

Program

Sunday, June 1

Hotel Holiday Inn		June 1
14:30 – 17:30	Registration	

Hotel Holiday Inn		June 1
15:30 – 17:30	IDDRG Executive Committee Meeting	

Hotel Holiday Inn		June 1
17:30 – 18:30	Welcome Reception	

18:30	Day Close	
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Monday, June 2

Conference Hall 01		June 2
08:00 – 09:00	Registration	

Main Auditorium		June 2
09:00 – 09:30	Conference Opening	

Main Auditorium – Keynote Lectures I		
Chairman: <i>Nico Langerak</i>		June 2 (09:30 – 10:30)
09:30 – 10:00	Hybridizing sheet forming with additive manufacturing Marion Merklein , <i>Friedrich-Alexander University of Erlangen-Nürnberg, Germany</i>	
10:00 – 10:30	Digital continuity in the stamping and BiW assembly Bart Carleer , <i>AutoForm, Switzerland</i>	

10:30 – 11:00	Coffee Break	
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Main Auditorium – Parallel Session: Tribology I		
Chairman: <i>Matthias Weiss</i>		June 2 (11:00 – 12:00)
11:00 – 11:20	241056	Flattening of asperities during biaxial in-plane deformation – Full mapping of the strain space by numerical simulations <i>Maximilian Zwicker, Paulo A.F. Martins, Chris Valentin Nielsen</i>
11:20 – 11:40	241055	Cavity design for surface textured sheets in metal forming Philipp Schumann , <i>Daniel Martin, Otavio M. Serra, Peter Groche</i>
11:40 – 12:00	241008	Enhancing contact pressure uniformity in strip drawing tests: a geometric approach to mitigate edge stress risers <i>Iñigo Llavori, Eneko Saenz de Argandoña, Alaitz Zabala, Alex McClosky, Maitane Uribe, Nagore Otegi,</i>
12:00 – 12:20	-	

Room 02.1 – Parallel Session: Sustainability		
Chairman: <i>Leopold Wagner</i>		June 2 (11:00 – 12:00)
11:00 - 11:20	241000	Toward a circular economy in deep drawing: remanufacturing end-of-life automotive parts Johannes Österreich , Florian Grabner, Paul Oberhauser, Sindre L. Hovden, Carina Schlögl
11:20 - 11:40	241191	Tools from trash: Recycling pathways and use cases for rapid tooling Peter Frohn-Sørensen , Michael Schiller, Tamara Reinicke, Bernd Engel
11:40 - 12:00	241263	Effect of recycling on the mechanical properties and formability of sheet metal Anna Payá , David Frómeta, Jaume Pujante, Manel Da Silva
12:00 - 12:20	-	

Room 02.2 – Parallel Session: Materials Testing I		
Chairman: <i>Carpóforo Vallengano</i>		June 2 (11:00 – 12:20)
11:00 - 11:20	241009	Tensile testing of sheet metals at elevated temperatures with optical strain rate control David Naumann , Marion Merklein
11:20 - 11:40	241032	Material parameter identification based on heterogeneous testing: validation in case of a forming process Lisa Germain , Mafalda Gonçalves, Antonio Andrade-Campos, Sandrine Thuillier
11:40 - 12:00	241002	A novel diagonal-cruciform test specimen to evaluate sheet formability Rui F.V. Sampaio , João P.M. Pragana, Ivo M.F. Bragança, Carlos M.A. Silva, Paulo A.F. Martins
12:00 - 12:20	241194	Investigation failure behavior in the shear tensile test with variety of specimen stiffness Eugen Wolf , Alexander Brosius

Room 01.1 – Parallel Session: Incremental Forming		
Chairman: <i>Ming Wang Fu</i>		June 2 (11:00 – 12:20)
11:00 - 11:20	241248	Surface quality improvement under low-frequency and high-amplitude vibration in rotational vibration-assisted incremental sheet forming <i>Olivier Lewthwaite, Jamie Booth, Hui Long</i>
11:20 - 11:40	241059	Investigation using single point incremental forming (SPIF) to fabricate patient-specific, titanium orbital floor implants Elizabeth M. Mamros , Lauren E. Blaha, Christian A. Kauffman
11:40 - 12:00	241222	Robot-assisted single point incremental forming: focus on shape accuracy of the final part <i>Michele Cannillo, Angela Cusanno, Ángel Brisa i Álvarez, Martina Campanella, Antonio Piccininni, Ines Ferrer Real, Maria Luisa Garcia-Romeu, Gianfranco Palumbo</i>
12:00 - 12:20	241227	Influence of tool geometry and tool material on the formability and formed part accuracy in single point incremental forming <i>Suryakant Nagar, Kailash Sahu, Ritesh Banjare, Yogesh K. Dewangan, Kaushik Bandyopadhyay</i>

12:20 – 14:30	Lunch – Holiday Inn Hotel
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Main Auditorium – Keynote Lectures II		
Chairman: <i>Nader Asnafi</i>		June 2 (14:30 – 15:00)
14:30 – 15:00	Materials Characterisation and Modelling for Hot Stamping Applications Jianguo Lin , Hong Kong Polytechnic University, China / Imperial College London, UK	

Main Auditorium – Parallel Session: Ironing, Stamping and Spinning		
Chairman: <i>Hui Long</i>		June 2 (15:00 – 16:40)
15:00 - 15:20	241026	Improving adjustable ironing punch performance using cemented carbide components Kaarel Siimut , Kasper Mygind Madsen, Ermanno Ceron, Chris Valentin Nielsen
15:20 – 15:40	240828	Study of deep drawing combined with ironing of a7075 aluminum alloy Yeong-Maw Hwang , Yen-Lin Wu, Cheng-Chi Wang
15:40 – 16:00	241195	Circular and square cups drawing and ironing of Ti alloy sheets by incremental press forming method Yusuke Okude , Taku Iwaoka, Isao Nakamura, Tsuyoshi Muraoka, Takashi Katagiri
16:00 - 16:20	240926	Integrating stamping tool temperature effects into early-stage process design: insights from an industrial benchmark <i>Lide Insausti, Alexander Barlo, Mats Sigvant, Johan Pilthammar, Eneko Saenz de Argandoña, Joseba Mendiguren</i>
16:20 - 16:40	241247	Investigation of wrinkling initiation in shear spinning <i>Zhikun Li, Hui Long</i>

Room 02.1 – Parallel Session: Tribology II		
Chairman: <i>Chris V. Nielsen</i>		June 2 (15:00 – 16:40)
15:00 - 15:20	241043	Inline wear detection in high-speed progressive dies using photometric stereo Jonas Moske , Hasan Kutlu, Adrian Steinmeier, Pedro Santos, Arjan Kuijper, Andreas Weinmann, Peter Groche
15:20 – 15:40	241048	Quantifying the amount of restraining due to friction in the different areas of drawing tools: a numerical analysis Eneko Saenz-de-Argandoña , Alaitz Zabala, Ainhua Guinea, Daniel Cañizares, Joseba Mendiguren
15:40 – 16:00	241249	Investigation of frictional behaviour in incremental sheet forming of grade one titanium sheet <i>Lars Korner, Hengan Ou</i>
16:00 - 16:20	240999	Multiscale simulation of surface roughening of a deep drawing steel due to sub-surface plastic deformation Aiden Carley-Clopton , Grethe Winther, Oleg V. Mishin, Chris V. Nielsen
16:20 - 16:40	-	

Room 02.2 – Parallel Session: Materials Testing II		
Chairman: <i>Yannis Korkolis</i>		June 2 (15:00 – 16:40)
15:00 - 15:20	241029	The effect of bake hardening on the plastic strain dependency of elastic modulus Kusaka Shota , Takashi Iwama, Kentaro Sato, Yoichiro Onishi, Tsuyoshi Shiozaki, Fusahito Yoshida
15:20 - 15:40	241224	Determination of kinematic hardening parameters in W-temper forming of 6082 aluminum alloy Jemal Ebrahim Dessie , László Rónai, Zsolt Lukács
15:40 - 16:00	241014	Tension-compression asymmetry in AA2219: effect of temperature and stress states <i>Priya Tiwari, A.H. Siddiqui, Amit Singh, S. Narayan Murty, Sushil K. Mishra</i>
16:00 - 16:20	241186	Characterisation and modelling of the flow behaviour of a medium manganese steel for hot forming Philipp Althaus , Radhakanta Rana, Hendrik Wester, Johanna Uhe, Bernd-Arno Behrens
16:20 - 16:40	241275	Investigations of roughness evolution in uniaxial and biaxial stretching of interstitial free - IF steel sheet José Divo Bressan , Ricardo Kirchoff Unfer

Room 01.1 – Parallel Session: Hybrid Processes		
Chairman: <i>Eneko Saenz de Argandoña</i>		June 2 (15:00 – 16:40)
15:00 - 15:20	241001	Improving the local formability of a AA7075 aluminum alloy by laser-induced modification of the alloying concept Henrik Zieroth , Marcel Stephan, Michael Schmidt, Marion Merklein
15:20 - 15:40	241235	Methodology for additive repair of press hardening dies using generic die segments and targeted deposition strategy Artem Alimov , Rico Haase, Gökhan Ertugrul, Alexander Sviridov, Verena Kräusel, Claudio Krug, Sebastian Härtel
15:40 - 16:00	241236	Integration of bending operation in hybrid additive manufacturing chains based on powder bed fusion Valentino A.M. Cristino , Rui F.V. Sampaio, João P.M. Pragana, Ivo M.F. Bragança, Carlos M.A. Silva, Paulo A.F. Martins
16:00 - 16:20	241178	On the preliminary evaluation of formability of Ti6Al4V selected laser melted sheets <i>J. Andrés López-Fernández, Ana Rosa-Sainz, Inés Ferrer, Gabriel Centeno, M. Luisa García-Romeu, Carpóforo Vallengano</i>
16:20 - 16:40	241005	Design criteria to use 3D printed polymeric tools in metal forming processes Muhammad Ali Kaleem , Peter Frohn-Sörensen, Rainer Steinheimer, Bernd Engel

16:40 – 17:00	Coffee Break
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Main Auditorium – Parallel Session: Processes I		
Chairman: <i>Marion Merklein</i>		June 2 (17:00 – 18:20)
17:00 - 17:20	241280	Manufacturing process of 46XX high-capacity, high-density cylindrical-type battery cell can Jong-Hwa Hong , Ye-Chan Seo, Sumin Ji, Sedong Lee, Hongseok Seong, Eun-Yoo Yoon
17:20 – 17:40	241017	Influence of process parameters on the quality of flexible forming of 316L bipolar plate Wenlong Xie , Zonghui Su, Siying Deng, Yong Xu, Hongwu Song, Shihong Zhang
17:40 – 18:00	241061	Experimental evaluation of a feature based bipolar plate forming approach in a hybrid tool Dennis Albers , Karl Ngondji, Florian Hüsing, Christian Brecher
18:00 - 18:20	241185	Inline monitoring of material properties and product shape in roll forming Abdelrahman Essa , Marcus Decker, Harshil Padharia, Matthias Weiss

Room 02.1 – Parallel Session: Simulation I		
Chairman: <i>Luis F. Menezes</i>		June 2 (17:00 – 18:20)
17:00 - 17:20	241270	An approach to modeling friction-stir welded joints in forming Werner Feix , Celalettin Karadogan, Tobias Graf, André Haufe
17:20 – 17:40	241233	Effect of σ_b and r_b identification method from bulge test on aluminium stamping simulation Dominique Saletti , Dominique Daniel, Thierry Bayle, Laurent Laszczyk
17:40 – 18:00	241287	Increasing the displaced fluid volume of curved metal membranes for diaphragm compressors <i>Mikhail Solovev</i> , André Leonhardt , Andreas Kunke, Till Clausmeyer
18:00 - 18:20	241046	Evaluation of forming methods for a micro cup-part used in an ultra-miniatured radio-frequency connector Heng-Sheng Lin , Chuan-Hsi Hung, Zong-Ying Wang, Xing-Yonug Lo

Room 02.2 – Parallel Session: Materials Testing III		
Chairman: <i>Sandrine Thuillier</i>		June 2 (17:00 – 18:20)
17:00 - 17:20	241198	Analysis of experimental scattering sources in local ductility measurement from flat tensile test sample fracture surfaces <i>Patrick Larour</i> , Wolfgang Lumetzberger, Leopold Wagner
17:20 – 17:40	241239	Investigations on strain rate dependent forming limits of 5xxx aluminium alloys for flow-line-free sheet metal forming Silke Klitschke , Lukas Hauser, Mathias Liewald
17:40 - 18:00	241192	On the thermomechanical behaviour of polymeric sheets at localized necking <i>David Palomo</i> , Andrés J. Martínez-Donaire, Domingo Morales, Carpóforo Vallengano
18:00 – 18:20	241245	Effect of prestrain and strain path on retained austenite transformation and eventual fracture behavior of Q&P steels Sriram Sadagopan , Brian Lin, Narayan Pottore, Su Liu, Hong Zhu

Room 01.1 – Parallel Session: Session in Honor of Professor Shihong Zhang		
Chairman: <i>Paulo A.F. Martins</i>		June 2 (17:00 – 18:20)
17:00 - 17:20	-	Tool and die making, surface treatment, and repair by laser-based additive processes <i>Nader Asnafi</i>
17:20 – 17:40	241007	Investigation on the formability and deformation mechanism of Zircaloy-4 sheets with different initial textures during stamping <i>Siyang Deng, Wenlong Xie, Shuaifeng Chen, Hongwu Song, Shihong Zhang</i>
17:40 – 18:00	241183	Crystal plasticity finite element method application in micro/meso-scaled deep drawing and some related concerns <i>Xu Tong, M.W. Fu</i>
18:00 - 18:20	-	Fabrication of high-performance thin copper tube, wire and sheet: Alloy design and CP-FE simulation <i>Shuaifeng Chen</i>
18:20	Day Close	

Tuesday, June 3

Conference Hall 01		June 3
08:30 – 09:00	Registration	

Main Auditorium – Keynote Lectures III		
Chairman: <i>Abel Santos</i>		June 3 (09:00 – 10:00)
09:00 – 09:30	Heterogeneous mechanical testing for virtual sheet metal forming <i>Sandrine Thuillier, Université de Bretagne Sud, France</i>	
09:30 – 10:00	Research and Development at MCG-Mind for Metal <i>Carlos Saraiva, MCG – Mind for Metal, Portugal</i>	

10:00 – 10:30	Coffee Break
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Main Auditorium – Parallel Session: Formability I		
Chairman: <i>Till Clausmeyer</i>		June 3 (10:30 – 12:10)
10:30 - 10:50	241284	Mini-punch experimental device development and analysis for ductile damage identification of naval structures <i>Kevin Buducan, Christophe Pradille, Serge Bonhomme, Dorian Brousse, Bruno Leblé, Pierre-Olivier Bouchard</i>
10:50 – 11:10	240927	Biaxial experiments and numerical analysis on damage and fracture in anisotropic aluminum sheets <i>Michael Brünig, Sanjeev Koirala, Steffen Gerke</i>
11:10 – 11:30	241003	Competing failure modes in hole expansion testing of AHSS sheets <i>Leopold Wagner, Patrick Larour, Johann Freudenthaler, Gernot Trattinig, Erich Berger</i>
11:30 - 11:50	241019	The effect of banded microstructures on the hole expansion behavior of hot-rolled steel <i>Xiaoyu Yang, Zhenli Mi</i>
11:50 – 12:10	240925	Study on the failure behavior of advanced high strength steel considering stamping history <i>Ji-Chao Zhang, Changwei Lian, Fei Han</i>

Room 02.1 – Parallel Session: Simulation II		
Chairman: <i>Gabriel Centeno</i>		June 3 (10:30 – 11:50)
10:30 - 10:50	241047	Design of multi-step dies for sheet forming using a workpiece-performance-based approach: a preliminary study <i>Gabriel Marín, Florian Weber, Hosen Sulaiman, Martin Heuse, Yannis Korkolis</i>
10:50 – 11:10	241125	Characterization and modeling of multi-step drawing process for thick steel sheets <i>Joséphine Chatellier, Christophe Pradille, Christophe Kerisit, Pierre-Olivier Bouchard</i>
11:10 – 11:30	250030	Integrating optical draw-in measurements with finite element analysis for enhanced process insights in sheet metal forming <i>Toni Chezian, Trunal Dhawale, Johan Pilthammar, Alexander Barlo, Omsri Aeddula</i>
11:30 - 11:50	241181	Pad force required in shear-deformation sheet forming of curved hat channels for ultra-high-strength steels <i>Saaya Kanayama, Tohru Yonebayashi, Yasuharu Tanaka, Shunji Hiwatashi</i>
11:50 – 12:10	-	

Room 02.2 – Parallel Session: Joining I (organized by <i>Alexander Brosius, Gerson Meshut and Marion Merklein</i>)		
Chairman: <i>Alexander Brosius</i>		June 3 (10:30 – 11:50)
10:30 - 10:50	241189	Integration of multiple-linear and tumbling kinematics into self-piercing riveting <i>Pia Katharina Holtkamp, Simon Wituschek, Michael Lechner, Gerson Meschut</i>
10:50 – 11:10	241209	Investigation of the impact of a rotationally superimposed punch stroke on the binding mechanisms of a clinched joint <i>Stephan Lüder, Eugen Wolf, Hans Christian Schmale, Alexander Brosius</i>
11:10 – 11:30	241230	Effect of pre-strain on the strength of similar aluminium EN AW5754-H22 alloy joined by clinching <i>Abdulhakim S. Rahmato, Péter Z. Kovács</i>
11:30 - 11:50	241282	Modelling wire-arc-additive manufacturing for joining by forming applications <i>João M.A. Viegas, Pedro M.S. Rosado, Rui F.V. Sampaio, João P.M. Pragana, Ivo M.F. Bragança, Carlos M.A. Silva, Paulo A.F. Martins</i>
11:50 – 12:10	-	

Room 01.1 – Parallel Session: Tubes		
Chairman: <i>Shihong Zhang</i>		June 3 (10:30 – 12:10)
10:30 - 10:50	241261	Analysis of springback in rotary draw bending process: numerical modeling with experimental validation <i>Rui Amaral, Daniel Cruz, Maria Almeida, Manuel Barros, Abel Santos, Ana Reis</i>
10:50 – 11:10	241062	On the determination of the forming limits of low alloy steel thin-walled tubes <i>João Magrinho, Pedro Cruz, Eneko Sáenz-De-Argandoña, Joseba Mendiguren, Maria Beatriz Silva</i>
11:10 – 11:30	241193	Study on the formation mechanism of fish-scale defects during flow forming of copper alloy tubes with large thickness-to-diameter ratio <i>Qinxiang Xia, Jie Zhao, Gangfeng Xiao, Delin Tang, Huachun Cui</i>
11:30 - 11:50	241025	Energy performance of non-conventional metal tubular systems via a new multiaxial loading path <i>Rachid Baleh, Hayat Belguebli</i>
11:50 – 12:10	241054	Formability limits by fracture in square tubes and L-section profiles <i>Inês Almeida, João Magrinho, Maria Beatriz Silva</i>

12:10 – 14:30	Lunch – Holiday Inn Hotel
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Main Auditorium – Parallel Session: Hot and Warm Forming I		
Chairman: <i>Yoshinori Yoshida</i>		June 3 (14:30 – 16:10)
14:30 – 14:50	241012	Investigation of hot stamping transition zones at tailored carburization at elevated temperatures Jan Henning Risse , Marion Merklein
14:50 – 15:10	241024	Experimental and numerical investigations of effects of HFQ conditions on forming of AA6082 B-pillar components <i>Jiaqi Li, Ruiqiang Zhang, Jianguo Lin, Zhusheng Shi</i>
15:10 – 15:30	241041	Heat treatment conditions for forming AA6022 aluminum sheet in a forming process with intermediate heat treatment Shuki Nakamura , Ryutaro Akiyoshi, Masatoshi Yoshida
15:30 – 15:50	241044	Simulation of hot stamping considering self-tempering Keitaro Mori , Masahiro Kubo, Kazuo Okamura
15:50 – 16:10	241039	The relationship between fracture toughness and blanking performance of 850MPa hot-rolled steels <i>Vili Kesti, Laura Grifé, Pekka Plosila, David Frómeta, Antti Kaijalainen</i>

Room 02.2 – Parallel Session: Formability II		
Chairman: <i>José Divo Bressan</i>		June 3 (14:30 – 16:10)
14:30 – 14:50	241052	Comparison of nonlinear strain path correction models for the FLC characterisation Gregoire Mainguy , Tudor Balan, Xavier Lemoine
14:50 – 15:10	241267	Using the particle finite element method for predicting edge-cracking in complex phase high-strength steel sheets Olle Sandin , Patrick Larour, Juan Manuel Rodríguez, Jörgen Kajberg, Daniel Casellas
15:10 – 15:30	241272	Sheared edge formability of multi-phase steels under in- and out-of plane deformation Advaith Narayanan , Rhys Northcote, Patrick Cleary, Miguel Quinones, Cliff Butcher
15:30 – 15:50	241279	Punch in a punch: validating FLC and fracture models for severe strain path changes Vincent Grolleau , Engin Sen, Erik de Best, Christian C. Roth, Dirk Mohr
15:50 – 16:10	241281	Enhanced ductility and fracture classification maps for advanced high-strength steels considering local ductility and fracture toughness David Frómeta , Laura Grifé, Daniel Casellas

Room 02.1 – Parallel Session: Simulation III		
Chairman: <i>Mathias Liewald</i>		June 3 (14:30 – 16:10)
14:30 – 14:50	241273	Correcting the earing profile resulting from misalignments of the blank in the deep drawing of a cylindrical cup Marta Oliveira , Diogo M. Neto, Luis F. Menezes, Pedro M. Seixas, André F. Pereira
14:50 – 15:10	240930	Ear height control by die radius shape in cylindrical deep drawing Tsuyoshi Muraoka , Yusuke Okude, Isao Nakamura, Takashi Katagiri
15:10 – 15:30	241218	On the equivalence and differences of three plane-stress yield criteria for modelling orthotropic sheet metals with the tension-compression strength differential effect <i>Jie Sheng, Wei Tong</i>
15:30 – 15:50	241058	Yoshida-Uemori model: Improvement of the elastic modulus evolutive model and Springback application Xavier Lemoine
15:50 – 16:10	241031	Introduction and validation of a surrogate model for warm forming and cathodic dip treatment of AA7075 Jan Jepkens , Eduard Ortlieb, Dominyka Vasquez Ramirez, Hendrik Wester, Johanna Uhe, Bernd-Arno Behrens

Room 01.1 – Parallel Session: Joining II (organized by <i>Alexander Brosius, Gerson Meshut and Marion Merklein</i>)		
Chairman: <i>Ermanno Cerron</i>		June 3 (14:30 – 16:10)
14:30 – 14:50	241200	Mechanical joinability of microstructurally graded structural components manufactured from hypoeutectic aluminium casting alloys Moritz Neuser , <i>Malte Christian Schlichter, Kay-Peter Hoyer, Mathias Bobbert, Gerson Meschut, Mirko Schaper</i>
14:50 – 15:10	241027	Tube fit joining: a novel technique for busbar-to-prismatic cell interconnections in electric vehicles Mohammad Mehdi Kasaei , <i>Vasco B. Gomes, Ricardo J.C. Carbas, Eduardo A.S. Marques, Lucas F.M. da Silva</i>
15:10 – 15:30	241018	On the hybridization of double-flush riveting with adhesive bonding <i>João M.B. Alpendre, Pedro M.S. Rosado, Rui F.V. Sampaio, João P.M. Pragana, Ivo M.F. Bragança, Carlos M.A. Silva, Paulo A.F. Martins</i>
15:30 – 15:50	241232	Impact of non-rotationally symmetric joint orientation on neighbouring joints and component performance in lap shear specimens Deekshith R Devulapally , <i>Christian Steinfelder, Thomas Tröster, Alexander Brosius</i>
15:50 – 16:10	-	

16:10 – 16:30	Coffee Break
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Main Auditorium – Parallel Session: Simulation IV		
Chairman: <i>Zsolt Lukács</i>		June 3 (16:30 – 17:50)
16:30 – 16:50	241290	Multi-scale modelling of plastic anisotropy of aluminum sheets and application to deep-drawing Oana Cazacu , <i>Benoit Revil-Baudard</i>
16:50 – 17:10	241053	Integrated simulation process chain: from 3d roll forming design to crash analysis <i>Albert Sedlmaier, Thomas Dietl, André Abee, Johann Harrasser, Miguel Sousa Pereira</i>
17:10 – 17:30	241271	Influence of thickness variability on the deep drawing of a cylindrical cup Luis F. Menezes , <i>Marta Oliveira, Diogo M. Neto, Carlos Monteiro, André F. Pereira</i>

Room 02.1 – Parallel Session: Hot and Warm Forming II		
Chairman: <i>Jianguo Lin</i>		June 3 (16:30 – 17:50)
16:30 – 16:50	241011	Influence of microstructural characteristics on the formability for AA7075 alloy sheets under warm forming conditions Wan-Ling Chen , <i>Rong-Shean Lee</i>
16:50 – 17:10	241241	Increasing the performance of hot forming parts by resistance heating in XHV-adequate atmosphere <i>Bernd-Arno Behrens, Sven Hübner, Ulrich Holländer, André Langohr, Alexander Schnettger, Jan-Ulrich Gellermann, Jörn Wehmeyer, Lorenz Albracht</i>
17:10 – 17:30	241205	Enhanced formability of α - β titanium sheet material below 500°C <i>Georg Kunschert, Jürgen A. Nietsch, Angelika Cerny, Florian Grabner, Johannes A. Österreicher</i>

Room 02.2 – Parallel Session: Formability III		
Chairman: <i>Hengan Ou</i>		June 3 (16:30 – 17:50)
16:30 – 16:50	241030	Formability limits, damage and fracture mechanisms in AA5182 Al-Mg sheets formed under subzero temperature conditions <i>John Magliaro, Amir Behtash, Ahmet Alpas</i>
16:50 – 17:10	241051	The mechanism of microstructural transformation upon edge heat treatment on stretch flangeability and fracture of ultrahigh-strength steel with sheared edge <i>Yuichi Matsuki, Toyohisa Shinmiya</i>
17:10 – 17:30	241187	Damage-induced changes in elastic stiffness of DP800 sheets at large strains <i>Jan Gerlach, Robin Gitschel, Marlon Hahn, Yannis P. Korkolis, A. Erman Tekkaya</i>

Room 01.1 – Parallel Session: Processes II		
Chairman: <i>Gabriela Vincze</i>		June 3 (16:30 – 17:50)
16:30 – 16:50	241238	Method planning for deep drawing in the production of workpieces with variable shapes <i>Richard Krimm, Sven Hübner, Dennis Schmiele, Lennart Hinz, Malte Nagel, Jan-Ulrich Gellermann</i>
16:50 – 17:10	241255	Process limits improvement in sheet injection using locally heat-treated aluminium alloy <i>João Magrinho, Angela Cusanno, Miguel Jesus, Antonio Piccininni, Pasquale Guglielmi, Gianfranco Palumbo, Maria Beatriz Silva</i>
17:10 – 17:30	241042	Research on the residual stress distribution of aircraft engine blades repaired by laser shock peening and laser cladding composite process <i>Xiuquan Cheng, Junhao Zhang, Ruhao He, Gangfeng Xiao, Qinxiang Xia</i>

17:30	Session Close
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Páteo da Galé – Praça do Comércio		June 3
20:00 – 23:00	Conference Dinner	

23:00	Day Close
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Wednesday, June 4

Conference Hall 01		June 4
08:30 – 09:00	Registration	

Main Auditorium – Keynote Lectures IV		
Chairman: <i>Marta Oliveira</i>		June 4 (09:00 – 10:00)
09:00 – 09:30	Advancing Sheet Metal Characterization: The Need for further Standardized Testing Procedures Mathias Liewald , <i>University of Stuttgart, Germany</i>	
09:30 – 10:00	Research and Development at JDEUS Vasco Burguete , <i>JDEUS/DENSO, Portugal</i>	

10:00 – 10:30	Coffee Break
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Main Auditorium – Parallel Session: Sensors		
Chairman: <i>Joseba Mendiguren</i>		June 4 (10:30 – 12:10)
10:30 - 10:50	240695	Novel approaches for in-line draw-in measurement using cost effective tactile sensors Lander Galdos , <i>Laura Muñiz, Javier Trinidad, Andoitz Aranburu, Julian Ramirez Okariz, Aratz Barandiaran</i>
10:50 – 11:10	241004	Investigation into noise emission reduction of a cutting press via active vibration control Dietmar Friesen , <i>Dennis Schmiele, Richard Krimm, Bernd-Arno Behrens</i>
11:10 – 11:30	241022	Contributions to increasing the accuracy and reducing the forming forces of robot-based two-point incremental forming <i>Peter Scholz, Dieter Weise, Alexander Pierer, Christian Naumann, Martin Dix, Marina Terlau, Axel von Freyberg, Andreas Fischer</i>
11:30 - 11:50	241213	Development of a soft sensor for determining the cooling rate for press hardening of medium manganese steel Karl Johann Tilly , <i>Emad Scharifi, David Bailly</i>
11:50 – 12:10	241220	Investigation of a test rig based on smart vision sensors for automated inspection of press-hardened automotive body components <i>Fabio Simon, Thomas Werner, Andreas Weidemann, Christina Guillaume, Alexander Brosius</i>

Room 02.1 – Parallel Session: Processes III		
Chairman: <i>Gianfranco Palumbo</i>		June 4 (10:30 – 12:10)
10:30 - 10:50	241020	New sequential forming process involving single-forming machine for hat cross-sectional panels with various in-plane curvatures Haruki Sato , <i>Eiichi Ota, Minami Fujimura, Yasumoto Sato, Masatoshi Sawamura, Atsushi Mikuni, Shigeru Inamori, Noriyuki Ueno</i>
10:50 – 11:10	241023	Application of cold stamping process with 1500 MPa ultra-high-strength steel for aftermarket bumper Yi-Chun Chen , <i>Wan-Ling Chen, Chun-Kai Lin, Yi-Kai Lin, Yu-Lien Li</i>
11:10 – 11:30	241258	High-speed blanking and its potential for producing ultra-high-strength automotive safety components Olaf Schrage , <i>Roald Lingbeek, Priidu Peetsalu, Marlon Hahn, Hamed Dardaei Joghann, Yannis P. Korkolis, A. Erman Tekkaya</i>
11:30 - 11:50	241251	Springback compensation of symmetrical and quasi-symmetrical sheet metal car body parts <i>Arndt Birkert, Nico Kellenbenz, Philipp Zimmermann, Felix Lepple</i>

Room 02.2 – Parallel Session: Artificial Intelligence I		
Chairman: <i>Carlos Alves Silva</i>		June 4 (10:30 – 12:10)
10:30 - 10:50	241199	A comprehensive benchmark dataset for sheet metal forming: advancing machine learning and surrogate modelling in process simulations Pascal Heinzelmann , Sebastian Baum, Kim Rouven Riedmüller, Mathias Liewald, Michael Weyrich
10:50 - 11:10	241208	Application of recurrent neural networks in uncertainty analysis of sheet metal forming Daniel Cruz , Tomás Parreira, Armando Marques, Pedro Prates, Marta Oliveira, Diogo Neto, Abel Santos, Rui Amaral, Manuel R. Barbosa, André Pereira
11:10 - 11:30	241214	Advances in neural network assisted tool pressure prediction Florian Göttl , Felix Harst, Arndt Birkert, Nicolaj Stache
11:30 - 11:50	241276	Automatic identification of critical damage value with in-situ shearing test and notched plate tensile test with image analysis Yoshinori Yoshida , Asuka Kutsukake
11:50 - 12:10	241256	Development of a machine learning algorithm for geometric compensation of single point incremental forming (SPIF) process Margarida Gralha , João Magrinho, João Sousa, Maria Beatriz Silva

Room 01.1 – Parallel Session: Formability IV		
Chairman: <i>Pasi Peura</i>		June 4 (10:30 – 11:50)
10:30 - 10:50	241253	The effect of strain rate sensitivity on the prediction of the formability of advanced high-strength steels <i>Marilena Butuc, Toni Chezan, Gabriela Vincze</i>
10:50 - 11:10	241226	Strain path influence on formability and microstructural evolution of IFHS steel via miniature LDH test <i>Pavan Kumar, Peeyush Mahajan, Sushil Mishra, Rahul Datta, K. Narasimhan</i>
11:10 - 11:30	241223	Numerical analysis of crack evolution in PVD-deposited TiN-coated steel sheets under loading conditions Konrad Perzynski , Lukasz Madej
11:30 - 11:50	241243	An application of crystal plasticity to predict forming limit curve of dual-phase steels with validation <i>Kiranmayi Abburi Venkata, Rohith Uppaluri, Johan Pilthammar, Renaud Gutkin</i>
11:50 - 12:10	241221	An investigation on behaviour of 800 MPa grade hot-rolled steels in interrupted ISO 16630 hole expansion testing Pekka Plosila , Raimo Vierelä, Päivi Juntunen, Vili Kesti, Jukka Kömi, Antti Kaijalainen

12:10 – 14:30	Lunch – Holiday Inn Hotel
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Main Auditorium – Keynote Lectures V		
Chairman: <i>Beatriz Silva</i>		June 4 (14:30 – 15:00)
14:30 – 15:00	Formability improvement and spring back reduction of light metal sheets at high ultra-high strain rates Shihong Zhang , <i>Institute of Metal Research, Chinese Academy of Sciences, China</i>	

Main Auditorium – Parallel Session: Artificial Intelligence II		
Chairman: <i>Mohammad Mehdi Kasaei</i>		June 4 (15:00 – 16:20)
15:00 – 15:20	241045	Parametric evaluation and predictive modelling of formability in μ -SPIF process Vijay Kumar Sahu , Purnendu Das , <i>Avishek Adhikary, Kaushik Bandyopadhyay</i>
15:20 – 15:40	241234	An evolutionary algorithm-based numerical material testing system based on a crystal plasticity finite element model Koki Komatsu , <i>Tetsuo Oya</i>
15:40 – 16:00	241278	Limitations of XGBoost in predicting material parameters for complex constitutive models Pedro Prates , <i>Dário Mitreiro, António Campos</i>
16:00 – 16:20	241180	Data-driven approach for extracting steady-state data from unsteady-state flow stress without material modelling Eiichi Ota , <i>Minami Fujimura, Yasumoto Sato</i>

Room 02.1 – Parallel Session: Treatments		
Chairman: <i>João Pragana</i>		June 4 (15:00 – 16:20)
15:00 – 15:20	241036	The effects of cyclic-strengthening interrupted aging on the microstructure evolution and stress corrosion resistance of aluminum alloy Yuqiang Chen , <i>Guanglin Ran, Dingding Lu, Yufeng Song, Qian Zhi</i>
15:20 – 15:40	241231	Simultaneously improving strength, ductility and formability in 2195 Al-Li alloy components via pre-aging treatment Kuokuo Sun , <i>Mei Zhan, Xiaoguang Fan</i>
15:40 – 16:00	241207	Impact of aluminium ageing in an industrial stamping process <i>Margarida Teixeira, João Magrinho, Paulo Sousa, Nuno Ferreira, Vitor Pereira, António Borges, Filipe Diogo, Carlos Saraiva</i> , Maria Beatriz Silva
16:00 – 16:20	241040	Modification of hole expansion ratios of dual phase steels by hole edge thermal treatment <i>Aman Mohhta, Murugaiyan Amirthalingam</i> , Uday Chakkingal

Room 01.1 – Parallel Session: Formability V		
Chairman: <i>Krishnaiyengar Narasimhan</i>		June 4 (15:00 – 16:20)
15:00 – 15:20	241190	The effect of retained austenite stability on the formability of third generation advanced high strength steel Gihak Yim , <i>Hyejin Kim, Seungpill Jung, Jinhwa Jeon, Joosik Hyun</i>
15:20 – 15:40	241246	An engineering approximation on the transformation of plastic work into heat at various strain rates and stress states Xueyang Li , <i>Christian C. Roth, Vincent Grolleau, Dirk Mohr</i>
15:40 – 16:00	241201	Reinforcement of fibre-reinforced plastic components using metal inserts <i>Bernd-Arno Behrens, Sven Hübner, Jan-Ulrich Gellermann</i> , Joern Wehmeyer
16:00 – 16:20	241006	Derivation of point plot-based ductile fracture loci through assimilation of finite element simulation and individual actual punched surface profile Takashi Matsuno , <i>Jin Eguchi, Yasuhiro Kunii, Kazuyuki Shimizu, Yuki Matsuki, Toyohisa Shinmiya, Eiji Iizuka</i>

16:20 – 16:40	Coffee Break
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Main Auditorium	June 4
16:40 – 17:30	Closing Ceremony

17:30	Day Close
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Thursday, June 5

Hotel Holiday Inn	June 5
08:30	Bus Departure from Hotel Holiday Inn to MCG – Mind for Metal and JDEUS
13:00	Bus Departure from MCG – Mind for Metal and JDEUS to Hotel Holiday Inn
14:00	Arrival at Hotel Holiday Inn

14:00	Day Close
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