

PROGRAM of the MS&IA'2021 International Conference

Tuesday, 21 September 2021		
	9³⁰÷9⁴⁵	Opening: Professor Tomasz Chmielewski Dean of the <i>Faculty of Mechanical and Industrial Engineering</i> and Professor Anna Boczkowska – Vice-Dean of the <i>Faculty of Materials Science and Engineering</i> , Warsaw University of Technology
Session I: Advanced Heat Treatments of Modern Steels <i>Chairperson: Professor Adam Grajcar</i>		
1.	9⁴⁵÷10³⁵	Keynote lecture - Dr Francisca Caballero: Advanced Heat Treatments and Hierarchical Structures for High Performance Steels
2.	10³⁵÷11⁰⁰	Sumit Ghosh: In-situ characterization of various competing mechanisms operating during quenching and partitioning process
	11⁰⁰÷11¹⁵	BREAK / DISCUSSION
3.	11¹⁵÷11⁴⁰	Carl Slater, B. Bandi, P. Dastur and C. Davis: Rapid Alloy Processing to obtain a non-banded dual phase steel through compositional design and segregation control
4.	11⁴⁰÷12⁰⁵	Bharath Bandi, Carl Slater, Didier Farrugia, Claire Davis: Enhancement of ductility/strength balance in commercial dual-phase steels through industrially relevant composition changes using Rapid Alloy Processing approach
5.	12⁰⁵÷12²⁰	Pedram Dastur, C. Slater, B. Bandi, C. Davis: Intercritical annealing optimisation and parameter sensitivities for dual phase steels.
	12²⁰÷13⁴⁰	LUNCH BREAK
Session II: Nanostructured bainitic steels <i>Chairperson: dr Francisca Caballero</i>		
6.	13⁴⁰÷14³⁰	Keynote lecture - Dr Carlos Garcia-Mateo: Retained Austenite Destabilization during Tempering of Low-Temperature Bainite
7.	14³⁰÷14⁵⁵	Jaroslav Marcisz, Bogdan Garbarz, Tymoteusz Tomczak: Characterization of banded microstructure in nanobainitic steel containing 0.6%C and the consequences for mechanical properties
8.	14⁵⁵÷15²⁰	Pentti Kaikkonen, Mahesh Somani, Aarne Pohjonen, Vahid Javaheri, Jukka Kömi: Development of Processing Route For Low-Temperature Ausformed Ultrafine Bainitic Steels
9.	15²⁰÷15⁴⁰	Magdalena Bagrowska - Stalska, K. Wasiak, W. Świątnicki: A new B-Q&P heat treatment shaping properties of carburised steel
	15⁴⁰÷15⁵⁵	BREAK / DISCUSSION
Session III: Industrial Heat Treatments <i>Chairperson: Professor Jaroslav Marcisz</i>		
10.	15⁵⁵÷16²⁰	Adam Gołaszewski: Increasing the fatigue strength of steel gears through nanostructuring in high pressure quench furnaces
11.	16²⁰÷16⁴⁵	Piotr Pawluk, Szymon Marciniak, Monika Węsierska, Marek Kubicki, Wiesław Świątnicki: Industrial austempering - effects of temperature heterogeneity during gas cooling on mechanical properties of hot work tool steel

		Wednesday, 22 September 2021
		Session IV.: Advanced High Strength Steels - New Achievements <i>Chairperson: dr Carlos Garcia-Mateo</i>
12.	9 ⁴⁰ ÷10 ³⁰	Keynote lecture: Professor Wolfgang Bleck: New insights into the properties of high manganese steels
13.	10 ³⁰ ÷10 ⁵⁵	Aleksandra Kozłowska, Adam Grajcar , Krzysztof Radwański, Wojciech Pakieła, Jarosław Opara, Paweł Nuckowski: Microstructure and temperature-dependent mechanical behavior of hot-rolled TRIP-assisted microalloyed steel
	10 ⁵⁵ ÷11 ¹⁰	BREAK / DISCUSSION
14.	11 ¹⁰ ÷11 ³⁵	Aleksandra Kozłowska , Adam Skowronek, Mateusz Morawiec, Adam Grajcar: Microstructure evolution and dilatometric study of Al-alloyed medium-manganese steel manufactured by double-step intercritical annealing process
15.	11 ³⁵ ÷11 ⁵⁰	Adam Skowronek , Adam Grajcar, Aleksandra Kozłowska, Mateusz Morawiec: Influence of intercritical annealing time on the microstructure and retained austenite fraction in 5% Mn lean medium-Mn steel
16.	11 ⁵⁰ ÷12 ⁰⁵	Marcin Szczygieł , G. Łukaszewicz, E. Skołek, K. Wasiak, M. Węsierska-Hinca, K. Chmielarz: Analysis of the possibility of producing a fine-crystalline multiphase microstructure consisting of martensite, bainite and austenite in X38CrMoV5-1 steel austempered below Ms.
17.	12 ⁰⁵ ÷12 ²⁰	Lukasz. Szczepanek , K. Wasiak, M. Węsierska-Hinca, E. Skołek: Effect of austempering treatment on the microstructure and mechanical properties of K360 tool steel
	12 ²⁰ ÷13 ⁴⁰	LUNCH BREAK
		Session V: Modern Cast Steels and Iron Alloys. <i>Chairperson: Professor Wolfgang Bleck</i>
18.	13 ⁴⁰ ÷14 ¹⁵	Invited lecture - Professor Marcin Górny , Ł. Gondek, G. Angella, E. Tyrała, M. Kawalec: Shaping the Structure and Properties of Austempered Ductile Iron
19.	14 ¹⁵ ÷14 ⁴⁰	Dawid Myszka : Surface properties of austempered ductile iron
20.	14 ⁴⁰ ÷15 ⁰⁵	Janusz Krawczyk : Qualitative and quantitative analysis of the microstructure of stepped steel castings
21.	15 ⁰⁵ ÷15 ²⁰	Piotr Nawrocki , Emilia Skołek, Dawid Myszka, Shaping the fine-grained microstructure of ductile iron in isothermal hardening processes
	15 ²⁰ ÷15 ³⁵	BREAK / DISCUSSION
		Session VI: Surface Engineering of Steels and Iron Alloys <i>Chairperson: Professor Janusz Krawczyk</i>
22.	15 ³⁵ ÷15 ⁵⁰	Wojciech Pakieła , T. Tański: The influence of laser surface treatment on the tribological properties of S235 steel
23.	15 ⁵⁰ ÷16 ⁰⁵	Marcin Staszuk : Investigations of nitride-oxide coatings obtained in the hybrid PVD/ALD process on 316L steel substrates
24.	16 ⁰⁵ ÷16 ²⁵	Monika Węsierska-Hinca , K. Wasiak, E. Skołek, M. Tacikowski, W. Świątnicki: Modification of low-temperature bainite steel surface by nitriding process

Thursday, 23 September 2021**Session VII: Innovative methods of manufacturing of steels****Chairperson: Professor Marcin Górny**

25.	9 ³⁰ ÷10 ⁰⁵	<i>Invited lecture</i> - Professor Massimo Pellizzari , F. Deirmina, S. Amirabdollahian, P. Bosetti, A. Molinari: Properties of tool steels fabricated by additive manufacturing
26.	10 ⁰⁵ ÷10 ²⁰	Jacek Górka, Tomasz Kik , Marek Burda: Attempts to modify austenitic steel with carbon nanotubes
27.	10 ²⁰ ÷10 ⁴⁵	Magdalena B. Jabłońska , K. Kowalczyk, M. Tkocz, R. Chulist, K. Rodak, I. Bednarczyk: Ferritic Steel behaviour during SPD process
28.	10 ⁴⁵ ÷11 ¹⁰	Mateusz Morawiec , Aleksandra Kozłowska, Adam Grajcar: Dependence of manganese content on the kinetics of phase transformation in intercritically treated medium-Mn alloys
29.	11 ¹⁰ ÷11 ²⁵	BREAK / DISCUSSION
		Session VIII: Welding of Advanced Steels Chairperson: Dr Tomasz Kik
30.	11 ²⁵ ÷12 ⁰⁰	<i>Invited lecture</i> - Aleksandra Królicka , Andrzej Żak, Roman Kuziak, Krzysztof Radwański, Andrzej Ambroziak : Decomposition mechanisms of bainitic rail in the critical Heat-Affected Zone of a flash-butt welded joints
31.	12 ⁰⁰ ÷12 ²⁵	Krzysztof Kweciński , Michał Urzynieok, Marek Węglowski: Electron Beam Welding of New Generation Martensitic Steel - THOR 115
	12 ²⁵ ÷13 ⁴⁰	LUNCH BREAK
		Session IX: Computer modeling and machine learning methods in steel development Chairperson: Professor Massimo Pellizzari
32.	13 ⁴⁰ ÷14 ¹⁵	<i>Invited lecture</i> - Dr Wangzhong Mu , Moshour Rahaman, Joakim Odqvist, Peter Hedström: Machine learning to predict microstructure evolution in steels
33.	14 ¹⁵ ÷14 ⁴⁰	Grzegorz Łukaszewicz : Machine learning meets steels - the latest trends
34.	14 ⁴⁰ ÷14 ⁵⁵	Anna Wojtacha , Mateusz Morawiec, Marek Opiela: Effect of plastic deformation on the shape of CCT-diagram of new-developed steel for drop forgings
35.	14 ⁵⁵ ÷15 ¹⁰	Krzysztof Chmielarz , Grzegorz Łukaszewicz: Evaluation of bainitic transformation kinetics models for different steels
	15 ¹⁰ ÷15 ²⁰	CLOSING