



*in co-operation with RISE*



**Course: PAPER SURFACES –  
Characterization and properties (TENTATIVE)**

Course leaders: **Doc. Peter Rättö, RISE Bioeconomy**

Date: **September 30 – October 3, 2019**

Place: KTH, Stockholm

**Principal lecturers:**

Docent Janet Preston från Imerys, Prof Patrick Gane från Aalto University, Prof Agne Swerin,  
Docent Li Yang och Docent Peter Rättö

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Monday, September 30, 2019: 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, KTH:** Basic of wetting and spreading. Surface energy characterization with examples on wetting and adhesion

Coffee

**15.15-17.00 Li Yang, RISE Bioeconomy:** Light scattering and paper gloss.

Tuesday, October 1, 2019: 8h

**8.15-9.00 Janet Preston, Imerys:** surface characterisation of printing inks on the paper

PHYSICAL PROPERTIES OF PAPER SURFACES

**9.15-11.00 Marie Ernstsson, RISE Chemistry, Materials and Surfaces:** Surface chemical composition - Overview different surface analysis techniques followed by examples

TOPOGRAPHY OF PAPERS SURFACE

**11.15-12.00 Peter Rättö, RISE Bioeconomy:** Surface topography: Definitions and measurement techniques

Lunch

**13.15-14.00 Peter Rättö, RISE Bioeconomy:** Surface topography: contact mechanics

MECHANICAL PROPERTIES OF PAPER SURFACES

**14.15-15.00 Peter Rättö/Johan Alfthan, RISE Bioeconomy:** Mechanical properties of coatings,

Coffee

**15.15-17.00 Johan Alfthan, RISE Bioeconomy:** Creasing and Cracking

Wednesday, October 2, 2019: 8h

PORE STRUCTURE AND INTERACTIONS WITH LIQUIDS

**8.15-10.00 Patrick Gane från Aalto University:** Pore structure characterization, the pore-core model, short time wetting,

Coffee

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**10.15-12.00 Patrick Gane från Aalto University:** Pore structure characterization, the pore-core model, short time wetting.

Lunch

EVALUATION OF PRINT QUALITY

**13.15-15.00 Siv Lindberg, RISE Bioeconomy:** Evaluation of print quality: Perception, measurement and application

Coffee

**15.15-17.00: Peter Rättö/Li Yang, RISE Bioeconomy** Paper surfaces in lithography/offset printing

Thursday morning, October 3, 2017: 6h

**8.15-10.00 Sofia Thorman, RISE Bioeconomy:** Paper surfaces in flexographic printing

**10.15-12.00 Li Yang, RISE Bioeconomy:** Paper surfaces in digital printing

Lunch

**13.15-15.00 Dimitar Valtakari, RISE Bioeconomy:** Surfaces for electronic applications

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