## INTRODUCTION

The IRPA congresses constitute unique opportunities to gather all actors of radiological protection, irrespective of their origin or their field of action in the vast world of radioprotection. The IRPA11 Congress in Madrid will perpetuate this tradition at the very moment where all stakeholders, whether researchers, radioprotectionists, regulators, private industrial operators or national institutions, feel a need for widening the scope of this profession.

Radiological protection falls now under the public's active scrutiny. Its perception of risks and the measures taken to reduce them as much as possible, whilst maintaining the activities necessary to the well being of humankind need now to be explained. This congress directly fulfils this new line of action, a perfect illustration lying in the title that has been chosen: "Widening the radiation protection world".

However, this widening should also become apparent on the libraries shelves and the fruitful debates of IRPA congresses should evolve beyond the restricted circles of specialists. This is why we have launched this new series of books "Trends in radiation protection" which will spread the state of the art in radiological protection to the entire world, researchers, regulators, experts. In order to guarantee an information of high quality and devoid of passion, we have called on board renowned experts in their various fields of activities. Their immediate agreement upon our invitation constitutes the first success of this book. We are very grateful to all of them without whom this book would not exist.

While keeping a single objective, radioprotection, the book offers a variety of topics.

For us, it was clear that a synthesis of biological knowledge deserved to start the book with, but as this was traditionally oriented towards humans, we have deliberately wanted also to review the status of the necessary evolution towards environmental protection.

ICRP recommendations being endorsed throughout the world, a critical analysis of their impact on current life was necessary: how are the recommendations applied, what are the physical tools necessary for their application, how professionals must be educated and especially the medical world that is the big responsible for the collective irradiation of populations.

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But beyond such recommendations and the application of rigorous safety rules, incidents with radioactive sources and nuclear accidents remain possible. It is thus necessary to reconstruct such difficult situations in terms of exposure, to properly evaluate the contamination of the affected territories, and to promote coherent and practical proposals for remediation. The experimental feedback from such situations is a tremendous source of progress for their prevention.

In addition, radiological protection also addresses non-ionizing radiation: citizens are increasingly concerned about mobile telephones, and less by the nevertheless omnipresent lasers. This aspect also captured our attention when constructing this book.

We believe that this book will answer a number of questions that are asked by the various actors of our society who are not necessarily experts in our field. The pedagogical efforts of the authors would allow to meet our objective: "Widening the radiation protection world".

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