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Foreword

The 23rd International Conference on Atomic Physics has welcome about 900 participants in École Polytechnique, a high level graduate school close to Paris, from July 23 to July 27, 2012.

Following the tradition of ICAP, the conference has presented an outstanding program of 31 invited speakers and 13 “hot topic” talks covering the most recent subjects in the field of atomic physics. In addition about 660 posters have been presented during three vibrant sessions, held in the “Grand Hall” of École Polytechnique.

A round table coordinated by Jean Dalibard and involving Claude Cohen-Tannoudji, Roy Glauber, Wolfgang Ketterle, Daniel Kleppner and Bill Phillips offered to an enthusiastic audience a journey through the recent developments of quantum optics and cold atom physics. A slide show of the round table, entitled « The emergence of a new field, 1985–1995: from atom cooling and trapping to Bose-Einstein condensation » is available at <http://vimeo.com/54079663#> (or alternatively at <http://www-lpl.univ-paris13.fr/icap2012/roundtable.htm>).

The present issue of European Physical Journal “Web of Conferences” contains 18 papers elaborated from presented talks, for the first time in freely accessible online version. The issue starts with a paper by Dan Kleppner, dedicated to Norman Ramsey, who passed away in November 2011, and who profoundly influenced the scientific evolution of ICAP. The articles are organized in four general areas, which offer a representative sample of the conference topics:

- Ultracold Degenerate Gases
- Fundamental Atomic Tests and Precision Measurements
- Quantum Optics and Cavity QED
- Ultrafast Phenomena

In addition, the abstracts of the nine posters awarded by the committees for the Europhysics Letters prize and for the Prize of the AMO division of the French Physical Society are reported at the end of the volume.

We are convinced that the present articles gather the essential of the ICAP spirit, and we are now looking forward to the next ICAP which will be held on August 3–8, 2014 in Washington DC, USA (icap2014.org).

Olivier Dulieu, Philippe Grangier, Michèle Leduc, H el ene Perrin
Scientific editors of the ICAP2012 proceedings

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