

MESIC 5th

MANUFACTURING ENGINEERING
SOCIETY INTERNATIONAL
CONFERENCE 2013

ZARAGOZA, JUNE 26-27-28, 2013

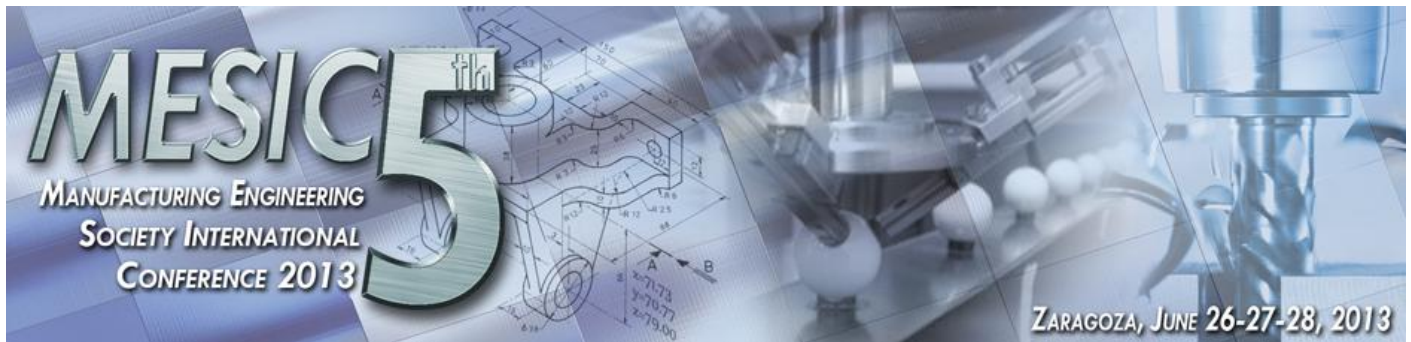
PROGRAM

Wednesday 26 June

Thursday 27 June

Friday 28 June

| | | | | | |
|-------|--|--|-------------------------------------|--|-----------------------|
| 8:00 | Registration | Registration | | Registration | 8:00 |
| 8:15 | | Invited Lecture 2 | | Invited Lecture 4 | 8:15 |
| 8:30 | | Session 4 Industrial metrology I | Session 5 Machining processes II | Session 12 Industrial metrology II | 8:30 |
| 8:45 | | | | | Coffee-Poster Session |
| 9:00 | | Coffee-Poster Session | | Session 13 Modeling and simulation in manufacturing engineering | 9:00 |
| 9:15 | | Session 6 Non-traditional manufacturing processes I | Session 7 Forming processes | | 9:15 |
| 9:30 | | | | Invited Lecture 5 | |
| 9:45 | | Invited Lecture 3 | | MES General Meeting | 9:45 |
| 10:00 | | Lunch | | Awards to the best TPFE | 10:00 |
| 10:15 | | Invited Lecture 1 | | Closing Session | 10:15 |
| 10:30 | Session 8 Machining processes III | | Lunch | 10:30 | |
| 10:45 | Session 9 Non-traditional manuf. processes II | | | 10:45 | |
| 11:00 | Coffee-Poster Session | | Paraninfo visit 2 | 11:00 | |
| 11:15 | Session 10 Industrial quality | Session 11 Rapid prototyping | | 11:15 | |
| 11:30 | | | Guided visit to Aljafería | | 11:30 |
| 11:45 | Congress Banquet | | 11:45 | | |
| 12:00 | Awards to the best Poster | | 12:00 | | |
| 12:15 | MES Award | | 12:15 | | |
| 12:30 | | | 12:30 | | |
| 12:45 | | | 12:45 | | |
| 13:00 | | | 13:00 | | |
| 13:15 | | | 13:15 | | |
| 13:30 | | | 13:30 | | |
| 13:45 | | | 13:45 | | |
| 14:00 | | | 14:00 | | |
| 14:15 | | | 14:15 | | |
| 14:30 | | | 14:30 | | |
| 14:45 | | | 14:45 | | |
| 15:00 | | | 15:00 | | |
| 15:15 | | | 15:15 | | |
| 15:30 | | | 15:30 | | |
| 15:45 | | | 15:45 | | |
| 16:00 | | | 16:00 | | |
| 16:15 | | | 16:15 | | |
| 16:30 | | | 16:30 | | |
| 16:45 | | | 16:45 | | |
| 17:00 | | | 17:00 | | |
| 17:15 | | | 17:15 | | |
| 17:30 | | | 17:30 | | |
| 17:45 | | | 17:45 | | |
| 18:00 | | | 18:00 | | |
| 18:15 | | | 18:15 | | |
| 18:30 | | | 18:30 | | |
| 18:45 | | | 18:45 | | |
| 19:00 | | | 19:00 | | |
| 19:15 | | | 19:15 | | |
| 19:30 | | | 19:30 | | |
| 19:45 | | | 19:45 | | |
| 20:00 | | | 20:00 | | |
| 20:15 | | | 20:15 | | |
| 20:30 | | | 20:30 | | |
| 20:45 | | | 20:45 | | |
| 21:00 | | | 21:00 | | |
| 21:15 | | | 21:15 | | |
| 21:30 | | | 21:30 | | |
| 21:45 | | | 21:45 | | |



OPENING LECTURE

| <i>Time</i> | <i>Author</i> | <i>Title</i> |
|----------------------------------|---|--|
| 12:30 June 26th | Jianjun Shi Georgia Institute of Technology USA | Data Fusion for In-Process Quality Improvement |

INVITED LECTURES

| <i>Time</i> | <i>Ref.</i> | <i>Author</i> | <i>Title</i> |
|----------------------------------|-------------|---|---|
| 15:45 June 26th | 1 | A. Villa Politecnico di Torino Italy | From JIT to Seru, for a production as lean as possible |
| 9:00 June 27th | 2 | A. Weckenmann University Erlangen-Nuremberg Germany | Function-oriented Measurements – The Path from Macro to Micro and Nano Range |
| 15:00 June 27th | 3 | C. Brecher RWTH Aachen University Germany | Machine tool dynamics - advances in metrological investigation, modeling and simulation techniques, optimization of process stability |
| 9:00 June 28th | 4 | D. Imkamp Zeiss Germany | Looking at the future of manufacturing metrology: The VDI/VDE roadmap manufacturing metrology 2020 |
| 12:45 June 28th | 5 | M.A. Lope Universidad de Zaragoza Spain | The accreditation of industrial engineering in Spain: teaching and learning the skills of Manufacturing Engineering |

Session 1. Integrated development of products and processes

Chairs: **Jianjun Shi, C. Vila**

Session Secretary: **J.A. Albajez**

| <i>Time</i> | <i>Ref.</i> | <i>Authors</i> | <i>Title</i> |
|-------------|-------------|--|--|
| 13:00 | 136 | G.M. Bruscas, F. Romero, P. Rosado, J. Serrano | Fostering in-process inspection during process planning using tolerance charting |
| 13:15 | 132 | P. Díaz de Mera, C. González, M.A. Sebastián | Comparative Analysis from Project Management Models used for the Design of Manufactured Products |
| 13:30 | 152 | M. Sorli, A. Armijo | EPES: Engineering System for Optimization of Product life-cycle through adapted eco-services |
| 13:45 | 153 | A. Gómez, F. Mas, J.L. Menéndez, J. Ríos | A knowledge based application for industrialization design |
| 14:00 | 154 | J.L. Menéndez, F. Mas, J. Servan, R. Arista, J. Ríos | Implementation of the iDMU for an aerostructure industrialization in AIRBUS |
| 14:15 | 155 | F. Mas, J.L. Menéndez, M. Oliva, J. Ríos | Collaborative Engineering: an Airbus case study |

Session 2. Machining processes I

Chairs: **A. Villa, E. Ares**

Session Secretary: **A.C. Majarena**

| <i>Time</i> | <i>Ref.</i> | <i>Authors</i> | <i>Title</i> |
|-------------|-------------|---|--|
| 16:15 | 106 | E. García, J.A. Sánchez, I. Pombo, L. Dubar, M. Dubar, A. Dubois, N. Ortega, B. Izquierdo, S. Plaza, D. Meresse, S. Harmand | Evaluation of friction and wear effects during the abrasive contact between Al ₂ O ₃ -hardened steel |
| 16:30 | 130 | P. Puerto, R. Fernández, J. Madariaga, J. Arana, I. Gallego | Evolution of surface roughness in grinding and its relationship with the dressing parameters and the radial wheel wear |
| 16:45 | 133 | J.L. Osa, J.A. Sanchez, N. Ortega, I. Pombo, J.M. Larrañaga, I. Iordanoff | Fracture Mechanisms and Surface Mechanical Damage induced by Dressing on Grinding Wheels |
| 17:00 | 238 | J.Díaz, X.Soldani, J.L. Cantero, H. Miguélez | Surface integrity in finishing turning of Inconel 718 |
| 17:15 | 178 | A. Beranoagirre, L.N. López de Lacalle | Grinding of Gamma TiAl Intermetallic Alloys |
| 17:30 | 135 | I. Buj-Corral, J. Vivancos-Calvet | Criteria for defining the end of a polishing process of previously milled samples |

Session 3. Teaching manufacturing and Industrial heritage

Chairs: **F. Romero, L. Sevilla**

Session Secretary: **F. Brosed**

| <i>Time</i> | <i>Ref.</i> | <i>Authors</i> | <i>Title</i> |
|--------------|-------------|---|--|
| 18:15 | 144 | J. Serrano, L. Prades, G.M. Bruscas, J.V. Abellán | An Investigation into Alternative Conceptions and Knowledge Retention of Manufacturing Concepts in Undergraduate/Graduate Engineering Students |
| 18:30 | 234 | J. Claver, L. Sevilla, R. Domingo, M.A. Sebastián | Educational approach of industrial heritage content in Manufacturing Engineering subjects: Examples in university education in Andalucía |
| 18:45 | 180 | J. Claver, M.A. Sebastián | Basis for the classification and study of immovable properties of the spanish industrial heritage |
| 19:00 | 169 | M. González, M.J. Martín, L. Sevilla , M.A. Sebastián | Analysis of documental heritage of CETA in standardization of the Spanish manufacturing automotive industry |

Session 4. Industrial metrology I

Chairs: **A. Weckenmann, J.A. Yagüe**

Session Secretary: **J.A. Albajez**

| <i>Time</i> | <i>Ref.</i> | <i>Authors</i> | <i>Title</i> |
|--------------|-------------|---|--|
| 9:30 | 236 | A.Mendicute, M.Zatarain | Automated raw part alignment by a novel machine vision approach |
| 9:45 | 140 | J. Caja, E. Gómez, P. Maresca, M. Berzal | Development of a calibration model for optical measuring machines |
| 10:00 | 142 | D. González-Madruga, E. Cuesta, H. Patiño, J. Barreiro, S. Martínez-Pellitero | Evaluation of AACMM using the virtual circles method |
| 10:15 | 190 | S. Aguado, D. Samper, J. Santolaria, J.J. Aguilar | Machine Tool Rotary Axis Compensation Through Volumetric Verification Using Laser Tracker |
| 10:30 | 161 | J. Conte, J. Santolaria, A.C. Majarena, A. Brau, J.J. Aguilar | Identification and Kinematic Calculation of Laser Tracker Errors |
| 10:45 | 147 | T. Fernández, A. García, J. de Vicente | Terrestrial Laser Scanner (TLS) Equipment Calibration |
| 11:00 | 131 | R. Acero, J.A. Albajez, J. A. Yagüe Fabra, M. Torralba, M. Valenzuela, J.J. Aguilar | Analysis and design of a homing sensor system for a 2D moving platform with nanometer resolution |

Session 5. Machining processes II

Chairs: **J.A. Sánchez, R. Domingo**

Session Secretary: **M. Valenzuela**

| <i>Time</i> | <i>Ref.</i> | <i>Authors</i> | <i>Title</i> |
|-------------|-------------|--|--|
| 9:30 | 189 | H. Pérez, E. Díez, J. Pérez, A. Vizán | Analysis of machining strategies for peripheral milling |
| 9:45 | 182 | P.Romero-Carrillo, R. Dorado, F.A. Díaz-Garrido, E.M. Rubio-Alvir | Influence of pocket geometry and tool path strategy in pocket milling of UNS A96063 alloy |
| 10:00 | 128 | P. Rodríguez, J.E. Labarga | Analytical Forces Model for Micro-end-milling Processes |
| 10:15 | 206 | R. Domingo, M. García, M.R. Gómez | Influence of the torques on the calculation of the energy during the dry drilling of PEEK GF30 |
| 10:30 | 227 | J. Arjona, J. Minguella, J. Vivancos | SelectTool: Advantages and Opportunities in the utilisation of a smart software tool for the search, comparison and selection of cutting tools |
| 10:45 | 137 | A. Gil, J. Fernández, M. Arizmendi, F. Veiga, J.L. Urizar, A. Berriozábal, A. Axpe, P.M. Diéguez | On line Diagnosis Strategy of Thread Quality in tapping |
| 11:00 | 110 | E. Díaz-Tena, A. Rodríguez-Ezquerro, L.N. López de Lacalle, L. Gurtubay, A. Elías | Use of Extremophiles Microorganisms for metal removal |

Session 6. Non-traditional manufacturing processes I

Chairs: **M. Marcos, E. Gómez**

Session Secretary: **A.C. Majarena**

| <i>Time</i> | <i>Ref.</i> | <i>Authors</i> | <i>Title</i> |
|-------------|-------------|--|--|
| 11:45 | 126 | I. Ayesta, B. Izquierdo, J.A. Sanchez, J.M. Ramos, S. Plaza, I. Pombo, N. Ortega | Electrode path generation algorithm for complex shape cavities. Electrode design and application for blisk machining |
| 12:00 | 184 | P. Hernández, A. Socas, A. Benitez, N. Díaz, F. Ortega, M. Marrero, M. Monzón | Computer Aided Electroforming. Elecform3D TM |
| 12:15 | 134 | S. Plaza, E. Perez, R. Gil, J.A. Sánchez, B. Izquierdo, N. Ortega, I. Pombo | High-Aspect Ratio Microhole EDM-Drilling in Aeronautical Alloys |
| 12:30 | 108 | E. Ukar, A. Lamikiz, S. Martinez, F. Estalayo, I. Tabernero | Laser Polishing of GGG70L Cast Iron with 2D Scan-Head |
| 12:45 | 256 | I. Shyha | An Investigation into CO2 Laser Trimming of CFRP and GFRP Composites |
| 13:00 | 248 | P. Hernandez, A. Murawko, J. Martínez, G. Pelaez, E. Ares | Replication of micro laser textures by injection molding |
| 13:15 | 164 | T. Pasang, J.M. Sánchez, Y. Tao, M.R.Amaya-Vázquez, F.J. Botana, J.C Sabol, W.Z. Misiolek, O. Kamiya | Comparison of Ti-5Al-5V-5Mo-3Cr welds performed by LBW, EBW and TIG |
| 13:30 | 127 | K. Subrin, L. Sabourin, R. Cousturier, G. Gogu, Y.Mezouar | New redundant architectures in machining: serial and parallel robots |

Session 7. Forming processes

Chairs: **C. Vallellano, E. Cuesta**

Session Secretary: **A. Brau**

| <i>Time</i> | <i>Ref.</i> | <i>Authors</i> | <i>Title</i> |
|-------------|-------------|--|---|
| 11:45 | 201 | G. Centeno, A.J. Martinez-Donaire, C. Vallellano, L.H. Martinez-Palmeth, D. Morales, C. Suntaxi, F.J. García-Lomas | Experimental study on the evaluation of necking and fracture strains in sheet metal forming processes |
| 12:00 | 204 | L.H. Martinez-Palmeth, A.J. Martinez-Donaire, C. Vallellano, G. Centeno, F.J. García-Lomas | Formability of Automotive H240LA Steel Sheets in Stretch Bending |
| 12:15 | 172 | J. León, D. Salcedo, C. Luis-Pérez, C. Ciáurriz | Analysis of the influence of geometrical parameters on the mechanical properties of incremental sheet forming parts |
| 12:30 | 157 | I. Bagudanch, G. Centeno, C. Vallellano, M.L. Garcia-Romeu | Forming force in Single Point Incremental Forming under different bending conditions |
| 12:45 | 156 | I. Bagudanch, M.L. Garcia-Romeu, I. Ferrer, J. Lupiañez | The effect of process parameters on the energy consumption in Single Point Incremental Forming |
| 13:00 | 185 | R. Luri, C. Luis Pérez, D. Salcedo, J. León, I. Puertas | FEM analysis of the isothermal forging of a connecting rod from material previously deformed by ECAE |
| 13:15 | 162 | C. Bermudo, F. Martín, L. Sevilla | Analysis and selection of the modular block distribution in indentation process by the Upper Bound Theorem |
| 13:30 | 166 | F. Martín, L. Sevilla, A. Camacho, M.A. Sebastián | Upper bound solutions of ring compression test |

Session 8. Machining processes III

Chairs: **C. Brecher, M. Zarataín**

Session Secretary: **F. Brosed**

| <i>Time</i> | <i>Ref.</i> | <i>Authors</i> | <i>Title</i> |
|-------------|-------------|--|---|
| 15:30 | 103 | N. Wojtowicz, I. Danis, R. Chieragatti, F. Monies, P. Lamesle | The influence of cutting conditions on surface integrity of a wrought magnesium alloy |
| 15:45 | 105 | I. Danis, N. Wojtowicz, F. Monies, P. Lamesle, P. Lagarrigue | Cutting conditions and surface integrity during dry plunge-milling of a wrought magnesium alloy |
| 16:00 | 109 | A. Calleja, A. Fernández, F.J. Campa, A. Lamikiz, L.N. López de Lacalle | Reliable Manufacturing Process in Turbine Blisks and Compressors |
| 16:15 | 218 | J. Salguero, M. Batista, M. Calamaz, F. Girot, M. Marcos | Cutting Forces Parametric Model for the High Speed Contour Milling of Aerospace Aluminium Alloys |
| 16:30 | 170 | A. Fernandez-Valdivielso, A. Rodríguez, G. Urbicain, L. N. López de Lacalle, I. Zamakona | Advanced tool selection for turning thin wall parts in Inconel 718 |
| 16:45 | 255 | M. Cotterell, E. Ares, J. Yanes, F. López, P. Hernandez, G. Peláez | Temperature and strain measurement during chip formation in orthogonal cutting conditions applied to Ti-6Al-4V |
| 17:00 | 228 | J. Arjona, J. Minguella, F. Compeán, L.N. López de Lacalle, F. Campa | Mechanistic model of flat end milling operation considering tool wear and coolant techniques on a Ti6Al4V-alloy |

Session 9. Non-traditional manuf. processes II

Chairs: **J. Vivancos, J.A. García-Manrique**

Session Secretary: **S. Ontiveros**

| <i>Time</i> | <i>Ref.</i> | <i>Authors</i> | <i>Title</i> |
|--------------|-------------|---|--|
| 15:30 | 167 | A. Alberdi, A. Suárez, T. Artaza, G.A. Escobar-Palafox, K. Ridgway | Composite cutting with Abrasive Water Jet |
| 15:45 | 243 | R. Hoto, J.P. Torres, J.A. García-Manrique | Manufacturing and mechanical characterization of Basalt Fibre Reinforced Bio-polymer composites |
| 16:00 | 148 | J.M. Arenas, C. Alía, R. Ocaña, J.J. Narbón | Degradation of adhesive joints for joining composite material with aluminum under adverse environmental conditions: immersion in water and motor oil |
| 16:15 | 138 | J. Minguella, D. Cuiñas, R. Uceda, J.V. Rodríguez, J. Vivancos | Advanced manufacturing of ceramics for biomedical applications: Subjection methods for biocompatible materials |
| 16:30 | 151 | I. Mendikoa, M. Sorli, A. Armijo, L. García, L. Erausquin, M. Insunza, J. Bilbao, H. Friden, A. Björk, L. Bergfors, R. Skema, R. Alzbutas, T. Iesmantas | Heat Treatment Process Energy Efficient Design and Optimisation |
| 16:45 | 257 | J.A. Dieste, A. Fernández, D. Roba, B. Gonzalvo, P. Lucas | Automatic grinding and polishing using Spherical Robot |
| 17:00 | 143 | L. Prades, J. Serrano, R. Sanchis | Design and Implementation of a Monitoring and Control System for Setting and Balancing a Tile Grinding Line |

Session 10. Industrial quality

Chairs: **C. González, M.A. Lope**

Session Secretary: **A.C. Majarena**

| <i>Time</i> | <i>Ref.</i> | <i>Authors</i> | <i>Title</i> |
|--------------|-------------|--|--|
| 17:45 | 249 | K. Schwab | Holistic Methodological Model for introducing Industrial Quality Management Methods to Manufacturing in Small and Medium Sized Enterprises |
| 18:00 | 150 | J. Sancho, J. Pastor, J. Martínez, M.A. García | Evaluation of Harmonics in Power Systems using Multivariate Statistical Process Control and Process Capability Analysis Methods |
| 18:15 | 104 | J.M. Conde, C. González | Methodology for implementing Document Management Systems to support ISO 9001:2008 Quality Management Systems |
| 18:30 | 205 | L.M. Calvo, R. Domingo | A First Approach to the Use of CO2 Emissions as a Maintenance Indicator in Industrial Plants |

Session 11. Rapid prototyping

Chairs: **J. Ciurana, A. Lamikiz**

Session Secretary: **D. Acosta**

| <i>Time</i> | <i>Ref.</i> | <i>Authors</i> | <i>Title</i> |
|-------------|-------------|--|--|
| 17:45 | 159 | K. Monroy, J. Ciurana, J. Delgado | Study of the Pore Formation on CoCrMo alloys by Selective Laser Melting Manufacturing Process |
| 18:00 | 160 | Y. Pupo, J. Delgado, L. Serenó, J. Ciurana | Scanning space analysis in Selective Laser Melting for CoCrMo powder |
| 18:15 | 107 | I. Tabernero, A. Calleja, A. Lamikiz, L.N. López de Lacalle | Optimal parameters for 5-axis laser cladding |
| 18:30 | 247 | J.Martínez, J.L.Diéguez, E.Ares, A.Pereira, P.Hernández, J.A.Pérez | Comparative between FEM models for FDM parts and their approach to a real mechanical behaviour |

Session 12. Industrial metrology II

Chairs: **D. Imkamp, J. Santolaria**

Session Secretary: **J.A. Albajez**

| <i>Time</i> | <i>Ref.</i> | <i>Authors</i> | <i>Title</i> |
|-------------|-------------|--|---|
| 9:30 | 173 | M. Pueo, J. Santolaria, R. Acero, G. Aso | Double flank roll testing machines intercomparison for worm and worm gear |
| 9:45 | 223 | A. Brau, J. Santolaria, I. Asensio, J.J. Aguilar | Mechanical Design of an Indexed Metrology Platform for Verification of Portable Coordinate Measuring Machines |
| 10:00 | 203 | F. Ferreira, J. de Vicente y Oliva, A.M. Sánchez Pérez | Evaluation of the performance of coordinate measuring machines in the industry, using calibrated artefacts |
| 10:15 | 237 | M. San Juan, O. Martín, F.J. Santos, P. de Tiedra, F. Daroca, R. López | Application of thermography to analyse the influence of the deformation speed in the forming process |
| 10:30 | 117 | D. Dimitrov, V. Karachorova, T. Szecsi | System for controlling the accuracy and reliability of machining operations on machining centres |

Session 13. Modeling and simulation in manufacturing engineering

Chairs: **J. García-Lomas, A. Sanz**

Session Secretary: **F. Brosed**

| <i>Time</i> | <i>Ref.</i> | <i>Authors</i> | <i>Title</i> |
|-------------|-------------|--|---|
| 11:15 | 114 | C. Hernández, R. Tutsch | Influence of the Response Delay on the Effectiveness of a Statistical Feed-Forward Controller |
| 11:30 | 241 | M. Janssen, R. Schmitt, P. Jatzkowski, F. Bertelsmeier | Self-Optimization in Large Scale Assembly |
| 11:45 | 250 | A. Sanz-Lobera, G. Angulo, J. Ureña, I. González-Requena | Basis for the Implementation of an Automatic Control in a Hybrid Flexible Manufacturing System |
| 12:00 | 149 | A. Martínez, L. N. López de Lacalle, Egile, A. Fuentes | Effect of the interaction design-manufacturing in the face contact modification with spiral bevel gears |
| 12:15 | 101 | N. Ortega, U. Alonso, I. Pombo, J.A. Sanchez, S. Plaza, B. Izquierdo | A thermal model for cylindrical traverse grinding |
| 12:30 | 221 | A. Delgado, E. Ozturk, N. Sims | Analysis of Non-Linear Machine Tool Dynamic Behaviour |

Poster Session

| <i>Panel</i> | <i>Ref.</i> | <i>Authors</i> | <i>Title</i> |
|--------------|-------------|---|---|
| 1 | 253 | D. Juárez, R. Balart, S. Ferrándiz, M.A. Peydró | Classification of thermoplastic elastomers based on their reprocessability and elasticity |
| 2 | 254 | D. Juárez, R. Balart, S. Ferrándiz, M.A. Peydró | Classification of phase change materials and his behaviour in SEBS/PCM blends |
| 3 | 139 | M. Villegas, J. Marfil, C. Eizmendiz, J. Del Rio, M. Blanco, T. Ventayol, F. Fenollosa | Conceptualisation, Design and Development of a fully electrical press brake machine |
| 4 | 168 | B. Hortigón, E.J. Nieto, M.A. Herrera | Analysis of the state of stresses and plastic strains during the necking process in ductile steels |
| 5 | 188 | A.M. Camacho, A.I. Torralvo, C. Bernal, L. Sevilla | Applications to determine the friction factor in metal forging operations of industrial alloys |
| 6 | 122 | A.I. Fernández-Abia, J. Barreiro, J. Fernández-Larrinoa, L.N. López de Lacalle, A. Fernández-Valdivielso, O.M. Pereira | Behaviour of PVD coatings in the turning of austenitic stainless steels |
| 7 | 145 | R. Dorado-Vicente, P. Romero-Carrillo, R. López-García, F.A. Díaz-Garrido | Comparing planar pocketing tool paths via acceleration measurement |
| 8 | 165 | F.J. Trujillo, L. Sevilla, M. Marcos | Influence of the Axial Machining Length on Microgeometrical Deviations of Horizontally Dry-Turned UNS A97075 (Al-Zn) Alloy |
| 9 | 181 | G. Urbicain, J. A. Palacios, A. Fernández , A. Rodríguez, L. N. López de Lacalle, A. Elías-Zúñiga | Stability lobes in turning of Inconel 718 |
| 10 | 192 | E. García-Plaza, P.J. Núñez-López, D. Rodríguez-Salgado, I. Cambero Rivero, J. Herrera Olivenza, J. García-Sanz Caldedo | Surface Finish Monitoring in Taper Turning CNC Using Artificial Neural Network and Multiple Regression Methods |
| 11 | 193 | D. Rodríguez-Salgado, I. Cambero-Rivero, J.M. Herrera-Olivenza, J. García Sanz-Calcedo, P.J. Núñez-López, E. García-Plaza | Tool wear estimation for different workpiece materials using the same monitoring system |
| 12 | 198 | M. Arsuaga, R. Lobato, A. Rodriguez, L.N. Lopez de Lacalle | Experimental Methodology for Discretization and Characterization of the Stiffnesses for Large Components Manufacturing Machines |
| 13 | 207 | B. de Agustina, C. Bernal, A.M. Camacho, E.M. Rubio | Influence of the cutting parameters on the cutting forces during dry turning processes of UNS A97075 aluminium alloys |
| 14 | 219 | P. Mayuet, A. Gallo, A. Portal, P. Arroyo , M. Alvarez, M. Marcos | Damaged Area based Study of the Break-IN and Break-OUT defects in the Dry Drilling of Carbon Fibre Reinforced Plastics |
| 15 | 230 | A. Gómez-Parra, F. J Puerta , J.M. González , M. Marcos | A Study of the influence of cutting parameters on the UTS of turned bars of UNS A92024 alloy |
| 16 | 231 | D. García-Jurado, J.M.Mainé, M.Batista, L.Shaw, T. Hausotte, M. Marcos | A Metrological Evaluation of Secondary Adhesion Wear effects in the Dry Turning of UNS-A92024-T3 alloy through Focus-Variation Microscopy (FVM) |
| 17 | 240 | E. Díaz-Tena, L.N. López de Lacalle, F.J. Campa, D.L. Chaires | Using of Magnetorehological Fluids for vibration reduction on the milling of thin floor parts |
| 18 | 199 | L.M. Gómez López, V. Miguel, A. Martínez, J. Coello, A. Calatayud | Simulation and Modelling of Single Point Incremental Forming Processes within a Solidworks Environment |
| 19 | 179 | D. Gurgúí, E. Vázquez, I. Ferrer | Influence of the Process Parameters to Manufacture Micro-cavities by Electro Discharge Machining (EDM) |

| | | | |
|-----------|-----|---|---|
| 20 | 222 | P.J. Núñez, E. García-Plaza, M. Hernando, R. Trujillo | Characterization of surface finish of electropolished stainless steel AISI 316L with varying electrolyte concentrations |
| 21 | 235 | Jehming Lin, Kuan-Chung Yao | Study of the Hole-Contour and Plume Ejection in the Laser Drilling with Various Inclination Angles |
| 22 | 187 | I. González-Requena, A. Sanz-Lobera, L.M. Vega-Fernández | Characterization of various types of mesh for resistance welding of high temperature RTL |
| 23 | 183 | P. Socorro, P. Hernández, M. Monzón, M. Marrero, F. Ortega, A. Benitez | Metrological needs assessment in micromanufacturing |
| 24 | 123 | R. Acero, J. Santolaria, M. Pueo, J.A. Albajez | Verification methods for micro gears. Analysis of double flank roll testing applied to micro gears |
| 25 | 174 | E. Cuesta, B.J. Alvarez, M. García-Dieguez, D. González-Madruga, J.A. Rodríguez-Cortés | Conformity analysis in the measurement of machined metal surfaces with Optoelectronic profilometer |
| 26 | 175 | D. Blanco, G. Valiño, P. Fernández, J.C. Rico, S. Palomo | Influence of Roughness on Conoscopic Holography Digitizing of DIN 34CrMo4 Surfaces |
| 27 | 186 | I. Puertas, C.J. Luis Pérez, D. Salcedo, J. León, R. Luri, J.P. Fuertes | Precision Study of a Coordinate Measuring Machine Using Several Contact Probes |
| 28 | 191 | C. Bernal, B. de Agustina, M.M. Marín, A.M. Camacho | Performance evaluation of optical scanner based on blue LED structured light |
| 29 | 214 | D. Acosta, J. Velázquez, J.A. Albajez, J.A. Yagüe, M.A. Lope | Machine tool verification according to machine configuration |
| 30 | 215 | S. Ontiveros, J.A. Yagüe, R. Jiménez, F. Brosted | Computer Tomography 3D Edge detection comparative for metrology applications |
| 31 | 216 | U. Mutilba, G. Kortaberria, A. Olarra, A. Gutiérrez, E. Gomez-Acedo, M. Zubieta, J.A. Solas | Performance Calibration of Articulated Arm Coordinate Measuring Machine |
| 32 | 220 | J. M. Vázquez, J. Salguero, F. J. Botana, J.P. Contreras, S.R. Fernández-Vidal, M. Marcos | Metrological evaluation of the tribological behaviour of laser surface treated Ti6Al4V alloy |
| 33 | 226 | L. Franco, P.G. Tahoces, J. A. Martínez-Mera | Visualization software for CT: fan/cone beam and metrology applications |
| 34 | 251 | A. Sanz-Lobera, A.A. Negre, R. Fernández-Fernández, F. Calvo-Narvaez. | Comparative study about the use of two and three-dimensional methods in surface finishing characterization |
| 35 | 120 | A. García-Domínguez, M. Marcos-Bárcena, I. Medina-Bulo, L. Prades | Towards an Integrated SOA-based Architecture for Interoperable and Responsive Manufacturing Systems |
| 36 | 125 | J. Royo, M.P. Lambán, J.E. Valencia | Influence of the position of a UHF-RFID tag relative to the antenna in the information reading |
| 37 | 177 | S.C. Gutierrez, M.D. Meseguer, J. Bellera, F. Folguera | Analysis of variability in the manufacturing of dental fixed prostheses of Cr-Co by geometric comparison |
| 38 | 239 | J. A. Royo, M. P. Lambán, J. E. Valencia, M. Olivera, M.M. Monsreal | Study to determinate the feasibility of RFID to facilitate traceability in a logistics operator |
| 39 | 111 | E. Anglada, A. Meléndez, L. Maestro, I. Dominguez | Adjustment of Numerical Simulation Model to the Investment Casting Process |

| | | | |
|----|-----|--|--|
| 40 | 197 | M.M. Marín, A.M. Camacho, M.A. Sebastián | Determination of the influence of technological parameters in indentation processes |
| 41 | 258 | I. Loera, G. Espinosa, C. Enríquez, A. González | Productivity in construction and industrial maintenance. |
| 42 | 100 | A. Pranjali, B. Prof, A.M. Kuthe | Feasibility Study of Manufacturing using Rapid Prototyping: FDM Approach |
| 43 | 200 | C. Cajal, J. Santolaria, J. Velazquez, S. Aguado, J.A. Albajez | Volumetric error compensation technique for 3D printers |
| 44 | 102 | M. Otero, A. Pastor, J.M. Portela, J.L. Viguera, M.M. Huerta | The standardization of supporting tools: Advantage competitive for collaborative networks |
| 45 | 112 | J.L. Santolaya, J. Sevil, R. Miralbés | Design of a Hydraulic Front Brake Handle for Large Displacement Motorcycles |
| 46 | 212 | M.R. González, M.P. Lambán | Cost modelling of an Integrated Management System |
| 47 | 242 | J. A. González-Sainz, M.A. Sebastián | Methodology for the Maintenance Centred on the Reliability on facilities of low accessibility |
| 48 | 113 | J.L. Santolaya, C. García, B. Callejero, P. Ubieto | Improving the Development of Projects in Industrial Engineering using Multimedia |
| 49 | 129 | A.C. Majarena, J. Santolaria, D. Samper, J.J. Aguilar | Education software for the modelling and calibration of kinematic mechanisms |
| 50 | 141 | P. Maresca, E. Gómez, J. Caja, C. Barajas | Virtual environment for the simulation of a horizontal coordinate measuring machine in the teaching of dimensional metrology |
| 51 | 232 | T. Boronat, O. Gutierrez, R. Balart, D. Garcia-Sanoguera, O. Fenollar, L. Sanchez-Nacher | Manufacture of new composite materials of high organic content derived matrices made from epoxidized vegetable oils and flax reinforcements |
| 52 | 233 | T. Boronat, P. Perez-Boronat, R. Balart, D. Garcia-Sanoguera, O. Fenollar, L. Sanchez-Nacher | Manufacture of sandwich composites with cork core bounded with bioproteins |
| 53 | 119 | L. Prades, F. Romero, A. Estruch, A. García-Dominguez, J. Serrano | Defining a Methodology to Design and Implement the Business Process Model in BPMN according to the Standard ANSI/ISA-95 in a Manufacturing Company |
| 54 | 196 | A. Sánchez, M. García, M. Blanco, M. Sánchez, M. San Martín, E. Ortega, J. Losada | Hydraulic Industrial Filter Product-Process development Applying Knowledge Based Engineering |
| 55 | 261 | M. Serrano, E. Calvo, J.I. García | Cogeneration Process Modelling in a Paper Factory |
| 56 | 217 | A. Noorwali, R. Khalil, D. Stockton | Apply lean and Taguchi in different level variability of food processing system |
| 57 | 246 | T. Karkoszka | Risk assessment as an element of processes continuity assurance |

| Promotor | | Organizers | |
|---|---|--|---|
| SIF Sociedad de Ingeniería de Fabricación |  | Dpto. Ingeniería de Diseño y Fabricación |  Departamento de Ingeniería de Diseño y Fabricación Universidad Zaragoza |
| | | I3A - Instituto de Investigación en Ingeniería de Aragón |  Instituto Universitario de Investigación de Ingeniería de Aragón Universidad Zaragoza |
| Contributors | | Sponsors | |
| Colegio Oficial de Ingenieros Industriales de Aragón y La Rioja |  | Carl Zeiss IMT Iberia, S.L.U. |  |
| Colegio Oficial de Ingenieros Técnicos Industriales de Aragón |  | Renishaw Ibérica, S.A.U. |  |
| Universidad de Zaragoza |  Universidad Zaragoza | Gobierno de Aragón (Dpto. Industria e Innovación) |  |

Additional information: <http://mesic2013.unizar.es>