COST Action *FP1005*

Fibre suspension flow modelling: a key for innovation and competitiveness in the pulp & paper industry

LIST OF PUBLICATIONS

Papers published in international peer-reviewed journals:

1. *Tapio Saarinen, Sanna Haavisto, Anni Sorvari, Juha Salmela, Jukka Seppälä, "The effect of wall depletion on the rheology of microfibrillated cellulose water suspensions by optical coherence tomography", Cellulose 01/2014; DOI: 10.1007/s10570-014-0187-5*
2. *Sanna Haavisto, Antti Koponen, and Juha Salmela (2014) "New Insight into Rheology and Flow Properties of Complex Fluids with Doppler Optical Coherence Tomography", Front. Chem. 2:27, doi:10.3389/fchem.2014.00027*
3. *N.R. Challabotla, C. Nilsen, H.I. Andersson (2015) On rotational dynamics of inertial disks in creeping shear flow, Physics Letters A, vol. **379**, pp.157–162.*
4. *B. van Wachem, M. Zastawny, F. Zhao, G. Mallouppas (2015) "Modelling of gas–solid turbulent channel flow with non-spherical particles with large Stokes numbers", International Journal of Multiphase Flow, vol. **68**, pp. 80–92.*
5. *L. Zhao, C. Marchioli, H. Andersson "Slip velocity of rigid fibers in wall-bounded turbulence", Phys. Fluids, Phys. Fluids, **26** (2014), 063302.*
6. C.A.F. Ventura, F.A.P. Garcia, P.J.T. Ferreira, M.G. Rasteiro, "Modelling pipe friction loss of pulp fibre suspensions" Part. Sci. Tech., In Press (2014).
7. *C. Marchioli, A. Soldati "Rotation statistics of fibers in wall shear turbulence", Acta Mechanica, **224** (2013), 2311-2330.*
8. *L. Zhao, H. Andersson, J.J.J. Gillissen "On inertial effects of long fibers in wall turbulence: concentration, orientation and fibers stresses", Acta Mechanica, **224** (2013), 2375-2384.*
9. C. Marchioli, A. Soldati "Rotation statistics of fibers in wall shear turbulence", Acta Mechanica, **224** (2013), 2311-2330.
10. *F. Zhao, B.G.M. van Wachem "Direct numerical simulation of ellipsoidal particles in turbulent channel flow", Acta Mechanica, **224** (2013), 2331-2358.*
11. *R. van Hout, L. Sabban, A.Cohen "The use of high-speed PIV and holographic cinematography in the study of fiber suspension flows" Acta Mechanica, **224** (2013), 2263-2280.*
12. *E.J. Tozzi, D.M. Lavenson, M.J. McCarthy, R.L. Powell "Effect of fiber length, flow rate, and concentration on velocity profiles of cellulosic fiber suspensions" Acta Mechanica, **224** (2013), 2301-2310.*
13. *L. Zhao, C. Marchioli, H. Andersson "Stokes number effects on particle slip velocity in wall-bounded turbulence and implications for dispersion models", Phys. Fluids, **24**, 021705 (2012); doi: 10.1063/1.3690071.*
14. *M. Wilkinson and H.R. Kennard "A model for alignment between microscopic rods and vorticity" J. Phys. A: Math. Theor. **45** 455502.*
15. *L. Zhao, H.I. Andersson, and J.J.J. Gillissen "Interphasial energy transfer and particle dissipation in particle-laden wall turbulence", J. Fluid Mech., **715** (2013), 32-59.*

Conference papers:

1. *Juha Salmela, Sanna Haavisto, Antti Koponen, Ari Jäsberg and Markku Kataja, "Rheological characterization of micro-fibrillated cellulose fibre suspension using multi scale velocity profile measurements", proceedings of 15TH FUNDAMENTAL RESEARCH SYMPOSIUM Robinson College, Cambridge, UK. 8th – 13th September 2013.*

2. *A. Soldati "FPS COST Action FP1005 - Fibre suspension flow modelling: A key for innovation and competitiveness in the pulp & paper industry" ASME/FEDSM Meeting, Chicago (USA), August 3-7, 2014.*
3. *M. Simeoni, M. Campolo, A. Soldati "Turbulent drag reduction by bio-polymer in large pipes" ASME/FEDSM Meeting, Chicago (USA), August 3-7, 2014.*
4. *C. Marchioli, L. Zhao, H.I. Andersson, A. Soldati "On the relative motion between rigid fibers and fluid in wall shear turbulence" ASME/FEDSM Meeting, Chicago (USA), August 3-7, 2014.*
5. *R. Silva, Pedro M. Faia, F. A. P. Garcia, M. G. Rasteiro "Comparison of Mixture Model Simulations with Experimental Solid-liquid Suspension Flow Data", 15th International Freight Pipeline Society Symposium 2014, Czech Association of Scientific and Technical Societies (CSVTS), Novotného lávka 5, Praha 1, Czech Republic, 24 June - 26 June 2014.*
6. *F. Lundell "Fluid vs. particle inertia: motions of non-sperical particles in shear" 1st Symposium on Dispersed Two-Phase Flows, ICNAAM 2013, Rhodos (Greece), September 21-27, 2013.*
7. *A. A. Hoseini, Z. Zavareh, F. Lundell, and H. I. Anderson "Fiber tracking algorithm in combined PIV/PTV measurement of fiber suspension flow" 1st Symposium on Dispersed Two-Phase Flows, ICNAAM 2013, Rhodos (Greece), September 21-27, 2013.*
8. *C. Marchioli and A. Soldati "Rotation statistics of rigid fibers in turbulent channel flow" 1st Symposium on Dispersed Two-Phase Flows, ICNAAM 2013, Rhodos (Greece), September 21-27, 2013.*
9. *J. Ravnik, C. Marchioli, M. Hriberšek, and A. Soldati "On shear lift force modelling for non-spherical particles in turbulent flows" 1st Symposium on Dispersed Two-Phase Flows, ICNAAM 2013, Rhodos (Greece), September 21-27, 2013.*
10. *J.-C. Roux and J.-F. Bloch "Lubrication theory explains the modification of fiber properties in the refining process" " 1st Symposium on Dispersed Two-Phase Flows, ICNAAM 2013, Rhodos (Greece), September 21-27, 2013.*
11. *C. Marchioli "FPS COST Action FP1005 - Fibre suspension flow modelling: A key for innovation and competitiveness in the pulp & paper industry" APS/DFD Meeting, Pittsburgh (USA),November 23-25, 2013.*
12. *C. Marchioli "On the rotation of rigid fibers in wall shear turbulence" APS/DFD Meeting, Pittsburgh (USA),November 23-25, 2013.*
13. *M.G. Rasteiro, C. Marchioli, F. Lundell, D. Asendrych, J. Salmela, J. Hämäläinen "FPS COST Action FP1005 Fibre suspension flow modelling - a key for innovation and competitiveness in the pulp & paper industry", XVIth International Congress on Rheology, Symp. Rheology of Nano- and Natural Composites – Lisbon (PT), August 5-10, 2012.*
14. *M. G. Rasteiro, C. A. Ventura, "Rheology of Pulp Suspensions: Identification of the Main Parameters Influencing Rheological Behaviour", XVIth International Congress on Rheology, Symp. Rheology of Nano- and Natural Composites – Lisbon (PT), August 5-10, 2012.*
15. *L. Zhao, C. Marchioli, H. Andersson "Slip velocity of rigid fibers in a turbulent channel flow" TSFP8, Poitiers (FR), August 28 - 30, 2013*
16. *C. Cotas, D. Asendrych, M.G. Rasteiro "Numerical Simulation of the Flow of Fiber Suspensions in Pipes in the Presence of Drag Reduction Effect", PARTEC 2013, Nuremberg (DE), April 23-25, 2013.*
17. *P. Krochak, R. Holm, M. Hirota, F. Lundell, D. Söderberg, "A comparative study of semi-dilute fibre suspension flow using magnetic resonance imaging and ultrasonic Doppler velocimetry: Differences between fluid and fibre motion", Int. Conf. Multiphase Flow (ICMF2013), Jeju (S. Korea), May 26-31, 2013.*
18. *M.G. Rasteiro, C. Marchioli, F. Lundell, D. Asendrych, J. Salmela, J. Hämäläinen, "FPS COST Action FP1005 - Fibre suspension flow modelling: A key for innovation and competitiveness in the pulp & paper industry" XXII TECNICELPA - International Forest, Pulp and Paper Conference, Tomar (PT) October 02-04, 2013.*
19. *C. Cotas, F. Garcia, P. Faia, P. Ferreira, A. Coimbra, E. de la Fuente, D. Asendrych, M.G. Rasteiro "Numerical simulation of a turbulent fiber suspension flow in pipe using the CFD software Ansys Fluent", Congress on Numerical Methods in Engineering 2013, Bilbao, 25-28 June, 2013.*