Course: PAPER SURFACES – Characterization and properties

Course leaders: Doc. Peter Rättö, RISE Papermaking and Packaging

Date: September 18-21, 2017

Place: Hållfasthetsläras “seminarierum” KTH; Teknikringen 8 D, plan 1

Principal lecturers:
Docent Janet Preston från Imerys, Dr Joachim Schoellenkopf, Prof Agne Swerin, Prof Magnus Lestelius, Docent Li Yang and Docent Peter Rättö
Monday, September 18, 2017: 5h
INTRODUCTION TO PIGMENT COATED PAPER SURFACES
12:00-12:10 Welcome and introduction remarks, Doc. Peter Rättö

12.15-13.00 Janet Preston, Imerys: Introduction to pigment coated paper surfaces and ways to characterize its properties (including raw materials and its impact on coating structure)

CHEMISTRY OF PAPERS SURFACE
13.15-15.00 Agne Sverin, RISE Chemistry, Materials and Surfaces: Basic of wetting and spreading. Surface energy characterization with examples on wetting and adhesion

Coffee

15.15-17.00 Marie Ernströsson, RISE Chemistry, Materials and Surfaces: Surface chemical composition - Overview different surface analysis techniques followed by examples

Tuesday, September 19, 2017: 8h
8.15-9.00 Janet Preston, Imerys: Surface modification by means of corona and plasma. Ways to study and determination latex and ink in the surface layer

PHYSICAL PROPERTIES OF PAPER SURFACES
9.15-11.00 Li Yang, RISE Papermaking and Packaging: Light scattering and paper gloss.

TOPOGRAPHY OF PAPERS SURFACE
11.15-12.00 Peter Rättö, RISE Papermaking and Packaging: Surface topography: Definitions and measurement techniques

Lunch

13.15-14.00 Peter Rättö, RISE Papermaking and Packaging: Surface topography: contact mechanics

MECHANICAL PROPERTIES OF PAPER SURFACES
14.15-15.00 Peter Rättö, RISE Papermaking and Packaging: Mechanical properties of coatings,

Coffee

15.15-17.00 Johan Alftan, RISE Papermaking and Packaging: Creasing and Cracking
Wednesday, September 20, 2017: 8h
PORE STRUCTURE AND INTERACTIONS WITH LIQUIDS

8.15-10.00  Joachim Schollenkopf, Omya: Pore structure characterization, the pore-core model, short time wetting,

Coffee

10.15-12.00  Joachim Schollenkopf, Omya: Pore structure characterization, the pore-core model, short time wetting, cont.

Lunch

EVALUATION OF PRINT QUALITY


Coffee

15.15-17.00  Magnus Lestelius, Karlstad University: Paper surfaces in lithography/offset printing

Thursday morning, September 21, 2017: 6h

8.15-10.00  Magnus Lestelius, Karlstad University: Paper surfaces in flexography printing

10.15-12.00  Li Yang, RISE Papermaking and Packaging: Paper surfaces in digital printing

Lunch

13.15-15.00  Christina Dahlström, Mid Sweden University: Surfaces for electronic applications

15:00- End of course, Doc. Peter Rättö