RIPT - 8th edition

Educational course:
«Thermal spray technology and coatings »

Conference Sessions:
1) Spray process & coatings
2) Cold spray
3) Solution & suspension spraying
4) Characterisation of coatings
5) Applications of coatings
6) Biomaterials
7) Modeling, diagnostics and process control

Original contributions include: thermal spraying; recent developments on suspensions and solutions; spray feedstock: powders, suspensions, solutions; functional and nanostructural coatings; analysis of spray processes; sprayed coatings characterizations (microstructural, optical, mechanical, physical, chemical...); recent methods such as suspension spray and cold spray; post spray treatments; environmental aspects of thermal spraying will be particularly of interest during this 8th edition.

Conference fees to be paid on line using our website: http://www.unilim.fr/ript/registration/

(1 day / 2 days):

<table>
<thead>
<tr>
<th></th>
<th>NON ETSA</th>
<th>ETSA members</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students</td>
<td>60 € / 130 €</td>
<td>40 € / 100 €</td>
</tr>
<tr>
<td>Academics</td>
<td>230 € / 400 €</td>
<td>190 € / 350 €</td>
</tr>
<tr>
<td>Industry</td>
<td>260 € / 450 €</td>
<td>210 € / 400 €</td>
</tr>
<tr>
<td>Exhibitors</td>
<td>550 €</td>
<td>500 €</td>
</tr>
<tr>
<td>Gala dinner</td>
<td>50 €</td>
<td>40 €</td>
</tr>
<tr>
<td>Educational course</td>
<td>800 €</td>
<td></td>
</tr>
</tbody>
</table>

http://www.unilim.fr/ript
**Scientific Committee**

<table>
<thead>
<tr>
<th>Name</th>
<th>Institution</th>
</tr>
</thead>
<tbody>
<tr>
<td>AMBROZIAK A.</td>
<td>Professor, Wrocław University of Technology, Poland</td>
</tr>
<tr>
<td>BERNDT C.</td>
<td>Professor, Swinburne University of Technology, Hawthorn, Australia</td>
</tr>
<tr>
<td>BOBZIN K.</td>
<td>Professor, RWTH, Aachen, Germany</td>
</tr>
<tr>
<td>BOLLELLI G.</td>
<td>Dr., University of Modena, Modena, Italy</td>
</tr>
<tr>
<td>CHARTIER T.</td>
<td>Dr., University of Limoges, France</td>
</tr>
<tr>
<td>DOSTA S.</td>
<td>Professor, University of Barcelona, Spain</td>
</tr>
<tr>
<td>FAUCHAIS P.</td>
<td>Professor, University of Limoges, France</td>
</tr>
<tr>
<td>GARCIA-CANO I.</td>
<td>Professor, University of Barcelona, Spain</td>
</tr>
<tr>
<td>HAZEL B.</td>
<td>Dr., Pratt Whitney, East Hartford, USA</td>
</tr>
<tr>
<td>HOUDKOVA S.</td>
<td>Dr., University of Plzen, Czech Republic</td>
</tr>
<tr>
<td>JOSHI S.V.</td>
<td>Professor, West University Trollhättan, Sweden</td>
</tr>
<tr>
<td>KILLINGER A.</td>
<td>Professor, University of Stuttgart, Germany</td>
</tr>
<tr>
<td>KLASSEN T.</td>
<td>Professor, University of Bundeswehr, Hamburg, Germany</td>
</tr>
<tr>
<td>KLEMENT U.</td>
<td>Professor, Chalmers University, Göteborg, Sweden</td>
</tr>
<tr>
<td>KOZERSKI S.</td>
<td>Dr., University of Technology, Wroclaw, Poland</td>
</tr>
<tr>
<td>LAMPKE T.</td>
<td>Professor, University of Chemnitz, Germany</td>
</tr>
<tr>
<td>LI H.</td>
<td>Professor, Ningbo Institute of Mat. Sci. Eng, China</td>
</tr>
<tr>
<td>LIMA C. R.</td>
<td>Professor, University UNIMEP, Sao Paulo, Brazil</td>
</tr>
<tr>
<td>LUSVARGHI L.</td>
<td>Professor, University of Modena, Modena, Italy</td>
</tr>
<tr>
<td>MATEJECK J.</td>
<td>Dr., Institute of Plasma Physics, Prag, Czech Republic</td>
</tr>
<tr>
<td>MAUER G.</td>
<td>Dr., FZ Jülich, Germany</td>
</tr>
<tr>
<td>NYLEN P.</td>
<td>Professor, University West, Trollhättan, Sweden</td>
</tr>
<tr>
<td>PUCHI-CABRERA E.</td>
<td>Professor, University of Caracas, Venezuela</td>
</tr>
<tr>
<td>SANCHEZ E.</td>
<td>Professor, Institute of Ceramics, Spain</td>
</tr>
<tr>
<td>SIEGMANN S.</td>
<td>Dr., Nova Werke AG, Effretikon, Switzerland</td>
</tr>
<tr>
<td>TOMA F.L.</td>
<td>Dr., Fraunhofer Gesellschaft, Dresden, Germany</td>
</tr>
<tr>
<td>TULUI M.</td>
<td>Dr., Centro Sviluppo Materiali, Rome, Italy.</td>
</tr>
<tr>
<td>VARDELLA E.</td>
<td>Professor, University of Limoges, France</td>
</tr>
<tr>
<td>VUORISTO P.</td>
<td>Professor, Tampere University of Technology, Finland</td>
</tr>
<tr>
<td>WIELAGE B.</td>
<td>Professor, TU Chemnitz, Germany</td>
</tr>
</tbody>
</table>

**Educational course:** December 6th, 2017

«Thermal spray technology: position among films and coatings technologies, coatings characterization, applications and technology’s future»

Morning lectures given by: Chris Berndt, Hua Li, Shrikant Joshi, and Lech Pawlowski; followed by Afternoon demonstration (details available online): “Solution and suspension spraying, followed by microscopy observation of the coatings”

**Conference Sessions:** December 7th & 8th, 2017

1) Spray process & coatings
2) Cold spray
3) Solution & suspension spraying
4) Characterisation of coatings
5) Applications of coatings
6) Biomaterials
7) Modeling, diagnostics and process control

**Organizing Committee:**

VASSEN Robert (Co-Chairman)

PAWŁOWSKI Lech (Co-Chairman)

BLANCHART Philippe

CALVÉ Nicolas (Webmaster)

CONSTANTINESCU Catalin

DENOIRJEA Alain

LECOMTE Gisèle

LE NINIVEN Christophe

PATEYRON Bernard

RIVAUD Geoffroy
Conference articles:

Papers presented within the auspices of the 8th RIPT conference (invited, oral and poster contributions) will be published after normal peer-review process in "Surface and Coatings Technology", an international journal devoted to the science and application of advanced surface treatments for improvement of material properties.

The articles must go beyond the technical recipe format and gain new understanding and insight based on detailed characterization of coatings and processes. Experimental papers should provide complete information on the process parameters and an appropriate microstructural characterization.

Manuscripts must be written in good English and should contain adequate / up-to-date references, formatted according to the guide-for-authors document.

Further details about journal can be found on-line:

http://ees.elsevier.com/surfcoat
### Welcome!

**08h00**, registration desk open (entry hall).

We sincerely welcome you to the 8th RIPT conference and hope that you will enjoy this event. Please contact us at the registration desk if you have any questions, suggestions that you would like to share with us during this event, or to inform us of your plans. We will do our best to help you!

### Amphitheatre #3:

10h00 – 12h00, Meeting: ETSA Board of Directors

### Amphitheatre #4:

14h00, plenary lecture given by Petri Vuoristo, “Alternative coating materials in thermal spraying for sustainability and eco-efficiency”.

15h00, plenary lecture given by Carina Cid Arasa, “The publishing cycle in a digital area and the new trends in the of Surface and Coatings Technology”.

18h30, ESTER Technopole (rue Atlantis): “Welcome cocktail”, an event courtesy of AVRUL.

### Registration form for the 8th RIPT

6-8 December 2017, Limoges

Please use the registration on the website: [http://www.unilim.fr/ript/registration/](http://www.unilim.fr/ript/registration/)

Otherwise, please fill in this form and return it to the registration desk during your visit.

- **Title (Prof, Dr, Ms, Mrs, Mr) ___________________**
- **First name ___________________________________**
- **Last name / Surname ________________________**
- **Job title ___________________________________**
- **Organization _______________________________**
- **Address ___________________________________**
- **City __________________ Postal code __________**
- **Country ___________________________________**
- **Phone _______________ Fax ___________________**
- **E-mail __________________________________**

*Total sum paid: ___________ €

- [ ] Oral /Invited contribution
- [ ] Poster presentation
- [ ] Technical exhibition
- [ ] Participant

Your comments (if any):

___________________________________________________________________________________________

---

### Program of the 8th RIPT in Limoges, France – Day 1: Wednesday, 6th of December 2017

#### Room TD #4:

**Educational course**, entitled: «Thermal spray technology and coatings »

**09h00 – 10h00**, lecture by Christopher Berndt: “Physical properties & characterization of thermal spray coatings”

**10h00 – 11h00**, lecture by Hua Li: “Thermal sprayed marine coatings: biofouling and microbiologically influenced corrosion and antifouling strategies”

**11h00 – 12h00**, lecture by Shrikant Joshi: “Liquid and liquid-powder hybrid feedstock plasma spraying to achieve diverse function-dependent coating architecture”

**12h00 – 13h00**, lecture by Lech Pawłowski: “Physical methods of film and coatings deposition”

**13h00 – 14h00**: lunch break

**14h00 – 17h00**, experimental demonstration of thermal spray technology currently in use at “SPCTS” laboratory: “Solution and suspension spraying, followed by microscopy observation of the coatings”.

In charge / contact persons: Lech Pawłowski, Alain Denoirjean, and Geoffroy Rivaud.

For further details, please go on-line at [www.unilim.fr/ript](http://www.unilim.fr/ript) and refer to the available documents.
Amphitheatre #4

08h00: Opening ceremony. Welcome words from the representatives from the Municipality, University of Limoges, and SPCTS Laboratory

08h30: Plenary lecture by Thomas KLASSEN: “Cold Spraying for Additive Manufacturing and Repair”

Room TD #3

Solution & suspension spraying – session 1
Chairman: Enrique Sanchez

- 09h00: “HVOF Spraying of Suspensions and Solution Precursors” by Andreas Killinger (invited)
- 09h30: “Influence of HVSPFS hardware components on Titanium dioxide coatings” by M. Blum
- 09h50: “Influence of suspension properties on HVSPS oxide-carbide ceramic coatings” by Andreas Förg
- 10h10: “Novel function-dependent coating architectures and superior performance through powder-suspension hybrid spraying” by Shrikant Joshi (invited)
- 10h40 – 11h20: Coffee break

Room TD #4

Solution & suspension spraying – session 2
Chairman: Sergey Dosta

- 11h20: “Suspension plasma spraying to obtain bioactive glass coatings. Post-deposition treatment needed?” by Enrique Sanchez (invited)
- 11h50: “Effects of solution concentration and spraying parameters on thermal barrier coatings obtained by SPPS process” by Pablo Carpio
- 12h10: “Biocompatible Coatings by Axial Suspension Plasma Spraying” by Nicole Markocan
- 12h30: “Processing Effects on Microstructure in Spraying of Suspensions” by Brian Hazle (invited)

Characterisation of coatings – session 1
Chairman: Catalin Constantinescu

- 09h00: “Microstructural defects in thermally sprayed coatings – their origin, causes, influences and methods for their prevention” by Petri Vuoristo (invited)
- 09h30: “Laser cladding of Fe-Cu metal matrix composites reinforced by ceramic inclusions for dry friction applications at ambient and elevated temperatures” by Igor Smurov
- 09h50: “Investigation of micro-arc oxidation treatment on selective laser melting Ti_{6}Al_{4}V surfaces” by Xingchen Yan
- 10h10: “Solution Precursor Plasma Spray, Challenges of Porous vs. Dense Coatings” by Eric JORDAN (invited)
- 10h40 – 11h20: Coffee break

Characterisation of coatings – session 2
Chairman: Radek Musalek

- 11h20: “Stellite 6 hardfacing coatings applied by HVOF and GMAW hot wire cladding; microstructure features influencing the wear and corrosion performance” by Carlos Lima (invited)
- 11h50: “Microstructural Investigation and characterization of HVOLF thermal spray in narrow and complex areas” by Rohit Upadhyaya
- 12h10: “Mechanical properties of alumina-zirconia-silica ceramic coatings after surface heat treatment” by Jan Medricky
- 12h30: “A methodology to investigate mechanical properties of metallic substrate coated by ceramic” by Vincent Maurel (invited)

Program of the 8th RIPT in Limoges, France – Day 2: Thursday, 7th of December 2017 (morning sessions)

Amphitheatre #4

Spray process – session 1
Chairman: Christopher Berndt

- 09h00: “Replacing critical materials in thermal spray coatings – current status, research trends and challenges” by Giovanni Bollelli (invited)
- 09h30: “The effect of feedstock powder treatment/processing on the microstructure, quality and performance of thermally sprayed titanium based composite coating” by Salman Asma
- 10h10: “Materials and Processing Factors Influencing Stress Evolution and Mechanical Properties of Plasma Sprayed Coatings” by Irina Matejcek (invited)
- 10h40 – 11h20: Coffee break

Spray process – session 2
Chairman: Giovanni Bollelli

- 11h20: “Challenges for Thermal Spray: What do we do next?” by Christopher Berndt (invited)
- 11h50: “Control of the porosity of plasma-sprayed coatings for low thermal conductivity microstructures” by V. Fournier
- 12h10: “Microstructural features and phase compositions of APS-sprayed coatings of the Al_{2}O_{3}-TiC system” by L. Berger
- 12h30: “Investigation of porosity in suspension plasma sprayed YSZ coatings by use of NMR cryptorometry and X-ray microscopy” by Uta Klement (invited)

Amphitheatre #3

Cold spray – session 1
Chairman: Chaoyue Chen

- 09h00: “Deposition efficiency prediction via machine learning in Cold Spray” by Sergi Dosta (invited)
- 09h30: “Cu-W functionally graded material by cold spray for plasma facing components” by Aurelie Quet
- 09h50: “Residual stresses in cold spray coatings by in-situ curvature measurements” by Raphaëlle Bernardi
- 10h10: “Field electron emission experiments with cold sprayed Cu-SiC cermet coatings” by M. Winnicki
- 10h40 – 11h20: Coffee break

Cold spray – session 2
Chairman: Sergi Dosta

- 11h20: “Cold Gas Spraying of Titanium Aluminide (TiAl) Alloys for Jet Engine Applications” by Emine Bakanc (invited)
- 11h50: “Study the effects of post-spray heat treatment on nano-structured cermet Ti-WC coatings obtained by high pressure cold spray process” by Goibinda Saha
- 12h10: “A novel method for fabricating Al/SiC electronic packaging materials with cold spray” by Chunjie Huang
- 12h30: “Microstructure and Mechanical Properties of Cold Sprayed Cr_{1-x}C\textsubscript{x}/Ni_{20}Cr Coatings” by A. Goral

13h00-15h00 LUNCH
Amphitheatre #3

Spray process – session 3
Chairman: Petri Vuoristo

- 15h30: “Assessment of interface strength and mechanical behaviour of various ceramic coatings involving laser shock experiments” by Vincent Guipont (invited)
- 16h00: “Ultrasonic Cavititation Erosion of Vacuum Plasma Sprayed Yttria Stabilized Zirconia Coatings” by Yan Wang
- 16h20: “Cavitation erosion and corrosion behavior of HVOF/HVAF sprayed WC-based coatings” by I. Hulka
- 16h40: “Suspension detonation spraying” by A. Shentser
- 17h00: “Non-contact residual stress analysis method in the nanometric range by laser made hole drilling and SLM based beam conditioning on ceramic coatings” by V. Martinez-Garcia
- 17h20: “Comparison of Microstructure and Oxidation Behavior of ConCRAy Coatings Produced by APS, SAPS, D-Gun, HVOF and CGDS Techniques” by Mecit Oge
- 17h40 – 17h50: Coffee break

Spray process – session 4
Chairman: Alain Denoirjean

- 17h50: “Cascaded Arc Technology in the Thermal Spray Industry” by B. Distler (invited)
- 18h20: “Performance and failure of plasma sprayed mullite-barium-magnesium-alumino-silicate environmental barrier coatings subjected to thermal cyclic loading” by L. Celiko
- 18h40: “Novel manufacturing technology of ceramic inner coatings on CFRP tubes” by Septimiu Popa

Amphitheatre #4

Cold spray – session 3
Chairman: Emine Bakan

- 15h30: “Effects of the heat accumulation on the coating quality in cold spray” by Choyoue Chen (invited)
- 16h00: “Effects of the Mixed Impact Interfaces and Bimodal Size Feedstock Structure on the Cold Sprayabilities of Mixed 316L/Fe powders” by Xin Chu
- 16h20: “Tribological and high-temperature mechanical characterization of cold sprayed Stellite coatings” by Lidia Bialmonte
- 16h40: “Fatigue crack propagation in cantilever bending of cold sprayed metallic coatings” by Jan Czek
- 17h00: “Influence of machining and ball-burnishing on microstructure and residual stress distribution of stainless steel coatings produced by cold spray and laser cladding” by Cedric Courbon
- 17h20: “Preparation and characterization of Ni-coated Fe-Si-Al soft magnetic composites via cold spraying” by Xianliang Xie
- 17h40 – 17h50: Coffee break

Biomaterials – session 1
Chairman: Marine Chambard

- 17h50: “Characteristics of adsorption of polysaccharides and distinctive bacterial colonisation and their influence on electrochemical behaviors of arc sprayed aluminum coatings” by Hua Li
- 18h20: “Plasma-sprayed antimicrobial coatings from ultrafine composite powders” by A. Wrona
- 18h40: “Preliminary study on the synthesis of Cu-doped HAP coatings using solution precursor plasma spray process” by Romnick Unabia

Room TD #3

Solution & suspension spraying – session 3
Chairman: Pawel Sokolowski

- 15h30: “Development of metal oxides semiconductors films via SPS for functional applications” by Hanlin Liao (invited)
- 16h00: “TBCs of New Compositon Subjected to Icelandic Volcanic Ash: Processing, Testing and Characterization” by Satyapal Mahade
- 16h20: “Development of coatings with a arc-DC plasma torch in pulsed mode with current modulation, synchronized with an inkjet drop-on-demand nozzle” by Fabrice Mavier
- 16h40: “Effect of feedstock and thermal spraying variables on the performance of solution precursor plasma sprayed bioactive glass coatings” by Eugeni Cañas
- 17h00: “Solid evidences proving the role of anatase content in TiO2 photocatalytic coatings by suspension plasma spraying” by P. Vu
- 17h20: “Suspension Flame Sprayed Metal Doped Calcium Phosphate Coatings with Antibacterial Properties for Infection Prophylaxis” by Andreas Killinger
- 17h40 – 17h50: Coffee break

Modeling – session 1
Chairman: Pierre Fauchais

- 17h50: “Conditions for Nucleation and Growth in the Substrate Boundary Layer at Plasma Spray-Physical Vapor Deposition” by Georg Mauer (invited)
- 18h20: “Numerical Investigation of Nozzle Geometry on the Gas and Particle Dynamics of Suspension High Velocity Oxy Fuel Thermal Spray” by Sunil Chandha
- 18h40: “Numerical study on the effect of nozzle divergence angle on particle distribution and particle velocity in cold spraying” by Chirag Singhal

Room TD #4

Characterisation of coatings – session 3
Chairman: Carlos Lima

- 15h30: “Characterising the micro-impact fatigue behaviour of APS and HVOF-sprayed ceramic coatings” by J. Kilakoski (invited)
- 16h00: “The influence of heat treatment of the properties of HVOF sprayed super-alloy coatings” by Sarka Houdkova
- 16h20: “Mechanical and microstructural properties of 7% YSZ coatings deposited by HVPS process” by Felipe Caliari
- 16h40: “Characterization and properties of titanium coatings deposited by Very Low Pressure Plasma Spray” by Xiujuan Fan
- 17h00: “Evaluation of Oxidation and Thermal Cyclic Behavior of YSZ, Gd2Zr2O7 and YSZ/Gd2Zr2O7 TBCs” by Kadir Mert Dooley
- 17h20: “Investigation of durability and phase stability of conventional YSZ coating with high porosity content and multilayer Mullite-YSZ/YSZ coating after high temperature exposure” by David Jech
- 17h40 – 17h50: Coffee break

Applications of coatings – session 1
Chairman: Thomas Lampke

- 17h50: “Wear protective coatings for wind turbine rolling bearings” by Mario Tuliu (invited)
- 18h20: “Deposition of refractory metal coatings by detonation spraying” by V. Ulaniatskiy
- 18h40: “Engineered Microporous Electrodes by HVOF Process for Alkaline Water Electrolysis” by Tao Jiang
Program of the 8th RIPT in Limoges, France – Day 2: Thursday, 7th of December 2017 (poster sessions)

Main Entrance Hall
19h00: Poster session (all topics)

- 19h00, P01: “The influence of cold spray process on the polymer structure” by Aleksandra Małachowska
- 19h00, P02: “Deposition of environmentally friendly WC based cermets coatings by thermal spray techniques” by M. Bazyaran
- 19h00, P03: “Analysis of depth of remelting during laser remelting of thermally sprayed coatings using an infrared camera” by Marek Vostřák
- 19h00, P04: “APS deposition of Hydroxyapatite targets for use in PAPVD coating of orthopaedic components” by Claudia Daniela Blancos Jaramillo
- 19h00, P05: “Modelling of phenomena occurring in plasma jet during solution precursor plasma spraying of yttria-stabilized zirconia coatings” by P. Carpio
- 19h00, P06: “The application of ultrasonic waves to support suspension injection in Suspension Plasma Spray process” by Paweł Sokolowski
- 19h00, P07: “The influence of suspension properties on Suspension Plasma Spray process efficiency, stability and repeatability” by Paweł Sokolowski
- 19h00, P08: “Ceramic coatings applied by thermal spraying process for tribological applications at high temperatures. Influence of the powders scale and the layers arrangement” by Ivan David Franco
- 19h00, P09: “Influence of the preparation route of zirconia yttria powder on the behavior in SPS” by Sandrine Lucas
- 19h00, P10: “Influence of powder feedstock preparation on nano-TiC added WC-Co coatings” by Hanna Myalska
- 19h00, P11: “Comparative study of thermal spray (Ti,Mo)(C,N)-Ni coatings” by Giovanni Bolelli
- 19h00, P12: “Effect of yttria-stabilized zirconia content on mechanical and biological properties of bioactive glass coatings manufactured by thermal spraying” by O. Rojas
- 19h00, P13: “Influence of bond coat treatment on lifetime in suspension plasma sprayed thermal barrier coatings” by Nicolaie Markocsan
- 19h00, P14: “Effect of Composition and Microstructure on the Erosion behavior of Plasma Sprayed Thermal Barrier Coatings” by Satyapal Mahade
- 19h00, P15: “A study of high temperature frictional behaviour of Ti(Al,O)/Al2O3 composite coating” by Asma Salman
- 19h00, P16: “Industrial trials of a Ti(Al,O)/Al2O3 composite coating on a dummy block used in aluminium extrusion” by Asma Salman
- 19h00, P17: “Comparison of erosion characteristics of HVOF sprayed nano-Cr3C2-NiCr coatings for High Temperature Applications” by Rohit Upadhyaya
- 19h00, P18: “Influence of probe liquid when using NMR cryoporometry to measure nano-sized porosity” by Johanna Ekberg
- 19h00, P19: “Investigation of Tribological Properties and characterization of AISI 301 and AISI 420 stainless steels coatings” by Rassim Younes

Social Event at 20h00: Gala dinner – “Le Poudrier”
Amphitheatre #3

**Spray process – session 5**
*Chairman: Shrikant V. Joshi*

- **09h00:** "Effect of Substrate Topography on the Morphology and Interface Bonding Formation of Plasma Sprayed NiCr Splat" by Chany-ju Li (invited)
- **09h30:** "High Temperature Corrosion Mechanisms of HVAF-Sprayed Ni-Based Coatings Exposed to Alkaline-Sulphate and Chloride Mixture Environments" by Esmaeil Sadeghimohesrt
- **09h50:** "Evaluation of thermal cycling behaviour of pre-oxidized plasma-sprayed thermal barrier coatings with various NiCrAlY bond-coats" by K. Śliżewicz
- **10h10:** "A Comparative Study of the Oxidation Kinetics and Thermal Insulation Properties of Thermal Barrier Coatings (TBCs)" by Abdullah Cihat Karaoglanlı
- **10h30:** "Role of Chemistry on Behavior of Various Ni-based HVAF-Sprayed Coatings in Simulated Boiler Environments" by Elie Guerin

- **10h50 – 11h10: Coffee break**

**Spray process – session 6**
*Chairman: Uta Klement*

- **11h10:** "Determination of mechanic and caloric properties of thermal spray coatings" by Thomas Grund
- **11h40:** "Wettability behavior of wear resistant thermally sprayed composites" by Pavel Komarov
- **12h00:** "Tribological investigations of YSZ-CuAl composite coating" by Yan Wang
- **12h20:** "High Temperature Erosion/Corrosion of HVAF-Sprayed Ni-based Coatings" by Esmaeil Sadeghimohesrt
- **12h40:** "The influence of ESD process on microstructure and mechanical properties of HVAF sprayed WC-Co coating" by W. Żórawski

Amphitheatre #4

**Solution & suspension spraying – session 4**
*Chairman: J. Kilkowski*

- **09h00:** "Preparation of Multiphase Coatings with Hybrid Water-Stabilized Plasma Torch using Liquid Spraying Route" by Radek Musalek (invited)
- **09h30:** "Microstructure and properties of nanostructured YSZ coating manufactured by axial suspension plasma spraying under low pressure" by Cheng Song
- **09h50:** "Suspension HVOF Sprayed Rare Earth Oxide Ceramics Coatings with Robust Self-Cleaning Surfaces" by Mingwen Bai
- **10h10:** "Phase Transformations and Post-Spray Heat Treatment of a Suspension High Velocity Oxygen Fuel (SHVOF) Sprayed Delta-Theta Alumina Suspension" by T. Owoseni
- **10h30:** "Investigation of the Influence of Suspension Atomization in the HVSSF process" by M. Plachetta

- **10h50 – 11h10: Coffee break**

**Solution & suspension spraying – session 5**
*Chairman: Brian Hazel*

- **11h10:** "The dependences between grain size and mechanical properties of powder and suspension plasma sprayed zirconia coatings" by Pawel Sokolowski (invited)
- **11h40:** "Effect of plasma jet enthalpy & velocity on the microstructure of suspension plasma-sprayed coatings" by A Dölmaire
- **12h00:** "Preparation of aqueous, highly concentrated suspension feedstocks of Ti-25Al/Al2O3/SiC for suspension plasma spraying" by Victor Carricer

- **12h20:** "Effect of acid roots of precursor solutes on microstructure, preferential oriented growth and contact angle of metal oxide films via solution precursor plasma spray" by Zexin Yan
- **12h40:** "Plasma assisted synthesis of nanosized powders in liquids for fabrication of nanostructured coatings by suspension plasma spraying" by E.A. Eshravi-Paylooy

Room TD #3

**Cold spray – session 4**
*Chairman: Thomas Klassens*

- **09h00:** "A microstructural and tribological study of Aluminum-Alumina cold sprayed composite" by Yamina Mebdoua (invited)
- **09h30:** "Microstructure and Mechanical Properties of Cold Sprayed Ti555 Coatings" by W. Żórawski
- **09h50:** "Numerical study of deposition process of metal particles on Pd substrate with cold spray method" by A. Malachowska
- **10h10:** "Crystal lattice strain analysis of nanostructured cermet Al2O3-NiCo particles during high-energy mechanical alloying process" by Gobinda Saha
- **10h30:** "Characterizations of cold-sprayed particles-reinforced Cu2ZrAlloy composites - from microstructures to tribological and corrosion behaviours" by Chunjie Huang

- **10h50 – 11h10: Coffee break**

**Modeling – session 2**
*Chairman: Georg Mauer*

- **11h10:** "Suspension and solution plasma spraying evolution since the beginning of the millennium" by P. Fauchais (invited)
- **11h40:** "Breakdown of the continuum approach in Plasma Spray-Physical Vapor Deposition plasma flow model" by Gilles Mariaux
- **12h00:** "Molecular Dynamics Simulation of Thermal Spray Coating Formation" by Jordan Davidson
- **12h20:** "Numerical study of aluminum-alumina cold spray coating build-up mechanisms" by P.A. Leger
- **12h40:** "Numerical simulation of composite coating formation and growth during cold spraying of powder blends" by A. Sova

13h00 LUNCH and End of 8th RIPT

Amphitheatre #4

**Room TD #3**

**Biomaterials – session 2**
*Chairman: Hua Li*

- **09h00:** "Effect of the precursor on the microstructure of the plasma sprayed hydroxyapatite coatings: powders for APS versus suspension chemistry for RF-SPS" by Marine Chambard
- **09h30:** "Fabrication of porous glassy powders infiltrated with zirconia for use as raw material for orthopedic prostheses" by O. Rojas
- **09h50:** "Evaluation of potential to be using in biomedical applications of hydroxyapatite coatings manufacture by oxyacetylene spraying process from three different flames" by Hamilton Copete
- **10h10:** "Bioactivity analysis of hydroxyapatite coatings obtained from biowaste by HVOF- and APS-processes" by G.A. Câlciu-MeJa
- **10h30:** "Microstructural study of suspension plasma sprayed hydroxyapatite coating" by S. Kowalski

- **10h50 – 11h10: Coffee break**

**Applications of coatings – session 2**
*Chairman: Eric Jordan*

- **11h10:** "Microstructure and wear resistance of AlCoCrFeNiTi high entropy alloy coatings produced by atmospheric plasma spraying" by Thomas Lampke
- **11h40:** "Tribological performance at high temperatures of alumina composites applied by plasma spraying process" by Yuji Irie
- **12h00:** "Microstructure and tribological properties of the suspension plasma sprayed YSZ/h-BN composite coating" by Yongli Zhao
- **12h20:** "Evolution of Mechanical Properties of Yttria-Stabilized Zirconia Coatings Deposited by Suspension Plasma Spraying" by M. Giszynski
- **12h40:** "Solution precursor plasma spraying of ZnO nanostructured coatings for gas sensor applications" by R. Candida