







on Suspension & Solution **Thermal Spraying**

SEPTEMBER 16-18 2020

SUMMER SCHOOL THEME

Exploiting suspensions or solution precursors for varied functional applications represents a new frontier in thermal spraying and has attracted significant global interest. Use of such liquid feedstock results in unique microstructural features, significantly different from conventional powder-derived coatings.

This approach can be harnessed to develop coatings with diverse functionalities (thermal barrier, environment barrier, wear resistant, superhydrophobic, biocompatible, etc.) relevant to industries like aerospace, biomedicine, energy conversion, automotive etc. Recent developments in thermal spray equipment and feedstock have also mitigated early productivity concerns associated with the technique.



This event follows the success of the previous 'Summer School on Suspension & Solution Thermal Spraying' held in Trollhättan in 2016, bringing together people from both academia and industry. It will include lectures from experts covering all major aspects of liquid feedstock thermal spraying, ranging from fundamentals and process diagnostics to characterisation and applications. A demonstration of the versatile liquid feedstock plasma spraying equipment available at University West will also be included.

VENUE – UNIVERSITY WEST TROLLHÄTTAN, SWEDEN

University West was founded in 1990 and currently has about 15,000 students. The research concerning production processes in manufacturing industry is conducted at Production Technology Centre (PTC) in close collaboration with a variety of buisnesses. The thermal spray research group at University West is the most active and well-equipped thermal spray R&D group in Sweden and was the pioneer in starting up research at University West in the 90s.

Trollhättan is home to a number of high-tech companies, such as GKN Aerospace (producing jet engines and developing rocket engine technology) and NEVS (National Electric Vehicle Sweden – developing its platform for the future generation of electric cars in the former SAAB Automobile factory). In fact, 90% of the world's aeroplanes contain parts manufactured in Trollhättan. The School venue and participants' accommodation will be convenient-ly located close to the city centre, eliminating need for time-consuming and costly transportation.



WHO SHOULD Attend?

All stakeholders (students, scientists, engineers, academicians and consultants) who are associated with the field of surface engineering in any manner.

IN PARTICULAR, PARTICIPATION IN THE SCHOOL WILL BE OF GREAT INTEREST TO:

Young scientists and students, keen to learn about new developments in thermal spray processes.

Knowledgeable researchers, seeking to explore new areas in surface engineering

Experienced thermal spray practitioners, wanting to exploit advanced thermal spray methods, like suspension spraying SPS, SPPS, HVSFS etc.

Designers and consultants, wishing to familiarize themselves with latest developments

Feedstock manufacturers and developers, with specific focus on nano-sized and sub-micron powders, their suspensions and/or solution precursors

Manufacturers and developers of thermal spray equipment and accessories (spray guns, solution delivery devices etc.)

CONFIRMED SPEAKERS

Emine Bakan Forschungzentrum Julich, Germany

Nicholas Curry Treibacher Industrie AG, Austria

Brian Hazel Pratt & Whitney, USA

Tanvir Hussain University of Nottingham, UK

Andreas Killinger University of Stuttgart, Germany

Uta Klement Chalmers University of Technology, Sweden **Omar Ligabue** Lincotek Surface Solutions, Italy

Luca Lusvarghi University of Modena, Italy

Ola Lyckfeldt RISE, Sweden

Nicolaie Markocsan University West, Sweden

Christian Moreau Concordia University, Canada

Javad Mostaghimi University of Toronto, Canada Lech Pawlowski University of Limoges, France

Sanjay Sampath Stony Brook University, USA

Laura Toma Fraunhofer IWS Dresden, Germany

Kent VanEvery Progressive Surface, USA

Robert Vassen Forschungzentrum Julich, Germany

Petri Vuoristo Tampere University, Finland

TOPICS ADDRESSED

Fundamentals of coating formation – SPS and SPPS

Suspension HVOF

Feedstock preparation

Spray equipment

Process diagnostics

Coatings' characterisation

Process Modelling

Applications (Tribological coatings, Advanced TBCs, Superhydrophobic surfaces, EBCs)

Coating deposition on complex parts

Novel suspensions and emerging applications

Economics and safety

SPS Demonstration







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REGISTRATION

The course fee includes:

- three days of courses on various topics related to suspension and solution thermal spraying and SPS demonstration
- all meals part of the program
- social activity
- course material
- course certificate

All participants may book the accommodation at Hotel Scandic Swania, Trollhättan at a discounted price.



COURSE FEE:

4 000 SEK (Students), with free ETSA membership for the year 2021 (optional)
8 000 SEK (ETSA members)
9 000 SEK (others), with free ETSA membership for the year 2021 (optional)

Please book your spot on hv.se/summerschool





