

THE CHILEAN SOCIETY OF MEDICAL PHYSICS NOWADAYS

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Abstract— Here we describe the foundation and work of the Chilean Society of Medical Physics. Since its origin in 2014, this society has contributed to different areas related to the pacific use of ionizing radiation, in particular to the applications of physics in medicine.

Keywords— Chile, medical physics, scientific society, education, radiotherapy, medical imaging, nuclear medicine.

I. INTRODUCTION

The Chilean Medical Physics Society (SOFIMECH hereafter) is a nonprofit association that affiliates medical physicists, or entities related to medical physics, whose academic and professional activities are developed in Chile.

The creation of SOFIMECH was associated to multiple historical and social developments that happened in Chile at the beginning of the current century: the construction of new linear accelerators facilities, the promulgation of technical protocols related to equipment quality assurance (developed by the Ministry of Health), the arrival of several foreign medical physicists, and the creation of new master programs in medical physics.

On March 2008; the first Master program of medical physics was offered by *Universidad de La Frontera*, at the south part of the country. The initial goal of this program was to train professionals who could satisfy the needs of the country in this matter. Four years later, on March 2012, *Pontificia Universidad Católica de Chile* opened admissions for its own medical physics master program, led by a new group of researchers with Ph.D. in medical physics. This program is offered in Santiago, Chile's capital. Today, there are more than 60 medical physicists graduated from these programs.

The objectives pursued by the SOFIMECH, are: to increase the recognition of the specialty within the clinical field; to disseminate the principles and scientific basis that allow medical physicists to contribute to the prevention, diagnosis and treatment of different diseases; to promote the preparation of training programs in the area of medical physics; and to collaborate with public and private institutions, based on the pacific use of ionizing radiation, in all matters concerning the specialty.

II. DEVELOPMENT OF THE SOCIETY

SOFIMECH was legally constituted on April 8th, 2014, by a group of 21 men and women working on medical physics. As shown by Figure 1, medical physicists are distributed across various regions throughout the country, but with almost a 50% of them concentrated in Chile's capital city, Santiago. As of 2019, SOFIMECH has 41 active members, both Chileans and foreigners. This represents approximately a 40% of all medical physicists actively working in Chile; and several new membership applications are in process.

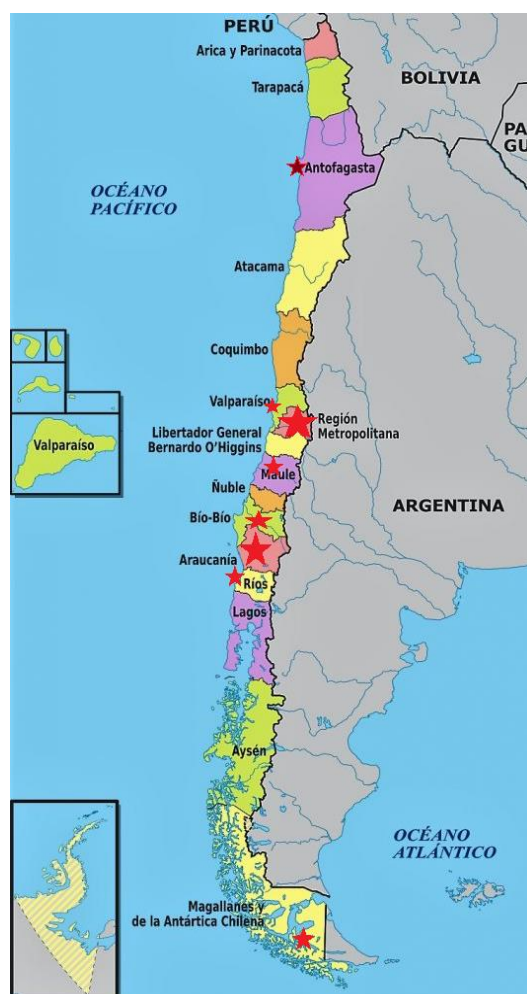


Fig. 1 Medical physicists' distribution throughout Chile. Red stars indicate the places where medical physicists are working in clinical and academic activities.



Fig. 2 Part of SOFIMECH members that participated in the 2019 Ordinary Assembly celebrated in April 13th in Santiago.

Despite its short history, SOFIMECH has supported several scientific events related to radiotherapy, nuclear medicine, medical imaging and radiation protection. It has also promoted the celebration of the *International Day of Medical Physics*. Last year, for instance, this date was commemorated with an academic seminar joint with the *Instituto de Salud Pública de Chile*, the government institution responsible for assuring the quality in the clinical area. Another important contribution of the society was the organization of the 1st *Chilean Congress of Medical Physics*, where around 40 abstracts were received from hospitals, clinics, and universities; and around a hundred people participated last September.

Nowadays, SOFIMECH is also part of the *Council of Civil Societies of the Chilean Nuclear Energy Commission*, an advisory council for the design, execution, and evaluation of public policies related to nuclear energy. Moreover, based on international recommendations, such as those stated by the IOMP and IAEA training guidelines, SOFIMECH developed a list of requirements for the clinical medical physicists. This profile was introduced in the design and implementation of the *National Cancer Plan*, which defines the public policies for prevention, diagnosis and treatments of that disease for the next years.

III. CONCLUSION

This article describes how the work performed *ad honorem* by professionals and scientists who are passionate about the use of applied sciences for the benefit of human beings and the environment, can contribute to the recognition of the specialty, the dissemination of the scientific developments of medical physics field, the prevention, diagnosis and treatment of different diseases, and the assurance of quality in the training and education of new medical physics. All this,

through active collaboration with public and private institutions.

While there is still a lot of work to be done, in order to achieve international standards, the challenge of being the host country (and part of the International Conference on Medical Physics 2019 - ICMP2019 organization committee) make us proud and motivate us to keep working for our colleagues and future generations.

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