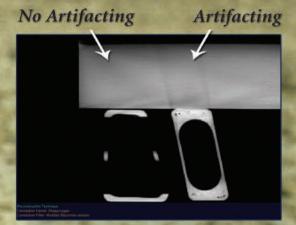
new Stealth Beam Technology which virtually eliminates the artifacts that are usually associated with beamstyle couchtops. This new beam design also reduces attenuation and surface dose when treating through the support beams.

The kVue couchtop now includes our

- Low attenuation.
- Anti-artifacting and completely metal free.

Cone-Beam CT Image

kVue Stealth Beam compared to traditional carbon fiber support beam. Note the Stealth Beam (on left) does not produce artifacts in the phantom.



Difficult to locate in the field



AQUAPLAST/Q-Fix Systems

Call 201-891-1042 or visit www.Q-Fix.com for more information.

Status of IOMP/AAPM Libraries – October 2007

— Allan Wilkinson, Ph.D., IOMP Curator of Libraries; wilkina@ccf.org

The IOMP/AAPM library program currently serves 42 developing nations through the maintenance of 75 active libraries. The most recent additions/changes to the library list include the establishment of a library at the Universite de Yaounde in the Cameroons and the re-establishment of one in Moscow (Association of Medical Physicists of Russia). All active libraries receive a free copy of the SRP quarterly journals.

Additionally, 40 members of the AAPM have donated their Medical Physics subscriptions to the library program. There have been several donations of older journals and books as well to Cameroons, Russia, Pakistan, and Thailand coordinated through this program.

There are challenges facing the program in the form of much increased shipping costs and the need to verify the status of libraries. The first issue can be met

by increasing the budget of the program, by restricting shipments of journals (but not books), and by providing electronic versions of past issues of journals. Verification of libraries is an on-going process and involves the assistance of various sub-committees of the International Affairs Committee of the AAPM.

Finally, if you have appropriate textbooks (not just the newest edition), please consider donating them to this program.

Editor's Choice (CONTINUED FROM PAGE 11)

picked up grade 2 or 3 CIN with 94.6% sensitivity compared with just 55.4% sensitivity for Pap testing. Pap testing had a slightly but significantly higher specificity of 96.8% vs. 94.1%. Using both tests together resulted in a sensitivity of 100% and a specificity of 92.5%, the report indicates. Triage procedures involving Pap and HPV testing helped reduce colposcopy referrals, but led to a drop in sensitivity compared with either test alone.

In the second study, J. Dillner, et., al, from Malmo University Hospital in Sweden, assessed CIN-related outcomes in 12,527 women who were randomized to undergo cervical cancer screening with Pap testing alone or in combination with HPV testing. Fifty-one percent more women in the HPV/Pap group were found to have grade 2 or 3 CIN or cancer than women in the Pap-only control group. "Moreover, the incidence of grade 2 or 3 lesions or cancer detected at subsequent screening examinations in the intervention group was reduced by 42% compared with the control group," the team reports.

"If additional studies confirm an improved sensitivity for HPV DNA testing as compared with cytologic testing, there will be a need to develop a rapid, simple, accurate, and affordable HPV DNA test," Dr. Runowicz, from the University of Connecticut Health Center in Farmington, notes in a related editorial. [N Engl J Med 2007;357:1579-1596,1650-1652].

The following has been compiled by: Mohammed K. Zaidi, Member, IOMP Professional Relations Committee.

THYROID CANCER:

The American Cancer Society estimates 33,550 new cases of thyroid cancer will be diagnosed this year in the United States, primarily in women and in people aged 20 to 55. It is predicted that about 1500 will die from this type of cancer alone. A new experimental drug produced by Pfizer "Axitinib" has shown promising results on 60 thyroid cancer patients. This drug caused shrinking of tumor by 31 to 83% in 18 patients

(30%) and stopped tumor growth in 25 (42%). This group of patients was treated by Dr. Ezra Cohen at the University of Chicago. The tumor shrinkage lasted from one to 16 months and 40 of them are still alive showing no progression of their disease. This study involved patients with more than six different types of thyroid cancer. All had advanced disease, and many had not responded to standard therapy. About 80% of patients with thyroid cancer have papillary carcinomas. But patients with medullary or antiplastic thyroid cancer, which account for about 5% of cases, tend to face a grimmer prognosis and might benefit greatly from the new treatment. Dr. Herbert Chen and Dr. Stuart Wong from the University of Wisconsin School of Medicine and Public Health consider this to be a big breakthrough. A follow-up trial testing of Axitinib in patients who have not responded to standard chemotherapy is ongoing at different centers in the USA [Endocrine Web.com; Cancer / Oncology News Article Date 08 June 2007].

IOMP SPECIALIZED MEDICAL PHYSICISTS LIST

— Cari Borrás, D. Sc., IOMP Science Committee Chair

s a service to its membership, the IOMP is interested in producing a list of medical physicists who are willing to serve as consultants for specific medical physics assignments, either in their own country or abroad. The consultancies may be an IOMP task or a technical cooperation activity of an organization which has requested the IOMP for names of medical physicists for a specific mission. Should you be interested in potential assignments, please, fill in the form "IOMP Specialist List" in the IOMP website at http:// www.iomp.org under "Electronic

Forms" and attach a current CV and supporting documentation for your claimed specialization. Detailed instructions are available on the site.

Filling the form is voluntary, and it does not imply any commitment from or endorsement by the IOMP. The list is designed for informational purposes only and will be kept for a predetermined time period, usually one year. It will include the names of medical physicists willing to lecture or provide scientific advice in different areas of medical physics. Individuals are welcome

to update their information on a regular basis to ensure it is current.

The list does not constitute a list of "experts", nor does the IOMP claim that it has verified the information provided. The level of expertise required for each particular assignment will be assessed by the requesting organization, upon which rests the burden of ensuring the information provided by the medical physicist is true. The IOMP is not responsible for the actions of any of its members when engaged in an assignment resulting from the use of this list.

News and Views from the President

Other interested regions are the Caribbean and the Arabian Gulf. The further growth of regional groups has led to the decision that their membership dues can be collected by IOMP. The dues structure should follow that of the IOMP, and be some fraction of the IOMP dues. This should alleviate the financial problems of the Asia-Oceania Federation for Medical Physics, for which membership is free for all.

IOMP continues to encourage the growth of medical physics by supporting regional conferences as well as the world congresses. Your president represented the IOMP at the Asia Oceania Conference on Medical Physics (AOCMP07) in Huangshan, China and will co-chair AOCMP08 in Saigon in 2008. Dubai was selected as the site for the International Conference on Medical Physics (ICMP08) for April 2008. Local committees have been formed and are interacting with our Science and Education & Training committees. The ICMP08 web site is up and running, the first notice has been

distributed and currently there is a call for abstracts.

Editor Ishmael Parsai introduced a new and exciting format for Medical Physics World. More articles and fewer reports by committees will feature in the change of format. We need to keep moving in the direction that entices our membership to look for policy issues and controversy in MPW. This needs to be matched by our web site, to become more users friendly and to play a bigger role in international medical physics, with links to our commercial sponsors.

IOMP committees have grappled with such fundamental issues as the consensus definition of a medical physicist; the International Labour Organisation (ILO) classification of medical physics under Physics & Astronomy, in spite of the best endeavors of past presidents for health provider classification; a scientists bill of rights; a policy on plagiarism in medical physics; a scientific data base or encyclope-

(CONTINUED FROM PAGE 1)

dia; a list of IOMP Specialists who could respond quickly to requests for specialist opinions by other organizations was now available; competency training for radiation oncology for medical physicists; a clinical training guide consists of 8 Modules; Clinical Introduction; Radiation Safety and Protection; Radiation Dosimetry for External Beam Therapy; Radiation Therapy - External Beam; External Beam Treatment Planning; Brachytherapy; Professional Studies and Quality Management and Research, development and teaching.

WC2006 was rated a success, with major support from the Asian region, and turned in a substantial profit, adding to our financial assets. I trust that the Dubai conference will be well supported, especially by Europe and the Middle-East, and make an important contribution to medical physics in this region.

For further discussion of the above, please email me at this email address: bja1940@bigpond.net.au

16 MPW Vol. 23 (2), 2007



All you need is the GAFCHROMIC® based Radiation Therapy QA System to support various complex RT modalities.

 o_{ur} RT QA System is comprised of:

FILMQA" plan verification software plus the GAFCHROMIC° QD+ package

(Includes 4 boxes of EBT film, the Epson 10000XL scanner, and one day of on-site training) **FEATURING**

GAFCHROMIC® EBT

Film for radiotherapy dosimetry

- Competitively priced and energy independent
- Self-develops no processor or dark room needed!
- Works with the Epson 10000XL, a professional graded 48 bit RGB flatbed scanner
- Can be handled in room light (avoid prolonged exposure)
- Stable and uniform with a wide dose range (1cGy to 800cGy)

Also available GAFCHROMIC® dosimetry films for other RT and radiology/diagnostic applications. For more info visit: www.gafchromic.com

FILMQA

Simplifies film analysis and lowers the cost!

- Fast! Complete analysis/report in less than 5 minutes!
- Rapid registration of films/plans
- Sophisticated Physics QA and dose analysis tools
- Customizable reports can be viewed over the web if necessary without compromising patients' privacy!
- Supports all IMRT QA phantoms
- Works with EDR2 and is optimized for GAFCHROMIC® EBT; supports all film scanners
- Supports all major TPS

For more information, please call today at: 973.628.3531 or 973.628.3688







973.628.3531 or 973.628.3688 Technical assistance: 973.628.3138 or 866.218.0594 www.ispcorp.com

Calendar of Events

Carter Schroy, Ph.D., MPW Associate Editor

The following events can be found on the Medical Physics Calendar at http://medphys.org/calendar/. Please email your international events to the Calendar Editor, Carter Schroy, at eventsed@aol.com (or fax to +01 309.276.7728) for inclusion in MPW. Deadlines for MPW are April 1 and October 1 for issues that are mailed several weeks later.

7-9 February 2008

Int'l Conference on Novel Techniques in Clinical Oncology and Radiation Physics; Vellore, India

http://www.corpcon2008.org.in/ | scicom@corpcon2008.org.in

9-13 February 2008

Winter Institute of Medical Physics (WIMP); Frisco, CO USA

http://www.utmem.edu/WIMP \rltanner@utmem.edu

28-29 February 2008

American Brachytherapy Society Breast Brachytherapy and Brachytherapy Physics School; Scottsdale, AZ USA

http://www.americanbrachytherapy.org/meetings/index.cfm

3-4 March 2008

Int'l Workshop on Monte Carlo Codes; Risley, Cheshire U.K.

http://www.mcneg.org.uk/ \ paul.hulse@ SELLAFIELDSITES.COM

7-11 March 2008

European Congress of Radiology; Vienna, Austria

http://www.myESR.org | communications@myESR.org

28-30 March 2008

Princess Margaret Hospital IGRT Education Course; Toronto Canada

Repeats June 6-8, Sept 26-28, and Nov 14-16

http://www.igrt.ca | wanita.lambert@rmp.uhn.on.ca

13-18 April 2008

11th International Conference on Radiation Shielding (ICRS11); Pine Mountain, GA USA

http://icrs11.me.gatech.edu/\rebecca@radonc.emory.org

22-25 April 2008

Radiobiology and Radiobiological Modelling in Radiotherapy; Chester, UK

http://www.ccotrust.nhs.uk/research/ research_events.asp | alan.nahum@ ccotrust.nhs.uk

2-3 May 2008

Stanford IGRT Training Course; Stanford, CA USA

Repeats Oct 3-4 http://www.stanford.edu/~lei | lei@reyes.stanford.edu

4-6 May 2008

ABS/GEC-ESTRO Annual Meeting; Boston USA

http://www.americanbrachytherapy. org/meetings/index.cfm

4-6 June 2008

21st L H Gray Conference; Edinburgh, Scotland

The Radiobiology – Radiation Protection Interface

Radiobiology, epidemiology, and validity of radiation risk estimates in modern radiation practice

http://www.srp-uk.org/events/ Ihgray2008 \ colin.martin@ northglasgow.scot.nhs.uk

25-28 June 2008

CARS 2008 - Computer Assisted Radiology and Surgery 22nd Int'l Congress and Exhibition; Barcelona, Spain

http://www.cars-int.org/ | office@cars-int.org

27-31 July 2008

AAPM 50th Annual Meeting; Houston, TX USA

American Association of Physicists in Medicine

aapm@aapm.org | http://aapm.org/ meetings/

28-30 August 2008

Sino-American Network for Therapeutic Radiology and Oncology (SANTRO); Beijing, China

http://www.santro.org\ santrosymposium2008flyer.doc | Kong@ santro.org

17-21 September 2008

European Conference on Medical Physics and Engineering 110 Years After the Discovery of Polonium; Krakow, Poland

http://mpekrak08.ftj.agh.edu.pl

24-26 September 2008

IGRT Vienna 2008; Vienna, Austria

http://www.meduniwien.ac.at/ igrtvienna08 | igrtvienna08@ meduniwien.ac.at

19-24 October 2008

12th International Congress of IRPA; Buenos Aires, Argentina The International Radiation Protection Association

http://www.irpa12.org.ar/\irpa12.committee@gmail.com

30 Nov - 5 Dec 2008

Radiological Society of North America (RSNA) Annual Meeting; Chicago USA

http://rsna.org

31 May - 2 June 2009

American Brachytherapy Society Annual Meeting; Toronto, Canada

http://www.americanbrachytherapy.org/meetings/index.cfm

18 MPW Vol. 23 (2), 2007



Just another day in the physics department

Now that we use RIT with our EPID, CR, and Ion Chamber Array



efficiency and convenience

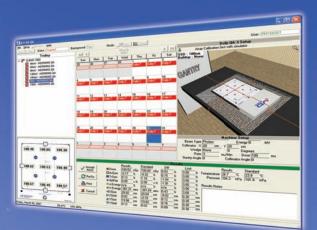


Combine the efficiency of taking routine QA measurements with Daily QA 3...



...with the convenience of storing all your QA data in our innovative ATLAS QA database.





With the efficiency of Sun Nuclear's Daily QA 3 and the convenience of the ATLAS QA database system; you have one easy to use, yet powerful combination. The Daily QA 3 has the ability to simultaneously measure output, flatness, symmetry, field size and energy without the need to ever add build up. Add our innovative ATLAS QA database solution, only one thing can be said:

"Routine QA Accelerated"



www.sunnuclear.com

Your Most Valuable QA Tools