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Hydrodynamics of Thin Liquid Films: Retrospective and Perspectives

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Deadline for manuscript submissions:
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Message from the Guest Editors

The hydrodynamics of thin liquid films involves the study of the motion and behavior of fluids that are confined to thin layers of a few micrometers to a few millimeters thick , including how liquid films spread, wet, and interact with different surfaces, as well as how they are affected by various forces and interactions such as surface tension, viscosity, gravity, and external fields. Understanding the hydrodynamic mechanism of thin liquid films is crucial for a range of industrial and biological applications, including lubrication, coating, microfluidics, and tear film dynamics in the eye.

- Recent developments in interfacial phenomenon;
- Tools and techniques for liquid film flows;
- Fluid dynamic instabilities, such as Plateau–Rayleigh, Kelvin–Helmholtz, Rayleigh–Taylor instability, etc.;
- Contact line instabilities of thin liquid films and viscous fingering;
- Flows on fibers, planes, inverted substrate, or cylindrical surfaces;
- Non-Newtonian fluid films and computational fluid dynamics;
- Theoretical and experimental research in hydrodynamics of thin liquid films;
- Liquid lubrication film.

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Message from the Editorial Board

Now more than ever, research is asked to deliver knowledge and technologies to solve the major challenges faced by our society. The development of new materials and devices for (without the ambition to be exhaustive) energy, health and food technology, together with the need for establishing processes that reduce the impact on critical resources and the environment, is indeed in the spotlight of most contemporary research. Surface science and engineering play a key role in this regard, with an incredible potential in delivering new and deep scientific understanding and technical solutions essential to solve most of the major societal challenges.

Coatings is a well-established, peerreviewed, online journal dedicated to the vibrant field of surface science and engineering. Coatings publishes original research articles that report cutting-edge results and review papers that make the point on the hottest research topics.

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