



**PSC**

**PAPER SURFACE CENTRE**

## **PSC Seminar Day 2019**

**First circular**

**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

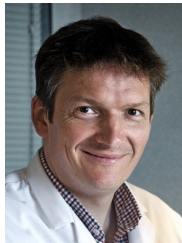
Sponsor of PSC Seminar Day 2019:



## 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/m<sup>2</sup>.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 FLEXPARENEW.



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](http://www.kau.se/psc).

## ***Venue:***

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



## ***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.



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