

SURFACE TREATMENT RESEARCH AT KARLSTAD UNIVERSITY

TODAY.

Research relating to the surface treatment of paper and carton board began on a small scale at the Karlstad University College in 1997, in close co-operation with the Institute of Paper Chemistry at Åbo Academy. When Karlstad University was established in 1999, a large surface treatment research programme was launched, with the expressed target of creating a national network of competence within this field.

This was an investment with a clear inter-disciplinary profile, based on co-operation with universities, colleges, institutes, such as STFI-Packforsk AB and the Institute for Surface Chemistry, and industry within and outside the country borders.

During 2007, the current surface treatment programme at Karlstad University will be completed and, already in 2006, changes will take place in the financing. But efforts within this field of research will continue.

Here is a selection of the results obtained within the surface treatment programme at Karlstad University:

- **Ways to reduce mottle in flexographic prints**
Johanna Jonsson, licentiate dissertation 2003
- **New surface coatings for wallpapers and other paper substrates, based on renewable materials**
Agneta Jansson, licentiate dissertation 2003
- **Methods for measuring the waviness of paper**
Cecilia Land, licentiate dissertation 2004
- **Theories for the thermodynamics of adsorption to pigment particles in a coating colour**
Kaj Backfolk, doctoral thesis 2002
- **Ways to improve the quality of ink-jet printing with the help of mesoporous materials without extremely large binder requirements**
Pär Wedin, doctoral thesis 2003; Erik Svanholm, licentiate dissertation 2003

- **Methods of measuring the formation of a filter cake during coating and evaluation of these methods on a pilot scale**
Jerker Jäder, doctoral thesis 2004
- **Methods to minimize the migration of latex in a coating layer**
Caisa Andersson, doctoral thesis 2002
- **Ways to improve the printability in flexography of liner and PE-coated cartonboard, using "smart" polymers and corona treatment**
Behudin Mesic, licentiate dissertation 2004
- **Methods of preventing the occurrence of banding in the printing of corrugated board**
Erik Hallberg, licentiate dissertation 2004
- **A method for measuring local pressure distributions. The method is useful in coating, calendering and printing**
Isabel Endres, licentiate dissertation 2004
- **Further development of methods for and the potential of measuring the surface topography of papers with the OptiTopo method**
Gustavo Gil Barros, licentiate dissertation 2004
- **An extensive competence in the surface treatment of paper and cartonboard, and packaging printing**
- **A strong network within academia and the business world**
- **An internationally competitive scientific research environment**

TOMORROW.

The surface treatment research program at Karlstad University is now entering into a new phase. We are investing further in a broader and even more powerful organization, based on a multi-disciplinary foundation and a network activity with other universities, colleges and institutes both in Sweden and abroad. As before, the emphasis is on surface treatment technologies for paper surfaces and developments in printing technologies.

The aim is to further strengthen the co-operation with the industry and to find multi-disciplinary solutions to industrially relevant problems. During 2005, we shall invite the industry to cooperate with us in shaping the future research programme, with a focus on paper surfaces.

The intention is that the centre shall:

- in its research focus on paper and carton board surfaces through a strong interactive network with other universities, colleges and institutes,
- act in a national perspective where full appreciation is given to the role and participation of other Institutes,
- clearly live up to its responsibility to preserve and develop a national competence within this sector, and
- ensure that client training and client research are natural elements in the activity

PAPER SURFACE CENTRE.

Expertise in surface treatment and graphic technology

The work during 2005 will lead up to the launching of Paper Surface Centre and you are welcome to participate in this process...

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KEEP UP WITH DEVELOPMENTS.

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