
Editorial

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The 6th Conference of the International Marangoni Association (IMA-6) on Interfacial Fluid Dynamics and Processes was held in Haifa, Israel on June 18–21, 2012 at the Technion – Israel Institute of Technology. Seventy four participants from 17 countries contributed, with 59 oral presentations and 22 posters, to the four-day conference making it packed with presentations and discussions of stimulating, new scientific results. The broad scope of the complex conference subject attracted physicists, chemists, engineers and mathematicians, with a well-balanced proportion between theorists and experimentalists. They presented various topics from hydrodynamics to crystal growth processing, from contact line motion to coalescence of drops and evaporation, from instabilities of different kinds to waves, including gravity or weightlessness, with external forcing via vibration, electrical or magnetic fields. The IMA conferences are called after Carlo Marangoni, a Professor at the Liceo Dante in Firenze, Italy who during the 19th century studied surface phenomena in liquids. The surface tension of a liquid, or the interfacial tension, is one of the main physical parameters in all problems addressed in this conference. Surface tension was an unknown concept at the time of Carlo Marangoni who could nevertheless characterize and classify different immiscible liquids according to this property by their spreading behavior. Carlo Marangoni might have been astonished to see how large, how complex and important, and how challenging the field of interfacial fluid dynamics became and, that spreading and flow of liquids or drops on substrates are still under investigation.

This issue of the European Physics Journal – Special Topics contains 16 selected and fully reviewed contributions to IMA-6. The majority of the papers deal with surface-tension-driven flows, influenced by either thermocapillarity or solutocapillarity in simple or binary liquids. Several papers deal with complex, viscoelastic and ferro-fluids, others discuss the influence of surfactants on convective flows. There are papers that study theoretically and numerically the Marangoni and other instabilities in thin liquid films, one- or multi-layer systems, liquid bridges, menisci, and droplets with or without evaporation, with or without external excitation. Several papers discuss various aspects of wetting dynamics. The behavior of fine particles in thermocapillary flow is also addressed (The images on the cover page are associated with this investigation). The reader will find in this issue a fine cross-section of interfacial fluid dynamics with new details and with a sufficient number of references to further explore the field. The contributions are mainly explorative but most of them have applied aspects.

The external referees are acknowledged for their thorough and impeccable work in reviewing the manuscripts and EDP Sciences and Springer-Verlag for the professional support in finalizing the papers for print.

About the IMA-conferences.

The IMA-conferences were founded with IMA-1 in castle Rauischholzhausen (Justus-Liebig-Universitaet Giessen, Germany) in 2001, followed by IMA-2 in 2004 in Brussels, Belgium (Universite Libre de Bruxelles, Belgium), IMA-3 in 2006 in Gainesville, Florida, USA (University of Florida, USA), IMA-4 in 2008 in Tokyo, Noda-Shi, Japan (Tokyo University of Science), IMA-5 in 2010 in Florence, Italy (Universite Paris-Sud 11, France) and now IMA-6 in 2012 in Haifa, Israel (Technion-Israel Institute of Technology). The next conference IMA-7 will take place in 2014 in Vienna, Austria, organized by the Institute of Fluid Mechanics and Heat Transfer of Vienna University of Technology.

The International Marangoni Association (the acronym IMA should be pronounced in German; thus IMA sounds like the Hebrew word for mother) is a casual non-profit organization, where the responsibility for organizing the next conference in a 2-3 year term is handed over from the last organizer to the next one on the voluntary basis. It is a rule to organize the IMA-conferences at low costs for the attendees to allow young scientists to participate. The organizer is requested to use University facilities at low or at no costs and should raise funding (if possible) for supporting scientists from developing countries and young researchers. IMA-conferences are organized without parallel sessions, with more time given to poster presentations. A sufficient time is normally given after the oral presentation for discussion, which is led by well-prepared chairpersons to initiate interesting questions. Selected conference papers are published either as a book or as a special issue of a suitable journal.

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