

CHS² – 2015

5th International Conference on
**HOT SHEET METAL FORMING
OF HIGH-PERFORMANCE STEEL**

MAY 31st until JUNE 3rd 2015
TORONTO, ONT., CANADA

FINAL PROGRAM



U N I K A S S E L
V E R S I T Ä T

LULEÅ
UNIVERSITY
OF TECHNOLOGY

The logo for Luleå University of Technology, featuring a large, stylized letter 'L' that incorporates the university's name.

SCOPE

Press hardening was invented in the early 1970s, with automotive applications beginning a decade later. However, in the past 10 years, press hardened ultrahigh-strength steel has become one of the most important drivers in contemporary lightweight car body design.

Today, more than 200 hot stamping production lines are in operation worldwide, and hundreds of millions of parts are produced on all continents every year. What started as a niche technology has developed into a mainstream area in lightweight design.

To maintain this positive trend and harness the full potential of this technology, further innovation in press hardening steel (PHS) technology is essential. Research and development, at both the academic and industrial levels, is one of the most important prerequisites for continuing innovation.

The Swedish German Centre of Excellence for Hot Sheet Metal Forming of High-Performance Steel (CHS²), the University of Kassel (Germany) and the Luleå University of Technology (Sweden) established a unique worldwide competence network to meet the future challenges of hot sheet metal forming technology.

One of CHS²'s network activities involves organizing the biannual CHS² conference series. With four very successful conferences since the initial conference in 2008, CHS² has grown into the leading platform for scientific exchange in PHS technology, constituting the most important meeting point for the international scientific community in the field.

The 5th International Conference on Hot Sheet Metal Forming of High-Performance Steel, CHS² 2015, invites specialists from all over the world to enter this unique exchange platform and to benefit from each other's experience and expertise. Topics

like microstructure evolution, deformation, thermal properties, failure, surface coatings and steel substrates will share the same focus as heat transfer, high-temperature tribology, thermal processing, process monitoring, modeling, simulation and, of course, new PHS part generations and design principles.

ORGANIZING COMMITTEE

Prof. Kurt Steinhoff

University of Kassel, Germany

Prof. Mats Oldenburg

Luleå University of Technology, Sweden

Prof. Braham Prakash

Luleå University of Technology, Sweden

Paul Belanger

GM Automotive, USA

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Association for Iron and Steel Technology (AIST), USA



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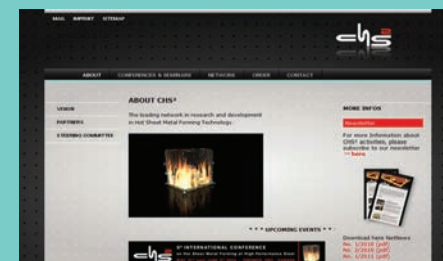
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Updated information can be found on the conference homepage www.chs2.eu



www.CHS2.eu



www.AIST.org

REGISTRATION

The Registration for the 5th International Conference on Hot Sheet Metal Forming of High-Performance Steel – CHS² 2015 is open now!

Online-registration: www.AIST.org



ORGANIZED BY



CHS² will be organized in cooperation with the **Association for Iron & Steel Technology (AIST)**, a non-profit organization with 16,500 members worldwide. AIST is recognized as a global leader in networking, education and sustainability programs for advancing iron and steel technology.

CHS 2015 will be co-located with the **10th International Conference on Zinc and Zinc Alloy Coated Steel Sheet (Galvatech 2015)**, the premier international forum for the presentation and discussion of new and emerging technologies for processing and performance of zinc-coated steel sheet.

Galvatech 2015 and CHS² 2015 will feature special joint sessions on the state of the art coated steel dedicated for hot stamping applications. Cross-conference access will be possible for all participants for both conferences. In addition, a vendor exposition will be open for all attendees and participants.

Visit www.AIST.org for more information.

VENUE

SUNDAY, May 31, 2015

Sheraton Centre Toronto

Venue for the conference will be Sheraton Centre Toronto located in Toronto, Ontario, Canada and is near all of Toronto's attractions.

Sheraton Centre Toronto
123 Queen Street West
Toronto, Ontario, Canada

www.sheratontoronto.com



04:00 p.m. – 06:00 p.m. Pre-Registration, Sheraton Centre Toronto

05:00 p.m. – 06:30 p.m. Welcome Reception



Toronto is the most populous city in Canada and the provincial capital of Ontario. It is located in Southern Ontario on the northwestern shore of Lake Ontario.



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08:30 a.m.	Opening Session – Welcome Speech Prof. Kurt Steinhoff, University of Kassel, Germany; Prof. Mats Oldenburg, Luleå University of Technology, Sweden; Prof. Braham Prakash, Luleå University of Technology, Sweden	
08:40 a.m.	Opening Speech 1: Directions in High Strength Steel for Vehicle Lightweighting William Joost, Technology Development Manager, U.S. Department of Energy	
08:50 a.m.	Opening Speech 2: Hot Stamping – 2015 and beyond Mr. Del Matharoo, Global Vice President of Engineering and R&D, Cosma International Group of Magna International Inc.	
	Conference Room A (200 – 250 persons) A	Conference Room B (150 – 200 persons) B
09:00 a.m.	Tailored Properties I CHAIRMAN: Paul Belanger, General Motors Company, USA A1	Hydrogen Embrittlement CHAIRMAN: Daniel Casellas, CTM-Technological Centre, ESP B1
09:00 a.m.	Partial Tempering of Press Hardened Steels by Direct Flame Impingement – the Review of an Alternative Approach for Tailored Properties Zimmermann, F.; Spörer, J. (BMW AG, Dingolfing, GER); Volk, W. (UTG – Technische Universität München, Garching, GER)	Laboratory Experiments on Press Hardened Steels in Different Delivered States Exposed to Hydrogen Weczera, S.; Sunderkötter, C.; Plath, A. (Volkswagen AG, Group Research, Wolfsburg, GER); Rhode, M. (BAM Federal Institute for Materials Research and Testing, Berlin, GER); Jüttner, S. (Institute of Materials and Joining Technology, Otto von Guericke Universität Magdeburg, GER)
09:20 a.m.	Laser Softening of Press Hardened Steel in High Volume Production Lines Schaefer, M.; Harrer, T. (Trumpf Laser- und Systemtechnik GmbH, Ditzingen, GER); Schuoecker, D.; Aichinger, J.; Spitzer, O. (Oberösterreichisches Laserzentrum e.V., Gmunden, AUT)	Influence of Microstructures on Hydrogen Embrittlement Susceptibility of Hot Stamped Ultrahigh Strength Components Matsumoto, M.; Takemoto, Y.; Senuma, T.; (Okayama University, JPN)

09:40 a.m.	Hot Forming and Subsequent Cooling Outside the Press for Adjusted Tailored Properties of 22MnB5 Steel Sheets Behrens, B.-A.; Schrödter, J.; Moritz, J.; Gaebel, C.M. (Institute of Forming Technology and Machines, Leibniz Universität Hannover, GER); Maier, H.J.; Nürnberger, F.; Wolf, L. (Institute of Materials Science, Leibniz Universität Hannover, GER)	Impact of Nb Microalloying on the Hydrogen Embrittlement of Press Hardening Steel Bian, J. (Niobium Tech Asia, SGP); Mohrbacher, H. (NiobelCon bvba, Schilde, BEL); Zhang, S. (College of Mechanical Engineering, Jingzhou, CHN); Lu, H.; Wang, W. (CITIC Metal Co., Ltd, Beijing, CHN); Zhang, Y.; Wang, L. (University of Science and Technology, Beijing, CHN)	
10:00 a.m.	Refreshment Break		
	Conference Room A (200 – 250 persons) A	Conference Room B (150 – 200 persons) B	Conference Room C approx. 30 persons C
10:40 a.m.	Coatings I* CHAIRMAN: Joseph Faderl, voestalpine Stahl GmbH, AUT A2*	Tribology CHAIRMAN: Christian Conrad, Fraunhofer Institute for Nondestructive Testing, GER B2	TUTORIAL: PHS Process Monitoring – Skills & Methods for Young Professionals C1
10:40 a.m.	Effect of Depth of Crack on Fatigue Property in Zn-Ni Coated Press Hardened Steel Nakagawa, K.; Nakagaito, T.; Yokota, T.; Seto, K. (JFE steel corporation, Chiba, JPN), Yoshitake; A. (The Japan Society for Technology of Plasticity, Tokyo, JPN)	Parameters Influencing Adhesive Wear Behavior within Hot Stamping Operations Wieland, M.; Merklein, M. (Institute of Manufacturing Technology, Friedrich-Alexander University of Erlangen-Nuremberg, GER)	 Prof. Dr. Kurt Steinhoff (University of Kassel, GER)
11:00 a.m.	Unlocking the Potential of Zinc Coated Steel for HotForming by Innovative Process Modifications Hensen, G.; Beentjes, P.; Abspoel, M.; Loiseaux, J. (Tata Steel, IJmuiden, NED)	Validation of Tool-Wear Simulations Based on a Fullscale Press Hardening Experiment Deng, L.; Mozgovoy, S.; Hardell, J.; Prakash, B.; Oldenburg, M. (Luleå University of Technology, SWE)	
			Small Room, Limited Places, Extra Tickets



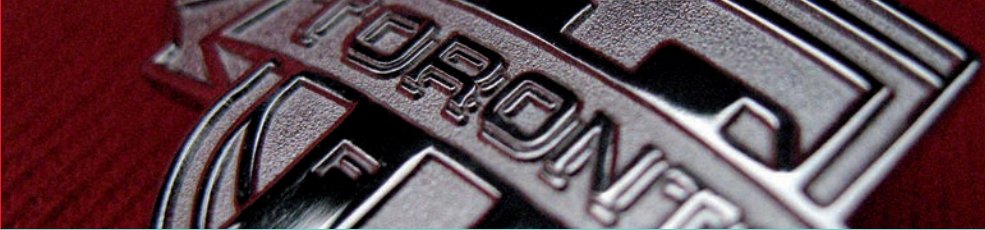
<p>11:20 a.m.</p>	<p>55% Al-Zn Coating for Press Hardening Steel Lee, C.W.; De Cooman, B.C. (GIFT / POSTECH, Pohang, KOR); Cho, Y.C. (POSCO, Gwangyang, KOR)</p>	<p>Analysis of the Tribological Performances of New Tool Steels in Hot Stamping Applications Medea, F.; Ghiotti, A.; Bruschi, S.; Bertolini, R.; Bariani, P.F. (University of Padua, ITA); Hamasaiid A. (Rovalma S.A., Rubí, ESP)</p>	 <p>Prof. Dr. Kurt Steinhoff (University of Kassel, GER)</p> <p>Small Room, Limited Places, Extra Tickets</p>
<p>11:40 a.m.</p>	<p>Characteristics of Crack Evolution in Al-Si Coating under Different Deformation Conditions Wang, K.; Liu, P.; Wang, Z.; Liu, Y.; Zhu, B.; Zhang, Y. (State Key Laboratory of Materials Processing and Die and Mould Technology, Huazhong University of Science & Technology, Wuhan, CHN)</p>	<p>Adhesion Behavior of Aluminum for Aluminum-Coated 22MnB5 Steel in Hot Stamping Under Dry and Lubricated Conditions Uda, K. (Research & Development Department, Daido Chemical Industry Co., Ltd, Yamatokohriyama, JPN); Azushima, A. (Dept. of Mechanical Engineering, Graduate School of Engineering, Yokohama National University, JPN)</p>	
<p>12:00 p.m. Lunch</p>			

<p>01:20 p.m.</p>	<p>Modeling & Simulation I CHAIRMAN: Martin Skrikerud, AP&T AB, SWE</p>	<p>A3</p>	<p>Process Design I CHAIRMAN: Edward Schleichert, Magna Automotive Services GmbH, GER</p>	<p>B3</p>
<p>01:20 p.m.</p>	<p>Microstructure-Based Modelling of Ductile Failure Östlund, R.; Oldenburg, M. (Luleå University of Technology, SWE)</p>		<p>Mechanical Link Servo Press for Hotforming Maki, T. (Amino North America Corporation, St. Thomas, ON, CAN); Amino, M.; Hirano, K.; Murai, H. (Amino Corporation, Fujinomiya, Shizuoka, JPN)</p>	
<p>01:40 p.m.</p>	<p>Implementation of a Failure Criterion for Axial Crush of Fully Hardened Boron Steel Kortenaar, L.t.; Omer, K.; Butcher, C.; Bardelcik, A.; Worswick, M. (University of Waterloo, ON, CAN); Detwiler, D.; Malcolm, S. (Honda R&D Americas Inc., Raymond, OH, USA)</p>		<p>Production Control and Optimization of Hot Stamping Line Wang, L.; Zhu, B.; Wang, Q.; Meng, J.; Zhang, Y. (State Key Laboratory of Materials Processing and Die & Mould Technology, Huazhong, University of Science and Technology, Wuhan, CHN)</p>	
<p>02:00 p.m.</p>	<p>Simulative High Temperature Friction and Wear Studies for Press Hardening Applications Mozgovoy, S.; Hardell, J.; Oldenburg, M.; Prakash, B. (Division of Machine Elements, Luleå University of Technology, SWE); Deng, L. (Division of Mechanics of Solid Materials, Luleå University of Technology, SWE)</p>		<p>From First Draft to Serial Production: Hot Stamping Part Design and Feasibility Study with Respect to Functionality and Optimization of Production Costs Aspacher, J. (Schuler Pressen GmbH, Waghäusel, GER)</p>	




02:20 p.m.	Tailored Properties II CHAIRMAN: Michael Worswick, Waterloo University, CAN	A4	Non-Destructive Testing, Joining & Formability CHAIRMAN: Daniel Maier, TRUMPF Laser- und Systemtechnik GmbH, GER	B4
02:20 p.m.	Study on Fracture in Heat Affect Zones in the Vicinity of Spot Welds in a Steel with Tailored Material Properties Golling, S.; Östlund, R.; Oldenburg, M. (Luleå University of Technology, SWE)		Industrial Demands and Nondestructive Testing (NDT) Solutions for Process Monitoring and Quality Control in Hot and Cold Formed Steel Production Conrad, C.; Kern, R.; Wolter, B. (Fraunhofer Institute for Nondestructive Testing – IZFP, Saarbrücken, GER); Wicke, T.; Tonne, J. (Volkswagen AG, Baunatal, GER)	
02:40 p.m.	Fracture Resistance of Tailor Tempered Microstructures Obtained by Different Press Hardening Conditions Casellas, D. ; Lara, A.; Molas, S.; Gironès, A. (Fundació CTM Centre Tecnologic, Manresa, ESP); Golling, S.; Oldenburg, M. (Luleå University of Technology, SWE)		Magnetic Pulse Welding – A Review on the Joining of Aluminum and High-Performance Steel Rebensdorf, A.; Böhm, S. (Dept. for Cutting and Joining (tff), Institute for Production Technologies and Logistics (IPL), University of Kassel, GER)	
03:00 p.m.	Partial Hardening of New Press Hardenable Steels Marten, T.; Block, H.; Tröster, T. (University of Paderborn, Chair of Automotive Lightweight Construction (LiA), GER)		Effect of Scale Thickness on Formability in Hot Stamping of Boron Alloyed Steel Yanagida, A.; Komatsu, E.; Nakajima, N.; Toyoshima, N. (Tokyo Denki University, JPN); Azushima, A. (Yokohama National University, JPN)	
03:20 p.m.	Refreshment Break			

03:40 p.m.	Product Properties CHAIRMAN: Luke Reini, General Motors Company, USA	A5	Heating & Cooling I CHAIRMAN: Kurt Steinhoff, University of Kassel, GER	B5
03:40 p.m.	Crevice Corrosion of Patch Reinforcements of Hot Stamping Steels Jönsson, M.; Levander, L.; Berglund, D. (Gestamp, Luleå, SWE)		Experimental Measurements of the Austenitization Process During Reheating of 22MnB5 Steel Blanks Chester, N.; Leung, J.; Wells, M.; Daun, K. (University of Waterloo, ON, CAN)	
04:00 p.m.	Side Impact Crash Behavior of Press-Hardened Steels-Correlation with Mechanical Properties Larour, P.; Pichler, A.; Kurz, T. (voestalpine Stahl GmbH, Linz, AUT); Naito, J. (Kobe Steel Ltd., Mechanical Engineering Research Laboratory, Takatsukadai, Nishi-Ku Kobe, JPN); Murakami, T. (Kobe Steel, Ltd, Material Research Laboratory, Takatsukadai, Nishi-Ku Kobe, JPN)		PACEFLAME™ – A Versatile Tool to Boost Efficiency in Hot Forming Processes Bors, M. (Linde AG, Unterschleißheim, GER)	
04:20 p.m.	Multi-axial Material Testing at High Strain Rates in High Speed Cupping Tests Weiß, N.; Marten, T.; Block, H.; Tröster, T. (University of Paderborn, Chair of Automotive Lightweight Construction (LiA), GER)		Full Hardening of Products in Hot Stamping Using Rapid Resistance Heating Maeno, T.; Mori, K.-I.; Sakagami, M.; Nakao, Y. (Toyohashi University of Technology, JPN)	
04:40 p.m.	Effect of Shot Blasting on the Residual Stress of Hot Stamped Parts Ge, R.; Xue, H.; Yunjie, B.; Zhou, S. (Research and Development Center of Wuhan Iron and Steel Corp., CHN)		New Developments in Furnaces for Press-Hardening Lehmann, H. (Schwartz GmbH, Simmerath, GER)	
05:00 p.m.	End of Day 1			
06:00 p.m.	Departure to Dinner at the Hockey Hall of Fame			



TUESDAY, June 2, 2015

	Conference Room A (200 – 250 persons) A	Conference Room B (150 – 200 persons) B	Conference Room C approx. 30 persons C
08:30 a.m.	Coatings II* CHAIRMAN: Frank Goodwin, International Zinc Association – IZA, USA A6*	Press Hardening Steel I CHAIRMAN: Pascal Drillet, ArcelorMittal, Frau B6	TUTORIAL: Simulation Methods for Press Hardening Applications C2
08:30 a.m.	Zinc Coated Press-Hardening Steel – Challenges and Solutions Kurz, T.; Schwinghammer, H.; Luckeneder G.; Manzenreiter, T. (voestalpine Stahl GmbH, Linz, AUT); Sommer, A. (voestalpine Polynorm GmbH & Co. KG, Schwäbisch Gmünd, GER)	Low Temperature Hot Forming of Medium-Mn Steel Han, Q.; Bi, W.; Jin, X.; Xu, W.; Wang, L. (Research Institute, Baoshan Iron & Steel Co., Shanghai, CHN); Xiong, X.; Wang, J. (China Science Lab, General Motors Global Research and Development Shanghai, CHN); Belanger, P. (Product Industrial Engineering, General Motors Global Product Integrity Warren, MI, USA)	 <p>Prof. Dr. Mats Oldenburg (Luleå University of Technology, SWE)</p> <p>Small Room, Limited Places, Extra Tickets</p>
08:50 a.m.	Coating Evolution and Mechanical Behavior of Zn-Coated Press-Hardening Sheet Steel Ghanbari, Z.; Speer, J.; Findley, K. (Colorado School of Mines, Golden, USA)	Hot Forming Response of Medium Manganese Transformation Induced Plasticity Steels Rana, R.; Carson, C.H.; Speer, J. (Colorado School of Mines, Golden, USA)	

09:10 a.m.	Microstructural and Phase Evolution of Galvannealed Coating during Hot Stamping Heatings Sengoku, A., Matsumura, K. (Steel Research Laboratories, Nippon Steel & Sumitomo Metal Corporation Futtsu, Chiba Prefecture, JPN); Takebayashi, H. (Nagoya R&D Lab., Nippon Steel & Sumitomo Metal Corporation Tokai, Aichi Prefecture, JPN)	Origin of Hematite Whiskers or 'Red-Oxide' on Bare Press Hardening Steels Garza-Martinez, L.; Comstock, R.; Arnold, J.L. (AK Steel Middletown, OH, USA)	 <p>Prof. Dr. Mats Oldenburg (Luleå University of Technology, SWE)</p> <p>Small Room, Limited Places, Extra Tickets</p>
09:30 a.m.	The Development of the Coated Hot Forming Steels at WISCO Bi, Y. (Wuhan Iron & Steel (Group) Corp., Advanced Materials R&D Center, Beijing, CHN); Feng, G.; Fang, F.; Ge, R.; Zhou, S. (Wuhan Iron & Steel (Group) Corp., Research and Development Center, Wuhan, CHN)	Metallurgical Controlling Factors for the Ductility of Hot Stamped Parts Otani, S.; Kozuka, M.; Murakami, T.; Naito, J. (KOBE STEEL LTD., Kobe, Hyogo, JPN); Pichler, A.; Kurz, T. (voestalpine Stahl GmbH, Linz, AUT)	
09:50 a.m.	Refreshment Break		



10:40 a.m.	Process Design II CHAIRMAN: Martin Jonsson, Gestamp HardTech AB, SWE	A7	Modeling & Simulation II CHAIRMAN: Mats Oldenburg, Luleå University of Technology, SWE	B7
10:40 a.m.	Intelligent Process Control in Press Hardening Landgrebe, D.; Pierschel, N.; Schönherr, J.; Polster, S.; Priber, U.; Schieck, F.; Berndt, S. (Fraunhofer Institute for Machine Tools and Forming Technology IWU, Chemnitz, GER); Alsmann, M. (Volkswagen AG, Werk Kassel, Baunatal, GER)		Artificial Neural Network (ANN) Based Microstructure Modelling of 22MnB5 Boron Steel during Tailored Quenching in Hot Stamping Process Chokshi, P.; Hughes, D.; Dashwood, R. (WMG, University of Warwick, Coventry, West Midlands, UK); Norman, D.; McGregor, I. (Tata Steel Automotive Engineering Group, IARC Building, University of Warwick, Coventry, West Midlands, UK)	
11:00 a.m.	Deep Drawing Technique with Temperature Distribution Control for Hot-Stamping Process Ota, E.; Yogo, Y.; Iwata, N. (Toyota Central R&D Labs., Inc. Yokomichi, Nagakute, Aichi, JPN)		From Part Design to Part Production – Virtual Hot Forming Engineering Illustrated – Focus Material Modelling Porzner, H.; Lorenz, D.; Vrolijk, M.; Hoss, M.; Damenha, B. (ESI GROUP, Farmington, MI, USA); Friberg, J.; Koroschetz, C.; Skrikerud, M. (AP&T, Ulricehamn, SWE); Billur, E. (Atılım University, Ankara, TUR); Holecek, M. (MECAS ESI s.r.o., Brojova, CZE)	
11:20 a.m.	Investigations on Aluminium Hot Forming in Comparison to other Aluminium Forming Technologies and the Press Hardening of Steel Skrikerud, M.; Koroschetz, C.; Jönsson, L.-O. (AP&T AB, Ulricehamn, SWE)		Development of an Experimental Friction Testing Platform and a Finite Element Simulation for Hot Stamping Hung, C. (Department of Mechanical Engineering, National Chiao Tung University Hsinchu, TWN); Hung, T.-Z.; Tsai, H.-K.; Chen, F.-K. (Department of Mechanical Engineering, National Taiwan University Taipei, TWN); Lee, P.-K. (Iron & Steel Research & Development Department, China Steel Corporation, Kaohsiung, TWN)	
12:00 p.m.	Lunch			

01:20 p.m.	Heating & Cooling II CHAIRMAN: Markus Lalla, Volkswagen AG, GER	A8	Tailored Properties III CHAIRMAN: Takehide Senuma, Okayama University, JPN	B8
01:20 p.m.	Influence of Short Austenitization Treatments on the Mechanical Properties of Low Alloy Boron Steel Holzweißig, M. J.; Andreiev, A.; Schaper, M. (University of Paderborn, Materials Science, GER); Lackmann, J.; Konrad, S.; Rüsing, C.J. (Benteler Automotive, Research and Development, Paderborn, GER); Niendorf, T. (TU Freiberg, Institute of Materials Science, GER)		Forming Tailored Material Properties through Direct Contact Heating Rasera, J.; Field, N.; Daun, N. (University of Waterloo, ON, CAN); D'Souza, M. (F&P Manufacturing Inc., Tottenham, ON, CAN)	
01:40 p.m.	Incomplete Austenitization of Patched Blanks in Hot Forming Die Quenching Jhaji, K.S.; Daun, K.J.; Wells, M.A. (University of Waterloo, ON, CAN); Slezak, S.R. (Formet Industries, St. Thomas, ON, CAN)		A New Hot Stamping Process to make Tailored Properties Based on Air Cooling Liu, P.; Wang, K.; Wang, Z.; Zhu, B.; Zhang, Y. (State Key Laboratory of Materials Processing and Die and Mould Technology, Huazhong University of Science & Technology, Wuhan, CHN)	
02:00 p.m.	Bake Hardening Analysis of 22MnB5 PHS by the Impulse Internal-Friction Kwon, H.J.; Choi, W.S.; De Cooman, B.C. (Graduate Institute of Ferrous Technology, Pohang University of Science and Technology, KOR); Lee, J. (POSCO Technical Research Laboratories, Gwangyang, KOR)		Prediction of Thermal Softening of Hardened High Strength Steel Wang, Z.; Wang, K.; Liu, P.; Wang, L.; Zhang, Y. (State Key Laboratory of Materials Processing and Die & Mould Technology, Huazhong University of Science and Technology, Wuhan, CHN)	



02:20 p.m.	Heating & Cooling III CHAIRMAN: Ignacio Martin, Gestamp BIW, ESP	A9	Tailored Properties IV CHAIRMAN: John R. Speer, Colorado School of Mines, USA	B9
02:20 p.m.	Effects of Heating Time on Transformation during Cooling of Boron Steel Sheets Hikida, K. (Nippon Steel & Sumitomo Metal Corporation, Futtsu, JPN); Kojima, N. (Nippon Steel & Sumitomo Metal Corporation, Hirohata, JPN)		Hotformed Tailor Rolled Products, Tailored Lightweight Design Solutions for the Vehicle Structure Brecht, J.; Pohl, S.; Schlender, A.; Voswinckel, H. (Mubea TRB, Attendorn, GER)	
02:40 p.m.	Effect of High Cooling Rate on Shape Accuracy of Hot Stamped Parts Nomura, N.; Seto, A. (Nippon Steel & Sumitomo Metal Corporation, Amagasaki, Hyogo, JPN); Fukuchi, H. (Nippon Steel & Sumitomo Metal Corporation, Futtsu, Chiba, JPN)		Development and Testing of a Hot Stamped Axial Crush Member with Tailored Properties Omer, K.; Bardelcik, A.; George, R.; Worswick, M. (University of Waterloo, ON, CAN); Detwiler, D.; Malcolm, S. (Honda R&D Americas Inc., Raymond, OH, USA); Adam, N. (Promatek Research Centre, Brampton, ON, CAN)	
03:00 p.m.	Characterization of the Interface Heat Transfer Properties in the Hot Stamping Process Chen, F.-K.; Hung, T.-H.; Tsai, P.-W.; Liu, C.-K. (Dept. of Mechanical Engineering, National Taiwan University, Taipei, TWN); Huang, T.-B. (Dept. of Mechanical and Computer Aided Engineering, St. John's University, New Taipei City, TWN); Lee, P.-K. (Iron & Steel Research & Development Dept., China Steel Corporation, Kaohsiung, TWN)		The Crash Behaviour of Hot Stamped Components – the Effect of Tailoring Conditions Abdollahpoor, A.; Pereira, M.P.; Rolfe, B.F. (Deakin University, Geelong, Victoria, AUS); Chen, X.; Xiao, N. (Chinese Academy of Sciences, Shenyang, CHN)	
03:20 p.m.			Comparison of Several Mechanical Tests to Demonstrate the Robustness of the Hot-Stamped Laser Welded Blanks Solution Gaied, S.; Yin, Y.; Cretteur, L. (ArcelorMittal Global R&D, 1, Montataire Cedex, FRA); Rotarescu, M.I. (ArcelorMittal Tailored Blanks, Gent, BEL)	
03:40 p.m.	Refreshment Break			

04:00 p.m.	Cutting & Trimming CHAIRMAN: Stefan Böhm, University of Kassel, GER	A10	Tool Steel CHAIRMAN: Patricia Miller, Bohler-Uddeholm Corporation, USA	B10
04:00 p.m.	Cost Effective Trimming in Hot Stamping through the Combination of Accurate Blank Development, Hot and Laser Cutting Koroschetz, C.; Skrikerud, M.; Kristensson, R.; Jönsson, L.-O. (AP&T AB, Ulricehamn, SWE); Porzner, H.; Lorenz, D.; Hoss, M. (ESI GmbH, Neu-Isenburg, GER)		Recent Developments in Tool Steels for Press Hardening Tools Hamasaïid, A.; Grausem, M.; Valls, I. (Roivalma S.A., Rubí, Barcelona, ESP)	
04:20 p.m.	Combined Cutting and Local Heat Treatment with Laser Radiation of Ultrahigh Strength Press Hardened Steels Vogt, S.; Schneider, F.; Weisheit, A.; Flaischerowitz, M. (Fraunhofer-Institute for Laser Technology ILT, Aachen, GER)		The Selection of Tool Steels for Hot-Stamping Tools with Respect to Increased Loads Rahn, R.; Schruff, I. (Kind & Co., Edelstahlwerk, Wiehl, GER)	
04:40 p.m.	Improvement in Hot Stamping Efficiency Through Tooling Optimization Agirretxe, X.; Martin, J. M.; Carranza, M. (BATZ S.Coop, Igorre (Bizkaia), ESP); Galdos, L.; Mendiguren, J. (Mondragon Unibertsitatea, Arrasate (Gipuzkoa), ESP); Casellas, D.; Hernandez, R.; Riera, M.D. (Fundació CTM Centre Tecnològic, Manresa, ESP)		Role of Tool Material in the Interfacial Problematics of Tool/Blank in Press Hardening Process Hamasaïid, A.; Casas, C.; Valls, I. (Roivalma S.A., Rubí, Barcelona, ESP)	
05:00 p.m.	End of Day 2			
07:00 p.m.	CHS² Dinner			



WEDNESDAY, June 3, 2015

	Conference Room A (200 – 250 persons)	A	Conference Room B (150 – 200 persons)	B
08:30 a.m.	Coatings III* CHAIRMAN: Joseph R. McDermid, McMaster University, CAN	A11*	Press Hardening Steel II James R. Fekete, National Institute of Standards and Technology, USA	B11
08:30 a.m.	Corrosion Resistance after Hot Stamping of 22MnB5 Steels Aluminized with 80 g/m² c.w. and ZnO Coating Fujita, S.; Maki, J.; Yamanaka, S.; Irikawa, H.; Kurosaki, M. (Yawata R&D Lab., Nippon Steel & Sumitomo Metal Corp., Tobihatacho, Tobata-ku, Kitakyushu, JPN)		Development of a 1.8 GPa Martensitic Stainless Steel for Hot Stamping Application Badinier, G.; Mithieux, J.-D.; Santacreu, P.-O. (Aperam Research Center, Isbergues, FRA); Herbelin, J.-M. (Aperam Customer Team Auto, Isbergues, FRA)	
08:50 a.m.	Characteristic Comparison for Coated HPF Steels Sohn, I.; Hwang, H.; Kim, H.; Cho, Y.; Kim, J. (POSCO Research Labs, Gwangyang, Jeonnam, KOR)		A New Invention of Press-hardened Steel Achieving 1880 MPa Tensile Strength Combined with 16% Elongation in Hot-stamped Parts Yi, H.L.; Du, P.J. (RAL, Northeastern University, Shenyang, Liaoning, CHN); Wang, B.G. (Easyforming Steel Technology Co., Ltd., Chongqing, CHN)	
09:10 a.m.	Nanoparticle Coatings: Oxidation Protection during Press Hardening Tigges, B.; Benfer, S.; Yekehtaz, M.; Fürbeth, W. (Dechema Forschungsinstitut, Frankfurt am Main, GER); Tenié, A.; Bleck, W. (Steel Institute, RWTH Aachen University, GER)		Challenges and Successes on Manufacturing Hot Press Hardening Steels at CSP® Mills Sun, W.; Smiley, J. (Nucor Corporation Huger, SC, USA); Gao, N.; Liu, D. (Teck Metals Ltd., Mississauga, ON, CAN)	
09:30 a.m.	Coating Preparation for Steel for Hot Stamping by Pack Cementation Aluminizing Liu, Y.; Zhu, B.; Zhang, Y. (State Key Laboratory of Materials Processing and Die & Mould Technology, Huazhong University of Science & Technology, Wuan, CHN); Zhan, Q.; Yang, H.; Yuan, X. (Dept. of Reactor Engineering Research and Design, China Institute of Atomic Energy, Beijing, CHN)		Quenching and Partitioning (Q&P) Die Quenching Processing of 30MnSiCrB6 Press Hardening Steel Seo, E. J.; Cho, L.; De Cooman, B. C. (POSTECH, Pohang, Gyeong-buk, KOR)	

09:50 a.m.	Refreshment Break	
10:40 a.m.	Tailored Properties V A12 CHAIRMAN: Christian Koroschetz, AP&T AB, SWE	Modeling & Simulation III B12 CHAIRMAN: Jens Hardell, Luleå University of Technology, SWE
10:40 a.m.	Hot Stamping of Tailored Component – Experiments and Numerical Analysis Lindkvist, G; Åhlin, H.; Oldenburg, M. (Luleå University of Technology, SWE)	Simulation of a Comprehensive Hot Forming Process and its Experimental Analyses Stillger, M. (Adam Opel AG, Rüsselsheim, GER); Hölzemann, S. (GEDIA GmbH, Attendorn, GER); Graff, S.; Bielefeld, S.-W. (ThyssenKrupp Steel Europe AG, Dortmund, GER); Brenne, T. (AutoForm Eng. Deutschland GmbH, Dortmund, GER)
11:00 a.m.	Press Hardening of a Martensitic Stainless Steel Sheet Alloy for Manufacturing a Side Sill Demonstrator with Tailored Properties García, E. M.; Rautenstrauch, A.; Kräusel, V. (Technische Universität Chemnitz, Chemnitz, GER); Mosel, A.; Landgrebe, D. (Fraunhofer Institute for Machine Tools and Forming Technology IWU, Chemnitz, GER)	Understanding Temperature and Contact Pressure in Hot Stamped Channels Rolfe, B.; Pereira, M. (School of Engineering, Deakin University, Geelong, AUS); Zhang, P.; Abdollahpoor, A.; Wang, C. (School of Materials Science and Engineering, Hefei University of Science and Technology, CHN)
11:20 a.m.	Mechanical and Microstructural Properties of a Tailored Hot Stamping with In-Die Heating Baldecik, A.; Prajogo, Y.; Worswick, M. (Department of Mechanical and Mechatronics Engineering, University of Waterloo, ON, CAN); Detwiler, D.; Malcolm, S. (Honda R&D Americas Inc., Raymond, OH, USA)	Optimization of Finite Element Simulation for Press Hardening Processes Helmholz, R.; Sunderkötter, C.; Plath, A. (Volkswagen AG, Group Research, Wolfsburg, GER); Marusch, H.-E. (Volkswagen AG, Baunatal, GER); Behrens, B.-A. (Institute of Forming Technology and Machines, Leibniz University of Hanover, GER)
11:40 a.m.	Closing Session	
12:00 p.m.	Lunch	

* Joint sessions with Galvatech (A2, A6, A11)



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