PSC Seminar Day 2019

Date: November 28, 2019
Place: Karlstad University, Lecture hall 1B306, the Fryxell Hall (Fryxellsalen)
Time: 09.00-16.00

Program

08.30-09.00 Registration
09.00-09.10 Welcome Address – Lars Järnström, Chairman of Paper Surface Centre
09.10-09.30 Carl Zotterman, Paper Province: Paper Province and the Test Beds FFLAM
09.30-10.00 Hanna Christophliemk, Tampere University of Technology/ Karlstad University: Summary of Some Recent PVOH Barrier Coating Research at Karlstad University
10.00-10.20 Coffee break
10.20-10.50 Francis Clegg, Sheffield Hallam University: Exploring the Interactions between Starches, Bentonites and Plasticisers in Sustainable Barrier Coatings for Paper and Board
10.50-11.20 Yana Petkova-Olsson, HEXPOL TPE/ Karlstad University: A Ternary Starch-Pluronic-Silica System: More Than Meets the Eye
11.20-12.30 Lunch at restaurant Solsta Inn
12.30-13.00 Markus Kleebauer, PTS: Functional Barrier Coating for Paper and Board
13.00-13.30 Mikael Solberg, Cellcomb: New Generation of Food Pads
13.30-14.00 Per Emilsson, UMV: Some Interesting Experiences Gained at the Pilot Plant
14.00-14.20 Coffee break
14.20-14.50 Ebrahim Gozali, Karlstad University: Numerical Modeling of a Short Dwell Coater for Bio-Based Coating Applications
14.50-15.20 Summing up and final discussion – Moderator Magnus Lestelius, Karlstad University
15.20-16.00 Lab Tour
16.00 End of seminar

Sponsor of PSC Seminar Day 2019:

PAPER PROVINCE
Highlights

We are proud to present a very interesting seminar, covering some of the most relevant topics in paper coating and packaging development. Beside presentations from industry and Karlstad University, two distinguished researchers outside Sweden are presenting some of their research: Dr Francis Clegg from Sheffield Hallam University, UK and Dr Markus Kleebauer from PTS, Germany.

Dr Francis Clegg has strong interests in chemistry and the physicochemical interaction of (nano)fillers and polymers; he has applied this knowledge in a wide range of industrially focussed and practical applications including; packaging materials, polymer membranes and flame retardant composites.

This presentation will describe how the interactions between a range of different bentonites and plasticisers can result in either decreases or increases in water vapour barrier properties of starch coatings when applied on paper and paperboard. Choose the correct formulation of starch, bentonite and plasticiser in the coating and water vapour transmission rate values as low as 10 g/m2.day (50°C 50% RH) can be achieved making these coatings an attractive option as sustainable, renewable and biodegradable packaging. Karlstad University and Sheffield Hallam University have a long tradition of joint research activities in this field, going back to the big collaborative European projects SUSTAINPAC and FLEXPAKRENEW.

Dr Markus Kleebauer joined PTS, Munich in 1991. Work areas in the early years were instrument-based analytics followed by converting technology. In 2003, his main focus shifted to coating and coating technology. As a project manager, Dr. Kleebauer initiated and led several projects in the field of barrier coatings for packaging papers and cardboard. From 2008 to 2015, he was responsible for the assessment and testing of paper and packaging for food contact. Since 2016, he focused intensively on barrier functions for packaging and packaging papers. He is currently working as a project manager in the department "Functional Surfaces" at PTS in Heidenau.

The presentation includes the development of paper and board grades with barrier functions (water vapour, oxygen, aroma, fat, mineral oil) including a layer concept, pre-coating, reduction of layer thickness, cost optimization, effects of pigments, renewable raw materials, functional additives, recyclability, food conformity, and legalisation.

Registration:

The seminar is free of charge for participants from PSC member companies.

The seminar fee is SEK 1500 excl. VAT for participants from other companies.

The PSC Seminar dinner takes place on November 27 at 19h00 at a restaurant downtown Karlstad. The dinner is free of charge for participants from PSC member companies and included in the seminar fee for other participants.

Documentation from the PSC Seminar Day 2019 will be uploaded on the PSC communication platform for PSC member companies after the seminar.

Register online no later than 14 November via the link https://pscseminarday2019.axacoair.se/ or via the link you will find at the PSC web page www.kau.se/psc.
**Venue:**

PSC Seminar Day will take place in building 1B, Lecture hall 1B306. See map of Karlstad University:

![Map of Karlstad University](image)

**Accommodation:**

A limited number of hotel rooms have been pre-booked for PSC Seminar Day 2019 at Hotel Scandic Winn, Norra Strandgatan 9-11, Karlstad. Do the reservation via the information you will find at the online registration web page. Do your hotel reservation no later than November 10, after that the availability is not guaranteed.

**Information:**

Additional information about PSC and the seminar is available on PSC web page [www.kau.se/psc](http://www.kau.se/psc). You are also welcome to contact Lars Järnström, Director of Paper Surface Centre, [lars.jarnstrom@kau.se](mailto:lars.jarnstrom@kau.se), if you would have questions about the seminar.