



2023 Rheology Seminar Series

The Australian Society of Rheology is presenting a national series of lectures, which is open to anyone interested in the flow and deformation of matter. The next event in the series will be held online.

Calendar details

Date:	Thursday, June 15, 2023
Time:	4:00 to 5:30 PM (Melbourne, Australia)
Venue:	RMIT University, Building 80, Level-02, Room-02, 435-457 Swanston Street, Melbourne VIC, 3000.
Event Registration Link:	https://www.eventbrite.com.au/e/australian-society-of-rheology-seminar-15-june-2023-registration-656386378327

Invited lecture

Prof. Ian Frigaard

(Department of Mechanical Engineering, University of British Columbia, Vancouver, Canada)

Presentation Title: Bubbles in Yield Stress Fluids

Abstract: There are a great many reasons to study bubbles in yield stress fluid, ranging over numerous industrial applications, through food, cooking, and cosmetics to natural phenomena like bubbling mud volcanoes. In this talk we address some of these and outline our recent computational and experimental advances. At the most fundamental level is the question of whether bubbles are mobile or trapped in the fluid? For single bubbles these questions can be answered theoretically as well as experimentally. As we consider >1 bubbles, we begin to have clustering and proximity, having a significant effect on static stability. We can also study stability of denser bubble clouds, although the results are harder to interpret. In the last part of the talk, we address the often-observed phenomenon that successive bubbles released within a reservoir of yield stress fluid tend to follow the pathways of previous bubbles.

Speaker's biography



Ian Frigaard is Professor of Applied Mathematics and Mechanical Engineering at the University of British Columbia where he has been since 2000. His research specialties include Viscoplastic fluids and understanding industrial processes that exploit the non-Newtonian properties of fluids. He has extensively worked with a wide range of yield stress fluids as well on many industrial projects for the petroleum industry which deal with cementing of wells, preventing leakages, and techniques for eventual abandonment – a key issue related to greenhouse gas emission control and long-term environmental protection. His work includes theory, computation, and lab experimentation in these areas. He is currently president of the Canadian Society of Rheology (CSR). He serves as co-editor of the Journal of Non-Newtonian Fluid Mechanics (JNNFM) and on the editorial boards of 3 other journals. He is a fellow of the Society of Rheology and winner of the Stanley Mason Award of the CSR.

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