

**20TH CONGRESS OF THE INTERNATIONAL UNION FOR PURE
APPLIED BIOPHYSICS (IUPAB)**

**50TH ANNUAL MEETING OF THE BRAZILIAN SOCIETY FOR
BIOCHEMISTRY AND MOLECULAR BIOLOGY (SBBQ)**

45TH CONGRESS OF BRAZILIAN BIOPHYSICS SOCIETY (SBBF)

13TH BRAZILIAN SOCIETY ON NUCLEAR BIOSCIENCES CONGRESS



PROGRAM AND ABSTRACT BOOK

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Ilustração da Capa: Alexandre Takashi

KLBN-04. - Particle Radiation Therapy: developments, studies and applications

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In this presentation the science, developments and applications of hadron therapies, especially Boron Neutron Capture Therapy (BNCT) and Proton Therapy will be presented, with special focus on the activities performed in Argentina in this field of scientific research. The rationale for using hadrons (protons, neutrons and light nuclei) for the treatment of cancer has been substantiated by their dosimetric as well as radiobiological properties. The former is achieved by the technological improvements that allow controlling very precisely the charged particle beams and, in the case of BNCT, by expanding further the properties of new boron compounds that deliver highly localized doses to tumor cells. The latter are more related with the intrinsic properties of high ionization density particles, that create complex chromosomal damage and inhibits proliferation in a very effective way. Both modalities also benefit from the use of concomitant applications and procedures, which together with irradiation increase the tumor control and minimize the toxicity of the treatment. During this lecture, examples of developments and applications will be shown, and the importance of expanding regionally these options in pursuit of achieving a benefit to patients and, at the same time, increasing the scientific and technological capacities of the countries of the region.

Keywords: BNCT, Proton, Therapy

KLBN-05. - Women in the nuclear field promoting Latin American integration

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Nuclear energy is used for the generation of electricity, but also for the production of radioisotopes, desalination of sea water and also for the production of hydrogen. Activities in the nuclear field are in the area of science, technology and innovation that has long belonged to an essentially male domain, in which the contributions of women were neglected or underestimated. The central idea for the creation of Women in Nuclear, WiN Global, was to support and encourage women working in nuclear science and technology and encourage the promotion of understanding and knowledge of the benefits of the peaceful use of nuclear energy by the public. WiN Global currently has predominantly female members coming from 129 different countries, belonging to chapters or individually. Today, WiN Global is integrated by 53 WiN Global chapters. Forty-nine countries have their own chapters and there are also regional and international ones. The history of Latin American integration started during the political independence movement of the countries of the New Continent. Since then, up and downs were overcome in order to keep a regional ambiance of good relationship. In the present study, a new form of integration is presented by the efforts of the women working in the nuclear ambit. This important movement involves Latin American WiN chapters (such as WiN Argentina, WiN Brazil, WiN ARCAL) promoting activities for the integration of our region. In order to quantify, to some extent, the participation of Latin American women, this paper presents a survey crossing data of the number of related publications to help to address an objective analysis of the trend of this integration

Keywords: Women in Nuclear, WiN, nuclear energy, Latin American integration