

The Rheology Workshop, 3rd - 4th July 2019

The workshop is aimed at those who are either new to rheology or those that have been involved for some time and would like to learn more about this fascinating subject. The workshop will involve seminars covering both theoretical and practical aspects of rheology as well as practical and informal sessions. A programme for the meeting is shown on the following pages.

Our aim is that by the time you leave the rheology workshop you will be able to :

- ▶ Understand the basic theory associated with rheology.
- ▶ Design meaningful experiments to characterise your materials.
- ▶ Appreciate the potential problems and pitfalls in making a measurement.
- ▶ Interpret the resulting data.

Delegates will also receive a copy of the “Applied Rheology“ book which is a practical guide to rheology written by our colleague Dr. Thomas Mezger. The workshop will be held at the Food Science Laboratory at the University of Nottingham (this is based at the Sutton Bonington campus, which is actually located in the countryside near to Kegworth, only 10 minutes away from East Midlands airport and the M1).

Places will be limited to ensure a good ratio of delegates to tutors during the workshop. To reserve your place please complete the following form and email to info.gb@anton-paar.com.

Steve Goodyer

Seminar Programme 3rd July 2019

09:00 h	Rheology Part 1: Viscous materials – definition of the terms: shear stress / shear rate / shear viscosity – law of Newton – shear-load-dependent flow behaviour of viscous fluids: ideal viscous behaviour (according to Newton), shear-thinning (pseudoplastic), zero-shear viscosity
10:30 h	Coffee break
10:45 h	Shear-thickening (dilatant), yield stress (applying the shear load in form of a ramp)
11:45 h	Short break (5 minutes)
11:50 h	Time-dependent flow behaviour: structure decomposition and recovery (“thixotropy”), gelation, hardening, curing – temperature-dependent flow behaviour: heating, melting, hardening, curing process
12:30 h	Lunch break
13:30 h	Rheometry Part 1: Viscous fluids – rotational tests: controlled shear rate (CSR), controlled shear stress (CSS) – measuring systems (cylinder, cone-and-plate, parallel-plate, special geometries)
14:30 h	Coffee break
15:00 h	Practical work – flow and viscosity curves (CSR and CSS)
about 17:00 h	End of the seminar
19:30 h for 20:00 h	Course meal for 24 hour delegates

Seminar Programme 4th July 2018

09:00 h	Rheology Part 2: Viscoelastic materials – definition of the terms: deformation (strain) / shear modulus – law of Hooke – shear-load-dependent deformation behaviour of viscoelastic materials: VE-fluid according to the Maxwell model, VE-solid according to the Kelvin-Voigt model Rheometry Part 2: Viscoelastic materials – Creep test (shear stress step), creep compliance – relaxation test (shear strain step), relaxation modulus, relaxation and retardation time spectrum
10:00 h	Coffee break
10:15 h	Oscillatory tests – definition of the terms: storage modulus / loss modulus / loss or damping factor, complex viscosity – amplitude sweep, linear viscoelastic (LVE) range
11:15 h	Short break
11:30 h	Frequency sweep – time-dependent behavior: structure decomposition and recovery (“thixotropy”), gelation, hardening, curing process
12:30 h	Lunch break
13:30 h	Temperature-dependent behaviour: glass-transition, melting, crystallization, freezing temperature, gelation, hardening, curing, sol/gel temperature Application examples Discussion
14:30 h	Coffee break
14:45 h	Practical work – Oscillatory tests, creep and relaxation tests
about 16:30 h	End of the seminar

Email to: info.gb@anton-paar.com

Name: _____

Company: _____

Address: _____

Postcode: _____

Telephone: _____

Email: _____

Please reserve me a place at the Rheology Workshop as detailed below:

- Day delegate rate (includes course, book, lunches + coffee/tea in mornings and afternoons) **£449 +VAT**
- 24 hour delegate rate (as above plus evening meal on 2nd and 3rd July plus 2 nights accommodation) **£669 +VAT**

Order Number _____

Special dietary requirements: _____

Please note that a purchase order or prepayment by credit card/cheque is required prior to the event in order to reserve your place. Payment terms: prepayment at least 14 days prior to the event.

I will: raise a purchase order prepay by card/cheque

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