

PREFACE

The 24th edition of the International Conference on Photonic, Electronic and Atomic Collisions (XXIV ICPEAC) was held in Rosario, Argentina, from July 20 to July 26, 2005. It was the first time that an edition of this series of biennial conferences was hosted in Latin America, and only the second time that the event took place in the Southern Hemisphere. The meeting was organized by a Local Committee made up of physicists from Argentina and Brazil, together with a representative from Mexico. The conference was attended by 485 delegates from 42 countries, composed of 355 regular participants and 130 students. In addition, 63 accompanying persons registered for the social programme.

The conference followed the traditional format of five full days of scientific activities. The themes were divided into three broad areas: Heavy Particle Collisions, Lepton Collisions, and Photon Collisions. Five Plenary Lectures were presented at the respective openings of the daily sessions and four Review Lectures were offered during the course of the programme. In addition, 86 oral communications were given during the conference, including 62 Progress Reports and 24 Special Reports (the former Hot Topics). The results of 761 contributed papers were presented as poster communications. Finally, an Argentinian paleontologist of international repute delivered a public lecture on *Updating Patagonic Dinosaurs: A New Look to an Ancient Story*.

A wide range of subjects comprising a balanced mix of topics were covered throughout the course of the conference. They include collisions of heavy particles and electrons with atoms, molecules and clusters, the coherent control of reaction dynamics using lasers and electromagnetic pulses, different processes involving exotic particles, the interaction of strong electromagnetic fields with molecules, clusters and liquids, the collisions of electrons and heavy particles with surfaces, and the transport of particles through solids and cold-atom/molecule collisions, among others. This publication contains most of the lectures given by the guest speakers.

The XXIV ICPEAC was a resounding success for the international and local communities, from the scientific point of view as well as social.

Participants were delighted with the local cultural and social activities offered during the event. Five satellite meetings were organized after the main conference in the cities of Buenos Aires, Argentina, and Campinas and Rio de Janeiro, Brazil.

The Local Committee would like to recognize the generous contributions made by various institutions: International Union for Pure and Applied Physics (IUPAP), Centro Latino Americano de Física (CLAF), Consejo Nacional de Investigaciones Científicas y Técnicas (CONICET), Agencia Nacional de Promoción Científica y Tecnológica (ANPCyT), Comisión Nacional de Energía Atómica (CNEA), Municipalidad de Rosario (MR), Universidad Nacional de Rosario (UNR), Facultad de Ciencias Exactas, Ingeniería y Agrimensura of the UNR, Fundación para el Apoyo de las Ciencias Físicas (ACIFIR) and the companies Transdatos S.A. and Investigación Aplicada S.E. (INVAP).

On a personal level, I would like to express my gratitude to the local Co-chairs Jorge Miraglia, Eduardo Montenegro and Marco Aurélio Lima, with whom we initiated this truly challenging and exciting project. I also wish to extend my thanks to all the physicists from Rosario, Buenos Aires, Bariloche and Bahía Blanca who worked so hard in the organization of the conference, in particular to Alejandra Martínez, María Silvia Gravielle, Heriberto Fabio Busnengo, Pablo Fainstein, Flavio Colavecchia, Juan Fiol and Raúl Barrachina. The generous collaboration received from Gustavo Gasaneo, Omar Fojón, Darío Mitnik, Daniel Fregenal, Renata Della Picca and Geraldo Sigaud must also be mentioned. Finally, my warm thanks go to Albert Crowe, Chair of the ICPEAC Executive Committee for the period 2003–2005, who so strongly and actively supported Rosario as the host city of the XXIV ICPEAC.

Roberto D. Rivarola
Local Chair, XXIV ICPEAC
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