

# Two-day Workshop on Comprehensive Rheology



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Date: 25-26<sup>th</sup> April 2018

Venue: Waters Analytical Instruments Sdn Bhd

Have we ever asked ourselves the following questions,

"What happen to my hand cream if I rubbed it with my palm?"

"Why we usually need to shake the bottle of ketchup before we can pour it out?"

These are some examples of our daily routine. They are so common that we perform them under the auto-pilot mode without further thinking of the reasons behind those actions. However, as a materials engineer or technologist, we need to understand the flow behavior of these materials and the answers to these questions were revealed at the 2-day Comprehensive Rheology Workshop held on 25 and 26 April 2018 at Waters Analytical Instruments Sdn. Bhd. in Petaling Jaya.

This workshop was jointly organized by TA Instruments, a Division of Waters Analytical Instruments Sdn. Bhd., Polymer Committee of Institute of Materials (IMM), Malaysia and Institution of Chemical Engineers (IChemE), UK. This workshop had attracted 16 participants from various backgrounds, ranging from paint to ink industries; from rubber to adhesive industries and from palm oil to post-graduate students.

Rheology cannot be considered as a new or emerging science for materials. In order to let the participants have an overview what rheology is, the speaker, Dr. David Hussell started the workshop by showing a video on rheology which was recorded 64 years ago. Dr. David Hussell possesses a PhD in the area of microfluids and fluid mechanics. He also worked on microscale polymer processing to evaluate the behavior of polymer.



Figure 1: Mr. Chan Yian Kit of TA Instruments is testing the strength of plastic bag with different molecular alignments

Throughout the workshop, various examples in our daily life were used to explain the concept of rheology, videos were also used to help the participants to have a better understanding on rheology.

Instead of sitting passively listening to the lecture, participants were grouped into small groups for discussion as well as conducting the rheological test on the samples given to them by the organizers.

Introduction to rheology, basics of fluid flow and non-Newtonian flow behavior, characterization of basic flow behavior were among the topics covered in the first day of the workshop. While on the second day, the focus was on visco-elastic behavior of polymeric materials.



Figure 2: Mr. Josh Lai of TA Instruments is demonstrating to the participants on how to conduct rheological testing

During the break between the sessions, the Hon. Secretary of IMM, Assoc. Prof. Dr. Melissa Chan Chin Han took the opportunity introduce IMM to the participants.

With the vast experience of Dr. David Hussell, participants have gained a better insight on rheological behavior of various materials.

The workshop was concluded by the giving-away of the Certificate of Participation to the participants by Assoc. Prof. Dr. Melissa Chan Chin Han of IMM.



Figure 3: Presentation of Certificate of Participation to participants by Assoc. Prof. Dr. Mellissa Chan



Figure 4: Participants of the Comprehensive Rheology Workshop

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