10th International Conference on Magnetic Fluids (ICMF 10)

Guarujá, Brazil
August 02 - 06, 2004
Guarujá, Brazil

Magnetic fluids are intelligent materials of unusually wide application possibilities. During last decades a great success has been made in development of stable ferrocolloids for practical use in engineering and in modern technology. Some of the new devices are already widely used in the everyday life. These achievements play an important rule to stimulate the enthusiasm of scientific society to intensify and to widen the research as well as to find new application possibilities.

Magnetofluidics is a multidisciplinary research area. For deep understanding the complicate problems of stability of ferrocolloids and to learn their properties and new phenomena, investigation of various theoretical and experimental problems of physics, magnetism, physical and colloidal chemistry as well as hydrodynamics and heat and mass transfer have to be performed. In such a situation the organizing of scientific meetings and personal contacts between researchers, dealing with different problems, play an important rule to accelerate the achievements. The tradition of international conferences on magnetic fluids was established in 1977 in Udine, Italy. After that regular conferences were organized in USA, United Kingdom, Japan, Latvia, France, India, Romania, and Germany.

Spectrum of scientific problems, number of presented papers and attending participants was monotonously growing. In middle of 90-ies there has been seen a tendency to reach a saturation. But now we experience a new growing. During the last decade a new generation of scientists is involved in the magnetic fluid research. Intensive broadening of research activities happens also in Brazil. This was one of reasons why the International Steering Committee entrusted to organize the 10th International Conference on Magnetic Fluids in São Paulo. The Organizing Committee of ICMF 10 under the leadership of Prof. Antonio M. Figueiredo Neto organized the ICMF 10 in the city of Guarujá, State of São Paulo, in Brazil, from 2 to 6 August 2004.

The program of the Conference includes almost 250 papers related to the following topics of ferrofluid research: 1) Synthesis and Design of Magnetic Colloids, 2) Physical Properties of Magnetic Fluids, 3) Magnetic Fluids Theory and Numerical Modeling, 4) Heat and Mass Transfer, 5) Rheological Properties of Magnetic Fluids, 6) Free Surface Phenomena and Ferrohydrodynamics, 7) Technical Applications, 8) Biomedical Applications, and 9) Other Related Fields. More than 170 participants from 25 countries presented their papers in 15 oral and 10 poster sections. Many papers and presentations demonstrated high scientific level. Highly qualified theoretical analysis and fine experiments performed involving modern methods and measurement technique not only provide obtaining a new knowledge in traditional ferrofluid problems but also allow to widen the research activities to the new topics of modern nanoscience and nanotechnology. Besides, many papers were represented by young well qualified and enthusiastic researchers. This enhances a conviction that the research of ferrofluids and other magnetic nanosystems has good possibilities of further development.

An important characteristic of the ICMF-10 was the choice of the invited speakers and the subject of their talks. As the research on magnetic fluids is essentially multidisciplinary, experts from related areas were invited to present talks with the objective of enlarging the frontiers of the area and present new trends. Among the subjects presented in these talks we point out: 1) fundamental aspects of the physics of liquid crystals and elastomers involving symmetry concepts, 2) therapeutic uses of magnetic colloids in the treatment of cancer in vivo and in vitro, 3) thermodynamic aspects of the phase transition in dipolar fluids, 4) chain formation due to dipolar interaction between ferrofluid grains without the application of an external magnetic field, 5) the effect of the finite size of magnetic nanograins in their magnetic properties, and 6) molecular motors and nanotubules in biological systems.

In summary, the ICMF 10 stimulated the research in the area of magnetic fluids and also its connection with correlated areas of complex and supermolecular fluids. The Proceedings will be published in a special issue of the J. Magn. Magn. Matter. allowing disseminating to all the community the important results presented in the Conference.

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In any discussion of fluids, which have magnetic properties, it is convenient to divide them into the following categories, (A) ferrofluids; (B) magnetorheological fluids; (C) dispersions of...Â [7]. Reviews of the subject have been given by Rosensweig [8,9,10], Charles et al. [11], Martinet [12] and Scholten [13].1. Keywords. Saturation Magnetization Magnetic Fluid Carrier Liquid Ferrite Particle Cobalt Particle. These keywords were added by machine and not by the authors. This process is experimental and the keywords may be updated as the learning algorithm improves. The 10th ICMF will be devoted to all aspects of Multiphase Flow. Experts and professional researchers from all over the world will attend and make presentations of their research results and recent advancements. It will be a great opportunity to share and promote the exchange of new ideas, results and techniques, but also to extend social networking. Important Dates: Early registration rate: on or before March 29, 2019. Regular registration rate: March 29 - May 17, 2019. Cancellation deadline: May 13, 2019. Abstract deadline: October 10, 2018. Notification of abstract acceptance: December 14, 2018. Full paper submission: February 22, 2019. ScientificTopics: Bio-Fluids. Bubbly Flows. Boiling, Condensation, Evaporation. â€œThe Anchoring Energy of Nematic Molecules On Magnetic Particles In Some Types of Ferronematicsâ€, P. Kopcansky, I. Potocova, M. Koneracka, M. Timko, A. G. M. Jansen, J. Jadzyn, G. Czechowski; 10th International Conference on Magnetic Fluids, GuarujÃ¡, SÃ£o Paulo, Brazil, August 2-6, 2004.Â â€œStudies of Multiferroic System LiCu2O2 I Sample Characterization and Relationship between Magnetic Properties and Multiferroic Natureâ€, Yukio Yasui, Kenji Sato, Yoshiaki Kobayashi, Masatoshi Sato; Journal of the Physical Society of Japan, Volume 78, Number 8, August 10, 2009, p. 084720. â€œDesign and performance of an immersable low-temperature pressure gaugeâ€, M. Barucci, E. Gottardi, I. Peroni, G. Ventura; Cryogenics, Volume 40, 2008, pp.437-440. 10 - 15 June 2022 25th IUPAC International Conference on Physical Organic Chemistry - ICPOC 25 Hiroshima (JP). 19 - 22 January 2022 European Young Chemists' Meeting 2022 Fribourg (CH). Materials Science Conferences in 2021. 16 - 21 December 2021 Pacifichem 2021 Honolulu (US).Â 06 - 08 September 2021 Global Conference on Pharmaceutics and Drug Delivery Systems Rome (IT). 18 - 22 July 2021 The 84th Prague Meeting on Macromolecules Prague (CZ). 08 - 12 July 2021 2021 Global Conference on Polymers, Plastics and Composites Budapest (HU).Â 08 - 12 July 2019 International Conference on Magnetic Fluids - ICMF 2019 Paris (FR). 05 - 12 July 2019 Iupac 2019 Paris (FR). 16 - 21 June 2019 Clusters and Nanostructures - GRC Les Diablerets (CH).