

Foreword

As a general introduction to the Proceedings of the IUPAP 21st International Conference on Statistical Physics, STATPHYS 21, which took place from 15th to 20th July, 2001, it might be suitable to summarize what exactly this conference involves. The community of research scientists in Statistical Physics meets every three years at the STATPHYS Conferences, organized under the sponsorship of the International Union of Pure and Applied Physics. These are the largest general meetings in Statistical Physics and the occasion when both the latest advances of this science in its traditional domain and new developing trends in other fields are examined. The number of participants has been steadily increasing and the satellite meetings organized before and after have proliferated, making this a major international event in physics.

It was our objective for STATPHYS 21 to be organized to ensure the participation of the largest possible numbers in the world community in the field, and to share the most prominent advances. Ideally, it would combine the two growth features of contemporary Statistical Physics; progress in the field and the expansion of the world community that cultivates it. The conference was to pursue a balance between young and mature researchers, well—established and emerging regional communities, depth and practical relevance of contributions, traditional and novel topics. For reasons of space the Proceedings contains only the contributions from plenary and invited speakers. The oral and the poster contributions unfortunately cannot be included. Although the Proceedings, therefore, offer only a partial view of the Conference, nevertheless it is a reflection of whether or not these objectives were achieved.

The number of participants in STATPHYS 21 was around 800 and the program consisted of 2 Boltzmann Award lectures, 5 plenary talks—it is worth a very specific mention that one of these talks was given by Wolfgang Ketterle who was awarded this year's Nobel Prize in Physics—58 invited talks, 200 oral contributions and 650 poster presentations. They were spread over the following topics: rigorous results and exact solutions; general aspects of statistical physics; phase transitions, and critical phenomena; renormalization group; non-equilibrium processes; pattern formation in systems far from equilibrium; dynamical systems and turbulence; liquid matter; soft condensed matter; interfaces; wetting; confined systems; quantum-mechanical problems; disordered systems; biologically motivated problems; and other applications of statistical physics.

Probably, the best method of evaluation and justification of a conference of its dimensions is through consulting these Proceedings as a way of measuring its depth, content and coverage. Comparing this with similar publications from previous STATPHYS would be a nice way of perceiving the general evolution of statistical

physics and this is perhaps also one of the Conference's principal elements, that it is the main platform where the history of statistical physics is recorded.

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