

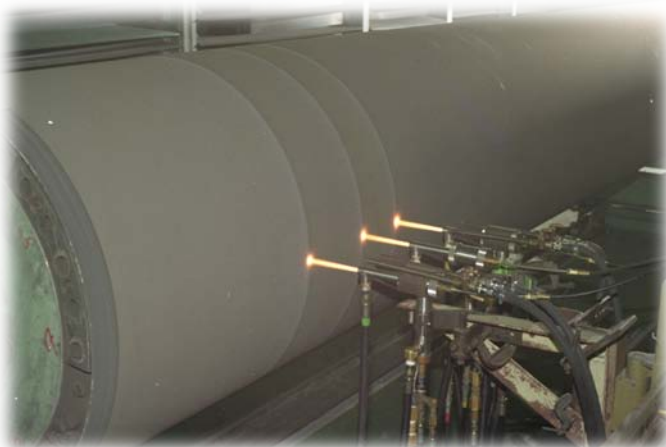
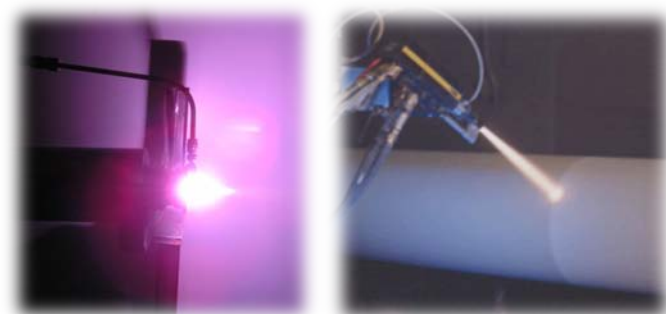


# Thermal Spray Coatings in Paper Processing and Printing Industries

## ETSA Summer School

13-14<sup>th</sup> June, 2012

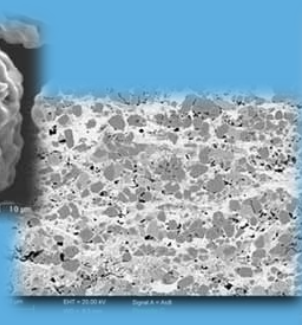
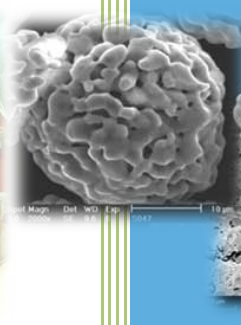
Tampere University of Technology  
Tampere, Finland



Tampere University of Technology  
Department of Materials Science  
Korkeakoulunkatu 6  
FI-33720 Tampere, Finland  
[www.tut.fi](http://www.tut.fi)

Prof. Petri Vuoristo  
Email [petri.vuoristo@tut.fi](mailto:petri.vuoristo@tut.fi)  
Tel. +358 40 849 0044

Dr. Heli Koivuluoto  
Email [heli.koivuluoto@tut.fi](mailto:heli.koivuluoto@tut.fi)  
Tel. +358 40 849 0188



## Objective

The objective of the summer school is to introduce the state-of-the-art of thermal spray processing and coatings used in paper processing and printing industries, including spray techniques, spray materials, coating structures and properties, application requirements and practical industrial applications.

## Who Should Attend?

Scientists, engineers, managers, product marketers, product developers, design engineers, techno-entrepreneurs, end-users, teachers and students who are interested in the application area of thermal spray coatings and processes.

### **Course fee:**

**Non-members: 1100 €**

**ETSA members: 1025 €**

**Without hotel nights: 900 €**

**Without hotel nights and evening program: 825 €**

**The amount of participants is limited to 50.**

### Course director

Professor Petri Vuoristo  
Tampere University of Technology  
Department of Materials Science  
Tampere, Finland

## What is included?

- Printed Course Materials
- Course Certificate
- 2 Hotel nights (June 12-14<sup>th</sup>); additional night with extra payment
- 2 days lunch
- Formal dinner and evening program (June 13<sup>th</sup>)
- Transportations (hotel-TUT)



# Thermal Spray Coatings in Paper Processing and Printing Industries

## Main topics

Paper processing and printing  
equipment technologies

Application requirements

Spray materials and processes

Post-treatments

Laser engraving

On-site coating

Coatings for printing industries

Coatings for pulp and paper  
industries

Hard coatings

Non-stick and release coatings

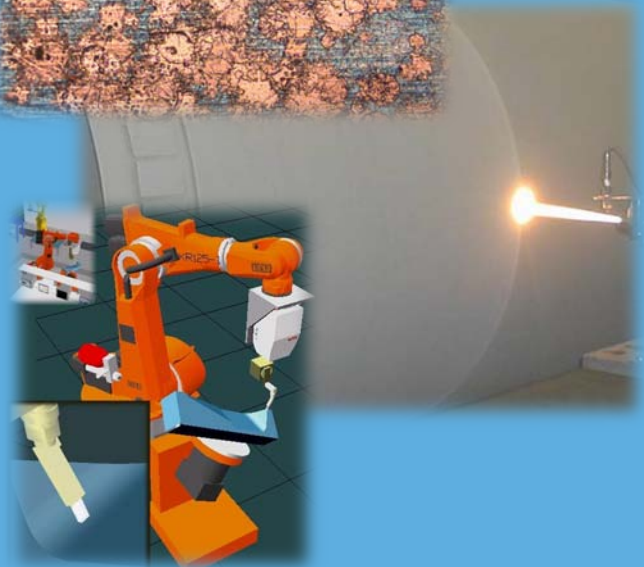
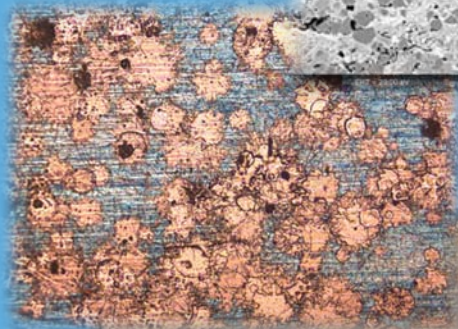
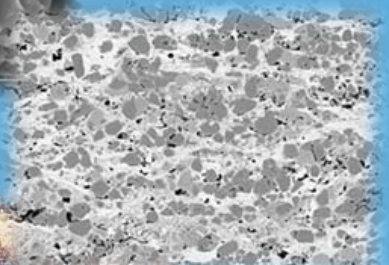
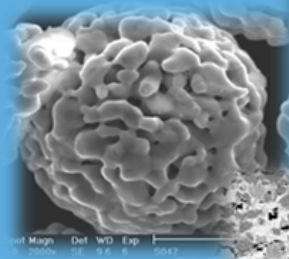
Functionalization of surfaces

Corrosion and wear properties

On-line monitoring and quality  
assessment

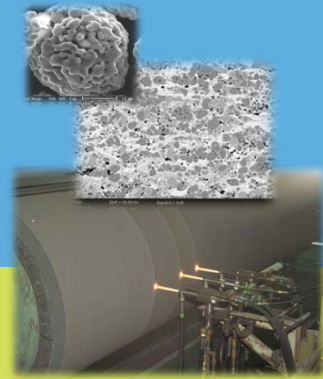
Characterization and properties  
of coatings

Environmental aspects of TS





## Thermal Spray Coatings in Paper Processing and Printing Industries



## Speakers

Prof. Petri Vuoristo, Tampere University of Technology, Finland

Prof. Ghislain Montavon, University of Technology of Belfort-Montbéliard, France

Dr. Kari Niemi, Tampere University of Technology, Finland

Prof. Lech Pawlowski (President of ETSA), University of Limoges, France

Mr. Hansjörg Michel, Daetwyler Graphics AG, Switzerland

Mr. Günter Schüerholt, Saint Gobain Industrial Ceramics GmbH, Germany

Dr. Luca Lusvarghi, University of Modena and Reggio Emilia, Italy

Dr. Heli Koivuluoto, Tampere University of Technology, Finland

Dr. Stefan Zimmermann, H.C. Starck GmbH, Germany

Mr. Ville Eronen, Metso Paper Inc., Finland

Mr. Jani Westerlund, PR Rolls Oy, Finland

Mr. Petri Sorsa, Millidyne Ltd., Finland

Mr. Janne Vehmaa, Andritz Inc., Finland

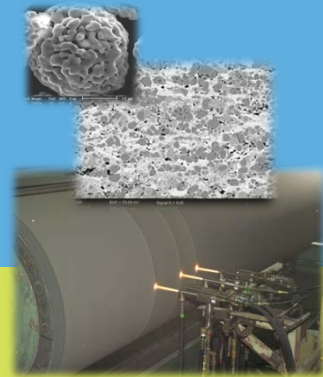
Mr. Jussi Laurila, Tampere University of Technology, Finland

Dr. Jussi Larjo, Oseir Ltd., Finland

Dr. Mousab Hadad, Nova Swiss, Switzerland



# Thermal Spray Coatings in Paper Processing and Printing Industries



## Summer School

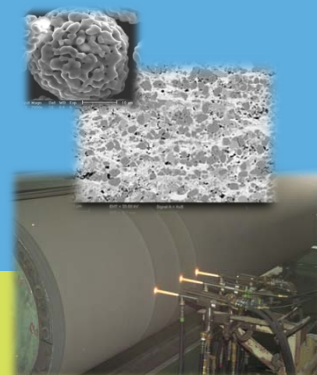
Tampere University of Technology  
Tampere, Finland

**DAY 1: Wednesday 13<sup>th</sup> June, 2012**

<b>08.30-09.00</b>	<b>Registration and coffee</b>
09.00-09.15	Opening words, <i>Prof. P. Vuoristo</i>
09.15-10.00	The basics of thermal spray processes and sprayed coatings, <i>Prof. G. Montavon</i>
10.00-10.30	Properties of plasma and HVOF sprayed hard coatings for wear and corrosion applications, <i>Dr. K. Niemi</i>
<b>10.30-10.50</b>	<b>Break</b>
10.50-11.20	Development of ceramic coatings for anilox rolls in flexographic printing systems, <i>Prof. L. Pawlowski</i>
11.20-12.00	Post-treatments for thermal spray coatings by lasers – anilox rolls, <i>Mr. H. Michel</i>
<b>12.00-13.15</b>	<b>Lunch and exhibition</b>
13.15-13.45	Pretreatment of surfaces for thermal spraying, <i>Mr. G. Schüerholt</i>
13.45-14.15	Plasma sprayed ceramic coatings for corona rolls, <i>Prof. L. Pawlowski</i>
<b>14.15-14.35</b>	<b>Coffee break</b>
14.35-15.05	Characterization of thermally sprayed coatings, <i>Dr. L. Lusvarghi</i>
15.05-15.45	Research on thermally sprayed coatings at TUT; visit to thermal spray lab at TUT, <i>Dr. H. Koivuluoto</i>
<b>17.30</b>	<b>Dinner and evening program</b>



## Thermal Spray Coatings in Paper Processing and Printing Industries

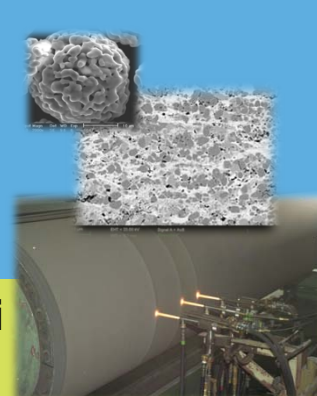


### Summer School

Tampere University of Technology  
Tampere, Finland

#### DAY 2: Thursday 14<sup>th</sup> June, 2012

08.30-08.45	Opening words, <i>Prof. P. Vuoristo</i>
09.45-09.30	Thermal spray powders for applications in printing and paper industry - overview and outlook, <i>Dr. S. Zimmermann</i>
09.30-10.15	Thermal spray coatings for paper machine applications, <i>Mr. V. Eronen</i>
<b>10.15-10.35</b>	<b>Break</b>
10.35-11.05	On-site coating techniques - thermal spraying and surface finishing, <i>Mr. J. Westerlund</i>
11.05-11.50	Post-treatment of thermally sprayed coating for non-stick properties and improved performance, <i>Mr. P. Sorsa</i>
<b>11.50-13.00</b>	<b>Lunch and exhibition</b>
13.00-13.45	Principles, material requirements and chemical conditions in chemical pulp manufacturing processes, <i>Mr. J. Vehmaa</i>
13.45-14.15	Corrosion behaviour of thermal spray coating in pulp and paper processing environments, <i>Mr. J. Laurila</i>
14.15-14.45	On-line monitoring techniques for thermal spray coating of large components, <i>Dr. J. Larjo</i>
<b>14.45-15.05</b>	<b>Coffee break</b>
15.05-15.35	Environmental aspects of thermal spray processing - environmental regulations, <i>Prof. G. Montavon</i>
15.35-16.05	Overview of adhesion of thermally sprayed coating and measuring of the tribological & wear performance, <i>Dr. M. Hadad</i>
16.05-16.25	Development trends in thermal spray technologies, <i>Prof. P. Vuoristo</i>
<b>16.25-16.45</b>	<b>Concluding Remarks, Diplomas and closing words</b>



## Thermal Spray Coatings in Paper Processing and Printing Industries

**REGISTRATION / Send email to [heli.koivuluoto@tut.fi](mailto:heli.koivuluoto@tut.fi)**

**Course fee: 1100 € for non-members and  
1025 € for ETSA members. Without hotel nights: 900 €  
and without hotel nights and evening program: 825 €**

**EXTENDED DEADLINE: Please, register before 10<sup>th</sup> May, 2012.  
Registration after May 10<sup>th</sup>: evening program and hotel only if available**

### Registration form

Name: \_\_\_\_\_

Job Title: \_\_\_\_\_

Company: \_\_\_\_\_

Address: \_\_\_\_\_

Zip code: \_\_\_\_\_

City: \_\_\_\_\_

Country: \_\_\_\_\_

Email: \_\_\_\_\_

Telephone: \_\_\_\_\_

Fax: \_\_\_\_\_

ETSA member  YES  NO

How did you receive the information about the Summer School?

Email  Internet  Personal recommendation  Others: \_\_\_\_\_

### Payment

Bank transfer

Name: TUT Foundation

VAT number: FI22861063

IBAN Code: FI35 8919 9710 0011 02

SWIFT (BIC): DABAFIHH

Reference: ETSA / name of participant / company name (IMPORTANT).

**Note: invoicing also possible !**

Please, send the registration sheet and a copy of the transfer to

[heli.koivuluoto@tut.fi](mailto:heli.koivuluoto@tut.fi)



# Thermal Spray Coatings in Paper Processing and Printing Industries

## Summer School location

**Tampere University of Technology  
Konetalo building  
Auditorium K1703**

**TUT is located in the Hervanta district  
8 km from Tampere's city centre and  
20 km from Tampere-Pirkkala Airport.**

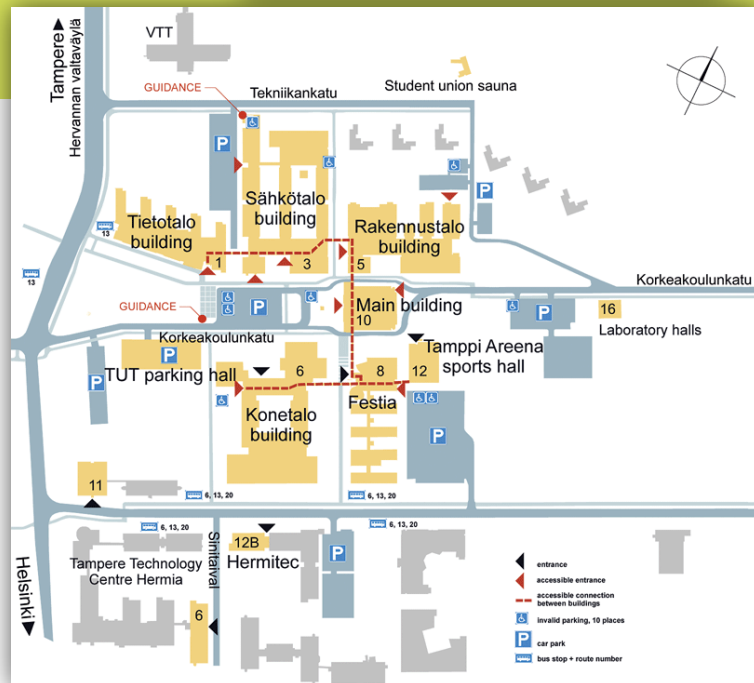


## Hotel:

Scandic Tampere Station  
in Tampere's city centre  
(new hotel, will open the 29<sup>th</sup>  
May, 2012). Address of the  
hotel is Ratapihankatu 37,  
33100 Tampere, Finland.

Hotel is located 17 km from  
Tampere-Pirkkala Airport.

The Summer School will  
provide transport to all  
participants from the hotel to  
TUT and back.



**Tampere University of Technology  
Department of Materials Science**

**Visiting address:  
Korkeakoulunkatu 6, 33720 Tampere**

**Postal address:  
P.O. Box 589, 33101 Tampere, Finland**