Editorial

Workshop "Modern problems of Soft Matter Theory" August, 27–31 2000, Lviv, Ukraine

The two subsequent issues of the journal "Condensed Matter Physics" contain the papers submitted to the Workshop "Modern problems of Soft Matter Theory"[1]. The Workshop was held in Ukraine (Lviv) on 27–31 August 2000. As the title suggests, the goal was:

- to bring together active scientists working on elucidating theoretical concepts common to systems treated as objects of soft matter physics (polymers, ionic solutions, colloids, microemulsions, interfaces, fluids in porous media, etc.);
- to establish closer relations between physicists, chemists and computer scientists working in this field, as well as to create conditions for future collaboration.

The participants were asked to submit preliminary contributions prior to the Workshop, and the list of manuscripts accepted are available on the web at

`http://www.lviv.uar.net/~wsmt/`

Among the topics presented were the urgent problems of phase transition theory, the improvement and application of the integral equation techniques, the cross-linking

[1]Another part of the contributed papers will be published in the "Journal of Molecular Liquids", 2001, vol. 92, No. 1–2.

of theoretical concepts used in quantum and classical inhomogeneous systems, as well as the interplay of analytical theories and computer experiments for the future prospects of condensed matter physics.

The Workshop was organized by the Institute for Condensed Matter Physics of the National Academy of Sciences of Ukraine (Lviv) and by Ivan Franko Lviv National University, and was dedicated to professor Ihor Yukhnovskii, a prominent Ukrainian scientist and a founder of the Lviv school of statistical physics, on the occasion of his 75th birthday. The financial support of U.S. Civilian Research and Development Foundation (CRDF), International Association for the promotion of Cooperation with Scientists from the New Independent States (INTAS), National Academy of Sciences of Ukraine, Ministry of Education and Science of Ukraine and Research Assistance Foundation (Lviv, Ukraine) are gratefully acknowledged.

The programme of the Workshop included lectures, short communications and poster presentations. 126 scientists from 14 countries participated in the Workshop and 31 invited lecturers, 22 short communications and 60 poster reports were presented. There were also two round table discussions entitled:

– Theory of phase transitions: past, present and future;

– Analytical methods and computer experiment in soft matter.

The materials of the round tables are also published in these issues.

The seven INTAS projects in the fields of complex and self-assembling fluids, phase transitions and critical phenomena, quantum systems and liquid crystals were discussed. During the Workshop the research possibilities for industrial purposes were considered as well.

While no workshop proceedings can be truly comprehensive, the peer-reviewed contributions submitted together provide a brief survey of the state of the art in this rapidly developing field of modern physics. The specific feature of the Workshop was also connected with the aim of the organizers to provide equal possibilities both for scientists from Western and Eastern countries to present their results, and this is retained in the contents of all the issues of the proceedings. We hope it will be a useful compendium for researchers who wish to keep abreast of the latest developments in this exciting area of physics.

Finally, we would like to thank the organizations that financed and hosted the workshop: in particular, the U.S. Civilian Research and Development Foundation (CRDF), the International Association for the promotion of Cooperation with Scientists from the New Independent States (INTAS), National Academy of Sciences of Ukraine, Ministry of Education and Science of Ukraine and Research Assistance Foundation (Lviv, Ukraine). We wish to thank the referees for reviewing the manuscripts submitted, and most of all we thank the participants of the workshop for a lively and stimulating discourse on current problems of soft matter theory.

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