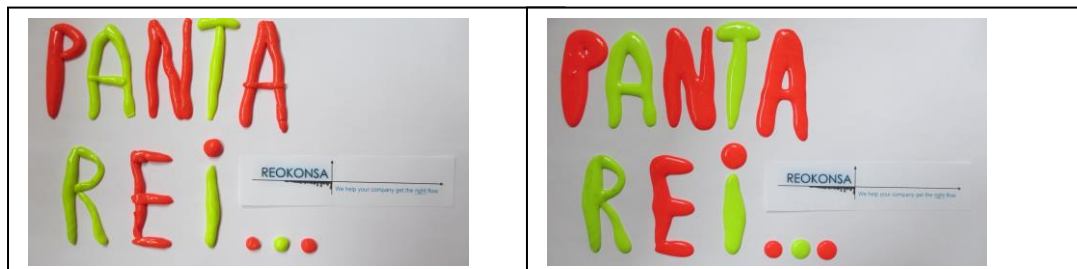


## Rheology step 2 –

Continuation training in application of rheological concepts and techniques – viscosity, viscoelasticity and rheological measuring techniques



*Fresh*

*After 12 h*

Panta Rei.....

**For whom:**

This training is addressed to You who have an interest in rheological challenges and measurements and who has basic knowledge in rheology (corresponding to a Basic training in rheology). You work within areas ranging from quality assurance, process control, process design to research and development. The objectives of this training is to give the participants enough knowledge and understanding of all rheological concepts defining rheological behaviour of most industrial applications in order to be able to translate required rheological properties of your material to relevant rheological measurement methods and to be able to correctly interpret the measurement results into true material properties and related equipment design/process requirements/application properties. By this knowledge the participants will get tools to formulate their products to required rheological behaviour.

**This training is appropriate for me who:**

- I have attended a basic training in rheology but I am still not sure about the concepts and how to apply them in determining the rheological properties of my materials
- I understand the rheological concepts but I do not know how to design rheological measurements to study the important rheological properties of my materials
- I understand the rheological concepts but I do not know which rheological measuring method to use to study a specific rheological property of my material
- I regularly work with rheological measurements but I want to learn more about what I am really measuring and how to interpret my measurement results, also to be able to conclude what are measurement errors and what are true material properties
- I regularly work with rheological measurements but I want to learn more about measurement techniques to understand which measurement parameters influence my measurement results
- I want to understand how to design a rheological measuring method to study specific rheological properties in order to be able to communicate with those who perform the practical measurements
- I need to refresh my rheological knowledge
- I want to understand how to formulate my products to get required rheological properties of the product during its lifecycle

**Questions to be answered during the training:**

- Are there any differences in performing shear stress vs shear rate controlled viscosity measurements?
- How does the selected frequency and amplitude of the measurement effect the viscoelastic properties of my material?
- How do I correctly measure the yield stress of my material?
- How do I study the shear stability of my material, that is, if it rebuilds the structure again after shearing/processing?

- How do I study phase changes in my material?
- How does the selected measurement geometry influence my measurement results?
- How does the measurement parameters influence the measurement results?
- How long time do I need to study my material in order to get representative measurement results?
- Is my material shear thinning or thixotropic?
- Is my material a liquid or a solid?
- What rheological parameter gives me which information about my material?
- How do I design and define a rheological measurement method?
- Which rheological instrument should I use and how does this instrument influence my measurement results?
- How do I translate rheological measurement results into true material properties?

## Course leader

**Annika Sahlström** is a rheology consultant at Reokonsa AB.

Annika has a Master of Science in chemical engineering and more than 30 years of practical, theoretical, consulting and teaching knowledge within most industrial applications. In 1997 Annika was honoured with 'The Rheology Award of the Year' by The Nordic Rheology Society for her skills in teaching understandable rheology, combining theoretic rheology with practical examples and demonstrations to address different learning styles. By now Annika has more than 1000 satisfied clients.

After her graduation at Lund University of Technology Annika worked at Bohlin Reologi AB, a company developing and selling rheological instrumentation. Here Annika came in contact with most industrial applications and rheological challenges and acquired a wide knowledge within rheological measurement techniques and instrumentation. She was also responsible for training of international users.

At other employments Annika has widened her rheological application knowledge. At AAK she combined different measuring techniques to study fat based systems. At Tetra Pak she worked with process design in relation to the installation of filling machines and processing equipment for liquid food products. At Nestlé she worked with development and industrialisation of new food products.

In parallel with her employments Annika has been working as an international rheology consultant helping companies within most industrial applications, understanding and applying rheology in order to efficiently study and steer the rheological properties of their materials, as well as giving general and customer tailor made Basic and Advanced Courses on rheology.

## Training schedule

May 6-7, 2019.

Registration at 08:45 May 6.

Course ends at 16:00 May 7.

The training is given in English. English documentation. A course certificate is handed over to all participants.

### Day 1:

9-12

- Repetition basic rheological concepts, viscous flow properties and viscoelastic properties
- Rheological instrumentation and usability

13-16

- Measurement parameters influencing measurement results
- Design of rheological methods to study specific material properties

18 Course dinner

### Day 2:

9-12

- Cont. Design of rheological methods to study specific material properties
- Interpretation of rheological measurement results and resulting material properties

13-16

- How to use rheological measurement data to formulate new products
- How to use rheological measurement data to solve processing and Quality Control challenges
- Summary

## Course location

Radisson Blu Hotel, Malmö

Östergatan 10,

211 25 Malmö, Sweden

Tel: +46 40 698 4000

**Mail:** Info.Malmo@RadissonBlu.com

**Website:** [www.radissonblu.com](http://www.radissonblu.com)



*This hotel lies just 500 meters from the train station, making it simple to explore Malmö and the surrounding areas.*



*Getting to the hotel*

### **By air:**

•From Copenhagen Airport - 30 km; trains from Copenhagen Airport to Malmö Central Station depart every 20 minutes and take about 20 minutes. Then 10 minutes walk.

•From Malmö Airport - 30 km; the airport bus from Malmö Airport to the city center takes 40 minutes. The bus stops about 100 meters from the hotel.

**By car:** The drive from Copenhagen Airport to the hotel via the Öresund Bridge takes about 20 minutes. The hotel is centrally located in Malmö and offers garage parking with direct access to the lobby.

**By train:** Malmö Central Station - 500 m (10 minutes walk).

**Please Note:** Accommodation is NOT included in the course fee. Accommodation is booked by the participant. If you choose to stay at Radison Blu hotel then contact

[sara.pppersson@radissonblu.com](mailto:sara.pppersson@radissonblu.com)

tel. no: +46406984040

*and state that you are joining a training by Reokonsa AB and the reservation dates, to get a training course reduction of the hotel price (then 1246 SEK/night incl breakfast and excl VAT).*



**TRAINING**

May 6-7, 2019

## **Course fee**

SEK 16 000 or EUR 1700

10% reduction of the training fee is given to no 2 and more of participants from the same company attending the same training occasion.

VAT will be added for participants from Sweden.

*No refunds will be made for those who do not attend the scheduled course and/or cancel after April 3, 2019.*

Training documentation and course meals are included in the training fee.

Day 1: Fika, lunch, fika, course dinner

Day 2: Fika, lunch, fika



**TRAINING**

May 6-7, 2019

## **Registration**

To register for this training please send an E-mail no later than April 3, 2019 to:

reokonsa@gmail.com

with the following information:

**I hereby register for Rheology step 2 – Continuation training in application of rheological concepts and techniques – viscosity, viscoelasticity and rheological measuring techniques**

- \* First name:
- \* Surname:
- \* Job Title:
- \* Company/Institute:
- \* Address:
- \* Country:
- \* Tel no (mobile if applicable):
- \* E-mail:
- \* Purchase Order number (if required by your company):
- \* Invoice address if different from the one above:
- \* I will attend the course dinner (Y/N):
- \* Special food requirements if applicable:

### **Latest registration by April 3, 2019.**

In combination with the registration to the training all practical information related to the training will be given.

## **Questions?**

Contact: Annika Sahlström

[reokonsa@gmail.com](mailto:reokonsa@gmail.com) or +46 709787805