

www.MPWB.org

Working together for effective patient care

Levelling the Playing Field: Access to Resources for Medical Physicists Everywhere

Yakov Pipman

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Medical Physics needs in LMICs

- Support for individual clinics / universities
- Grassroots activities
- Individualized education/training/mentoring
- Long term support and relationship building
- Nimble assistance and consultation

MPWB Vision: A world with access to safe and effective applications of physics and technology in medicine

- Peer-to-peer support: medical physicists by medical physicists
- Database of potential volunteers
- Visits by volunteers to work with medical physicists in LMIC
- Build long-term relationships, on-going support
- Radiation Therapy + other Medical Physics areas
- Incorporated in US and Canada 2015/2016



**Jacob Van Dyk, MSc,
FCCPM, FCOMP, FAAPM
Founding President**

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Jerry White- Chairman of the Board

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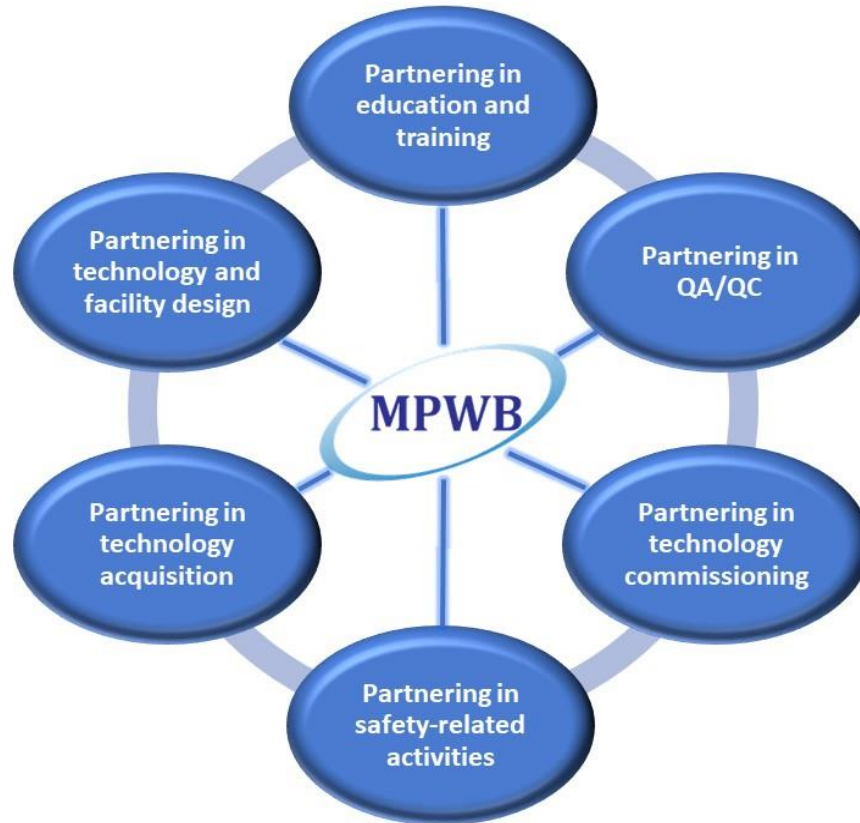
Robert Jeraj –Dir.-Fund Raising

MPWB Mission:

To support activities which will yield effective and safe use of physics and technologies in medicine through advising, training, demonstrating and/or participating in medical physics-related activities, especially in low-to-middle income countries.

- Largely intellectual support through education, training, mentoring, collaborating
- Not into equipment donations
 - But will support related training initiatives as appropriate

Connect and collaborate!



MPWB Board of Directors, 2023



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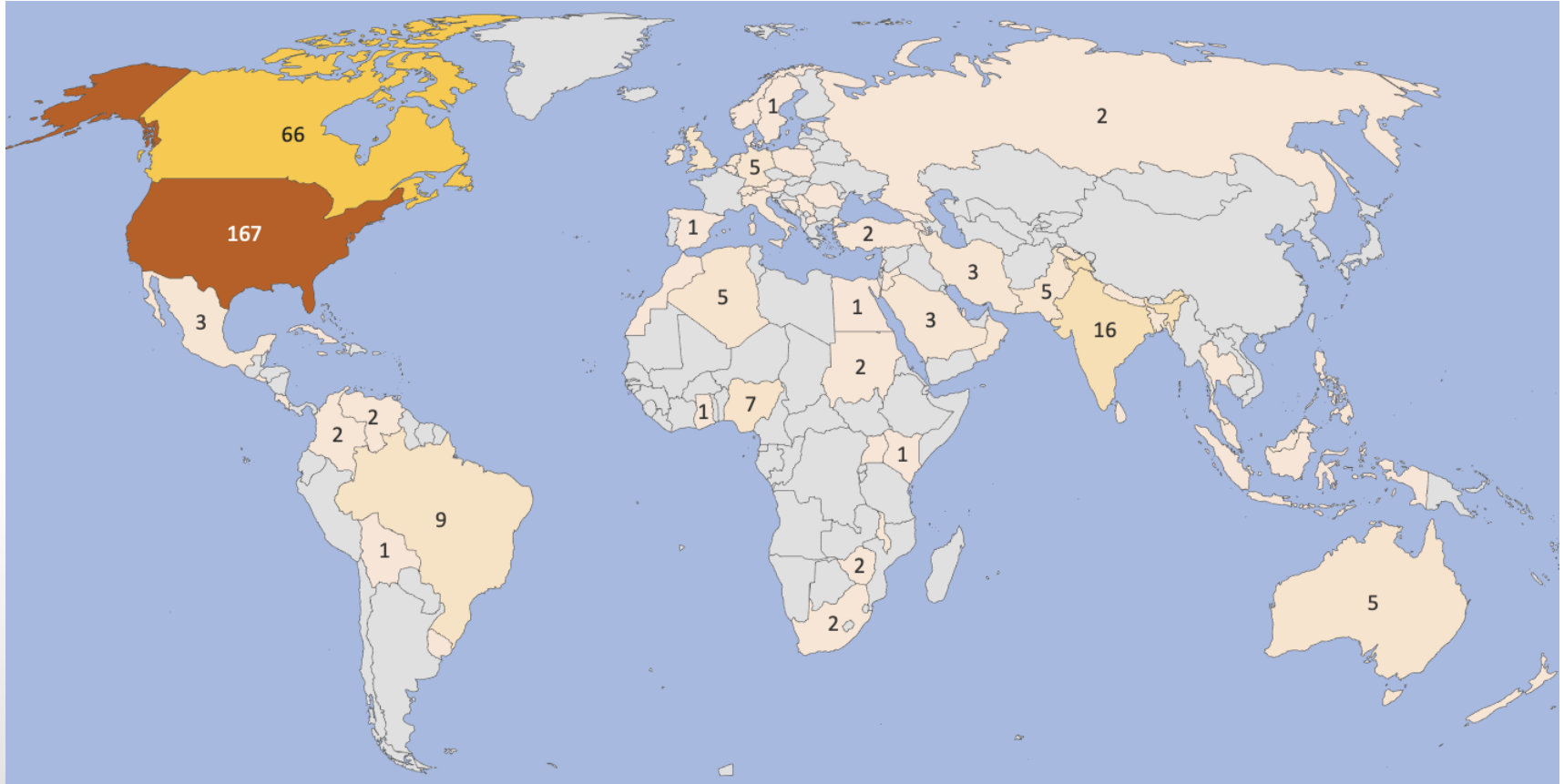


Eduard Gershkevitch (Estonia)
- Director of Fund Raising



Nancy Barrett
- Advisor, CEO

Members of MPWB – 2022 (244 total)



Webinar series (MPWB YouTube page)



- COVID-19 impact in medical physics practice
- Modern Radiation Therapy with Co-60
- 3D-Printing in Radiotherapy.
- Selection of Megavoltage Treatment Technologies for External Beam Radiation Therapy: A Global Perspective
- Cost effective globally deployable radiation therapy: The same but smarter ... and radically different
- Technologies, Opportunities and Challenges of Automated Treatment Planning in Radiotherapy
- Automated Treatment Planning: A resource with potential benefits in both high- and low-income countries
- Our Pale Blue Dot-Climate Crisis and Healthcare
- Risk based Quality Management

New MSc in Medical Physics in Kenya

Meru University of Science and Technology (MUST)

- Physics Department anticipating need of future Cancer Center since 2020 –link to Academic Without Borders (AWB)
- Help to develop Curriculum in collaboration with AWB (Canada)
- Department Seminar series in 2022 and ongoing
- Site visit, July 2023, sponsored by AWB, stakeholders at MUST, local hospitals and The Association of Medical Physicists of Kenya (AMPKen)
- Network with newly established AMPKen
- Continuing support and consultations

Stakeholders at MUST, local hospitals and AMPKen, with AWB and MPWB



National MP organization in Jamaica



Jamaican Association for Physics in Medicine
National Cancer Treatment Centre
22 Deanery Rd, Kingston
Japm.org.jm
876-924-9092 EXT: 2044/2068

- Work with Medical Physicists to establish the Jamaican Association for Physics in Medicine
- Collaborate on Statutes, by-laws, etc. (3 years +)
- Official Registration (Oct 2021)
- National Member organization of IOMP (2022)
- First English-speaking member of ALFIM (2022)
- First JAPM official act for the Caribbean (Nov 2023!)

Capacity building of clinical Medical Physics in Latin America.

- Several Latin American countries lack training programs or capacity
- Consortium of seven clinical training programs in Argentina willing to take additional trainees.
- First program in Latin America accredited by IOMP is part of the initiative
- MPWB exploring ways to support this collaborative effort as pilot program.

MPWB Virtual Mentorship Program

Goal: To set a **sustainable** mentorship program:

- Define need, expectations, and requirements.
- Find and match mentors and mentees
- Mentorship agreements
- Standard measurements of performance
- Metrics measuring the success of the program
- MPWB's global survey on virtual mentoring at end of 2021 (Manuscript in progress)
- Multiple 'informal' mentorship relations

Establishing a MPWB Virtual Mentorship Program

- Started looking at operational issues (2019):
 - Small working group had questions on how to best proceed
- 2020 - 2021 undertook a global survey to inform program
 - 2022 – data compilation completed
 - 2023 – analysis completed



Work now underway :

- Developing mentoring program policies
- Will start soliciting for potential mentors and mentees and begin matching....
 - Use Kenyan program as a pilot project.
 - Volunteers with MSc Physics teaching experience willing to mentor instructors in Meru, Kenya.

- Sponsorship of LMIC Medical Physicists to attend AAPM Annual Meetings remotely

Year	Awardees	Countries
2021	37	37
2022	45	25
2023	30	13

• Communications

Peter Sandwall II- News Editor



News Brief Friday, September 3, 2021

Important notices, upcoming deadlines, and events happening in the MPWB community.

MPWB Virtual Mentorship Survey

- Medical Physics for World Benefit is performing an international survey to investigate whether the Medical Physics community considers virtual mentoring to be of benefit to the community, especially for under-resourced contexts? Questions regarding challenges and successes in the virtual mentoring process will be addressed as a way of optimizing the virtual mentoring experience. All Medical Physicists (clinical, academic, industrial, or governmental) or Medical Physicists in training (graduate students or residents) from both high-income and lower-income countries are invited to participate.
- The link to the survey can be found here: https://uwo.eu.qualtrics.com/jfe/form/SV_dqHBE02gPI2aS9

MPWB Webinar Series Take Note! September 15, 2021

We are please to host the next MPWB webinar:

Technologies, Opportunities and Challenges of Automated Treatment Planning in Radiotherapy

Speaker: Ben Heijmen (Erasmus MC, Netherlands)

Benefit Exchange

A newsletter of *Medical Physics for World Benefit*

**Medical Physics
for
World Benefit**

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Volunteers
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- 6 IAEA, Rays of Hope

Introduction

Greetings Physicists! To facilitate and encourage collaboration, we seek contributions describing both MPWB-affiliated and non-affiliated projects and updates that may be of interest to our readership. Examples include the work of IAEA, various international professional societies (ALFIM, AFOMP, EFOMP, et al.), non-governmental organizations like RadAid and Global Access to Cancer Care Foundation, and institutional teams. Our newsletter aims to highlight and connect individuals and organizations involved in improving physics in medicine internationally.

Global Awareness

As part of our effort to increase awareness and collaboration, we highlight a specific geographic region in each publication. In this issue we travel with medical physics doctoral candidate **Philip Kyeremeh Jnr Oppong** to his home country, the West African nation of Ghana, as he shares recent advances in medical physics practice:

Ghana is a West African country located just above the equator with the Greenwich meridian passing through Tema, its main industrial city. With a low and sandy coastline on the Gulf of Guinea, Ghana occupies a total area of 239,567 sq.km of tropical rain forest and several water bodies-including rivers, lakes and streams that extends northward from the coastline. Ghana is one of the leading countries across Africa partly due to a relative political stability, a fast-growing economy (with a nominal GDP at \$74.26 billion per 2021 estimates) and a relatively evolving service delivery industry.

In response to the healthcare needs of a rapid population growth (currently logged at 31.07 million), there have been remarkable investments in the quantity and quality of healthcare delivery facilities as well as the development of human capital with both government and private investor involvements. Several schools and colleges have been established across the 16 regions of the country to accentuate commitments to improving healthcare and quality of life.

One of such is the setting up of the Graduate School of Nuclear and Allied Science's Department of Medical Physics, University of Ghana. The mandate of the Department has been to train medical physicists from Ghana and other African countries to feed into the continent's Radiological Science and Technology agenda in healthcare delivery.

- Continued, pg. 3

Guest contributor:



Philip Kyeremeh Jnr Oppong, PhD(c)
Global Center for Biomedical Science and
Engineering, Graduate School of
Medicine, Hokkaido University, Sapporo,
Japan

Open Syllabus Project for Medical Physics Residents

Challenges for LMIC:

- Access to high quality, relevant, and timely educational content.
- Learning objectives need prioritization when compared to those in HICs.
- Credentialing of learning objectives and competency profiles differences from EFOMP.org, CAMPEP.org, etc.

“Open Syllabus” Project for Medical Physics Residents

Objectives:

- Capture the core elements in medical physics training from various professional entities, organizations and resources;
- Curate the syllabus content: define, select and/or collect all digital assets and materials which may be used in achieving the learning objectives;
- Content to be published on the MPWB website, along with web-links to educational resources;
- Where possible, partner with organizations in development of the open-syllabus.

Open Syllabus Project for Medical Physics Residents

Content



Open
Syllabus
Project



Core Medical Physics Competencies

IAEA
International Atomic Energy Agency

**Clinical Training of
Medical Physicists
Specializing in
Radiation Oncology**

Where to get it

CONNECT

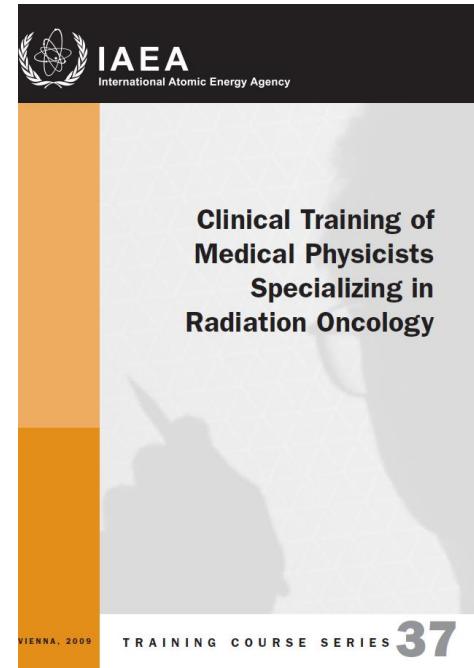
What to learn

<http://www-pub.iaea.org/MTCD/publications/PDF/TCF-37.pdf>

Open Syllabus Project

Website of Open Resources for Learning and Development of Medical Physics (WORLD of MP)

- platform is in its early stages but has immense potential to improve access to critical educational content for trainees, particularly given its organizational simplicity and reference to the IAEA TC-37 training document



Challenges? Ask the question!

Journal of Cancer Policy 35 (2023) 100372



ELSEVIER

Contents lists available at [ScienceDirect](#)

Journal of Cancer Policy

journal homepage: www.elsevier.com/locate/jcpo



Understanding the challenges of delivering radiotherapy in low- and middle-income countries in Africa

Taofeeq Ige^{a,b,1}, Philippa Lewis^{c,1}, Charlotte Shelley^{d,1}, David Pistenmaa^e,
C. Norman Coleman^e, Ajay Aggarwal^f, Manjit Dosanjh^{e,g,h,*}, Survey respondents and authors

^a National Hospital Abuja, Abuja, Nigeria

^b University of Abuja, Abuja, Nigeria

^c Royal College of Radiologists, London, UK

^d The Royal Surrey County Hospital NHS Foundation trust, Guildford, UK

^e ICEC, International Cancer Expert Corps, Washington, DC, USA

^f Kings College, London, UK

Co-60 teletherapy

- Crucial for treatment capacity while working on better/long-term solution.
- 5000 megavoltage units to ensure equity in cancer care by 2035 = one/day installed and commissioned
- ~80 % of cancer patients in Africa require palliation
- Room for improved Tx with Co-60

Linac complexity can be mitigated:

- Train and retain qualified staff
- Train and retain maintenance staff
- Install stable power systems, A/C, etc.
- Develop local linac service to reduce downtime.

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