

CIRP CAT 2012 – Programme

(Draft Version, 30/03/12)

Tuesday 17th April, 2012

16.00 Registration / Refreshments

18.00 End of Day

Wednesday 18th April, 2012

	Lecture Theatre A	Lecture Theatre B
08.10	Registration / Tea & Coffee	
08.50	Opening of Conference	
09.10	Keynote 1 <i>Computed Tomography in quality control - Chances and Challenges</i> A Weckenmann; Ph Kramer	
	Session 1A <i>Statistical Tolerancing</i>	Session 1B <i>Applications of Metrology</i>
09.40	<i>Statistical tolerance analysis of a mechanism with gaps based on system reliability methods</i> B Beaucaire, N Gayton, E Duc, M Lemaire, JY Dantan	<i>Dimensional metrology in the macroscopic range with sub-nanometre resolution</i> T Hausotte, N Vorbringer-Dorozhovets, E Manske, G Jager
10.00	<i>Statistical Tolerancing Based on Variation of Point-Set</i> J X Yang, J Y Wang, Z Q Wu, N Anwer	<i>A novel approach for 3D part inspection using laser-plane sensors</i> N Audfray, C Mehdi-Souzani, C Lartigue
10.20	<i>Dynamic Tolerances by the Statistical Dynamic Specifications Method</i> C Hernandez, R Tutsch	<i>Application of sensor tilting for enhanced measurement of microstructures</i> A Weckenmann, A Schuler
10.40	<i>Optimal Statistical Tolerance Allocation Based on the Lambert W Function</i> J C Tsai, K M Cheng	<i>From surface defects of a planar pair to relative displacements and vice versa</i> H N Le, Y Ledoux, P Darnis, A Ballu
11.00	Coffee & Posters	
	Session 2A <i>Tolerance Modelling & Standards</i>	Session 2B <i>Applications of Simulation</i>
11.20	<i>Size Tolerancing Revisited: A Basic Notion and its syntactical Evolution in Standards</i> E Morse, V Srinivasan, H Voelcker	<i>Numerical Investigation of the Impact of Dimensional and Geometric Tolerances to the Long Life Fatigue Strength of Mechanical Components</i> P Gust, C Schluer
11.40	<i>Towards a simpler and more formal geometric tolerancing model</i> L Pierric, P Eric, G Max	<i>Geometric Variation simulation and robust design for flexible cables and hoses</i> T Hermansson, JS Carlson, S Bjorkenstam, R Soderberg
12.00	<i>Discrete Shape Modeling for Skin Model Representation</i> M Zhang, N Anwer, A Stockinger, L Mathieu, S Wartzack	<i>Manufacturing tolerance analysis based on the Model of Manufactured part and Monte Carlo simulation with experimental data</i> MH Bui, A Sergent, F Villeneuve
	Session 3A <i>Oral Presentation of Posters I</i>	Session 3B <i>Oral Presentations of Posters II</i>
12.20	<i>Dimensional stability and variance of carbon fiber reinforced plastics - Current state and necessary future developments</i> P Steinle, M Bohn	<i>Establishing the Energy Profile for Geometric Variations of a Planar Surface</i> G Ameta, M Anazi
12:27	<i>An ideal mating surface method used for tolerance analysis fo mechanical system loaded</i> Y Wang, J Guo, J Hong, J Zhang	<i>Surface Texture Specification, the More Complete the Better?</i> Q Qi, X Jiang, PJ Scott, L Blunt
12:34	<i>A generic method for the worst case and statistical tridimensional tolerancing analysis</i> M Mansuy, M Giordano, P Hernandez	<i>Hierarchizatin of characteristics applied to approval strategy</i> A Van Hoecki
12.40	<i>A strategy for testing product conformance to geometric dimensioning & tolerancing standards</i> SP Frechette, BR Fischer	<i>Does CAT need to take assembly ergonomics in consideration? - An interview study in two large manufacturing companies</i> M Rosenqvist, AC Falck, R Soderberg
12:47	<i>Web-enabled, Real-time, Quality Feedback for Machining Production Systems</i>	<i>New multimedia geometrical tolerancing course</i> M Berta, Z Humienny

	J Michaloski, F Zhao, BE Lee, W Rippey	
12:54	<i>The application of standards in the context of evolving technical developments in the field of plastics</i> K Hetsch, P Steinle, M Bohn	<i>Three dimensional manufacturing tolerance design using convex sets</i> J Zhang, L Qiao
13.00	Lunch & Posters	
13.50	Keynote 2 Reflections on the Role of Science in the Evolution of Dimensioning and Tolerancing Standards V Srinivasan	
	Session 4A Lifecycle Oriented Tolerancing	Session 4B I Optical Metrology
14.20	<i>Cost estimation method for variation management</i> S Mirdamadi, A Etienne, A Hassan, JY Dantan, A Siadat	<i>Optical Multi-Sensor Measurements in the Shop by Compensating Environmental Influences</i> J Bernstein, A Weckenmann
14.40	<i>Inspection Strategies and Multiple Geometric Tolerances</i> G Moroni, S Petro	<i>Accelerated Surface Measurement Using Wavelength Scanning Interferometer with Compensation of Environmental Noise</i> H Muhamedsalih, X Jiang, F Gao
15.00	<i>Tolerancing subjective and uncertain customer requirements regarding perceived product quality</i> B Quattelbaum, R Schmitt	Session 4B II Oral Presentation of Posters III
15:07		<i>Tolerance analysis and Re-distribution of A Machine Tool Spindle by Negative Tolerancing</i> JC Tsai, S-R Wu
15:14		<i>A simple assessment method for straightness and flatness errors based on Particle Swarm Optimization</i> C Cui
15:14		<i>Information System for the Integration between the Design and Inspection process of Geometrical Tolerances</i> W Lu, X Jiang, X Liu, P Scott, Q Qi
15.20	Coffee & Posters	
	Session 5A Tolerancing Analysis	Session 5B Error and Uncertainty Evaluation
15.40	<i>Tolerance analysis approach based on the classification of uncertainty (aleatory/epistemic)</i> JY Dantan, N Gayton, J Qureshi, M Lemaire, A Etienne	<i>Synthetic error modeling for numerical control machine tools based on bayesian networks</i> X Yao, Y Xu, J Fu, Z Chen
16.00	<i>A Tolerance Analysis Method for Rotating Machinery</i> J Guo, J Hong, Z Yang, Y Wang	<i>First coordinate measurements uncertainty evaluation software fully consistent with the GPS philosophy</i> W Jakubiec, W Plowucha
16.20	<i>Analysis of the effects of manufacturing-caused deviations and varying operation parameters on operation-depending deviations of systems in motion</i> M Walter, S Wartzack	<i>Volumetric Error Compensation for the MScMS-II</i> M Galetto, L Mastrogiacomio, G Moroni, S Petro
16.40	<i>Approaching a class of 2D tolerance chains by analogy with force analysis</i> A Armillotta	<i>Assessment of critical dimensions and geometric error of micro-fabricated parts through the application of techniques for areal surface topography analysis of structured surfaces</i> N Senin, LA Blunt
17.00	<i>Algorithm to calculate the Minkowski sums of 3-polytopes :application to tolerance analysis</i> D Teissander	<i>An investigation of the repeatability of nonrigid parts measurements: A case study of an aluminium panel</i> NA Gad, D Alain, T Antoine
17.20	End of Day 1	
19.00	Transport to Conference Banquet	
19.30	Conference Banquet with Entertainment	
23.00	Transport to accommodation	

Thursday 19th April, 2012

	Lecture Theatre A	Lecture Theatre B
09.00	Keynote 3 <i>Recent Developments in ISO-GPS Standards and Strategic Plans for Future Work</i> H S Nielsen	
	Session 6A Tolerancing process	Session 6B Computational Geometry (I)
09.30	<i>Ontology Supported Process Based Geometric Tolerancing</i> A Sprenger, R Anderl	<i>The Least-Squares Fit of Measured Points Applied to Convex Line-Profiles</i> JK Davidson, SB Savaliya, JJ Shah
09.50	<i>Methodic design of a customized Maturity Model for Geometrical Tolerancing</i> A Weckenmann, G Akkasoglu	<i>Curvature-Based Registration and Segmentation for Multisensor Coordinate Metrology</i> H Zhao, N Anwer, P Bourdet
10.10	<i>A scientific point of view of a simple industrial tolerancing process</i> F Charpentier, A Ballu, J Pailhes	<i>An Adaptive Sampling Approach for Digitizing Unknown Free-form Surfaces Based on Advance Path Probing</i> L Keqing, W Wen, W Yaofeng, W Yanding, C Zichen
10.30	<i>Methodology for requirement-driven tolerance specification of bevel gears</i> S Watrin, H Binz, B van de Lindeloof	<i>A unified method to evaluate form errors by minimum zone features, maximum inscribed features and minimum circumscribed features for precision engineering</i> X Zhang, X Jiang, AB Forbes, MD Hoang, PJ Scott
10.50	Coffee & Posters	
	Session 7A Tolerance Evaluation and Verification	Session 7B Computational Geometry (II)
11.10	<i>Computed Tomography as a Tool for Tolerance Verification of Industrial Part</i> P Muller, A Cantatore, JL Andreasen, J Hiller, L DeChiffre	<i>An Efficient Divide and Conquer Algorithm for Morphological Filters</i> S Lou, x Jiang, PJ Scott
11.30	<i>An example of 3D Tolerances analysis integrated to Digital Mocu-Up: MECAMaster for CATIA</i> P Clozel, D Lacour, P-A Rance	<i>Adaptive inspection plans in Coordinate Metrology based on Gaussian process models</i> R Ascione, G Moroni, W Polini, D Romano
11.50	<i>Profile Tolerance Verification for Free-form Surfaces using Medial Axis Transform</i> KB Kale, B Gurumoorthy	<i>A new method to characterize the structured tessellation surface</i> W Zeng, X Jiang, PJ Scott, L Blunt
12.10	Lunch & Posters	
	Session 8A Tolerancing of Assemblies	Session 8B Functional Tolerancing and Geometric Deviations
13.30	<i>On neural networks' ability of approximate geometrical variation propagation in assembly</i> L Andolfatto, F Thiebaut, M Douilly, C Lartigue	<i>Study on functional specification scheme on interface based on positioning features</i> C Yanlong, Z Heng, C Bei, Y Jiangxin
13.50	<i>A Novel Approach to Posture Best Fit Based on Key characteristics for Large Components Assembly</i> LY Zheng, RW Liu, XS Zhu	<i>Setup plan and manufacturing dimensions for the steering of machining: The copilog-Pro Method</i> B Abdelhakim, E Pairel, E Goldschmidt, M Pillet
14.10	<i>A Sequential Constraint Solver to Simulating Rigid Assemblies in Tolerance Analysis</i> P Franciosa, S Gerbino, S Patalano	<i>On the impact of geometric deviations on structural performance</i> B Schleich, A Stockinger, S Wartzack
14.30	<i>Critical operating conditions for assemblies with parameter-dependent dimensions</i> A Armillotta, Q Semeraro	<i>To analytically estimate the 3D position deviation of a holes pattern due to fixturing</i> G Moroni, W Polini
14.50	<i>Form errors impact in a rotating plane surface assembly</i> J Grandjean, Y Ledoux, S Samper, H Favreliere	<i>A Synchronous Design Theory and Approach for Functional tolerance and Structure based on the Principle of Decomposition and Reconstitution</i> Z Heng, C Yanlong, W Yanding, Y Jiangxin
15.10	<i>An Entropy-Based Method to Evaluate Plane Form Errors for Precision Assembly</i> Z Zhang, F Zuo, T Zhang, X Jin, X Ye	
15.30	Refreshments + Tours End of Conference	