13th INTERNATIONAL CONFERENCE

HIGH SPEED MACHINING

PROGRESS IN HIGH SPEED MACHINING TECHNOLOGY

October 4-5, 2016 Metz | FRANCE

13th High Speed Machining Conference (HSM 2016)

Date: **October 4-5, 2016**

Venue: **Metz – Arsenal** (Conference center - http://www.arsenal-metz.fr)

Web: http://www.lem3.fr/HSM2016/

2016, 3rd October (Day – 1)

14h- 18 h	Participant Registration	Participants exhibition

2016, 4th, October

8h00-8h30	Participant Registration		
8h30-9h15	**Opening ceremony**		
9h15-9h55	Keynote presentation: Safran	Impact of Additive Manufacturing on machining processes - New applications in technical aeronautic parts	
9h55-10h35	Keynote presentation: Five Capedenac	Portable multi-axis machine tool and intelligent and adaptive composite machining - Industrial aircraft applications	
10h35-11h00	**Coffee Break**		
11h00-11h25	Additive manufacturing and machining	Abrasive processes	Precision and micro-machining
11h25-11h50			
11h50-12h15			
12h15-13h40	**Lunch**		
13h40-14h05	Machining modeling	Vibration and machining dynamics	Assisted machining techniques
14h05-14h30			
14h30-14h55			
14h55-15h20			
15h20-15h45			
15h45-16h15	**Coffee Break**		
16h15-16h40	Machining technology	Surface integrity	Advanced materials
16h40-17h05			
17h05-17h30			
17h30-17h55			

19h00-19h45	Pot de l'amitié

20h15-24h00	**Gala dinner**

2016, 5th, October

8h00	**Entrance**		
8h30-8h55	Keynote presentation: Petr Kolar	Workpiece fixture: important element for improving manufacturing productivity and accuracy of low rigidity components (eu project)	
8h55-9h20	Keynote presentation: Staubli	Industry 4.0 - Robot Machining	
9h20h-9h40	Keynote presentation: Magafor/FEMTO	Development of new micro-mills dedicated to hard metals precision cutting	
9h40-10h00	Keynote presentation: Missler and CGTECH	Industry 4.0 - Integration of cutting forces for realistic CAD simulations	
10h00-10h30	**Coffee Break**		
10h30-10h55	Monitoring and intelligence in machining	Machinability	Lubrication
10h55-11h20			
11h20-11h45			
11h45-12h10			
12h10-13h40	**Lunch**		
13h40-14h05	Monitoring and intelligence in machining	Vibration and machining dynamics	Precision and micro-machining
14h05-14h30			
14h30-14h55	Machinability		
14h55-15h20			
15h20-16h15	**Closing Session**		
16h15-16h40	**Coffee Break**		

03/10/2016	Additive manufacturing and machining Chairman: Room:	Abrasive processes Chairman: Room:	Precision and micro-machining Chairman : Room:
11:00 - 11:25	Performances of precision drilling carried out on wrought and additive manufactured Ti6Al4V Z. Rysava, S. Bruschi, F. Medeossi, E. Savio	Influence of drag finishing on the surface integrity of a titanium alloy F. Grange, F. Salvatore, G. Kermouche, J. Rech , A. Texier	Robot based machine hammer peening to generate defined surface structures S. Krall, U. Groza, C. Habersohn, F. Bleicher
11:25 - 11:50	Study on the mechanical properties, strengthening and toughnening mechanisms of reactive hot pressed TiB2-SiC-Ni ceramic tool materials G. Zhao, C. Huang, N. He, H. Liu, B. Zou	Drag finishing of titanium parts produced by Selective Laser Melting F. Salvatore, R. Kaminski, C. Claudin, J. Rech	An experimental investigation on PCD tool wear in micro cutting of pure tungsten L. Zhong, L. Li, X. Wu, N. He
11:50 - 12:15	Comparative study on machinability of Ti6Al4V produced by Selective Laser Melting and Electron Beam Melting S. Milton,A, Morandeau, F. Chalon, R. Leroy	Heat flux distribution model in grinding from an inverse heat transfer analysis and foil / workpiece thermocouple measurements B. Lavisse, O. Sinot, A. Lefebvre, B. Weiss, E. Henrion, A. Tidu	Influence of tool deformations and its mounting inaccuracies on 3D surface topology A. Logins, P. Rosado Castellano, S. C. Gutiérrez Rubert, R. Torres, T. Torims, F. Sergejev

03/10/2016	Machining modeling Chairman: Room:	Vibration and machine dynamics Chairman: Room:	Assisted machining techniques Chairman: Room:
13:40 - 14:05	Analytical-FE modeling of high-speed dry machining.of the aeronautical aluminium alloy AA2024-T351 Y. Avevor, A. Moufki, M. Nouari	The effect of the feed drive control on the damping of structural vibrations of machine tools J. Vlacil, C. Rebelein, M. F. Zaeh	Effect of high pressure lubricoolant supply on thermomechanical tool load in turning of aerospace materials F. Klocke, T. Cayli, B. Döbbeler
14:05 - 14:30	Mechanistic cutting force model including the stress state induced by the chip flow contribution for cylindrical turning on Ti6Al4V alloy with two different nose radii T. Dorlin, G. Fromentin, J-P. Costes, H. Karaouni	Analysis of the feed drives control parameters on structural chatter vibrations X. Beudaert, I. Mancisidor, L.M. Ruiz, A. Barrios, K. Erkorkmaz, J. Munoa	Characterization of liquid nitrogen jet in cryogenic machining P. Lequien, G. Poulachon, J.C. Outeiro, J. Rech
14:30 - 14:55	Link between the BUE formation and the tribological behaviour at the tool-workmaterial interface when machining ductile metals S. Atlati, B. Haddag, M. Nouari, A. Moufki	Computation of the lower envelope of stability lobes D. Bachrathy, G. Stépán	Tool wear and surface quality in machining process of stainless steel: the effects of various coolant supply pressures A. Gharibi, Y. Kaynak
14:55 - 15:20	Experimental investigation and modeling study of burr formation during orthogonal cutting of A356+0,5Cu aluminium alloy T. Régnier, G. Fromentin, J. Outeiro, B. Marcon, A. D'acunto, A.Crolet	Experimental investigation of chatter dynamics in thin-walled tubular parts turning A. Gerasimenko, M. Guskov, P. Lorong, J. Duchemin, A. Gouskov	Piezoelectric based system for compensation of workpiece deformations in flexible milling: modelling and simulation H. Perez, E. Diez, E. Leal, A. Vizan
15:20 - 15:45	Experimental investigation of temperatures and heat flows for orthogonal cutting 1045 steel by thermal imaging F. Klocke, B.Döbbeler, T.Augspurger, M.Brockmann, A. Lima	Hardware-in-the-loop experimental setup for high speed milling G. Stepan, D. Takacs, R. Wohlfart, A. Miklos, G. Porempovics, A. Toth	Progressive tool wear in cryogenic machining Y. Kaynak, A. Gharib

03/10/2016	Machining technology Chairman: Room:	Surface integrity : Chairman: Room:	Advanced materials Chairman: Room:
16:15 - 16:40	Influence of a high speed broaching and case-hardening process on the resulting component geometry F. Bejnoud, F. Zanger, V. Schulze	An experimental study of residual stresses in drilling of Compacted Graphite Iron K. Rahimzadeh Berenji, A.T. Kuzu, M. Bakkal	Cutting performance of diamond coated drills in different shapes when high speed drilling CFRP X.C. Wang, X.T. Shen, C. Zeng, F.H. Sun, B. Shen
16:40 - 17:05	High Speed Rail Milling - New approach to increase the productivity and process quality in maintenance of rails E. Abele, E. Turan, F. Falk, E. Tamuzkhah, S. Khodabakhshi, M. Gares	Residual stresses after High Speed Machining - Their analysis by X-ray diffraction A. Czan, M. Sajgalik, M, Drbul, J. Holubjak, M. Piesova, O. Babik, L. Zauskova	High speed machining of Nickel-based alloys (HRSA) with CBN tools V. Muñoz, J.L. Cantero, J. Díaz-Álvarez, M.H. Miguélez
17:05 - 17:30	Use of new ceramic tool materials for rough turning of hardened 50CrMo4 steel A. Sandá, D. Fernández, J. Calderón, S. Rivera	Surface roughness in Dry High Speed Milling of magnesium alloy AZ91D M. S. Ruslan, K. Othman, M.S. Kassim, J.A. Ghani, C.H. Che Haron	Experimental research on small-diameter hole peck drilling behaviors of SiCP/Al composites with cemented carbide twist drills L.J. Xie, J.H. Tian, X.L. Chen, X,H. Nan, L.L. Teng
17:30 - 17:55	Coatings for increased performance in gear cutting A.O. Eriksson, M. Arndt	The effect of machining defects on the fatigue behaviour of the Al7050 alloy F. Abroug, E. Pessard, G. Germain, F. Morel, E. Chové	Influence of cutting condition on white layer induced by high speed machining of hardened steel C.Z. Duan, F.Y. Zhang, X.X. Xu, M.J. wang

04/10/2016	Monitoring and intelligence in machining Chairman: Room:	Machinability Chairman: Room:	Lubrication Chairman: Room:
10:30 - 10:55	ICNC: Intelligent Computer Numerical Control through the combination of simulation and power sensors M. Goiogana, J.A. Sarasua	Chip morphology and cutting forces investigation in dry high speed orthogonal turning of titanium alloy M. Benghersallah, L. Boulanouar, G. List, G. Sutter	Influence of the coolant nature on the tool performance in milling of Ti6Al4V with PVD coated tools M. Ibrahim Sadik, J. Sternheden
10:55 - 11:20	Monitoring of process power during machining M. Hacksteiner, F. Duer, D. Finkeldei, M. Obermair, F. Bleicher	Study of radial depth of cut influence on tool temperature and wear by Infrared Radiations camera measurements in intermittent cutting Q. Lagarde, V. Wagner, G. Dessein, P. Couderc, C. Garnier	Investigating the machining performance of turbineblade profile using SiO2 nanoparticle based eco-friendly cutting fluid N. Madan Mohan Reddy, C. Phaneendra Kiran
11:20 - 11:45	Optimal image processing acquisition parameters for a tool condition monitoring system of ceramic inserted tools J. A. Dominguez Caballero, G. A. Manson, M. B. Marshall	Experimental study of machinability in broaching of ferritic-pearlitic steels I. Arrieta, C. Courbon, F. Cabanettes, P.-J. Arrazola, J. Rech	Surface integrity of titanium alloy Ti-6Al-4V ELI under Minimal Quantity Lubrication (MQL) during High Speed Machining M.A. Sulaiman, C.H. Che Haron, J.A. Ghani
11:45 - 12:10	Using kinematical manupulability polytope to optimize 5-axis machining tool path L. Grandguillaume, S. Lavernhe, C. Tournier	Monitoring of deformation phenomena in cutting zone when machining materials based on Ti and Ni M. Sajgalik, M. Drbul, T. Czanova, L. Zauskova, O. Babik, J. Holubjak	Numerical study of film fluid creation on rake face in different milling conditions under MQL A. Duchosal, S. Werda, A. Chatti, R. Serra, R. Leroy

04/10/2016	Monitoring and intelligence in machining Chairman: Room:	Vibration and machining dynamics Chairman: Room:	Precision and micro-machining Chairman: Room:
13:40 - 14:05	Prognosis software of thread quality in high speed tapping operations A. Gil Del Val, P.M. Diéguez, M. Estrems, M. Arizmendi	Thermal effects on machine tool compliance J. Baumann, R. Hense, P. Wiederkehr, L.-T. Nguyen, H.-C. Möhring, C. Spieker, M. Müller	Cutting forces investigation for micro-milling of Ti6Al4V alloy M. Atli, M. Longhui, K. H.Adjallah, N. He
14:05 - 14:30	Precise modeling of drives with ball screw Z. Winiarski, Z. Kowal, J. Jedrzejewski, W. Kwasny	Comparison of experimental modal analysis with operational modal analysis for assessment of the dynamic behaviour of a machine tool component J. Berthold, M. Kolouch, V. Wittstock, M. Putz	A study on the tool wear of PCD micro end mills in ductile milling of ZrO2 ceramics R. Bian, N. He, W. Ding, S. Liu
	Machinability Chairman: Room:		
14:30 - 14:55	Influence of non-metallic inclusions on Built-Up Layer occurence in turning J.E. Desaigues, C. Lescalier, A. Bomont-Arzur, O. Bomont	Active control of vibrations in a milling process F. Kochtbène, G. Moraru, J.C.Carmona, T.Durdan, U.Masciantonio	Prediction of cutting forces in High Speed Micro Milling of near alpha titanium alloy (Grade 12) B. Chakradhar, S. Bharat Kumar, B. Dhananjay, S. Kundan
14:55 - 15:20	Influence of temperature when dry drilling of aeronautical alloys G. Le Coz, P. Laheurte, D. Dudzinski	Comparison of tapping and form tapping processes using dynamic force analysis T. N. De Barros, G. P. Guimarães, M. B. Da Silva, I. C. Pereira	