

Foreword

Wilhelm Conrad Roentgen discovered the existence of X-rays in 1895 through the shadow cast by the unknown rays. The seed was sown on that very day of the evolution of X-rays as a technique in the field of applied scientific research. In the late 1920s, a number of research workers, led by von Hevesy, clearly demonstrated the potential of X-ray spectroscopy for chemical analysis. Since then, slowly but steadily, X-ray spectroscopy has grown into an irreplaceable analytical tool with applications in diverse fields including Material Science, Biological and Medical Sciences, Archaeological, Geological and Environmental Sciences.

In recent years, the development of powerful X-ray sources, advent of new generation detectors with sophisticated electronics and introduction of new techniques in X-ray focusing have ushered in a new era for X-Ray Fluorescence Spectroscopy. It was beyond one's imagination even a decade ago. Based on recent advancements, the industries are also coming up with state-of-the-art XRF instruments to be utilized in various fields.

The National Conference on X-Ray Fluorescence, XRF-2010, held at Saha Institute of Nuclear Physics, Kolkata from January 12 to 15, 2010, was organized with the intention of presenting the latest developments in the field of X-Ray Fluorescence and to stimulate fruitful discussions amongst the researchers in our country.

The structure of the conference was based on invited talks, posters, short oral presentations and an interaction session. With three of the invited speakers from abroad, a panel was formed to judge the posters presented and to select four contributions for short oral presentations. In the interaction session, scientists from Centre of Archaeological Studies and Training (CAST), Kolkata and West Bengal Pollution Control Board (WBPCB) highlighted the nature of synergy with the X-ray spectrometrists required to know what is critical for the problem they are working on. The proceedings consisted of thirteen invited talks and four refereed contributed papers.

The conference was organized by the erstwhile Nuclear and Atomic Physics Division of Saha Institute of Nuclear Physics, Kolkata with the active collaboration of Centre of Archaeological Studies and Training (CAST), Kolkata, UGC-DAE Consortium for Scientific Research, Kolkata and West Bengal Pollution Control Board (WBPCB). Apart from Saha Institute of Nuclear Physics, the financial support for organizing the conference was provided by the Department of Science and Technology, Govt. of India, Department of Environment, Govt. of West Bengal, Variable Energy Cyclotron Centre, Kolkata and Centre for Advanced Research and Education (CARE), SINP, Kolkata.

We are grateful to Prof. M K Sanyal, Director, Saha Institute of Nuclear Physics for his encouragement and continuous support in organizing the conference. We also thank the distinguished members of the National Advisory Committee for their valuable suggestions and recommendations in our endeavour to achieve the goal of the conference. We thank the experts who agreed, in spite of their engaging personal commitments, to judge the poster presentations and to referee the selected contributions for publication in the proceedings.

Lastly, in addition to the members of the Local Organizing Committee, we do acknowledge the support and help received from the staff of Nuclear and Atomic Physics Division and SINP Auditorium Complex.

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(Guest Editors)