

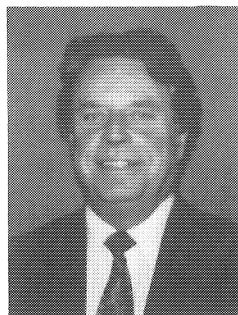
MEDICAL PHYSICS WORLD

Bulletin of the International Organization for Medical Physics

Adhering National Organizations 1995

Algeria • Argentina • Australia • Austria • Belgium • Brazil • Bulgaria • Canada • Colombia • Cyprus • Denmark • Finland • France
 Germany • Ghana • Greece • Hong Kong • Hungary • India • Indonesia • Iran • Ireland • Israel • Italy • Japan • Jordan • Korea • Malaysia
 Mexico • Moldova • Netherlands • New Zealand • Nigeria • Norway • Pakistan • Panama • People's Republic of China
 Republic of the Philippines • Poland • Romania • Russia • Slovenia • South Africa • Spain • Sri Lanka • Sudan • Sweden • Switzerland
 Tanzania • Thailand • Trinidad & Tobago • Turkey • United Kingdom • United States of America • Venezuela • Zimbabwe

President's Message



Dear Fellow Member of IOMP,

I am greatly honoured to have been elected to serve you as President of the International Organization for Medical Physics and promise to do so to the best of my ability. There is a great deal to do if the IOMP is to fulfill our aims, particularly, in assisting our members as well as patients in Developing Countries. Progress will be dependent on the efforts and contributions of all of us and any assistance you can give (in whatever form) will be greatly appreciated.

It is with considerable difference and awe that I face the three years of Presidency. However, thanks to the outstanding efforts of Dr. Udipti Madhvanath, our retiring President, and Professor Colin Orton, who retired as Secretary-General but happily will contribute as Vice-President, and the contributions that will be made through the international experience of our new Secretary-General, Professor Hans Svensson and our Treasurer, Chairperson and members of our Committees, Editor of *Medical Physics World*, and our Curator of Libraries, we can look forward with confidence as well as trepidation.

It was a great pleasure to meet so many members during the very successful International Congress in Rio, on which the Organizers deserve our hearty congratulations and thanks. Our Council Meetings and particularly the General Assembly were well attended and constructive, endorsing the Strategic Plan and Action Plan drafted during my Vice-Presidency. To use two metaphors, the biter is now bit and I must put my money where my mouth is in securing your support and assistance for their implementation. With your indulgence, it would be appropriate to outline the immediate Action Plan agreed by the Officers to solicit your help.

A BRIEF ACTION PLAN FOR 1994, 1995

The purpose of this brief Action Plan for 1994 and 1995 is to identify the immediate priorities to enhance the capability of IOMP to help our members and profession worldwide, to ensure coordination of our efforts and underpin communications. It is meant to be of assistance and not some formal prescription.

1. Working Group on Funding Resources

- a. The President, Vice-President and Secretary-General to finalize the membership of the Group, including Corporate members. Deadline 31.10.94.
- b. Identify potential sources of conventional and unconventional funding, resources and support. Merge into composite plan and allocate areas for action and responsibility. Determine mechanisms for approach. Deadline 31.12.94.
- c. Make approaches to potential sponsors. Deadline — ongoing.

(Continued on page 4)

Table of Contents

Presidents Message	1
Editor's Report	2
Past Editor's Report	2
Executive Committee Appoints the First Treasurer	2
Officers of the IOMP/Council ...	2
Vice-President's Report	6
Secretary-General's Report	8
Request For Support International Scientific Exchange Program — Istanbul, Turkey	8
Executive Committee Resolves to Form IOMP Science Committee	8
Test Tools For Developing Countries	10
About Those Who Give	14
Developing Countries Committee Report	14
International Organization For Medical Physics Corporate Affiliates, 1994	16
Calendar of Events	16
Report From AAPM International Scientific Exchange Program Course/Workshop in Iran	18
Education and Training Committee Report	19

Editor's Report

I am very pleased to serve as the Editor of *Medical Physics World*. I hope to be able to continue the fine tradition set by my predecessors. This Bulletin was initially started by Dr. Lawrence Lanzl who served as its first editor. His outstanding contributions were then continued by three other exceptional medical physicists: Drs. Colin Orton, Richard Maughan, and Bhudatt Paliwal. Following in their footsteps is not an easy task and I will need all the help I can get from our readers. My colleagues, Rodica Alecu, MPW Correspondence Liaison, and I would appreciate receiving your suggestions and comments. We would very much like to continue publishing educational/technical reports in addition to reports from Officers of the IOMP Council.

The publication expenses of this Bulletin have traditionally been compensated by funds generated through advertising. To balance the budget we need about 50% of the pages of the Bulletin to be filled with advertisements. In the past few years our advertising requests have been declining. Consequently, we are facing a deficit. To rectify this problem we need to appeal to more companies for their advertising business as well as to other contributors. My colleague, Dr. Ali Meigooni, MPW Advertising Liaison, and I are working diligently to achieve this goal. We hope that in the future issues we would hear from as many Corporate Affiliates, companies, and contributors as possible.

Azam Niroomand-Rad, Ph.D.
Editor

Past Editor's Report

I very much enjoyed the opportunity to serve in the capacity of the editor of the *Medical Physics World*. However, it did not take very long to realize that the editorship included several other responsibilities such as raising funds, soliciting advertisements, billing and accounting. All of these activities turned out to be an excellent learning experience for me. But in view of my other commitments I felt it would not be fair to the Bulletin if I did not devote the necessary time to keep it healthy. I therefore resigned and pleaded to Dr. Azam Niroomand-Rad to assume these responsibilities. Fortunately for us, she agreed to be the next editor and her appointment was unanimously approved by the IOMP Council and General Assembly at the August 1994, Rio de Janeiro Meeting. I am confident that the Bulletin is in very capable hands and would continue to serve our organization well. I am grateful to Dr. Colin Orton for his continued encouragement and support. I also wish to acknowledge the help of Eilene Healey, Michelle Kurzynski, June Johnson and Dr. John Cameron, staff of Medical Physics Publishing.

Bhudatt Paliwal, Ph.D.
Past Editor

Executive Committee Appoints the First Treasurer

As the IOMP has expanded, so also has the work of the Secretary-General, who has been responsible for our financial affairs. In order to reduce the workload of the Secretary-General, during the Council Meeting in Rio, Brazil, the Executive Committee created a Treasurer position to manage the financial aspects of the IOMP. Initially, the Treasurer will not be recognized as an Officer of the Council. This will be reviewed at the next Council Meeting in 1997. The Executive Committee is pleased to appoint Ann Dixon-Brown as the first Treasurer of the IOMP. Although she has several ideas about both increasing the income generation and controlling the expenditure of IOMP funds, nevertheless she would be grateful to receive any advice or innovative ideas from our readers on the subject of finance.

Azam Niroomand-Rad, Ph.D.
Editor

Officers of the IOMP/Council

President

Keith Boddy, Ph.D., D.Sc., OBE, FRSE, Prof.
Regional Medical Physics Department
Newcastle General Hospital
Westgate Road
Newcastle upon Tyne NE4 6BE, United Kingdom
Tel: 91 273 8811, Ext. 22513, Fax: 91 226 0970

Vice President

Colin G. Orton, Ph.D., Prof.
Gershenson Radiation Oncology Center
Harper Hospital and Wayne State University
3990 John R Street
Detroit, MI 48201, U.S.A.
Tel: (313) 745-2489, Fax: (313) 745-2314

Secretary-General

Hans Svensson, Ph.D., D.Sc., Prof.
Radiation Physics Department
University Hospital
90185 Umea
Sweden
Tel: (46) 90-103891, Fax: (46) 90-101588

Past President

Udipi Madhvanath, Ph.D.
94A Sudbury Lane
Williamsville, NY 14221, U.S.A.
Tel: (716) 633-0474, Fax: (716) 645-6176

Editorial Board

Azam Niroomand-Rad, Ph.D., Editor
Department of Radiation Medicine
Lower Level Bles Building
Georgetown University Medical School
3800 Reservoir Road, N.W.
Washington, D.C. 20007, U.S.A.
Tel: (202) 784-3334, Fax: (202) 784-3323
I: azam@gamma.rip.georgetown.edu

Ali Meigooni, Ph.D., Advertising Liaison
Department of Radiation Medicine
The University of Kentucky
800 Rose Street
Lexington, KY 40536-0084, U.S.A.
Tel: (606) 323-1144, Fax: (606) 257-4931

Geoffrey S. Ibbott, Ph.D., Calendar of
Events Editor
Department of Radiation Medicine
The University of Kentucky
800 Rose Street
Lexington, KY 40536-0084, U.S.A.
Tel: (606) 323-1144, Fax: (606) 257-4931
I: gsi@ukcc.uky.edu

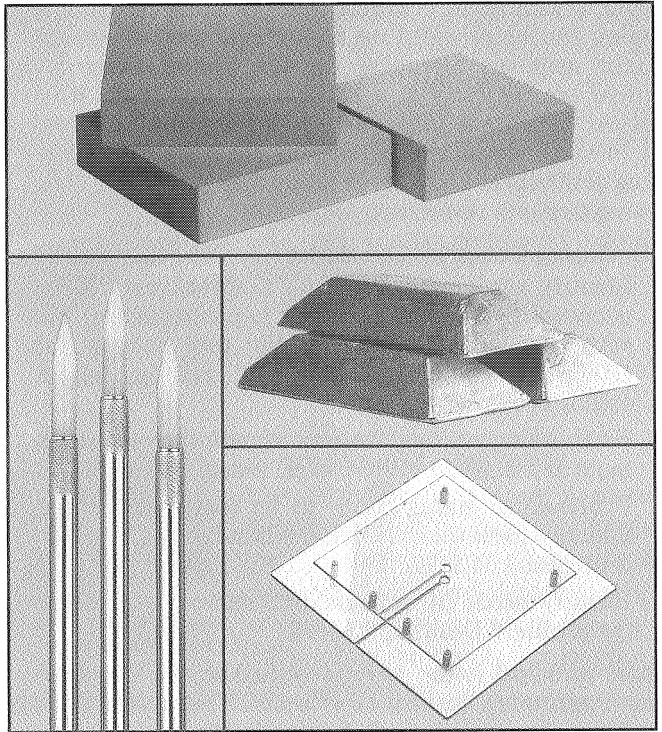
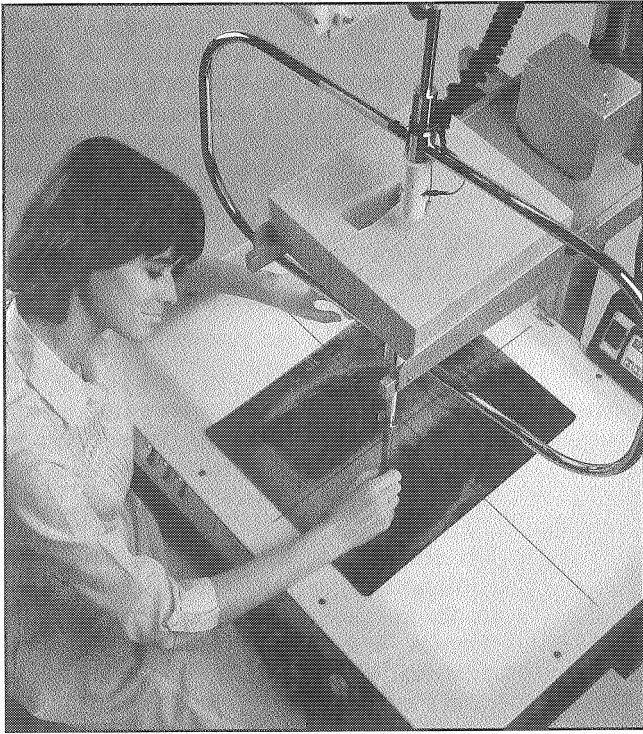
Rodica Alecu, M.S., Correspondence Liaison
Department of Radiation Oncology
Grace Hospital
6071 W. Outer Drive
Detroit, MI 48235, U.S.A.
Tel: (313) 966-3117, Fax: (313) 966-4301

Treasurer

Ann Dixon-Brown
Department of Medical Physics
Churchill Hospital
Old Road
Headington
Oxford OX3 7LJ United Kingdom
Tel: 08 65 225 441, Fax: 08 65 225 443

IOMP correspondence should be addressed to Dr. Keith Boddy and Dr. Hans Svensson. Advertising Information should be addressed to Dr. Ali Meigooni. Events Information should be addressed to Dr. Geoffrey Ibbott. Medical Physics World correspondence should be addressed to Dr. Azam Niroomand-Rad and Rodica Alecu, M.S.

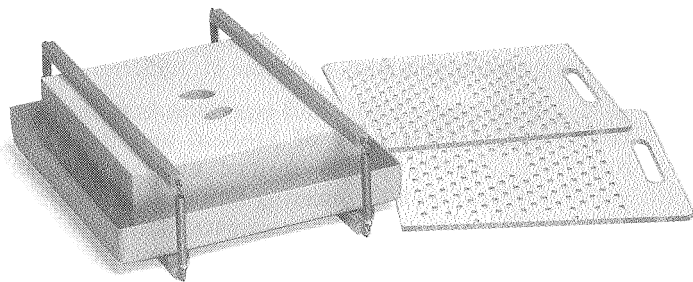
THE STYRO-FORMER®



A SOLID INVESTMENT.

An important reason so many radiotherapists depend on the Styro-former is its solidity – in reputation, performance and manufacturer's support.

Huestis, which introduced the original Styro-former in 1975, has continually improved it, adding features like the Power Lift and Auto Boost, which are always available as retrofits.



WITH HIDDEN ASSETS.

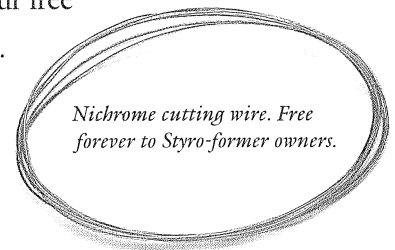
Complementing the Styro-former is a very affordable array of accessories, supplies and equipment, available conveniently and quickly – often overnight – simply by phoning us, toll-free.

Alloy #158 or cadmium-free Alloy #203 . . . high density, fine grain foam blocks . . . cooling trays with hold-down clamps . . . lexan trays with holes and handles . . . starter kits, tray adaptors, tracing tips and tissue compensators.

These are only the beginning. Dial 800-972-9222 (800-XRAY222) for our free

Styro-former literature.

It's the basis for a solid investment.



HUESTIS
MEDICAL PRODUCTS

Styro-former® • Flexi-holder® • Flexi-board® • Compu-former® • Compu-plotter® • Equipment and Supplies

Huestis Machine Corporation, 68 Buttonwood Street, Bristol, Rhode Island 02809 USA Phone 401-253-5500 or 800-972-9222 Fax 401-253-7350

(Continued from page 1)

The financial resources available within the IOMP have already been extremely modest, especially for an international organization committed to assisting developing countries. Having provided the highest ever total of support to assist members attending the Rio World Congress, resources are currently at a particularly low level. It is, therefore, of primary importance to attract funding in the form of currency or sponsorship to underwrite our supporting activities at even higher levels than previously. The Working Group is committed to this aim.

2. Developing Countries Committee

- a. Identify equipment needs — a three year rolling proposal (with ideal dates for implementation) but with an initial preliminary list provided to the Officers of IOMP. Deadline 31.3.95. and ongoing for rolling programme.
- b. Establishing essential features of radiotherapy equipment as a draft for the Officers. Deadline 30.6.95.
- c. Professional status issues to be identified in preliminary form for the Officers. Deadline 31.1.95. or, if necessary 31.3.95.
- d. Identify needs of individual countries for “raising the profile.” Deadline 30.6.95.

Three principal issues were identified at the Rio Conference confirming the past experiences. They relate to the needs for equipment, particularly in radiotherapy, problems of the professional status of Medical Physicists not being properly recognized and an associated need to “raise the profile” of Medical Physics, especially in developing countries. The Action Plan is intended to identify such needs in some detail and hence corresponding sources of assistance.

3. Education and Training Committee

- a. Establish proposed programme for 1995 and 1996. Deadline 31.1.95.
- b. Establish rolling 2 or 3 years programme of training needs. Deadline — ongoing.
- c. Exploration of defining international standards for Education and Training. Produce preliminary report. Deadline 31.6.95.

It is already apparent that any support from Governmental, national and international agencies as well as commercial sources might be considered more favorably in the form of sponsorship rather than as non-specific donations. Consequently, we are seeking to formulate a programme of Education and Training which encompasses specific proposals worldwide in which to seek the interest of potential donors. The deadlines of timing are intended to meet the anticipated submission dates for application to major funding bodies.

4. Regional Groups

- a. Establish identity of members of Regional Groups and advise Secretary-General. Deadline 31.12.94.
- b. Provide support for identified activities of Developing Countries Committee and Education and Training Committee. Deadlines — as for Committees.
- c. Identify issues of relevance to Region and not already receiving attention. Deadline 31.3.95.

The creation of Regional Groups is intended to improve the speed and effectiveness of communication, the identification of needs and the establishment of proposals relevant to the particular region. For example, it may be more appropriate and cost-effective to organize a Training Course of identified relevance to members of several countries within their region. The costs and inconvenience of travel could consequently be minimized, the benefit maximized and create the potential for raising the profile of Medical Physics both in the region and, particularly, the host country.

5. Editor Medical Physics World

- a. Continue high standard of contents and promptness of production. Deadline — ongoing.
- b. Consider sponsors and the possibility of an “eye-catching” format. Deadline 31.3.95.

Medical Physics World is our very own international “house journal” and it is extremely important not only that we read it but are actually eager to do so because of its interesting contents. Despite the excellence of our present Editor and her predecessors, the quality and interest of the journal depends on submissions of articles, news items, problems and solutions from ourselves. It can be an outstanding forum for describing our national organizations for Medical Physics (and Clinical Engineering) or even your own Department, any assistance you are seeking or can offer. Medical Physics World can be a “meeting place” for all of us, facilitating a better understanding of our individual strengths, weaknesses, needs and ability to assist. Hopefully, we all can (and will) contribute. Our Editor Dr. Azam Niroomand-Rad will undoubtedly cope with (and welcome) being inundated with material for publication. Please act now!

6. Curator of Libraries

- a. Identify sponsors and donors. Deadline — ongoing.
- b. Continue support and establishment of libraries. Deadline — ongoing.

The Curator of Libraries, Cathy Alekhteyar, has a splendid record in establishing appropriate IOMP Libraries in many Developing Countries. Within the limits of our resources for this purpose, IOMP will continue (and hopefully extend) such support.

7. International Council of Scientific Unions (ICSU)

Officers should review the current status of seeking full membership of ICSU and consider the value or otherwise of pursuing this goal. Deadline 31.1.95.

As you may recall, IOMP and our sister organization, the International Federation of Medical and Biological Engineering (IFMBE), jointly formed the International Union of Physical and Engineering Sciences in Medicine (IUPESM). The Union gained Associate Membership of the International Council of Scientific Unions (ICSU) in 1982.

It has been a long-standing goal to achieve full membership of ICSU in order to improve our capability to help members in Developing Countries to exploit science and technology for the benefit of patients and populations. So far we have not succeeded in this aim and, at a meeting

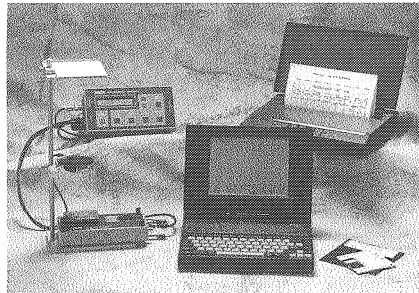
(Continued on page 6)

FOLLOW THE LEADER IN RADIATION TEST INSTRUMENTATION

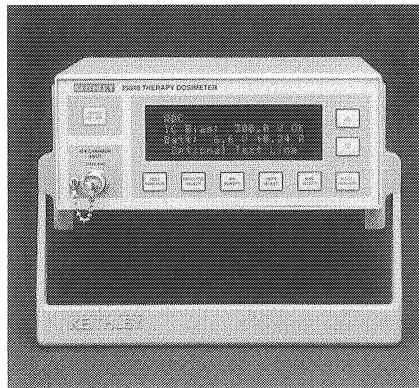


***X-ray Field Service/
Calibration/Quality Assurance***
The TRIAD™ Kit performs highly sensitive measurements for x-ray field service, calibration, and quality assurance testing. The TRIAD Kit allows complete x-ray generator testing on all diagnostic imaging modalities by measuring kVp, kVp waveform, exposure, time, rate, exposure per frame, Coulombs, Amperes, and mA/mAs.

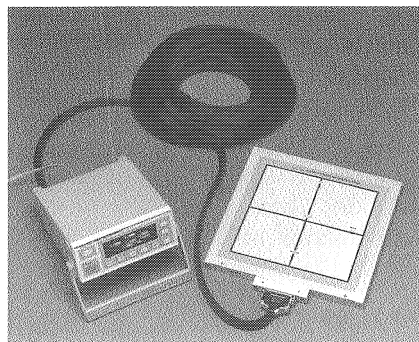
Keithley has been a leader in the test instrumentation industry for over 45 years. And, that's not by accident. Our products are designed and developed with today's leading edge technology to provide our customers with the most accurate and reliable measurements possible. It's no wonder that Keithley radiation measurement instruments are setting the industry standards.



X-ray Quality Assurance
The TRIAD Q/A System performs diagnostic quality assurance testing for radiographic, fluoroscopic, mammographic and dental systems, producing a complete set of numerical and pass/fail test results - customized to user requirements.



Radiation Therapy
The Advanced Therapy Dosimeter, Model 35040, is a reference grade instrument that exceeds the recommendations of calibration laboratories for leakage, linearity, and stability by a wide margin. This dosimeter is used in calibration dosimetry, quality assurance, and diagnostic testing of linear accelerators.



***Radiation Therapy
Quality Assurance***
The TRACKER™ Therapy Beam Evaluation System measures therapy radiation sources, including dose and dose rate, enabling beam constancy measurements and user calculation of beam flatness and symmetry.

KEITHLEY RADIATION MEASUREMENTS

(Continued from page 4)

early in the New Year, the usefulness or otherwise of pursuing this issue will be reconsidered. This Action Plan is intended to ensure substantial progress without full membership of ICSU.

8. 'Raising the Profile'

Officers should obtain relevant documentation from National Societies and consider any action in the light of information from the Developing Countries Committee (2.d above) including possible approach to the International Labor Organization. Deadline — ongoing.

All members are invited to contribute in any way they feel able.

At the Rio Conference, as mentioned earlier, members in some countries have severe difficulties in achieving national recognition of the status of Medical Physicists. Evidently, a contributory factor is that the profession is not listed and recognized specifically by the International Labor Organization. IOMP is considering this situation and seeking its rectification or improvement. However, there is a continuing need worldwide to "raise the profile" of the profession among politicians, the public and the media.

"Twinning" of Departments

During our General Assembly in Rio, Ann Dixon-Brown from Oxford, UK made the excellent suggestion of "twinning" between Medical Physics Departments, a closer and more personal relationship, particularly between a Department in a 'Developing Country' and one in a 'Developed Country.' This relationship could be mutually productive and convivial, resulting in improving understanding of each others' expertise, facilities and circumstances — and possibly mutual assistance and support. Having made the suggestion, Ann has "volunteered" to act as the clearing house (or chaperone). As well as establishing a record of "twinning" arranged by Departments themselves, Ann will try to arrange appropriate 'pairings' on request. "Twinning" is a new and potentially valuable concept within IOMP and, hopefully, we can exploit such an arrangement worldwide. Please contact our Treasurer Ann Dixon-Brown.

This has become a long 'Letter from the President' for which I apologize. However, to be successful requires the help of all of us, not only in identifying needs but also potential sources of assistance such as donors, benefactors, relevant Government and other agencies (nationally and internationally). Please do not wait until tomorrow (as tomorrow never comes) but take some supportive action now, either through your Regional Group, the Chairperson of our Committees, the Editor, our Curator of Libraries or your Officers.

Although it may be late I would like to wish you a very happy, healthy and successful New Year in 1995.

Keith Boddy, Ph.D.
President

Vice-President's Report

Let me start by saying what a great privilege it has been for me to serve as your Secretary-General for the past six years, and especially to meet many of you at our various meetings and courses. Thanks to the support of your Officers and Committees, this short period has been one of significant growth for the IOMP: our membership has increased 60% (from 35 to 56), our Corporate Membership has increased 260% (from 10 to 27), our Travel Grants have risen tenfold (from US \$5.7K to US \$59K), and we have established very active Course/Workshop and Developing Countries Libraries programs.

Looking back at my notes when I was first elected in 1988, all these things were high among my priorities, but so many other things that we have yet to accomplish, most of which are now high on the list of priorities of your new President (see President's Report). I see it as my major role for the next three years as Vice-President to support Professor Boddy in his efforts to achieve these lofty goals.

As my first task, Prof. Boddy has appointed me to chair an ad hoc Working Group on Funding Resources. Clearly, most of the objectives in our President's Strategic Plan cannot be accomplished without a significant increase in outside funding. This might be in the form of direct monetary contributions to the IOMP, sponsorship of some of our programs (courses/workshops, libraries, Medical Physics World, etc.) or financial support for IOMP members to enable them to study or train abroad. Potential sources of support include international agencies as WHO, IAEA, etc., industry, governments or philanthropic organizations.

We are in the process of appointing individuals to this Working Group who have expertise in this area. I would welcome any of your ideas or proposals. We will need all the help we can get.

One program we have already started concerns financial support for our colleagues in developing countries to study or train abroad. Table 1 (see page 12) is a listing of potential sources of funding for such activities. **Please contact me if you know of any other sources of support.**

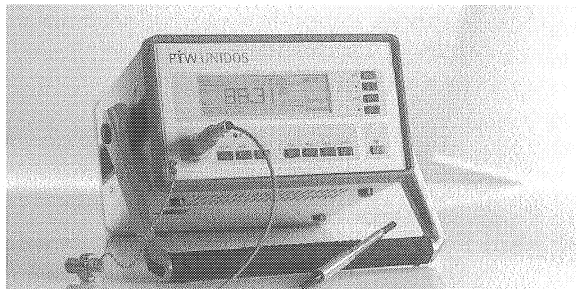
Note that in all cases it is the responsibility of the individual who wants to travel to apply for these funds, not the institution which offers the training. But in order to apply, you will usually need to specify where you want to train, so we have also begun to assemble a list of institutions willing to accept such trainees from developing countries, provided they secure their own financial support. So far this list is of institutions in the USA (see table 2, page 13), but we would like to expand this to include many other regions. **I urge anyone who is willing to "host" a visiting scholar from a developing country in order to provide specialized (or general) training, or an opportunity to study for an advanced degree, to contact me so that we can augment this list.** Additions will be published in future issues of *Medical Physics World*. Anyone interested in training at any of these institutions should contact them directly.

Finally, let me say that it is an honor to have been elected to serve you and the IOMP for six more years. I hope that your Officers and I will be able to satisfy our aspirations and your expectations.

Colin G. Orton, Ph.D.
Vice-President

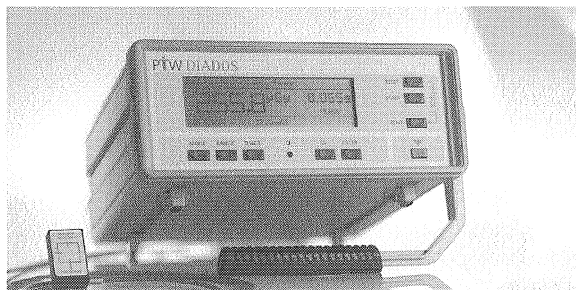
Freiburg has, what everyone is looking for:

The new Dosemeter Generation from PTW.



UNIDOS

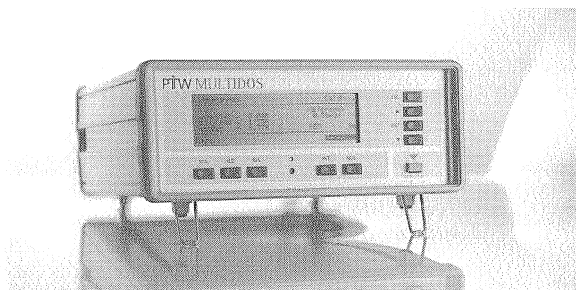
The universal dosemeter for radiation therapy, diagnostic radiology and health physics: A better match couldn't be found.



DIADOS

The new dosemeter for conventional X-ray equipment and mammography:

- *More features*
- *Exact measurement*
- *Easy control*



MULTIDOS

The 12 channel dosemeter for radiation therapy:

- *Patient dosimetry*
- *Dynamic field analyses*
- *Quality assurance*

PTW FREIBURG

PHYSIKALISCH-TECHNISCHE WERKSTÄTTEN
DR. PYCHLAU GMBH

LÖRRACHER STRASSE 7
D-79115 FREIBURG
PHONE (+49) 7 61/4 90 55-0
FAX (+49) 7 61/4 90 55-70

Secretary-General's Report

The World Congress in Rio 1994 can now be summarized. The congress had 1,735 participants from over 60 countries. About 2,000 abstracts were received with approximately one third of the papers in topics on medical physics. The general impression was that the arrangements went smoothly and that the research programme was of high quality and well coordinated.

It can be expected that this success will generate even larger congresses in Nice 1997 and Chicago 2000. It was mentioned at the IOMP general assembly 1994 by Dr. Gary Fullerton that the number of participants in Chicago is anticipated to be 6,000 to 8,000 as this is a joint meeting with AAPM. The increase in volume is certainly very positive as it indicates the importance of medical physics and international cooperation. However, it also creates certain problems. Ann Dixon-Brown indicated that a large meeting would probably overwhelm delegates from developing countries. It is therefore important to support special activities, e.g. seminars within the congress dealing with problems in developing countries or special training courses for medical physicists from such countries. The United Nations organizations (IAEA, WHO, PAHO, etc.) ought to have a special interest to support such activities.

A problem connected with the difficulties in the developing countries is the professional status of the medical physicists. There are unfortunately many developing countries that do not recognize the medical physics profession. This creates both safety and quality problems when modern radiotherapy, nuclear medicine or diagnostic radiology is introduced. My experience from the assistance programme during my work for IAEA was that this hampered the medical development in many countries. I think that a co-operation both with UN-organizations and medical societies is of great importance to improve the professional status.

For radiotherapy physics a close cooperation with ISRO (International Organization on Radiation Oncology) is of special importance. The IOMP has decided to cooperate in a symposium set up by ISRO/IAEA in Vienna on May 8-9, 1995. The quality assurance including also administrative problems in radiotherapy such as the responsibilities of different professions will be covered. All national societies on clinical physics and radiation oncology are "invited" to the meeting. The situation in both advanced and developing countries will be covered. The ISRO is a fairly new organization and has unfortunately no means to cover expenses. Further information may be obtained from me.

There are thus many signs that the activities by the IOMP will increase during the following years. An increase of the size necessitates a re-organization of the work within the secretariat. Previously, the Secretary-General had, in addition to the administrative and coordinating work, also the full responsibility for the economical part. A special Treasurer was appointed in Rio. I am too new in my office to foresee other useful changes, but I am sure much must be done to live up to the requirement of an increasing society. Closer cooperation, as suggested by our present President, with regional organizations might be one useful way.

Hans Svensson, Ph.D.
Secretary-General

REQUEST FOR SUPPORT

INTERNATIONAL SCIENTIFIC EXCHANGE PROGRAM

THE PHYSICS OF RADIATION THERAPY
Istanbul, Turkey — September 11-15, 1995

SPONSORING ORGANIZATIONS

American Association of Physics in Medicine
International Organizations of Medical Physics
Turkey Association of Medical Physics

Corporate Sponsors

(\$1,000 and up)

Supporters

(\$500-\$999)

Contributors

(\$100-\$499)

Donors

(< \$100)

Contributions should be made payable to **AAPM International Scientific Exchange** and sent to:

AAPM Headquarters Office

One Physics Ellipse, College Park, MD 20740-3846

Attn: Mr. Sal Trofi, Executive Director

Sponsors, supporters, and contributors will be acknowledged in publications of the AAPM and IOMP.

For information on becoming a sponsor, supporter, or contributor contact:

Azam Niroomand-Rad, Ph.D.

Georgetown University Medical Center

Department Rad. Med. /LL Bles Bldg.

3800 Reservoir Rd., N.W.

Washington, D.C. 20007

Phone: 202-784-3320

Fax: 202-784-3323

Saiyid M. Shah, Ph.D.

Evansville Cancer Center

700 N. Burkhardt

Evansville, IN 47715-2740

Phone: 812-473-8787

Fax: 812-476-2917

Executive Committee Resolves to Form IOMP Science Committee

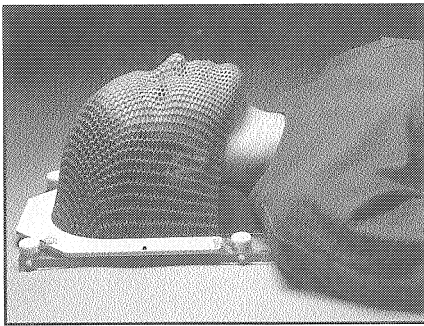
During the World Congress on Medical Physics and Biomedical Engineering in Rio, Brazil the IOMP Executive Committee chaired by President Keith Boddy reviewed problems concerned with the continuing development of IOMP as an international scientific society. As a result they resolved to form a new IOMP Committee which was tentatively named the Science Committee with the purpose of evaluating long-term trends in scientific developments in medical physics worldwide and assuring that these trends are successfully addressed in future World Congress venues. I was asked to chair an ad hoc Science Committee to formulate a proposal for the structure and charge of the **IOMP Science Committee** for presentation to the Executive Committee within a year. This proposal if approved would then be transmitted to National Delegates for discussion and final approval at the 1997 meeting in Nice, France.

The initial focus of the ad hoc Committee is on the structure and methods used to develop the medical physics scientific program for the triennial World Congress. The scientific successes of IOMP are in large part based on the impact of this meeting. Physics Co-Presidents and Scientific Program Chairpersons for the Kyoto, Rio and Nice meetings have been recruited to participate as members of the ad hoc Committee. Deliberations and suggestions for the future will be founded on the successes of the past. The task of creating an effective and useful IOMP Science Committee would, however, profit from the participation of additional at-large members. Any additional IOMP members wishing to contribute to this effort should communicate directly with me.

Gary Fullerton, Ph.D.

Radiology Department, University of Texas, HSCSA
San Antonio, TX 78284-7800, U.S.A.

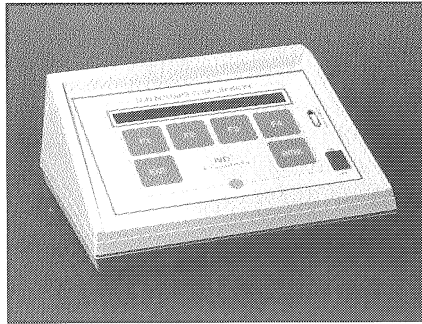
r a d i a t i o n t h e r a p y a c c e s s o r i e s



UNI-FRAME® HEAD IMMOBILIZATION

This easy-to-use, cost-effective system features thermoplastic pre-bonded to a rigid U-frame, for accurate and reproducible head immobilization. A full line of base plates are available for prone and supine treatment.

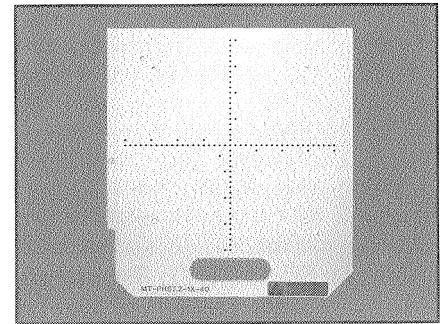
MED-TEC offer a complete collection of precision patient positioning systems.



IN VIVO DOSIMETER

The accurate and reliable IVD™ electrometer allows physics calibration with a precision of 1% or better. It stores up to 20 detector configurations, and outputs in Rads or Centigrays. Designed for use with our full line of diode detectors.

MED-TEC carries a full line of state-of-the-art instrumentation devices.



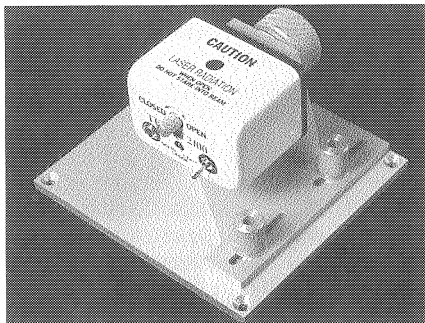
GRID TRAYS

Slides into the shadow tray slot, giving comparable centimeter scales on both simulation and port-films. The reference dot scale is calibrated to project precise reference dots 1 cm or 2 cm apart at the isocenter of the treatment machine.

Also available for wedge slot.

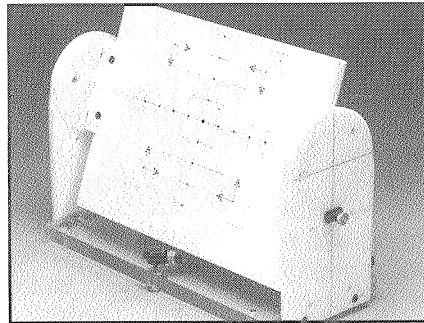
Reticules also available.

m e a s u r e m e n t a n d a l i g n m e n t



TEC-2100® POSITIONING LASER

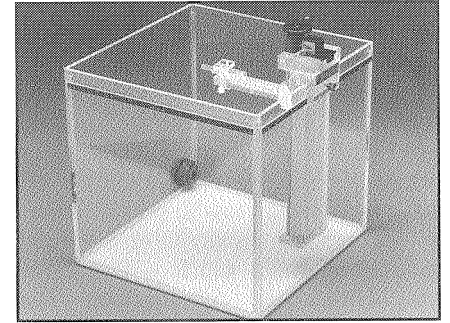
Quick and accurate, this unique laser is 100 percent solid state with "0" warm-up time and a 1 mm line width. Its small size allows for easy, convenient installation anywhere in the treatment area.



ISO-ALIGN®

With one positioning of the base, this 360 rotational alignment test device can check a variety of parameters at multiple gantry angles. Optional carry case provides convenient transportation and storage.

Designed in cooperation with Dr. Ken Vanek.



WATER PHANTOM

One turn of the crank on our MT-150 water phantom quickly and accurately moves the chamber holder 1 mm. Display with zeroing capabilities indicates depth to nearest 0.1 mm. Two tank sizes available.

MED-TEC offers a full line of ionization chambers.

Innovation today for the challenges of tomorrow.

Call us today for your **FREE CATALOG** showcasing MED-TEC's complete line of radiation therapy equipment and accessories:

8 0 0 ▲ 8 4 2 ▲ 8 6 8 8

 **MED-TEC, INC.**
The science of life for the art of living.
PO Box 602 Orange City, IA 51041 USA

Test Tools For Developing Countries

This is the third in a series of articles describing simple devices useful to medical physicists in developing countries. A general description of the Wisconsin Multi-Purpose Radiographic Phantom appeared in the issues 9 (1 & 2) and 10 (1) of *Medical Physics World*. Readers are encouraged to submit short articles describing their home-made devices which might be useful for medical physicists in other countries.

A Simple 50-110 kVp Penetrameter and A Home-Made Optical Densitometer

Melita Panescu and John Cameron
 Department of Medical Physics
 University of Wisconsin
 1300 University Avenue, Room 1530
 Madison, WI 53707, U.S.A.
 JRCAMERO@FACSTAFF.wisc.edu

The measurement of the kVp is an important part of a quality assurance program in every hospital. Unfortunately, most hospitals in developing countries cannot afford the commercial instrumentation to make this measurement. This article describes a simple, inexpensive kVp device which has a precision of 2-3 kVp in the range of 50 to 110 kVp.

The basic principle of the kVp penetrameter was described by Stanton et al¹. An improved version was described by Ghilardi and Cameron². The principle of the instrument is to expose a thick block of polyethylene and a thin 11-step brass step wedge to a heavily filtered beam of x-rays. The image beneath the high atomic number (Z) step wedge shows a series of rectangles of monotonically increasing optical density as the steps become thinner. The image beneath the low Z polyethylene block has a relatively uniform optical density. For a given kVp, there will be a thickness of brass which gives the same optical density as that beneath the polyethylene. The kVp penetrameter described here is simpler and has a slightly improved calibration curve and performance over that of Ghilardi and Cameron. The design of this kVp penetrameter is shown in Figure 1. A sheet of 1 mm thick brass acts as a support for both the polyethylene and the step wedge and as the beam hardening filter. A thin sheet of lead on the side of the polyethylene block near the brass step wedge keeps scattered radiation from contributing to the image beneath the step wedge.

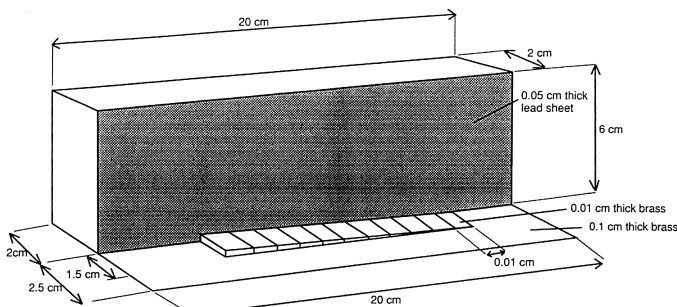


Figure 1. A simplified kVp penetrameter

Figure 1

For a kVp measurement the penetrameter is placed over a conventional x-ray cassette loaded with fresh film. It is convenient to make several kVp exposures on the same film. A 3 mm thick lead blocker is placed over the unused areas of the cassette. It is necessary to experimentally determine the optimum exposure factors at about every 10 kVp. The needed mAs goes up rapidly at low kVp. The optimum mAs depends on the kVp, the FFD, the sensitivity of the intensifying screens and the characteristics of the film processor. Once appropriate exposure factors are determined they should be recorded for use in later measurements at the same potentials. A series of exposures are made using different areas of the cassette. Lead markers are used to indicate the kVp setting for each exposure.

Once the exposures have been made and the film processed one will see a nearly uniform optical density under the polyethylene block and series of increasing optical densities under the step wedge. The darkest area is under Step No. 1 and the lowest optical density under the thick end of the step wedge. If the optical density is about 1.0 in the region of the "match step," it is possible to estimate the match step by eye within a step or two. To make an accurate assessment it is necessary to use an optical densitometer. Since it is only necessary to compare optical densities, it is not essential to have an accurately calibrated optical densitometer. Relative measurements of the optical densities are adequate. Since commercial optical densitometers are expensive and are often not available in a developing country, it is possible to use a simple home-made optical densitometer which will be described later. Since the "match step," is usually not an integral number of steps, it is necessary to interpolate optical density measurements made at steps near the match step. Using an optical densitometer one determines the readings of the density under the steps in the region of the "match step." One then interpolates to determine the match step within ± 0.2 step, this corresponds to about ± 2 kVp.

It is necessary to calibrate the kVp penetrameter by comparison with a calibrated kVp instrument. Alternatively, one can calibrate the kVp penetrameter using an x-ray unit which is known to have accurate kVp settings. A typical calibration curve is shown in Figure 2. Ten kVp penetrameters were constructed at the same time from the same stock of polyethylene and brass. The calibration curve for all ten of the penetrameters agreed within 2-3 kVp.

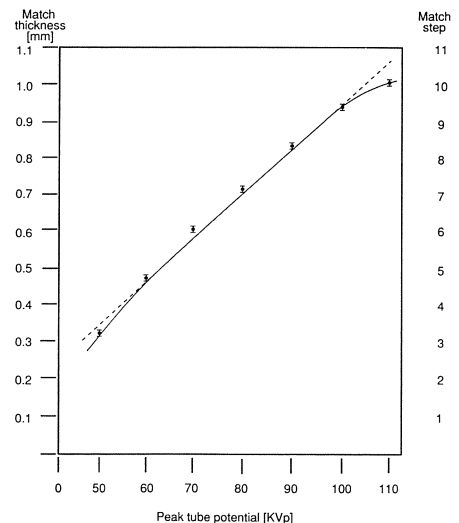


Figure 2. Calibration curve for the kVp penetrameter presented in figure 1. The solid line represents experimental data; the dashed line represents a linear response.

(Continued from page 10)

A simple home-made optical densitometer can be constructed using an inexpensive digital voltmeter (DVM) and a phototransistor. Typical phototransistors have three leads. One can experimentally find the pair of leads which gives a signal which is proportional to the logarithm of the light intensity. That is, the potential is approximately proportional to the optical density of a piece of film transilluminated by light from a constant light source. A convenient light source is a light box used to view clinical roentgenograms. The light from such a source varies from one point to another so it is necessary to use a marker, such as a "grease pencil," to mark a circle around the area chosen as the constant light source. Once the appropriate set of leads of the phototransistor is determined, the photo transistor is mounted in a clear plastic sheet about 3 cm x 10 cm and a few mm thick. This makes a convenient handle for positioning the phototransistor over the point on the film where one wishes to measure the optical density. The DVM can be attached to the plastic sheet for convenience.

It is not necessary to calibrate the home-made optical densitometer but it is convenient to have a reasonable idea of the optical density being measured. One can construct an optical step wedge. Place a piece of film in a cassette or use a sheet of non screen film. A rectangular lead sheet about 3 mm thick blocks all but a one cm wide strip near the edge. A low kVp (e.g. 60 kVp), a large FFD and a very low mAs are chosen to give a slight darkening to the film. The lead blocker is moved to

expose 2 cm of film and the exposure is repeated. Ten sequential exposures are made, exposing an increasing width of film for perhaps a total of 10 to 12 steps. When the film is processed one will see a series of strips of increasing optical density. If the exposure used did not give a convenient range of optical densities from about 0.2 to about 3.0, one must adjust the mAs appropriately and repeat the process. It is desirable but not necessary to have the optical step wedge measured with a good quality optical densitometer and the optical densities marked on the film with a grease pencil. The optical step wedge can be sent by mail to a colleague who has a good quality optical densitometer to make the measurements.

SUMMARY

This article describes the design, construction and use of a simple kVp penetrometer that can measure kVp in the range of 50 to 110 kVp to a precision of about 2-3 kVp. The construction of a simple optical density indicator to be used for the evaluation of the kVp reading is also described. Many of the materials for the construction of these devices are available in developing countries. If they are not available, the authors will attempt to try to locate a source for the materials. It is our hope that the necessary materials can be provided as an inexpensive kit.

REFERENCES:

1. L. Stanton, D. A. Lightfoot and S. Mann, *Radiology* **87**, 87 (1966)
2. T. Ghilardi Netto and J. R. Cameron, *Med. Phys.* **12**, 259 (1985)

INSTITUTE OF PHYSICS PUBLISHING

A Century of X-Rays and Radioactivity in Medicine

with emphasis on photographic records of the early years

by

Richard F Mould

Towards the end of this century we celebrate three great discoveries-1895 X Rays, 1896-Radioactivity, 1898 Radium and recall the pioneering achievements that founded the new science of radiology and changed the face of medicine forever. Including over 700 historical illustrations, with full and informative captions, supported by short introductory essays to blow the dust off our fascinating radiological past in an easily readable style.

1993 hardcover £37.00/US\$74.00 0 7503 0024 0

To obtain your copy of this unique book you can either order from your bookstore or simply by sending your cheque or credit card details to the address below:

UK/ROW Customer Service, IOP Publishing Ltd., Techno House, Redcliffe Way, Bristol BS1 6NX, UK
(Tel:+44 272 297481 Fax: +44 272 294318 or if in the UK 0 800 373921)

P&P: UK-FREE/Outside UK-Add £5.55 orders over £50 add £7.50

USA and Canada IOP Publishing Ltd., c/o AIDC, 2 Wintersport Lane, PO Box 20, Williston, VT 05495-0020, USA
(Tel: 1-800 4882665 or 802 862 0095 Fax: 802 864 7626)

P&P USA & Canada-Add \$2.75 for the first book 75c each additional book

Please send me _____ copies of *A Century of X-Rays and Radioactivity in Medicine*

I enclose my cheque UK£/US\$(drawn on a US bank) for _____ made payable to IOP Publishing Ltd

Please charge my: MasterCard _____ Visa _____ AmEx _____ Card No: _____

Name: _____ Signature: _____

Address: _____

mpw/94

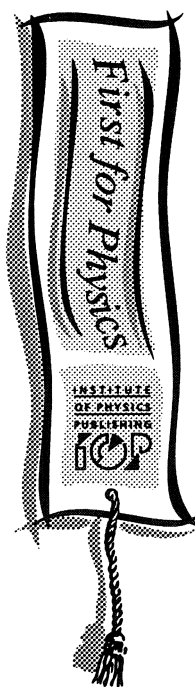


TABLE 1. FINANCIAL SUPPORT FOR STUDY/TRAINING ABROAD

Institution	Title	Purpose	Citizenship Requirement	Other Requirements	Fields Supported	No. of Awards	Stipend	Other Allowances	Award Duration	Application Deadline
American Association of University Women Educational Foundation 1111 16th Street, N.W. Washington, D.C. 20036	International Fellowships	Full-time graduate or post-graduate study or research in the United States	Any female non U.S. citizen	Must agree to return to home country to pursue professional career upon completion of fellowship. Must demonstrate English proficiency	Unrestricted	Approx. 40 annually	\$14,000 (approx.)	None	Nine months	December 1 (for September 1 fellowship)
International Atomic Energy Agency Address for application material: atomic energy agency of applicant's country	IAEA Fellowship Program	Graduate or postdoctoral training	Citizens of economically developing countries that are members of the UN or IAEA but are not U.S. citizens	English language skills; return home to practice for at least two years	Peaceful uses of nuclear energy in ... medicine ...	75-90/year	Approx. \$810-1,580/month	Books, health insurance, round-trip travel, research and tuition fees	Approx. 3-12 months	None
International Union Against Cancer (UICC) 3, rue du Conseil-General 1205 Geneva, Switzerland	International Cancer Technology Transfer Fellowships (ICRETT)	To learn research techniques or to acquire advanced expertise in clinical management, diagnostic or therapeutic skills	Unrestricted	Scientifically qualified cancer investigators or clinicians	Cancer related research practice	Approx. 120 annually	Living expenses for up to one month plus airfare	None. No support for dependents	Up to three months	None
Pan American Health Organization (Pan American Sanitary Bureau) Address for application material: Health department of candidate's own country	Fellowships	Provide training or study not available in candidate's own country at graduate, postdoctoral or non-academic level	Citizens of PAHO member countries	Written agreement to return home country to practice for at least three years	... medicine and health related fields...		Variable	None	As required	Variable
P.E.O. International Peace Scholarships P.E.O. 3700 Grand Avenue Des Moines, Iowa 50312, USA	International Peace Scholarships	To promote world peace. To support full-time graduate study in the USA	Non-U.S. or Canadian women students	Must sign agreement to return to home country or repay funds	Unrestricted	Approx. 200/year	Approx. \$3,500 per year (based on need)	None	One year, renewable up to four years	December 15
Rotary Foundation of Rotary International Address for application: Local Rotary Clubs or The Rotary Foundation 1560 Sherman Avenue Evanston, IL 60201, USA	Academic Year (an Multi-Year) Ambassadorial Scholarships	Graduate or vocational study in the United States	Citizens of countries in which there are Rotary Clubs	Expected to return home to share experience	All fields	Varies	\$10,000/year	None	One year (or 2-3 years for multi-year scholarships)	July 15 (or earlier if local Club requires it)
U.S. Agency for International Development (A.I.D.) Office of International Training Address for applications: Appropriate government department in applicant's own country or contact an A.I.D. mission	Thomas Jefferson Fellowship Program	Training for high-level professional and technical occupations in both private and public sectors	Nationals of participating countries	Training must not be available in applicant's own country; nominated by own government; agree to return to own country for minimum of two years	...education... health...	Variable	\$14,000/year	Variable but usually includes maintenance, travel, health insurance	Variable	None
World Health Organization (WHO) Address for Applications: Health department of own country	WHO Fellowships	Provide training or study not available in own country	WHO countries only	Agree in writing to return home for at least three years service	...health sciences...	Variable	Variable	Variable	As required	Variable

TABLE 2. U.S. INSTITUTIONS WILLING TO HOST VISITING SCHOLARS FROM DEVELOPING COUNTRIES

HOST INSTITUTION	CONTACT PERSON	TRAINING TOPICS	LENGTH OF STAY	COMMENTS
Washington Univ. School of Medicine Radiation Oncology Center 4511 Forest Park Blvd. St. Louis, MO 63108	Eric Klein, M.S.	RAL brachytherapy 3-D treatment planning Multileaf collimation Real-time portal imaging Dynamic wedge Hyperthermia	2 - 4 weeks	
Harper Hospital and Wayne Stte University 3990 John R Street Detroit, MI 48201	Colin Orton, Ph.D.	HDR brachytherapy 3-D treatment planning Multileaf collimation Real-time portal imaging Dynamic wedge Fast neutron therapy Cf-252 brachytherapy Stereotactic radiosurgery and brachytherapy Information systems	2 - 4 weeks or 1 - 5 years	Longer stays for MS or PhD (accredited) program
Good Samaritan Regional Medical Center Department of Radiation Oncology 1111 E. McDowell Rd. Phoenix, AZ 85006	Steven Sapareto, Ph.D.	General therapy physics HDR, stereotactic radiosurgery, Information systems	2 weeks	
Long Island Jewish Medical Center Radiation Oncology New Hyde Park, NY 11042	Yakov Pipman, Ph.D.	Stereotactic radiosurgery and brachytherapy HDR, LDR	1 - 12 weeks	
University of Alabama Hospital Department of Radiology 619 S. 19th St. Birmingham, AL 35233	Gary Barnes, Ph.D.	Diagnostic X-ray physics	?	
Montefiore Medical Center Dept. of Medical Physics/Radiation Oncology 111 E. 210th St. Bronx, NY 10467	Doracy Fontenla, Ph.D.	Radiotherapy physics HDR, LDR	?	
Thomas Jefferson University Dept. of Radiation Oncology 111 S. 11th St. Philadelphia, PA 19107	Mohammed S. Huq, Ph.D.	Teletherapy	?	
University of Kentucky Medical Center Dept. of Radiology 800 Rose St. Lexington, KY 40536	Guy Simmons, Ph.D.	Diagnostic and Nuclear Medicine Physics	4 - 8 weeks	
University of Florida Dept. of Radiology Box 100374, JHM Health Center Gainesville, FL 32610	Walter Huda, Ph.D.	Radiological physics	?	
Bowman-Gray School of Medicine PET Center Medical Center Blvd. Winston-Salem, NC 27157-1061	Frederic Fahey, D.Sc.	Nuclear medicine physics	4 - 8 weeks	
St. Barnabas Medical Center Radiation Oncology Department 94 Old Short Hills Rd. Livingston, NJ 07039-5668	K. Davis Steidley, Ph.D.	Therapy physics	4 weeks	
Cooper Medical Center Department of Radiation Oncology 1 Cooper Plaza Camden, NJ 08103	Robert Stanton, Ph.D.	Therapy physics Treatment planning Calibration HDR	2 weeks	
St. Francis Hospital Radiation Therapy 355 Ridge Ave. Evanston, IL 60202	Renu Saxena, Ph.D.	Therapy and diagnostic physics Calibration	1 - 2 weeks	
University of Wisconsin Medical Physics & Human Oncology K4/B100 Clinical Science Center Madison, WI 53792-0600	Bruce Thomadsen, Ph.D.	Radiation oncology physics (training) Medical physics (study)	?	Has accredited MS and PhD programs in Medical Physics
Naples Community Hospital 733 4th Avenue North Naples, FL 33940	Steven Babcock, M.S.	Therapy physics	2 weeks	
University of Miami School of Medicine Department of Nuclear Medicine D57 1611 N.W. 12th Ave. Miami, FL 33136	Mehdy Jabir, M. Phil	Nuclear medicine Radiological physics	?	
William Beaumont Hospital Department of Radiation Oncology 3601 W. Thirteen Mile Rd. Royal Oak, MI 48073	John Wong, Ph.D.	Radiation oncology physics	?	

About Those Who Give



In our daily life we often judge success by the goals we have achieved, innovative contributions we have made, authority we have risen to, and wealth we have accumulated. Though these are laudable achievements, what is higher in value is giving something back to society to fill its needs. Charles Lescrenier, Chairman/CEO of Gammex Companies, has this ability and thus deserves our recognition and respect.

Charles and Peggy Lescrenier never dreamed that their 1969 home basement operation would grow to the point that one of their lasers would be part of space programs at NASA. Nor did they dream of the accolades and companies that they would acquire on the way to Gammex's 25th Anniversary. It is important to note that Dr. (Honorary) Lescrenier had his humble beginning career as a medical physicist trying to assist cancer patients receive better treatment. This simple and noble goal has culminated in "The Gammex Group of Companies," doing business as Gammex RMI facilities in five states and two international locations to help train and improve the performance of professionals in radiology, ultrasound, magnetic resonance imaging (MRI) and oncology. Today they are providing over 2,000 quality products to the medical community.

Dr. (Honorary) Lescrenier achievements are numerous. In his successful career he has held academic positions at prestigious institutions such as Yale University, the University of Texas and the University of London. His development efforts have resulted in a variety of routinely used products. He has made significant contributions to a large number of educational, scientific and professional societies. He has established many gifts for the medical physics profession including the gold medal of the American Association of Physicists in Medicine, AAPM's Coolidge Award.

In spite of the enormous success, Charles Lescrenier remains a generous, kind, and affectionate human being. He is always around at social gatherings trying to share a smile and capture others on his camera. Charles is a true friend of our profession and we want him to know that we appreciate his contributions.

Bhudatt Paliwal, Ph.D.
Past Editor

M. S. S. Murthy, Ph.D.
Chairman

Developing Countries Committee Report

During the Council Meeting on August 21, 1994, at Rio de Janeiro, new office bearers for the Developing Countries Committee (DCC) were elected. As you are aware one of the most important achievements of the DCC over the past few years was the establishment of more than 50 IOMP libraries in various parts of the world. Prof. Keith Boddy, President IOMP has drafted an action plan for 1994-95 for the DCC. Essentially it consists of the following:

- 1) To identify specific needs for equipment in developing countries. Consideration should not be listed in radiotherapy equipment but encompass all fields of Medical Physics relevant to each country both currently and planned as development of Medical Physics services in the near future.
- 2) To establish the essential features for radiotherapy equipment that may be required in the next few decades. Readers of MPW may be aware that even though cobalt machines are very essential for radiotherapy, particularly in small centers, the problems of disposing off of the decayed sources is becoming serious. As a result, some companies are winding up production of cobalt units and suggesting the use of 4-6 MV linear accelerators. In this context it would be necessary to establish what should be essential features of the radiotherapy equipment required for the developing countries over the next few decades.
- 3) To identify the professional status of Medical Physicists in developing countries. It is generally known that the status of Medical Physicists in developing countries require to be assessed and upgraded. In order to upgrade their status it is necessary to make it a legal requirement that all radiotherapy/radiodiagnostic/nuclear medicine centers in all countries should employ Medical Physicists. For IOMP to take up this issue it is necessary to know the address of competent authority in the various countries responsible for legislation on medical application of radiation and radiation safety.
- 4) The DCC would also like to assist physicists to establish QA programme in radiotherapy/radiodiagnosis and nuclear medicine. The assistance can be in the form of developing QA kits, workshops, etc.

Thus the DCC can act as a model center to activate Medical Physics activities in the developing countries. Physicists from these countries are requested to send their proposals of these activities either to the regional members of the DCC or to me directly.

The IOMP prepared a list of Medical Physicists willing to "host" scholars visiting from developing countries. This list is included in Dr. Orton's Report. It must be noted that the hospitality does not include travel support.

$$E = mc^2 \pm 2\%$$

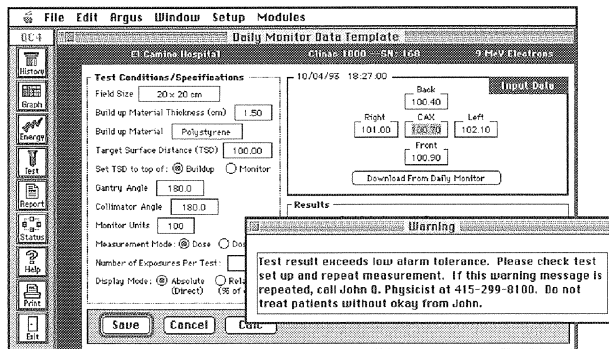
Everybody specifies tolerances, don't they?

Argus' quality assurance software for linear accelerators lets you do just that - and much more. With QC⁴, we've automated and integrated over 50 tests enabling you to input, graph, analyze, and report your linac QA data in the time it now takes to simply enter it in a lab notebook.

You can have confidence that your linacs are functioning optimally, and that you won't have unexpected downtime with all the headaches of patient rescheduling, staff disruptions and potential loss of revenue.

And peace of mind that when regulatory agencies pay your department a visit, your data is professionally organized and documented.

Of course, with customizable parameter set-ups, you can tailor tests to suit *your* procedures and specify tolerances and warning messages. If a test result is out of tolerance, you'll know it immediately. And if you're not around, your own customized protocols and alarm messages will guide your therapist or engineer through the QA procedure.



Customizable warning messages let you manage your QA process - even when you're not there!

• Call today for a free demo disk for either your Macintosh or Windows computer *and* complimentary reprints of new QA standards published in Medical Physics by Task Group 40 and Task Group 45.

Inside the US: 800/422-7487
Outside the US: 415/299-8100 or
fax 415/299-8104

*Automate with QC⁴
and let your genius
shine through!*



International Organization For Medical Physics Corporate Affiliates, 1994

Agfa-Gevaert Ltd.

Diagnostic Imaging Systems
27 Grest West Road
Brentford, Middlesex TW8 9AX
United Kingdom
Contact: Mr. D. Jenkins
Tel: 081-560-2131

Amersham International plc.

Amersham Place Little Chalfont
Buckinghamshire, England HP7 9NA
Contact: Mr. John Hilferty,
Business Director-Export
Ms. Rosemary King, Area Manager,
Indian Sub Continent
Tel: 494-544000, Fax: 494-542266

Computerized Imaging Reference Systems

2428 Alameda Avenue, Suite 212
Norfolk, Virginia 23513 USA
Contact: Mr. Bill Drury, General Manager
Tel: 804/855-2765

Eastman Kodak Co.

Health Sciences Division
343 State Street
Rochester, New York 14650-0801 USA
Contact: Mr. Art Haus
Tel: 716/724-3829, Fax: 716/724-9868

Gammex/RMI, Wisconsin

Gammex - RMI Ltd., England
Gammex - RMI, GmbH, Germany
P.O. Box 620327, 2500 W. Beltline Highway
Middleton, Wisconsin 53562-0327 USA
Contact: Ms. Margaret G. Lesrenier,
Vice President
Tel: (608) 831-1188, Fax: (608) 836-9201

G. E. Medical Systems, Turkiye, A.S.

Mevlut Pehlivan Sokagi
Yilmaz Han No: 24
Kat:1, Gayrettepe
Istanbul, Turkey
Contact: Mr. Harun Pinto
Tel: 90-212-2755552,
Fax: 90-212-2732571

G. E. Medical Systems (Europe)

100 Rue Camille des Moulins
92137 Issy-les-Moulineaux, France
Contact: Andre C. Bourdon
Tel: 33-1-40-93-33-37,
Fax: 33-1-40-93-30-72

Heustis Machine Corp.

Buttonwood Street
Bristol, Rhode Island 02809 USA
Contact: Mr. Terry Chwalk
Tel: 401/253-5500, Fax: 401/253-7250

Intereknik Ltd.

Kizilelma Caddesi No: 16/5
Kindikzade, Istanbul, Turkey
Contact: Mr. Baki Temel
Tel: 90-212-5862305,
Fax: 90-212-5857547

IOP Publishing Ltd.

Techno House Redcliffe Way
Bristol BS1 6 NX England
Contact: Mr. Jim Revill
Tel: 0272 297481, Fax: 0272 294318

Keithley Instruments, Inc.

Radiation Measurements Division
28755 Aurora Road
Cleveland, OH 44139 USA
Contact: Mr. Walter L. Seibyl,
Director of Sales - RMD
Tel: 216/248-0400, Fax: 216/349-2307

Landauer, Inc.

2 Science Road
Glenwood, Illinois 60425 USA
Contact: Mr. Alan Kawaters
Tel: 708/755-7000, Fax: 708/755-7016

Medical Physics Publishing

732 North Midvale Boulevard
Madison, Wisconsin 53705 USA
Contact: Ms. Eileen Healy
Tel: 608/262-4021, Fax: 608/265-2121

Med-Tec, Inc.

Post Office Box 602
Orange City, Iowa 51041 USA
Contact: Mr. Clayton Korver
Tel: 712/737-8688, Fax: 712/737-8654

Multidata Systems International Corp.

9801 Manchester Road
St. Louis, Missouri 63119 USA
Contact: Mr. Arne Roestel
Tel: 314/968-6880, Fax: 314/968-6443

Nucletron Corporation

7080 Gateway Drive
Columbia, Maryland 21046-2133 USA
Contact: Ms. Rosemarie DeLabio,
Marketing Manager
Tel: 410/312-6100, Fax: 410/312-6199

Oldelft

Post Office Box 72, 2600 MD Delft
The Netherlands
Contact: Mr. Frank de Bruin, Marketing Manager
Tel: 015 145762, Fax: 015 145762

Radcal Corp.

426 West Duarte Road
Monrovia, California 91016 USA
Contact: Mr. Ted Micu, Marketing Manager
Tel: 213/357-7921, Tel: 1-800/423-7169

RTI Electronics AB

P.O. Box 2034
S-431 02 Molndal
Sweden
Contact: Mr. Mats Alm
Tel: 46-31-275275, Fax: 46-31-270573

Siemens Medical Laboratories, Inc.

4040 Nelson Avenue
Concord, California 94520 USA
Contact: Mr. Terrence E. Moore, Vice President,
International Marketing
Tel: 510/246-8200, Fax: 510/246-8284

Siemens Medical Engineering Division

130 Pandurang Budhkar Marg
Worli, Bombay 400 018 India
Contact: Mr. S. R. Patri, Director
Tel: 492 1350/60, Fax: 0019-22-494-1552

Simko, A.S.

Siemens AG Turkiye General Mumessili
Meclisi Mebusan Cad. No. 125
80040 Findikli, Istanbul, Turkey
Contact: Mr. Nikolaus von Kobinski
Tel: 212 251-0900, Fax: 212 252-4134

Theratronics International, Ltd.

413 March Road, P.O. Box 13140
Kanata, Ontario K2K SB7, Canada
Contact: Mr. Ronald E. Dunfield
S.E. Asian Region
Tel: 613/591-2100, Fax: 613/592-3816

TSG Integrations

Division of Intelligent Inst. Pvt. Ltd.
202 Ashok Bhawan, 93 Nebru Place
New Delhi 110019, India
Contact: Mr. S. L. Kapoor, Managing Director
Tel: 91-11-6423266/6420136
Fax: 91-11-6442728

URDC, Inc.

4592 Northeast Second Street
Benica, California 94510 USA
Contact: Ms. Cynthia Mitchell
Tel: 707/747-6648

Varian Medical Equipment Marketing

3045 Hanover Street
Palo Alto, California 94304 USA
Contact: Mr. Martin Kandes,
Director of Marketing
Tel: 415/493-4000

Victoreen/Nuclear Associates

6000 Cochran Road
Cleveland, Ohio 44139 USA
Contact: Mr. Mark Marlowe,
International Sales Manager
Tel: 216/248-9300, Fax: 216/248-9301

Calendar of Events

8-9, May 1995: ISRO/IAEA Joint Conference on Quality Assurance in Radiotherapy. Vienna, Austria (ISRO Office, Department of Radiotherapy, U.Z., Gasthuisberg, Herestraat 49, 3000 Leuven, Belgium [Tel: 32-16-34-76-84, Fax: 32-16-34-76-81]).

15-18, May 1995: IX Ukrainian Congress of Radiology, Ukrainian Research Institute of Oncology and Radiology, Kiev, Ukraine (Professor Y. S. Bably, UCR 95, 33/43 Lomonosova Street, Ukrainian Research Institute of Oncology and Radiology, Kiev, Ukraine 700864 [Fax: 044-266-0198]).

21-25, June 1995: CAR '95 - 9th International Symposium and Exhibition on Computer Assisted Radiology, ICC International Congress Center, Berlin, Germany (Prof. Heinz U. Lemke, Technical University Berlin, Institute for Technical Informatics, Sekr. CG FR 3-3, Franklinstr. 28-29, D-10587 Berlin, Germany [Tel: +49-30-314 73100, Fax: +49-30-314 21103, E-mail: hul@cs.tu-berlin.de]).

4-6, July 1995: International Meeting on Fully Three Dimensional Image Reconstruction in Radiology and Nuclear Medicine, Aix Les Bains, Savoie, France (Pierre Grangeat, CEN.G-D.SYS, 17 rue des Martyrs, 30854 GRENOBLE CEDEX 9, FRANCE [Tel: (33) 76.88.43.73, Fax: (33) 76.88.51.64, E-mail: Guillemaud@dsys.ceng.cea.fr]).

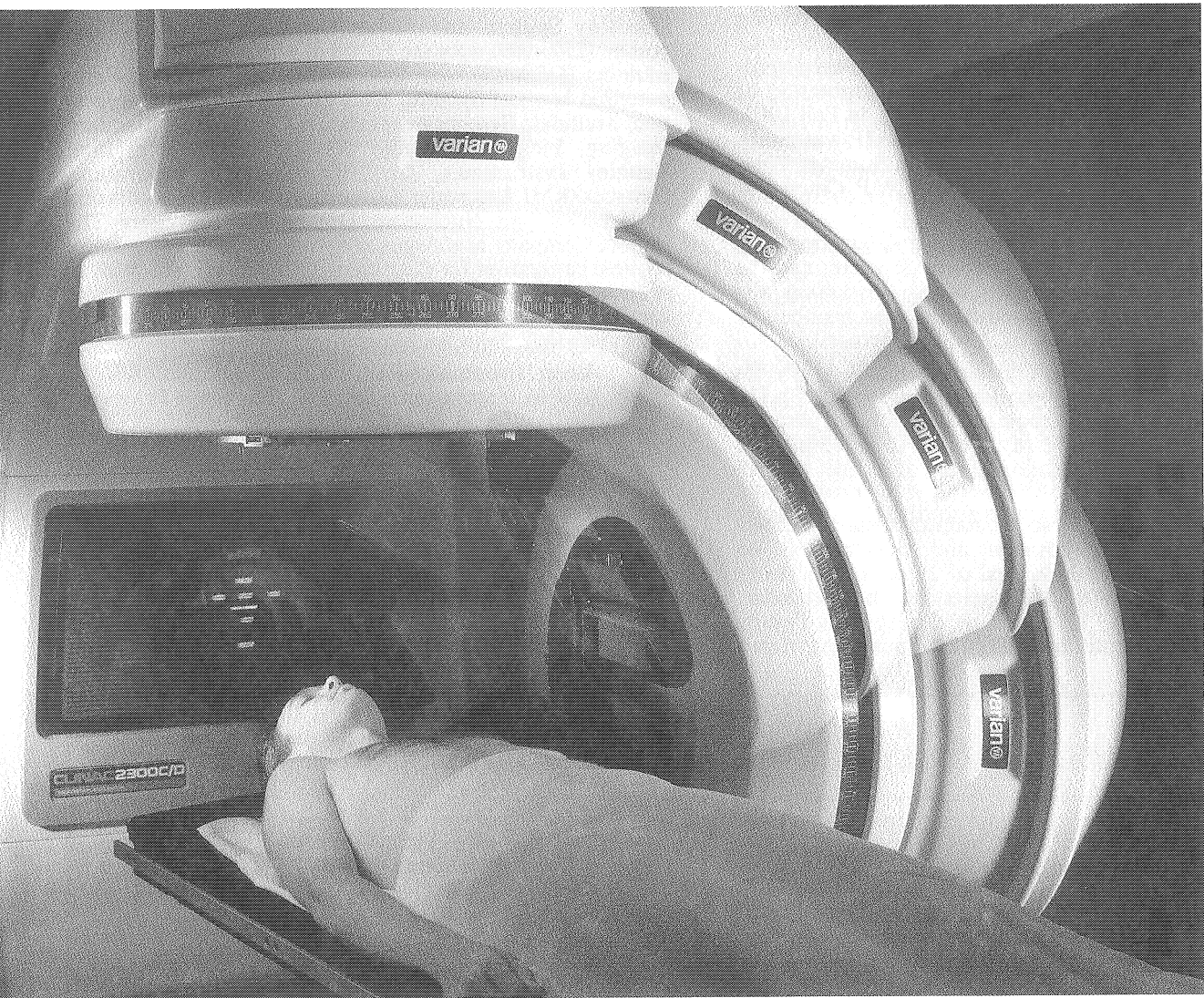
4-7, July 1995: COMP/CCPM/CAR/CAMRT Annual Meeting, Montreal, Quebec, (COMP/CCPM, Secretariat, 11328-88 St., Edmonton, Alberta, Canada T5B 3P8 [E-mail: 74063-2417@compuserve.com or gfallone@medphys.mgh.mcgill.ca, Tel: 514-934-8052]).

23-27, July 1995: 37th Annual Meeting, American Association of Physicists in Medicine, Joint Meeting with the Health Physics Society, Boston, MA, U.S.A. (AAPM, One Physics Ellipse, College Park, MD 20740-3846 [Tel: 301-209-3350]).

27 August-1 September 1995: 10th International Congress of Radiation Research, Institut fur Medizinische Strahlenbiologie, Universitätsklinikum Essen, Hufelandstr. 55, D-4300 Wurzberg, Germany (Dr. C. Streffer, Institut fur Medizinische Strahlenbiologie, Universitätsklinikum Essen, Hufelandstr. 55, D-4300 Essen, Germany [Tel: 49-201-723-4152, Fax: 49-201-723-5966]).

11-15, September 1995: AAPM/IOMP International Scientific Exchange Course/Workshop in Radiation Therapy Physics and V National Medical Physics Congress, (Medical Radiophysics Dept. Oncology Institute, University of Istanbul, Prof. S. Kuter, Istanbul, (90)-34390, Capa, Turkey).

Shaped for Efficiency



Varian's Multileaf Collimator

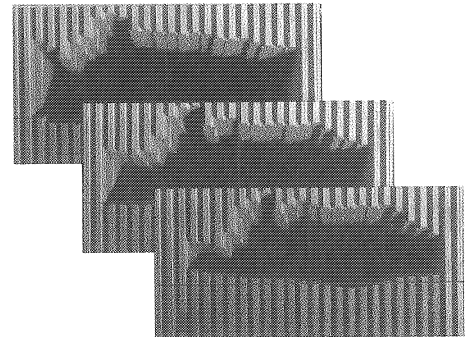
Our multileaf collimator (MLC) puts time back into your radiotherapy department by automating custom field shaping.

More fields, more patients. Deliver multiple field treatments in less than half the time of conventional blocking. This equates to better tumor coverage and increased patient throughput.

Treatments without lifting a block. Instead of lifting thousands of pounds of custom blocks every day, just push a button at your workstation.

Repeat performance. Individually motorized leaves with redundant position readouts move the MLC to the planned shape every time.

Call today to find out how the MLC can lighten your load.



3045 Hanover Street
Palo Alto, CA 94304
1-800-544-4636

varian 

Report From AAPM International Scientific Exchange Program Course/Workshop in Iran May 22-26, 1994

The third AAPM Scientific Exchange Course/Workshop in radiation oncology physics was held successfully in Tehran, Iran during May 22-26, 1994. The course/workshop was co-sponsored by the International Organization for Medical Physics (IOMP) Education and Training Committee. The prerequisite for offering such a course/workshop is the establishment of a national medical physics association. Our program also encourages membership of national associations into IOMP. Therefore, in Fall 1993, the Iran Association of Medical Physics, IAMP was established and became a member of IOMP. In Summer 1994, IAMP was officially recognized by the IOMP Council at the World Congress in Brazil.

This course/workshop was offered in collaboration with the IAMP, the Shahid Beheshti Medical Sciences, and the Jorjani Hospital in Tehran. This course/workshop was organized by Dr. Azam Niroomand-Rad, liaison member for Iran, Turkey and Afghanistan of AAPM International Affairs Committee, and by Dr. Azim Arbabi, IAMP President.

AAPM faculty members were: Leroy Humphries, Ph.D.; Faiz Khan, Ph.D.; Azam Niroomand-Rad, Ph.D.; Bhudatt Paliwal, Ph.D.; and James Purdy, Ph.D. About 35 medical physicists and radiation oncologists attended the course/workshop.

The course/workshop also contained chamber inter-comparison, chamber calibration and a workshop on TG-21 calibration protocol. A total of 29 of Khan's books were generously donated (17 copies by the publisher, Williams and Wilkins; 10 copies by the Sprawls Family Foundation; and 2 copies by the AAPM members). Certi-

ficat of Participation was presented to the attendees and Certificate of Appreciation was presented to the faculty. The certificates were signed by Dr. Nath, AAPM President, Dr. Colin Orton, IOMP Secretary-General, and Dr. Arbabi, IAMP President.

The expenses of the faculty and participants were financed by funds provided by AAPM, IOMP and vendors. Sponsors (+ \$1,000) were BSD Corporation, CNMC Company, Varian Oncology Systems and Maber Company Ltd.-Iran. Supporters (\$500-999) were the Eastman Kodak Company. Contributors (\$100-499) were Best Medical International; Computerized Medical Systems, Inc.; Huestis Machine Corporation; Multidata Systems International Corporation; Standard Imaging, Inc.; Mick Radio Nuclear Instruments, Inc.; Keithley Instruments, Inc.; Theragenics Corporation; Gammex/RMI Lescrenier Companies; Oldelft Corporation of America and Nucletron. Donors (<\$100) were The Buhrke Company and Argus Software, Inc. We are grateful to these companies for their contributions. We also wish to acknowledge Dr. Arbabi for his commitment and effort for the past three years in organizing and implementing the workshop in Tehran, and in raising funds for participants.

Azam Niroomand-Rad, Ph.D., Chair
AAPM International Scientific Exchange Program

I would like to thank Dr. Azam Niroomand-Rad for her persistence and effort during the past two years and lots of communication with me and facing many difficulties during the planning stages. Faculty also deserves many thanks for the superb job they did. Without their participation and dedication, the great success would not have been possible.

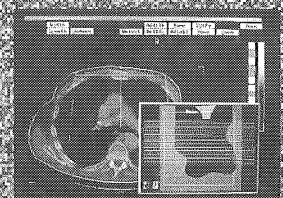
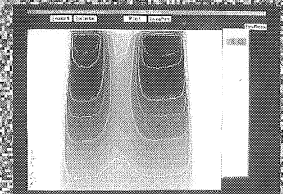
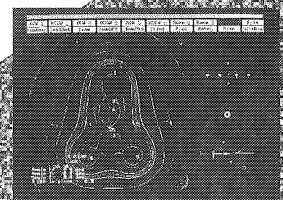
Azim Arbabi, Ph.D.
President, Iran Association of Medical Physicists

PROWESS SYSTEMS

- ▲ Complete Treatment Planning System
- ▲ Universal CT/MRI Interface
- ▲ Multi-Slice Planning
- ▲ Fast Calculations
- ▲ Accurate Results
- ▲ Film Densitometry

"Serving our Customers' Needs"

SSGI, a California corporation
1370 Ridgewood Dr., Ste. 20
Chico, CA 95926 USA
Support Tel: 916-898-0660
Fax: 916-342-8966
Sales Tel: 714-846-2930
Fax: 714-846-3411



Education and Training Committee Report

During the past two years, while I was acting Chairman of the Committee on Education and Training, our major activity has been the review of applications for IOMP financial support and sponsorship of workshops/training courses in Medical Physics.

During 1993, **three** programs were approved:

- POLAND (\$2,500.00)
Second International Summer School
"Physics in Radiotherapy"
August 26-September 3, 1993
- INDIA (\$3,000.00)
"Quality Assurance in Imaging"
February 23-24, 1993
- SOUTH AFRICA (\$2,000.00)
"Quality Control in Diagnostic Radiology"
April 25-26, 1993

During 1994, **two** programs were approved:

- IRAN (\$2,500.00)
Workshop on Radiation Oncology Physics
May 22-26, 1994
- EFOMP (\$2,000.00)
Summer School in Radiophysics
Diagnostic Radiology, Nancy, France
June 19-25, 1994

The Committee had encouraged all organizers of the above workshops/summer schools to use the IOMP funds towards travel grants for young medical physicists, preferably from neighboring countries. We have been informed that these funds have been used effectively.

With a view of planning for the future and to obtain a current picture of Education and Training in Medical Physics Worldwide, the Chairman mailed out in early 1994 a questionnaire to eighteen countries. The general conclusions of the survey, (presented during the Rio Congress) were:

- The need for medical physicists has not been adequately recognized in most countries.
- Most medical physics receive "on-the-job" training after a basic degree in physics.
- The number of degree programs in medical physics is small.
- Unanimous expression of need for frequent regional categorical "short courses."

During the Committee Meeting in Rio (kindly chaired by Dr. Dendy) several topics were discussed for future consideration:

- There is a clear need for a higher level of funding of workshops/short courses.
- Encourage organizers of educational programs to use IOMP funding and support to seek other funding.
- Early submission (18-24 months) of proposals to assure availability of IOMP funds.

- Members of IOMP Committee on Education and Training should provide active support to local organizers.
- Relax the rule that IOMP funds should be used only to support student participation, if local organizers can make a good case for using some of the money for faculty.
- Seek funding from IAEA to support IOMP educational activities.

IOMP President Dr. Boddy is in the process of developing an action plan for the next three years. Of immediate interest is identifying major potential sources of funding that would support educational and training activities. This Committee has been requested to explore the possibility of establishing a rolling training program covering three years into the future and also, if possible, defining international standards and requirements for the training of medical physicists. The Committee would like to hear from the different national organizations about their plans in education and training for the coming years. It is necessary to emphasize that at present, IOMP funds are limited, and those interested in applying for support should do so with adequate lead time, preferably 18 months.

The Committee expects to be very active during the coming years and be helpful, as much as possible in promoting the mission of the IOMP. The Committee welcomes ideas and suggestions from the membership at large.

N. Suntharalingam, Ph.D.
Chairman

*** BOOK SALE ***

HOSPITAL HEALTH PHYSICS

*Proceedings of the 1993 Health Physics
Society Summer School*

Edited by: G.G. Eichholz and J.J. Shonka

"Every health and medical physicist who has responsibility for radiation protection in a clinical setting will find these proceedings useful."

W.R. Hendee, Health Physics

Reg. \$29.95. NOW ONLY

\$24⁹⁵

for individual AAPM/HPS members only.

Others: Reg \$45, now \$34.95.

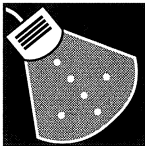
Also On Sale: The Chernobyl Papers - Vol I: Doses to the Soviet Population and Early Health Effects Studies.

Ed. Merwin & Balonov. Foreword: J.R.A. Lakey. 13 peer-reviewed papers; 100+ tables; 100+ figures; index; lots of data. 439 pages. Leatherette hardcover edition. Reg. \$75. Now \$64.95.

TO ORDER: Call 509-375-1993/fax 509-375-6237; or send order to *Research Enterprises, Publishing Segment, P.O. Box 3081, Richland, WA 99352. S&H: 1 book, \$4.75; 2 books, \$7.75; 3+ books, \$10.00. Plus \$2.00 for UPS, \$1 for outside USA. VISA, MC, checks (US\$, on US bank), & POs accepted. WA res. only add sales tax (7.8%).*

We Didn't Set the Standards. We Raised Them.

25 Years of Quality Assurance in Radiology



Ultrasound



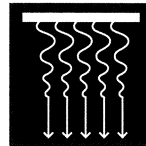
*Diagnostic
Radiology*



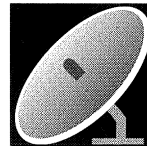
*Laser
Alignment*



Mammography



Radiotherapy



Teleradiology

CALL 1-800 GAMMEX 1

Gammex

GAMMEX RMI

2500 West Beltline Hwy. at University Avenue
P.O. Box 620327
Middleton, WI 53562-0327 U.S.A.

1-800-426-6391
1-608-831-1188
FAX 1-608-836-9201