

Conference Program

Sunday, June 3, 2018 - Crowne Plaza Hotel

Time	Activity	Location
13:00 - 18:00	On-Site Registration	Conference Center Lobby
18:00 - 20:00	Welcome Reception	Kitchener 1 - 3

Monday, June 4, 2018 - Crowne Plaza Hotel

Time	Activity	Location
7:30 - 8:30	<i>Continental Breakfast</i>	Grand Ballroom

8:30 - 8:40	Opening - Michael Worswick, Nico Langerak	Grand Ballroom
8:40 - 9:20	Keynote: Marion Merklein Friedrich-Alexander-Universität Erlangen-Nürnberg <i>"Hot forming of steel and aluminum sheet metals – from fundamentals to industrial applications"</i>	
9:20 - 10:00	Keynote: Timothy Skszek Magna International, Corporate R&D <i>"Focus on the Future, A synthesis of design, lightweight materials and forming processes"</i>	

10:00 - 10:30	<i>Coffee Break and Exhibition</i>	Viking Suite
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Time	Parallel Sessions:				
	Kitchener 1	Kitchener 2	Kitchener 3	Kitchener 4	Trillium
10:30 - 12:10	PHS-I <i>Session: 100</i> Chair: S. Sriram	Fracture-I <i>Session: 200</i> Chair: C. Butcher	Formability-I <i>Session: 300</i> Chair: B. Hance	Processes-I Control/opt <i>Session: 400</i> Chair: A.H. van den Boogaard	Warm Forming-I <i>Session: 500</i> Chair: H. Kim

Time	Activity	Location
12:10 - 13:30	<i>Lunch</i>	Grand Ballroom

13:30 - 14:10	Keynote: Pavel Hora ETH Zürich <i>"Advanced failure prediction methods for a combined detection of necking and crack phenomena in complex sheet metal forming processes"</i>	Grand Ballroom
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Time	Parallel Sessions:				
	Kitchener 1	Kitchener 2	Kitchener 3	Kitchener 4	Trillium
14:15 - 15:30	PHS-II <i>Session: 100</i> Chair: P. Duroux	Crash-I <i>Session: 600</i> Chair: D. Mohr	Drawbeads <i>Session: 700</i> Chair: DJ. Zhou	Processes-II Impulsive <i>Session: 400</i> Chair: J. Imbert	Warm/Hot Forming-II <i>Session: 500</i> Chair: M.G. Lee

15:30 - 16:00	<i>Coffee Break and Exhibition</i>	Viking Suite
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Time	Parallel Sessions:				
	Kitchener 1	Kitchener 2	Kitchener 3	Kitchener 4	Trillium
16:00 - 18:05	Edge Formability-I <i>Session: 800</i> Chair: X. Wu	Hybrids/ Composites <i>Session: 900</i> Chair: S. Malcolm	Formability-II <i>Session: 300</i> Chair: B. Kinsey	Tribology-I <i>Session: 1000</i> Chair: M. Sigvant	Warm/Hot Forming-III <i>Session: 500</i> Chair: T. Miklós

Free Evening

Tuesday, June 5, 2018 - Crowne Plaza Hotel

Time	Activity	Location
7:30 - 8:30	Continental Breakfast	Grand Ballroom

8:30 - 9:10	Keynote: Matthias Liewald Universität Stuttgart "Adaptive control strategies for deep drawing high performance sheet materials"	Grand Ballroom
9:10 - 9:50	Keynote: James Dykeman Honda R&D Americas <i>"Evolving Test Methods for Sheet Material Fracture Characterization and Prediction"</i>	

9:50 - 10:30	Coffee Break and Exhibition	Viking Suite
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Time	Parallel Sessions:				
	Kitchener 1	Kitchener 2	Kitchener 3	Kitchener 4	Trillium
10:30 - 12:10	AHSS-I <i>Session: 1100</i> Chair: A. Bardelcik	Fracture-II <i>Session: 200</i> Chair: T. Clausmeyer	Springback-I <i>Session: 1200</i> Chair: Y. Korkolis	Processes-III <i>Session: 400</i> Chair: A. Abedini	Warm/Hot Forming-IV <i>Session: 500</i> Chair: E.H. Lee

Time	Activity	Location
12:10 - 13:30	Lunch	Grand Ballroom

13:30 - 14:10	Keynote: Bart Carleer Autoform <i>"Simulation Efficiency along the stamping process chain"</i>	Grand Ballroom
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Time	Parallel Sessions:				
	Kitchener 1	Kitchener 2	Kitchener 3	Kitchener 4	Trillium
14:15 - 15:30	Edge Formability-II <i>Session: 800</i> Chair: C. van Tyne	Crash-II <i>Session: 600</i> Chair: S. Klitschke	Formability-III <i>Session: 300</i> Chair: S. Thuillier	PHS-III <i>Session: 100</i> Chair: K. Daun	Warm/Hot Forming-V <i>Session: 500</i> Chair: E.-L. Odenberger

15:30 - 16:00	Coffee Break and Exhibition	Viking Suite
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Time	Parallel Sessions:				
	Kitchener 1	Kitchener 2	Kitchener 3	Kitchener 4	Trillium
16:00 - 18:05	Edge Formability-III <i>Session: 800</i> Chair: S. Golovashchenko	Constitutive Modelling-I <i>Session: 1300</i> Chair: D. Green	Formability-IV <i>Session: 300</i> Chair: Z. Deng	Processes-IV <i>Session: 400</i> Chair: M. Nurcheshmeh	Warm/Hot Forming-VI <i>Session: 500</i> Chair: T. Feister

Time	Activity	Location
18:30 - 19:00	Reception	Grand Ballroom
19:00 - 22:00	Gala Dinner	

Wednesday, June 6, 2018 - Crowne Plaza Hotel

Time	Activity	Location
7:30 - 8:30	Continental Breakfast	Grand Ballroom

8:30 - 9:10	Keynote: Dorel Banabic Technical University of Cluj Napoca <i>"Advances in assessing of sheet metal formability" (in honor of Prof. Marciniak's 100-year anniversary)</i>	Grand Ballroom
9:10 - 9:50	Keynote: Thomas Stoughton GM R&D Center <i>"Novel Use of DIC Technology to Improve Characterization of Metal Deformation"</i>	

10:00 - 10:30	Coffee Break and Exhibition	Viking Suite
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Time	Parallel Sessions:				
	Kitchener 1	Kitchener 2	Kitchener 3	Kitchener 4	Trillium
10:30 - 12:10	Tribology-II	Constitutive Modelling-II	Formability-V	Processes-V	
	Session: 1000 Chair: B. Rolfe	Session: 1300 Chair: T. Kuwabara	Session: 300 Chair: J. Carsley	Session: 400 Chair: M. Jain	

Time	Activity	Location
12:10 - 13:30	Lunch	Grand Ballroom

Time	Parallel Sessions:				
	Kitchener 1	Kitchener 2	Kitchener 3	Kitchener 4	Trillium
13:35 - 15:40	Edge Formability-IV	AHSS-II	Fracture-III	Springback-II	
	Session: 800 Chair: W. Volk	Session: 1100 Chair: K.S. Raghavan	Session: 200 Chair: G. Huang	Session: 1200 Chair: P.-Y. Manach	

15:40 - 16:10	Coffee Break and Exhibition	Viking Suite
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16:10 - 16:50	Keynote: Michael Worswick University of Waterloo <i>"Advancing magnesium alloy sheet from laboratory characterization and simulation to full-scale auto parts"</i>	Grand Ballroom
16:50 - 17:00	IDDRG 2019: N. Langerak and A.H. van den Boogaard	
17:00 - 17:10	Closing: Michael Worswick	

Free Evening

Thursday, June 7, 2018 - Industry Tours

Participants pre-registered for Industry Tours will be notified of itinerary directly via email

Parallel Sessions Per Room and Day

Monday, June 4th 2018

Kitchener 1

Session 100

PHS-I

Kitchener 1

Chair: S. Sriram

Original Paper #	Time	ID	Presenting Author, Title, Authors, Affiliation
#110	10:30 - 10:55	101	C. Pfeffer Influence of process parameters on the hot stamping of carbon-martensitic chromium steel sheets <i>B.-A. Behrens, S. Hübner, C. Sunderkötter, L. Gebel, S. Gnaß, G. Berndt, C. Trimborn, C. Pfeffer</i> Leibniz Universität Hannover/Volkswagen
#109	10:55 - 11:20	102	S. Marth From Blank to Fractured Component: Numerical and Experimental Results of a Laboratory Scale Component <i>S. Marth, S. Golling, R. Östlund, M. Oldenburg</i> Luleå University of Technology/Gestamp R&D
#053	11:20 - 11:45	103	H. Yan Intercritical Annealing of 22MnB5 for Hot Forming Die Quenching <i>H. Yan, M. Di Ciano, M. Verma, K.J. Daun</i> University of Waterloo
#097	11:45 - 12:10	104	K Narasimhan Formability studies on 22MnB5 steel during hot stamping process conditions <i>V. Sarawagi, S. Narkhede, A.K. Singh, K. Narasimhan</i> IIT Bombay

Session 200

Fracture-I

Kitchener 2

Chair: C. Butcher

Original Paper #	Time	ID	Presenting Author, Title, Authors, Affiliation
#014	10:30 - 10:55	201	L. Wagner Influence of specimen geometry on measures of local fracture strain obtained from uniaxial tensile tests of AHSS sheets <i>L. Wagner, P. Larour</i> Voestalpine Stahl GmbH – R&D – Forming Technologies
#039	10:55 - 11:20	202	C. Butcher Non-Unique Descriptions of Proportional Fracture Loci using the Stress Triaxiality and Equivalent Strain (Oral only) <i>C. Butcher, A. Abedini</i> University of Waterloo
#175	11:20 - 11:45	203	D. Mohr On the Potential of Machine Learning Algorithms to Predict the Plasticity and Fracture Response of Sheet Metal (Oral only) <i>M.B. Gorji, D. Mohr</i> Massachusetts Institute of Technology/Swiss Federal Institute of Technology (ETH)
#002	11:45 - 12:10	204	A. Abedini Fracture characterization of ZEK100 magnesium alloy sheet under monotonic and non-proportional loading histories <i>A. Abedini, C. Butcher, M.J. Worswick</i> University of Waterloo

Session 300

Formability-I
Chair: B. Hance

Kitchener 3

Original Paper #	Time	ID	Presenting Author, Title, Authors, Affiliation
#066	10:30 - 10:55	301	B. Hance A Simplified Stress-Based Forming Limit Criterion for Advanced High Strength Steel (AHSS) <i>B.M. Hance, L. Huang</i> United States Steel Corporation
#003	10:55 - 11:20	302	S. Münstermann A numerical approach to evaluate roughness effects on localization and damage in sheet materials <i>S. Münstermann, P. Wechsuanmanee, W. Liu, J. Lian</i> RWTH Aachen University
#006	11:20 - 11:45	303	L. Huang Development of a New Index to Depict the Total Forming Capacity of Sheet Metals <i>L. Huang, M.F. Shi</i> United States Steel Corporation
#150	11:45 - 12:10	304	Duroux, P. Understanding the FLC prediction thanks to fine simulation with damage modelisation <i>Q. Chichery, P. Duroux, X. Bellut</i> ArcelorMittal Global R&D Montataire

Session 400

Processes-I (Control/Opt)

Kitchener 4

Chair: A.H. van den Boogaard

Original Paper #	Time	ID	Presenting Author, Title, Authors, Affiliation
#068	10:30 - 10:55	401	P. Fischer Implementation of feedback control in kitchen sink production <i>P. Fischer, D. Harsch, J. Heingärtner, Y. Renkci, P. Hora</i> ETH Zurich/Inspire ivp/Franke Technology and Trademark Ltd.
#117	10:55 - 11:20	402	S. Tatipala Introductory study of sheet metal forming simulations to evaluate process robustness <i>S. Tatipala, J. Pilthammar, M. Sigvant, J. Wall, C.M. Johansson</i> Blekinge Institute of Technology/Volvo Cars
#152	11:20 - 11:45	403	J. Heingärtner Implementation of a tribology-based process control system for deep drawing processes <i>J. Heingärtner, D. Bonfanti, D. Harsch, F. Dietrich, P. Hora</i> inspire AG/ETH Zurich/Opel Automobile AG
#112	11:45 - 12:10	404	D. Harsch Considering fluctuations of material properties, stainless steel 1.4301, on manufacturability of kitchen sinks <i>D. Harsch, P. Fischer, B. Berisha, J. Heingärtner, Y. Renkci, P. Hora</i> ETH Zürich/inspire AG - ivp/Franke Technology and Trademark Ltd

Session 500

Warm/Hot Forming-I

Trillium

Chair: H. Kim

Original Paper #	Time	ID	Presenting Author, Title, Authors, Affiliation
#010	10:30 - 10:55	501	A. Camberg Formability Enhancement of EN AW-5182 H18 Aluminum Alloy Sheet Metal Parts in a Flash-Forming Process: Testing, Calibration and Evaluation of Fracture Models <i>A.A. Camberg, F. Bohner, J. Tölle, A. Schneidt, S. Meiners, T. Tröster</i> Paderborn University/BENTELER Automobiltechnik GmbH
#005	10:55 - 11:20	502	Noder, J. An Experimental and Numerical Investigation of Non-isothermal Cup Drawing of a 7XXX-T76 Aluminum Alloy Sheet <i>J. Noder, A. Abedini, T. Rahmaan, S. DiCecco, C. Butcher, M. Worswick</i> University of Waterloo
#072	11:20 - 11:45	503	Laurent, H. The influence of warm forming conditions on the natural aging and springback of a 6016-T4 aluminum alloy <i>H. Laurent, V.M. Simões, M.C. Oliveira, L.F. Menezes</i> University of Bretagne Sud/University of Coimbra
#120	11:45 - 12:10	504	Jurendic, S. Modelling of the Pre-Strain Dependent Age Hardening Response in AA6000 Series Aluminium Alloys <i>S. Jurendic, Z. Liang, M. Fumeaux, R. Burrows</i> Novelis Deutschland GmbH/Novelis Switzerland SA/Novelis Global R & T Center

Session 100

PHS-II

Kitchener 1

Chair: P. Duroux

	Time	ID	Presenting Author, Title, Authors, Affiliation
#011	14:15 - 14:40	105	L. Penter Compensation for tool deformation and expansion in virtual try-outs of hot stamping tools <i>L. Penter, S. Ihlenfeldt, N. Pierschel</i> TU Dresden/Fraunhofer Institute for Machine Tools and Forming Technology
#106	14:40 - 15:05	106	A. Padré New approaches to thermal tool performance, cooling and machining strategy: the strongly correlated triple that determines the cost effectiveness of the process <i>I. Valls, A. Hamasaiid and A. Padré</i> Roalma S.A.
#177	15:05 - 15:30	107	K. Kannan Impact of Flow Conditions in Cooling Channels on Thermal Cycling <i>K. Kannan, T. Brenne, M. Düring</i> AutoForm Engineering USA Inc./AutoForm Engineering Deutschland GmbH/AutoForm Engineering B.V.

Session 600

Crash-I

Kitchener 2

Chair: D. Mohr

	Time	ID	Presenting Author, Title, Authors, Affiliation
#128	14:15 - 14:40	601	S. Klitschke Adiabatic heating under various loading situations and strain rates for advanced high-strength steels <i>S. Klitschke, A. Trondl, F. Huberth, M. Liewald</i> Fraunhofer Institute for Mechanics of Materials IWM/University of Stuttgart
#163	14:40 - 15:05	602	F. Abu-Farha Accounting for Rate Dependency of Deformation and Failure in Forming and Crash Simulations of Advanced High Strength Steels (Oral only) <i>R. Alturk, A. Agha, F. Abu-Farha</i> Clemson University/FADI-AMT LLC
#180	15:05 - 15:30	603	A. Haufe Remarks on constitutive and structural modelling of small radii in sheet metal and crashworthiness simulation <i>A. Haufe, T. Erhart, F. Andrade, T. Willmann, M. Bischoff</i> DYNAmore GmbH/Universität Stuttgart

Session 700

Drawbeads

Kitchener 3

Chair: D.J. Zhou

	Time	ID	Presenting Author, Title, Authors, Affiliation
#016	14:15 - 14:40	701	A. Duarte Enabling stamping processes through meticulous FE Modelling - segmented drawbeads and remesh criteria <i>O.C. Haase, V.L. Silveira, P.M.A. Stemler, R.A.M. Viana, A.S. Duarte</i> Sixpro Virtual&Practical Process/Universidade Federal de Minas Gerais
#026	14:40 - 15:05	702	J. Mendiguren On the accurate characterization of the drawbead up-lift forces <i>I. Gil, L. Galdos, N. Otegi, J. Mendiguren, E. Saenz de Argandoña</i> Mondragon Unibertsitatea
#142	15:05 - 15:30	703	E. Lekarczyk Experimental and Analytical Study of Drawbead Restraining Force for Sheet Metal Drawing Operations (Oral only) <i>E.M. Lekarczyk, S.F. Golovashchenko, C. Du, D. Zhou</i> Oakland University/Fiat Chrysler Automotive, LLC, North America

Session 400

Processes-II (Impulsive)

Kitchener 4

Chair: J. Imbert

	Time	ID	Presenting Author, Title, Authors, Affiliation
#160	14:15 - 14:40	405	S-H Zhang Effect of Impact Hydroforming Loads on the Formability of AA5A06 Sheet Metal <i>S.-H. Zhang, Y. Ma, Y. Xu, A.A. El-Aty, D. Chen, Y.-L. Shang, A.I. Pokrovsky</i> Chinese Academy of Sciences (CAS)/Dalian University of Technology/National Academy of Sciences of Belarus
#069	14:40 - 15:05	406	G. Bazin Magnetic pulse forming for small aeronautic components CANCELLED <i>C. Sow, G. Bazin, D. Daniel, E. Bon, D. Priem, G. Racineux</i> IRT Jules Verne/STELIA Aerospace/Constellium Technology Center/Ecole Centrale de Nantes
#154	15:05 - 15:30	407	H. Park Form-fit joining behavior between an aluminum tube and sheet using electromagnetic forming <i>H. Park, J. Lee, S.-J. Kim, Y. Lee, D. Kim</i> Korea Institute of Materials Science/ Pusan National University

Session 500

Warm/Hot Forming-II

Trillium

Chair: M.G. Lee

	Time	ID	Presenting Author, Title, Authors, Affiliation
#021	14:15 - 14:40	505	Odenberger, E.-L. Thermo-mechanical Material Characterization and Stretch-bend Forming of AA6016 <i>E.-L. Odenberger, Ll. Pérez Caro, H. Áhlin, M. Oldenburg</i> Swerea IVF AB/Luleå University of Technology
#148	14:40 - 15:05	506	Anyasodor, G. Mass production-line and process route to enable the use of high strength aluminium alloy materials in car body engineering <i>G. Anyasodor, C. Koroschetz</i> AP&T Group
#182	15:05 - 15:30	507	Pandya, K. Stress state, strain rate and temperature dependent plasticity and failure response of aluminum alloy 7075 during warm and hot forming (Oral only) <i>K.S. Pandya, C.C. Roth, D. Mohr</i> ETH Zürich

Session 800

Edge Formability-I
Chair: X. Wu

Kitchener 1

	Time	ID	Presenting Author, Title, Authors, Affiliation
#143	16:00 - 16:25	801	S. Golovashchenko Mechanism of Fracture in Sheet Metal Cutting Processes and its Effect on Sheared Edge Stretchability <i>SF. Golovashchenko, N. Wang, S. Nasheralahkami, NA. Reinberg, W. Zhou</i> Oakland University
#063	16:25 - 16:50	802	N. Habibi Numerical quantification of damage accumulation resulting from blanking in multi-phase steel <i>N. Habibi, F. Pütz, M. Könemann, V. Brinnel, S. Münstermann, M. Feistle, W. Volk</i> RWTH-Aachen University/TU Munich
#099	16:50 - 17:15	803	A. Maillard Evaluation of the feasibility of the hole-flanging process using a multiple criteria method <i>A. MAILLARD, M. RACHIK, H. SFAR, P. SCHREIBER</i> CETIM - Technical Center for Mechanical Industries /Université de technologie de Compiègne
#034	17:15 - 17:40	804	J. Goncalves Importance of hole punching conditions during Hole Expansion tests <i>J. Goncalves</i> Global R&D ArcelorMittal Maizières

Session 900

Hybrids/Composites
Chair: S. Malcolm

Kitchener 2

	Time	ID	Presenting Author, Title, Authors, Affiliation
#170	16:00 - 16:25	901	D. Trudel-Boucher Stamping of high performance thermoplastic composite intrusion beams <i>D. Trudel-Boucher, M. Champagne</i> National Research Council Canada
#007	16:25 - 16:50	902	M. Riemer On the development of a finite element model to analyze the behavior of hybrid composites considering the manufacturing history <i>M. Riemer, R. Kießling, R. Müller, W.-G. Drossel, D. Landgrebe, J. Ihlemann</i> Fraunhofer Institute for Machine Tools and Forming Technology IWU/Chemnitz University of Technology
#187	16:50 - 17:15	903	G. Meirson HP-RTM/LCM as a viable option to replace vehicle metal structure components (Oral only) <i>G. Meirson, V. Ugresic, A. Hrymak, F. Henning</i> Fraunhofer Project Centre/University of Western Ontario/Fraunhofer ICT Germany
#153	17:15 - 17:40	904	D. Kim Delamination behavior of high strength vibration damping sheet in V-bending test <i>H. Park, J. Lee, S.-J. Kim, D. Kim</i> Korea Institute of Materials Science/Pusan National University
#020	17:40 - 18:05	905	J. Olevnik Experimental and numerical analysis on bilayer tube flaring <i>J.M. Olevnik, C.P. Nikhare</i> The Pennsylvania State University

Session 300

Formability-II
Chair: B. Kinsey

Kitchener 3

	Time	ID	Presenting Author, Title, Authors, Affiliation
#107	16:00 - 16:25	305	K. Drotleff Advanced necking criterion for nonlinear strain paths to a complex sheet metal forming component <i>K. Drotleff, M. Liewald</i> University of Stuttgart
#135	16:25 - 16:50	306	S. Thuillier Strain Path Changes in Reverse Redrawing of DP Steels <i>D. Hérault, S. Thuillier, P.Y. Manach, J.L. Duval</i> Univ. Bretagne Sud/ESI Group
#141	16:50 - 17:15	307	Y.P. Korkolis Formability Improvements of DP 1180 Subjected to Continuous-Bending-Under-Tension <i>C. Poulin, Y.P. Korkolis, B.L. Kinsey, M. Knezevic</i> University of New Hampshire
#030	17:15 - 17:40	308	H. Hippke A failure model for non-proportional loading under plane stress condition based on GFLC in comparison to eMMFC and PEPS <i>H. Hippke, B. Berisha, P. Hora</i> ETH Zürich/Inspire AG
#136	17:40 - 18:05	309	M. Nurcheshmeh Prediction of Sheet Metal Forming Limits in Multistage Forming Processes <i>M. Nurcheshmeh, D. Green, C. Byrne, A. Habib</i> Western Kentucky University/University of Windsor

Session 1000

Tribology-I
Chair: M. Sigvant

Kitchener 4

	Time	ID	Presenting Author, Title, Authors, Affiliation
#073	16:00 - 16:25	1001	M. Sigvant Friction in sheet metal forming simulations: Introduction of new sheet metal coatings and lubricants <i>M. Sigvant, J. Pilthammar, J. Hol, J.H. Wiebenga, T. Chezan, B. Carleer, A.H. van den Boogaard</i> Volvo Cars/Blekinge Institute of Technology/TriboForm Engineering/Tata Steel/AutoForm Engineering/University of Twente
#173	16:25 - 16:50	1002	S. Sriram Influence of delta phase morphology in galvanized coated steels on formability <i>S. Sriram, V. Krishnardula, H. Hahn</i> ArcelorMittal Global R&D East Chicago
#035	16:50 - 17:15	1003	J. Hazrati Tool Texturing for Deep Drawing Applications <i>J. Hazrati, P. Stein, P. Kramer, A.H. van den Boogaard</i> University of Twente/Technische Universität Darmstadt
#031	17:15-17:40	1008	M. Shafiei Wear and Galling Behavior of Coated Tools Used in Pierce Punching of Automotive Aluminum Sheet (Oral only) <i>M. Shafiei, D.J. Zhou, D. Young, D. Adamski</i> Novelis Global Research & Technology Center/Fiat Chrysler Automobiles/Ford Motor Company/General Motors Technical Center
#118	17:40 - 18:05	1005	D. Wiklund Phenomenological friction model in deep drawing of aluminum sheet metals <i>D. Wiklund and M. Larsson</i> Swerea IVF/University West

	Time	ID	Presenting Author, Title, Authors, Affiliation
#125	16:00 - 16:25	508	Bosler, P. Effects of Lubrication on the Warm Forming of High Strength Aluminum 7075-T6 Alloy (Oral only) <i>P. Bosler, H. Kim</i> EFUCHS Lubricants Co./EWI Forming Center
#188	16:25 - 16:50	509	Lehmann, H. Presshardening heat treatment equipment with an installed "Inline Printer" for Tailored Properties (Oral only) H. Lehmann Schwartz GmbH
#126	16:50 - 17:15	510	Feister, T. Failure predictions in warm forming of 7075-T6 aluminum structural parts <i>T. Feister, H. Kim, A. Gwinn, T. Schiller, M. Austin</i> KTH Parts Industries Inc./EWI Forming Center/Tower International/American Tooling Center
#183	17:15 - 17:40	511	E.-H. Lee A study on forming process of AA5083 alloy with infrared local heat treatment <i>E.-H. Lee, S. Ko</i> Handong Global University/Hyundai Motor Company
#190	17:40-18:05	524	Kim, H. Design Guidelines for Warm Forming of High-Strength Aluminum Alloys (Oral only) H. Kim, R. Hahnen, C. Du, D. Zhou, J. Singh, P. Oberhauser, M. Austin, A. Samant, Y. Demiralp, V. Tungah EWI Forming Center/Honda R&D Americas/Fiat Chrysler Automobiles/AMAG rolling GmbH/American Tooling Center/

Tuesday, June 5th 2018
Kitchener 1

Session 1100

AHSS-I

Kitchener 1

Chair: A. Bardelcik

	Time	ID	Presenting Author, Title, Authors, Affiliation
#012	10:30 - 10:55	1101	K.S. Raghavan Dynamic Strain Aging Behavior in Dual Phase and Multiphase High Strength Steel <i>J. Hu , K.S. Raghavan</i> AK Steel Corporation
#171	10:55 - 11:20	1102	C. Kohar Crystal Plasticity based Transformation Induced Plasticity Formulation for Predictions of Forming Limit Diagrams <i>P. Zhang, C.P. Kohar, A. Brahme, S.-H. Choi, R.K. Mishra, K. Inal</i> University of Waterloo/Sunchon National University/General Motors Research and Development Center
#091	11:20 - 11:45	1103	H. Shuto Development of High Strength Steels with High Press Formability and Fatigue Property <i>H. Shuto, Y. Ito, D. Maeda, T. Yokoi</i> Nippon Steel & Sumitomo Metal Corporation
#169	11:45 - 12:10	1104	C. Chiriac Effects of Austenite Stability on Forming and Work Hardening Behavior of 1.2 GPa Gen3 AHSS <i>C. Chiriac, R. Sohmshetty, J. Balzer, T. Mueller, J.D. Ju</i> Ford Motor Company

Session 200

Fracture-II

Kitchener 2

Chair: T. Clausmeyer

	Time	ID	Presenting Author, Title, Authors, Affiliation
#015	10:30 - 10:55	205	L. Durrenberger Bending angle correction regarding sheet thickness <i>L.Durrenberger, P.Dietsch</i> ArcelorMittal Maizières
#043	10:55 - 11:20	206	K. Cheong Fracture Characterization in Proportional Plane Stress Loading by Imposing Severe Through-Thickness Strain Gradients (Oral only) <i>Kenneth Cheong, Cliff Butcher, James Dykeman</i> University of Waterloo/Honda R&D Americas
#095	11:20 - 11:45	207	A. Kupke Determination of the bendability of ductile materials <i>A. Kupke, M. Barnett, G. Luckey, M. Weiss</i> Deakin University/Ford Motor Company
#162	11:45 - 12:10	208	J.G. Londono Fundamental Differences between Fracture Behavior of Thin Sheets under Plane Strain Bending and Tension <i>P.B. Woelke, J.G. Londono, L.O. Knoerr, J.Dykeman, S. Malcolm</i> Thornton Tomasetti/Thyssenkrupp Steel NA/Honda R&D Americas, Inc.

Session 1200

Springback-I

Kitchener 3

Chair: Y. Korkolis

	Time	ID	Presenting Author, Title, Authors, Affiliation
#055	10:30 - 10:55	1201	Y.-W. Wang A New Hybrid Bead with Post-stretching Method to Effectively Control Spring-back for Advanced High Strength Steels <i>Y. Jia, C. Pu, F. Zhu, K. Schmid, Y.-W. Wang</i> AK Steel Corporation/General Motors Corporation
#050	10:55 - 11:20	1202	T. Altan Determination of variable E-modulus through wibe bending and application to springback prediction <i>A. Fallahiarezoodar, C. Goertemiller, A. Groseclose, T. Altan</i> Ohio State University/GM Global Technical Center
#057	11:20 - 11:45	1203	M. Paak A Parametric Study of Springback For Compensation Strategies <i>M. Paak, H. Zoghi, S. Huhn</i> Forming Technologies Inc
#085	11:45 - 12:10	1204	K. Jiang A springback energy based method of springback prediction for complex automotive parts <i>K. Jiang, Y. Hou, J. Lin, J. Min</i> Tongji University

Session 400

Processes-III
Chair: A. Abedini

Kitchener 4

	Time	ID	Presenting Author, Title, Authors, Affiliation
#104	10:30 - 10:55	408	M. Gösling Efficient simulation of ironing process for deep drawn parts <i>M. Gösling, A. Güner, I. Burchitz, Th.Thülig, B. Carleer</i> BILSTEIN GmbH & Co. KG/Autoform Engineering
#045	10:55 - 11:20	409	R.M. Patil Developing a progressive draw with ironing tool for manufacturing a solenoid casing <i>R. Patil, B. Marrapu, K. Jakkula, A. Shetty</i> Tube Investments of India CANCELLED
#084	11:20 - 11:45	410	Y. Xu Experiment and Numerical Simulation of Hydroforming of 2198 Al-Li Alloy Curved Sheet Parts with Large Unsupported Area <i>B. Zhou, Y. Xu</i> Harbin Institute of Technology
#081	11:45 - 12:10	411	T. Maki Sheet Hydroforming and Other New Potential Forming Technologies <i>T. Maki, J. Cheng</i> Amino North America Corporation

Session 500

Warm/Hot Forming-IV
Chair: E.H. Lee

Trillium

	Time	ID	Presenting Author, Title, Authors, Affiliation
#037	10:30 - 10:55	512	K. Omer Deep Drawing Parameters and Characteristics for the Hot Forming of AA7075 <i>K. Omer, C. Butcher, S. Esmaeili, M. Worswick</i> University of Waterloo
#040	10:55 - 11:20	513	H. Vogt Formability of 7000 aluminum alloys in warm and hot forming condition <i>B.-A. Behrens, S. Hübner, H. Vogt</i> Leibniz Universität Hannover
#064	11:20 - 11:45	514	Q. Zhang Investigating the Quench Sensitivity of High Strength AA6082 Aluminum Alloy during the New FAST Forming Process <i>Q. Zhang, X. Luan, S. Dhawan, D.J. Politis, Z. Cai, L. Wang</i> Imperial College London
#124	11:45 - 12:10	515	H. Kim Comparison of Drawability between Warm Forming and Cold Forming of Aluminum 6xxx Alloys <i>H. Kim, R. Hahnen, T. Feister, V. Tunga</i> EWI Forming Center/Honda R&D Americas/KTH Parts Industries/ESI North America

Session 800 **Edge Formability-II** **Kitchener 1**
Chair: C. van Tyne

	Time	ID	Presenting Author, Title, Authors, Affiliation
#161	14:15 - 14:40	805	T. Clausmeyer Influence of cutting tool stiffness on edge formability <i>E. Levin, P. Larour, M. Heuse, D. Staupendahl, T. Clausmeyer, A. E. Tekkaya</i> TU Dortmund University/voestalpine Stahl GmbH/Faurecia Autositze GmbH
#132	14:40 - 15:05	806	X. Wu Trim Die Damage and "Self-Reconditioning" Effect on Trimmed Edge of Sheet Metal Blanks <i>A. Al-Shawk, X. Wu, Q. Yang</i> Wayne State University/Al-Furat Al-Awsat Technical University
#022	15:05 - 15:30	807	H.-Y. Lee A Study on the Punch Shape for Improving Tool Life in Shearing AHSS <i>H.Y. Lee, J.Y. Park</i> POSCO Global R&D Center

Session 600 **Crash-II** **Kitchener 2**
Chair: S. Klitschke

	Time	ID	Presenting Author, Title, Authors, Affiliation
#113	14:15 - 14:40	604	P. Henn Investigation on crashworthiness characterisation of 6xxx-series aluminium sheet alloys based on local ductility criteria and edge compression tests <i>P. Henn, M. Liewald, M. Sindel</i> University of Stuttgart/AUDI AG
#174	14:40 - 15:05	605	C. Roth Temperature and Strain Rate Dependent Plasticity of Advanced High Strength Steel: Experiments and Modeling (Oral only) <i>C.C. Roth, X. Li, D. Mohr</i> Swiss Federal Institute of Technology (ETH)
#004	15:05 - 15:30	606	M. Tummers Introduction of a 1000 MPA crush tip within a Usibor 1500-AS axial crush rail using in-die heated hot stamping <i>M.Tummers, K.Omer, A.Abedini, C.Peister, C.Butcher, M.J.Worswick, S.Malcom, C.Yau, R.Soldaat</i> University of Waterloo/Honda R&D Americas/Promatek Research Centre/ArceleorMittal Dofasco

Session 300 **Formability-III** **Kitchener 3**
Chair: S. Thuillier

	Time	ID	Presenting Author, Title, Authors, Affiliation
#083	14:15 - 14:40	310	R. Tabata An Application of Non-Uniform Stretch Flanging Theory to Edge-Crack-Avoidable Product Design <i>R.Tabata, J.Nitta, S.Yonemura, M.Mizumura, S.Hiwatashi</i> Nippon Steel & Sumitomo Metal Corporation
#019	14:40 - 15:05	311	E. Affronti Metallographic analysis of failure mechanisms during Nakajima tests for the evaluation of forming limits on a dual-phase steel <i>E. Affronti, M. Weidinger, M. Merklein</i> Friedrich-Alexander-Universität Erlangen-Nürnberg
#079	15:05 - 15:30	312	M. Nick Damage Evolution in Nakajima Tests of DP800 Dual Phase Steel <i>T. Bergs, M. Nick, D. Trauth, F. Klocke</i> Fraunhofer-Institut für Produktionstechnologie/RWTH Aachen University

Session 100 **PHS-III** **Kitchener 4**
Chair: K. Daun

	Time	ID	Presenting Author, Title, Authors, Affiliation
#049	14:15 - 14:40	108	I. Yakubtsov Evolution of Al-Si Coating Microstructure during Heat-Treatment of Usibor 1500 <i>I. Yakubtsov, R. Sohmshetty</i> Ford Motor Company
#052	14:40 - 15:05	109	M. Verma Minimizing the Cycle Time of a Roller Hearth Furnace for Hot-Forming Die-Quenching <i>M. Verma, M. Di Ciano, J. Richard Cullham, C. Yau, K.J. Daun</i> University of Waterloo/Cosma International
#149	15:05 - 15:30	110	J. Tawak Advanced Design for Continuous Roller Furnace for Hot Forming Line <i>B. Dvorak, J.J. Tawak, T. Vit</i> BENTELER Mechanical Engineering GmbH/BENTELER Maschinenbau GmbH/Technical University of Liberec

	Time	ID	Presenting Author, Title, Authors, Affiliation
#032	14:15 - 14:40	516	B. Williams Warm Forming Response of ZEK100 Sheet obtained under Biaxial Stretching with Full-Field Displacement Measurements <i>B.W. Williams, J. McKinley, K.P. Boyle, L. Blaga, S. Kurukuri, M.J. Worwick</i> Canmet Materials/ University of Waterloo
#038	14:40 - 15:05	517	S. Kurukuri Cylindrical Cup Deep Drawing of ZEK100 Sheet at Elevated Temperatures <i>S. Kurukuri, M. Boba, C. Butcher, M. Worwick, R. Mishra</i> University of Waterloo/General Motors
#144	15:05 - 15:30	518	M. Jain Standard and Strain Path Change Forming Limit Diagrams of AZ31B Magnesium Sheet at Elevated Temperatures <i>G. Zhou, M. K. Jain, D. Li, R. S. Mishra</i> McMaster University/Shanghai Jiao Tong University/General Motors Research and Development Center

Session 800

Edge Formability-III
Chair: S. Golovashchenko

Kitchener 1

	Time	ID	Presenting Author, Title, Authors, Affiliation
#028	16:00 - 16:25	808	C. van Tyne Sample Edge Effects on Tensile Properties and Sheet Formability <i>B. Goshert, O.R. Terrazas, D.K. Matlock, C.J. Van Tyne</i> Colorado School of Mines/ATI Specialty Materials
#164	16:25 - 16:50	809	D. Anderson Effect of Edge Quality on Formability of an AA6xxx Aluminum Alloy <i>H. Cestoni, D. Anderson</i> Novelis, Inc.
#137	16:50 - 17:15	810	Z. Cui Evaluation of Wear-induced Plastic Deformation at the Trimmed Edge of DP980 Steel Sheets <i>Z. Cui, S. Bhattacharya, D.E. Green, A.T. Alpas</i> University of Windsor
#082	17:15 - 17:40	811	K. Narasimhan Burr formation and shear strain field evolution studies during sheet metal blanking <i>J. Barik, V. Sonkamble, K. Narasimhan</i> Indian Institute of Technology Bombay
#131	17:40 - 18:05	812	Shawk, A. Topological Characterization of Machined Edges Prepared by Different Cutting Methods, and Edge Evolution in Tensile Deformation <i>A. Shawk, P. Lu, P. Vedanti, X. Wu</i> Wayne State University/Al-Furat Al-Awsat Technical University

Session 1300

Constitutive Modelling-I
Chair: D. Green

Kitchener 2

	Time	ID	Presenting Author, Title, Authors, Affiliation
#029	16:00 - 16:25	1301	M. Rosenschon Analysis of the stress- and directional-dependent Bauschinger-effect of sheet metals <i>M. Rosenschon, M. Merklein</i> Friedrich-Alexander-Universität Erlangen-Nürnberg
#155	16:25 - 16:50	1302	F. Gutknecht Experimental setup to characterize flow-induced anisotropy of sheet metals <i>F. Gutknecht, G. Gerstein, H. Traphöner, T. Clausmeyer, F. Nürnberger</i> TU Dortmund University/Leibniz Universität Hannover,
#094	16:50 - 17:15	1303	N. Boudeau How to Post-Process Experimental Results from the Flange Bulging Test? Application to the characterization of a Zinc alloy. <i>N. Boudeau, L.Vitu, N. Laforge, P. Malécot, G. Michel, M. Milesi, S. Manov</i> UBFC/CNRS-UMR6174/UFC/ENSMM/UTBM/VMZinc Building Solutions
#133	17:15 - 17:40	1304	I.S. Sarraf A numerical method to predict the rate-sensitive hardening behaviour of sheet materials using uniaxial and biaxial flow curves <i>I.S. Sarraf, D.E. Green</i> University of Windsor

Session 300

Formability-IV

Kitchener 3

Chair: Z. Deng

	Time	ID	Presenting Author, Title, Authors, Affiliation
#056	16:00 - 16:25	313	Z. Deng Development of Novel Forming Limit Curve Testing Method <i>Z. Deng, J.P. McGuire</i> Aleris North American Automotive Innovation Center
#159	16:25 - 16:50	314	L. Deng Plastic instabilities in AA5754-O under various stress states <i>Y. Hou, J. Min, J. Lin, J.E. Carsley, T.B. Stoughton</i> Tongji University/General Motors Global Research & Development
#086	16:50 - 17:15	315	Z. Chen Determination of forming limit for aluminium alloy sheet eliminating the interferences of through-thickness stress and non-linear strain path <i>Z. Chen, G. Fang</i> Tsinghua University/State Key Lab of Tribology
#087	17:15 - 17:40	316	W. Yuan Experimental Investigation of Forming Limit Curve for AA5754-O <i>W. Yuan, M. Wan, X. Wu</i> Beihang University
#033	17:40 - 18:05	317	Goncalves, J. Stakes and solutions for in-plane sheet-metal formability assessment <i>J. Goncalves, G. Jotz, F. Huet</i> Global R&D ArcelorMittal Maizières

Session 400

Processes-IV

Kitchener 4

Chair: M. Nurcheshmeh

	Time	ID	Presenting Author, Title, Authors, Affiliation
#024	16:00 - 16:25	412	Mamros, E. Experimental and numerical investigation on tube flaring with a rotational tool <i>E.M. Mamros and C.P. Nikhare</i> Penn State
#054	16:25 - 16:50	413	Horstman, R. An Investigation on Square Tube Forming using a Reuleaux triangle <i>R.J. Horstman and C.P. Nikhare</i> Penn State
#044	16:50 - 17:15	414	Bhargava, M. Comparison of thickness variation in multistage deep drawing of a stator motor housing by experimental and simulation methods <i>M. Bhargava, R. Patil, K. Jakkula, A. Shetty</i> Tube Investments of India

CANCELLED

Session 500

Warm/Hot Forming-VI

Trillium

Chair: T. Feister

	Time	ID	Presenting Author, Title, Authors, Affiliation
#092	16:00 - 16:25	519	Y. Choi Mechanical Properties and Forming of 7XXX Aluminum Alloy Sheet under W-Temper Heat Treatment <i>Y. Choi, S. Lee, M.-G. Lee</i> Korea University
#146	16:25 - 16:50	520	M. Tisza High strength aluminum alloys in car manufacturing <i>M. Tisza, Z. Lukács</i> University of Miskolc
#158	16:50 - 17:15	521	G. D'Amours High Temperature Characterization and Material Model Calibration for Hot Stamping of AA7075 Aluminium Sheet <i>G. D'Amours, A. Ilinich</i> Aluminium Technology Centre/Ford Research and Innovation Center
#048	17:15 - 17:40	522	S. DiCecco Limit Strain Characterization in an Aluminum Die-Quenching Process <i>S. DiCecco, M Di Ciano, C. Butcher, M. Worswick</i> University of Waterloo
#189	17:40-18:05	523	M. Mohamed Advances in FEM simulation of HFQ®AA6082 tailor welded blanks for automotive applications <i>M. Mohamed, D. Norman, A. Petre, F. Melotti, D. Szegda</i> Impression Technologies

Wednesday, June 6th 2018
Kitchener 1

Session 1000

Tribology-II

Chair: B. Rolfe

Kitchener 1

	Time	ID	Presenting Author, Title, Authors, Affiliation
#009	10:30 - 10:55	1006	V. Shanbhag Understanding the source of acoustic emission signals during the wear of stamping tools <i>V.V. Shanbhag, B.F. Rolfe, Arunachalam N., M.P. Pereira</i> Deakin University/IIT Madras
#023	10:55 - 11:20	1007	A. Maillard Wear influence on particle emission in aluminum blanking <i>A. Maillard, B. Boucaud</i> CETIM - Technical Center for Mechanical Industries
#041	11:20 - 11:45	1004	J. van Beeck Advanced tribomechanical modelling of sheet metal forming for the automotive industry <i>J. van Beeck, T. Chezan, T. Khandeparkar</i> Tata Steel
#096	11:45 - 12:10	1009	J. Kim Scratch Modeling of Paint Coated Sheet Metal for Multi-Stage Deep Drawing Process <i>J. Kim, J.W. Yoon, B. Lee, J. Kim, J. Park</i> Korea Advanced Institute of Science and Technology/Deakin University/LG Electronics

Session 1300

Constitutive Modelling-II

Chair: T. Kuwabara

Kitchener 2

	Time	ID	Presenting Author, Title, Authors, Affiliation
#051	10:30 - 10:55	1305	D. Anderson Micro and Macro Analysis of Anisotropy of an AA3104 Aluminum Alloy <i>D. Anderson, B. Raeisinia</i> Novelis/OxMet Technologies
#134	10:55 - 11:20	1306	I.S. Sarraf Prediction of DP600 and TRIP780 yield loci using Yoshida anisotropic yield function <i>I.S. Sarraf, D.E. Green</i> University of Windsor
#147	11:20 - 11:45	1307	C. Nagano Measurement of Differential Hardening under Biaxial Stress of Pure Titanium Sheet <i>C. Nagano, T. Kuwabara, Y. Shimada, R. Kawamura</i> Tokyo University of Agriculture and Technology/Honda Engineering Co
#140	11:45 - 12:10	1308	Tong, W. CANCELLED On the Shear Testing of Thin Flat Sheet Metals and Its Applications in Anisotropic Plasticity Constitutive Modeling <i>W. Tong and M. Alharbi</i> Southern Methodist University

Session 300

Formability-V

Chair: J. Carsley

Kitchener 3

	Time	ID	Presenting Author, Title, Authors, Affiliation
#139	10:30 - 10:55	318	G. Fang Determination and Application of FLD of Aluminum Alloy 5083 Sheet <i>G. Fang, J.-Q. Zhao, Q. Wang</i> Tsinghua University
#138	10:55 - 11:20	319	K.S. Prasad Effect of Temperature and Deformation Speed on Formability of IN718 Sheets: Experimentation and Modelling <i>K.S. Prasad, S.K. Panda, S.K. Kar, S.K. Singh, S.V.S.N. Murty, S.C. Sharma</i> I.I.T. Kharagpur/GRIET/Indian Space Research Organisation
#089	11:20 - 11:45	320	Farahnak, P. Effect of specimen size on material characterization and using data for simulation of cruciform specimen with thickness variation <i>P. Farahnak, M. Urbanek, M. Rund, P. Konopik, J. Džugan</i> COMTES FHT a.s.
#090	11:45 - 12:10	321	W. Noh Numerical and Experimental Investigation for Formability of Friction Stir Welded Dissimilar Aluminum Alloys <i>W. Noh, J. Song, I. Jang, S. Gwak, C. Kim, C. Jung</i> Korea Institute of Industrial Technology/Daewoo Industrial R&D Center

	Time	ID	Presenting Author, Title, Authors, Affiliation
#166	10:30 - 10:55	415	M. Schneider Development of a Folding Tool for Miuri-Structures <i>M. Schneider, M. Liewald</i> University of Stuttgart
#061	10:55 - 11:20	416	T. Benkert A Holistic Approach to Lightweight Design of Multi-Component Gearwheels <i>T. Benkert, M. Hiller, W. Volk</i> Technical University of Munich
#058	11:20 - 11:45	417	K. Changela Characterization of Ultra-Fine Grained AA 6061 alloy Sheets Processed through Two Different Severe Plastic Deformation Techniques <i>K. Changela, K. Hariharan, D.R Kumar</i> Indian Institute of Technology Delhi
#129	11:45 - 12:10	418	O. El Fakir Multi-objective sheet metal forming simulations using a software agnostic platform <i>O. El Fakir, A. Wang, Q. Zhang, X. Liu, J. Liu, L. Wang</i> Imperial College London

Session 800

Edge Formability-IV

Kitchener 1

Chair: W. Volk

	Time	ID	Presenting Author, Title, Authors, Affiliation
#145	13:35 - 14:00	813	M. Jain Study of Trimming Behavior of Automotive AZ31 and ZEK100 Sheet Materials <i>P. Zhang, M.K. Jain, R.K. Mishra</i> McMaster University/General Motors Research and Development Center
#167	14:00 - 14:25	814	I. Paetzold Determination of the minimum possible damage due to shear cutting using a multi-stage shear cutting process <i>I. Paetzold, M. Feistle, R. Golle, W. Volk, A. Frehn, R. Ilksens</i> Technical University of Munich/BENTELER Automobiltechnik GmbH
#168	14:25 - 14:50	815	I. Paetzold Maximizing the expansion ratio through multi-stage cutting processes during collar forming <i>M. Feistle, I. Pätzold, R. Golle, W. Volk, A. Frehn, R. Ilksens</i> Technical University of Munich/BENTELER
#122	14:50 - 15:15	816	C. Gu A Practical Methodology to Evaluate and Predict Edge Cracking for Advanced High Strength Steel <i>C.J. Gu, H. Kim, J. Dykeman, H.-C. Shih</i> EWI Forming Center/Honda R&D Americas/US Steel
#116	15:15 - 15:40	817	Senn, S. Numerical investigation of piercing of DP600 within a critical range of slant angle <i>S. Senn, M. Liewald</i> University of Stuttgart

Session 1100

AHSS-II

Kitchener 2

Chair: K.S. Raghavan

	Time	ID	Presenting Author, Title, Authors, Affiliation
#172	13:35 - 14:00	1105	Sriram, S. Effect of Al addition on the formability of uncoated commercial DP1180 Steel Products <i>S. Sriram, G. Huang, N. Pottore, H. Ghassemi-Armaki</i> ArcelorMittal Global R&D, E. Chicago Center
#191	14:00 - 14:25	1106	Butcher, C. Evaluation and Selection of Fracture Characterization Tests for Dual Phase Steels with Coil-to-Coil Variation (Oral only) <i>N. Pathak, K. Omer, C. Butcher, M. Worswick, T. Skszek</i> University of Waterloo/Magna International
#076	14:25 - 14:50	1107	L. Xu Interpretation of the abnormal high-temperature flow behavior of Fe-Mn-Al duplex lightweight steel <i>L. Xu, H. Wu, Y. Chen</i> University of Science and Technology Beijing
#165	14:50 - 15:15	1108	A. Bardelcik Meso-Scale Finite Element Modelling of Hot Stamped Tailored Microstructures using Accurate Representations of Phase Morphology <i>C.J. Vowles, A. Bardelcik</i> University of Guelph

Session 200

Fracture-III

Kitchener 3

Chair: G. Huang

	Time	ID	Presenting Author, Title, Authors, Affiliation
#080	13:35 - 14:00	209	M. Gorji Predicting Shear Fracture in Deep Drawing: Combined Yld2000-3d and Hosford-Coulomb Fracture Model <i>M.B. Gorji, D. Mohr</i> Massachusetts Institute of Technology/Swiss Federal Institute of Technology (ETH)
#179	14:00 - 14:25	210	G. Huang Fracture characterization of AHSS using two different experimental methods <i>G. Huang, K. Tihay, S. Sriram, B. Weber, P. Dietsch, D. Cornette</i> ArcelorMittal Global R&D - East Chicago/ArcelorMittal Global R&D - Maizières
#013	14:25 - 14:50	211	K.S. Raghavan Strain Rate and Orientation Effects on Fracture Strain Limits in Advanced High Strength Steel <i>K.S. Raghavan, J. Hu</i> AK Steel Corporation
#181	14:50 - 15:15	212	P. Samadian Failure Characterization of Multi-Alloy and Multi-Gauge Hot-Stamped Tailor-Welded Blanks <i>P. Samadian, M.J. Worswick, M.A. Wells</i> University of Waterloo
#025	15:15 - 15:40	213	M. Madrid The Fracture Resistance of Dual-Phase and Q&P Sheet Steels in Tension <i>M. Madrid, C.J. Van Tyne, S. Sriram, E.J. Pavlina, J. Hu, K.D. Clarke</i> Colorado School of Mines/Virginia Tech/ArcelorMittal/AK Steel Research and Innovation Center

Session 1200

Springback-II

Kitchener 4

Chair: P.Y. Manach

	Time	ID	Presenting Author, Title, Authors, Affiliation
#098	13:35 - 14:00	1205	A. Mousavi Improving the springback behavior of deep drawn parts by macro-structured tools <i>A. Mousavi, A. Brosius</i> Technische Universität Dresden
#103	14:00 - 14:25	1206	M. Gösling Effect of coining on springback behaviour <i>M. Gösling, A. Güner, I. Burchitz, B. Carleer</i> BILSTEIN GmbH & Co. KG/Autoform Engineering
#157	14:25 - 14:50	1207	B. Hartmann Optimization of the process robustness of the stamping of complex body parts with regard to dimensional accuracy <i>A. Birkert, B. Hartmann, M. Scholle, M. Straub</i> Hochschule Heilbronn, Zentrum für Umformtechnik und Karosseriebau/inigence gmbh
#070	14:50 - 15:15	1208	M. Grubenmann Analysis of yield locus description on springback behavior of CR700Y980T-DP steel <i>M. Grubenmann, K. Barth, J. Heingartner, N. Manopulo, P. Hora, A. Torkabadi, T. van den Boogaard, H. Rosen</i> inspire - ivp/ETH Zurich/University of Twente/thyssenkrupp Steel Europe AG
#018	15:15 - 15:40	1209	A. Duarte FEM stress state analysis on springback reduction methods: variable blank holder force and stake bead <i>V.L. Silveira, O.C. Haase, P.M.A. Stemler, R.A.M. Viana, A.S. Duarte</i> Sixpro Virtual & Practical Process/Universidade Federal de Minas Gerais