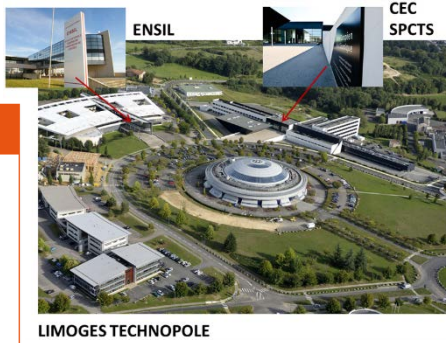


## Location / Info:



### For more information

Lech PAWŁOWSKI  
University of Limoges  
SPCTS, Centre Européen de la  
Céramique  
12 rue Atlantis  
87068 LIMOGES CEDEX – FRANCE  
Tel. (+33) 587 50 24 12  
[lech.pawlowski@unilim.fr](mailto:lech.pawlowski@unilim.fr)

# RIPT - 7<sup>th</sup> edition

**Educational course:** December 9<sup>th</sup>, 2015

« *Thermal spray technology: position among films and coatings technologies, coatings characterization and application, and technology's future* »

**Conference Sessions:** December 10<sup>th</sup> & 11<sup>th</sup>, 2015

- 1) Spray processes
- 2) Cold spray
- 3) Coatings properties
- 4) Mechanical properties of coatings
- 5) Applications of coatings
- 6) Nanotechnology
- 7) Modeling, Diagnostics and Process Control

Original contributions include: thermal spraying; recent developments on suspensions and solutions; 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 7th edition.

**Conference fees to be paid on line using our website:**

<http://www.unilim.fr/ript/registration/>

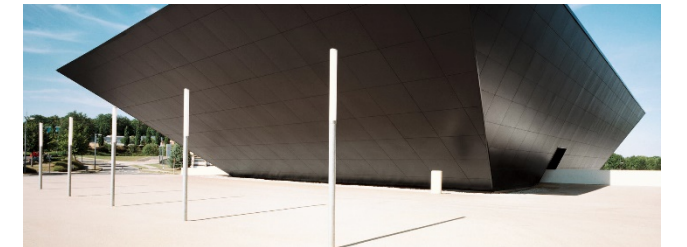
(1 day / 2 days):	NON ETSA	ETSA members
Students:	70 € / 145 €	50 € / 110 €
Academics:	200 € / 380 €	150 € / 330 €
Industry:	230 € / 440 €	180 € / 380 €
Exhibitors:	550 € / 500 €	
Gala dinner:	50 €	
Educational course:	800 €	

« Les Rencontres Internationales sur la Projection Thermique »

## Third and Last Announcement

### RIPT - 7<sup>th</sup> edition

9-11 December 2015 in Limoges, France



## Partners:



## How to reach Limoges:

Avion : Paris (1h10), Lyon (1h00), Londres (2h15), Bruxelles (3h00), Barcelone (3h10), Berlin (4h35)

Paris Orly - Limoges

09:00 – 10:10  
16:25 – 17:35  
18:15 – 19:25

Lyon-Limoges

08:30 – 09:30  
15:15 – 16:20  
20:15 – 21:20

Train : Paris (2h55)



<http://www.unilim.fr/ript>

We sincerely welcome you to the 7<sup>th</sup> RIPT conference!

**08h00:** Registration Desk opening (**Entry Hall, main access level**) and Welcome Coffee! (**Entry Hall, lower level**).

Do you...

- Need a “confirmation of participation”?
- Want to pay the 7th RIPT Conference fee?
- Want to know the room for the “Educational course”, “Session”, or where to prepare your presentation?
- Have any suggestions to share with us during this event?
- Want to inform us of your plans?

For any enquiries, please contact us at the **Registration Desk** and we will do our best to help you. We hope that you will enjoy your Conference!

**10h00**, Coffee break: **Entry Hall, lower level**

**10h15 – 12h00**, Meeting: ETSA Board of Directors, **Room RH 075**



#### **Amphitheatre #4:**

**14h00**, plenary lecture given by Lutz-Michael Berger, Fraunhofer Institute, Dresden, Germany: “Oxide ceramics and hard metals as sintered materials and thermal spray coatings - commons and differences”.

**15h00**, plenary lecture given by Witold Posadowski, Wroclaw University of Technology, Poland: “Magnetron sputtering method of thin film deposition”.

**17h40**, Coffee break: **Entry Hall, lower level**

**18h15** Meeting point: **Entry Hall, main access level** - bus to the City Hall of Limoges: “Welcome cocktail”, an event courtesy of the Municipality.



**Educational course, entitled:** « *Thermal spray technology: position among films and coatings technologies, coatings characterization and application, and technology’s future* »

#### **Room TD #4:**

**09h00 – 10h00**, lecture by *Lech Pawłowski*: “Physical methods of film and coatings deposition”

**10h00 – 11h00**, lecture by *Christopher Berndt*: “Physical properties and characterization of thermal spray coatings”

**11h00 – 12h00**, lecture by *Shrikant Joshi*: “Solution precursor plasma spraying: A vast playground for pursuing exciting research and realizing niche applications”

**12h00 – 13h00**, lecture by *Petri Vuoristo*: “Thermally sprayed coatings for demanding wear and corrosion applications - a review of hard metal and ceramic coatings prepared by novel thermal spray technologies”

**13h00 – 14h00**: lunch break

**14h00 – 17h00**, **Technological Hall**: experimental demonstration of thermal spray technology currently in use at the “SPCTS” laboratory, given by *Geoffroy Rivaud*, *Rolando Candidato* and *Pawel Sokolowski*: “Solution and suspension spraying, followed by scanning electron microscope (SEM) observation of the obtained coatings”.

**17h40**, Coffee break: **Entry Hall, lower level**

**18h15** Meeting point: **Entry Hall, main access level** - bus to the City Hall of Limoges: “Welcome cocktail”, an event courtesy of the Municipality.

**20h00** “Meet the Experts”: Dinner with the “Educational course” participants, pizzeria SAN MARCO (location: near the City Hall of Limoges).

## Amphitheatre #4

**08h00:** Welcome words from the Co-chairmen (L. Pawlowski and R. Vassen) Municipality (I. Maury), ENSCI (D. Smith), SPCTS (T. Chartier) Faculty (B. Crespin), ENSIL (A. Vardelle)

**08h30:** Plenary lecture by **Richard SCHMID**, “An Industrial Perspective on Thermal Spray”

### Amphitheatre #3

#### Spray process – session 1

*Chairman: Pierre Fauchais*

- **09h00:** “Thermal spraying into the future: Forecasting the unknown” by C. BERNDT (**invited**)
- **09h30:** “Microstructure and mechanical properties of coatings elaborated using low pressure reactive plasma spraying” by H. LIAO
- **09h50:** “Atmospheric plasmadynamic system for thermal technologies” by Y. CHIVEL
- **10h10:** “Solution precursor plasma spraying: A vast playground for pursuing exciting research and realizing niche applications” by S. JOSHI (**invited**)
- **10h40 – 11h20:** Coffee break

#### Spray process – session 2

*Chairman: Per Nylen*

- **11h20:** “Properties of novel hybrid water stabilized plasma gun” by T. CHRASKA (**invited**)
- **11h50:** “Suspension spraying with hybrid-water stabilized plasma torch” by R. MUSALEK
- **12h10:** “Spraying features of YSZ suspension using twin-cathode plasma spray system” by M. SHAHIEN
- **12h30:** “Computer controlled detonation spraying as a universal method to deposit coatings of diverse nature” by I. SMUROV (**invited**)

### Amphitheatre #4

#### Cold spray – session 1

*Chairman: Robert Vassen*

- **09h00:** “Knowing and improving the impact conditions in cold spraying” by T. KLASSEN (**invited**)
- **09h30:** “Performance of cold sprayed Ni based coatings in actual boiler environment” by N. BALA
- **09h50:** “Microstructure and performance of cold sprayed Al-SiC composite coatings with high fraction of particulates” by S. KUMAR
- **10h10:**
- **10h40 – 11h20:** Coffee break

#### Cold spray – session 2

*Chairman: Davide Fantozzi*

- **11h20:** “Surface functionalization of non-metallics by thermal spray method” by T. LAMPKE (**invited**)
- **11h50:** “Evaluation of oxidation behaviour of CGDS bond coated EB-PVD TBCs top coats consisting of YSZ and Gd<sub>2</sub>Zr<sub>2</sub>O<sub>7</sub>” by Y. OZGURLUK
- **12h10:** “Corrosion protection and electrical conductivity of copper coatings deposited by low-pressure cold spraying” by A. MALACHOWSKA
- **12h30:** “A novel approach of trajectory generation for damage components recovery by cold spray” by C. CHEN

### Hall #3

#### Application of coatings – session 1

*Chairman: Bernhard Wielage*

- **09h00:** “Potentiality of suspension plasma spraying applied to aeronautic applications” by L. BIANCHI (**invited**)
- **09h30:** “Hardfacing composite coatings for nuclear applications by combined powder and suspension plasma spraying” by A. WERRY
- **09h50:** “Vacuum plasma spraying of functionally graded tungsten/EUROFER97 coatings for fusion applications” by R. VASSEN
- **10h10:** “Multilayered TBCs for high temperature applications processed by suspension plasma spraying” by P. NYLEN (**invited**)
- **10h40 – 11h20:** Coffee break

#### Application of coatings – session 2

*Chairman: Christopher Berndt*

- **11h20:** “Impact of processing conditions and feedstock characteristics on thermally sprayed MCrAlY bondcoat properties” by G. MAUER (**invited**)
- **11h50:** “Thermal insulation properties of YSZ columnar structures performed by suspension plasma spraying (SPS) for thermal barrier coatings (TBCs)” by B. BERNARD
- **12h10:** “Influence of cumulative thermal shocks on structure and properties of alumina deposited by plasma and impregnated by aluminium phosphate” by G. SOUYRIS
- **12h30:** “Hybrid coatings technologies of plasma spraying and sputtering for biomedical and thermal barrier applications” by W. POSADOWSKI (**invited**)

### Room TD #4

#### Coatings properties – session 1

*Chairman: Thomas Chraska*

- **09h00:** “Study of the application of photoluminescence piezo-spectroscopy for residual stresses measurement in thermally sprayed TBCs” by C.R. LIMA (**invited**)
- **09h30:** “Correlation of particle melting status with porosity and residual stress in plasma-sprayed YSZ coatings” by M. MUTTER
- **09h50:** “The effect of feedstock powder treatment / processing on the microstructure, quality and performance of thermally sprayed titanium based composite coating” by A. SALMAN
- **10h10:**
- **10h40 – 11h20:** Coffee break

#### Coatings properties – session 2

*Chairman: Alain Denoirjean*

- **11h20:** “Manufacturing of high performance solid oxide fuel cells with atmospheric plasma spraying and plasma spray-physical vapour deposition” by D. MARCANO
- **11h50:** “Electrochemical performance of suspension plasma sprayed electrolytes in metal supported planar SOFCs” by M. GUPTA
- **12h10:** “An alternative ceramic coating material for APS applications (Part I): Characterization, coating parameters and oxidation behaviour” by M. ÖGE
- **12h30:** “Tensile test to evaluate the interface shear strength of plasma-sprayed two-layer coatings” by N.A. DOLGOV

# Program of the 7<sup>th</sup> RIPT in Limoges, France – Day 2: Thursday, 10<sup>th</sup> of December 2015 (afternoon sessions)

## Amphitheatre #4

15h00: Plenary lecture by *Li Hua*,

*“Suspension thermal sprayed nanodiamonds and nanodiamonds-reinforced composites for functional applications: microstructure characterization and property evaluation”*

### Amphitheatre #3

#### Spray process – session 3

*Chairwoman: Gisèle Lecomte*

- **15h30:** “Advanced coating solutions by thermal spray and laser cladding” by L.F. TOMA (**invited**)
- **16h00:** “Functionality of different thermal spray coating techniques on the corrosion protection behaviour of Al<sub>2</sub>O<sub>3</sub> - TiO<sub>2</sub> coating for oil and gas piping protection” by M.A. ZAVAREH
- **16h20:** “Chlorine-induced high temperature corrosion of Inconel 625 sprayed coatings deposited with different thermal spray techniques” by P. VUORISTO
- **16h40:** “The influence of water vapour on oxidation process of NiCrAlY alloy” by D. NIEMIEC
- **17h00:** “The reactivity of metals to form carbides and nitrides studied over a wide range of detonation spraying parameters” by V.Y. ULIANITSKY
- **17h20:** “In-depth profiling of elemental composition of sprayed layers using LIBS” by E. ERSHOV-PAVLOV
- **17h40 – 17h50:** Coffee break

#### Spray process – session 4

*Chairman: Enrique Sanchez*

- **17h50:** “Innovative two-steps cladding through slurry spraying and focused laser beam treatment – application to metal and metal/ceramic coatings” by F. PETIT (**invited**)
- **18h20:** “Suspension and precursor solution plasma spraying by means of synchronous injection in a pulsed arc plasma” by F. MAVIER
- **18h40:** “Thermophysical properties of YSZ and YCSZ coatings obtained using suspension with different plasma spray torches” by P. SOKOLOWSKI

### Amphitheatre #4

#### Cold spray – session 3

*Chairman: Jose Maria Guilemany*

- **15h30:** “Recent developments in laser assisted cold spraying - the process and coating properties” by P. VUORISTO (**invited**)
- **16h00:** “Electrical conductivity of metal layers sprayed on polymer substrate with LPCS” by A. MALACHOWSKA
- **16h20:** “Elastic isotropy of cold sprayed coatings” by J. CIZEK
- **16h40:** “Evaluation of oxidation behaviour of CGDS and HVOF bond coated EB-PVD TBCs top coats consisting of YSZ and Gd<sub>2</sub>Zr<sub>2</sub>O<sub>7</sub>” by K.M. DOLEKER
- **17h00:** “Isothermal oxidation behaviour and kinetics of TBCs produced by APS, HVOF and CGDS techniques” by A.C. KARAOGLANLI
- **17h20:** “Laser patterning prior-treatments in cold spraying to enhance adhesion bond strength by anchoring mechanisms” by R. KROMER
- **17h40 – 17h50:** Coffee break

#### Coatings properties – session 3

*Chairman: Thomas Grund*

- **17h50:** “High velocity oxygen-fuel (HVOF) deposition of FeVCrWMoMnCo coatings” by P. SASSATELI
- **18h20:** “HVOF thermal sprayed Ni50Cr coating using gas-fuelled and liquid-fuelled systems: microstructure and high temperature corrosion” by Bo SONG
- **18h40:** “Influence of PVD-Al interlayers on the characteristics of high temperature coating systems” by T. GRUND

### Hall #3

#### Application of coatings – session 3

*Chairman: Thomas Lampke*

- **15h30:** “The Institute of Materials Engineering at the Technical University of Dortmund – at a glance” by W. TILLMANN (**invited**)
- **16h00:** “TiO<sub>2</sub> sol-gel coatings for reducing the oxidation kinetics of FeCrAlS” by CHEGROUNE
- **16h20:** “Cavitation erosion of the plasma-sprayed CoMoCrSiAl coatings” by M.P. PLANCHE
- **16h40:** “Effect of sub-microcrystalline TiC powder on corrosion resistance of WC-Co thermal spray coatings” by H. MYALSKA
- **17h00:** “Microstructure and thermoelectric properties of low-pressure plasma sprayed FeSi<sub>2</sub> based coatings” by X. FENG
- **17h20:** “Thermocouple sensors deposited by laser cladding” by Y. ZHANG
- **17h40 – 17h50:** Coffee break

#### Modeling – session 1

*Chairwoman: Filoftea -Laura Toma*

- **17h50:** “Influence of the microstructure for the thermophysical properties of thick coatings compared to bulk ceramics” by D. SMITH (**invited**)
- **18h20:** “Statistical data over post-fragmentation droplets in a suspension plasma spray” by F. GIRARD
- **18h40:** “Kinetics of composite coating formation process in cold spray” by A. SOVA

### Room TD #4

#### Mechanical properties – session 1

*Chairman: Shrikant Joshi*

- **15h30:** “Reactive plasma spraying in nitrogen under very low pressure (150 Pa range)” by M.P. PLANCHE (**invited**)
- **16h00:** “Microstructure and mechanical properties of cold sprayed nickel coatings” by W. ZORAWSKI
- **16h20:** “Effect of laser remelting on microstructure and mechanical properties of cold sprayed Al-Si alloys made from elemental mixtures” by N. KANG
- **16h40:** “Microstructure and properties of HVOF sprayed, laser remelted and laser clad Stellite 6 coatings” by S. HOUDKOVA
- **17h00:** “The influence of deposition temperature and inert gas shrouding on the properties of plasma sprayed tungsten and steel coatings” by J. MATEJICEK
- **17h20:** “Effect of Long-term Heat-Treatment at 1,150 °C on the Microstructure and Properties of Thermal Barrier Coatings Based on ZrO<sub>2</sub>-4 mol % Y<sub>2</sub>O<sub>3</sub>-1 mol % Gd<sub>2</sub>O<sub>3</sub>-1 mol % Yb<sub>2</sub>O<sub>3</sub>” by L. ZHAO
- **17h40 – 17h50:** Coffee break

#### Mechanical properties – session 2

*Chairman: Li Hua*

- **17h50:** “Microstructure and sliding wear behaviour of NiCrAlY + Al<sub>2</sub>O<sub>3</sub> + h-BN coatings by a “hybrid” suspension plasma spray process” by G. BOLELLI
- **18h20:** “Effect of reinforcement on friction/wear behavior of cold sprayed Al/Si composite deposits” by N. KANG
- **18h40:** “The effect of heat treatment on the microstructure, micro-hardness and wear resistance of arc sprayed Al - 3 wt% Ti alloy coatings” by S. SETH



## Main Entrance Hall

### 19h00: Poster session (all topics)

- **19h00**, P01: “In-situ integrated fabrication of Ni625 alloy with thermal barrier coatings using hot isostatic pressing” by Bo Song
- **19h00**, P02: “Characterization of duplex coating system (HVOF + PVD) on light alloy substrates” by J.A. Picas
- **19h00**, P03: “Protective coatings of antimicrobial properties produced by plasma spraying technique” by Adriana Wrona
- **19h00**, P04: “Numerical and experimental analysis of molten pool shape and residual stresses during laser post-remelting of NiCrBSi coatings” by Jiangwei Liu
- **19h00**, P05: “Molybdenum and molybdenum-rhenium coatings produced by plasma spraying technique in terms of the applications in the glass industry” by M. Osadnik
- **19h00**, P06: “Long tribological test of WC-Co-Cr coatings sprayed at supersonic velocities using ultra fine grain powders < 10 μm” by A. Iwaniak
- **19h00**, P07: “Characterization of molybdenum/aluminium multilayer coatings on low alloyed industrial steel E335” by F. Ahnia
- **19h00**, P08: “Microstructure characterization and modeling the mechanical behaviour of HVOF sprayed WC–CoCr coatings” by Yazid Fizi
- **19h00**, P09: “Experimental and numerical investigation of mechanical and erosion behaviour of Ni-graphite abrasable coating” by Yazid Fizi
- **19h00**, P10: “Finite element simulation of impacting behavior of particles in cold spraying by the Lagrangian and SPH method” by Yazid Fizi
- **19h00**, P11: “Microstructural study of plasma-sprayed hydroxyapatite coatings” by R. Belka
- **19h00**, P12: “Numerical modeling of non-equilibrium solidification of a high velocity molten droplet impacting on a substrate” by Rajesh Kumar Shukla
- **19h00**, P13: “Thin coatings by plasma spraying on thin substrates” by Helene Ageorges
- **19h00**, P14: “Studies into production of spherical powders of high-melting metals and alloys by plasma spraying technique” by Marcin Lis
- **19h00**, P15: “Numerical study of deposition process of aluminium particles on PA6 substrate with cold spray method” by Aleksandra Mafachowska
- **19h00**, P16: “Development of metal matrix composite coatings reinforced by cermet inclusions for dry friction applications by laser cladding” by M. Doubenskaia
- **19h00**, P17: “Decomposition process of RE<sub>2</sub>Zr<sub>2</sub>O<sub>7</sub>/8YSZ thermal barrier coatings in molten deposit of Na<sub>2</sub>SO<sub>4</sub> salt” by G. Moskal
- **19h00**, P18: “Durability of thermally sprayed protective coatings operating under corrosive, erosive and abrasive conditions” by G. Moskal
- **19h00**, P19: “Investigation on the process parameter- and scaling effects while thermal spraying of conventional, fine and nanostructured WC-12Co powders” by W. Tillmann
- **19h00**, P20: “Morphological characterization of pack siliconized Mo and Mo-Re plasma sprayed coatings” by D. Niemiec
- **19h00**, P21: “Possibility of EBSD method application to characterization of thermal barrier coatings” by M. Sozańska
- **19h00**, P22: “Hypo-eutectoid NiTi alloy manufactured by CGDS powder mix deposition and heat treatment” by Vit Jan
- **19h00**, P23: “Effect of laser remelting on microstructure and mechanical properties of cold sprayed Al-Si alloys made from elemental mixtures” by Nan Kang
- **19h00**, P24: “STEM and EBSD characterization of NiCrAlY coatings obtained by plasma spraying” by M. Stopyra
- **19h00**, P25: “Diagnostics of laser remelting of HVOF sprayed stellite coatings using infrared camera” by Marek Vostřák
- **19h00**, P26: “Fe Corrosion Behaviour of Arc Spraying” by Wang Yanfang
- **19h00**, P27: “ITO films deposited by magnetron sputtering with composite Sn+ In<sub>2</sub>O<sub>3</sub> targets coated by low-pressure cold spraying method” by M. Winnicki
- **19h00**, P28: “Some preliminary questions in the modeling of plasma spraying under very low pressure conditions” by Tao Zhang
- **19h00**, P29: “Sintering additives effect during reactive plasma spraying of AlN coatings” by Mohammed Shahien
- **19h00**, P30: “Characterization and kinetics of plasma paste borided AISI 316 steel” by R. Chegroune
- **19h00**, P31: “Corrosion behaviour of high-chromium Fe-based coatings produced by HVOF thermal spraying technique” by E. Sadeghimeresht
- **19h00**, P32: “Laser patterning prior-treatments in twin wire-arc spraying to promote adhesion by anchoring mechanisms for metallic coating on polymeric surfaces” by Robin Kromer
- **19h00**, P33: “Microstructural Investigation of Suspension HVOF Thermal Sprayed Anatase TiO<sub>2</sub>” by Bo Song
- **19h00**, P34: “An alternative ceramic coating material for APS applications (Part II): Comparative analysis of dry sliding wear performance of FeCr slag coating with commercial Cr<sub>2</sub>O<sub>3</sub> and Al<sub>2</sub>O<sub>3</sub> - 13 TiO<sub>2</sub> coatings” by Y. Küçük
- **19h00**, P35: “Corrosion resistance of plasma sprayed multilayer coatings based on ZrO<sub>2</sub>-8%Y<sub>2</sub>O<sub>3</sub> in the conditions of exposure to molten zinc” by A. Iwaniak
- **19h00**, P36: “Effect of ZrO<sub>2</sub>-SiO<sub>2</sub>-Al<sub>2</sub>O<sub>3</sub> Nanocrystalline Thermal Barrier Coating on Low Cycle Fatigue Behavior of Cast Superalloy Inconel 713LC at 900 °C” by I. Sulak
- **19h00**, P37: “Optimization of suspension injection into the WSP-H plasma jet using shadowgraphy” by J. Medricky
- **19h00**, P38: “Corrosion behavior of HVOF- and HVOF-sprayed high-chromium Fe-based coatings” by E. Sadeghimeresht
- **19h00**, P39: “Use of wavelet transform to the analysis of overlapped signals: Application in thermal sprayed coating ultrasonic characterization”, by S. Laddada
- **19h00**, P40: “Nitriding Species Effect on the Particle Behavior and AlN Coating Properties” by M. M. Shahien
- **19h00**, P41: “Microstructure and thermal conductivity characteristics of Sm<sub>2</sub>Zr<sub>2</sub>O<sub>7</sub>+8YSZ type TBCs” by B. Witala
- **19h00**, P42: “Degradation of the La<sub>2</sub>Zr<sub>2</sub>O<sub>7</sub> and La<sub>2</sub>Zr<sub>2</sub>O<sub>7</sub>/8YSZ DLC TBC systems during static oxidation test” by B. Witala

## Amphitheatre #4

08h30: Plenary lecture by E. MONFORT:

“Nanoparticle emissions from plasma spraying process”

### Amphitheatre #3

#### Spray process – session 5

Chairwoman: Sarka Houdkova

- **09h00:** “High velocity air fuel (HVAf) spraying process: recent developments and experimental results” by L. LUSVARGHI (invited)
- **09h30:** “The role of atmospheric plasma sprayed coatings chemistry and surface topography on contact angle of fluids” by L. ČELKO
- **09h50:** “Plasma and particle velocity for a conventional and segmented-anode plasma torch under suspension plasma spray conditions” by S. GOUTIER
- **10h10:** “Droplets impacts on carbon fibre reinforced polymer in plasma spray conditions” by A. ELRIKH
- **10h30:** “Development of high purity hydroxyapatite coatings by solution precursor plasma spray process” by R.T. CANDIDATO jr.
- **10h50 – 11h10:** Coffee break

#### Modeling – session 2

Chairman: Luca Lusvarghi

- **11h10:** “Ceramic droplet solidification under suspension plasma spray conditions” by Y. MEBDOUA
- **11h40:** “Simulation of nickel-titanium shape memory alloy by Eulerian solution” by C.J. HUANG
- **12h00:** “Simulation of solidification behaviour of a hollow binary alloy droplet impacting on a substrate” by R.K. SHUKLA

### Amphitheatre #4

#### Coatings properties – session 4

Chairman: Petri Vuoristo

- **09h00:** “High wear/corrosion resistance of WC-Co cold gas spray coatings for aggressive environments applications” by J.M. GUILLEMANY (invited)
- **09h30:** “Enhancing the properties of WC/Co detonation coatings using two-component fuels” by V. ULIANITSKY
- **09h50:** “Microstructural characterization of HVOF and plasma thermal spray of micron/submicron WC-Co-Cr powder” by R. UPADHYAYA
- **10h10:** “The microstructural studies of suspension plasma sprayed zirconia coatings with the use of high-energy plasma torches” by L. LATKA
- **10h30:** “Laser patterning prior-treatments in twin wire-arc spraying to promote adhesion by anchoring mechanisms for metallic coating on polymeric surfaces”, R. KROMER
- **10h50 – 11h10:** Coffee break

#### Coatings properties – session 5

Chairwoman: M.P. Planche

- **11h10:** “Preparation of bioactive glass feedstocks for suspension plasma spraying” by E. SANCHEZ (invited)
- **11h40:** “Deposition process and characterization of hydroxyapatite coatings by cold gas spray” by N. CINCA
- **12h00:** “Morphology and thermal insulation properties of new types of powders dedicated to thermal spraying of thermal barrier coatings” by M. STOPYRA
- **12h20:** “Functional performance testing of Gd<sub>2</sub>Zr<sub>2</sub>O<sub>7</sub>/YSZ multi-layered thermal barrier coatings deposited by suspension plasma spray” by S. MAHADE
- **12h40:** “Corrosion behaviour of HVAf- and HVOF-sprayed high-chromium Fe-based coatings” by E. SADEGHIMERESHT

### Room TD #1

#### Nanotechnology – session 1

Chairman: Stefan Kozerski

- **09h00:** “Synthesis of novel nanocrystalline Al<sub>2</sub>O<sub>3</sub> - Ni(Cr) cermet powder using high energy ball milling in a cryogenic environment” by G. SAHA
- **09h30:** “Gadolinium zirconate for thermal barrier. From nanopowder synthesis to suspension plasma spraying coating” by E. SANCHEZ
- **09h50:** “The importance of Knudsen effect over heat and momentum transfers to nanoparticles in Suspension Plasma Spray after the evaporation of the solvent” by F. GIRARD
- **10h10:** “Influence of sub-micrometric carbides additions on WC-Co coatings nano-indentation” by H. MYALSKA
- **10h50 – 11h10:** Coffee break

#### Cold spray – session 4

Chairwoman: Armelle Vardelle

- **11h10:** “Clogging phenomenon limitation into nozzle through optimization cold spraying parameters” by S. GOJON
- **11h40:** “Influence of particle flow rate on the efficiency of cold spray process” by A. BELBAKI
- **12h00:** “Effect of particles preheating temperature on Ni coating by cold spraying” by Y. XIE
- **12h20:** “Composite powder production for cold gas spray technology and multifunctional coatings characterization” by M. ROBOTTI
- **12h40:** “Influence of cold spray parameters on the microstructures and residual stress of Zn coatings sprayed on mild steel” by N.B. MALEDI

### Room TD #2

#### Mechanical properties – session 3

Chairman: Catalin Constantinescu

- **09h00:** “Novel Fe-based Wear and Corrosion Resistant Coatings by Three-Cathode Plasma Technology” by L. ZHAO
- **09h30:** “Characterization and corrosion behaviour of plasma sprayed Zn-Sn alloy coating on mild steel” by O.P. OLADIJO
- **09h50:** “Comparison of tribological properties of HVOF sprayed coatings with different composition” by A. C. KARAOGLANLI
- **10h10:** “Experimental investigation of fluid effect on the behaviour of WC-Co-Cr HVOF coating on axle of landing gear” by S. SHRIVASTAVA
- **10h30:** Corrosion and residual stress of plasma sprayed Zn-based alloy coating on mild steel” by M.H. MATHABATHA
- **10h50 – 11h10:** Coffee break

#### Mechanical properties – session 4

Chairman: Ladislav Čelko

- **11h10:** “Microstructure and sliding wear behaviour of HVAf-sprayed WC-CoCr coatings: effect of feedstock powder characteristics” by G. BOLELLI
- **11h40:** “Comparison between the properties of HVOF- and HVAf-sprayed FeCrB-based coatings” by A. MILANTI
- **12h00:** “Influence of WC-additions on microstructure, mechanical and tribological properties of Cr<sub>3</sub>C<sub>2</sub>-based HVOF- and HVAf-sprayed hardmetal coatings” by L.M. BERGER
- **12h20:** “Influence of HVOF sprayed coatings on fatigue properties of coating-substrate system.” by J. SCHUBERT