PoreLab
NTNU-UiO Porous Media Laboratory

université PARIS-SACLAY

UFC

Workshop on Non-Newtonian Flow in Porous Media

Dates: 28-30 June 2022

Location: Hotel Gran Marquise, Fortaleza, Brazil

Day 1: June 28, 2022

12:00 – 13:30 Lunch

13:30 – 13:40 Official opening

13:40 – 14:20 José Soares Andrade Jr. (Universidade Federal do Ceará, Brazil)
Localization and Self-Organization in Flow of Non-Newtonian Fluids

14:20 – 15:00 Hansjörg Seybold (ETH Zürich, Switzerland)
A flow through scales -- From non-Newtonian turbulence to microrheology tomography

15:00 – 15:15 Break

15 :15 – 15 :55 Laurent Talon (FAST, Université Paris-Saclay, France)
Population dynamics of non-wetting blobs in porous media

15:55 – 16:35 Jordi Ortin (Universitat de Barcelona, Spain)
Two-phase flow in disordered media: from capillary jumps to hysteresis and dissipation

19:00 Dinner

Day 2: June 29, 2022

09:00 – 09:40 Eirik Grude Flekkøy (PoreLab, University of Oslo, Norway)
Frictional fluid flows and the patterns they create

09:40 – 10:20 Hans Hermann (ESPCI, France and Universidade Federal do Ceará, Brazil)
Particle-laden flows through porous media

10:20 – 10:40 Break

10:40 – 11:20 Eric Clement (ESPCI, Sorbonne Université, France)
Active fluids transport and dispersion in confined and porous media

11:20 – 12:00 Marcel Filoche (Ecole Polytechnique, France)
Newtonian and non-Newtonian fluid transport in the lung airway system

12:00 – 13:30 Lunch

13:30 – 14:10 Ian Frigaard (University of British Columbia, Canada)
Modelling yield stress effects in complex geometries

14:10 – 14:50 Muhammad Sahimi (University of Southern California, USA)
Non-Newtonian Fluids in Porous Media: From a Critical State to Instability

14:50 – 15:10 Break

15:10 – 15:50 Nuno Araújo (Universidade de Lisboa, Portugal)
Shape transitions of confined deformable capsules at low Re

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15:50 – 16:30 Erika Eiser (PoreLab, NTNU, Norway)
Designer-Made, Colloidal Materials for the Study of Flow in Pores Media

19:00 Dinner

Day 3: June 30, 2022

09:00 – 09:40 Federico Lanza (PoreLab, NTNU, Norway and LPTMS, Université Paris-Saclay, France)
Dynamic Pore-Network Modeling of Two-Phase Yield Stress Flow in Porous Media

09:40 – 10:20 Alberto Rosso (LPTMS, Université Paris-Saclay, France)
Exact solution for the Darcy's law of yield stress fluids on the Bethe lattice

10:20 – 11:00 Antje van der Net (PoreLab, NTNU, Norway)
Viscoelastic fluids for enhanced oil recovery

11:00 – 11:15 Break

11:15 – 11:55 Kay Wiese (Ecole Normale Supérieure, France)
Depinning: From qEW to qKPZ

11:55 – 12:35 Tom Vincent-Dospital and Marcel Moura (PoreLab, University of Oslo, Norway)
Double talk: 1) Toward a thermal weakening theory for shear thinning fluids? 2) Watching paint dry and the making of the non-Newtonian doughnut

12:35 – 14:00 Lunch

14:00 – 14:40 Alex Hansen (PoreLab, NTNU, Norway)
A Statistical Mechanics for Immiscible Two-Phase Flow in Porous Media

14:40 – 15:20 Håkon Pedersen (PoreLab, NTNU, Norway)
A geometrical interpretation of the co-moving velocity transformation of immiscible steady-state two-phase flow

15:20 – 16:00 Santanu Sinha (PoreLab, University of Oslo, Norway)
Non-linearity in immiscible two-phase flow of Newtonian fluids

16 :00 – 16 :15 Marie-Laure Olivier (PoreLab, NTNU, Norway)
What is the INTPART program? What is PoreLab and how is it organized?

16:30 Happy hour with a presentation by Nando Carneiro, MPB artist (Portofino Room, at the Gran Marquise hotel)

This workshop is hosted by PoreLab at NTNU, the Université Paris-Saclay and the Universidade Federal do Ceará with funding provided by the INTPART program from the Research Council of Norway

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