

Short Course Presentation

Course Description

Surface chemistry is a powerful tool for solving cleaning, spraying, coating, wetting, bonding, emulsification and foaming problems amongst others. This course will take on a decidedly practical approach to the subject so that attendees will develop an understanding of how and where to use these tools. The course reviews the basic theory of surface and interfacial chemistry before focussing on the instrument measuring techniques and how they can be properly applied to solve practical industrial problems.



Guest speakers with industrial experience and KRÜSS experts will present case studies dealing with these industrial problems. Attendees will have the unique opportunity to participate in sample measurement demonstrations using state-of-the-art surface chemistry instruments.

The course language will be English.



Who should attend?

This introductory course is intended for chemists, engineers and other industrial scientists engaged in research and development on detergents, cleaners, inks, coatings, paints, emulsions, foams, pharmaceuticals, cosmetics, adhesives, surface modification and other areas involved in surface chemistry.

Course Program

10th September 2014 | 09:00 - 17:30 | Surface and interfacial tension

- equilibrium surface and interfacial tension
- critical micelle concentrations and surfactant synergy
- emulsions and microemulsions
- non-equilibrium surface and interfacial tensions
- dynamic foam analysis
- industrial application of surface and interfacial tension measurement
- participation in sample measurement demonstrations using the latest instrumentation for dynamic and static surface and interfacial tension and foam analysis

Methods covered

- Wilhelmy plate, Du Noüy ring
- drop volume, maximum bubble pressure
- spinning drop, pendant drop
- dynamic foam analysis
 - foam height
 - liquid content
 - foam structure

11th September 2014 | 09:00 - 17:30 | Contact angles and wetting

- wetting of non-porous solids by contact angle measurement
- contact angle hysteresis
- free surface energy and adhesion
- wetting of porous solids by contact angle measurement
- surface modification
- application of contact angle analysis to industrial problem solving
- participation in sample measurement demonstrations using the latest instrumentation for contact angle measurement on porous and non-porous solids

Methods covered

- sessile drop
- Wilhelmy plate
- Washburn capillary rise

Speakers

Prof. Julian Eastoe

has worked at the University of Bristol for 20 years, researching in colloids, surfactants and interfaces. He has published over 200 articles in the field and is visiting Professor at universities in China and the Middle East. Julian's group has a long standing collaboration with KRÜSS.

Prof. Alexander Bismarck

studied at the Technical University of Berlin where he obtained his PhD in Physical Polymer Chemistry in 1999. He then worked as a post doctoral researcher in the Surfactant and Colloid group at the University of Hull. Following a period as an R&D engineer with Sulzer Innotech / Sulzer Composites in Winterthur, Switzerland, he was appointed as a lecturer in the Department of Chemical Engineering at Imperial College in 2002. His research interests include adhesion and composite interphase design as well as surface modification.

Dr. Phil Taylor

obtained a PhD in Colloid Science from the University of Bristol working with Professor R.H. Ottewill. He then joined ICI Agrochemicals (now Syngenta) at Jealott's Hill Research Station to work in the Formulation Research Group. He has remained there for 20 years and has worked on a wide range of agro-chemical formulations in that time. Amongst his interests is the application of colloid science to formulation, especially in the areas of surfactant science such as dynamic surface tension effects and the wetting of leaf surfaces.

Dr. Sarab Sahi

is a Principal Research Officer in the Baking & Cereal Processing Department at Campden BRI. Sarab is a graduate in Biochemistry and has a PhD in Physical Chemistry from Reading University. After a stint as a postdoctoral fellow investigating protein/lipid interactions he has worked in the cereal sector for over 24 years. He has specialist knowledge in measurements and application of enzymes and emulsifiers in bakery foods. Sarab's current research interests include natural materials with redox properties for bakery systems as well as application of interfacial and bulk measurements to understand key ingredient functions in bakery systems.

Registration Form

Please return to: KRÜSS Surface Science Centre
School of Chemistry / University of Bristol
Cantock 's Close / BRISTOL BS8 1TS
Fax: 0117 325 0258 - info@kruss.co.uk

Please indicate your participation as required:

Two Days

10 - 11 September 2014 **£689**

One Day

10 September 2014 **Surface and interfacial tension** **£484**

11 September 2014 **Contact angles and wetting** **£484**

Prices not subject to VAT

Title / First name / Last name (seminar participant)

Company

Department

Address

Phone / Fax

E-Mail

VAT Number

Registration confirmation (if different)

Invoicing address (if different)

Date

Signature

Registration

What does the course include

Participants may attend the two-day course or a single day, as required. The fee includes all course material, refreshments, luncheon and the course dinner (10/09) for those attending both days.

How to register

Registration can be made by completing the attached registration form and returning it to us along with a cheque (payable to KRÜSS) or a purchase order to the address indicated on the registration form.

Registration confirmation will be made upon receipt of full payment or an official purchase order. Places are allocated on a first come, first served basis to those who have confirmed registrations.

Course Venue

The course will be held in Bristol. Registration is limited to 35 people, which ensures that attendees have ample chance to interact, particularly during the sample measurement demonstration sessions. These will of course, be the first 35 to formally register.

We do apologize to those who try to register late and cannot be accommodated.

We will keep you informed of future course dates.

Cancellation

Refund for cancellation apply as follows:
90% for cancellations made before 2nd September.
No refund after 2nd September.

Information

For more information about KRÜSS, drop in at www.kruss.de

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KRÜSS

Advancing your Surface Science

EDUCATION 2014

Short Course On Surface Chemistry



BRISTOL, UK