



IMA10: interfacial fluid dynamics and processes

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Abstract IMA10–special issue presents recent advances on interfacial fluid dynamics with applications in microfluidics, biology, engineering and geophysics.

1 Editorial

The Conference of the International Marangoni Association (IMA) has reached its 10th edition. After Gießen, Germany (2001), Brussels, Belgium (2004), Gainesville, US (2006), Tokyo, Japan (2008), Florence, Italy (2010), Haifa, Israel (2012), Vienna, Austria (2014), Bad Honnef, Germany (2016), and Guilin, China (2018), IMA10 took place in Iași, Romania, on June 12–16, 2022.

The IMA community mixes scientists and engineers, working on interfacial fluid dynamics, thermocapillary and soluto-capillary flows (Marangoni effect), Marangoni–Bénard instability, Rayleigh–Taylor instability, Faraday instability, electrochemical instability, electrohydrodynamics, boiling and evaporation, heat pipes, liquid bridges, bubbles and foams, droplet spreading, contact angle dynamics, thin liquid layers, binary mixtures, microfluids, materials processing, flows with engineering space applications, and biofluids, to name only a few examples.

Young scientists are strongly encouraged to attend this meeting, to network among researchers from academia and industry, and to promote new collaborations. There are no parallel sessions – this is one of the fundamental and traditional principles of the IMA conferences in order to keep the IMA community together.

This special issue, “IMA10 – Interfacial Fluid Dynamics and Processes,” gathers both fundamental research-orientated papers dedicated to Rayleigh–Taylor instability [1, 2], electrohydrodynamic instability by applying an electric field [3] and thermocapillary flows in phase-change materials embedded in metallic foams [4], and papers with engineering [5] and chemical/biophysical applications [6, 7]. Another

topic of the IMA10 special issue was devoted to droplets. Drop train flow in microtubes is numerically investigated in [8], and dripping thin liquid films on inclined fibers is experimentally studied in [9]. The collection of IMA10 papers is completed by two papers on surface waves with applications in geophysics and oceanography: the first one showing the influence of the centrifugal effects on the dispersion relation of the surface gravity waves [10], the second one investigating wave development, collision, resonance and sloshing in a circular channel subject to lateral harmonic excitations [11].

We now wish to express our thanks to all the attendees, who greatly contributed to the success of this conference. Special thanks go to our local organizer Prof. Catalin Borcia from the Faculty of Physics, Alexandru Ioan Cuza University, Iași, Romania, and to Ms. Sabine Lehr (Managing Editor) and Ms. Sandrine Karpe (Editorial Office) for the careful supervision of this special issue.

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