



## ESAFORM 2017 - DETAILED PROGRAMME

MS1 Formability of metallic materials			
Wednesday, 26th April			
Time	MS1	Mini-Symposia	Location
09:40 - 10:00	111	<b>Formability and macroscopic shearing of a titanium alloy Ti-6Al-4V under channel die compression</b> Henri Francillette and Christian Garand	Theatre
10:00 - 10:20	112	<b>Counter measures to effectively reduce end flare</b> Matthias Moneke and Peter Groche	
10:20 - 10:40	113	<b>Study of high strain rate effect on sheet formability based on Nakazima test</b> Edoardo Mancini, Marco Sasso, Gianluca Chiappini, Archimede Forcellese and Michela Simoncini	
10:40 - 11:00	122	<b>FEA-based Development of a New Tool for Systematic Experimental Validation of Nonlinear Strain Paths and Design of Test Specimens</b> Annika Weinschenk and Wolfram Volk	
<b>11:00 - 11:30</b>		<b>Tea &amp; Coffee Break</b>	Foyer
11:30 - 11:50	124	<b>Influence of microscopic strain heterogeneity on the formability of martensitic stainless steel</b> Alvise Miotti Bettanini, Laurent Delannay, Pascal Jacques, Thomas Pardoën, Guillaume Badinier and Jean-Denis Mithieux.	Theatre
11:50 - 12:10	127	<b>Investigation on Flange Deformation Behavior of Duplex Embossed Sheet Metal subjected to Deep Drawing</b> Wuyang Liu and Takashi Iizuka	
12:10 - 12:30	129	<b>Development of Draw-bending Testing Method Using Digital Image Correlation System</b> Chiharu Sekiguchi, Tomoyuki Hakoyama, Toshihiko Kuwabara and Hiroshi Fukuharu	
12:30 - 12:50	168	<b>Effect of the Determination Method of the Material Parameters on the Accuracy of the Hole Expansion Simulation for Cold Rolled Steel Sheet</b> Hayato Nakano, Tomoyuki Hakoyama and Toshihiko Kuwabara	
12:50 - 13:10	198	<b>Mechanical Behavior And Modelisation Of Ti-6Al-4V Titanium Sheet Under Hot Stamping Conditions</b> Quentin Sirvin, Luc Penazzi, Vincent Velay and Rebecca Bonnaire	
<b>13:10 - 14:30</b>		<b>Lunch</b>	Main Restaurant
15:20 - 15:40	205	<b>Hole expansion test of third generation steels</b> Julen Agirre, Joseba Mendiguren, Eneko Saenz de Argandoña and Lander Galdos	Theatre
15:40 - 16:00	210	<b>Large Strain Cruciform Biaxial Testing for FLC Detection</b> Baran Güler and Mert Efe	
<b>16:00 - 16:30</b>		<b>Tea &amp; Coffee Break</b>	Foyer
16:30 - 16:50	343	<b>Crystal plasticity assisted prediction on the yield locus evolution and forming limit curves</b> Junhe Lian, Wenqi Liu, Fuhui Shen and Sebastian Münstermann	Theatre
16:50 - 17:10	4	<b>Texture-based formability prediction for Mg wrought alloys ZE10 and AZ31</b> Dirk Steglich and Youngung Jeong	
17:10 - 17:30	37	<b>Modification of Tribological Conditions for Influencing the Material Flow in Bulk Forming of Microparts from Sheet Metal</b> Marion Merklein, Ulf Engel, Kolja Andreas, Martin Kraus and Tommaso Stellin	
17:30 - 17:50	71	<b>Forming Limit Curves Determined In High-Speed Cupping Tests And Predicted By A Strain Rate Sensitive Model</b> Nathalie Weiß-Borkowski, Junhe Lian, Thorsten Marten, Thomas Tröster, Sebastian Münstermann and Wolfgang Bleck	
17:50 - 18:10	121	<b>Characterising Ductility of 6xxx-Series Aluminium Sheet Alloys at Combined Loading Conditions</b> Philipp Henn, Mathias Liewald and Manfred Sindel	
Thursday, 27th April			
Time	MS1	Mini-Symposia	Location
09:30 - 09:50	213	<b>The Influence of Composition on Hot Tensile Behaviour in Silicon-Killed Boron Microalloyed Steels</b> Lesley Chown and Lesley Cornish	Theatre
09:50 - 10:10	219	<b>Forming characteristics of artificial aging Al-Mg-Si(-Cu) sheet alloys</b> Artur Klos, Daniel Wortberg, Marion Merklein, Philipp Walter and Corrado Bassi	
10:10 - 10:30	347	<b>Cold roll forming behavior considering spring back of wrought magnesium alloy sheet</b> Kazuhiro Tsuruoka, Aso Hayato and Hisaki Watarai	
10:30 - 10:50	142	<b>Deducing material quality in cast and hot forged steels by new bending test</b> Henry Valberg and Morten Langøy	
<b>10:50 - 11:20</b>		<b>Tea &amp; Coffee Break</b>	Foyer
11:20 - 11:40	188	<b>Microstructural Analysis of Hot Press Formed 22MnB5 Steel</b> Nuraini Aziz, Syarifah Nur Aqida and Izwan Ismail	Theatre

11:40 – 12:00	230	<b>Numerical investigation of the plastic flow localization based on generalized micromorphic formulation</b> Evangelia Diamantopoulou, Carl Labergere and Khemais Saanouni	Theatre
12:00 – 12:20	237	<b>The Influence of Deformation-Induced Microvoids on Mechanical Failure of AISI A8 Martensitic Tool Steel</b> Hadi Ghasemi Nanesa, Mohammad Jahazi, Majid Heidari and Tom Levasseur	
12:20– 12:40	262	<b>Variation of strain rate sensitivity index of a superplastic aluminum alloy in different testing methods</b> Omid Majidi, Mohammad Jahazi, Nicolas Bombardier and Ehab Samuel	
12:40 – 13:00	270	<b>Effect of Anisotropic Yield Function Evolution on Formability of Sheet Metal</b> H.J. Choi, Yumi Choi, K.J. Lee, J.Y. Lee, Kaushik Bandyopadhyay and M.-G. Lee	
<b>13:00 - 14:00</b>		<b>Lunch</b>	<b>Main Restaurant</b>
15:00– 15:20	274	<b>Fracture Prediction of Hole Expansion Forming Using Forming Limit Stress Criterion</b> Tomoyuki Hakoyama, Hayato Nakano and Toshihiko Kuwabara	Theatre
15:20 – 15:40	294	<b>Linear Transformation Based Orthotropic Shear Ductile Fracture Criterion For Lightweight Metals</b> Yanshan Lou and Jeong Whan Yoon	Theatre
<b>15:40 – 16:10</b>		<b>Tea &amp; Coffee Break</b>	<b>Foyer</b>
16:10 – 16:30	301	<b>Forming Limit Strains for Non-Linear Strain Path of AA6014 Aluminium Sheet Deformed at Room Temperature</b> José Divo Bressan, Mathias Liewald and Klaus Drotteff	Theatre
16:30 – 16:50	331	<b>Correlation between Von Mises Strain and Material Thinning in a Hydroformed Sample of Ti35A Aerospace Grade Titanium</b> Colin Bell, Ellen Jump, William Kerr, Jonathan Corney, Nicola Zuelli and David Savings	
16:50 – 17:10	46	<b>Limits in multi-point forming based on a small scaled flexible 9-point die device</b> Petra Maier, Christian Ruback, Harry Schellhorn and Paul Rümmler	

MS2 Composites forming processes			
Wednesday, 26th April			
Time	MS2	Mini-Symposia	Location
09:40 - 10:00	7	<b>Periodic boundary conditions for mesoscale finite elements simulation of 3D woven fabrics</b> Ismael Azehaf, Nahiene Hamila, Philippe Boisse, Laurent Orgeas and Sabine Rolland Du Roscoat	Gallery
10:00 – 10:20	19	<b>Draping simulation with a new finite element formulation involving an internal unit cell</b> Benjamin Kaiser, Thomas Pyttel, Eberhard Haug and Fabian Duddeck	
10:20– 10:40	24	<b>Modeling and Validation of Gripper Induced Membrane Forces in Finite Element Forming Simulation of Continuously Reinforced Composites</b> Christian Poppe, Dominik Dörr, Tobias Joppich, Luise Kärger and Frank Henning	
10:40 - 11:00	26	<b>On The Relevance of Modeling Viscoelastic Bending Behavior in Finite Element Forming Simulation of Continuously Fiber Reinforced Thermoplastics</b> Dominik Dörr, Fabian J. Schirmaier, Frank Henning and Luise Kärger	
<b>11:00 - 11:30</b>		<b>Tea &amp; Coffee Break</b>	<b>Foyer</b>
11:30 - 11:50	27	<b>Simulating Squeeze Flows in Multiaxial Laminates</b> Ruben Ibanez, Emmanuelle Abisset-Chavanne and Francisco Chinesta	Gallery
11:50 - 12:10	29	<b>Modeling of the Non-Isothermal Crystallization Kinetics of Polyamide 6 Composites During Thermoforming</b> Daniel Kugele, Dominik Dörr, Florian Wittemann, Benjamin Hangs, Julius Rausch, Luise Kaerger and Frank Henning	
12:10 - 12:30	53	<b>Influence of the temperature on the composites' fusion bonding quality</b> Ali Harkous, Tomasz Jurkowski, Jean-Luc Bailleul and Steven Le Corre	
12:30 - 12:50	60	<b>Compaction behavior of Out-of-Autoclave prepreg materials</b> Léonard Serrano, Philippe Olivier and Jacques Cinquin	
12:50 - 13:10	72	<b>Thermoforming of glass fiber reinforced polypropylene: a study on the influence of different process parameters</b> Alexander Schug, Jonas Winkelbauer, Roland Hinterhölzl and Klaus Drechsler	
<b>13:10 - 14:30</b>		<b>Lunch</b>	<b>Main Restaurant</b>
15:20 - 15:40	77	<b>Numerical approach for modeling cross scales infusion-based processing of aircraft primary structures</b> Koloïna Andriamananjara, Loïc Chevalier, Nicolas Moulin, Julien Bruchon, Pierre-Jacques Liotier and Sylvain Drapier	Gallery
15:40 - 16:00	88	<b>Quantification of micro-CT images of textile reinforcements</b> Ilya Straumit, Stepan Lomov and Martine Wevers	
<b>16:00 - 16:30</b>		<b>Tea &amp; Coffee Break</b>	<b>Foyer</b>
16:30 – 16:50	100	<b>Out-of-Autoclave Manufacturing of a Stiffened Thermoplastic Carbon Fibre PEEK Panel</b> Michael Flanagan, Jamie Goggins, Adrian Doyle, Bryan Weafer, Mark Ward, Matthieu Bizeul, Rory Canavan, Conchúr Ó Brádaigh, Kieth Doyle and Noel Harrison	Gallery
16:50 – 17:10	116	<b>Thermo-mechanical characterization of a thermoplastic composite and prediction of the residual stresses and lamina curvatures during cooling</b> Mael Péron, Frédéric Frédéric, Pascal Casari, Gilles Orange, Jean Luc Bailleul and Nicolas Boyard	
17:10 – 17:30	120	<b>A Mesoscopic Approach For Draping Simulation Of Preforms Manufactured By Direct Fibre Placement</b> Mathias Engelfried, Julian Fial, Manuel Tartler, Patrick Böhler and Peter Middendorf	
17:30 – 17:50	125	<b>Flow monitoring of Microwave pre-heated resin in LCM processes</b> Felice Rubino, Valentino Paradiso and Pierpaolo Carlone	
17:50 - 18:10	136	<b>Simulation of microwave heating of a composite part in an oven cavity</b> Hermine Tertrais, Anais Barasinski, Chady Ghnatios, Francisco Chinesta and Ruben Ibanez	
Thursday, 27th April			
Time	MS2	Mini-Symposia	Location
09:30 – 09:50	159	<b>Impregnation Quality of Compression Moulded Shredded Semipreg</b> Guillaume Vincent, Venkateswaran Balakrishnan, Thomas de Bruijn, Mohammed Iqbal Abdul Rasheed and Sebastiaan Wijskamp	Gallery
09:50 – 10:10	171	<b>Strategy for improving the quality of multi-layered interlock dry fabric preforms</b> Samir Allaoui	
10:10 – 10:30	172	<b>A Combination of ATL process with UV curing technology based on inverse approach</b> Issam Balbzioui, Basma Hasiaoui, Gerald Barbier, Gildas L'Hostis, Bernard Durand, Fabrice Laurent and Ahmad Ibrahim	
10:30 – 10:50	227	<b>Manufacturing issues which affect coating erosion performance in wind turbine blades</b> Enrique Cortes, Fernando Sanchez, Luis Domenech, Aurelio Olivares, Trevor M.Young, Anthony O'Carrol and Francisco Chinesta	
<b>10:50 – 11:20</b>		<b>Tea &amp; Coffee Break</b>	<b>Foyer</b>
11:20 – 11:40	234	<b>Continuous Welding Of Unidirectional Fiber Reinforced Thermoplastic Tape Material</b> Ralf Schledjewski	Gallery
11:40 – 12:00	239	<b>Simulation of Composite Reinforcement Deformation based on X-ray Computed Tomography</b> Naim Naouar, Emmanuelle Vidal-Salle and Philippe Boisse. Meso F.E	
12:00 – 12:20	245	<b>Hot forming of Composite prepreg : experimental study</b> Xavier Tardif, Bertrand Duthille, Stéphane Bechtel, Louis Le Pinru, Benjamin Campagne, Gautier Destombes, Antoine Deshors, Christophe Marchand, Khalid El Azzouzi and Tanguy Moro	
12:20– 12:40	249	<b>Analysis of the local fiber volume fraction variation in pultrusion process</b> Ismet Baran	
12:40 – 13:00	258	<b>Hot forming of Composite prepreg: Numerical analyses</b> Eduardo Guzman-Maldonado, Khalid El Azzouzi, Nahiene Hamila, Tanguy Moro, Sylvain Chatel, Paulin Fideu and Philippe Boisse	
<b>12:40 – 14:00</b>		<b>Lunch</b>	<b>Main Restaurant</b>
15:00– 15:20	280	<b>Modelling and simulation of the consolidation behavior during thermoplastic prepreg composites forming process</b> Hu Xiong, Nahiene Hamila and Philippe Boisse	Gallery

15:20 – 15:40	303	<b>Finite Element Simulation of Thickness Changes in Laminate during Thermoforming</b> Kari White and James Sherwood	Gallery
<b>15:40 – 16:10</b>			<b>Foyer</b>
16:10 – 16:30	308	<b>Influence of Prepreg Characteristics on Stamp Consolidation</b> Tjitse K. Slange, Laurent L. Warnet, Wouter J.B. Groupe and Remko Akkerman	Gallery
16:30 – 16:50	325	<b>Modeling of Prepregs during Automated Draping Sequences</b> Christian Krogh, Jens Glud and Johnny Jakobsen	
16:50 – 17:10	55	<b>Modeling and Simulating the Forming of New Dry Automated Lay-up Reinforcements for Primary Structures</b> Laure Bouquerel, Sylvain Drapier, Nicolas Moulin, Philippe Boisse and Jean-Marc Beraud	
17:10 – 17:30	81	<b>Specificities of the Mechanical Behavior</b> Philippe Boisse, Nahiene Hamila and Angela Madeo. Simulations of 3D Textile Composite Reinforcements	
17:30 – 17:50	175	<b>Mechanical analysis of CFRP-steel hybrid composites considering the interfacial adhesion</b> Jinhyeok Jang, Minchang Sung, Sungjin Han, Wonbo Shim and Woong-Ryeol Yu	
<b>Friday, 28th April</b>			
<b>Time</b>	<b>MS2</b>	<b>Mini-Symposia</b>	<b>Location</b>
09:30 – 09:50	236	<b>Structural investigation of a new composite process</b> Philippe Mayer, Eric Becker, Régis Bigot and Bruno Kaici	Gallery
09:50 – 10:10	240	<b>Experimental Investigation on Innovative Manufacturing Method of Glass Fiber Reinforced Polymers</b> Amin Haghbini, Gholamhossein Liaghat, Mohammad Hossein Pol and Amir Masoud Arabi	
10:10 – 10:30	256	<b>Friction of Carbon Fibre and Influence of Sizing Treatment</b> Michel Tourlonias, Catherine Jordan, Marie-Ange Bueno and Dominique Poquillon	
10:30 – 10:50	31	<b>From Dilute to Entangled Fiber Suspensions Involved in Reinforced Polymers and Composites</b> Marta Perez-Miguel, Emmanuelle Abisset-Chavanne, Francisco Chinesta and Roland Keunings	
<b>10:50 – 11:20</b>			<b>Foyer</b>
11:20 – 11:40	367	<b>Finite strain anisotropic elasto-plastic model for the simulation of the forming and testing of metal/short fiber reinforced polymer clinch joints at room temperature</b> Aamir Dean, Raimund Rolles, Bernd-Arno Behrens, Anas Bouguecha, Sven Hübner, Christian Bonk and Nenad Grbic	Gallery
11:40 – 12:00	384	<b>The influence of technological parameters on the dynamic behavior of liquid wood samples obtained by injection molding</b> Simona Plavanescu Mazurchevici, Constantin Carausu, Radu Comaneci and Dumitru Nedelcu	
12:00 – 12:20	385	<b>Failure Process Investigation of Overwrapping Composite on the Pipe by Burst Test</b> Yanyu Wang, Zhiqiang Cheng and Thierry Barriere	
12:20 – 12:40	386	<b>Dual-cure photochemical/thermal LED infusion process Toward for Carbon Fiber Composites</b> Ahmad Ibrahim, Xavier Allonas and Fabrice Laurent	

MS3 Additive Manufacturing			
Wednesday, 26th April			
Time	MS3	Mini-Symposia	Location
09:40 - 10:00	369	<b>Roles of Microstructures on Deformation Response of 316 Stainless Steel Made by Powder-bed Laser 3D printing</b> Minh-Son Pham and Paul Hooper	Space
10:00 - 10:20	36	<b>Rheological Characterization of Plasticized Corn Proteins for Fused Deposition Modeling</b> Laurent Chaunier, Michèle Dalgalarroondo, Guy Della Valle, Denis Lourdin, Didier Marion and Eric Leroy	
10:20 - 10:40	102	<b>Reducing tool wear by partial cladding of critical zones in hot form tool by laser metal deposition</b> Robert Vollmer and Christof Sommitsch	
10:40 - 11:00	202	<b>Toward improvement of the properties of parts manufactured by FFF (Fused Filament Fabrication) through understanding the influence of temperature and rheological behaviour on the coalescence phenomenon</b> Shahriar Bakrani Balani, France Chabert, Valerie Nassiet, Arthur Cantarel and Christian Garnier	
11:00 - 11:30		<b>Tea &amp; Coffee Break</b>	Foyer
11:30 - 11:50	271	<b>Development and Fabrication of Patient-Specific Knee Implant Using Additive Manufacturing Techniques</b> Robert Zammit and Arif Rochman	Space
11:50 - 12:10	302	<b>Robot-Based Additive Manufacturing for Flexible Die Modelling in Incremental Sheet Forming</b> Michael Rieger, Denis Daniel Störkle, Lars Thyssen and Bernd Kühlenkötter	
12:10 - 12:30	328	<b>Numerical simulation of complex part manufactured by Selective Laser Melting process</b> Laurent Van Belle	
12:30 - 12:50	334	<b>3D Printing of Polypropylene Using the Fused Filament Fabrication Technique</b> Alexandre Ferreira Da Silva, Olga S Carneiro and Rui Gomes	
12:50 - 13:10	218	<b>Influence on surface characteristics of Electron Beam Melting process (EBM) by varying the process parameters</b> Adrien Dolimont, Sébastien Michotte, Edouard Rivière-Lorphèvre, François Ducobu, Solange Vivès, Stéphane Godet, Tom Henkes and Enrico Filippi	
13:10 - 14:30		<b>Lunch</b>	Main Restaurant
15:20 - 15:40	82	<b>Improving the Strength of Additively Manufactured Objects via Modified Interior Structure</b> Can Mert Al and Ulas Yaman	Space
15:40 - 16:00	156	<b>Point, Surface and Volumetric Heat Sources in the Thermal Modelling of Selective Laser Melting</b> Yabin Yang and Can Ayas	
16:00 - 16:30		<b>Tea &amp; Coffee Break</b>	Foyer
16:30 - 16:50	200	<b>On the microstructure analysis of FSW joints of Aluminium components made via Direct Metal Laser Sintering</b> Fabio Scherillo, Antonello Astarita, Daniela di Martino, Vincenzo Contaldi, Luca di Matteo, Paolo di Petta, Renzo Casarin, Antonino Squillace and Antonio Langella	Space
16:50 - 17:10	264	<b>Mechanical behavior of three-dimensional pyramidal aluminum lattice materials</b> Fusheng Han, Yingjie Huang, Yingying Xue and Xinfu Wang	
17:10 - 17:30	216	<b>Lattice structures integration with conventional topology optimization</b> Maurizio Calabrese, Teresa Primo and Antonio Del Prete	
17:30 - 17:50	25	<b>Additive-Manufactured Sandwich Lattice Structures: A Numerical and Experimental Investigation</b> Omar Fergani, Sigmund Tronvoll, Vegard Brotan, Torgeir Welo and Knut Sorby	
17:50 - 18:10	155	<b>Computationally Efficient Thermal Modelling of Selective Laser Melting</b> Yabin Yang and Can Ayas	
Thursday, 27th April			
16:10-16:30	335	<b>An Analysis of the Distribution of Temperature, Stress and Strain in Laser Cladding Process</b> Nusrat Tamanna, Roger Crouch, Manolis Gavaises and Sumsun Naher	Q120
16:30-16:50	355	<b>Mitigation of the Overcuring Effect in Mask Projection Micro-Stereolithography via CAD File Manipulation</b> Paul O'Neill, Nigel Kent and Dermot Brabazon	
16:50-17:10	164	<b>Uniaxial Cyclic Stress-Strain Behaviour of Ti-6Al-4V Additively Manufactured by Selective Laser Melting</b> Kyriakos Kourousis, Dylan Agius, Chris Wallbrink, Milan Brandt and Chun Wang	
17:10 - 17:30		<b>Residual Stress Prediction in a Powder Bed Fusion Manufactured Hip Stem</b> Titouan Etienne, Cormac Duddy, Noel Harrison	

MS4 Non-conventional processes				
Wednesday, 26th April				
Time	MS4	Mini-Symposia	Location	
09:40 - 10:00	50	<b>Modification of the process dynamics in the micro-EDM by means of an additional piezo-control system</b> Mathias Herzig, Thomas Berger, Hans-Peter Schulze, Matthias Hackert-Oschätzchen, Oliver Kröning and Andreas Schubert	Q120	
10:00 – 10:20	85	<b>Deformation characteristics of thermoplastics in single point incremental forming</b> Fabian Maass, Soeren Gies and A. Erman Tekkaya		
10:20– 10:40	91	<b>Evaluation of Geometrical Parameters Effects on Density Distribution in Compaction of PM Gears</b> Alireza Khodaei and Arne Melander		
10:40 - 11:00	101	<b>Dissimilar metal joining by Friction Stir Welding between titanium and aluminum</b> Florent Picot, Antoine Gueydan and Eric Hug		
11:00 - 11:30		<b>Tea &amp; Coffee Break</b>		Foyer
11:30 - 11:50	141	<b>Development of Hybrid Directional Reinforced Structural Parts for Lightweight Applications</b> Werner Homberg, Tim Rostek, Mirkó Schaper, Olexandr Grydin, Anatolii Andreiev, Alexander Brosius and Marc Tulke		Q120
11:50 - 12:10	193	<b>Fabrication and Mechanical Characterization of Hybrid Metal Foam/Bio-Composite Samples</b> Antonio Formisano, Luca Boccarusso, Luigi Carrino, Massimo Durante and Antonio Langella		
12:10 - 12:30	220	<b>Lightweight Bio-Composites based on Hemp Fibres Produced by Conventional and Unconventional Processes</b> Luca Boccarusso, Massimo Durante, Formisano Antonio, Langella Antonio and Fabrizio Memola Capece Minutolo		
12:30 - 12:50	313	<b>Modelling and optimisation of electromagnetically coupled solid manufacturing processes</b> Francois Bay, Jose Alves and Julien Barlier		
12:50 - 13:10	321	<b>Fabrication of Micro T-shaped Tubular Components by Hydroforming Process</b> Ken-Ichi Manabe, Kenta Itai and Kazuo Tada		
13:10 - 14:30		<b>Lunch</b>	Main Restaurant	
15:20 - 15:40	140	<b>Hot Metal Gas Forming of Titanium Grade 2 Bent Tubes</b> Alexander Paul, Ricardo Trãn, Markus Werner and Dirk Landgrebe	Q120	
15:40 - 16:00	18	<b>Importance of polarity change in the electrical discharge machining</b> Hans-Peter Schulze		
16:00 - 16:30		<b>Tea &amp; Coffee Break</b>	Foyer	
16:30 – 16:50	30	<b>Comparison between rotary and conventional flaring processes</b> Subha Tamang, Olga Bylya, Michael Ward, Martin Tuffs and Steven Halliday	Q120	
16:50 – 17:10	59	<b>Supercritical debinding of Inconel 718 parts realized by metal injection moulding</b> Alexandre Royer, Thierry Barriere and Jean-Claude Gelin		
17:10 – 17:30	97	<b>Securing a Robust Electrical Discharge Drilling Process by Means of Flow Rate Control</b> Ali Akbar Hossein Abdolahi, Matthias Risto, Rüdiger Haas and Markus Munz		
17:30 – 17:50	107	<b>Creep-age Forming of AA2219 Plate with Isogrid Structure</b> Youliang Yang and Lihua Zhan		
17:50 - 18:10	143	<b>Surface roughness at vibroburnishing</b> Gheorghe Nagit, Laurentiu Slatineanu, Oana Dodun, Margareta Coteata, Irina Besliu and Vasile Merticaru		

Thursday, 27th April			
Time	MS4	Mini-Symposia	Location
09:30 – 09:50	170	<b>Deposition and micro electrical discharge machining of CVD-diamond layers incorporated with silicon</b> Ralf Kühn, Markus Prieske, Richard Börner, Thomas Berger, Matthias Hackert-Oschätzchen, Henning Zeidler and Andreas Schubert	Q120
09:50 – 10:10	199	<b>Modeling and Simulation of the Fluid Flow in Wire Electrochemical Machining with Rotating Tool (Wire-ECM)</b> Fritz Klocke, Tim Herrig, Markus Zeis and Andreas Klink	
10:10 – 10:30	378	<b>Lightweight Technologies - Trends, Challenges and Solutions</b> Mohammad Gharbi	
10:30 – 10:50	83	<b>The FEM Simulation of Continuous Rotary Extrusion (CRE) of Aluminum Alloy AA3003</b> Nijenthan Rajendran, Henry Valberg and Wojciech Misiolek	
10:50 – 11:20		<b>Tea &amp; Coffee Break</b>	Foyer
11:20 – 11:40	144	<b>Surface Structuring of Boron Doped CVD Diamond by Micro Electrical Discharge Machining</b> Andreas Schubert, Thomas Berger, André Martin, Matthias Hackert-Oschätzchen, Nico Treffkorn and Ralf Kühn	Q120
11:40 – 12:00	16	<b>Friction Stir Back Extrusion of AA7075 Aluminum Alloy - Microstructural Analysis and Mechanical Properties</b> Zeren Xu and Fadi Abu-Farha	
12:00 – 12:20	283	<b>Determination of the forming limits of DP600 steel in electrohydraulic forming</b> Daniel Green, Christopher Maris, Jia Cheng, Sergey Golovashchenko and Constantin Chiriac	
12:20– 12:40	319	<b>Influence of residual stresses on the wear resistance of magnesium AZ91-D alloy welded by Friction Stir Welding (FSW)</b> Afia Kouadri-Henni	
12:40 - 13:00	195	<b>Improving kinetics of MIM process by applying new methods of debinding and sintering</b> Dugauguez Dugauguez Olivier, Barriere Thierry and Torralba Jose Manuel	

MSS  
Structures, properties and processing of polymers and biomass based materials

Thursday, 27th April

Time	MS5	Mini-Symposia	Location
15:00– 15:20	52	<b>Investigation on Thermomechanical Properties of Poly (l-lactic acid) for the Stretch Blow Moulding Process of Bioresorbable Vascular Scaffold</b> Huidong Wei and Gary Menary	Q122
15:20 – 15:40	119	<b>Simulation of Polymer Crystallization Induced by Temperature using the Phase Field Method: Focus on the Avrami Rate Constant</b> Yanghao Gong, Fabrice Detrez, Yunmei Luo and Luc Chevalier	
<b>15:40 – 16:10</b>		<b>Tea &amp; Coffee Break</b>	Foyer
16:10 – 16:50		<b>Time dependent modeling for polymers based on statistical network theory; Unified approach for linear visco elasticity from glassy to fluid?</b> Noelle Billion	Q122
16:50 - 17:10	65	<b>Self Heating during Stretch Blow Molding: an Experimental Numerical Comparison</b> Yunmei Luo, Luc Chevalier, Eric Monteiro and Francoise Utheza	
17:10 - 17:30	212	<b>A non-invasive experimental approach to validate radiation heat transfer model for thermoforming of semi-crystalline thermoplastics</b> Sinan Boztepe, Rémi Gilblas, Olivier de Almeida, Yannick Le Maout and Fabrice Schmidt	
17:30 - 17:50	190	<b>Thermoforming of HDPE</b> David Mckelvey, Gary Menary, Peter Martin and Shiyong Yan	
17:10 – 17:30	282	<b>Assessing the stretch-blow moulding FE simulation of PET over a large process window</b> James Nixon, Gary Menary and Shiyong Yan	

Friday, 28th April

Time	MS5	Mini-Symposia	Location
09:30 – 09:50	333	<b>Crystallization of isotactic polypropylene in different shear regimes</b> Roberto Spina, Marcel Spekowius and Christian Hopmann	Q122
09:50 - 10:10	402	<b>Processing - Property Relations from Biaxial Deformation of PET (Polyethylene Terephthalate)</b> Narendran Anumula, Gary Menary, Shiyong Yan, James Nixon and Peter Martin	
10:10 - 10:30	20	<b>A method of measuring the effective thermal conductivity of thermoplastic foams</b> André Chateau Akué Asséko, Benoit Cosson, Salim Chaki, Clément Duborper, Marie-France Lacrampe and Patricia Krawczak	
10:30 - 10:50	28	<b>Static Yield Stress and Stability of ER/MR Fluids</b> Yongsok Seo, Youngwook Seo and Junsok Choi	
<b>10:50 – 11:20</b>		<b>Tea &amp; Coffee Break</b>	Foyer
11:20 - 11:40	183	<b>Hybrid RTM process: Monitoring and processing of composites based on reactive thermoplastic systems</b> Abderrahim Maazouz, Khalid Lamnawar and Mohamed Dkier	Q122
11:40 - 12:00	338	<b>The influence of cosmic radiation on the properties of different polymers</b> Andrea Adamne Major and David Boja	
12:00 - 12:20	394	<b>Experimental Study of the Effect of Organic Powder in a Composite Matrix of Fiber Reinforced Plastics (FRP)</b> Pamela Hidalgo, Nayadeth Ibacache, Rodrigo Navia, Renato Hunter and Julio Leyrer	
12:20 - 12:40	45	<b>Effect of organic powder (Botryococcus braunii) in a composite matrix of Fiber Reinforced Plastics (FRP)</b> Pamela Hidalgo, Nayadeth Ibacache, Rodrigo Navia, Antonio Vizán, Jesus Perez and Renato Hunter	
12:40 - 13:00	332	<b>Investigation of compression behavior of PE/EVA foam injection molded parts</b> Roberto Spina	

MS6  
Integrated design, modeling and reliability assessment in forming (I-DMR)

Thursday, 27th April

Time	MS6	Mini-Symposia	Location
15:00– 15:20	76	<b>Estimating Product-to-product Variations in Metal Forming using Force Measurements</b> Jos Havinga and Ton van den Boogaard	QG13
15:20 – 15:40	224	<b>Testing Single Point Incremental Forming Molds for Rotomolding Operations</b> Daniel Afonso, Ricardo Alves De Sousa and Ricardo Torcato	
<b>15:40 – 16:10</b>		<b>Tea &amp; Coffee Break</b>	Foyer
16:10 – 16:30	126	<b>Modelling And Simulation Of Cure In Pultrusion Processes</b> Fausto Tucci, Felice Rubino, Valentino Paradiso, Pierpaolo Carlone and Robertt Valente	QG13
16:30 – 16:50	307	<b>Shape optimization of shear fracture specimen considering plastic anisotropy</b> Shunying Zhang, Jeong Whan Yoon, Sung-Uk Lee and Yanshan Lou	
16:50 – 17:10	51	<b>Finite element modeling of the residual stress evolution in forged and direct-aged Alloy 718 turbine disks during manufacturing and its experimental validation</b> Andreas Drexler, Werner Ecker, Hans-Peter Gänser, Jozef Keckes, Michael Hofmann, Bernd Oberwinkler, Roland Hessert and Andreas Fischersworing-Bunk	



MS7 Incremental and sheet metal forming			
Wednesday, 26th April			
Time	MS7	Mini-Symposia	Location
09:40 - 10:00	98	<b>Deep drawability of Ti/resin/Ti laminated sheet</b> Yasunori Harada and Shuji Hattori	Blue Room
10:00 - 10:20	103	<b>Numerical and experimental microscale analysis of the incremental forming process</b> Joanna Szyndler, Laurent Delannay, Krzysztof Muszka and Lukasz Madej	
10:20 - 10:40	153	<b>A modular die set-up for incremental sheet forming with subsequent stress-relief annealing under partial constraints</b> Fawad Maqbool and Markus Bambach	
10:40 - 11:00	201	<b>Stiffness management of sheet metal parts using laser metal deposition</b> Markus Bambach, Alexander Sviridov and Andreas Weisheit	
<b>11:00 - 11:30</b>		<b>Tea &amp; Coffee Break</b>	Foyer
11:30 - 11:50	241	<b>Effects of Die Quench Forming on Springback and Sheet Thinning</b> Samuel Kim, Kaab Omer, Clifford Butcher and Michael Worswick	Blue Room
11:50 - 12:10	263	<b>Influence of Heat Treatment on Mechanical Property of Steel Hollow Sphere and Its Sheet Construction</b> Yoshinori Yoshida and Sho Ozawa	
12:10 - 12:30	298	<b>In-Process Monitoring Of Flow Forming With Acoustics</b> Andrew Appleby, Alastair Conway and Bill Ion	
12:30 - 12:50	396	<b>Influence of Inductive Heating on Microstructure and Material Properties in Roll Forming Processes</b> Anna Guk, Andreas Kunke, Verena Kräusel and Dirk Landgrebe	
12:50 - 13:10	108	<b>Control of Anisotropic Shape Deviation in Single Point Incremental Forming of Paperboard</b> Philipp Stein, Wilken Franke, Florian Hoppe, Daniel Hesse, Katharina Mill and Peter Groche	
<b>13:10 - 14:30</b>		<b>Lunch</b>	Main Restaurant
15:20 - 15:40	47	<b>Cylindrical Extrusions on A5083 Aluminum Alloy Plate Fabricated by Friction Stir Forming</b> Takahiro Ohashi, Hamed Mofidi Tabatabaei and Tadashi Nishihara	Blue Room
15:40 - 16:00	86	<b>Incremental electrohydraulic forming - A new approach for the Manufacturing of structured multifunctional sheet metal blanks</b> Djakow Eugen, Springer Robert, Homberg Werner, Mark Piper, Tran Julian, Zibart Alexander and Kenig Eugeny.	
<b>16:00 - 16:30</b>		<b>Tea &amp; Coffee Break</b>	Foyer
16:30 - 16:50	87	<b>Rubber Pad Forming - A efficiently approach for the Manufacturing of complex structured sheet metal blanks for food industry</b> Spoelstra Paul, Djakow Eugen and Homberg Werner	Blue Room
16:50 - 17:10	130	<b>Finite Element Modelling of Chain-die Forming for Ultra-High Strength Steel</b> Raju Majji, Yang Xiang, Chunhui Yang and Scott Ding	
17:10 - 17:30	132	<b>Formability Of Spherical And Large Aluminum Sheets</b> Frieder Zimmermann, Alexander Brosius, Ralf-Eckhard Beyer, Jens Standfuß and Axel Jahn	
17:30 - 17:50	167	<b>Multi-objective Optimization Applied to Single Point Incremental Forming of Pure Titanium Denture Plate</b> Manel Sbayti, Riadh Bahloul and Hedi Belhadjsalah	
17:50 - 18:10	243	<b>Springback of Aluminum Alloy Brazing Sheet in Warm Forming</b> Kyu Bin Han, Ryan George, Srihari Kurukuri, Michael Worswick and Sooky Winkler	
Thursday, 27th April			
Time	MS7	Mini-Symposia	Location
09:30 - 09:50	248	<b>Evolution of heat in dry rotary swaging</b> Marius Herrmann, Yang Liu, Christian Schenck, Bernd Kuhfuss and Inken Ohlsen	Blue Room
09:50 - 10:10	318	<b>Validation of the FEA of a Deep Drawing Process with Additional Force Transmission</b> B.-A. Behrens, Anas Bouguecha, Christian Bonk, Nenad Grbic and Milan Vucetic	
10:10 - 10:30	364	<b>An Investigation And Prediction Of Failure Of Sheet Metals Under Cold Forming Condition</b> Mohamed Mohamed, Mohamed Farouk, Ahmed Elsayed, Mostafa Shazly and Abdel Aziz Hegazy	
10:30 - 10:50	395	<b>Performance Analysis of the Incremental Sheet Forming on PMMA using a Combined Chemical and Mechanical Approach</b> Romina Conte, Francesco Gagliardi, Giuseppina Ambrogio, Luigino Filice and Pietro Russo	
<b>10:50 - 11:20</b>		<b>Tea &amp; Coffee Break</b>	Foyer
11:20 - 11:40	182	<b>Finite Element Assisted Prediction of Ductile Fracture in Sheet and Tube Hydroforming</b> Bryan Mac Donald, Rubén Lostado Lorza and Shoichiro Yoshihara	Blue Room
11:40 - 12:00	184	<b>Plastic deformation history in infeed rotary swaging process</b> Yang Liu, Marius Herrmann, Christian Schenck and Bernd Kuhfuss	
12:00 - 12:20	247	<b>Finite Element Simulation of Non-Isothermal Warm Forming of High-Strengt Aluminum Alloy Sheet</b> Jacqueline Noder, Michael Worswick, Clifford Butcher and Sante Dicecco	
12:20 - 12:40	279	<b>A Compensation Strategy For Geometric Inaccuracies Of Hot Incrementally Formed Parts</b> Lars Thyssen, Denis Daniel Störkle and Bernd Kühlenkötter	
12:40 - 13:00	310	<b>Architectural Setup For Online Monitoring And Control Of Process Parameters in Robot-Based ISF</b> Denis Daniel Störkle, Lars Thyssen and Bernd Kühlenkötter	

<b>12:40 – 14:00</b>		<b>Lunch</b>	<b>Main Restaurant</b>
15:00– 15:20	38	<b>Numerical simulation of the deep drawing process for tailored heat treated al-mg-si alloys</b> Michael Machhammer and Christof Sommitsch	<b>Blue Room</b>
15:20 – 15:40	285	<b>Servo Press Method for Sheet Metal Forming</b> Maurizio Calabrese, Teresa Primo and Antonio Del Prete	
<b>15:40 – 16:10</b>		<b>Tea &amp; Coffee Break</b>	<b>Foyer</b>
16:10 – 16:30	165	<b>Development of a numerical methodology for flowforming process simulation of complex geometry tubes</b> Sonia Varela, Maite Santos, Amaia Arroyo, Iñaki Pérez, Joan Francesc Puigjaner and Blanca Puigjaner	<b>Blue Room</b>
16:30 – 16:50	296	<b>A Study on Thick Plate Forming for Hollow-Partitioned Steam Turbine Nozzle</b> Bong-Seok Kwak, Byeong-Kwon Kang, Beom-Soo Kang, Tae-Wan Ku, Mahn-Jung Yoon and Jae-Young Jeon	

**MS8  
Machining and cutting**

**Thursday, 27th April**

Time	MS8	Mini-Symposia	Location
16:10 – 16:30	42	<b>New Tool Holder Design for Cryogenic Machining of Ti6Al4V</b> Marco Bellin, Andrea Ghiotti, Stefania Bruschi and Stefano Sartori	<b>Q120</b>
16:30 – 16:50	157	<b>Influences of High-Pressure Coolant Supply on Chip Formation in Milling</b> Fritz Klocke, Benjamin Döbbeler and Thomas Lakner	
16:50 – 17:10	221	<b>Microstructural and Hardness Changes in Aluminum Alloy Al-7075: Correlating Machining and Equal Channel Angular Pressing</b> Stano Imbrogno, Eric Segebadé, Andreas Fellmeth, Michael Gerstenmeyer, Frederik Zanger, Volker Schulze and Domenico Umbrello	
17:10 – 17:30	231	<b>Microstructural Investigations of the Trimmed Edge of DP980 Steel Sheets</b> Sandeep Bhattacharya, Daniel Green, Raj Sohmshetty and Ahmet Alpas	
17:30 – 17:50	265	<b>Reducing the Uncertainty in Robotic Machining by Modal Analysis</b> Iñigo Alberdi, Jose Angel Pelegay, Pedro-Jose Arrazola and Klaus Bonde	

**Friday, 28th April**

Time	MS8	Mini-Symposia	Location
09:30 – 09:50	291	<b>Tool Geometry Optimization for Drilling CFRP/Al-Li Stacks with a Lightning Strike Protection</b> Souhail El Bouami, Malek Habak, Raphaël Velasco, Baptiste Dos Santos, Gérald Franz and Pascal Vantomme	<b>Q120</b>
09:50 – 10:10	295	<b>Cutting Force Simulation in Milling with Multi-edges Cutter</b> Takashi Matsumura and Shoichi Tamura	
10:10 – 10:30	194	<b>A Methodology for 2D Cutting Process Simulation of Solid End Mill</b> Kateryna Skrypka and Gaetano Massimo Pittalà	
10:30 – 10:50	342	<b>Influence of the ferritic-pearlitic steel microstructure on surface roughness in broaching of automotive steels</b> Inaki Arrieta, Cédric Courbon, Frédéric Cabanettes, Pedro-José Arrazola and Joël Rech	
<b>10:50 – 11:20</b>		<b>Tea &amp; Coffee Break</b>	<b>Foyer</b>
11:20 – 11:40	267	<b>Experimental Analysis of Influence of Cutting Conditions on Machinability of Waspaloy</b> Serafino Caruso, Sergio Rinaldi, Rodolfo Franchi, Antonio Del Prete and Domenico Umbrello	<b>Q120</b>
11:40 – 12:00	68	<b>Numerical Simulation Of Machining Distortions On A Forged Component Obtained By Ring Rolling Process</b> Rodolfo Franchi, Antonio Del Prete, Maurizio Calabrese and Iolanda Donatiello	
12:00 – 12:20	189	<b>Finite Element Model Of White And Dark Layers Induced In Hard Orthogonal Cutting Of AISI52100</b> Samar Arfaoui, Farhat Zemzemi and Zoubeir Tourki	
12:20 – 12:40	287	<b>Modeling of Surface Roughness in Diamond Turning of PMMA used for Contact Lens Making</b> Fundiswa Kopi and Khaled Abou El Hossein	

**MS9**  
Optimization and inverse analysis in forming

**Thursday, 27th April**

Time	MS9	Mini-Symposia	Location
15:00 – 15:20	62	<b>Fusion metamodeling of the bend deduction in air bending</b> Matteo Strano, Lorenzo Iorio, Quirico Semeraro and Roberto Sofia	Q121
15:20 – 15:40	115	<b>Efficient Calculation of Uncertainty Propagation with an Application in Robust Optimization of Forming Processes</b> Omid Nejadseyfi, Hubert Geijselaers and Ton van den Boogaard	
<b>15:40 – 16:10</b>		<b>Tea &amp; Coffee Break</b>	Foyer
16:10 – 16:30	261	<b>Parameters identification of the Chaboche model for non linear deformation conditions</b> Grzegorz Smyk, Paulina Graca, Krzysztof Muszka and Danuta Szeliga	Q121
16:30 – 16:50	192	<b>Remarks on variational sensitivity analysis of elastoplastic deformations</b> Franz-Joseph Barthold and Jan Liedmann	
16:50 – 17:10	174	<b>Framework for Simulation-Driven Design of Stamping Dies Considering Elastic Die and Press Deformations</b> Johan Pilthammar, Johan Wall and Mats Sigvant	
17:10 – 17:30	203	<b>Surrogate models for sheet metal stamping problem based on the combination of Proper Orthogonal Decomposition and Radial Basis Function</b> Van Tuan Dang, Pascal Lafon and Carl Labergere	
17:30 – 17:50	39	<b>How inverse solver technologies can support die face development and process planning in the automotive industry</b> Stefan Huhn, Derek Peeling and Maximilian Burkart	

**Friday, 28th April**

Time	MS9	Mini-Symposia	Location
09:30 – 09:50	162	<b>Ring Rolling Process Simulation For Microstructure Optimization</b> Rodolfo Franchi, Antonio Del Prete, Iolanda Donatiello and Maurizio Calabrese	Q121
09:50 – 10:10	35	<b>Predicting shrinkage and warpage in injection molding: Towards automatized mold design</b> Florian Zwicke, Marek Behr and Stefanie Elgeti	
10:10 – 10:30	260	<b>The maximum work principle regarded as a consequence of an optimisation problem based on mechanical virtual power principle and application of constructal theory</b> Adinel Gavrus	

**MS10**  
Innovative joining by forming technologies

**Wednesday, 26th April**

Time	MS10	Mini-Symposia	Location
09:40 - 10:00	5	<b>Manufacturing of hybrid aluminium copper joints by electromagnetic pulse welding - an analysis of important process parameters</b> Verena Psyk, Christian Scheffler, Maik Linnemann and Dirk Landgrebe	QG13
10:00 - 10:20	69	<b>Manufacture of Thin-Walled Clad Tubes by Pressure Welding of Roll Bonded Sheets</b> Hans Christian Schmidt, Olexandr Grydin, Mykhailo Stolbchenko, Werner Homberg and Mirko Schaper	
10:20 - 10:40	94	<b>Comparison between FSW and bonded lap joints - a preliminary investigation</b> Enrico Lertora, Davide Campanella, Chiara Mandolino, Carla Gambaro, Livan Fratini and Buffa Gianluca	
10:40 - 11:00	135	<b>Reproducing the experimental torque-to-turn resistance of blind rivet nuts using FEA</b> Arne Van de Velde, Sam Coppieters, Kristof Denys, Jan Maeyens and Dimitri Debryne	
<b>11:00 - 11:30</b>		<b>Tea &amp; Coffee Break</b>	<b>Foyer</b>
11:30 - 11:50	146	<b>Analysis and Simulation of the Energy Dissipation at Mechanical Joints</b> Alexander Brosius, Christina Guillaume and Alexander Wolf	QG13
11:50 - 12:10	158	<b>Numerical Simulation of Linear Friction Welding of Aeronautical alloys</b> Antoine Potet, Katia Mocellin and Lionel Fourment	
12:10 - 12:30	160	<b>In-Process Tool Rotation Variation with Constant Heat Input in Friction Stir Welding of AZ31 Sheet with Variable Thickness</b> Gianluca Buffa, Davide Campanella, Archimede Forcellese, Livan Fratini and Michela Simoncini	
12:30 - 12:50	161	<b>Mechanical joining of Materials with Limited Ductility: Analysis of Process-Induced Defects</b> Mathias Jäckel, Sam Coppieters, Martin Hofmann and Nelis Vandermeiren	
12:50 - 13:10	181	<b>Process Optimization of Joining by Upset Bulging with Local Heating</b> Michael Rusch, Amer Almohallami, Alexander Sviridov, Christian Bonk, Bernd-Arno Behrens and Markus Bambach	
<b>13:10 - 14:30</b>		<b>Lunch</b>	<b>Main Restaurant</b>
15:20 - 15:40	329	<b>Finite Element Model and Experiment on Electro-Magnetic Wire Crimping Process</b> Ashish Kumar Rajak and Sachin Kore	QG13
15:40 - 16:00	390	<b>Numerical Simulation of High-Speed Nailing Process</b> Fabien Goldspiegel, Katia Mocellin and Philippe Michel	

**MS11**  
Heat transfer in forming processes

**Thursday, 27th April**

<b>Time</b>	<b>MS11</b>	<b>Mini-Symposia</b>	<b>Location</b>
09:30 – 09:50	64	<b>Experimental validation of analytical models for a rapid determination of cycle parameters in thermoplastic injection molding</b> Baptiste Pignon, Vincent Sobotka, Nicolas Boyard and Didier Delaunay	<b>Space</b>
09:50 – 10:10	99	<b>Experiments and Numerical Modeling of Flow Field and Heat Transfer Coefficients inside an Autoclave Model</b> Taleb Ghamlouch, Stéphane Roux, Jean-Luc Bailleul and Vincent Sobotka	
10:10 – 10:30	109	<b>Numerical Modeling of Electrical Upsetting Manufacturing Processes Based on FORGE® Environment</b> Jose Alves, Sergio Acevedo, Stéphane Marie, Bernhard Adams, Katia Mocellin and François Bay	
10:30 – 10:50	278	<b>Simulations of the Heat Exchange in Thermoplastic Injection Molds Manufactured by Additive Techniques</b> Wafa Daldoul, Thomas Toulorge and Michel Vincent	
<b>10:50 – 11:20</b>		<b>Tea &amp; Coffee Break</b>	<b>Foyer</b>
11:20 – 11:40	393	<b>Study of the reflective behaviour of carbon fibres reinforced polymer composite up to 450°C</b> Violaine Le Louet, Benoit Rousseau and Steven Le Corre	<b>Space</b>
11:40 – 12:00	209	<b>Calculation and Validation of Heat Transfer Coefficient for Warm Forming Operations</b> Kaab Omer, Clifford Butcher and Michael Worswick	
12:00 – 12:20	344	<b>Development and Experimental Assessment of a Numerical Modelling Code to Aid the Design of Profile Extrusion Cooling Tools</b> Olga Carneiro, A. Rajkumar, C. Fernandes, L. Ferras, F. Habla and M. Nobrega	
12:20 – 12:40	288	<b>Thermal Sensors to Control Polymer Forming - Challenge and Solutions</b> Nadine Allanic, Jean-Luc Bailleul, Franck Lemeunier, Nicolas Boyard, Alain Sarda, Christophe Plot, Nicolas Lefevre, Isabelle Petit and Gael Colomines	
12:40 – 13:00	374	<b>Design and thermal analysis of a mold used in the injection of elastomers</b> Nasser Fekiri, Pierre Mousseau, Alain Sarda and Cécile Canto	
<b>12:40 – 14:00</b>		<b>Lunch</b>	<b>Main Restaurant</b>
15:00 – 15:20	289	<b>A New Tribological System Test for Integrated Hot Forming and Die Quenching of Aluminium Alloy Sheets</b> Knut Erik Snilsberg, Torgeir Welo, Bjørn Holmedal, Knut Erling Moen, Ola Jensrud and Christian Koroschetz	<b>Space</b>

MS12  
Semi-solid processes

Thursday, 27th April

Time	MS12	Mini-Symposia	Location
09:30 – 09:50	348	<b>Solidification of aluminum alloys by using twin roll casting process</b> Takegfumi Ishikawa, Hisaki Watari and Toshio Haga	Q122
09:50 – 10:10	362	<b>Semisolid Forming of S48C Steel Grade</b> Gorka Plata, Jokin Lozares, Zigor Azpilgain, Iñaki Hurtado, Iñigo Loizaga and Zuriñe Idoyaga	
10:10 – 10:30	366	<b>Parametric Study for Graphene Reinforced Aluminum Matrix Composites Production Using Box Behnken Design</b> Bhagya Dasari, Jamshid Nouri, Dermot Brabazon and Sumsun Naher	
10:30 – 10:50	397	<b>Hot Rolled High Al Containing Steels as a Replacement for the Control Rolled High Strength Low Alloy (HSLA) Steels</b> Abdullah Qaban, Barrie Mintz and Sumsun Naher	
<b>10:50 – 11:20</b>		<b>Tea &amp; Coffee Break</b>	<b>Foyer</b>
11:20 - 11:40	17	<b>Numerical simulation of the induction heating of hybrid semi-finished materials into the semi-solid state</b> Christoph Seyboldt and Mathias Liewald	Q122
11:40 - 12:00	197	<b>Micro-Bulges Investigation on Laser Modified Tool Steel for Surface Wettability</b> Syarifah Aqida and Izwan Ismail	
12:00 - 12:20	242	<b>Experimental Investigation Of Thixoforging Tubes</b> Eric Becker, Régis Bigot, Olivier Gyss, Florian Baratto and Jean-Baptiste Croue	
12:20 - 12:40	327	<b>3D Thermal Model of Laser Surface Glazing for H13 Tool Steel</b> Israt Rumana Kabir, Danqing Yin and Sumsun Naher	
12:40 - 13:00	339	<b>Solutions of Modified Equation of Motion for Laminar Viscous Flow Across (within) Rigid (liquid) Sphere and Cylinder and Stokes Paradox</b> Siavash Sohrab	

**MS13**  
**Extrusion and drawing**

**Thursday, 27th April**

Time	MS13	Mini-Symposia	Location
15:00 – 15:20	293	<b>Solid state recycling of aluminium alloys via a porthole die hot extrusion process: Scaling up to production</b> Dimos Paraskevas, Karel Kellens, Yelin Deng, Wim Dewulf, Carlos Kampen and Joost Duffou	Studio
15:20 – 15:40	147	<b>Hybrid Deep Drawing Tool for Lubricant Free Deep Drawing</b> Christina Guillaume, Ali Mousavi and Alexander Brosius	
<b>15:40 – 16:10</b>		<b>Tea &amp; Coffee Break</b>	Foyer
16:10 – 16:30	96	<b>Tribological Investigations of the Applicability of Surface Functionalization for Dry Extrusion Processes</b> Marco Teller, Stephan Prünke, Ingo Ross, André Temmler, Jochen M. Schneider and Gerhard Hirt	Studio
16:30 – 16:50	138	<b>Co-Extrusion of Semi-Finished Aluminum-Steel Compounds</b> Susanne Thürer, Uhe Johanna, Golovko Oleksandr, Christian Bonk, Anas Bouguecha, Christian Klose, Bernd-Arno Behrens and Hans Jürgen Maier	
16:50 – 17:10	150	<b>Appearance of shear zones in nonlubricated axisymmetric direct and indirect extrusion</b> Henry Valberg and André Luiz M. Costa	
17:10 – 17:30	152	<b>Optimization of Porthole Die Geometrical Variables by Taguchi Method</b> Francesco Gagliardi, Claudio Ciancio, Giuseppina Ambrogio and Luigino Filice	
17:30 – 17:50	226	<b>Comparison of Updated Lagrangian FEM with Arbitrary Lagrangian Eulerian method for 3D thermo-mechanical extrusion of a tube profile</b> Johannes Kronsteiner, Dieter Horwatsch and Klaus Zeman	

**Friday, 28th April**

Time	MS13	Mini-Symposia	Location
09:30 – 09:50	290	<b>Numerical study of combined process of backward cup extrusion and piercing</b> Robinson Henry and Mathias Liewald	Studio
09:50 – 10:10	349	<b>Dry metal forming of low alloy steels by full forward extrusion using innovative surface textures and HPPMS coatings</b> Rafael Hild, Andreas Feuerhack, Daniel Trauth, Mostafa Arghavani, Nathan C. Kruppe, Tobias Brögelmann, Kirsten Bobzin and Fritz Klocke	
10:10 – 10:30	350	<b>Coupled modelling of aluminium profiles extrusion and product quality improvement by means of simulation</b> Nikolay Biba, Ruslan Rezykh and Ivan Kniazkin	
10:30 – 10:50	392	<b>Investigation of Cold Extrusion Process Using Coupled Thermo-Mechanical Finite Element Analysis and Adaptive Friction Modeling</b> Mehmet Okan Görtan	
<b>10:50 – 11:20</b>		<b>Tea &amp; Coffee Break</b>	Foyer
11:20 – 11:40	398	<b>Influence of Temperature and Sliding Speed on the Subsurface Microstructure Evolution of EN AW-6060 under Sticking Friction Conditions</b> Vidal Sanabria and Soeren Mueller	Studio



MS14  
Mathematical and computer science methods for biomass and food materials processing

Friday, 28th April

Time	MS14	Mini-Symposia	Location
09:30 – 09:50	250	<b>A general computation model based on inverse analysis principle used for rheological analysis of w/o rapeseed and soybean oil emulsions</b> Iuliana Vintila and Adinel Gavrus	Blue Room
09:50 – 10:10	322	<b>Formation and Morphology of Ice Crystals in Concentrated Food Systems: A Model-based Study</b> Estefania Lopez Quiroga, Rui Wang, Ourania Gouseti, Peter J. Fryer and Serafim Bakalis	
10:10 – 10:30	354	<b>Chewing as a forming application: A viscoplastic damage law in modelling food oral breakdown</b> Christos Skamniotis, Maria Charalambides and Elliott Matthew	
10:30 – 10:50	356	<b>A Comparison of the Mechanical and Sensory Properties of Baked and Extruded Confectionery Products</b> Saba Butt, Maria Charalambides and Hugh Powell	
<b>10:50 – 11:20</b>		<b>Tea &amp; Coffee Break</b>	<b>Foyer</b>
11:20 – 11:40	357	<b>Model Based Development of Fruit Simulators</b> Huijian Huang, Mark Tunnicliffe, Young-Min Shim and John Bronlund	Blue Room
11:40 – 12:00	358	<b>Microstructure based hygromechanical modelling of deformation of fruit tissue</b> Pieter Verboven, Metadel Abera, Zi Wang and Bart Nicolai	
12:00 – 12:20	359	<b>A Novel Methodology To Model The Cooling Processes Of Packed Horticultural Produce Using 3D Shape Models</b> Willem Gruyters, Pieter Verboven, Seppe Rogge, Simon Vanmaercke, Herman Ramon and Bart Nicolai	
12:20– 12:40	373	<b>Multivariate Constrained Shape Optimization: application to Extrusion Bell Shape for Pasta Production</b> Fabrizio Sarghini, Angela De Vivo and Francesco Marra	

MS15 Material behaviour: from phenomenologic macroscopic laws to plasticity, DDD, MD approaches			
Wednesday, 26th April			
Time	MS15	Mini-Symposia	Location
09:40 - 10:00	95	<b>Modeling of Yield Surface Evolution in Uniaxial and Biaxial Loading Conditions using a Prestrained Large Scale Specimen</b> Shakil Zaman, Frédéric Barlat and Jin Kim	Studio
10:00 - 10:20	284	<b>Quasi-Continuum analysis of Dislocation-Coherent Twin Boundary interactions to provide local rules to Discrete Dislocation Dynamics</b> Tran Hoang Son, Tumala Hareesh, Duchene Laurent, Pardoën Thomas, Fivel Marc and Habraken Anne-Marie	
10:20 - 10:40	34	<b>Verification of Yield Functions by Biaxial Tensile Tests with Rotated Principal Axes</b> Ryo Ageba, Akinobu Ishiwatari and Jiro Hiramoto	
10:40 - 11:00	314	<b>Numerical modeling of ductile fracture at the microscale combined with X-Ray laminography and digital volume correlation</b> Pierre-Olivier Bouchard, Victor Trejo Navas, Modesar Shakoor, Marc Bernacki, Thilo Morgeneyer, Ante Buljac and François Hild	
11:00 - 11:30		<b>Tea &amp; Coffee Break</b>	Foyer
11:30 - 11:50	21	<b>Analysis of the Lankford coefficient evolution at different strain rates for AA6016-T4, DP800 and DC06</b> Matthias Lenzen and Marion Merklein	Studio
11:50 - 12:10	78	<b>Influence of Transient Strain Rates on Material Flow Stress and Microstructure Evolution</b> Jens Dierdorf, Johannes Lohmar and Gerhard Hirt	
12:10 - 12:30	80	<b>Experimental and computational approach to evaluate the effect of levelling on the change of tensile properties of heavy steel plates</b> Thomas Kaltenbrunner, Werner Ecker, Thomas Antretter, Robert Kaiser, Erik Parteder and Rupert Egger	
12:30 - 12:50	106	<b>Comparative Study of Modelling Efficiency Regarding Localization Development</b> Laurent Tabourot, Ndeye Awa Sene, Pascale Bolland, Nesrine Ksiksi, Ludovic Charleux and Moustapha Issack	
12:50 - 13:10	133	<b>Implementation and Application of a Gradient Enhanced Crystal Plasticity Model</b> Celal Soyarslan and Semih Perdahcioglu	
13:10 - 14:30		<b>Lunch</b>	Main Restaurant
15:20 - 15:40	145	<b>Atypical Transitions In Material Response During Constant Strain Rate, Hot Deformation Of Austenitic Steel</b> Utpal Borah, B Aashranth, Dipti Samantaray, Santosh Kumar, M. Arvinth Davinci, Shaju K. Albert and A.K. Bhaduri	Studio
15:40 - 16:00	238	<b>Influence of grain size on the mechanical properties of nano-crystalline copper; Insights from molecular dynamics simulation</b> Ali Rida, Ali Makke, Emmanuelle Rouhaud and Matthieu Micoulaut	
16:00 - 16:30		<b>Tea &amp; Coffee Break</b>	Foyer
16:30 - 16:50	252	<b>Intrinsic and Statistical Size Effects in Microforming</b> Tuncay Yalcinkaya, Aytekin Demirci, Igor Simonovski and Izzet Ozdemir	Studio
16:50 - 17:10	323	<b>Experimental Validation of the Multiphase Extended Leblond's Model</b> Daniel Weisz-Patruil	
17:10 - 17:30	336	<b>Study of the local and global deformation process of an aluminium alloy using full-field measurements</b> Marco Rossi, Gianluca Chiappini, Luca Maria Mattucci and Dario Amodio	
17:30 - 17:50	337	<b>Hot-deformation Behaviour of <math>\alpha+\beta</math> Ti-Al-V-Fe Experimental Alloys</b> Dawid Prozesky, Michael Bodunrin and Lesley Chown	
Thursday, 27th April			
Time	MS15	Mini-Symposia	Location
09:30 - 09:50	371	<b>A unified dislocation density-dependent physical-based constitutive model for cold metal forming</b> Konstantin Schacht, Seyedamirhossein Motaman, Ulrich Prahl and Wolfgang Bleck	Studio
09:50 - 10:10	79	<b>A Numerical Multi-Scale Model to Predict Macroscopic Material Anisotropy of Multi-Phase Steels from Crystal Plasticity Material Definitions</b> Sathish Kumar Ravi, Jerzy Gawad, Marc Seefeldt, Albert Van Bael and Dirk Roose	
10:10 - 10:30	166	<b>Thermomechanical simulation of the production process of a creep resistant martensitic steel</b> Bernadette Gsellmann, Dilek Halici, Bernhard Krenmayr, Cecilia Poletti and Bernhard Sonderegger	
10:30 - 10:50	206	<b>Cost efficiency of the non-associative flow rule simulation of an industrial component</b> Lander Galdos, Eneko Saenz de Argandoña and Joseba Mendiguren	
10:50 - 11:20		<b>Tea &amp; Coffee Break</b>	Foyer
11:20 - 11:40	58	<b>Comparison of creep deformation rates during load and strain controlled multi-step creep ageing tests on AA7050</b> Jinghua Zheng, Catrin Davies and Jianguo Lin	Studio
11:40 - 12:00	228	<b>Quantum Mechanics and Relativistic Model by the Evaluation of the Activation Energy for Plastic Flow at High Temperature in Titanium Carbide Single Crystals</b> Juan Daniel Muñoz-Andrade	
12:00 - 12:20	273	<b>Simulation of thin Aluminium-foil in the Packaging Industry</b> Eskil Andreasson, Ann-Magret Asp and Tommy Lindström	
12:20 - 12:40	381	<b>Constitutive Equation on basis of Electro-Thermal Uniaxial Tension for Titanium Profile</b> Baosheng Liu, Fenggong Lv, Yuansong Zeng, Wei Wu, Yongjun Wang and Fengchao Cao	
12:40 - 13:00	399	<b>Crystal Plasticity Simulation of Zirconium Tube Rolling Using Multi-Grain Representative Volume Element</b> Margarita Isaenkova, Yuriy Perlovich, Dmitry Zhuk and Olga Krymskaya	

**MS16**  
New and advanced numerical strategies for material forming

**Friday, 28th April**

<b>Time</b>	<b>MS16</b>	<b>Mini-Symposia</b>	<b>Location</b>
09:30 – 09:50	13	<b>The Analysis of Bottom Forming Process for Hybrid Heating Device</b> Pawel Balon, Andrzej Swiatonowski and Bartlomiej Kielbasa	<b>Theatre</b>
09:50 – 10:10	40	<b>A Simplified Simulation Model for a HPDC Die with Conformal Cooling Channels</b> Markus Frings, Marek Behr and Stefanie Elgeti	
10:10 – 10:30	44	<b>A Manifold Learning Approach to Data-Driven Computational Materials and Processes</b> Ruben Ibañez, Emmanuelle Abisset-Chavanne, Jose Vicente Aguado, David Gonzalez, Elias Cueto and Francisco Chinesta	
10:30 – 10:50	93	<b>A New Methodology to Characterize the Constitutive Behaviour of PET for the Stretch Blow Moulding Process</b> Shiyong Yan, Gary Menary and James Nixon	
<b>10:50 – 11:20</b>		<b>Tea &amp; Coffee Break</b>	<b>Foyer</b>
11:20 – 11:40	123	<b>A Coupled Thermo-Mechanical Pseudo Inverse Approach For Preform Design In Forging</b> Anoop Ebey Thomas, Boussad Abbès, Yu Ming Li, Fazilay Abbès, Ying-Qiao Guo and Jean-Louis Duval	<b>Theatre</b>
11:40 – 12:00	134	<b>Model for texture evolution in cold rolling of 2.4 wt. % Si non-oriented electrical steel</b> Xuefei Wei, Stephan Hojda, Jens Dierdorf, Johannes Lohmar and Gerhard Hirt	
12:00 – 12:20	324	<b>On the Use of PGD for Optimal Control Applied to Automated Fibre Placement</b> Nicolas Bur and Pierre Joyot	
12:20– 12:40	370	<b>Local Proper Generalized Decomposition</b> Alberto Badias Herbera, David González Ibañez, Iciar Alfaro Ruiz, Francisco Chinesta Soria and Elías Cueto Prendes	

MS17  
Laser material forming

Thursday, 27th April

Time	MS17	Mini-Symposia	Location
09:30 – 09:50	89	<b>Laser welding of polypropylene using two different sources</b> Chiara Mandolfino, Dermot Brabazon, Eanna McCarthy, Enrico Lertora, Carla Gambaro and Inam Ul Ahad	QG13
09:50 – 10:10	251	<b>Numerical Modelling of Laser Assisted Tape Winding Process</b> Amin Zaami, Ismet Baran and Remko Akkerman	
10:10 – 10:30	281	<b>Nd:YOV4 Laser polishing on WC-Co HVOF spray coating</b> Luca Giorleo, Elisabetta Ceretti, Giovina Marina La Vecchia and Lorenzo Montesano	
10:30 – 10:50	286	<b>Laser Surface Texturing for High Control of Interference Fit Joint Load Bearing</b> Muhannad Ahmed Obeidi, Eanna Mccarthy and Dermot Brabazon	
<b>10:50 – 11:20</b>		<b>Tea &amp; Coffee Break</b>	Foyer
11:20 – 11:40	214	<b>Preliminary characterization of AA6061 and Ti6Al4V Dissimilar Laser Butt Weld</b> Giuseppe Casalino, Sonia D'ostuni, Pasquale Guglielmi, Paola Leo, Michelangelo Mortello, Gianfranco Palumbo and Antonio Piccininni	QG13
11:40 – 12:00	309	<b>Laser beam machining of polycrystalline diamond for cutting tool manufacturing</b> Dominik Wyszynski, Marek Zwolak, Robert Ostrowski and Witold Bryk	
12:00 – 12:20	312	<b>Design of instrumentation and software for precise laser machining</b> Dominik Wyszynski, Marcin Grabowski and Piotr Lipiec	
12:20 – 12:40	48	<b>Effect of fiber laser marking on surface properties and corrosion resistance of a Fe-Ni-Cr alloy</b> Antonello Astarita, Chiara Mandolfino, Enrico Lertora, Carla Gambaro, Antonino Squillace and Fabio Scherillo	

MS18 Forging and Rolling			
Wednesday, 26th April			
Time	MS18	Mini-Symposia	Location
09:40 - 10:00	33	<b>Material saving by means of CWR technology using optimization techniques</b> Iñaki Pérez	Q121
10:00 - 10:20	41	<b>A new high and moderate speed servo-hydraulic forging simulator machine: capabilities and process optimization</b> Michail Ntovas and Paul Blackwell	
10:20 - 10:40	66	<b>Assessment of Flat Rolling Theories for the Use in a Model-Based Controller for High-Precision Rolling Applications</b> Sven Stockert, Matthias Wehr, Johannes Lohmar, Gerhard Hirt and Dirk Abel	
10:40 - 11:00	70	<b>Simulation of the Hot Rolling of Steel with Direct Iteration</b> Umut Hanoglu and Božidar Šarler	
<b>11:00 - 11:30</b>		<b>Tea &amp; Coffee Break</b>	Foyer
11:30 - 11:50	92	<b>Interlocking multi-material components made of structured steel sheets and high-pressure die cast aluminium</b> Stefan Senge, Johannes Brachmann, Gerhard Hirt and Andreas Bührig-Polaczek	Q121
11:50 - 12:10	118	<b>Online-Analysis of Process-Data to Avoid Ovality in Radial-Axial Ring Rolling Processes</b> Tobias Husmann, Simon Husmann and Bernd Kuhlenkötter	
12:10 - 12:30	169	<b>Comparison of Distortions of Complex Aluminium Sections Formed in Single-Step and Incremental Roll Bending</b> Jan Magnus G. Farstad, Øyvind Netland and Torgeir Welo	
12:30 - 12:50	173	<b>Numerical Die Life Estimation of a Crack Susceptible Industrial Hot Forging Process</b> Mohammad Kazhai, Anas Bouguecha, Christian Bonk, Daniel Rosenbusch and Bernd Arno Behrens	
12:50 - 13:10	178	<b>Modelling of Influence of Carbon Content on Material Behavior during Forging</b> Marcel Graf, Hendrik Wester, Anas Bouguecha, Grzegorz Korpala, Madlen Ullmann, Birgit Awiszus, Bernd-Arno Behrens and Rudolf Kawalla	
<b>13:10 - 14:30</b>		<b>Lunch</b>	Main Restaurant
14:30 - 15:40	186	<b>Investigations on the Flow Behavior of Aluminum in Two Layer Roll Bonding</b> Alina Melzner and Gerhard Hirt	Q121
15:40 - 16:00	191	<b>Importance of Material and Friction Characterization for FE-aided Process Design of Hybrid Bevel Gears</b> Bernd-Arno Behrens, Anas Bouguecha, Christian Bonk and Tim Matthias	
<b>16:00 - 16:30</b>		<b>Tea &amp; Coffee Break</b>	Foyer
16:30 - 16:50	208	<b>An Approach to Develop an Algorithm to Detect the Climbing Height of Radial-Axial Rolled Rings</b> Simon Husmann, Magnus Hohmann and Bernd Kuhlenkötter	Q121
16:50 - 17:10	244	<b>3D Finite Element Model for Roll Stack Deformation Coupled with a Multi-Slab Model for Strip Deformation for Flat Rolling Simulation</b> Yukio Shigaki, Pierre Montmitonnet and Jonatas Mezencio Silva	
17:10 - 17:30	268	<b>Properties of Hot-Rolled Sheets from Ferritic Steel with Increased Strength</b> Yuriy Perlovich, Margarita Isaenkova, Petr Dobrokhoto, Sergey Stolbov, Igor Bannykh, Marina Antsyferova and Oleg A. Bannykh	
17:30 - 17:50	272	<b>Behavior of Sheets from Ti Alloys by Rolling and Heat Treatment</b> Margarita Isaenkova, Yuriy Perlovich, Vladimir Fesenko, Maria Gritskovich, Sergey Stolbov and Maria Zaripova	
17:50 - 18:10	305	<b>Predicting Void Closure during Free from Mannesmann Forging Process of Large Size Ingots</b> Davood Shahriari, Nathan Harris, Kanwal Chadha and Mohammad Jahazi	
Thursday, 27th April			
Time	MS18	Mini-Symposia	Location
09:30 - 09:50	315	<b>Hot Rolling Simulation for Non-Oriented Electrical Steel</b> Anett Stöcker, Matthias Schmidchen and Rudolf Kawalla	Q121
09:50 - 10:10	361	<b>An Advanced Dissymmetric Rolling Model For Online Regulation</b> Trong Son Cao	
10:10 - 10:30	163	<b>Ring Rolling Process Simulation For Geometry Optimization</b> Rodolfo Franchi, Antonio Del Prete, Iolanda Donatiello and Maurizio Calabrese	
10:30 - 10:50	179	<b>Process Routes for Die Forging of Hybrid Bevel Gears and Bearing Bushings</b> Bernd-Arno Behrens, Anas Bouguecha, Conrad Frischkorn, Adis Huskic and Anna Chugreeva	
<b>10:50 - 11:20</b>		<b>Tea &amp; Coffee Break</b>	Foyer
11:20 - 11:40	57	<b>Statically Determined Slip-Line Field Solution for the Axial Forming Force Estimation in the Radial-Axial Ring Rolling Process</b> Luca Quagliato and Guido Berti	Q121
11:40 - 12:00	117	<b>Impact of tool wear on Cross wedge rolling process stability and on product quality</b> Catalina Gutierrez, Laurent Langlois, Cyrille Baudouin, Régis Bigot and Éric Frémeaux	
12:00 - 12:20	346	<b>Hot Forging of roll cast high high aluminum content magnesium alloys</b> Tomohiro Kishi, Hisaki Watari, Mayumi Suzuki and Toshio Haga	
12:20 - 12:40	56	<b>Friction-aided strip rolling with variable reductions</b> Ahmed Elkholly	

**MS19**  
Nanostructured materials fabrication and forming

**Wednesday, 26th April**

Time	MS19	Mini-Symposia	Location
09:40 - 10:00	43	<b>Wear of Carbon Nanotubes Grafted on Carbon Fibres and this Influence on the Properties of Composites Materials</b> Claire Guignier, Marie-Ange Bueno, Brigitte Camillieri and Bernard Durand	Q122
10:00 - 10:20	104	<b>Nanostructuring of metals via Spark Plasma Sintering using activated powder obtained by ball-milling: Impact on the strain-hardening mechanisms</b> Lucia Garcia de La Cruz, Baptiste Filpon, Clément Keller, Mayerling Martinez and Eric Hug	
10:20- 10:40	110	<b>Equal Channel Angular Pressing (ECAP) and Forging of Commercially Pure Titanium (CP-Ti)</b> Maciej Krystian, Daniel Huber and Jelena Horky	
10:40 - 11:00	368	<b>Surface Roughness Control by Extreme Ultraviolet (EUV) Radiation</b> Inam UI Ahad, Bogusław Budner, Andrzej Bartnik, Henryk Fiedorowicz and Dermot Brabazon	
<b>11:00 - 11:30</b>		<b>Tea &amp; Coffee Break</b>	<b>Foyer</b>
11:30 - 11:50	185	<b>Thermal Modelling Of Normal Distributed Nanoparticles Through Thickness In An Inorganic Material Matrix</b> Steven Latré and Frederik Desplentere	Q122
11:50 - 12:10	211	<b>Nanoparticle Fabrication via Pulsed Laser Ablation in Liquid: A Step Towards Production Scale-up</b> Brian Freeland, Ronan Mccann, Komal Bagga, Greg Foley and Dermot Brabazon	
12:10 - 12:30	217	<b>Elaboration of austenitic stainless steel with bimodal grain size distribution and investigation of their mechanical behavior</b> Baptiste Filpon, Lucia Garcia de La Cruz, Eric Hug, Clément Keller and Fabrice Barbe	
12:30 - 12:50	351	<b>Agro-industrial waste as source for carbon nanotubes (CNTs) production</b> Pamela Hidalgo, Carla Martinez and Gustavo Ciudad	
12:50 - 13:10	176	<b>Influence of Tools Geometry and Processing Conditions on Behavior of a Difficult-to-Work Al-Mg Alloy During Equal Channel Angular Pressing</b> Radu Ioachim Comaneci, Dumitru Nedelcu and Leandru Gheorghe Bujoreanu	
<b>13:10 - 14:30</b>		<b>Lunch</b>	<b>Main Restaurant</b>
115:20 - 15:40	372	<b>TiO2 Gas sensor to detect the Proanol at Room temperature</b> Ibrahim Gaidan, Dermot Brabazon, Salim Asbia and Inam UI Ahad	Q122
15:40 - 16:00	401	<b>Silver/hydroxyapatite hybrid coatings on Ti-6Al-4V surfaces by sol-gel method</b> Burak Dikici, Serap Gungor Koc, Mehmet Topuz, Mitsuo Niinomi, Hakan Yilmazer and Masaaki Nakai	
<b>16:00 - 16:30</b>		<b>Tea &amp; Coffee Break</b>	<b>Foyer</b>
16:30 - 16:50	259	<b>Microstructure and mechanical propertie of Mg-Nano Hydroxy Apatite composite made by PM</b> Mohsen Saremi and Nasim Kavoi	Q122
16:50 - 17:10	403	<b>The Controlled Formation of Titanium Oxides using Microwave Plasma Treatments</b> Emmanuel J. Ekoi and Denis P. Dowling	
17:10 - 17:20	410	<b>Integrating 180° DLS into processes and high-throughput robotics</b> T. Benen	