

2nd Workshop on Multifunctional Coatings- Program

MONDAY, OCTOBER 10th

8:00 - 8:45	Registration
8:45 - 9:00	Welcoming Session
Keynotes (25'+5')	
9:00 - 9:30	Application research of PVD multilayer & composite coatings for high speed machining cutting tools <i>Chengyong Wang, Guangdong University of Technology (China)</i>
9:30 - 10:00	Investigation of CFRP machining with diamond abrasive cutters <i>M. Ritou, A. Boudelier, S. Garnier, B. Furet, IRCCyN, Ecole Centrale de Nantes (France)</i>
10:00 - 10:30	Development of Diamond-Like Carbon films for automotive application <i>P. Tristant, C. Jaoul, C. Dublanche-Tixier, M. Colas, E. Laborde, F. Meunier, O. Jarry, CNRS Université de Limoges, Oerlikon Balzers Limoges (France), Oerlikon Metaplas(Germany)</i>
10:30 - 11:00	High Rate HiPIMS for Cutting Tool Coatings <i>T. Leyendecker, Y. Werner-Guo, J. Zhang, J.Ni, C. Schiffers, CemeCon AG Würselen (Germany), CemeCon Coating Technology Co. Jiangsu (China)</i>
11:00- 11:30	Coffee break
Keynotes (25'+5')	
11:30 - 12:00	Amorphous alumina films: An integrated process-nanostructure-barrier properties investigation <i>C. Vahlas, CIRIMAT, Université de Toulouse (France)</i>
Oral Presentations (15'+5')	
12:00 - 12:20	Design and study of the Zr-B-O-N coating system fabricating by HIPIMS and Pulse DC magnetron sputtering techniques <i>Tiegang Wang, University of Technology and Education, Tianjin (China)</i>
12:20 - 12:40	Design and Application for Cutting Tool Coatings by a hybrid system of Ion Source-Cylindrical and Planar Arc Cathodes <i>Shihong Zhang Wei Fang, Qimin Wang, Anhui University of Technology, Dokin Coating Tech. Co. Ltd (China)</i>
12:40- 14:00	Lunch break
Keynotes (25'+5')	
14:00 - 14:30	Hard coatings for wood machining application <i>C. Nouveau, LaBoMaP, ENSAM Paris, Cluny (France)</i>
14:30 - 15:00	Towards an ultrahard coating nanostructuring of transition elements nitrides obtained by cathodic arc deposition. <i>F. Sanchette, Université de Technologie de Troyes, LRC CEA-ICD-LASMIS Nogent (France)</i>
15:00 - 15:30	Developing multi-component coatings for structural applications by hybrid PVD techniques <i>Qimin Wang, Guangdong University of Technology (China)</i>

15:30 - 17:00	Roundtable (90')
-Introduction : "From hard coatings to optimized cutting tools" <i>A. Djouadi, IMN Université de Nantes, (France)</i>	
-Partner's activities presentation	
-Discussion	
17:00 - 19:00	Poster session + Coffee break
20:00	Gala Dinner "La Rosière" 35 rue de la Rosière d'Artois 44100 Nantes

THUESDAY, OCTOBER 11th

Keynotes (25'+5')

8:30 - 9:00	Oxidation resistance vs microstructure for the understanding of tribological performance of hard coatings <i>A. Cavaleiro, F. Fernandes, M. Danek, T. Polcar, University of Coimbra, (Portugal), Czech Technical University, Prague (Czech Republic), University of Southampton(UK)</i>
9:00 - 9:30	Low friction and Wear resistant h-BN coatings prepared by a polymer route <i>S. Yuan, S. Benayoun, B. Toury, INSA de Lyon, Université de Lyon, Ecole Centrale de Lyon, Ecully (France)</i>

Oral Presentations (15'+5')

9:30 - 9:50	Synthesis, structural and mechanical properties of Zr1-xMox thin films <i>A. Borroto-Ramirez, S. Bruyere, N. Thurieau, E. Jimenez-Pique, J. Josep Roa, J.-F. Pierson, D. Horwat</i> <i>Université de Lorraine, Nancy (France), Saarland University, Saarbrücken (Germany), Universitat Politecnica de Catalunya, Barcelona (Spain)</i>
9:50 - 10:10	Super-elastic thin films for biomedical applications <i>A. Alhussein, S. Achache, F. Sanchette, ICD-LASMIS, Université de Technologie de Troyes, LRC CEA-ICD-LASMIS Nogent (France)</i>
10:10 - 10:30	Structure-property relations in zrcn coatings for tribological applications <i>S. Carvalho, M. Rebelo De Figueiredo, R. Franz, R. Escobar Galindo, C. Palacio, Mitterer, Universidade do Minho, Guimarães (Portugal), University of Leoben (Austria), Centro de Micro-análisis de Materiales, Cantoblanco, Madrid (Spain), Instituto de Ciencia de Materiales de Madrid (Spain)</i>

10:30- 11:00	Coffee break
Keynotes (25'+5')	

11:00 - 11:30	Use of mechanical and thermal treatments on durability and ageing of metallic substrates <i>L. Lavisse, T. Montesin, V. Optasanu, M. C. Marco de Lucas, G. Pillon, P. Berger, A. Tidu, P. Peyre, M. Girault, F. Torrent, A. Kanjer, Université de Bourgogne, CEA-Saclay, Université de Lorraine Arts et Métiers Paris Tech Metz, Arts et Métiers ParisTech Paris (France),</i>
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11:30 - 12:00 **Tunable architectures and resulting properties of sculptured thin films**
N. Martin, Institut FEMTO-ST, Besançon (France)

Oral Presentations (15'+5')

12:00 - 12:20 **Heat transfer analysis between glass plate and sintered diamond wheel during the grinding process**
T. Moussa, B. Garnier, H. Peerhossaini, LTN Université de Nantes (France)

12:20 - 12:40 **Development of multi-functionalized CMC composite coating via wet chemistry**
S. Yuan, B. Terovanessian, B. Normand, INSA de Lyon, Université de Lyon (France)

12:40- 14:00 **Lunch break**

Oral Presentations (15'+5')

14:00 - 14:20 **Influence of the substrates position in an industrial PVD chamber**
A. Besnard, A. Siad, C. Nouveau, Arts et Metiers ParisTech, LaBoMaP, Cluny (France)

14:20 - 14:40 **Residual stress profile in thin films: a complex issue**
B. Girault, S. Fréour, D. Gloaguen, Université de Nantes, Institut de Recherche en Génie Civil et Mécanique, Saint-Nazaire (France)

14:40 - 15:00 **Experimental study on contact parameters at a workpiece- tool interface in HSM process**
E. Guillot, B. Bourouga, B. Garnier, LTN, Université de Nantes (France)

Keynote (25'+5')

15:00 - 15:20 **Intergranular hydrogen embrittlement: Diffusion and segregation of hydrogen in nickel bi-crystals**
J. Li, J. Bouhattate, X. Feaugas et al, LaSIE, CNRS-UMR 7356, Université de la Rochelle (France)

15:20-15:40 **Nanostructured metallic coatings for the durability of structures in aggressive environments.**
J. Creus, C. Savall et al, LASIE UMR 7356, Université de la Rochelle (France)

15:40 - 15:50 **Cloture Session**

List of Posters

1	Gum metal thin films obtained by magnetron sputtering of a Ti-Nb-Zr-Ta target <i>S. Achache, S. Lamria, A. Alhussein, A. Billard, M. François, F. Sanchette, Université de Technologie de Troyes, LRC CEA-ICD-LASMIS Nogent, UTBM Belfort (France)</i>
2	Elaboration and characterization of (Ti, Al, Si)N for alloy protection in severe in-service conditions <i>F. Uny, E. Blanquet, F. Schuster, F. Sanchette, Université de Technologie de Troyes, LRC CEA-ICD-LASMIS Nogent, UTBM Belfort (France)</i>
3	Deposition of Boron based coating for high-speed machining <i>Haisheng Lin, Chengyong Wang, J. Camus, A. Djouadi, IMN Université de Nantes (France), Guangdong University of Technology (China)</i>
4	Effect of different Oils on Water Cooling Conditions on Coated Tool Wear in machining of difficult-to-machine material

	<i>Haisheng Lin, Chengyong Wang, A. Djouadi, IMN Université de Nantes(France), Guangdong University of Technology (China)</i>
5	Microstructure and property of diamond-like carbon films with Al and Cr co-doping using a high power impulse magnetron sputtering <i>Wei Dai, Qimin Wang, Guangdong University of Technology (China)</i>
6	Influence of Ti_{1-x}Al_xN (x=0.48, 0.58 and 0.66) insertion layers on microstructure, mechanical and thermal properties of TiAlN/CrAlN nano-multilayer coatings <i>Ziqiang Liu, Li Chen, Yuxiang Xu, Central South University, Changsha (China)</i>
7	Influence of Ta-addition and layer arrangement on the structure, mechanical and thermal of TiAlN coatings <i>Yan Yang, Li Chen, Yu X. Xu, Central South University, Changsha (China)</i>
8	Improving performance of groove-textured tools in dry milling of Ti-6Al-4V Alloys <i>Ze Wu, Southeast University, Nanjing (China)</i>
9	White Layer Formation in High Speed Machining of Hardened steel <i>Duan Chun-Zheng, Zhang Fang-Yuan, Xu Xin-Xin, Wang Min-Jie, University of Technology, Dalian (China)</i>
10	Experimental study on cutting performance of coated tools with different surface quality <i>Rongjuan Wang, Chengyong Wang, Guangdong University of Technology (China)</i>
11	Relationship of microstructure, mechanical properties and hardened steel cutting performance of TiSiN-based nanocomposite coated tool <i>Yaohui Yuan, Donghai Yu, Chengyong Wang, Haisheng Lin, Qimin Wang, Guangdong University of Technology (China)</i>
12	Basic Theory and Cutting Tool Technology for High Speed and High Efficiency Machining of Typical Difficult-to-Cut Materials <i>Li Pengnan, Liu Deshun, Niu Qiulin, Tang Siwen, Qiu Xinyi, Ma Jiying, Hunan University of Science and Technology, Xiangtan (China)</i>
13	Microstructure and Corrosion Resistance of the AlTiN Coating Deposited by Arc Ion Plating <i>Qi-Xiang Fan, Tie-Gang Wang, Yan-Mei Liu, Zheng-Huan Wu, University of Technology and Education, Tianjin (China)</i>
14	Microstructure and properties of the TC4 alloy layer strengthened by powder-mixed near-dry electrical discharge surface modification <i>Min Li, Lanrong Cai, Hui Yang, Jingling Wang, University of Technology and Education, Tianjin (China)</i>
15	Effects of boronizing process on the friction coefficient and surface roughness of AiSi02 and h11 <i>Mounia Belaid, Farouk Boukari, Abdou Djouadi, Annaba University(Algeria), IMN Université de Nantes (France)</i>
16	Properties of pulsed-DC sputtered Cr-B-N films as a function of their boron content <i>D. Pilloud, J.F. Pierson, Institut Jean Lamour Université de Lorraine, Nancy (France)</i>
17	Textured growth of AlN films deposited on Si(100), Si(111) and Pt(111) substrates by DC reactive magnetron sputtering <i>B. Riah, A. Ayad, N. Rouag, L. Chekour and M. A. Djouadi, Université des frères Mentouri Constantine (Algeria), Université Constantine (Algeria), IMN Université de Nantes (France)</i>
18	Research on multilayer Printed Circuit board High speed microdrilling process and tools <i>Lijuang Zheng, Guangdong University of Technology (China)</i>