

# INTERFACES TO OUR KNOWLEDGE

At KRÜSS, we look forward to telling you and your employees more about opportunities in surface and interfacial chemistry—and we have a wide range of options for doing just that:

## Internet

At [kruss-scientific.com](http://kruss-scientific.com), you will find a vast wealth of information on the theory and practice of interfacial chemistry, including comprehensive information databases, lists of literature resources, and substance data—all ready and available for direct download.

## Presentations

We give interesting technical lectures at many conferences and trade shows. See our website for more information on current presentation dates.

## Seminars

We make our expertise available to you at our regular international seminars. Please visit our website for a current overview of seminar dates: [kruss-scientific.com/seminars](http://kruss-scientific.com/seminars).

## Individual laboratory day

On a laboratory day planned for your specific needs, we give you an opportunity to familiarize yourself with our measuring instruments, run analysis and work with us to evaluate your results.

## More questions?

Please feel free to contact us. In addition to providing you with information on our knowledge transfer offers, we will also be happy to advise you on instruments and methods and your application.

## KRÜSS GmbH

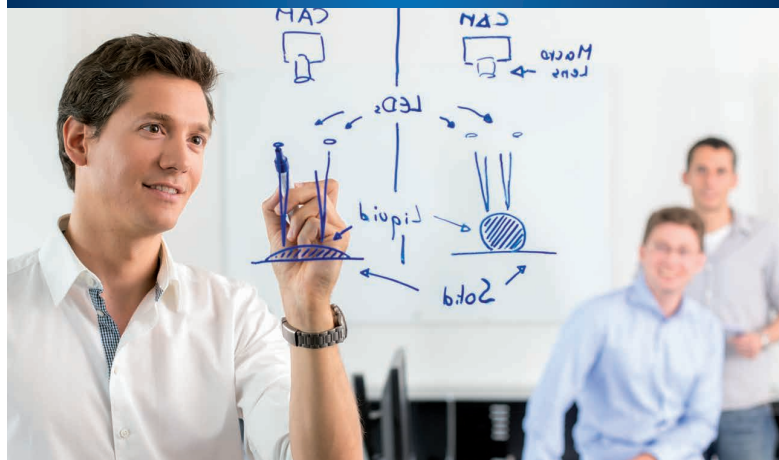
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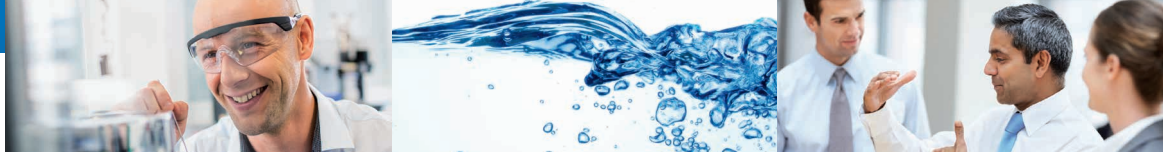
# SEMINARS AND KNOWLEDGE TRANSFER

## LET US MULTIPLY YOUR EXPERTISE



# KRÜSS

Advancing your Surface Science



# PUT OUR SCIENTIFIC AND TRAINING EXPERTISE TO WORK FOR YOUR SUCCESS

## **Well-founded knowledge—straight from the global market leader**

At KRÜSS, our customers enjoy first-class measuring instruments combined with practical, scientific knowledge transfer—a unique approach that has made us the global leader of the interfacial and surface tension analysis market.

Our comprehensive consulting and training services are backed up by an extensive scientific network. In addition to numerous joint projects with international research institutes, we also work closely with prestigious universities such as UCLA and Rice University as well as the Universities of Alberta, Sofia, and Bristol.

At KRÜSS, we enjoy sharing our experience and expertise gained from this network with you, in the form of knowledge, at our training centers, at international scientific events, and through our globally unique seminar series.

## **KRÜSS seminars: knowledge you can use**

Our customers span a wide array of markets, and every day we advise them on concrete application issues in research, development, and industrial quality control. They are also the target audience for our seminars: specialists like us, who want to expand their knowledge and practical expertise in the fields of foam and interfacial analysis.

## **Expertise. Consulting. Passion.**

Our seminar team is made up of experienced scientists who love sharing what they know. Team members provide seminar participants with individual support and offer their services as expert contacts for theoretical and practical questions. Besides serving as a dynamic training platform, our seminars also leave plenty of room for sharing and dialog.

## **Insight into R&D**

We regularly host respected guest speakers with exceptionally relevant insights into interfacial chemistry, both as a science and in its industrial applications. Their presentations shed light on technical content by offering practical examples from the latest research and development.

## **Ideal conditions for knowledge transfer**

Our seminars are held at our training center in Hamburg and at many other locations throughout the world. In order to give all of our participants the in-depth support they need, we keep the number of participants low and make sure that the premises are ideal for the given event.





# SURFACE TENSION MEASUREMENT

- **Fundamentals and applications of tensiometry**
- **Static and dynamic methods for measuring surface and interfacial tension of liquids**
- **Demonstration of methods described in lectures**
- **Example applications from research and development presented by guest speakers**
- **In-depth technical discussion**

## Put our expertise to work for your analysis

Whether used for quality assurance or scientific research, tensiometry is the key measurement technique for analyzing the surface and interfacial phenomena of liquids. In this KRÜSS seminar, we will share our knowledge in this field, introducing you to the theory and practice of all of the methods commonly used for characterizing liquid surfaces.



## UNDERSTANDING AND MEASURING INTERFACIAL EFFECTS

By attending our seminar, you will gain a more in-depth understanding of surface tension (SFT) and interfacial tension (IFT). You will also familiarize yourself with mechanisms of surfactant action and learn more about characterizing surfactants. We will use concrete examples to illustrate the significance of surface tension in fast technical processes and show you how to apply static and dynamic analytical methods.

**We will provide practical demonstrations of the methods covered on our own instruments:**

- Fully automated SFT, IFT and critical micelle concentration (CMC) determinations
- Spinning drop method (for very low IFT)
- Bubble pressure method (dynamic SFT)
- Drop volume method (dynamic IFT)
- Pendant drop method (optical SFT and IFT measurement on a drop)

This event is a one-day seminar held in English for no more than 35 participants. The practical portion of the seminar is conducted in smaller groups.



Force Tensiometer – K100



# CONTACT ANGLE MEASUREMENT

- Theoretical introduction to contact angle, surface free energy and adhesion
- Illustration of how contact angle, surface free energy and adhesion are related
- Detailed explanation of various measurement techniques
- Presentation of application cases and solutions
- Demonstration of methods described in lectures
- Example applications from research and development, presented by guest speakers

## Apply our expertise to your measurement tasks

Wettability, adhesion, surface free energy: when it comes to the surface properties of solids, contact angle measurements are an indispensable tool for material research and quality assurance. We would like to share our scientific expertise with you at this KRÜSS seminar and provide helpful knowledge for applying contact angle measurement techniques.



## OUR KNOWLEDGE FOR YOUR SOLIDS ANALYSIS

Work with our seminar team to gain a more in-depth understanding of wetting in processes such as coating, pretreatment and cleaning. Seminar content includes the relationships between wetting, contact angle and surface free energy (SFE), as well as the influence of polar and dispersive SFE components on wetting and adhesion. You will be introduced to the scientific background for determining SFE using various models and will learn how to apply those models through a series of concrete examples.

### We will provide practical demonstrations of the methods covered on our own instruments:

- Contact angle measurement using a tensiometer: the Wilhelmy method
- Optical contact angle measurement with dispensed drops
- Mobile, fully automatic SFE measurement
- Contact angle from above: using our top-view distance method to take measurements in cavities
- Measurements on very thin single fibers
- Wetting analyses of powders, textiles and other porous materials
- Novel Liquid Needle dosing technique

This event is a one-day seminar held in English for no more than 35 participants. The practical portion of the seminar is conducted in smaller groups.



Drop Shape Analyzer – DSA100

## REGISTRATION

Please return to [info@kruss.co.uk](mailto:info@kruss.co.uk) or fax 0117 325 0258. Registration can be made online by visiting our webpage at: [kruss-scientific.com/seminars](http://kruss-scientific.com/seminars).

### Surface tension measurement

EUR 605,-  18th September 2018

### Contact angle measurement

EUR 605,-  19th September 2018

For participants booking both seminar days, we offer the reduced rate of EUR 861,-

Title/First name/Last name

Company

Institute/Department

Address

Phone/Fax

E-Mail

VAT Number

Registration confirmation address (if different)

Invoicing address (if different)

Date, Signature

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 on the 18/09. Registration confirmation will be made upon receipt of full payment or an official purchase order. Cancellation: 90% refund if made before 25/08. No refund after 25/08.



# SEMINARS UK 2018

**KRÜSS**

Advancing your Surface Science

# SEMINAR PROGRAM

## 2018 Seminars

■ Surface tension measurement	18th September 2018
■ Contact angle measurement	19th September 2018

### How to register

Registration can be made by returning the attached registration form to us or online at [kruss-scientific.com/seminars](http://kruss-scientific.com/seminars). Registration confirmation will be made upon receipt of full payment or an official purchase order.

### Seminar venues

The event will be held at the Mercure Bristol Grand Hotel, located in the city center of Bristol. The airport is just 20 minutes from the center with the train and coach stations at close proximity to the course venue.

### Who attends our seminars?

Our seminars attract people from a wide range of scientific disciplines including chemistry, physics, material science and biology amongst others. Their focus is often towards detergents, cleaners, inks, coatings, paints, emulsions, foams, pharmaceuticals, cosmetics, adhesives, surface modification and many others.

### Any questions?

For more information about the seminars and registration, Mrs Anne Bluteau will be happy to assist you and answer any questions. To find out more about surface science theory, the measuring techniques, the applications as well our company, please visit: [kruss-scientific.com](http://kruss-scientific.com).

### KRÜSS Surface Science Centre

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# OUR SEMINAR TEAM

### Prof. Alexander Bismarck ■■

is professor of Polymer Materials in the Department of Chemical Engineering at Imperial College London. His research interests include adhesion and composite interphase design as well as surface modification.

### Prof. Julian Eastoe ■■

has been a full faculty member in the School of Chemistry since 1993. His track record demonstrates a high international reputation for research in colloids, surfactants and applications of neutron scattering.

### Nicholas Hearn ■■

obtained his B.Sc. honours degree in Applied Chemistry from Brunel University. He started his career in the field of rheology before joining KRÜSS where he is now regional manager, responsible for the UK & France.

### Dr. Andrew Mellor ■■

obtained his EngD from University College London. Before joining KRÜSS in 2017 as a technical consultant, he worked in the field of surface chemistry focusing on nanoparticle promoted catalysis.

### Dr. Phil Taylor ■■

obtained a PhD in Colloid Science from the University of Bristol. 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.

### Dr. Thomas Willers ■■

obtained his PhD in the area of solid-state physics. He is the Head of Applications & Science at KRÜSS head office in Hamburg, sharing knowledge in our subjects with the worldwide community.

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- Surface tension measurement
  - Contact angle measurement