

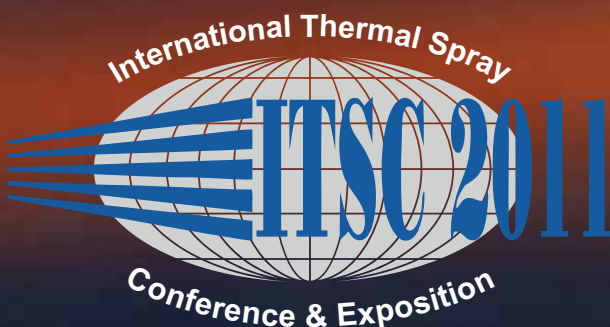
DVS Congress

DVS Expo

PROGRAM

CCH - Congress Center Hamburg / Germany

September 26 – 29, 2011



September 27 – 29, 2011 as part of
DVS Congress and DVS Expo 2011

www.dvs-congress.de/ITSC2011

www.dvs-expo.de

Organizers



Media Sponsors



**INTERNATIONAL
Thermal Spray &
Surface Engineering**
THE OFFICIAL NEWSLETTER OF THE ASM THERMAL SPRAY SOCIETY

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WELCOME TO HAMBURG - WELCOME TO ITSC 2011

Hamburg extends an invitation to attend the world-wide unique Expert Congress and Exposition of the Joining, Cutting and Coating Technology (September 26 to 29, 2011, Hamburg, Germany). Bundled expert knowledge, renowned professional conferences and research colloquiums, worldwide contacts and an extensive range of products and services – all this is part of

DVS Congress

DVS Expo

This extraordinary event will unite a total of eight important national and international conferences and research colloquiums under the same roof as part of the DVS Congress 2011:

- International Thermal Spray Conference and Exposition (ITSC 2011)
- DVS Annual Welding Conference (GST)
- DVS Student Congress 2011
- 12th Special Conference
Welding in Shipbuilding and Civil Engineering
- Special Conference Underwater Technology 2011
- Robotics 2011 – Economical production by joining technology automation
- Final Colloquium on the AiF/DFG-Research Cluster “Arc Welding – Physics and Tools”
- Final Colloquium on the AiF/DFG-Research Cluster “Thermal Spraying”

To complete the DVS Congress, the **DVS Expo** will take place for the first time in 2011. This trade exhibition, to be held together with the DVS Congress, offers industry specialists the opportunity of presenting themselves within a unique environment. Here, an ideal platform is being made available to the industry, where to profit from the different disciplines of the DVS Congress and to meet other members of a highly skilled and international trade audience. The **ITSC Exposition** is integrated in the DVS Expo. Until now, the DVS Expo is nearly sold out by over 100 national and international companies. This very positive response exceeds all positive assumptions in total and shows that the concept of the DVS Congress and DVS Expo corresponds with the excellent worldwide economical situation and the need for an international interdisciplinary technical exchange of goods, products and information.

Frank Thorwirth, Chairman and CEO of Messe Essen, will open the DVS Expo on September 27, 2011, 12:40. DVS really appreciates the support of the team of Messe Essen for organizing the first DVS Expo.

The DVS Expo will be accompanied by a permanent Industrial Forum which is also located on the expo floor. Exhibitors and other experts will present their latest products and ser-

vices. The Industrial Forum will give practical information directly to workers and other experts. September 28, 2011 the Industrial Forum will be focussed on thermal spray aspects.

The DVS Expo is also the venue for the 9th National DVS Young Welders Competition which offers young people between 16 and 21 years the possibility to compete against each other in four different disciplines in total.

DVS – The German Welding Society, the ASM Thermal Spray Society (TSS) and the International Institute of Welding (IIW) are proud to invite all experts to come to Hamburg for the **International Thermal Spray Conference (ITSC)** to exchange their experts' knowledge.

ITSC 2011 offers with nearly 200 lectures and over 160 poster presentations a new superlative for thermal spray information transfer activities.

With its interlinking of the related, renowned conferences and exhibitions from the field of joining, cutting and surfacing technology, the ITSC subscribes to a state of the art concept, in order to identify and address novel applications and new users for thermal spray coatings.

Here, the DVS Congress 2011, in conjunction with ITSC 2011, is at internationally renowned level in the areas of user orientation, conveying industry knowledge and the exchange of experiences and up-to-date specialized trade information. Altogether the DVS Congress offers a three day state of the art information highlight with over 500 technical presentations.

The essential focus of the event, here, is not only a practically oriented coupling of research, technology and qualification/training, but in particular on generating interest among the various enterprises for an integrated kind of technical-scientific information exchange.

To reinforce the position of Thermal Spray in its existing and future markets, the ITSC offers very use-oriented “Application Highlights” for growing and upcoming applications:

- Automotive Industry
- Aviation Industry
- Industrial Gas Turbines
- Medical Industry
- Metals Processing
- Tribological Coatings

With the “**Young Professionals**” session ITSC 2011 offers a brilliant stage for promising young talents, both from industry and universities.

We hope that this event will meet your expectations and we look forward to welcoming you at the Hamburg event 2011!

Klaus Middeldorf
General Manager
DVS – German Welding Society



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CONTENTS

SPONSORING
WELCOME TO HAMBURG

CONFERENCE

ITSC 2011
Commitees & Endorsing Sponsors
Time Schedule
Final Colloquium "Thermal Spraying"

6
7
8
10

POSTER SESSION

12

EXPOSITION

Exhibitor List (complete DVS Expo)
Industrial Forum
National Young Welders Competition

21
22
22

EDUCATION COURSE

23

FRAME WORK PROGRAM

Social Events
Industrial Tours
Excursions

27
27
28

GENERAL INFORMATION

Registration
Event Documents
Transportation
Catering
Tips for Germany
Hotel Information

31
32
32
33
33
34

ACTING EXPERTS

Presenting Authors,
Poster Presenters and
Session Chairmen

36

ATTACHMENT

Technical Program of Oral Presentations
Hotel Reservation Form
Registration Form

Partners:



CONFERENCE

ITSC 2011

Different days, different markets – for this kind of intensive exchange of expert knowledge, an invitation is being issued to all experts to come to Hamburg for the ITSC 2011 as part of DVS Congress and DVS Expo.

To reinforce the position of Thermal Spray in its existing and future markets, the ITSC offers very use-oriented “Application Highlights” among other subjects.

To complement the technical program the DVS Expo, the Industrial Forum and as well a Poster Session will take place.

A USB stick with manuscripts of all conferences of DVS Congress will give a complete overview of the entire technical program.

In addition to all these technical information ITSC will also offer an interesting frame work program (social events, industrial tours and excursions).

Please mark your calendar

General Opening DVS Congress and DVS Expo

Monday, September 26, 2011, 18:00, Hall 4

Welcoming Party DVS Congress and DVS Expo

Monday, September 26, 2011, 19:00, Hall 3

Opening of ITSC 2011

Tuesday, September 27, 2011, 9:00, Hall G 1

Opening of DVS Expo

Tuesday, September 27, 2011, 12:40

(DVS Expo September 27 – 29, 2011), Expo Hall H

Exhibitor Reception

Tuesday, September 27, 2011, 17:30, Expo Hall H

Contact

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www.dvs-congress.de/itsc2011
www.dvs-expo.de

Conference Location

CCH – Congress Center Hamburg and
Expo Hall H

Am Dammtor / Marseiller Str. 1
20355 Hamburg/Germany

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TIME SCHEDULE

ITSC 2011 as part of DVS Congress and DVS Expo

DVS Congress

DVS Expo

Monday, September 26, 2011

15:30	64 th DVS ANNUAL ASSEMBLY	HALL 6
	3M WELDING SAFETY AWARD	
18:00	GENERAL OPENING DVS CONGRESS AND DVS EXPO 2011	HALL 4
	EWM AWARD "PHYSICS OF WELDING"	
19:00	WELCOMING PARTY DVS CONGRESS AND DVS EXPO 2011	HALL 3

Tuesday, September 27, 2011

	HALL A	HALL B 2.1	HALL B 2.2	HALL C 2.1	HALL C 2.2	HALL D	HALL E	HALL F	HALL G 1
09:00					Neue Fügeverfahren	Prozessüberwachung und Ver-fahren	Werkstoffe und Fertigung	Robotertechnik in der praktischen Anwendung 1	Opening of ITSC 2011 Awards Ceremony Plenary Lecture
10:40						COFFEE BREAK, Foyer GROUND FLOOR			
11:00	Aviation Industry 1	HVOF & Flame Spraying 1	Modeling & Simulation 1	Wear Protection 1	Powders, Wires & Suspensions	Schmelzverfahren	Qualitätsgerechte Fertigung	Robotertechnik in der praktischen Anwendung 2	Regelwerke und Qualitätssicherung 1
12:40						OPENING OF DVS EXPO, EXPO HALL H			
13:00						12:40-17:15 NATIONAL DVS YOUNG WELDERS COMPETITION, EXPO HALL H			
14:00						LUNCH BREAK, EXPO HALL H			
14:00	Metals Processing 1	Cold Spraying 1	Tribological Coatings 1	Nanomaterial Coatings 1	Characterization & Testing 1	Leichtbau	Windenergie	Prozesse, Steuerung und Regelung 1	Werkstatt-praktiker
15:40						COFFEE BREAK, EXPO HALL H			
16:00	Metals Processing 2	Cold Spraying 2	Fuel Cells 1	Corrosion Protection 1	Characterization & Testing 2	Verfahren Nachwuchsward	Schiffbau	Prozesse, Steuerung und Regelung 2	Windenergie
17:30						EXHIBITOR RECEPTION, EXPO HALL H			
						DVS PHOTO COMPETITION - AWARD CEREMONY			

Wednesday, September 28, 2011

9:00-17:30 DVS EXPO, EXPO HALL H
9:00-17:30 NATIONAL DVS YOUNG WELDERS COMPETITION, EXPO HALL H

	HALL A	HALL B 2.1	HALL B 2.2	HALL C 2.1	HALL C 2.2	HALL D	HALL E	HALL F	HALL G 1
09:00	Aviation Industry 2	Cold Spraying 3	Fuel Cells 2	Nanomaterial Coatings 2	Characterization & Testing 3	F & E Mischverbindungen	Tauchttechnik	Programmieren und Simulation	Interessante fugetechnische Konstruktionen
10:40	COFFEE BREAK, EXPO HALL H								
11:00	Industrial Gas Turbines 1	Alternative Power Generation	New Processes 1	Automotive Industry	Final Colloquium "Thermal Spraying"	F & E Fügeverfahren	Verfahrenstechnik unter Wasser	Laseranlagen	Regelwerke und Qualitätssicherung 2
13:05	LUNCH BREAK, EXPO HALL H								
14:00	New Processes 2	Cold Spraying 4	Quality & Qualification	Modeling & Simulation 2	Final Colloquium "Thermal Spraying"	F & E Werkstoffverhalten	Qualitätssicherung	Qualitätssicherung und Sensorik	Moderne Lichtbogenfügeverfahren 1
15:40	COFFEE BREAK, EXPO HALL H								
16:00	Aviation Industry 3	Plasma Spraying 1	Process Diagnostics, Sensors, & Controls 1	Medical Industry 1	Pre- & Post-Treatment 1	F & E Rührreibschweißen	Schadensfälle und Reparatur	Wirtschaftlichkeit und Produktivität	Moderne Lichtbogenfügeverfahren 2
17:30	17:30-19:30 ITSC POSTER SESSION EVENING, FOYER 1 ST FLOOR								
	JTST AWARD								

Thursday, September 29, 2011

9:00-17:30 DVS EXPO, EXPO HALL H
9:00-17:30 NATIONAL DVS YOUNG WELDERS COMPETITION, EXPO HALL H

	HALL A	HALL B 2.1	HALL B 2.2	HALL C 2.1	HALL C 2.2	HALL D	HALL E	HALL F	HALL G 1
09:00	Industrial Gas Turbines 2	Modeling & Simulation 3	HVOF & Flame Spraying 2	Tribological Coatings 2	Pre- & Post-Treatment 2	Korrosions- und Verschleißschutz	Final Colloquium "Arc Welding"	Prüftechnik	Stahlbau
10:40	COFFEE BREAK, EXPO HALL H								
11:00	"YOUNG PROFESSIONALS" SULZER METCO YOUNG PROFESSIONALS AWARD HALL G 2			Arbeitsschutz und Qualifizierung			Final Colloquium "Arc Welding"	Fahrzeugbau	Rohrleitungs-, Anlagen- und Kraftwerksbau
13:05	LUNCH BREAK, EXPO HALL H								
	13:05-14:00 ITSC POSTER SESSION, FOYER 1 ST FLOOR								
14:00	Aviation Industry 4	Plasma Spraying 2	Characterization & Testing 4	Corrosion Protection 2	Pre- & Post-Treatment 3		Final Colloquium "Arc Welding"		Kranbau
15:40	COFFEE BREAK, EXPO HALL H								
16:00	Wear Protection 2	Plasma Spraying 3	Process Diagnostics, Sensors, & Controls 2	Medical Industry 2	Corrosion Protection 3		Final Colloquium "Arc Welding"		Maschinenbau

 International Thermal Spray Conference and Exposition (ITSC)

 DVS Annual Welding Conference (GST)

 DVS Student Congress

 Welding in Shipbuilding and Civil Engineering

 Robotics

 Underwater Technology

 Final Colloquium

The complete Technical Program of ITSC - see attachment.

The complete Technical Program of all other conferences of DVS Congress (only held in German language) is available under: www.dvs-congress.de/2011

There will be an update of all technical programs onsite at the registration desk in Hamburg.

FINAL COLLOQUIUM ON THE AiF/DFG-RESEARCH CLUSTER “THERMAL SPRAYING”

Thermal Spraying AiF/DFG Research Cluster



The AiF/DFG-Research Cluster “Thermal Spraying” was based on results of a survey of the Research Association on Welding and Allied Processes of the DVS (German Welding Society) together with the Association of Thermal Sprayers (GTS). About 100 companies (mainly small and medium sized enterprises) and research institutions formulated important fields of research and future needs for surface protection applications. General aspects were cost reduction for materials/processes, quality assurance for products/processes as well as environmental protection (alternatives to harmful materials).

These topics were covered by eight projects of the Research Cluster, divided into three fields:

- Materials
(Fe-based alloys,
Zn-based alloys for Cold Spraying)
- Processes
(HVOF – APS – Cold Spraying, Simulation)
- Quality (process diagnostics, online NDT)

The projects, coordinated by the Surface Engineering Institute (IOT, RWTH Aachen University) and the Institute of Materials Science and Engineering (IWW, TU Chemnitz), started with a kick-off meeting in Aachen in February 2008. Five projects were near-application

IGF-projects funded by the Federal Ministry of Economics and Technology. These projects were conducted in close collaboration with the industry (project monitoring committee). The three remaining projects were funded by the DFG and worked out basics for the technology understanding. This knowledge was transferred to the five IGF-projects and provided a scientific corroboration. For demonstration purposes, applications from paper and printing industry were chosen, but the results are also transferable to other industrial applications. The duration of each project was 3 years.

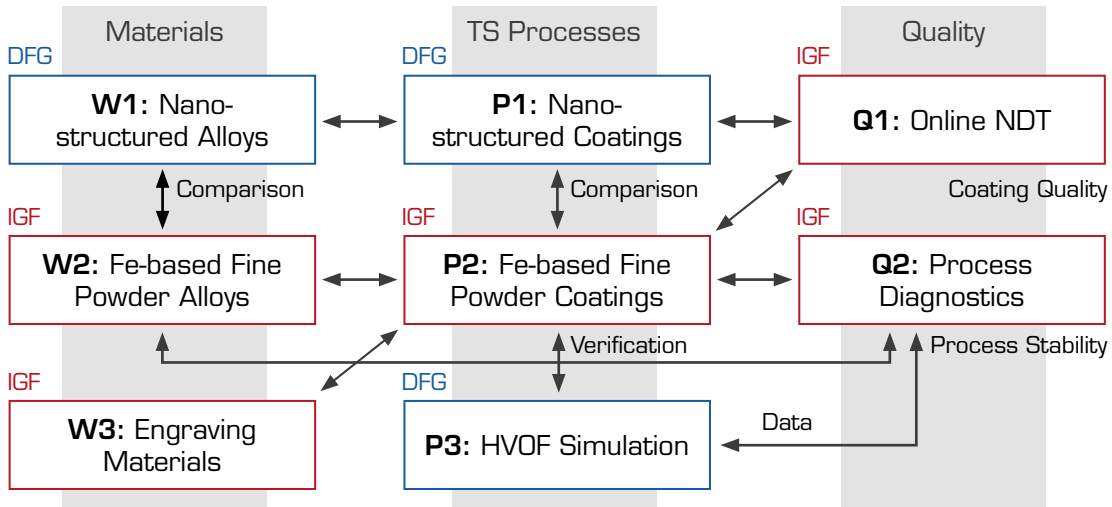


The structure of the Research Cluster was build up in such a way that all projects were linked together and a gain of information within one project benefited the results of the other projects. Each project was capable of working independently and had a special objective which contributed to the objectives of the Research Cluster.

Participating Institutes



Research Cluster Structure



Colloquium Program

— Overview of the AiF/DFG-Research Cluster
“Thermal Spraying” – history, projects, facts
T. Warda*

W1 Development of nanostructured iron-based alloys with enhanced corrosion resistance for thermal spray applications
M. Erne*

P1 Abrasion resistant thermally sprayed iron-based nanostructured composite coatings for application in paper industry
C. Rupprecht*

W2 A novel approach to manufacture fine-grained Fe-based powders for wear and corrosion protection applications
B. Rütger*

P2 Development and characterization of thermally sprayed fine Fe-based materials for wear and corrosion applications
T. Warda*

Q2 Process diagnostics - tools for experimental investigation and verification of simulation results in the research cluster “Thermal Spraying”
S. Zimmermann*

P3 Optimization of a HVOF-process by simulation methods
M. Schäfer*

Q1 Limits of defect detection during lock-in thermography on thermal spray coatings
T. Grund*

W3 Cold Spraying of modified Zn-alloy coatings for print application
K. Onizawa*

* Presenters

POSTER SESSION

During the ITSC event a Poster Session will be held in the Foyer 1st Floor of the CCH (Congress Center Hamburg). The poster presenters will be available for discussion scheduled as follows:

ITSC Poster Session Evening

Wednesday, September 28, 2011, 17:30-19:30

All ITSC registrants are invited to join the ITSC Poster Session.
A snack and drinks will be offered.

ITSC Poster Session

Thursday, September 29, 2011, 13:05-14:00

All ITSC registrants are invited to join the ITSC Poster Session.
In addition further contacts with the authors can be arranged.

The USB stick with manuscripts of all conferences of DVS Congress will give a complete overview (poster presentations included).



Alternative Power Generation

- 1 Cavitation erosion mechanism in Fe-Mn-Cr-Si-Ni arc thermally sprayed coatings
A. Pukasiewicz*, A. Capra,
R. Paredes, A. d'Oliveira

Automotive Industry

- 2 Investigation of heat treatment on cold sprayed aluminum coatings on magnesium substrates
H. Bu*, B. Jodoin, M. Yandouzi, C. Lu
- 3 Sliding wear behavior of HVOF sprayed coatings, suitable for piston rings application
S. Houdkova*, M. Kasparova, F. Zahalka

Aviation Industry

- 4 Applications of cold gas spraying compared to manual laser welding in connection with a repair contract in the aerospace field
P. Lutz*
- 5 High thickness A-357 aluminum alloy coatings deposited by cold spray for the repair of aeronautic components
S. Vezzù*, S. Rech, A. Trentin, G. Zanon
- 6 Study of oxidation behavior of TBCs with APS and HVOF CoNiCrAlY bond coatings
A. Karaoglanli*, T. Lampke, T. Grund,
F. Ak Azem, I. Ozdemir, A. Turk, F. Üstel
- 7 Thermal barrier coatings on novel high temperature cobalt rhenium substrates
P. Seiler*, M. Bäker, J. Rösler
- 8 Potential of cold gas dynamic spraying process in the restoration of damaged alclad layer of aircraft skin
M. Yandouzi*, B. Jodoin, S. Gydos
- 9 Synthesis of Y_2SiO_5 powder by solid liquid sintering and coating produced by plasma spray technique on the SiC substrate
S. Yildirim*, N. Toplan, F. Üstel
- 10 Restoration of titanium parts using commercial cold spray
J. Pelletier*, M. Bolduc, B. Jodoin, S. Gaydos
- 11 Restoration of aluminum parts and coatings using commercial cold spray
D. MacDonald*, B. Jodoin, S. Gaydos
- 12 Thermal barrier coatings for rocket engines
J. Schloesser*, M. Bäker, J. Rösler

- 13 Development of thermal barrier coatings with fine columnar crystal structure deposited by supersonic atmospheric plasma spraying
Y. Bai*, Z. Han, H. Wang, C. Ding, B. Xu
- 14 Effect of bond coat material and heat treatment on adhesion strength and characteristics of thermal spray barrier coating system with CGDS, HVOF and APS techniques
N. El Mahallawy*, I. El Araby, T. Lampke,
T. Grund, A. Karaoglanli

Ceramic Coatings

- 15 Development of porous ceramic coating for high efficiency cooling system
M. Arai*, T. Suidzu
- 16 Preparation and thermophysical properties of $La_2(Zr_{0.7}Ce_{0.3})_2O_7$ ceramic material
J. Xiang*, J. Huang, S. Chen,
W. Liang, R. Wang, Q. He
- 17 Deposition of oxide ceramics in atmosphere and at room temperature by powder jet deposition technique
K. Ogawa*, H. Arata, M. Takegoshi,
F. Ono, T. Saito
- 18 Advanced thermal barrier coatings from Ti-doped YSZ systems
M. Jarligo*, G. Mauer, D. Mack,
R. Vaßen, D. Stöver
- 19 Microstructural characterization of YSZ and YSZ/ Al_2O_3 TBCs with HVOF CoNiCrAlY bond coatings
A. Karaoglanli*, E. Altuncu, A. Turk,
F. Üstel, I. Ozdemir, I. El-Araby
- 20 Corrosion properties of thermally sprayed titania coatings
S. Forghani*, M. Ghazali,
A. Muchtar, A. Bin Daud
- 21 Study of plasma sprayed mullite coating using mullite and a mixture of alumina and silica powders as initial powder particles
H. Salimijazi*, M. Hosseini, L. Pershin,
J. Mostaghimi, T. Coyle, H. Samadi, A. Shafiei
- 22 Rapid prototyping of patterned ceramic coatings via thermal spray stencilling
C. Cojocar*, Y. Wang, R. Lima
- 23 Degradation process of $RE_2Zr_2O_7$ thermal barrier coatings during isothermal annealing
G. Moskal*
- 24 Characterization of microstructure and thermal properties of $Gd_2Zr_2O_7$ and gradient $Gd_2Zr_2O_7$ /YSZ bi-layer type of the TBC coatings
G. Moskal*

- 25 Optimization of plasma spray processing parameters for deposition of YSZ+Al₂O₃ coating
E. Altuncu*, D. Kütükçü, S. Okumus, F. Üstel
- 26 Microstructural evaluation of AlN coatings in room temperature vacuum cold spraying
C. Park*, K. Baik
- 27 Synthesis of Al₂O₃ coatings by plasma transferred arc
A. d'Oliveira*, F. Drodza, S. Pianaro
- 28 Mechanical compliance in thermal barrier coatings: Quantification and its application in coatings design and repeatability assessment
G. Dwivedi*, S. Sampath, T. Nakamura

Characterization & Testing

- 29 Scratch test mechanical properties of suspension plasma sprayed TiO₂ coatings
L. Pawlowski*, L. Latka, F. Petit, S. Kozerski
- 30 Application of structure based models of mechanical and thermal properties of plasma sprayed coatings
M. Vilemova*, J. Matejcek, R. Musalek
- 31 Effect of the grit blasting exposure time on the adhesion of Al₂O₃ and 316L coatings
M. Vilemova*, M. Kazda, J. Siegl, J. Matejcek
- 32 Electrical properties of Al₂O₃-TiO₂ plasma sprayed coatings for electrode of corona discharge
S. Abukawa*, T. Takabatake, Y. Namba, K. Tani
- 33 Cold spray ultrasonic monitoring and modeling
V. Leshchynsky*, R. Maev, S. Titov, J. Dech
- 34 The tensile and shear strength of thermally sprayed coatings
M. Kasparova*, F. Zahalka, S. Houdkova, J. Volak
- 35 Evaluation of mechanical properties and damage resistance of SPS TiO₂ coatings by nanoindentation and nanoscratch techniques
E. Sánchez*, E. Rayón, V. Bonache, R. Benavente, M. Salvador, E. Bannier, G. Darut, A. Denoirjean, H. Ageorges
- 36 Thermal shock resistance of plasma sprayed thermal barrier coatings
S. Takahashi*, N. Hirano, Y. Kojima, Y. Harada, A. Kawasaki, F. Ono
- 37 Electric resistivity of thermally sprayed Cr₂O₃-TiO₂ coatings
R. Trache*, L. Berger, L. Toma, S. Stahr, R. Lima, B. Marple
- 38 Characterization of detonation sprayed coatings
A. Shtertser*, V. Ulianitsky, K. Tsarakhov, B. Grinberg

- 39 Innovative testing method for interconnected porosity of thermally sprayed ceramic coatings by using electroplating
K. Tani*, Y. Harada, Y. Takatani
- 40 Solidification of plasma transferred arc coatings
A. d'Oliveira*, D. Bond

Cold Spraying

- 41 Numerical study on the role of substrate size in supersonic jet flow and substrate preheating process in cold spraying
S. Yin*, X. Wang, W. Li, R. Xie
- 42 Finite element simulation of impacting behavior of particles in cold spraying by eulerian approach
W. Li*, M. Yu, H. Liao
- 43 Influence of gas temperature, particle size and substrate nature on the deposition behavior of cold sprayed magnesium coatings
X. Suo*, X. Guo, W. Li, M. Planche, R. Bolot, H. Liao, C. Coddet
- 44 Effects of spray nozzle design and gas temperature on cold sprayed magnesium alloy coating and its composite
X. Suo*, X. Guo, W. Li, M. Planche, R. Bolot, H. Liao, C. Coddet
- 45 Modern applications of the low pressure cold spray
A. Shkodkin*, A. Kashirin, K. Oleg, T. Buzdygar
- 46 Development of nanostructured FeAl intermetallics by annealing of cold sprayed precursor deposit
H. Wang*, C. Li, G. Ji, G. Yang
- 47 Impact particle behavior in cold gas dynamic spray of composite coatings
I. Smurov*, V. Leshchynsky, A. Papyrin, A. Belousova, I. Yadroitseva
- 48 Annealing effect on the intermetallic compound formation of cold sprayed Fe/Al composite coating
H. Wang*, C. Li, G. Ji, G. Yang
- 49 Low pressure cold spray of composite powders made by sintering feedstock
V. Leshchynsky*, E. Maeva, H. Weinert, R. Maev
- 50 Novel manufacturing method for producing stacked wire mesh compact heat exchangers using cold spray
J. Assaad*, A. Corbeil, P. Richer, B. Jodoin
- 51 Iron boride coatings produced by cold spray processes
I. Ozdemir*, K. Ogawa, K. Sato, D. Seo
- 52 Cold spray application technique for FeAl intermetallic compound coating synthesis
E. Leshchinsky*, R. Maev

- 53 **Influence of particle velocity on adhesion strength of cold spray deposits**
R. Huang*, H. Fukanuma
 - 54 **Mechanical properties of heat treated cold sprayed pure titanium coatings**
W. Wong*, E. Irissou, J. Legoux, S. Yue
 - 55 **Manufacture and properties of cold spray deposited large thickness Cu coating material for sputtering target**
K. Lee*, J. Cho, Y. Jin, D. Park, H. Kim, I. Oh
 - 56 **Thermal stability of cold sprayed ceramic particles reinforced metal matrix composite coatings**
C. Li*, X. Luo, G. Yang, X. Suo
 - 57 **Effect of in-situ softening on the deposition behavior of particles through controlling gas stream traversing during cold spraying**
G. Yang*, J. Wang, C. Li, Q. Zhang, C. Li
 - 58 **Automatic generation of robot trajectory for free-form surfaces in thermal spraying**
D. Fang*, S. Deng, H. Liao, C. Coddet
 - 59 **Comparison of microstructures and deposition behavior of warm sprayed and cold sprayed metallic powder particles**
K. Kim*, S. Kuroda, M. Watanabe, R. Huang, H. Fukanuma, H. Katanoda
 - 60 **The synthesis of titanium dioxide powders for cold spray**
N. Tjitra Salim*, M. Yamada, H. Nakano, K. Shima, H. Isago, M. Fukumoto
 - 61 **Wear characteristics of cold sprayed SiC reinforced Al-12Si matrix composite coatings**
O. Meydanoglu*, E. Bayrak, M. Baydogan, E. Kayali, H. Cimenoglu
 - 62 **Characteristics of aluminum alloy matrix B₄C reinforced composite coatings deposited on a 6082 aluminum alloy by cold spray process**
O. Meydanoglu*, C. Sonmez, M. Baydogan, E. Kayali, H. Cimenoglu
 - 63 **DSC analysis of cold sprayed copper coatings**
F. Alishir*, H. Nekoomanesh, H. Assadi
 - 64 **Main bonding mechanisms of CGS sprayed aluminium on Al₂O₃ substrates as a function of deposition conditions**
T. Grund*, B. Wielage, S. Kümmel, P. Löschner
 - 65 **Cold gas spray deposition and interparticle bonding strength of aluminium and nickel powders**
S. Dosta*, N. Cinca, J. Guilemany
 - 66 **Nanoscale study of cold spray titanium deposits**
S. Dosta*, N. Cinca, J. Guilemany
 - 67 **New Al-base alloys coatings with enhanced properties obtained by CGS technologies**
S. Dosta*, D. Rodriguez, J. Fernandez, S. Kac, J. Kusidski, A. Colella, P. Matteazzi, J. Guilemany
 - 68 **Experimental study of stainless steel 316L coatings on light alloys obtained by cold gas spray**
S. Dosta*, M. Villa, J. Fernandez, J. Guilemany
 - 69 **Impact conditions for cold spraying of hard metallic glasses**
A. List*, F. Gärtner, T. Klassen
 - 70 **The influence of gas conditions in cold spraying on WC cermet coatings**
J. Kitamura*, K. Sato, D. Seo, H. Furukawa, K. Ogawa
 - 71 **The influence of metal binder of WC cermet powder for cold spraying**
J. Kitamura*, K. Sato, D. Seo, H. Furukawa, K. Ogawa
 - 72 **Interface reactions in composite coatings deposited by cold spray and detonation spraying**
I. Smurov*, V. Leshchynsky, N. Ryashin, I. Yadroitseva, A. Belousova
 - 73 **Effect of high-energy infrared treatment on properties of cold sprayed coatings**
N. Chavan*, S. Dameracharla, S. Joshi, S. Govindan
 - 74 **Study of oxidation behavior of CoNiCrAlY bond coatings deposited by cold gas dynamic spraying**
A. Karaoglanli*, A. Turk, I. Ozdemir, K. Ogawa, F. Ak Azem, T. Lampke, T. Grund, F. Üstel
- ## Corrosion Protection
- 75 **The microstructure and thermal cyclic lifetime of TBCs deposited by very low pressure plasma spraying**
D. Yang*, Z. Chen, Y. Gao
 - 76 **Corrosion and wear resistance of molybdenum containing arc spray composite coatings**
J. Laurila*, J. Vajala, K. Niemi, P. Vuoristo
 - 77 **Influence of chromia alloying on the characteristics of APS and HVOF sprayed alumina coatings**
K. Niemi*, J. Hakalahti, L. Hyvärinen, J. Laurila, P. Vuoristo, F. Toma, L. Berger
 - 78 **Corrosion resistance of thermally sprayed coatings and welded overlays in waste incineration environments**
H. Pokhmurska*, B. Wielage, M. Schütze, R. Durham, D. Franik, A. Gebert

Fuel Cells

- 79 **Effect of accelerating gas flow on pore structure and ion diffusion property of vacuum cold sprayed TiO₂ coatings using strengthened nanostructured powder**
G. Yang*, K. Liao, C. Li, C. Li, S. Li
- 80 **Electric conductivity of plasma sprayed SOFC electrolyte**
S. Sodeoka*, T. Inoue, K. Fujita, N. Iki
- 81 **Relationship between particle and plasma properties and coating characteristics of samaria-doped ceria prepared by atmospheric plasma spraying for use in solid oxide fuel cells**
M. Cuglietta*, O. Kesler
- 82 **Suspension plasma spraying (SPS) of manganese-cobalt spinel coatings**
J. Puranen*, L. Hyvärinen, J. Lagerbom, M. Kylmälahti, H. Koivuluoto, P. Vuoristo
- 83 **The solution precursor plasma spraying process for making zirconia based electrolytes**
C. Christenn*, A. Ansar

HVOF & Flame Spraying

- 84 **Anisotropic electrical conductivity of copper coatings deposited by HVOF**
M. Aghaee*, M. Salehi, H. Salimijazi
- 85 **Densification of low temperature HVOF Ti coating and its electrochemical characterizations**
C. Deng*, M. Liu, J. Chen, K. Zhou
- 86 **Corrosion behavior of HVOF-sprayed Ni-20Cr coating in a molten salt environment at 900°C**
G. Kaushal*, H. Singh, S. Prakash
- 87 **The effect of substrate hardness on the rolling contact fatigue for two different HVOF-sprayed WC-Cr₃C₂-Co/Ni hardmetal coatings**
J. Spatzier*, L. Berger, J. Bretschneider, K. Lipp, S. Thiele

Industrial Gas Turbines

- 88 **Influence of substrate expansion on microstructure and cyclic lifetime of TBC coatings**
Y. Gao*, Z. Chen, D. Yang
- 89 **TBC life assessment by EIS and raman spectroscopy**
C. Giolli*, A. Scrivani, A. Giorgetti, A. Fossati, M. Muniz Miranda, F. Cernuschi, C. Rinaldi
- 90 **Correlation between process parameters and thermal cycling life time for thermal barrier coatings**
E. Altuncu*, F. Üstel
- 91 **A novel plasma sprayed durable thermal barrier coating with a well-bonded YSZ interlayer at YSZ/bond coat interface**
C. Li*, Y. Li, G. Yang, C. Li
- 92 **Isothermal oxidation behavior of NiCoCrAlTaY coating deposited by high velocity air-fuel spraying**
G. Yang*, X. Xiang, L. Xing, D. Li, C. Li, C. Li
- 93 **Phase composition and ionic conductivity of plasma sprayed samarium zirconate coatings**
X. Zhong*, J. Yu, H. Zhao, X. Zhou, S. Tao, C. Ding
- 94 **Process parameters influence in TBC coatings deposited by plasma thermal spray in the adherence and wear at high temperature**
G. Bavaresco Sucharski*, L. Aguiar, E. Ferreira Trevisani, A. Capra, R. Cortés Paredes
- 95 **Process parameter optimization for the deposition of NiAl and NiCrAlY alloys as bond coating in thermal sprayed TBCs**
L. Aguiar*, G. Sucharski, E. Ferreira Trevisani, A. Capra, R. Cortés Paredes
- 96 **Study of the effects of process parameters of powder flame spraying in the deposition of NiAl alloys coatings resistant at high temperatures**
É. Ferreira Trevisani*, G. Bavaresco Sucharski, L. Aguiar, R. Cortés Paredes, H. Padilha, A. Capra, M. Cardozo Junior



Medical Industry

- 97 Optimization of high velocity suspension flame sprayed (HVSFS) bioactive coatings on Ti substrates by DoE approach**
G. Bolelli*, D. Bellucci, V. Cannillo, R. Gadow, A. Killinger, L. Lusvarghi, A. Sola, N. Stiegler
- 98 Characterization of bioactive high velocity suspension flame sprayed (HVSFS) single splats**
G. Bolelli*, D. Bellucci, V. Cannillo, R. Gadow, A. Killinger, L. Lusvarghi, A. Sola, N. Stiegler
- 99 Characterization of plasma sprayed HAp coatings on Ti alloys**
E. Altuncu*, S. Ozturk, S. Yildirim, G. Erdogan, F. Üstel

Metal Coatings

- 100 Research and development of new power-saving cumulative-detonation sprayer and equipment for thermal spraying applications (CDS-HVOF)**
Y. Tyurin*, O. Kolisnichenko
- 101 Microstructure and properties of FeAl coatings prepared by LPPS APS and HVOF**
D. Yang*, B. Tian, Y. Gao
- 102 Suppressing oxidation of NiCr alloy with addition of Si, B, and C in atmospheric plasma spray process**
Z. Zeng*, N. Sakoda, S. Tajiri, S. Kuroda, M. Komatsu

Metals Processing

- 103 Durability of low pressure plasma sprayed MoB/CoCr coating in molten Al-12.07wt%Si alloy**
X. Chen*, R. Zhang, F. Li

Modeling & Simulation

- 104 Modeling of the effect of injected particle properties on plasma flow during ceramic coating process**
A. Elsebaei*
- 105 A 3D finite-difference model for the effective thermal conductivity of thermal barrier coatings**
J. Qiao*, R. Bolot, H. Liao, P. Bertrand, C. Coddet
- 106 Simulation of arc root fluctuation in a DC non-transferred plasma torch with three dimensional modeling**
R. Huang*, H. Fukanuma, Y. Uesugi, Y. Tanaka
- 107 Stress analysis in the vicinity of TGO in TBC systems with cold sprayed and LPPS bond coatings**
I. Ozdemir*, I. Tirtom, K. Ogawa, T. Shoji

- 108 Simulation of WC-Co-Cr coating formation in relation to the HVOF / HVAF processes**
Y. Korobov*, S. Baranovski

- 109 New method of generating robot trajectory on complex geometric workpieces**
Z. Cai*, S. Deng, H. Liao

- 110 Turbulence effects in a DC plasma torch**
R. Bolot*, A. Allimant, D. Billieres, C. Coddet

- 111 Using of CFD simulations for increasing speed and temperature of flame spray technology**
T. Zabransky*, M. Schuster

- 112 Optimization of detonation spraying based on numerical simulation**
I. Smurov*, V. Ulianitsky, S. Zlobin

- 113 The way to optimum cold spray conditions for high quality coatings**
T. Schmidt*, F. Gärtner, H. Assadi, T. Klassen, H. Kreye

- 114 Basic physics and engineering program system splat - spray deposit for computer-aided design of coatings formation**
O. Solonenko*, V. Blednov, V. Iordan

Nanomaterial Coatings

- 115 Properties of nanostructured composite titanium coating on aluminium surface**
Y. Tyurin*, O. Kolisnichenko, O. Ivanov, M. Kovaleva
- 116 Effects of power and concentration and dispersion phase on nano-zirconia coatings prepared by sol plasma spraying**
H. Yang*, L. Chen
- 117 Deposition and characteristics of submicrometer-structured ceramic coatings by suspension thermal spraying**
A. Guignard*, G. Mauer, R. Vaßen, D. Stöver
- 118 Liquid injection into atmospheric plasma and its effects on plasma properties and ways optimizing coating efficiency**
D. Soysal*, T. Kavka, A. Ansar

New Processes

- 119 Shock-wave induced spraying: modeling and physics of a new spray process**
M. Karimi*, B. Jodoin, G. Rankin
- 120 Ultrasound-assisted particle detachment in wire arc spraying**
C. Rupprecht*, G. Paczkowski, B. Wielage
- 121 Characterization of ceramic coatings made by thin film low pressure plasma spraying (LPPS-TF)**
A. Hospach*, G. Mauer, R. Vaßen, D. Stöver

- 122 Metal powder injection into the plasma torch LARGE**
S. Zimmermann*, D. Boll, D. Wolf,
D. Dimaczek, C. Gallian, M. Grohmann,
P. Landes, P. Schein
- 123 Metastable mullite coatings obtained by nanosprayquench process**
S. Dosta*, D. Sergi, J. Ventayol,
I. Cano, J. Guilemany
- 124 Influence of the suspension characteristics and spraying parameters on the properties of dense suspension-HVOF sprayed Al_2O_3 coatings**
F. Toma*, L. Berger, S. Langner,
C. Rödel, A. Potthoff

Plasma Spraying

- 125 Properties of coating by plasma spraying ultrafine Cr_3C_2 -25%NiCr powders**
Z. Li*, Y. Yu, K. Zeng, X. Ren, J. Ma
- 126 Thick YSZ coating on thin and smooth Haynes® 230 substrate: Use of suspension plasma sprayed coating as adhesive layer**
A. Vardelle*, R. Vert, E. Meillot, G. Mariaux
- 127 Effect of dispersed TiC content on the microstructure and properties of shrouded plasma sprayed FeAl/TiC composite coatings**
C. Li*, L. Tian, C. Li, G. Yang
- 128 An improvement of low power plasma torch for very low pressure plasma sprayed thin and dense ceramic coatings**
L. Zhu*, N. Zhang, F. Sun, R. Bolot,
H. Liao, C. Coddet
- 129 Spraying of metallic powders by hybrid gas/water torch and the effects of inert gas shrouding**
T. Kavka*, J. Matejicek, P. Ctibor, M. Hrabovsky
- 130 Atmospheric electromagnetic plasmadynamic system for thermal spraying**
Y. Chivel*
- 131 Three anodes compared to three cathodes: Evaluation of gun concepts for high performance plasma spraying operation**
M. Erne*, D. Kolar, K. Möhwal, F. Bach
- 132 Peculiarities of splats formation under impact with substrate of decamicron metal droplets characterizing by a high volume content of solid carbide inclusions**
O. Solonenko*, A. Chesnokov,
I. Gulyaev, V. Gavrilov
- 133 Key processing criteria to improve the control on the deposit porosity for plasma sprayed oxide ceramic coatings**
A. Ansar*

Polymer Coatings

- 134 Plastic based coating by flame spray technology and corrosion test**
O. Altun*, M. Zali, A. Türk, F. Üstel

Powders, Wires & Suspensions

- 135 Particle size distribution of the filling powder in cored wires and its effect on arc behavior, in-flight particle behavior, and splat formation**
M. Abdulgader*, W. Tillmann
- 136 Precipitate formation and evolution in solution precursor plasma spraying (SPPS)**
G. Bertolissi*, C. Chazelas, G. Bolelli,
M. Vardelle, L. Lusvarghi, A. Vardelle
- 137 Influence of mechanical alloying parameters on structure and properties of FeCr-TiCN powder containing nanocrystalline phases**
Y. Borisov*, A. Borisova, L. Adeeva,
A. Burlachenko, A. Tunik
- 138 Theory and experiment on hollow spherical powders production**
O. Solonenko*, I. Gulyaev, A. Smirnov

Power Generation - Steam

- 139 Iron-based arc-sprayed coatings for gas corrosion protection at elevated temperatures**
H. Pokhmurska*, B. Wielage, V. Pokhmurskii,
M. Student, V. Gvozdeckii
- 140 Thermo-mechanical and hot corrosion testing of selected HP/HVOF sprayed coatings for power industry applications**
F. Zahalka*, M. Kasparova, S. Houdkova

Pre- & Post-Treatment

- 141 Effects of laser treatments on cold sprayed metallic coatings**
S. Costil*, D. Poirier, W. Wong, E. Irissou,
J. Legoux, V. Guipont, M. Jeandin, S. Yue
- 142 Process optimization of dry-ice blasting and its application in thermal spray**
S. Dong*, B. Hansz, H. Liao, C. Coddet
- 143 Hot-gas corrosion-erosion resistance of thermally post-treated Fe-Al-based arc-sprayed coating**
H. Pokhmurska*, B. Wielage, R. Winkelmann

Process Diagnostics, Sensors & Controls

- 144 Accuracy of 2D particle image velocimetry measurements in thermal spraying processes**
L. Rockstroh*, S. Wahl, S. Simon, R. Gadow

145 Assessment of particle sensor performance in the plasma spray process
M. Cannamela*, M. Tuttle, D. Radgowski,
S. DeLeo, M. Gevelber, D. Wroblewski

146 Cryo-gas cooling method and system for thermal spray coatings
M. Akuh*, Z. Zurecki, L. Mercado

Quality & Qualification

147 Life cycle assessment of thick coating processes
N. Serres*, S. Costil, C. Langlade, C. Coddet

**148 Thermal spray:
Status and current activities in Norway**
S. Armada*, A. Bjørgum

Tribological Coatings

149 New approach to ceramic / metal - polymer multilayered coatings for high performance dry sliding applications
A. Rempp*, M. Widmann, A. Killinger,
P. Guth, R. Gadow

150 Comparative characteristics of coatings produced from Sn-Sb-Cu babbitt by arc spraying, gas surfacing and pouring
Y. Korobov*, L. Gogolev, B. Potechin,
V. Ilushin, S. Nevezhin

151 Metallizing of high-performance polymers by thermal spraying
R. Winkler*, B. Wielage, C. Rupprecht,
G. Paczkowski

152 Tribological performance by elastic and plastic contacts of AT-13 and AT-45 coatings elaborated by plasma and flame spray
H. Ageorges*, F. Vargas, P. Fauchais, E. Lopez

Wear Protection

153 Improve the microstructure and wear resistance of arc sprayed NiCrBSi coatings by remelting
W. Luo*, W. Tillmann

154 Fatigue resistance of bodies coated with HVOF sprayed tungsten carbides in metallic matrix
M. Vilemova*, R. Musalek, O. Kovarik,
A. Valarezo, S. Sampath

155 The effect of process parameters on wear behaviors of composite coatings produced by twin wire electric arc spraying method
A. Gulec*, A. Turk, F. Üstel, F. Yilmaz

156 Properties of HVOF sprayed WC-Co coatings after ESD process
W. Zórawski*, N. Radek

157 Correlation between high temperature wear of NiAl intermetallic and stellite 6 PTA coatings
A. d'Oliveira*, C. Brunetti,
R. Gomes, G. Pintaude

158 Investigation of wear behavior of Al-12Si/SiC composite coatings under dry sliding and water lubrication
S. Akgün Kayral*, S. Sahin, A. Turk, F. Üstel





EXPOSITION

ITSC Exposition as part of DVS Expo

Concurrent with the DVS Congress, the ITSC Exposition will take place in the DVS Expo, held in the Expo Hall H. Industry specialists will have the opportunity of presenting themselves within a unique environment.

Exposition hours are from:

Tuesday, September 27, 2011	12:30-17:30
Opening	12:30
Exhibitor Reception	17:30
Wednesday, September 28, 2011	09:00-17:30
Thursday, September 29, 2011	09:00-17:30

Expo Only

Day-Ticket	EUR 20
Unlimited Pass	EUR 46

Expo Guide

You will find a catalogue (free of charge) with all information about DVS Expo (exhibitor information, contacts, booth numbers) at the booth of DVS Media in Expo Hall H and at the registration desk in the foyer.

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Place of Events

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EXHIBITOR LIST (OF THE COMPLETE DVS Expo)

(Status: April 2011)

	3 Di Works GbmH, Germany	H-D20		Fraunhofer-Institut für Werkstoff- und Strahltechnik IWS, Germany	H-D17
A	ABB Automation GmbH, Germany	H-C26		FRONIUS Deutschland GmbH, Germany	H-B11
	AIM MRO, Inc., United States of America	H-E17	G	Global Tungsten & Powder Corp., United States of America	H-E25
	AIR LIQUIDE Deutschland GmbH, Germany	H-B37		Green Belting Industries, Canada	H-E16
	Air Products PLC, United Kingdom	H-A22		Greggersen Gasetechnik GmbH, Germany	H-C10
	Alexander Binzel Schweißtechnik GmbH & Co. KG, Germany	H-D14		Grillo-Werke AG, Germany	H-D23
	ALUNOX Schweißtechnik Handelsgesellschaft mbH, Germany	H-D11		GTS e. V., Germany	H-E24
	AMT AG, Switzerland	H-B22		GTV Verschleißschutz GmbH, Germany	H-A20
	ASM International, United States of America	Exhibitor Office	H	H.C. Starck GmbH, Germany	H-B16
	August Rüggeberg GmbH & Co. KG, Germany	H-A34		HK Dive Technics e. K., Germany	H-C40
B	Brüker Elemental GmbH, Germany	H-C27		HÖGANÄS AB, Sweden	H-C23
C	C&M Technologies GmbH, Germany	H-D16		HYTECH Hyperbaric Manufacturing BV, The Netherlands	H-C38
	Camfil Farr APC, United Kingdom	H-E21	I	IBEDA Sicherheitsgeräte und Gastechnik GmbH & Co. KG, Germany	H-B10
	Carl Cloos Schweißtechnik GmbH, Germany	H-B14		igm Robotersysteme AG, Austria	H-D35
	Carpenter Powder Products GmbH, Germany	H-C21		International Thermal Spray Association, United States of America	H-D22
	Castolin GmbH, Germany	H-B30	K	Kemper GmbH, Germany	H-C14
	Castro GmbH, Germany	H-C11		Kemppi GmbH, Germany	H-D13
	CGT Cold Gas Technology GmbH, Germany	H-B12		Kermetico Inc., United States of America	H-B19
	CTS Inc. Cincinnati Thermal Spray, Inc., United States of America	H-C22		Kistler Instrumente GmbH, Germany	H-B32
D	DeWAL INDUSTRIES, INC., United States of America	H-B18		KUKA Roboter GmbH, Germany	H-A20
	DGZfP Ausbildung und Training GmbH, Germany	H-A32	L	Langqiao Surface Technology Co., Ltd., P.R. China	H-A21
	Diamant Metallplastic GmbH, Germany	H-B28		LESCAV Sprl., Belgium	H-E19
	Drahtzug Stein wire & welding GmbH & Co. KG, Germany	H-D33		Linde AG, Germany	H-A12
	Druckguss Service Deutschland GmbH, Germany	H-B33	M	M. Braun Inertgas-Systeme GmbH, Germany	H-C11
	DURUM Verschleiß-Schutz GmbH, Germany	H-E26		Magna Powertrain Engineering Center, Austria	H-B35
	DVS – German Welding Society, Germany	H-D32		Medicoat AG, Switzerland	H-C16
	DVS Science Corner, Germany	H-D38		Messe Essen GmbH	H-D32
	DVS Education and Training Corner, Germany	H-D38		SCHWEISSEN & SCHNEIDEN, Germany	H-B30
	DVS Media GmbH, Germany	H-D32		MESSER Group GmbH, Germany	H-D26
	DVS-TV GmbH, Germany	H-D32		MilliDyne Surface Technology, Finland	H-D24
E	ESAB GmbH, Germany	H-C25	N	Mogul Metallizing GmbH, Germany	H-C28
	EWM HIGHTEC WELDING GmbH, Germany	H-A10		NUTECH GmbH, Germany	H-B21
F	Flame Spray Technologies BV, The Netherlands	H-B16		Obninsk Center for Powder Spraying Ltd. (OCPS Ltd.), Russia	H-C34
			O	Olympus Deutschland GmbH, Germany	H-B29
			P	Panasonic Industrial Europe GmbH, Germany	H-D10
				Photron (Europe) Ltd., United Kingdom	

	Plasma Giken Co., Ltd., Japan	H-B24	TÜV Nord Systems GmbH & Co. KG, Germany	H-B27
	Polymet Corporation, United States of America	H-C17	U United Coatings Technology Co., Ltd., P.R. China	H-A21
	Praxair Surface Technologies, United States of America	H-B20	V Valk Welding, The Netherlands	H-A30
	Progressive Surface, Inc., United States of America	H-D18	Viscom AG, Germany	H-B26
	PTR Präzisionstechnik GmbH, Germany	H-C31	VKT Video Kommunikation GmbH, Germany	H-D10
R	RIFTEC GmbH, Germany	H-B34	Vögtlin Instruments AG, Switzerland	H-C12
S	Saint Gobain, United States of America	H-C20	VTT Technical Research Centre of Finland, Finland	H-C24
	simufact engineering gmbh, Germany	H-C32	W WALL Colmonoy Ltd., United Kingdom	H-E23
	SLV München, NL der GSI mbH, Germany	H-D25	Welding Alloys Deutschland	H-A36
	Steigerwald Strahltechnik GmbH, Germany	H-C31	Schweißblegierungs GmbH, Germany	
	Sulzer Metco AG (Switzerland), Switzerland	H-A16	WELDOTHERM Ges. für Wärmetechnik mbH, Germany	H-D12
T	TCP Prüftechnik GmbH, Germany	H-B31	WITT Gasetechnik GmbH & Co. KG, Germany	H-D31
	Tecnar Automation Ltd., Canada	H-B17	Wittmann Tauchen GmbH & Co. KG, Germany	H-B36
	Terolab Surface Group SA, Switzerland	H-A24	Y Yxlon International GmbH, Germany	H-C30
	Thermico GmbH & Co. KG, Germany	H-A26	Z Zierhut Messtechnik GmbH, Germany	H-D25
	Turbocoating S.p.A., Italy	H-A18		

DVS Expo Floor Plan: see attachment

INDUSTRIAL FORUM

Forum for New Ideas in the DVS Expo
September 27 – 29, 2011, Expo Hall H

During the exposition hours there will be an application oriented forum. This forum provides exhibiting companies the opportunity to inform visitors about their companies' portfolio.

The special ITSC forum day will be September 28, 2011. Invited companies will present industry related topics to the audience. The lectures are given in English or German language with simultaneous translation and are limited to 25 min. including discussion. Location is the so called "Industrial Forum" in the Expo Hall H.

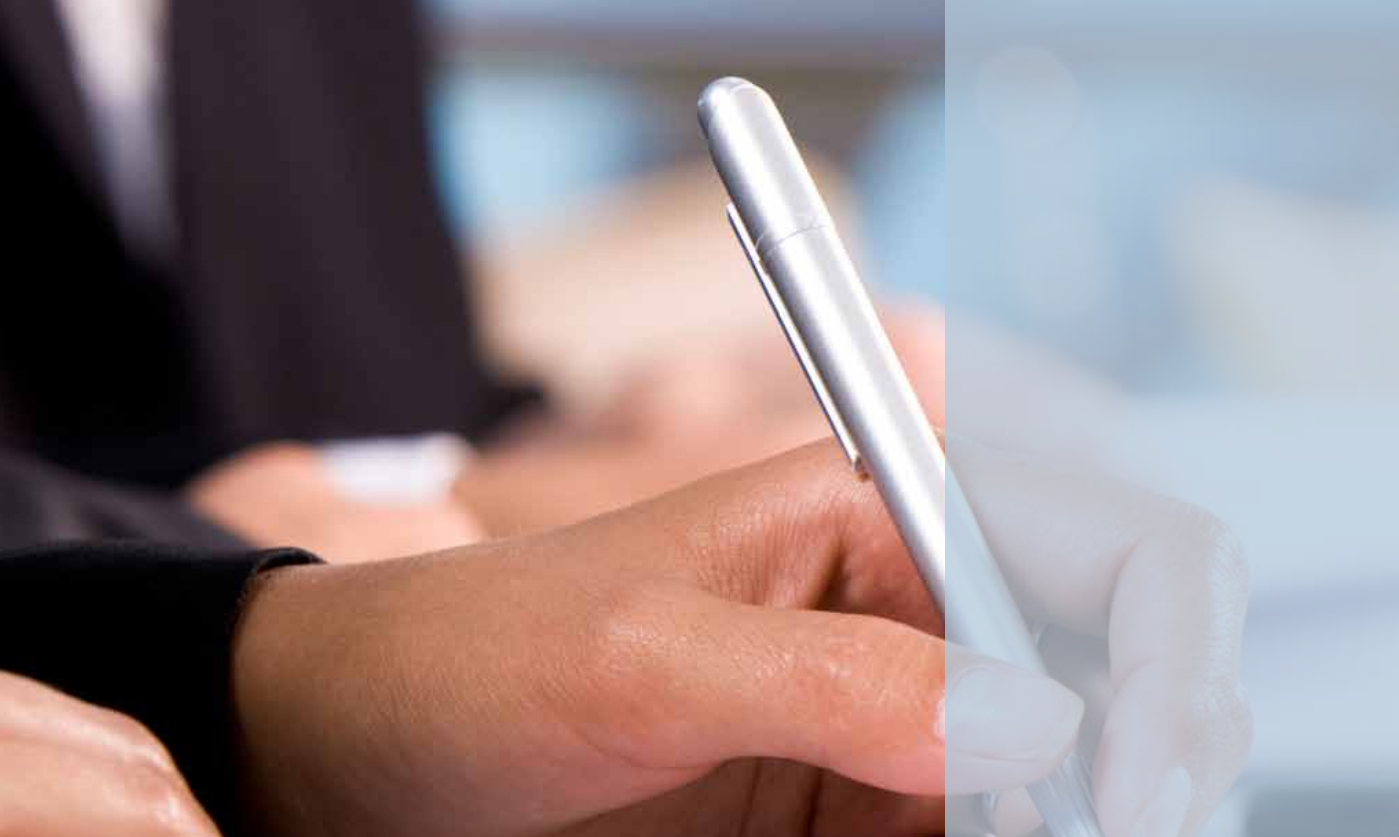
The final program of the industrial forum will be available onsite at the registration desk in Hamburg.

NATIONAL DVS YOUNG WELDERS COMPETITION

September 27 – 29, 2011, Expo Hall H

The 9th National DVS Young Welders Competition will also be a highlight of DVS Congress and DVS Expo. Young people, all between 16 and 21 years of age, compete against each other in four different disciplines in total – Gas Welding (G), Tungsten-Inert Gas Welding (TIG), Manual Metal-Arc Welding (E) and Metal-Active Gas Welding (MAG). Beforehand they had already won through against their rivals at the regional and state levels. The items during the coming days in Hamburg will establish the national winners in the individual disciplines, to select the most successful state branch!





EDUCATION COURSE

Thermal Spray Technology, Processing and Evaluation

September 24 – 26, 2011, 08:00-17:00

Location

Radisson Blu Hotel
Hamburg/Germany
(next door to CCH)

Instructors

Christopher C. Berndt, PhD, FASM, HoF
Professor, Swinburne University of Technology
Melbourne, Victoria, Australia

Douglas G. Puerta
Laboratory Director, IMR Test Labs
Portland, Oregon, United States of America



COURSE OVERVIEW

Thermal spray technology and coatings solve critical problems in demanding environments. They provide “solutions” to problems involving repair; wear; high temperature and aqueous corrosion; and thermal protection. Thermal spray can also be used to manufacture net-shapes, advanced sensors and materials for the biomedical and energy/environmental sectors. These and other emerging applications take advantage of the rapid and cost-effective capabilities of thermal spray technology in the OEM and repair industries.

Thermal spray processes - twin wire-arc, combustion, high velocity oxy-fuel (HVOF), cold spray and plasma spray, and associated technologies, can deposit virtually any material as a surface coating onto a wide range of other materials. Coating reliability and effectiveness requires that these overlay coatings be selected, engineered and applied correctly. In addition, the accurate evaluation of these coatings ensures that specifications are met.

This course (i) provides a thorough grounding and understanding of thermal spray processes, (ii) presents the complex scientific concepts in terms of simple physical models, and (iii) integrates this knowledge to practical applications and accepted thermal spray practices. While this is not a laboratory course, detailed instruction for the evaluation of thermal spray coating will be covered. Particular attention will be paid to metallographic preparation, and the methods used to ensure rigorous and practical evaluation. NO mathematics is used to explain the processes or materials/mechanical engineering.

Participants are encouraged to contact the instructors prior to the course so that any particular application or problem can be discussed as a case history. Each registrant receives the Handbook of Thermal Spray Technology and a comprehension set of notes that include the presentation slides.

Learning Objectives

Upon completion of this course, participants will:

- Determine the historical basis for thermal spray technology and have detailed knowledge regarding the development of equipment and materials as related to present-day technology.
- Recognize the terminology, principles and underlying theory of thermal spray technology.
- Compare and contrast thermal spray technologies with respect to competing coating technologies - PVD, CVD, hardfacing, electroplating etc.
- Explain how materials and feedstocks are designed and manufactured and how to select them for different spray processes.
- Identify applicable testing methods and currently accepted industrial practices used for quality control of coatings.
- Understand the relationship between metallographic preparation and coating appearance, and be able to predict other properties (such as adhesive strength) based on coating appearance.

Who Should Enroll?

- Technologists
- Engineers
- Technicians
- Technical marketing personnel
- Graduate students and other professionals entering the thermal spray field or who wish to update their knowledge

Course Outline

1. Surface Science
2. Equipment & Theory
3. Processing & Design
4. Materials
5. Applications
6. Testing & Characterization

ABOUT THE INSTRUCTORS

Chris Berndt earned his Ph.D. from Monash University, Melbourne in the area of "The Adhesion of Flame and Plasma Sprayed Coatings". See <<http://www.swinburne.edu.au/feis/iris/staff/cberndt.html>> He took on several post-doc fellowships in the U.S. before returning to Monash. He then joined the faculty at Stony Brook University in 1990 and he was appointed Associate Dean for Undergraduate Studies in 2001.

In 2005, Berndt returned to Australia as the founding Professor of Surface and Interface Engineering at James Cook University, Queensland. He moved to Swinburne University of Technology, Melbourne in 2008 as the founding Professor of Surface Science and Interface Engineering. He also serves as Director of the Industrial Research Institute Swinburne (aka 'IRIS'). Berndt also remains as an Adjunct Professor at Stony Brook.

Berndt has served as President of the ASM Thermal Spray Society and as an ASM Trustee, and he was in-

ducted into the Thermal Spray Hall of Fame in 2007. He has more than 400 publications in the field of materials science and engineering, and has served as editor for 10 conference proceedings on thermal spray.

Doug Puerta earned his B.A. from Franklin and Marshall College in Chemistry, and his M.S. in Materials Science and Engineering from Lehigh University. His graduate research focused on electrophoretic methods for the deposition of metallic and ceramic coatings. Following graduate school, Doug spent several years in the heat treat industry before joining IMR Test Labs.

Doug has over 20 years experience in surface enhancement and quality control. He is a member of the ASM Thermal Spray Society (TSS) Board of Directors, and a previous Chairman of the TSS Accepted Practices Committee on Metallography and Mechanical Testing. He has also taught thermal spray processing and evaluation for the past six years to aerospace OEMs and suppliers across the globe.

REGISTRATION

Reg. Fee	Before August 8, 2011	After August 8, 2011
Member fee (TSS/DVS/IIW)	\$ 1.200 US Dollars	\$ 1.350 US Dollars
Non-Member fee	\$ 1.350 US Dollars	\$ 1.500 US Dollars
Student fee	\$ 255 US Dollars	\$ 300 US Dollars

To register for the course or for any questions, please contact the ASM Member Service Center: memberservicecenter@asminternational.org or natalie.nemec@asminternational.org (Product Code: 253081911)



FRAME WORK PROGRAM



SOCIAL EVENTS

64th DVS Annual Assembly

Monday, September 26, 2011, 15:30, Hall 6
All registrants are invited to take part in the DVS Annual Assembly (only in German, free of charge)

General Opening of DVS Congress and DVS Expo

Monday, September 26, 2011, 18:00, Hall 4
All registrants are invited to take part in the General Opening (with simultaneous translation, free of charge)

Welcoming Party DVS Congress and DVS Expo

Monday, September 26, 2011, 19:00, Hall 3
All registrants are invited by DVS for a snack and drinks. Please order a special ticket

Opening of ITSC 2011

Tuesday, September 27, 2011, 09:00, Hall G 1
All registrants are invited to take part in the ITSC Opening. The Opening is included in the conference tickets

Opening of DVS Expo

Tuesday, September 27, 2011, 12:40, Expo Hall H
All registrants are invited to take part in a short Opening of the Exposition (with translation, conference or expo ticket needed)

Exhibitor Reception

Tuesday, September 27, 2011, 17:30, Expo Hall H
All registrants are invited by DVS and Messe Essen for a snack and drinks. Please order a special ticket

INDUSTRIAL TOURS

Daimler AG, Hamburg

Monday, September 26, 2011, 13:00-16:30
EUR 20 / pers. (Limited number of registrants)

Introduction of the Hamburg - Berlin - Untertürkheim factory network with the name of Powertrain. This will be followed by a presentation of the innovative welding technologies at Mercedes-Benz. The production halls of the smart rear axle and of the rear axle of the A, B and C classes will be visited.

Lufthansa Technik AG

Monday, September 26, 2011, 13:00-17:30
EUR 20 / pers. (Limited number of registrants)

Lufthansa Technik's headquarter is based in Hamburg, Germany. Almost 7.000 employees work on the premises which are spread out over more than 750.000 square meters in the western part of the airport Hamburg Fuhlsbüttel. Are you tempted by aircraft technology? Why not taking a look behind the hangar doors of Lufthansa Technik and follow us to get in touch with maintenance, repair and overhaul of transport category aircrafts. In short: experience Lufthansa Technik first-hand!

You will experience how Lufthansa produces the maximum degree of aircraft safety directly in touching distance.

Please note for both Industrial Tours:

A valid passport is necessary!
Departure: CCH (please watch information board)
Limited number of registrants (first come-basis)

Participation is only valid with a registration for the conference. Please indicate on the registration form. Registrants should be presented 10 minutes before departure of the buses. Do not forget the voucher for the tour. The tour includes transportation and English-speaking guide. Closing date for booking the industrial tours is September 10, 2011. If a minimum number of registrants for the tour is not reached, the tour can be cancelled.

EXCURSIONS

A - Historical Warehouse City & modern Hafencity (busride)

Tuesday, September 27, 2011, 10:00-12:00 (EUR 25 / pers.)

Departure: 10:00 by bus from the CCH to the harbor area. Please watch information board.

During this guided walking tour you will learn a lot of the historical part and the futuristic new Hafencity.

We start with the historical warehouse complex – a very typical part of Hamburg.

When Hamburg joined the German Customs Union in 1881, the storehouse quarter formed the first Hamburg free port area. These useful storehouses and loading facilities were inaugurated in 1888. The gothic-like red-brick stone type of the warehouses ties on to the architecture of the medieval Hanseatic cities.

Nowadays the new and modern quarter “Hafencity” is under construction right next to the old warehouse city. The future is meeting the past and the border of the free port area has to be relocated. But in some historical warehouses you can still find coffee, tea, spices or oriental carpets stored by the residents of the quarter according to tradition.

The first construction sections of the Hafencity are ready and this new district of Hamburg is becoming more

lively. Some important companies have inaugurated their new office buildings and the citizen of Hamburg has started to move into the new apartment-towers. Even the school is opened now – in direct neighborhood to the cruise terminal, museums and restaurants. The architecture is very innovative and futuristic and includes the typical maritime character of this area.

Last but not least you will get an impression of Hamburg's new landmark – the Elbphilharmonie – the concert hall of the future. The inauguration is planned for 2013 but even today the glass façade on top of an old historical storehouse is very impressive.

Limited number of registrants (first come-basis). Please indicate on the registration form. Registrants should be presented 10 minutes before departure of the bus. Do not forget the voucher for the excursion. The excursion includes transportation and English-speaking guide. Closing date for booking the excursion is September 10, 2011. If a minimum number of registrants is not reached, the excursion can be cancelled.



B – City and Alster (walk)

Tuesday, September 27, 2011, 14:00-17:45 (EUR 30 / pers.)

Departure: 14:00 at the CCH. Please watch information board.

Departure at the congress center for a little guided walk through the city center. You will learn a bit about the history of the town as well as the modern shopping world around the Inner Alster Lake.

Embarkment at the landing stage Jungfernstieg on a modern launch of the white Alster-fleet. The Alster lakes and canals are the heart of the city and offer a recreation area right next to the city center.

This cruise along the Alster canals shows Hamburg from a completely different perspective: beautifully kept villas and parks, modern residential buildings, allotment gardens and natural river banks glide past you - so close you can almost reach out and touch them. Not far from the city centre you can enjoy the idyllic greenery of the residential areas around the Alster.

The cruise will end at the landing stage Jungfernstieg. Individual return to the hotel or the congress center. – The city invites you to an individual shopping tour.



Limited number of registrants (first come-basis). Please indicate on the registration form. Registrants should be presented 10 minutes before starting the walk. Do not forget the voucher for the excursion. The excursion includes an English-speaking guide. Closing date for booking the excursion is September 10, 2011. If a minimum number of registrants is not reached, the excursion can be cancelled.

C – Organ Recital

Wednesday, September 28, 2011, 19:00 (EUR 20 / pers.)

Location: Main Church St. Michaelis Hamburg (Hamburger Michel), Englische Planke 1a, 20459 Hamburg/Germany

Meetingpoint: 18:45 in front of the main entrance of "Hamburg Michel" (without transport)

Program:

Carl Philipp Emanuel Bach Organ

Girolamo Frescobaldi (1583–1643)

Capriccio sopra la Bassa Fiamenga

Great Organ

Johann Sebastian Bach (1685–1750)

Prelude and fugue in D major, BWV 532

Concert Organ

Felix Mendelssohn Bartholdy (1809–1847)

Theme with variations in D major (1844)

Central Console

Franz Liszt (1811–1886)

"Saint Francis of Paola Crossing the Straits of Messina"

Charles-Marie Widor (1844–1937)

Toccata in F major from the 5th organ symphony

Christoph Schoener, Church Music Director, Organ

Please indicate on the registration form. Registrants should be presented 15 minutes before the start of the Organ Recital in front of the main entrance of the Hamburger Michel. Do not forget the voucher for the excursion. The excursion does not include transportation. Closing date for booking the excursion is September 10, 2011.

Location

CCH Congress Center Hamburg and Expo Hall H, Am Dammtor / Marseiller Straße 1, 20355 Hamburg/Germany

Information

The conference will take place as a discussion event. The names of the lecturers are followed by an asterisk. The language of the ITSC is English. All other conferences at DVS Congress will be held in German.

All ITSC registrants are allowed to take part in the complete program of DVS Congress and DVS Expo (depending on the ticket you book).

Interested ITSC attendees can also participate in the 64th DVS Annual Assembly, Monday, September 26, 2011, 15:30, CCH Hall 6 (free of charge).

Complete Registration includes:

- **3-Day Technical Conference**
including all conferences
September 27 – 29, 2011
- **3-Day Exposition**
- **General Opening**
of DVS Congress and DVS Expo
September 26, 2011, 18:00
- **Welcoming Party**
DVS Congress and DVS Expo
September 26, 2011, 19:00
- **Exhibitor Reception**
September 27, 2011, 17:30
- **ITSC Poster Session Evening**
September 28, 2011, 17:30-19:30
- **USB stick** with manuscripts of all conferences of DVS Congress
- **Coffee Breaks**

One-Day Ticket possible

GENERAL INFORMATION

REGISTRATION

Advance Registration

E-mail, fax

Send your complete registration form to:

DVS – German Welding Society
P.O. Box 10 19 65
40010 Düsseldorf, Germany

phone +49 (0) 211 1591-302/-303
fax +49 (0) 211 1591-300
e-mail tagungen@dvs-hg.de

Online

You can also use the online registration:
www.dvs-congress.de/itsc2011

*All information and details on the ITSC 2011 are on the website:
www.dvs-congress.de/itsc2011*

Registration received without payment will not be processed. If your registration form and payment have not been received by DVS by September 10, 2011 you have to pay a late registration fee of EUR 60. This applies also to on-site registration.

A confirmation will be faxed to you within 10 business days of receiving your registration and payment.

Payment

By credit transfer:

DVS – German Welding Society
Commerzbank AG, Düsseldorf
account no. 212 601 100
bank sorting code 300 800 00
IBAN-code: DE82 3008 0000 0212 6011 00
Swift-code: DRESDEFF300

Any banking charges which may be incurred will be borne by the attendees. Keyword for credit transfer (please do not forget): ITSC 2011, name of registrant

By credit card:

MasterCard, Visa (accepted)

Cancellations

Cancellations must be in writing to the DVS. In case of cancellation after September 10, 2011 DVS will take a processing fee of EUR 70.

On-Site Registration and Check In at the Conference Desk

Registered attendees should check in and pick up their conference documents at the conference desk. The conference desk is located in the CCH Foyer (ground floor), phone +49 (0) 40 3569-5300

The Conference Desk is open from:

September 26, 2011	11:00-18:30
September 27, 2011	07:30-17:00
September 28, 2011	07:30-17:00
September 29, 2011	07:30-17:00



EVENT DOCUMENTS

Expo Guide

You will find a catalogue (free of charge) with all information about DVS Expo (exhibitor information, contacts, booth numbers) at the booth of DVS Media in Expo Hall H and at the registration desk in the foyer.

USB stick

The USB stick with manuscripts of all conferences of DVS Congress will be produced in advance with illustrations and tables. You will receive it at your check

in. Additional USB sticks as well as a printed version of each conference proceedings (ITSC: abstract book with CD) can be bought at the desk of DVS Media in Hamburg. Sales of the USB sticks and the proceedings in the name and to the account of the DVS Media.

List of Registrants

All attendees who have registered until September 10, 2011 will be listed. You can get this list with your conference documents.

TRANSPORTATION

By Plane and S-Bahn

From Hamburg Airport, 69 airlines fly directly to 18 national and 98 international destinations. It is situated to the north of the city in Fuhlsbüttel. The CCH – Congress Center Hamburg can be reached from here by S-Bahn (S1) and taxi. The journey time to CCH by car is about 20 minutes, by public transport about 25 minutes. For more information: <http://www.cch.de/en/visit/travel-and-accommodation/>

By Car

You can use the CCH garage (EUR 14/day).

Special Offer “Deutsche Bahn”

To the DVS Congress as well as to the DVS Expo and the ITSC 2011 by rail as from EUR 99

With the offer made by Messe Essen and its partners, DVS and Deutsche Bahn, you can save on your participation in the DVS Congress as well as in the DVS Expo and the International Thermal Spray Conference

and Exposition (ITSC)! Take up this offer and profit from attractive prices and conditions.

The price of your event ticket for the return journey* to Hamburg:

- 2nd class: EUR 99
- 1st class: EUR 159

Your ticket will be valid for the travel period from September 24 to October 1, 2011.

Book your trip by telephone at the service number +49 (0) 1805 311153** with the keywords “DVS Congress”, “DVS Expo” or “ITSC” and have your credit card ready for payment.

Your price advantages compared with the normal price in the 2nd class***:

For example, on the route (return journey)	Normal price	Price of the event ticket	Price advantage
Munich - Hamburg	EUR 258	EUR 99	EUR 159
Frankfurt - Hamburg	EUR 218	EUR 99	EUR 119
Düsseldorf - Hamburg	EUR 168	EUR 99	EUR 69
Berlin - Hamburg	EUR 140	EUR 99	EUR 41

* Advanced booking period: min. 3 days. Valid for just one train and on sale while stocks last. Exchange and refund - before the 1st day of validity: EUR 15 and as from the 1st day of validity: excluded. Fully flexible tickets (valid for more than one train) for travelling on Monday to Thursday are also available at a surcharge of EUR 20.

** The hotline can be reached from 08:00 to 21:00 on Monday to Saturday. The telephone costs amount to EUR 0,14 per minute from the German landline network and to max. EUR 0,42 per minute from the mobile phone networks.

*** Subject to price changes. Information without guarantee.

CATERING

Coffee Breaks, Expo Hall H

During the coffee breaks (not during lunch break) coffee and tea will be served free of charge.

Restaurant Facilities, Expo Hall H

There are several sales stalls in the Expo Hall H.



TIPS FOR GERMANY

Passports and Visas

All foreign visitors entering Germany must have a valid passport. For detailed information about visas, please contact your nearest German Embassy or Consulate.

Currency

EURO (EUR) is the currency of Germany. Foreign currencies can be exchanged at the banks and in the major hotels.

Electricity

The voltage in Germany is 230 volts. Travellers are advised to bring a power converter and an adapter.

Time

CET (Central European Time)

Hamburg Information

If you want more information about Hamburg you can contact: <http://english.hamburg.de/>



HOTEL INFORMATION

Hotel reservation can be made by filling in the enclosed registration form. Please return it to

INTERPLAN AG Büro Hamburg
Kaiser-Wilhelm-Str. 93
20355 Hamburg/Germany
phone +49 (0) 40 3250 9230
fax +49 (0) 40 3250 9244
e-mail dvs11@interplan.de

Online-registration:
<http://interplan.de/reg/2011/hhdvs11>

A hotel list is available.

We recommend the Radisson Blu Hotel (4 star) next to the CCH as the Headquarter Hotel for ITSC 2011!

HOTEL LIST



5 stars hotels	single room	double room	breakfast	location / public transport
EAST Hotel Hamburg Simon-von-Utrecht-Str. 31	EUR 195	---	incl.	Bus 112 or 36 St. Pauli. → Stephansplatz (incl. walk 20 min. to CCH)
Grand Elysée Hotel Rothenbaumchaussee 10	EUR 220	EUR 240	EUR 20	5 min. walk to CCH
4 stars hotels	single room	double room	breakfast	location / public transport
Ambassador Heidenkampsweg 34	EUR 99	EUR 149	EUR 14	S21 Berliner Tor → Dammtor (incl. walk 15 min. to CCH)
Baseler Hof Esplanade 11	EUR 99	EUR 145	incl.	5 min. walk to CCH
Empire Riverside Bernhard-Nocht-Str. 97	EUR 189	EUR 189	EUR 18	Bus 112 St. Pauli Hafenstr. → Stephansplatz (incl. walk 20 min. to CCH)
InterCity Hauptbahnhof Glockengießerwall 14/15	EUR 163	EUR 193	incl.	Bus 112 Ferdinandstor → Stephansplatz (incl. walk 15 min. to CCH)
Maritim Hotel Reichshof Kirchenallee 34 - 36	EUR 172	EUR 214	incl.	S31 / S21 main station → Dammtor (incl. walk 10 min. to CCH)
Mercure Hamburg City Amsinckstr. 53	EUR 129	EUR 129	EUR 20	S31 Hammerbrook → Dammtor (incl. walk 20 min. to CCH)
Mövenpick Hotel Sternschanze 6	EUR 180	EUR 200	incl.	10 – 15 min. walk to CCH
NH Hamburg City Feldstr. 58	EUR 159	EUR 159	EUR 16	10 – 15 min. walk to CCH
NH Norge Schäferkampsallee 49	EUR 149	EUR 149	EUR 16	Bus 4 Schlump → Dammtor (incl. walk 20 min. to CCH)
Radisson Blu Marseller Str. 2	EUR 265	EUR 285	incl.	next to CCH
3 stars hotels	single room	double room	breakfast	location / public transport
Alster-Hof Esplanade 12	EUR 95	EUR 125	incl.	5 min. walk to CCH
Grand City Hotel Berlin Borgfelder Str. 1-9	EUR 110	EUR 115	EUR 15	S21 Berliner Tor → Dammtor (incl. walk 15 min. to CCH)
Hotel Hafen Hamburg Seewartenstr. 9	EUR 160	EUR 160	EUR 16	Bus 112 Landungsbrücken → Stephansplatz (incl. walk 20 min. to CCH)
Ibis Hamburg Alster Holzdamm 4-6	EUR 119	EUR 149	incl.	Bus 112 Ferdinandstor → Stephansplatz (incl. walk 15 min. to CCH)
Mercure an der Messe Schröderstiftstr. 3	EUR 160	EUR 188	incl.	5-10 min. walk to CCH
Motel One Hamburg-Alster* Steindamm 96 - 102	EUR 76,50	EUR 99	incl.	U1 Lohmühlenstraße → Stephansplatz (incl. walk 15 – 20 min. to CCH)
Suite Novotel Hamburg City Lübeckertordamm 2	EUR 109	EUR 109	EUR 13	U1 Lohmühlenstraße → Stephansplatz (incl. walk 15 – 20 min. to CCH)
2 stars hotels	single room	double room	breakfast	location / public transport
Amsterdam Moorweidenstr. 34	EUR 119	EUR 129	EUR 8	5 min. walk to CCH
Apartment-Hotel Hamburg Hamm Borstelmannsweg 133	EUR 86	EUR 102	incl.	Bus 112 → S Hammerbrook, S31 → Dammtor (incl. walk 25 min. to CCH)
Bellmoor Moorweidenstr. 34	EUR 95	EUR 140	incl.	5 min. walk to CCH
Hotel St. Annen Annenstr. 5	EUR 98	EUR 125	incl.	20 – 25 min. walk to CCH

All rates per room and night including German VAT. Breakfast per person and day. Descriptions on the hotels can be found on the congress website www.dvs-congress.de/itsc2011. *Bookings at the Motel One Hamburg-Alster are only possible with credit card guarantee.



ACTING EXPERTS

PRESENTING AUTHORS, POSTER PRESENTERS AND SESSION CHAIRMEN ITSC 2011

A

Abdulgader, M. University of Dortmund, Dortmund/Germany

Abukawa, S. Tocalo Co., Ltd., Akashi/Japan

Ageorges, H. University of Limoges, Limoges/France

Aghaee, M. Isfahan University, Isfahan/Iran

Aguiar, L. Technological Federal University of Paraná, Curitiba/Brazil

Akgün Kayral, S. Celal Bayar University, Manisa/Turkey

Akuh, M. Air Products GmbH, Hattingen/Germany

Alamara, K. Swinburne University of Technology, Melbourne/Australia

Alaya, M. University of Limoges, Limoges/France

Alishir, F. Tarbiat Modares University, Tehran/Iran

Altun, O. Sakarya University, Sakarya/Turkey

Altuncu, E. Kocaeli University, Kocaeli/Turkey

Ansar, A. German Aerospace Center, Stuttgart/Germany

Arai, M. Central Research Institute of Electric Power Industry, Kanagawa/Japan

Armada, S. SINTEF, Trondheim/Norway

Arnold, J. German Aerospace Center, Stuttgart/Germany

Assaad, J. University of Ottawa, Ottawa/Canada

Assadi, H. Tarbiat Modares University, Tehran/Iran

Azarmi, F. North Dakota State University, Fargo/United States of America

B

Bachmann, A. Sulzer Metco AG (Switzerland), Wohlen/Switzerland

Bae, G. Kinetic Spray Coating Laboratory, Seoul/South Korea

Bai, Y. Xi'an Jiaotong University, Xi'an/P.R. China

Bala, N. Baba Banda Singh Bahadur Engineering College, Fatehgarh Sahib/India

Barbosa, M. Fraunhofer Institute IWS, Dresden/Germany

Bardi, U. University of Firenze, Firenze/Italy

Barth, A. Sulzer Metco AG (Switzerland), Wohlen/Switzerland

Bavaresco Sucharski, G. Technological Federal University of Paraná, Curitiba/Brazil

Beczowski, J. H.C. Starck GmbH, Laufenburg/Germany

Berger, L. Fraunhofer Institute IWS, Dresden/Germany

Bertolissi, G. University of Modena and Reggio Emilia, Modena/Italy

Bianchi, L. CEA, Le Ripault, Monts/France

Binder, K. Helmut-Schmidt-University of the Allied Forces, Hamburg/Germany

Bloschies, G. Gesellschaft für Wolfram Industrie mbH, Traunstein/Germany

Bobzin, K. RWTH Aachen University, Aachen/Germany

Bolduc, M. University of Ottawa, Ottawa/Canada

Bolelli, G. University of Modena and Reggio Emilia, Modena/Italy

Bolot, R. LERMPS, University of Technology of Belfort Montbéliard, Belfort/France

Borisov, Y. E.O. Paton Electric Welding Institute, Kiev/Ukraine

Boulos, M. University of Sherbrooke, Sherbrooke/Canada

Bu, H. School of Materials Sciences and Engineering, Shanghai/P.R. China

C

Cai, Z. LERMPS, University of Technology of Belfort Montbéliard, Belfort/France

Canales, H. National Aerospace University, Kharkov/Ukraine

Cannamela, M. Boston University, Boston/United States of America

Capra, A. Technological Federal University of Paraná, Curitiba/Brazil

Chavan, N. International Advanced Research Center for Powder, Hyderabad/India

Chebby, A. School of Mechanical and Manufacturing Engineering, Dublin/Ireland

Chen, D. Sulzer Metco (US) Inc., Westbury/United States of America

Chen, X. School of Mechanical and Materials Engineering, Jiujiang/P.R. China

Cheng-Sheng, Y. China Steel Corporation, Kaohsiung/Taiwan

Chien, K. Centre for Advanced Coating Technologies, Toronto/Canada

Chivel, Y. Institute of Applied Physical Problems, Minsk/Belarus

Christenn, C. German Aerospace Center, Stuttgart/Germany

- Cinca, N. CPT Thermal Spray Centre, Barcelona/Spain
- Clavette, P. United Technologies Research Center, East Hartford/United States of America
- Coddet, C. LERMPS, University of Technology of Belfort Montbéliard, Belfort/France
- Cojocaru, C. National Research Council Canada, Boucherville/Canada
- Costil, S. LERMPS, University of Technology of Belfort Montbéliard, Belfort/France
- Coyle, T. University of Toronto, Toronto/Canada
- Crawford, D. Control Vision, Inc., Sahuarita/United States of America
- Ctibor, P. Institute of Plasma Physics, Praha/Czech Republic
- Cuglietta, M. University of Toronto, Toronto/Canada
- Curry, N. University West, Trollhättan/Sweden
- D**
- Deng, C. Guangzhou Research Institute of Non-Ferrous Metals, Guangzhou/P.R. China
- Descurnings, L. MINES ParisTech, Evry/France
- Dizdar, S. Höganäs AB, Höganäs/Sweden
- Dong, S. LERMPS, University of Technology of Belfort Montbéliard, Belfort/France
- Donner, K. Helmut-Schmidt-University of the Allied Forces, Hamburg/Germany
- Döring, J. TeroLab Surface GmbH, Langenfeld/Germany
- Dorfman, M. Sulzer Metco (US) Inc., Westbury/United States of America
- Dosta, S. CPT Thermal Spray Centre, Barcelona/Spain
- Drehmann, R. Chemnitz University of Technology, Chemnitz/Germany
- Drodza, F. Technological Federal University of Paraná, Curitiba/Brazil
- Ducos, M. Consultant, Mornas/France
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