

AERC 2015,
April 14 -17, 2015
Nantes - France



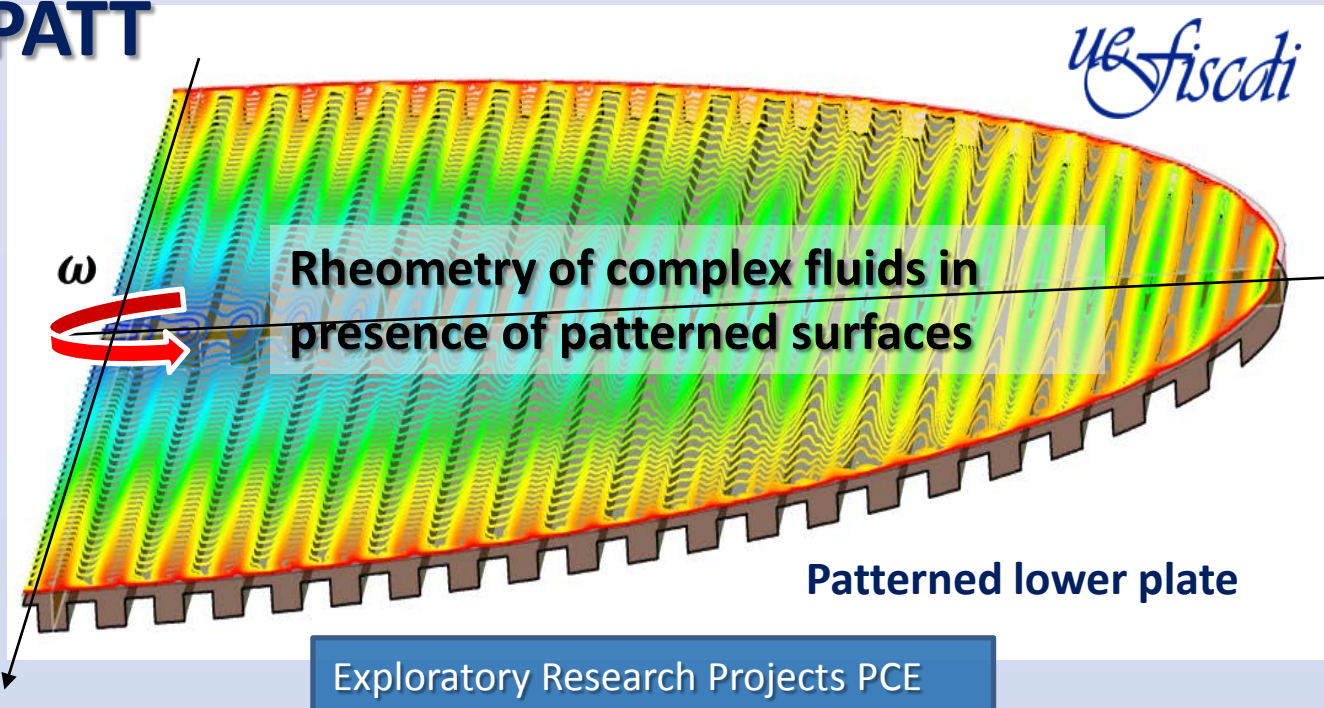
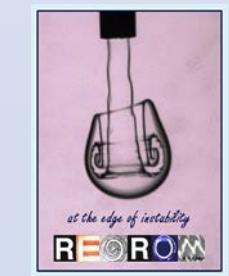
Romanian Society Rheology

MODELING THE INFLUENCE OF PATTERNED SURFACE IN SHEAR RHEOLOGY AND COMPLEX FLOWS

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RHEO-PATT

by
REOROM

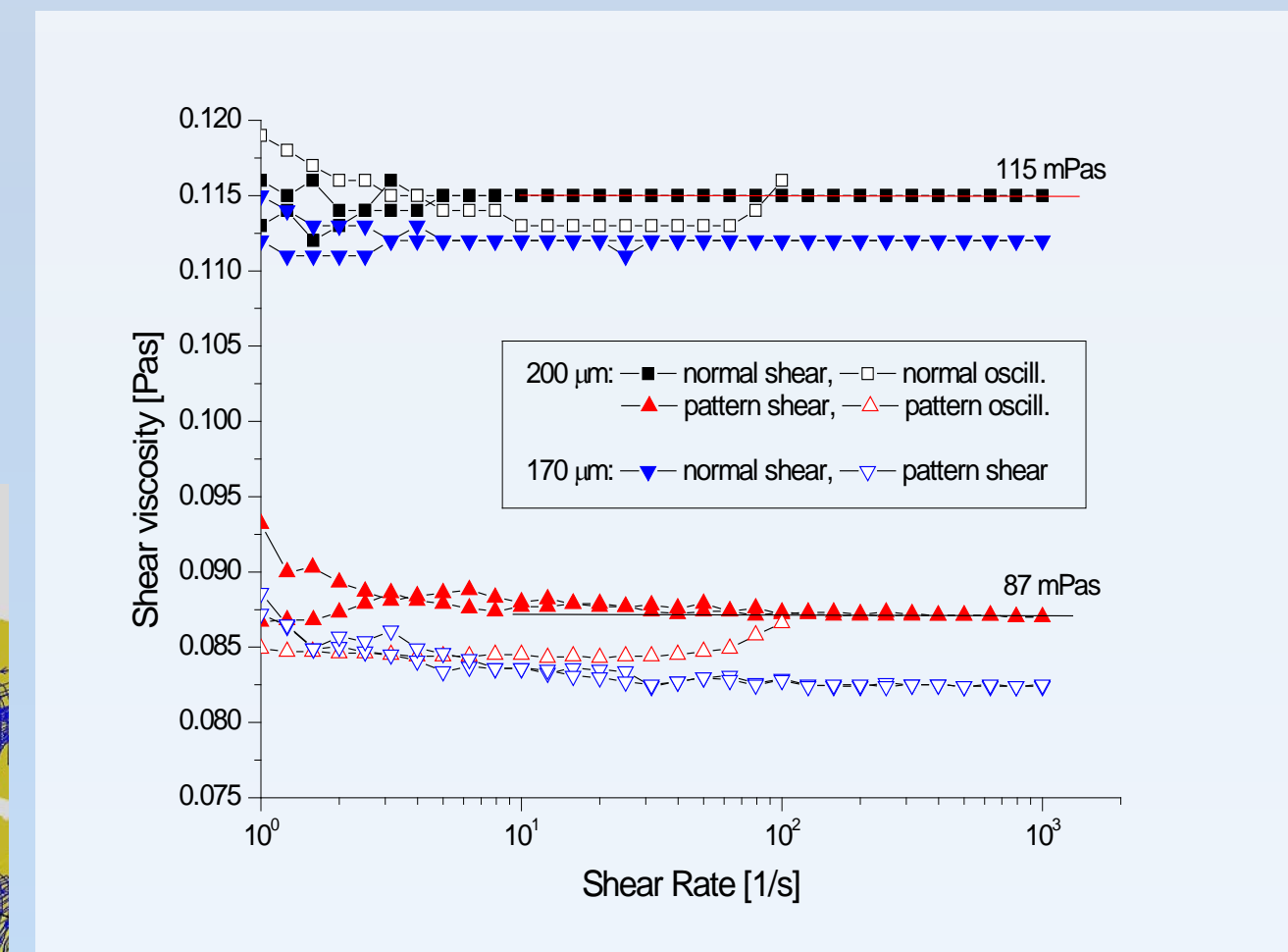
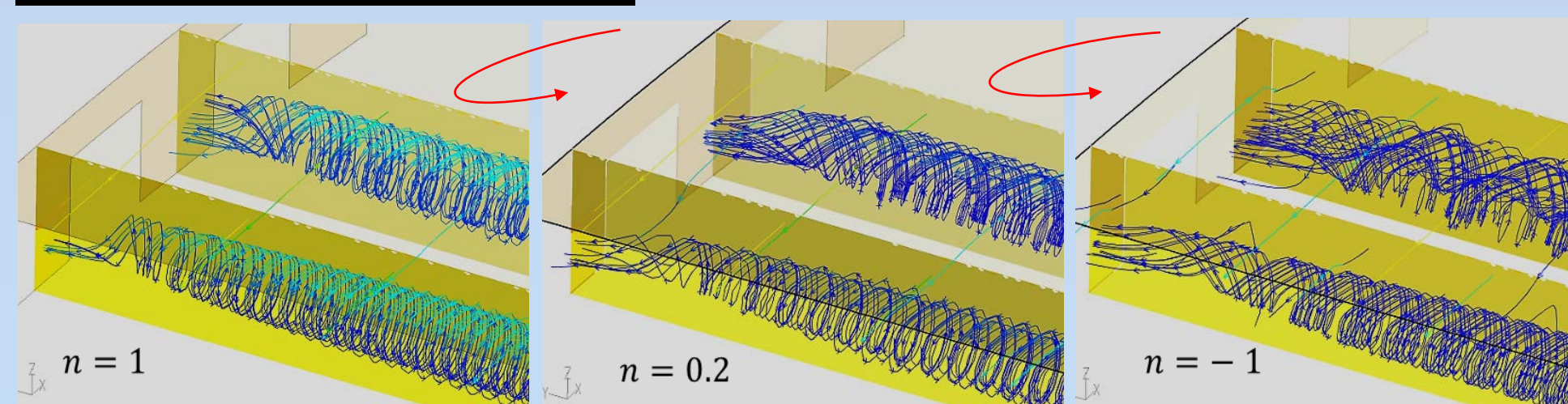
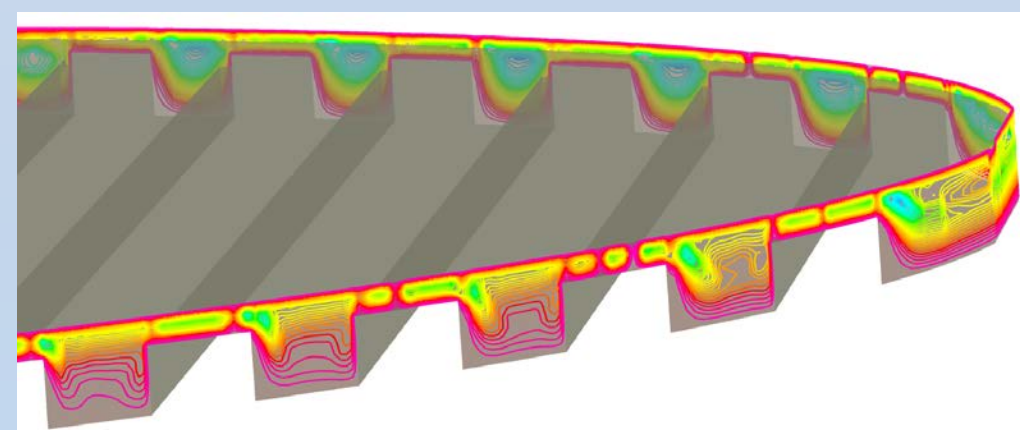
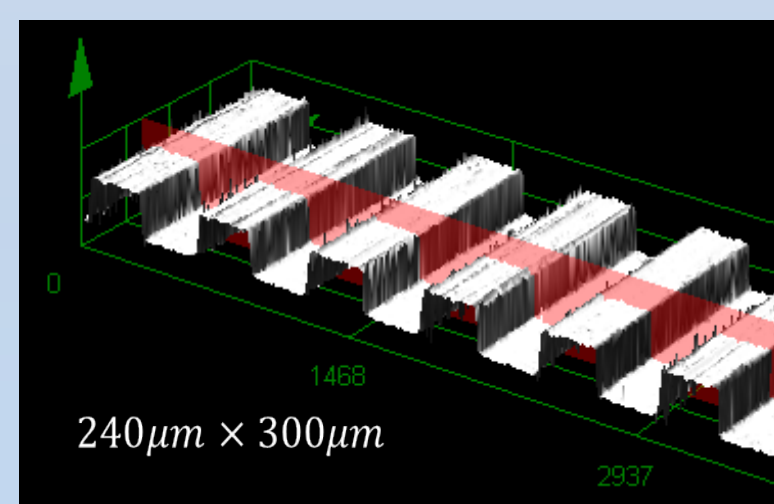
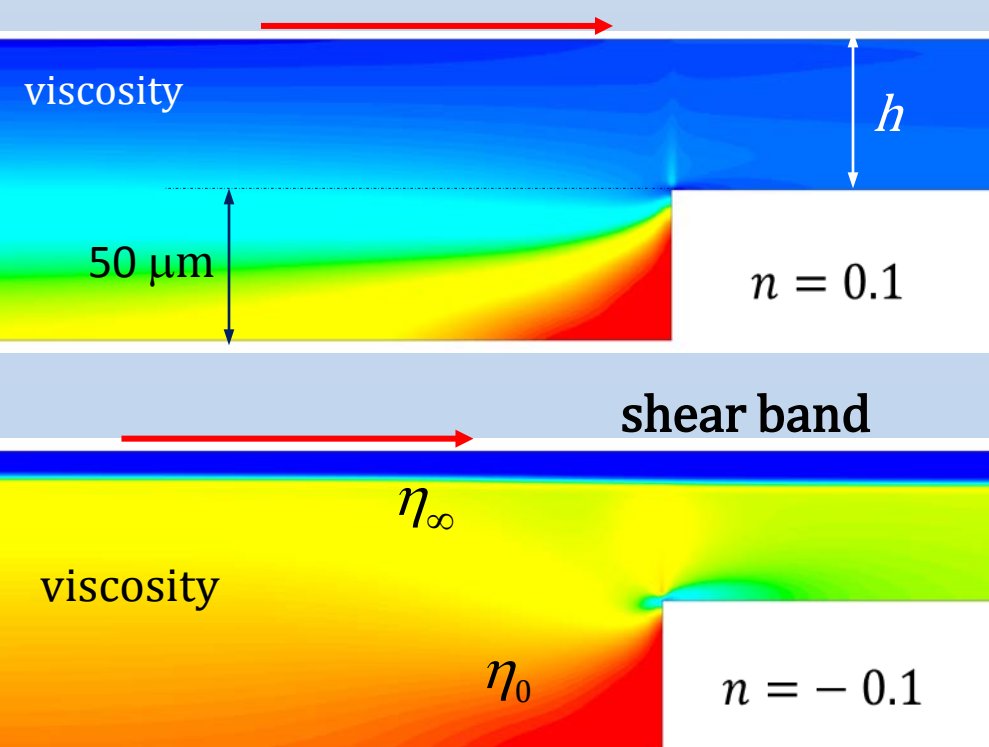
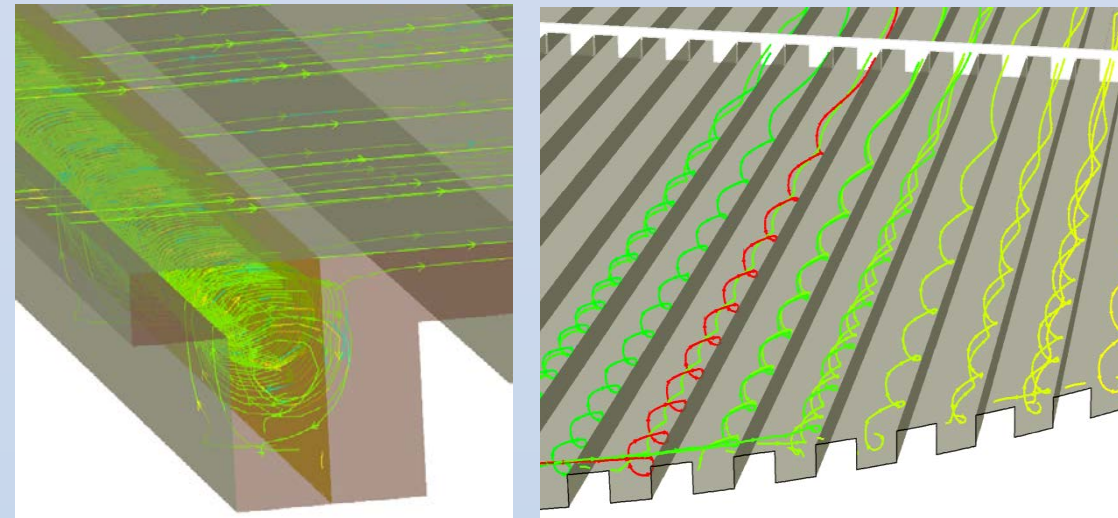
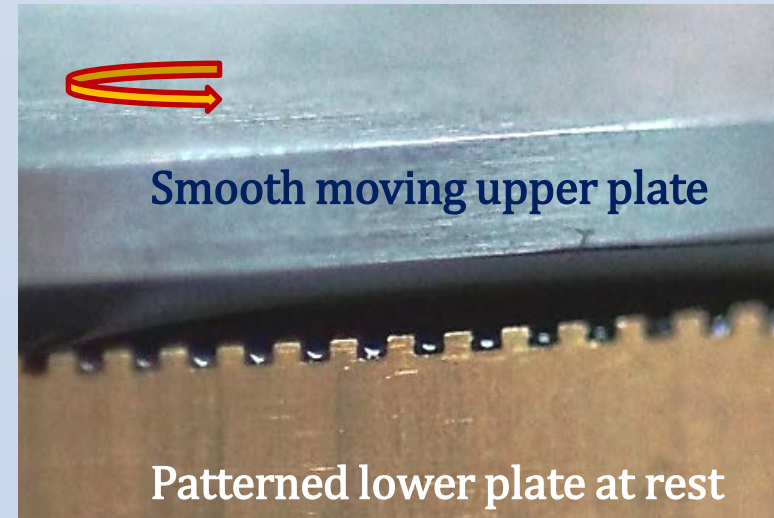
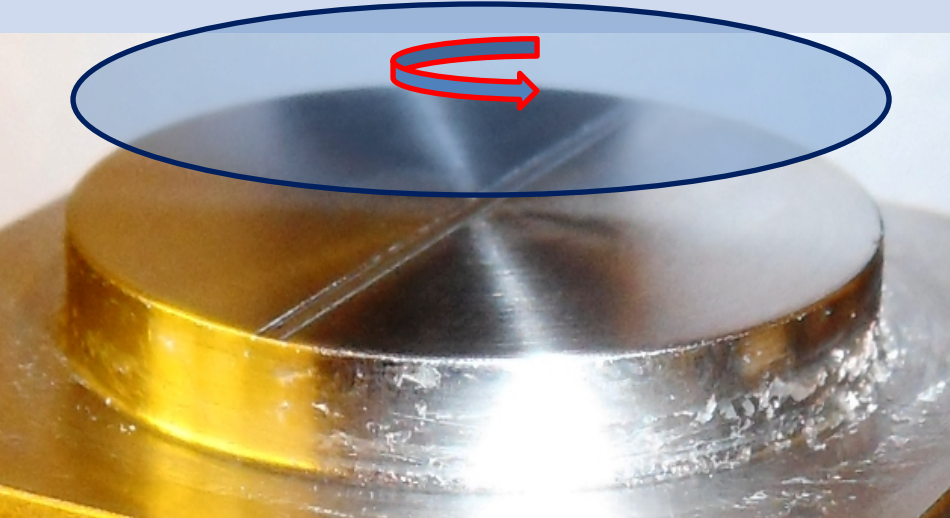
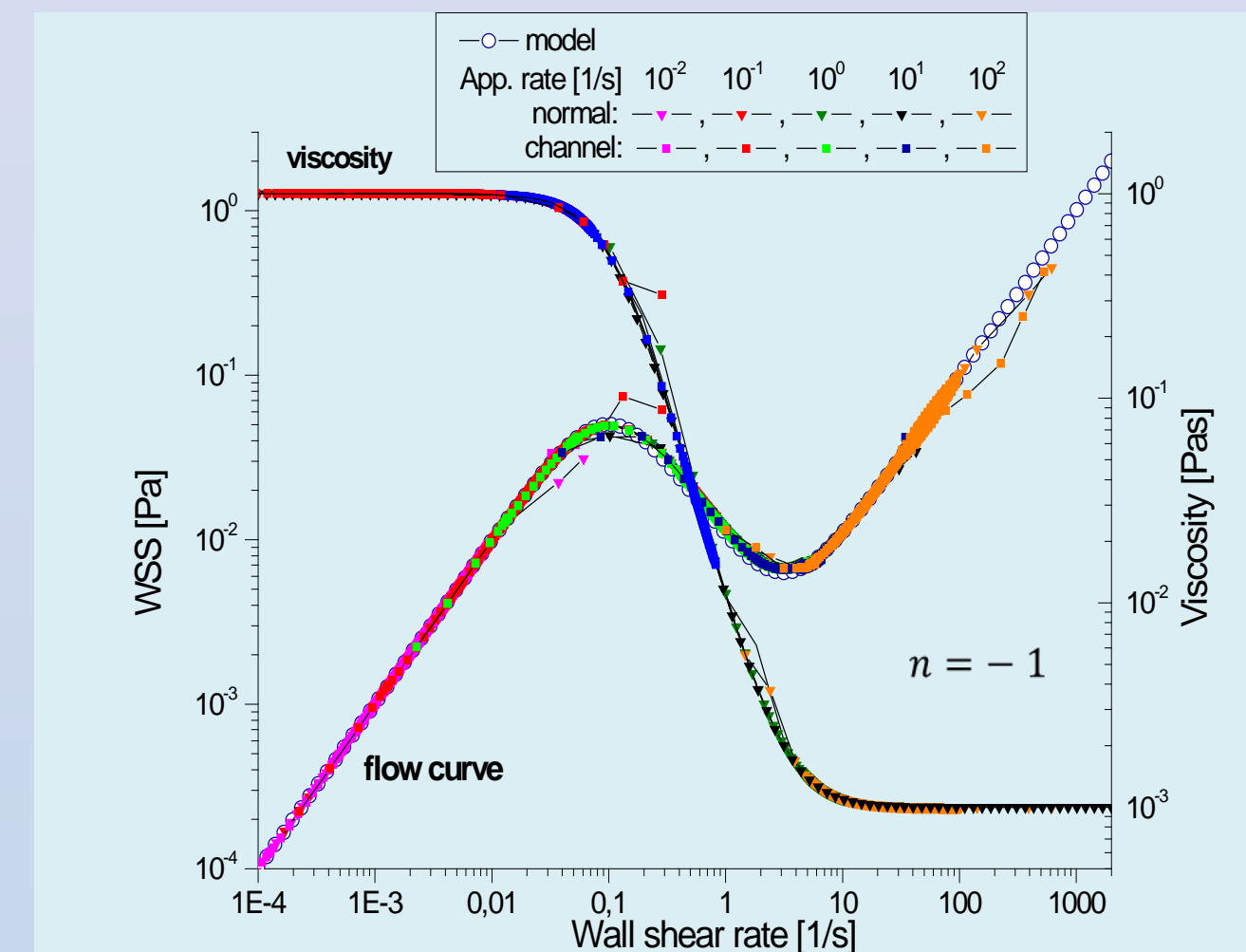


AERC 2013
AERC 2014

COMPUTATIONAL RHEOMETRY – AN USEFUL TOOL TO ANALYSE
THE RHEOLOGICAL MEASUREMENTS

Experimental and
numerical simulations in
smooth plate –
patterned plate rheometry

$$\text{Carreau model } \frac{\eta(\dot{\gamma}) - \eta_{\infty}}{\eta_0 - \eta_{\infty}} = [1 + (\lambda\dot{\gamma})^2]^{\frac{n-1}{2}}$$



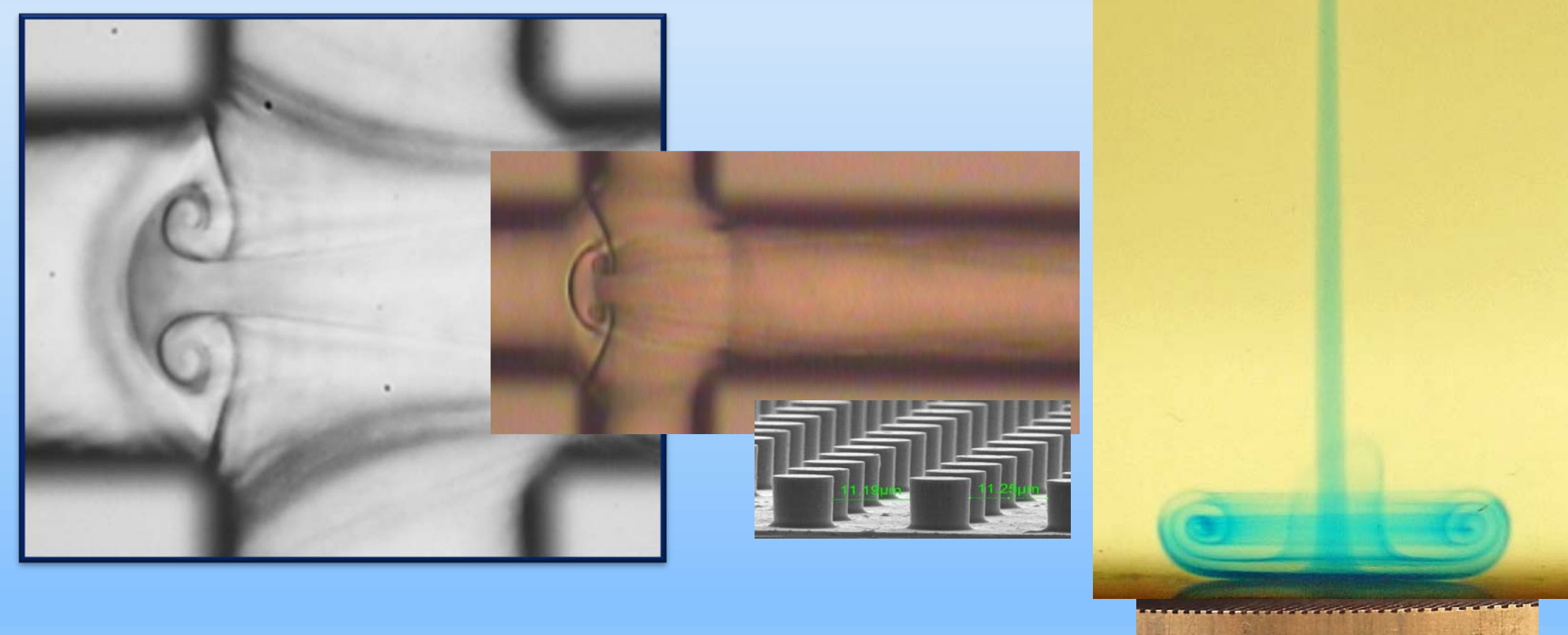
IDEEA!

It is assumed that investigations of the influence of micro-patterned walls on the dynamics of simple and complex flows is a promising direction of reserch in developing novel rheometrical techniques to characterize the fluid rheology in the very vicinity of surfaces.

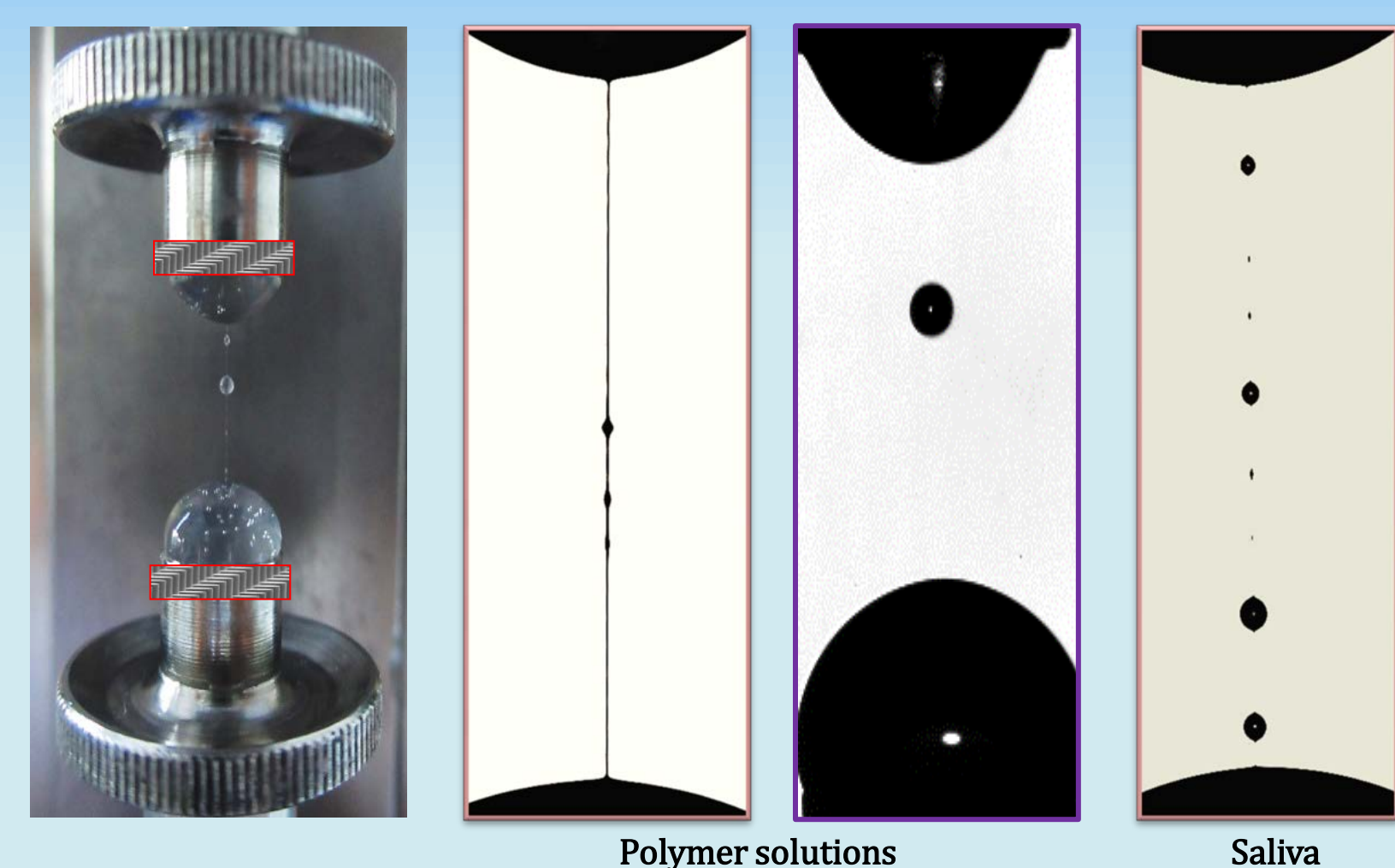
P072: Coalescence phenomenon
another approach for extensional rheology



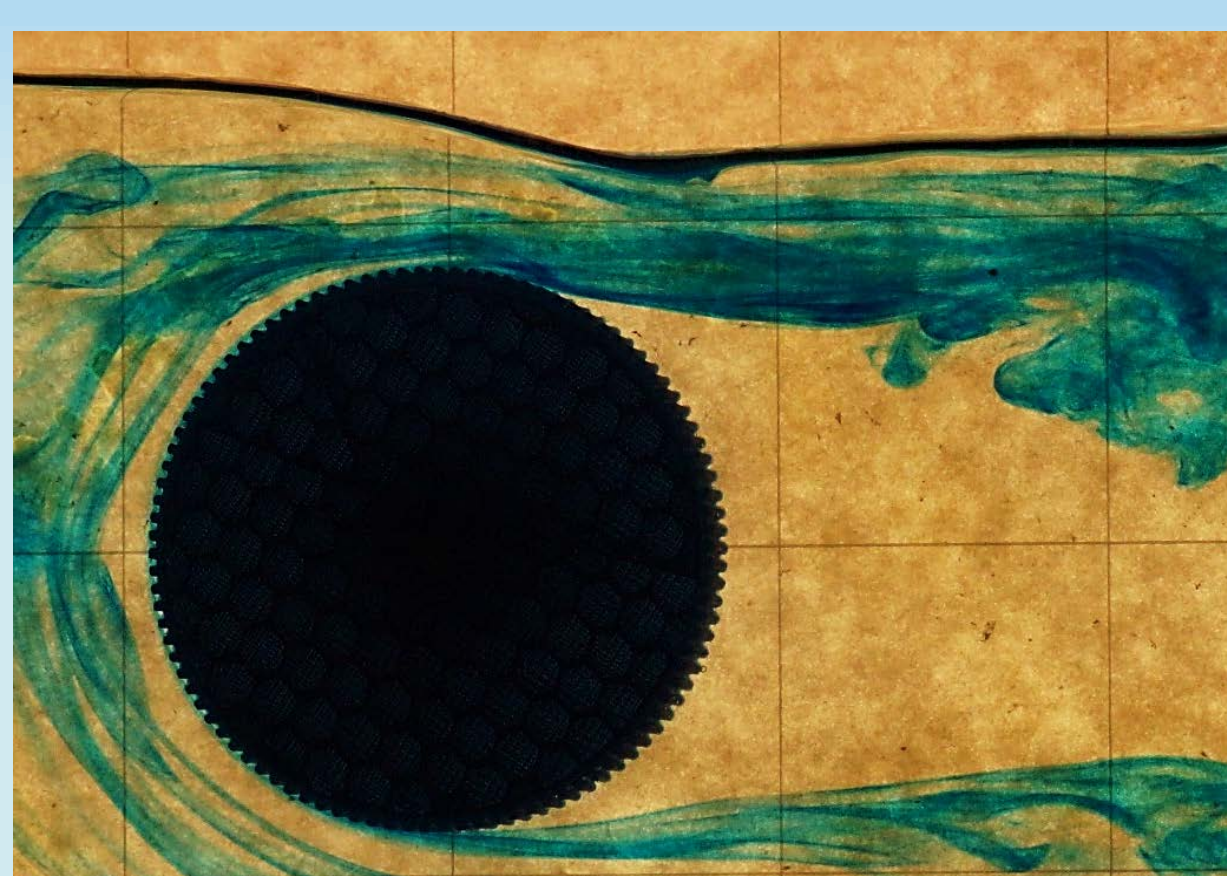
P0120: Hydrodynamic focusing of low viscous
liquids and weakly elastic polymer solutions



P0121: Elongational properties of systems
containing xanthan gum for management of dysphagia



P0135: Free surface flow of viscous and
viscoelastic liquids around immersed bodies



Microstructures modify the local flow kinematics in the neighborhood of the walls and induce qualitative and quantitative changes of the stresses distributions along the immersed bodies.

