

Benefit Exchange

A newsletter of *Medical Physics for World Benefit*



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Membership Renewal Deadline! Please remember to renew your membership by the end of March!

Please have a listen to our current president, **Dr. John Schreiner** as he shares how he entered the field of radiation oncology and Global Oncology on the latest Versant Medical Physics podcast, episode 5, recorded February 19, 2021

<https://versantphysics.com/podcasts/global-oncology-with-dr-john-schreiner/>

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 (AAPM, COMP, *et al.*), non-governmental organizations like Radiating Hope and Rayos Contra Cancer (RCC), and institutional teams such as MD Anderson's [Radiation Planning Assistant](#). Our newsletter aims to highlight and connect individuals and organizations involved in improving physics in medicine internationally.

Global Awareness

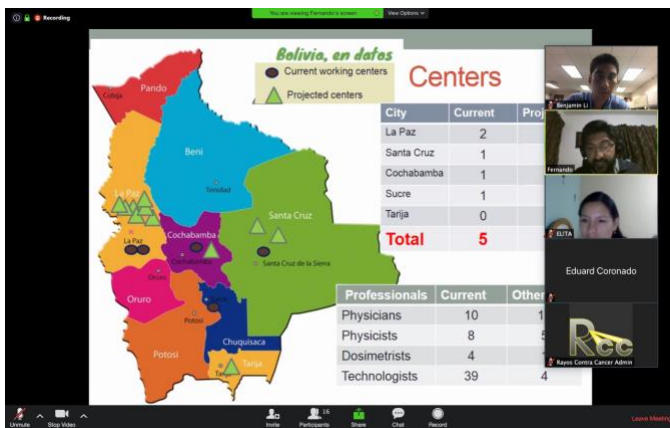
As part of our effort to increase awareness and collaboration, we will highlight a specific geographic region in each publication. In this issue we travel to Bolivia, where Físico Médico **Fernando Matos** of Cochabamba, Bolivia shares the current state of radiotherapy physics:

Bolivia is a developing country located in the heart of South America. Radiation therapy has its origins in the city of Sucre in 1947 with a cobalt machine. Since those years the advancement of technology has been slow, until 2015 there were only five cobalt units and a single linear accelerator. Fortunately, the future looks bright, in recent years the number of accelerators has increased to five (including a new tomotherapy unit installed in 2020). Encouragingly, authorities of the country are giving increasing importance to cancer treatment, with contracts for additional equipment and investments in education abroad. This growth in the acquisition of modern radiotherapy equipment involves several challenges, mainly the **proper training of professionals**. At this point there are no graduate programs in medical physics and only one residency program for physicians. The few physicists currently working in the clinics have training oriented to the basic ideas around a cobalt therapy machines.

Since 2019 a group of enthusiastic professionals organized by [Rayos Contra Cancer](#) (RCC), have been sharing their knowledge and expertise through seminars to the radiotherapy community in Bolivia, focused on topics related to the implementation of intensity modulated radiation therapy (IMRT), given the imminent entry of modern equipment. During these sessions, subjects such as Infrastructure, equipment, software, commissioning, equipment and patient specific quality control, motion management for IGRT and clinical aspects of the use of IMRT were addressed. Finally, the sessions were reinforced through an evaluation and discussion process on the most important points.

Continued, Rayos of Hope...

Although it is clear that the goal of widespread treatment of patients with IMRT is still long and difficult, important milestones have been reached in the development of radiotherapy in Bolivia, both in the updating of local professionals and in the creation of links with professionals of other countries. We see the future with optimism because we know we are not alone. Our infinite thanks for the dedication and perseverance of the members of RCC and [RadiatingHope](#) for providing momentum and encouragement to continue with these types of activities. Certain that their efforts are helping with the implementation of modern techniques for the benefit of cancer patients in Bolivia.



Top, screen capture of from the Rayos Contra Cancer Zoom-based IMRT lecture series

Left, **Eduard Coronado** performing acceptance tests on a the new tomotherapy unit at the Hospital De Clinicas in La Paz, Bolivia

Right, La Portada Municipal Hospital in La Paz, Bolivia marked its fourth anniversary on December 1st, by receiving a CT scanner donated by RadiatingHope



Partnership with Winter Institute of Medical Physics

In 2021, we have formed a new partnership with the [Winter Institute for Medical Physics \(WIMP\)](#) to help realize a unique and stimulating program that has a truly global reach.

Started in 1979, the annual Winter Institute of Medical Physics meeting provides a unique environment for a diverse group of participants from academics, industry and clinics large and small to come together and share their ideas and work on a variety of topics in oncology, imaging, education and technology. The 2021 program included a dynamic mix of **on-line** presentations, poster sessions, discussions, and mentoring opportunities. Also several unique networking opportunities.

The focus of the meeting is **Worldwide Innovations in Medical Physics (WIMP @ WIMP 2021)** and showcased innovations in science, technology, and novel "global" approaches to teaching and training being investigated and developed by early career medical physicists.



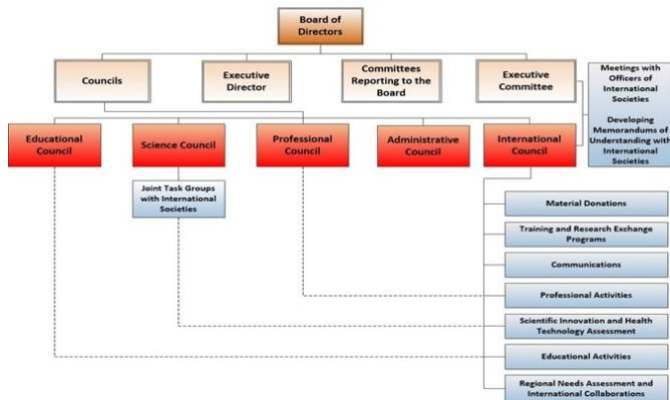
To encourage the broadest possible participation in WIMP @ WIMP 2021, the program has been structured as an open worldwide scholarship competition. Up twenty (20) "forward looking" projects will be selected from submissions and awarded \$250 USD. These will be presented as full proposals during the meeting and up to eight (8) of these will be awarded \$1000 USD. The eight finalists will have opportunity to participate in a future in-person meeting.

MPWB is actively engaged with WIMP. **Jake Van Dyk**, founder, and former president of the Board is one of the four keynote speakers and will talk about global challenges and opportunities for mentorship in medical physics. Also, **Robert Jeraj**, another former MPWB Board member, will be involved in various WIMP @ WIMP 2021

activities, including the expert review panel, and various mentorship activities. Finally, MPWB is serving as the main **worldwide connector**, reaching out to regional medical physics organizations announcing WIMP @ WIMP 2021, and promoting this very worthwhile and needed mentorship program to MWPB members. We expect that the partnership with WIMP will continue in the future, as the early career and mentorship programs at WIMP continues to expand its worldwide mission.

AAPM Establishment of International Council

An ad hoc committee to establish an International Council with the AAPM was formed in 2019. This group developed a report outlining the need and structural changes required. First and foremost was recognition that **AAPM is an international organization**. With nearly 20% of its membership living outside of the United States, the AAPM has representation in 95 different countries. Understanding international partnerships strengthen the science, education, and professional practice of medical physics, a new organizational model was proposed with cross-council communication built into the structure.



New organizational structure of the AAPM

Establishment of an International Council required amendment to the AAPM By-Laws and Rules and was voted upon and passed by the membership in September 2020.

With an increasingly active role in international affairs, this is a good time to remind all readers, the AAPM has a free International Affiliate membership open to medical physicists residing in developing countries: https://www.aapm.org/memb/prospect/IntlAffiliate_Application.asp

IAEA-Argonne Training Courses

Rayos may have been ahead of the curve with distance education and “Zooming” before it became a worldwide phenomenon during the pandemic. However, others have quickly caught on to advantages. **Virtual conferences** have been held and IAEA Programs at Argonne National Laboratory have continued. In December, IAEA-Argonne completed its course for, “The Treatment of Cervical Cancer: Clinical, Quality and Safety Aspects,” with attendees from around the world and educators from institutions such as M.D. Anderson and University of California San Diego among others.

In March, IAEA continued with a regional training course on, “Quality Management in Radiotherapy.” Multiple events are held annually, readers are invited to learn more about these opportunities on the website: <https://international.anl.gov/training.html>

IPEM International Award

In August 2020, the Institute of Physics and Engineering in Medicine (IPEM) awarded its first LMIC Sponsorship Award to **Iyobosa Uwadiae**, a medical physicist from University College Hospital, Ibadan, Nigeria. IPEM seeks to support future leaders and selected Iyobosa for her enthusiasm and mission to improve the field of medical physics in her home country of Nigeria. To learn more about this award visit the IPEM website: <https://www.ipem.ac.uk/AboutIPEM/International.aspx>

As a part of this award, Iyobosa was selected to lead the Nigerian Association of Medical Physicists (NAMP) Harmattan School for Medical Physics, supported by IPEM. Lectures from this school are now available online: https://www.youtube.com/channel/UCSzV2JC6_LW7Di8_4Z6MGOA

AI Radiotherapy Planning

Many groups are developing AI and other automation tools to improve clinical workflows – one example is the Radiation Planning Assistant (RPA), which is being developed with a global focus on budget/resource limitations. A free symposium will be held on April 7th: http://mdanderson.co1.qualtrics.com/jfe/form/SV_081mmcZ5eBq53ts