

## 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: <b>Marion Merklein</b> 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: <b>Timothy Skszek</b> 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> Ch: 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: <b>Pavel Hora</b> 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: <b>Matthias Liewald</b> Universität Stuttgart <i>"Adaptive control strategies for deep drawing high performance sheet materials"</i>	Grand Ballroom
9:10 - 9:50	Keynote: <b>James Dykeman</b> 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	<b>AHSS-I</b> <i>Session: 1100</i> Chair: A. Bardelcik	<b>Fracture-II</b> <i>Session: 200</i> Chair: T. Clausmeyer	<b>Springback-I</b> <i>Session: 1200</i> Chair: Y. Korkolis	<b>Processes-III</b> <i>Session: 400</i> Chair: A. Abedini	<b>Warm/Hot Forming-IV</b> <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	<b>Edge Formability-II</b> <i>Session: 800</i> Chair: C. van Tyne	<b>Crash-II</b> <i>Session: 600</i> Chair: S. Klitschke	<b>Formability-III</b> <i>Session: 300</i> Chair: S. Thuillier	<b>PHS-III</b> <i>Session: 100</i> Chair: K. Daun	<b>Warm/Hot Forming-V</b> <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	<b>Edge Formability-III</b> <i>Session: 800</i> Chair: S. Golovashchenko	<b>Constitutive Modelling-I</b> <i>Session: 1300</i> Chair: D. Green	<b>Formability-IV</b> <i>Session: 300</i> Chair: Z. Deng	<b>Processes-IV</b> <i>Session: 400</i> Chair: M. Nurcheshmeh	<b>Warm/Hot Forming-VI</b> <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	<i>Continental Breakfast</i>	Grand Ballroom

8:30 - 9:10	Keynote: <b>Dorel Banabic</b> 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: <b>Thomas Stoughton</b> GM R&D Center <i>"Novel Use of DIC Technology to Improve Characterization of Metal Deformation"</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	<b>Tribology-II</b> <i>Session: 1000</i> Chair: B. Rolfe	<b>Constitutive Modelling-II</b> <i>Session: 1300</i> Chair: T. Kuwabara	<b>Formability-V</b> <i>Session: 300</i> Chair: J. Carsley	<b>Processes-V</b> <i>Session: 400</i> Chair: M. Jain	

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

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

15:40 - 16:10	<i>Coffee Break and Exhibition</i>	Viking Suite
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16:10 - 16:50	Keynote: <b>Michael Worswick</b> 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

**Session 100 PHS-I Kitchener 1 - Monday June 4**

**Chair: S. Sriram**

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

**Session 100 PHS-II Kitchener 1 - Monday June 4**

**Chair: P. Duroux**

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

**Session 100 PHS-III Kitchener 4 - Tuesday June 5**

**Chair: K. Daun**

Original Paper #	Time	ID	Presenting Author, Title, Authors, Affiliation
#049	14:15 - 14:40	<a href="#">108</a>	I. Yakubtsov <b>Evolution of Al-Si Coating Microstructure during Heat-Treatment of Usibor 1500</b> <i>I. Yakubtsov, R. Sohmshtetty</i> Ford Motor Company
#052	14:40 - 15:05	<a href="#">109</a>	M. Verma <b>Minimizing the Cycle Time of a Roller Hearth Furnace for Hot-Forming Die-Quenching</b> <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	<a href="#">110</a>	J. Tawk <b>Advanced Design for Continuous Roller Furnace for Hot Forming Line</b> <i>B. Dvorak, J.J. Tawk, T. Vit</i> BENTELER Mechanical Engineering GmbH/BENTELER Maschinenbau GmbH/Technical University of Liberec

**Session 200 Fracture-I Kitchener 2 -Monday June 4**

**Chair: C. Butcher**

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

**Session 200 Fracture-II Kitchener 2 -Tuesday June 5**

**Chair: T. Clausmeyer**

Original Paper #	Time	ID	Presenting Author, Title, Authors, Affiliation
#015	10:30 - 10:55	<a href="#">205</a>	L. Durrenberger <b>Bending angle correction regarding sheet thickness</b> <i>L. Durrenberger, P. Dietsch</i> ArcelorMittal Maizières
#043	10:55 - 11:20	<a href="#">206</a>	K. Cheong <b>Fracture Characterization in Proportional Plane Stress Loading by Imposing Severe Through-Thickness Strain Gradients (Oral only)</b> <i>Kenneth Cheong, Cliff Butcher, James Dykeman</i> University of Waterloo/Honda R&D Americas
#095	11:20 - 11:45	<a href="#">207</a>	A. Kupke <b>Determination of the bendability of ductile materials</b> <i>A. Kupke, M. Barnett, G. Luckey, M. Weiss</i> Deakin University/Ford Motor Company
#162	11:45 - 12:10	<a href="#">208</a>	J.G. Londono <b>Fundamental Differences between Fracture Behavior of Thin Sheets under Plane Strain Bending and Tension</b> <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 200 Fracture-III Kitchener 3 - Wednesday June 6**

**Chair: G. Huang**

Original Paper #	Time	ID	Presenting Author, Title, Authors, Affiliation
#080	13:35 - 14:00	<a href="#">209</a>	M. Gorji <b>Predicting Shear Fracture in Deep Drawing: Combined Yld2000-3d and Hosford-Coulomb Fracture Model</b> <i>M.B. Gorji, D. Mohr</i> Massachusetts Institute of Technology/Swiss Federal Institute of Technology (ETH)
#179	14:00 - 14:25	<a href="#">210</a>	G. Huang <b>Fracture characterization of AHSS using two different experimental methods</b> <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	<a href="#">211</a>	K.S. Raghavan <b>Strain Rate and Orientation Effects on Fracture Strain Limits in Advanced High Strength Steel</b> <i>K.S. Raghavan, J. Hu</i> AK Steel Corporation
#181	14:50 - 15:15	<a href="#">212</a>	P. Samadian <b>Failure Characterization of Multi-Alloy and Multi-Gauge Hot-Stamped Tailor-Welded Blanks</b> <i>P. Samadian, M.J. Worswick, M.A. Wells</i> University of Waterloo
#025	15:15 - 15:40	<a href="#">213</a>	M. Madrid <b>The Fracture Resistance of Dual-Phase and Q&amp;P Sheet Steels in Tension</b> <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 300 Formability-I Kitchener 3 - Monday June 4**

**Chair: B. Hance**

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

**Session 300 Formability-II Kitchener 3 - Monday June 4**

**Chair: B. Kinsey**

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

**Session 300 Formability-III Kitchener 3 - Tuesday June 5**

**Chair: S. Thuillier**

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

**Session 300 Formability-IV Kitchener 3 - Tuesday June 5**

**Chair: Z. Deng**

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

**Session 300 Formability-V Kitchener 3 - Wednesday June 6**

**Chair: J. Carsley**

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

**Session 400 Processes-I (Control/Opt) Kitchener 4 - Monday June 4**

**Chair: T. van den Boogaard**

	Time	ID	Presenting Author, Title, Authors, Affiliation
#068	10:30 - 10:55	<a href="#">401</a>	P. Fischer <b>Implementation of feedback control in kitchen sink production</b> <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	<a href="#">402</a>	S. Tatipala <b>Introductory study of sheet metal forming simulations to evaluate process robustness</b> <i>S. Tatipala, J. Pilthammar, M. Sigvant, J. Wall, C.M. Johansson</i> Blekinge Institute of Technology/Volvo Cars
#152	11:20 - 11:45	<a href="#">403</a>	J. Heingärtner <b>Implementation of a tribology-based process control system for deep drawing processes</b> <i>J. Heingärtner, D. Bonfanti, D. Harsch, F. Dietrich, P. Hora</i> inspire AG/ETH Zurich/Opel Automobile AG
#112	11:45 - 12:10	<a href="#">404</a>	D. Harsch <b>Considering fluctuations of material properties, stainless steel 1.4301, on manufacturability of kitchen sinks</b> <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 400 Processes-II (Impulsive) Kitchener 4 - Monday June 4

Chair: J. Imbert

	Time	ID	Presenting Author, Title, Authors, Affiliation
#160	14:15 - 14:40	<a href="#">405</a>	S-H Zhang <b>Effect of Impact Hydroforming Loads on the Formability of A4506 Sheet Metal</b> <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 <b>Magnetic pulse forming for small aeronautic components</b> <b>CANCELLED</b> <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	<a href="#">407</a>	H. Park <b>Form-fit joining behavior between an aluminum tube and sheet using electromagnetic forming</b> <i>H. Park, J. Lee, S.-J. Kim, Y. Lee, D. Kim</i> Korea Institute of Materials Science/ Pusan National University

Session 400 Processes-III Kitchener 4 - Tuesday June 5

Chair: A. Abedini

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

Session 400 Processes-IV Kitchener 4 - Tuesday June 5

Chair: M. Nurcheshmeh

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



**Session 400 Processes-V Kitchener 4 - Wednesday June 6**

**Chair: M. Jain**

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

**Session 500 Warm/Hot Forming-I Trillium - Monday June 4**

**Chair: H. Kim**

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

**Session 500 Warm/Hot Forming-II Trillium - Monday June 4**

**Chair: M.G. Lee**

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

**Session 500 Warm/Hot Forming-III Trillium - Monday June 4**

**Chair: T. Miklós**

Time	ID	Presenting Author, Title, Authors, Affiliation
#125 16:00 - 16:25	<a href="#">508</a>	Bosler, P. <b>Effects of Lubrication on the Warm Forming of High Strength Aluminum 7075-T6 Alloy (Oral only)</b> <i>P. Bosler, H. Kim</i> EFUCHS Lubricants Co./EWI Forming Center
#188 16:25 - 16:50	<a href="#">509</a>	Lehmann, H. <b>Presshardening heat treatment equipment with an installed "Inline Printer" for Tailored Properties (Oral only)</b> H. Lehmann Schwartz GmbH
#126 16:50 - 17:15	<a href="#">510</a>	Feister, T. <b>Failure predictions in warm forming of 7075-T6 aluminum structural parts</b> <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	<a href="#">511</a>	E.-H. Lee <b>A study on forming process of AA5083 alloy with infrared local heat treatment</b> <i>E.-H. Lee, S. Ko</i> Handong Global University/Hyundai Motor Company
#190 17:40-18:05	<a href="#">524</a>	Kim, H. <b>Design Guidelines for Warm Forming of High-Strength Aluminum Alloys</b> H. Kim, R. Hahnlen, 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/

**Session 500 Warm/Hot Forming-IV Trillium - Tuesday June 5**

**Chair: E.H. Lee**

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

**Session 500 Warm/Hot Forming-V Trillium - Tuesday June 5**

**Chair: E.L. Odenberger**

Time	ID	Presenting Author, Title, Authors, Affiliation
#032 14:15 - 14:40	<a href="#">516</a>	B. Williams <b>Warm Forming Response of ZEK100 Sheet obtained under Biaxial Stretching with Full-Field Displacement Measurements</b> <i>B.W. Williams, J. McKinley, K.P. Boyle, L. Blaga, S. Kurukuri, M.J. Worswick</i> Canmet Materials/ University of Waterloo
#038 14:40 - 15:05	<a href="#">517</a>	S. Kurukuri <b>Cylindrical Cup Deep Drawing of ZEK100 Sheet at Elevated Temperatures</b> <i>S. Kurukuri, M. Boba, C. Butcher, M. Worswick, R. Mishra</i> University of Waterloo/General Motors
#144 15:05 - 15:30	<a href="#">518</a>	M. Jain <b>Standard and Strain Path Change Forming Limit Diagrams of AZ31B Magnesium Sheet at Elevated Temperatures</b> <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 500 Warm/Hot Forming-VI Trillium - Tuesday June 5**

**Chair: T. Feister**

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

**Session 600 Crash-I Kitchener 2 - Monday June 4**

**Chair: D. Mohr**

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

**Session 600 Crash-II Kitchener 2 - Tuesday June 5**

**Chair: S. Klitschke**

	Time	ID	Presenting Author, Title, Authors, Affiliation
#113	14:15 - 14:40	<a href="#">604</a>	P. Henn <b>Investigation on crashworthiness characterisation of 6xxx-series aluminium sheet alloys based on local ductility criteria and edge compression tests</b> <i>P. Henn, M. Liewald, M. Sindel</i> University of Stuttgart/AUDI AG
#174	14:40 - 15:05	<a href="#">605</a>	C. Roth <b>Temperature and Strain Rate Dependent Plasticity of Advanced High Strength Steel: Experiments and Modeling (Oral only)</b> <i>C.C. Roth, X. Li, D. Mohr</i> Swiss Federal Institute of Technology (ETH)
#004	15:05 - 15:30	<a href="#">606</a>	M. Tummers <b>Introduction of a 1000 MPA crush tip within a Usibor 1500-AS axial crush rail using in-die heated hot stamping</b> <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/ArcelorMittal Dofasco

**Session 700      Drawbeads      Kitchener 3 - Monday June 4**

**Chair: D.J. Zhou**

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

**Session 800      Edge Formability-I      Kitchener 1 - Monday June 4**

**Chair: X. Wu**

	Time	ID	Presenting Author, Title, Authors, Affiliation
#143	16:00 - 16:25	<a href="#">801</a>	S. Golovashchenko <b>Mechanism of Fracture in Sheet Metal Cutting Processes and its Effect on Sheared Edge Stretchability</b> <i>SF. Golovashchenko, N. Wang, S. Nashedalakhani, NA. Reinberg, W. Zhou</i> Oakland University
#063	16:25 - 16:50	<a href="#">802</a>	N. Habibi <b>Numerical quantification of damage accumulation resulting from blanking in multi-phase steel</b> <i>N. Habibi, F. Pütz, M. Könnemann, V. Brinzel, S. Münstermann, M. Feistle, W. Volk</i> RWTH-Aachen University/TU Munich
#099	16:50 - 17:15	<a href="#">803</a>	A. Maillard <b>Evaluation of the feasibility of the hole-flanging process using a multiple criteria method</b> <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	<a href="#">804</a>	J. Goncalves <b>Importance of hole punching conditions during Hole Expansion tests</b> <i>J. Goncalves</i> Global R&D ArcelorMittal Maizières

**Session 800      Edge Formability-II      Kitchener 1 - Tuesday June 5**

**Chair: C. van Tyne**

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

**Session 800 Edge Formability-III Kitchener 1 - Tuesday June 5**

**Chair: S. Golovashchenko**

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

**Session 800 Edge Formability-IV Kitchener 1 - Wednesday June 6**

**Chair: W. Volk**

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

**Session 900 Hybrids/Composites Kitchener 2 - Monday June 4**

**Chair: S. Malcolm**

Time	ID	Presenting Author, Title, Authors, Affiliation
#170 16:00 - 16:25	<a href="#">901</a>	D. Trudel-Boucher <b>Stamping of high performance thermoplastic composite intrusion beams</b> <i>D. Trudel-Boucher, M. Champagne</i> National Research Council Canada
#007 16:25 - 16:50	<a href="#">902</a>	M. Riemer <b>On the development of a finite element model to analyze the behavior of hybrid composites considering the manufacturing history</b> <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	<a href="#">903</a>	G. Meirson <b>HP-RTM/LCM as a viable option to replace vehicle metal structure components (Oral only)</b> <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	<a href="#">904</a>	D. Kim <b>Delamination behavior of high strength vibration damping sheet in V-bending test</b> <i>H. Park, J. Lee, S.-J. Kim, D. Kim</i> Korea Institute of Materials Science/Pusan National University
#020 17:40 - 18:05	<a href="#">905</a>	J. Olevnik <b>Experimental and numerical analysis on bilayer tube flaring</b> <i>J.M. Olevnik, C.P. Nikhare</i> The Pennsylvania State University

**Session 1000 Tribology-I Kitchener 4 - Monday June 4**

**Chair: M. Sigvant**

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

**Session 1000 Tribology-II Kitchener 1 - Wednesday June 6**

**Chair: B. Rolfe**

Time	ID	Presenting Author, Title, Authors, Affiliation
#009 10:30 - 10:55	<a href="#">1006</a>	V. Shanbhag <b>Understanding the source of acoustic emission signals during the wear of stamping tools</b> <i>V.V. Shanbhag, B.F. Rolfe, Arunachalam N., M.P. Pereira</i> Deakin University/IIT Madras
#023 10:55 - 11:20	<a href="#">1007</a>	A. Maillard <b>Wear influence on particle emission in aluminum blanking</b> <i>A. Maillard, B. Boucaud</i> CETIM - Technical Center for Mechanical Industries
#041 11:20 - 11:45	<a href="#">1004</a>	J. van Beeck <b>Advanced tribomechanical modelling of sheet metal forming for the automotive industry</b> <i>J. van Beeck, T. Chezan, T. Khandeparkar</i> Tata Steel
#096 11:45 - 12:10	<a href="#">1009</a>	J. Kim <b>Scratch Modeling of Paint Coated Sheet Metal for Multi-Stage Deep Drawing Process</b> <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 1100 AHSS-I Kitchener 1 - Tuesday June 5**

**Chair: A. Bardelcik**

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

**Session 1100 AHSS-II Kitchener 2 - Wednesday June 6**

**Chair: K.S. Raghavan**

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

**Session 1200 Springback-I Kitchener 3 - Tuesday June 5**

**Chair: Y. Korkolis**

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

**Session 1200 Springback-II Kitchener 4 - Wednesday June 6**

**Chair: P.Y. Manach**

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

**Session 1300 Constitutive Modelling-I Kitchener 2 - Tuesday June 5**

**Chair: D. Green**

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

**Session 1300 Constitutive Modelling-II Kitchener 2 - Wednesday June 6**

**Chair: T. Kuwabara**

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

**CANCELLED**