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COST Action FP1005 "Fibre suspension flow modelling" CRISTIAN MARCHIOLI, University of Udine — Fibre suspensions are extremely complex solid-liquid systems since their components (fibres, flocs, air bubbles and additives) interact mutually in a complex way. The dynamics of fibre suspensions are crucial in many real-life applications, such as pulp and paper production. Current understanding of suspension flow dynamics remains poor and incomplete, resulting in conservative design of industrial equipments, low energy efficiency and equipment oversizing. In this paper, the most recent advancements in modelling and experimentation of fibre suspensions dynamics are presented. These advancements have been obtained in the framework of Action FP1005, funded by the COST Programme (European Cooperation in Science and Technology) to coordinate nationally-funded research on a European level. The Action aims at developing and validating numerical models for prediction of fibre suspensions as well as measurement techniques. The Action offers a forum to solve test cases and to compare simulated results to experiments, resulting in more reliable simulation tools to industry. Successfull introduction of such tool into industrial practice is crucial to innovate and increase competitivity of papermaking industry.

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