

# Modern Steels 2014 :: MS2014

DESIGN - TECHNOLOGIES - PROPERTIES – APPLICATIONS

## The conference schedule

| <b>Wednesday, 2 July 2014</b>      |   |
|------------------------------------|---|
| 8 <sup>00</sup> ÷9 <sup>00</sup>   | <b>Registration and coffee</b>  |
| 9 <sup>00</sup> ÷9 <sup>10</sup>   | Conference opening Jarosław Mizera - Dean of the Faculty of Materials Science and Engineering Warsaw University of Technology   |
| 9 <sup>10</sup> ÷9 <sup>35</sup>   | Introductory lecture: Wiesław Świątnicki: <i>Production of Nanocrystalline Steels by use of Heat Treatment Processes</i>  |
|                                    | <b>Session I a: Nanostructured steels</b><br><i>Chairperson: Wiesław Świątnicki</i>   |
| 9 <sup>35</sup> ÷10 <sup>00</sup>  | Francisca Caballero: <i>Ultra-Fine and Nanoscale Bainitic Ferrite Structures</i>  |
| 10 <sup>10</sup> ÷10 <sup>35</sup> | Harry Bhadeshia: <i>Anomalies in the measurement of the carbon content of defective ferrite or austenite using X-ray diffraction</i>  |
| 10 <sup>35</sup> ÷11 <sup>00</sup> | Carlos Garcia Mateo: <i>NANOBAIN. Industrialization of a nanostructured steel</i>   |
| 11 <sup>00</sup> ÷11 <sup>20</sup> | <b>Coffee break</b>   |
|                                    | <b>Session I b: Nanostructured steels</b><br><i>Chairperson: Francisca Caballero</i>  |
| 11 <sup>20</sup> ÷11 <sup>45</sup> | Bogdan Garbarz, Barbara Niżnik – Harańczyk: <i>The modification of microstructure to increase toughness of high – strength nanostructured bainite – austenite steel</i>                           |
| 11 <sup>45</sup> ÷12 <sup>10</sup> | Wojciech Burian, Jarosław Marcisz, Bogdan Garbarz, Lech Starczewski: <i>Nanostructured bainite-austenite steel for armours construction</i>   |
| 12 <sup>10</sup> ÷12 <sup>35</sup> | Julita Dworecka, Elżbieta Jezierska, Krzysztof Roźniatowski, Wiesław Świątnicki: <i>Characterization of nanobainitic structure obtained in 100CrMnSi6-4 steel after industrial heat treatment</i> |
| 12 <sup>35</sup> ÷13 <sup>00</sup> | Elżbieta Jezierska, Julita Dworecka, Krzysztof Roźniatowski: <i>Nanobainitic structure recognition and characterization using transmission electron microscopy</i>                                |
| 13 <sup>00</sup> ÷14 <sup>30</sup> | <b>Lunch and coffee</b>   |
|                                    | <b>Session II Formation and properties of nanocrystalline structure</b><br><i>Chairperson: Harry Bhadeshia</i>  |
| 14 <sup>30</sup> ÷14 <sup>55</sup> | Szymon Marciniak, Emilia Skołek, Wiesław Świątnicki: <i>The effect of step austempering on phase composition and mechanical properties of X37CrMoV5-1 steel</i>                                   |
| 14 <sup>55</sup> ÷15 <sup>20</sup> | Kamil Wasiluk, Emilia Skołek, Wiesław Świątnicki: <i>Properties of low-temperature bainite obtained in surface layer of carburized 38CrAlMo steel</i>   |
| 15 <sup>20</sup> ÷15 <sup>45</sup> | Rongshan Qin: <i>Nanostructured pearlitic steel</i>   |
| 15 <sup>45</sup> ÷16 <sup>10</sup> | Krzysztof Wasiak, Julita Dworecka, Szymon Marciniak, Elżbieta Jezierska, Emilia Skołek, Krzysztof Roźniatowski, Wiesław Świątnicki: <i>Thermal treatment distortion of nanobainitic steels</i>    |
| 16 <sup>10</sup> ÷16 <sup>50</sup> | <b>Coffee break</b>   |
| 16 <sup>10</sup> ÷18 <sup>00</sup> | <b>Poster session – Research on modern steels</b>   |

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| <b>Thursday 3 July 2014</b>  |  |
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| 8 <sup>15</sup> ÷9 <sup>00</sup>   | <b>Registration and coffee</b>   |
| <b>Session III: Investigations of phase transformations in steels</b><br><i>Chairperson: Carlos Garcia Mateo</i> |  |
| 9 <sup>00</sup> ÷9 <sup>25</sup>   | Jerzy Pacyna: <i>Interpretation of cooling dilatograms in range of bainitic and martensitic transformations</i>  |
| 9 <sup>25</sup> ÷9 <sup>50</sup>   | Rafał Dziurka, Piotr Bała, Bogdan Pawłowski: <i>Improper interpretation of dilatometric data for cooling transformation in steels</i>                                  |
| 9 <sup>50</sup> ÷10 <sup>15</sup>  | Adam Kokosza: <i>Influence of austenitizing temperature on the kinetics of phase transformations in the TRIP steel with medium carbon content</i>                      |
| 10 <sup>15</sup> ÷10 <sup>40</sup>   | Elisabete Pinto da Silva: <i>Study of transformation products obtained by the isothermal decomposition of austenite in AHSS below MS</i>                               |
| 10 <sup>40</sup> ÷11 <sup>00</sup>   | <b>Coffee break</b>  |
| <b>Session IV: New Heat treatment technologies</b><br><i>Chairperson: Adam Grajcar</i>                           |  |
| 11 <sup>00</sup> ÷11 <sup>20</sup>   | David Aišman, Hana Jirková, Ludmila Kučerová, Bohuslav Mašek: <i>Q-P processing of steel with 0.2% C</i>   |
| 11 <sup>20</sup> ÷11 <sup>45</sup>   | Dorien De Knijf: <i>Optimization and characterization of a quenching and partitioning heat treatment on a low carbon steel</i>   |
| 11 <sup>45</sup> ÷12 <sup>10</sup>   | Krzysztof Wasiak, Emilia Skołek, Wiesław Świątnicki: <i>Microstructure and mechanical properties of 35CrSiMn5-5-4 steel after quenching &amp; partitioning process</i> |
| 12 <sup>10</sup> ÷12 <sup>35</sup>   | Hossein Beladi, I. B. Timokhina, X. Y. Xiong and P. D. Hodgson: <i>The formation of a fine ferrite and low temperature bainitic composite microstructure</i>           |
| 12 <sup>35</sup> ÷13 <sup>00</sup>   | Daniela Hauserová, Jaromir Dlouhy, Zbysek Novy: <i>Effect of Heating Rate on Accelerated Carbide Spheroidisation (ASR) in 100CrMnSi6-4 Bearing Steel</i>               |
| 13 <sup>00</sup> ÷14 <sup>30</sup>   | <b>Lunch and coffee</b>  |
| <b>Session V: Modern AHSS: TRIP DP and CP steels</b><br><i>Chairperson: Jerzy Pacyna</i>                         |  |
| 14 <sup>30</sup> ÷14 <sup>55</sup>   | Adam Grajcar, Waldemar Kwaśny, Władysław Zalecki: <i>Microstructure-property relationships in TRIP-aided medium-C bainitic steel with lamellar retained austenite</i>  |
| 14 <sup>55</sup> ÷15 <sup>20</sup>   | Ludmila Kucerova, Hana Jirková, Bohuslav Mašek: <i>The effect of alloying on mechanical properties of advanced high strength steels</i>                                |
| 15 <sup>20</sup> ÷15 <sup>45</sup>   | Adam Gołaszewski: <i>Optimisation of Complex Phase Steels microstructure and properties by new heat treatment process</i>  |
| 15 <sup>45</sup> ÷16 <sup>10</sup>   | Janusz Ćwiek: <i>Hydrogen embrittlement in high-strength low-alloy steels</i>  |
| 16 <sup>10</sup> ÷16 <sup>50</sup>   | <b>Coffee break</b>  |
| 16 <sup>10</sup> ÷18 <sup>00</sup>   | <b>Poster session – Industrial applications of steels</b>  |
| 17 <sup>00</sup> ÷18 <sup>00</sup>   | <b>Meeting of the Scientific Committee room 215</b>  |
| 18 <sup>45</sup> ÷19 <sup>45</sup>   | <b>Visiting the Warsaw University of Technology</b>  |
| 20 <sup>00</sup> ÷23 <sup>00</sup>   | <b>Conference Dinner</b>   |

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| Friday 4 July 2014                 |   |
|------------------------------------|---|
| 8 <sup>15</sup> ÷9 <sup>00</sup>   | <b>Registration and coffee</b>  |
|                                    | <b>Session VI Cast Iron and Steel</b><br><i>Chairperson: Krzysztof Roźniatowski</i>   |
| 9 <sup>00</sup> ÷9 <sup>25</sup>   | Dawid Myszka, Wiesław Świątnicki, Kamil Wasiluk, Emilia Skołek: <i>Nanoausferritic matrix of ductile iron</i>   |
| 9 <sup>25</sup> ÷9 <sup>50</sup>   | Łukasz Rogal: <i>Relation between the cooling rate of X210CrW12 steel and its microstructure</i>  |
|                                    | <b>Session VII: Investigation methods</b><br><i>Chairperson: Elżbieta Jeziarska</i>   |
| 9 <sup>50</sup> ÷10 <sup>15</sup>  | Mark Taylor: <i>Applications of Nanoindentation Hardness Measurements to Assessments of Microstructural Constituent and Bulk Mechanical Properties of Selected Advanced High Strength Steels</i>      |
| 10 <sup>15</sup> ÷10 <sup>40</sup> | Piotr Pawluk: <i>Comparison of lattice parameters and carbon concentrations of ferrite and austenite in nanobainitic steels with different phase fractions measured with XRD</i>                      |
| 10 <sup>40</sup> ÷11 <sup>00</sup> | <b>Coffee break</b>   |
| 11 <sup>00</sup> ÷11 <sup>25</sup> | Andrzej Trafarski, Tadeusz Woźniak, Wojciech Ozgowicz, Zbigniew Ranachowski: <i>Application of artificial neural networks to study transformation phases using acoustic emission in bearing steel</i> |
| 11 <sup>25</sup> ÷11 <sup>50</sup> | Emilia Skołek, Szymon Marciniak, Janusz Kamiński, Karolina Dudzińska, Wiesław Świątnicki: <i>Nanocrystalline steels' resistance to hydrogen embrittlement</i>   |
|                                    | <b>Session VIII: Optimisation of microstructure and mechanical properties of steels</b><br><i>Chairperson: Bogdan Garbarz</i>   |
| 11 <sup>50</sup> ÷12 <sup>15</sup> | Janusz Krawczyk, Jerzy Pacyna, Piotr Bała: <i>The plane strain fracture toughness (<math>K_{Ic}</math>) of new steels with nickel content with regarding to the carbides morphology</i>               |
| 12 <sup>15</sup> ÷12 <sup>40</sup> | Rafał Dziurka: <i>The influence of tempering temperature on the morphology of the iron carbide precipitations and its influence on the mechanical properties</i>                                      |
| 12 <sup>40</sup> ÷13 <sup>05</sup> | Dawid Myszka, Andrzej Wiczorek: <i>Influence of heat treatment conditions on microstructure and mechanical properties of austempered ductile iron after dynamic deformation test</i>                  |
| 13 <sup>05</sup> ÷14 <sup>30</sup> | <b>Lunch and coffee</b>   |
|                                    | <b>Session IX: Welding of modern steels</b><br><i>Chairperson: Jerzy Szawłowski</i>   |
| 14 <sup>30</sup> ÷14 <sup>55</sup> | Kuijing J. Song, K. Fang, Ran Ma, J.G. Yang, X.S. Liu, J.J. Wang, H.Y. Fang: <i>Acceleration of regeneration treatment by rotary impacting trailed welding</i>  |
| 14 <sup>55</sup> ÷15 <sup>20</sup> | Maria Sozańska: <i>Description of the structure of welded joints in heat exchangers</i>   |
| 15 <sup>20</sup> ÷15 <sup>45</sup> | Adam Grajcar, Maciej Różański, Małgorzata Kamińska, Barbara Grzegorzczuk: <i>Study on non-metallic inclusions in laser-welded TRIP-aided Nb-microalloyed steel</i>                                    |
| 15 <sup>45</sup> ÷16 <sup>00</sup> | <b>Closing Ceremony</b>   |