Schedule-at-a-Glance

Monday, 16 September 2019

10.00	IFHTSE Executive Committee meeting	VIP Meeting Room, Floor 4, Pavilion 7.1
15.30	IFHTSE Governing Council Assembly	Seminar Room, Floor 2, Pavilion 7.1
17.30	*Registration Open*	Foyer, Floor 1, Pavilion 7.1
18.00	*Welcome Reception*	Banquet Hall, Floor 3, Pavilion 7.1

Tuesday, 17 September 2019

09.00	*Registration Open*	Foyer, Floor 1, Pavilion 7.1
10.00- 10.40	**Opening Session**	Conference Hall, Floor 4, Pavilion 7.1
10.40-12.00	Plenary Lectures	
12.00-12.20	*Coffee-break*	
12.20-13.40	Plenary Lectures	Conference Hall, Floor 4, Pavilion 7.1
13.40-14.00	Monograph Presentation	
14.00-15.00	*Lunch*	
15.00-17.30	*Visiting the "Heat Treatment -2019" Exhibition* *Poster Session*	Pavilion 7.1 Pavilion 7.2

Wednesday, 18 September 2019

08.00	*Registration Open*	Foyer, Floor 1, Pavilion 7.1
9.30-11.10	**Congress Centre Hall 1** **Memorial Chernov Session**	**Congress Centre Hall 2** **IA. Structure and Properties**
11.10-11.30	*Coffee-break*	
11.30-13.10	**IC. Heat Treatment**	**IIA. Thermo-Chemical Treatment**
13.10-14.20	*Lunch*	
14.20-16.00	**ID. Additive Manufacturing**	**IIB. Thermo-Chemical Treatment**
16.00-16.20	*Coffee-break*	
16.20-18.00	**IF. Quality control**	**IID. Combined Processes**
19.00	***Social Event – Congress Gala-Dinner***	

Thursday, 19 September 2019

9.30-11.10	**Congress Centre Hall 1** **IE. Processes modeling and simulation**	**Congress Centre Hall 2** **IIE. Plasma, Laser, and Electron Beam Processes**
11.10-11.30	*Coffee-break*	
11.30-13.10	**IB. Structure and Properties**	**IIF. Coatings and films**
13.10-13.40	**Closing Session**	Conference Hall, Floor 4, Pavilion 7.1

Program

Language
The official language of the Congress is English.

Monday, 16 September 2019

10.30 IFHTSE Executive Committee meeting VIP Meeting Room, Floor 4, Pavilion 7.1
15.30 IFHTSE Governing Council Assembly Seminar Room, Floor 2, Pavilion 7.1
17.30 Registration Open Foyer, Floor 1, Pavilion 7.1
18.00 Welcome Reception Banquet Hall, Floor 3, Pavilion 7.1

Tuesday, 17 September 2019

9.00-10.00 Registration Open Foyer, Floor 1, Pavilion 7.1
10.00 Opening Session Conference Hall, Floor 4, Pavilion 7.1
Welcome addresses by
- Sergey Tsyb, First Deputy Minister of the Ministry of Industry and Trade of the Russian Federation;
- D. Scott MacKenzie, Chairman of the Organizing Committee, IFHTSE President.

***Presentation of Awards*:**
- IFHTSE Medal: Prof. Marcel A.J. Somers, Denmark
- IFHTSE Fellowship: Prof. Oleg Bannykh, Russia; Prof. Rolf Zenker, Germany

10.40 Plenary Lectures Conference Hall, Floor 4, Pavilion 7.1

10.40	*The 180th Birth Anniversary of D.K. Chernov and influence of his discovery of iron polymorphism on global development of metal heat treatment processes* **ArkadiyTikhonov** - *Russian Society for Metal Science and Heat Treatment, Russia*
11.20	*Case Hardening Steels: Challenging the invisible and outsmarting the unavoidable. An approach integrated along the process chain to new potentials in a mature technology* **Stefan Hock** - *International Federation for Heat Treatment and Surface Engineering, Italy*
12.00-12.20 Coffee-break	
12.20	*Yu. Lakhtin's memorial lecture: Thermochemical surface engineering of stainless steels with interstitials; symbiosis of science, technology and innovation* **Marcel A.J. Somers** -*Technical University of Denmark, Lyngby, Denmark*
13.00	*The electron beam can do more than surface hardening* **Rolf Zenker, Anja Buchwalder** -*TU Bergakademie Freiberg, Germany*
13.40	***Monograph Presentation*** Metallurgy and heat treatment in the automotive industry **ArkadiyTikhonov** - *Russian Society for Metal Science and Heat Treatment, Moscow, Russia*
14.00-15.00 Lunch	
15.00-17.30	Visiting the "Heat Treatment-2019" Exhibition Poster Session

Wednesday, 18 September 2019 - Congress centre, Hall 1

Memorial Chernov Session *Chairperson: ArkadiyTikhonov, Aleksandr Gnevko*

9.30	**D.K. CHERNOV – scientist, pioneer and teacher – the founder of modern metallurgy and metal science theory** L.I. Leontiev - *academician of the Russian Academy of Sciences, Russia* V.V. Tsukanov, D. Eng - *NRC "Kurchatov Institute" - CRISM "Prometey", Russia*
9.55	**Prediction of the durability of metal structures based on the analysis of their microstructure** A.I. Gnevko, O.E. Zubov, S.N. Solovov, M.V. Mukomela, A.I. Chmihalo, V.A. Yanushkevich - *The Military Academy of Strategic Rocket Troops after Peter the Great, Moscow region, Balashikha, Russia*
10.20	**Controlling the structure and properties of cold-rolled mill products made of light alloyed steel (HSLA type) subjected to continuous annealing** I.G. Rodionova, O.N. Baklanova, A.A. Pavlov, N.A. Karamysheva - *Federal State Unitary Enterprise (FSUE) I.P. Bardin Central Research Institute for Ferrous Metallurgy, Moscow, Russia* A.S. Melnychenko - *National University of Science and Technology "MISIS", Moscow, Russia* S.V. Denisov, V.E. Telegin, S.G. Andreev, A.V. Mastyaev - *PJSC "Magnitogorsk Iron & Steel Works", Magnitogorsk, Russia*
10.45	**Application of genetic engineering technologies to reduce the hold time under heat treatment of AL-SI cast aluminum alloys** V. Nikitin, K. Nikitin - *Samara state technical University, Samara, Russia*

Wednesday, 18 September 2019 - Congress centre, Hall 2

IA. Structure and Properties *Chairpersons: Lyudmila Botvina, Reinhold Schneider*

9.30	**On the influence of deep cryogenic treatment on tempering transformations in AISI D2 steels** M. Pellizzari, V. Menegante - *University of Trento, Department of Industrial Engineering, Trento, Italy* M. Villa, Marcel A. J. Somers - *Technical University of Denmark, Department of Mechanical Engineering, Kongens Lyngby, Denmark*
9.50	**Development of the complex technologies basis for production of a new cold-rolled low-carbon and ultra-low-carbon steels generation with improved complex properties** A.I. Zaitsev, S. V. Denisov, V. E. Telegin, A. V. Koldaev, I. G. Rodionova, A. B. Stepanov - *Bardin Central Research Institute of Ferrous Metallurgy (TsNIIchermet), Moscow, Russia* *PJSC Magnitogorsk Iron and Steel Works (MMK), Magnitogorsk, Russia*
10.10	**Deep cryogenic treatment of high speed steels** P. Jovičević Klug - *Institute of Metals and Technology; Jožef Stefan International Postgraduate School, Ljubljana, Slovenia* B. Podgornik- *Institute of Metals and Technology, Ljubljana, Slovenia*
10.30	**Correlation between mechanical and acoustic properties of low-carbon steel after static test** A.V. Levina, V. P. Levin, L. R. Botvina - *Baikov Institute of Metallurgy and Materials Science, RAS, Moscow, Russia*
10.50	**Effect of heat treatment on microstructure and mechanical properties of 9Cr-WVTiN reduced activation martensitic steels** Jinping Suo, Juexin Xu, Hui Lu, Gaoyong Xu - *State Key Laboratory of Material Processing and Die &Mould Technology, School of Materials Science and Engineering, Huazhong University of Science and Technology, Wuhan, PR China*

11.10-11.30 Coffee-break

Wednesday, 18 September 2019 - Congress centre, Hall 1

IC. Heat Treatment *Chairperson: Stefan Hock, Tatiana Moskvina*

11.30	**Effect of temperature and catalyst on the oxidation of oil used for the Mar-tempering of Gears** D. Scott MacKenzie - *Houghton International, Inc., USA* Pedro Luiz Pioli - *Houghton Brasil Ltda., Sao Paulo, Brazil* John Kim - *Houghton International, Inc., USA*
11.50	**Vacuum heat treatment of as cast high-speed steel of M2 type** A. S. Chaus, M. Bračík - *Slovak University of Technology in Bratislava, Faculty of Materials Science and Technology in Trnava, Institute of Production Technologies, Trnava, Slovakia* M. Sahul, M. Dománková - *Slovak University of Technology in Bratislava, Faculty of Materials Science and Technology in Trnava, Institute of Materials Science, Trnava, Slovakia*
12.10	**Heat treatment with intercritical heating of ductile iron** P.Nawrocki - *Heat Treatment Department, Institute of Precision Mechanics; Department of Metal Forming and Casting, Warsaw University of Technology, Warsaw, Poland* K. Lukasik, D.Myszka - *Department of Metal Forming and Casting, Warsaw University of Technology, Warsaw, Poland* K. Wasiluk - *Department of Surface Engineering, Warsaw University of Technology, Warsaw, Poland*
12.30	**Influence of accelerated spheroidisation on quenching process and resultant mechanical properties in spring steel 54SiCr6** J. Kotous, J. Dlouhý, D. Nacházelová - *COMTES FHT a.s., Dobřany, Czech Republic*
12.50	**New process of steel heat treatment: design, microstructure, properties and applications** W.Swiatnicki, K.Wasiak, K.Wasiluk, E.Skołek, M.Węsierska, M. Bagrowska - *Warsaw University of Technology, Faculty of Materials Science and Engineering, Warszawa, Poland* S. Marciniak - *NanoStal Ltd., Kielce, Poland* A. Wieczorek - *Silesian University of Technology, Faculty of Mining and Geology, Gliwice, Poland*

Wednesday, 18 September 2019 - Congress centre, Hall 2

IIA. Thermo-Chemical Treatment *Chairperson: Thomas Waldenmaier, Petr Demin*

11.30	**Low-temperature liquid boronizing of structural steels** S.G. Tsikh, V.N. Skorobogatykh - *"NPO "CNIITMASH", Moscow, Russia* A.A. Krasulya, A.S. Pomelnikova - *Bauman Moscow State Technical University, Moscow, Russia* K.D. Polinovsky - *«ITSU», Moscow, Russia*
11.50	**High-temperature solution nitriding of martensitic stainless steel** C.Tibollo, M. Villa, T.L. Christiansen, M.A.J. Somers - *Technical University of Denmark, KongensLyngby, Denmark*
12.10	**Boron-based composite diffusion layers for operational improvement of dies** U. Mishigdorzhiyn, N. Ulakhanov - *Department of Mechanical Engineering, East Siberia State University of Technology and Management, Ulan-Ude, Russia*
12.30	**Effect of AlN particle size on abnormal grain growth during carburization** Naohide Kamiya, Yuuki Tanaka, Keisuke Inoue - *Automotive steel research sect. No.1, Corporate research & development center, Daido Steel Co., Ltd, Japan*
12.50	**«Bespoke» compound layers for fretting response optimization** A. Dreano, J. Laporte, S. Fouvry- *LTDS, Ecully, France* P. Arnaud, E. Hériprée, V. Aubin - *MSSMat, Gif-sur-Yvette, France* O. Skiba, G. Michel - *IRT-M2P, Metz, France* C. Dannoux - *ALD, Grenoble, France* V. Branger - *Naval group, Bouguenais, France* R. Guiheux - *Safran Transmissions Systems, France*

13.10-14.20 Lunch

Wednesday, 18 September 2019 - Congress centre, Hall 1

ID. Additive Manufacturing *Chairperson: Patrick Jacquot, Tatiana Tarasova*

14.20	**Main benefits of heat treatments and HIP for metal parts made by additive manufacturing** P. Jacquot - *BODYCOTE, Central Laboratory, Pusignan, France*
14.40	**Investigation of structure and properties from aluminum matrix composite materials produced by selective laser melting** T.Tarasova, R. Ableyeva, G.Gvozdeva - *Moscow State University of Technology Stankin, Moscow, Russia*
15.00	**Ways of ultrasonic additive manufacturing development** D.S. Fatyukhin, R.I. Nigmetzyanov, A.V. Sukhov - *Moscow Automobile and Road Construction State Technical University (MADI), Moscow, Russia*
15.20	**Submicron structure formation at selective laser melting of WC-CO** A.V. Gusarov, R.S. Khmyrov, P.A. Podrabinnik, T.V. Tarasova - *Moscow State Technological University STANKIN, Moscow, Russia*
15.40	**Ion vapor deposited coating impoved corrosion protection for AM parts practical applications** J. Kowalewski - *Ipsen Inc., Illinois, USA*

Wednesday, 18 September 2019 - Congress centre, Hall 2

IIB. Thermo-Chemical Treatment *Chairpersons: Sergey Tsikh, Marcel A.J. Somers*

14.20	**Ecological and practical process comparison of plasma and gas nitriding-nitrocarburizingfor users** T. Müller, A.Gebeshuber, M. Aigner - *RÜBIG GmbH & Co KG, Austria*
14.40	**Features of boronized layers formation on pre-cemented steels** M.S.Tsikh, A.A. Krasulya - *Bauman Moscow State Technical University, Moscow, Russia* A.A. Mironova, A.D. Metlyakov - *Perm State University, Perm, Russia*
15.00	**Heat treatment in active fluidized bed** T. Babul, Z.Obuchowicz, P. Nawrocki - *Institute of Precision Mechanics, Warsaw, Poland*
15.20	**Research for heat treatment simulation on hyper carburizing process considering with segmentation of alloy elements** Tsuyoshi Sugimoto - *Nissan Motor Co., Ltd, Saitama Institute of Technology, Japan* Dong-Ying Ju - *Saitama Institute of Technology, Japan*
15.40	**Nitrided gears engineering: bending fatigue strength prediction from process parameters** S. Thibault, V. Argoud, S. Gourdin - *Safran Tech, M&P Dept.,Magny-les-Hameaux, France* V. Argoud- *LAMPA, Angers, France*

16.00-16.20 Coffee-break

Wednesday, 18 September 2019 - Congress centre, Hall 1

IF. Quality Control *Chairpersons: Vyatcheslav Matyunin, Bojan Podgornik*

16.20	**Application of different measuring techniques for characterization of quenching processes in water based polymer solutions** F. Frerichs, T. Lübben - *Leibniz Institute for Materials Engineering, IWT Bremen, Bremen, Germany*
16.40	**Instrumented indentation application for express control of materials surface layers mechanical properties after various treatment** V. M. Matyunin, A. Yu. Marchenkov, A. L. Goncharov, A. P. Sliva, N. Abusaif - *Moscow Power Engineering Institute, Moscow, Russia*
17.00	**Deviation in heat treatment and resulting measurement uncertainty for AA 6xxx Al alloys** B. Podgornik, B. Žužek, F. Vode - *Institute of Metals and Technology, Ljubljana, Slovenia* B. Hostej, V. Kevorkijan - *IMPOL R&R d.o.o., Slovenska Bistrica, Slovenia*
17.20	**Fractodiagnostics: Tasks and Methods** L.R Botvina - *A.A.Baikov Institute of Metallurgy and Materials Science, Moscow, Russia*
17.40	**Measurement of cooling curves and visualization of boiling phenomenon on disk probe** Hideo Kanamori - *Graduate School of Saitama Institute of Technology, Fukaya, Saitama, Japan* Dong-Ying Ju - *Advanced Science Institute, Saitama Institute of Technology, Fukaya, Saitama, Japan* Tsuyoshi Sugimoto - *Nissan Motor Co., Ltd., Okatsukoku, Atsugi, Kanagawa, Japan; and Department of Engineering, Saitama Institute of Technology, Fukaya, Saitama, Japan* Riki Homma - *Lubricants Research Laboratory of Idemitsu Kosan Co.,Ltd, Ichihara, Chiba, Japan*

Wednesday, 18 September 2019 - Congress centre, Hall 2

IID. Combined Processes *Chairpersons: Vladimir Skorobogatykh, Tomasz Babul*

16.20	**The tribological properties of the heat resistant steel after a complex thermo-chemical treatment** M.Yu. Semenov, A.E. Smirnov, A.S.Mokhova, A.P.Alekhin - *Bauman Moscow State Technical University, Moscow, Russia*
16.40	**A novel thermal processing & coating method for enhancing the tribological properties of treated components** B.Zhmud, J. Blomkvist - *Applied Nano Surfaces Sweden AB* M. Fällström - *Bodycote Värmebehandling, Sweden*
17.00	**Combination of thermochemical treatment methods with ultrasound** V.M. Prikhodko, D.S. Simonov, T. D. Dmitriev, L.Y. Qeblawi - *Moscow Automobile and Road Construction State Technical University (MADI), Moscow, Russia*
17.20	**Effect of combined gas nitriding and deep cryogenic treatment on wear behaviour of AISI D2 steel** D. Hradil, M. Duchek, M. Šugár - *COMTES FHT, Czech Republic* P. Nawrocki - *Institute of Precision Mechanics, Warsaw, Poland*
17.40	**Electroplating on the surface of steels after ultrasonic treatment** O.V. Chudina, P. Bringulis - *Moscow Automobile and Road Construction State Technical University (MADI), Moscow, Russia*

19.00 Social Event – Congress Gala-Dinner

Thursday, 19 September 2019 - Congress centre, Hall 1

IE. Processes modeling and simulation *Chairpersons: Mikhail Semenov, Imre Felde*

9.30	**Simulation of low-pressure carburizing with acetylene for industrial applications** T.Waldenmaier, H. Autenrieth - *Robert Bosch GmbH, Germany*
9.50	**Acetylene decomposition during low pressure carburization treatment: modelling and optimization of the process** E. Vyazmina, G. Mougin, J. Sheng, S.Jallais - *Air Liquide R&D, Paris Innovation Campus, France* L. Coudurier - *Air Liquide, Technology Center, Germany* F. Januard - *Air Liquide Head Office, France*
10.10	**Distortion of a fixture hardened planet gear blank– a finite element simulation study** H. Birkhofer, T. Lübben - *Leibniz-Institute for Materials Engineering IWT, Bremen, Germany* B. Taylor - *Aerospace Transmission Technologies – ATT, A Joint Company of Liebherr-Aerospace and Rolls-Royce, Friedrichshafen, Germany*
10.30	**Application of universal function approximator to predict HTC during quenching** S. Szénási, Z.Fried, I.Felde - *John von Neumann Faculty of Informatics, Óbuda University, Budapest, Hungary* KárolySzéll - *Alba Regia Faculty, Óbuda University, Budapest, Hungary*
10.50	**Identification of heat transfer coefficients and simulation of quenching distortions on disk probe** Hideo Kanamori - *Graduate School of Saitama Institute of Technology, Fukaya, Saitama, Japan* Dong-Ying Ju - *Advanced Science Institute, Saitama Institute of Technology, Fukaya, Saitama, Japan*

Thursday, 19 September 2019 - Congress centre, Hall 2

IIE. Plasma, Laser, and Electron Beam Processes *Chairpersons: Olga Chudina, XuKe-wei*

9.30	**Microstructure and tribological properties of expanded austenite formed in austenitic stainless steels by low-temperature active screen direct current plasma carburising** Youichi Watanabe, Haruna Ishizuka, KosukeTakamura, Weibo Li - *Nihon Parkerizing Co., Ltd., Tokyo, Japan* Nobuhiko Satomi - *Parker Trutec Inc., Springfield, Ohio, USA* Nobuyuki Kanayama - *Sentier Giken Co., Ltd., Matsue-shi, Shimane, Japan*
9.50	**Surface hardening of steel nanocarbon materials during laser and electron-beam treatment** O.V.Chudina - *Moscow Automobile and Road Construction State Technical University (MADI), Moscow, Russia* A.V.Eletsky, E.V. Terentyev - *National Research University "Moscow Power Engineering Institute", Moscow, Russia*
10.10	**Effect of laser remelting on surface microstructure and corrosion resistance of ultra-high speed laser cladding coating** Liu Ming-xia, Chang Geng-rong, Fu Fu-xing, Xie Yan-xiang, Dai Jun, Yu Li-jun, Xu Ke-wei - *Shaanxi Key Laboratory of Surface Engineering and Remanufacturing, Xi'an University, Xi'an, China* Duan Kai Liang - *ZKZM Laser Tech. Co., Ltd. Xi'an, China* Xu Ke-wei - *State Key Laboratory for Mechanical Behavior of Materials, Xi'an Jiaotong University, Xi'an, China*
10.30	**Effects of different types of discharge on thermo-chemical processes of structural and tool steels** A.S. Sergeeva, L.G. Petrova, V.A. Aleksandrov - *Moscow Automobile and Road Construction State Technical University (MADI), Moscow, Russia* V.M. Vdovin - *"Lavochkin Association", Moscow, Russia*
10.50	**Benefits and properties of laser-hardeninig** Němeček Stanislav - *RAPTECH s.r.o., Zruč-Senec, Czech Republic* Černý Ivo, Kec Jan - *SVÚM Praha, Praha, Czech Republic* Ganev Nikolaj, Čapek Jiří - *ČVUT Praha, Praha, Czech Republic*

11.10-11.30 Coffee-break

Thursday, 19 September 2019 - Congress centre, Hall 1

IB. Structure and Properties *Chairpersons: Alexander Glezer, Larisa Petrova*

11.30	**Martensite formation in AISI D2 steel at cryogenic temperatures and associated phenomena** M. Villa, Marcel A.J. Somers - *Technical University of Denmark, Department of Mechanical Engineering, Kongens. Lyngby, Denmark*
11.50	**Pipeline steels for sour service: chemical composition, thermomechanical treatment, microstructure and properties** A.A. Kholodnyi, Yu.I. Matrosov, G.A. Filippov, M.Yu. Matrosov - *I.P. Bardin Central Research Institute for Ferrous Metallurgy, Moscow, Russia*
12.10	**Control of austenite structure evolution during TMCP in microalloyed steels** A.Chastukhin, D. Ringinen, L. Efron - *OMK Vyksa Steel Works, Russia*
12.30	**Influence of stainless steel material quality on low temperature surface hardening** U. Oberste-Lehn, A. Karl, A. Friedrich - *Bodycote, Düsseldorf, Germany*
12.50	**Evolution of microstructure and wear properties of silicon manganese brass under different heat treatment conditions** Dai Jiaoyan, Bao Mingdong, Xu Xuebo, Xu Jinfu - *School of Materials and Chemical Engineering, Ningbo University of Technology, Ningbo* Wang Shimin, Wang Ruilai - *Ningbo Zycalloy Co.,Ltd, Ningbo* Tian Wu - *College of Materials Science and Engineering, Taiyuan University of Technology, Taiyuan*

Thursday, 19 September 2019 - Congress centre, Hall 2

IIF. Coatings and films *Chairpersons: Vladimir Aleksandrov, Massimo Pellizzari*

11.30	**Characterization of Al_2O_3/TiAlN/TiN multilayer coatings prepared by pulsed DC plasma-enhanced chemical vapor deposition** Kazuki Kawata, Toru Kidachi - *Oriental Engineering Co., Ltd. Research and Development Division, Kawagoe-city, Saitama, Japan*
11.50	**The formation composite coatings of structural steel by the copper-containing nanoparticles** V. A. Aleksandrov, I.Yu. Isayeva, I.V. Odinokova, G. Yu. Ostaeva - *Moscow Automobile and Road Construction State Technical University (MADI), Moscow, Russia*
12.10	**Microstructure and corrosion behavior of DLC films deposited on SUS316L and titanium substrate for bipolar plates** Beibei Han - *Department of Electronic Engineering, Graduate School of Engineering, Saitama Institute of Technology, Fukaya, Saitama, Japan* Dongying Ju - *Advanced Science Institute, Saitama Institute of Technology, Fukaya, Saitama, Japan; Ningbo HaizhiInstistute of Materials Industry innovation, Ningbo, China; Hangzhou Dianzi University, Hangzhou, China* Susumu Sato - *Department of Electronic Engineering, Graduate School of Engineering, Saitama Institute of Technology, Fukaya, Saitama, Japan* Maorong Chai - *Advanced Science Institute, Saitama Institute of Technology, Fukaya, Saitama, Japan; State Power Investment Corporation, Beijing, China*
12.30	**Characterization of VC coatings produced by thermo-reactive diffusion** M. A. Elhelaly, M. A. El-Zomor, M. H. Ahmed - *Heat treatment department, Tabbin Institute for Metallurgical Studies, Cairo, Egypt* E. M. Okasha - *Metallurgy Lab, Quality Sector, Helwan Engineering Industries Company, Cairo, Egypt*
12.50	**The effect of Y_2O_3 on aluminide coating formation on a nickel -based alloy** F. Shahriari Nogorani, F. Ebadi - *Department of Materials Science and Engineering, Shiraz University of Technology, Shiraz, Iran*

13.10 – 13.40 Closing Session Conference Hall, Floor 4, Pavilion 7.1

Poster session

Ultrasonic surface treatment of components produced by additive manufacturing technologies
S.K. Sundukov, D.S. Fatyukhin, A.A. Volkov - *Moscow Automobile and Road Construction State Technical University (MADI), Moscow, Russia*

The combination of ultrasonic hardening and nitriding
R.I. Nigmetzyanov, S.K. Sundukov, V.A. Perekrestova - *Moscow Automobile and Road Construction State Technical University (MADI), Moscow, Russia*

The role of cavitation clusters in ultrasonic liquid processing
D.S. Fatyukhin, R.I. Nigmetzyanov, A.E. Perekrestov - *Moscow Automobile and Road Construction State Technical University (MADI), Moscow, Russia*

Influence of ultrasonic cavitation on Armco iron submicrogeometry
S.K. Sundukov, V.M. Prikhodko, B.A. Kudryashov - *Moscow Automobile and Road Construction State Technical University (MADI), Moscow, Russia*

Recognition of subfilm corrosion of metal surfaces of machine parts with various coatings by infrared thermography
E.A. Kosenko, V.A. Zorin, N.I. Baurova - *Moscow Automobile and Road Construction State Technical University (MADI), Moscow, Russia*

Influences of heat treatment and surface on thermal fatigue
R. Ribeiro da Silva Junior - *University of Sao Paulo, Materials Engineering Department, Sao Carlos, SP, Brazil*
G. E. Totten - *Portland State University, Department of Mechanical and Materials Engineering, Portland, OR, USA*
Lauralice de Campos F. Canale - *University of Sao Paulo, Materials Engineering Department, Sao Carlos, SP, Brazil*

Combined surface modification of steel by zinc coating and nitriding
L. G. Petrova, P. E. Demin, A. V. Kosachev, G. Yu. Timofeeva - *Moscow Automobile and Road Construction State Technical University (MADI), Moscow, Russia*

Influence of contact surfaces on the properties of the two-pivotal systems
A.Neverov, O. Seliverstova, I. Sergeev - *Moscow Automobile and Road Construction State Technical University (MADI), Moscow, Russia*

Nitriding of High-Alloyed Steels for aviation parts reliability improvement
P.S. Bibikov - *Moscow Aviation Institute (National Research University) , Moscow, Russia*
I.S. Belachova - *Moscow Automobile and Road Construction State Technical University (MADI), Moscow, Russia*
S.P. Bibikov - *JSC „Nitrid", Saratov, Russia*

Research of surface strengthened automobile parts during automobile-technical expertise
A.Yu. Malakhov, T.E. Likhachova, V. A. Perekrestova, A.E. Perekrestov - *Moscow Automobile and Road Construction State Technical University (MADI), Moscow, Russia*

Effect of forging on creep properties of cast Cr based steel
Doryun Lee, Dongjun Mun - *POSCO, Pohang city, South Korea*

Possibility of nitriding treatment of Si under N_2atmosphere purified by $CaSi_2$
Tsuyoshi Saito, Kento Kurihara, Ryota Gemma - *Department of Materials Science, School of Engineering, Tokai University, Hiratsuka, Kanagawa, Japan*

History of aviation bearing steels development and its heat treatment
T. M. Pugacheva - *OJSC "YPC SAMARA", Samara state technical University, Samara, Russia*

Nitriding of steels in electrolytic plasma: specifics of combined processes
L.G. Petrova, P.E. Demin - *Moscow Automobile and Road Construction State Technical University (MADI), Moscow, Russia*

The new technology of strengthening the large-scale stamp working surfaces for sheet steel products through hard chrome plating
A.A. Chervyakov - *OOO "PCG", Russia*
A.V. Chikurov, A.K.Tikhonov - *Russia*

Effect of the bombardment bias on the optical transmittance properties of sputtering deposited Pd/Mg-Y alloy thin films
Xu Xuebo, Liu Yue, Bao Mingdong - *School of Materials and Chemical Engineering, Ningbo University of Technology, Ningbo*
Liu Yue, Chen Juan - *School of Materials Science and Engineering, Shanghai Jiaotong University, Shanghai*

The effect of heat treatment on the impact toughness of structural steel subjected to severe plastic deformation
A.M. Ivanov, N.D.Kovalenko - *V.P. Larionov Institute of Physical-Technical Problems of SB of the RAS, Yakutsk, Russia*

The effect of reactive elements on the formation and hot corrosion performance of aluminide coating
F. Fatemi, F. Shahriari Nogorani - *Department of Materials Science and Engineering, Shiraz University of Technology, Shiraz, Iran*

The principles of creating new economically alloyed ferritic steels with a unique complex of difficult to combine properties
A.I. Zaitsev, A.V. Koldaev, A.B. Stepanov, N.A. Arutyunyan, S.F. Dunaev - *Federal State Unitary Enterprise (FSUE) I.P. Bardin Central Research Institute for Ferrous Metallurgy, Moscow, Russia;*
Chemical Faculty, Lomonosov Moscow State University, Moscow, Russia

Measurement of cooling curves and visualization of boiling phenomenon on cylinder probe
Hideo Kanamori - *Graduate School of Saitama Institute of Technology, Fukaya, Saitama, Japan*
Tsuyoshi Sugimoto - *Nissan Motor Co., Ltd., Atsugi, Kanagawa, Japan; and Department of Engineering, Saitama Institute of Technology, Fuseiji, Fukaya, Saitama, Japan*
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Heat treatment of fasteners at AO Belebeevsky plant "Avtonormal"
A.A. Sorokin - *JSC «BelZAN», Belebey, Bashkortostan, Russia*

Control of the structure and properties of cold rolled steel of two-phase ferrite and martensitic steel (of DFMS type) subjected to continuous annealing
I.G. Rodionova, O.N. Baklanova, A.A. Pavlov, N.A. Karamysheva - *Federal State Unitary Enterprise (FSUE) I.P. Bardin Central Research Institute for Ferrous Metallurgy, Moscow, Russia*
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S.V. Denisov, V.E. Telegin, S.G. Andreev, A.V. Mastyaev - *PJSC "Magnitogorsk Iron and Steel Works", Magnitogorsk, Chelyabinsk Region, Russia*

Investigation of the steel structure 15Kh11MF-Sh depending on the thermo-defomation parameters of treatment, investigation of the characteristics of large-sized stamped blanks of turbine blades
M.O.Smirnov, T.A.Chizhik, I.N.Tsybulina - *PJSC «Power machines», Saint Petersburg, Russia*
A.M. Zolotov - *Peter the Great St. Petersburg Polytechnic University, Saint Petersburg, Russia*

Fracture toughness and fracture microrelief of stainless steel with ultrafine-grained structure
E. N. Beletskiy, M. R. Tyutin, L. R. Botvina, U.S. Perminova - *A.A. Baikov Institute of Metallurgy and Materials Science of the Russian Academy of Sciences, Moscow, Russia*

Influence of thermo treatment on the dislocation substructure and photocatalytic properties of ZnO
I.M. Sosnin, A.A. Vikarchuk - *Togliatti State University, Togliatti, Russia*
A.E. Romanov - *University ITMO, Saint Petersburg, Russia*

Ultrasonic treatment of aluminum alloys in the technology of casting products with enhanced resource characteristics
A.U. Petrov, A.E. Shestovskikh, V.N. Timofeev - *RELTEC Ltd, Ekaterinburg, Russia*
V.I. Luzgin, A.S. Koptyakov - *Ural Federal University, Ekaterinburg, Russia*
I.V. Kostin, S.G. Bocvar - *RUSAL ETC LLC, Russia*

Effects of quenching temperature and tempering temperature on impact toughness of 42CrMo Steel
Jie Li, Xunwei Zuo, Nailu Chen, Yonghua Rong - *School of Materials Science and Engineering, Shanghai Jong Tong University, China*

Effect of formation of complex carbide on stainless steel layer by thermo chemical reaction
Sang-Gweon Kim, Kuk-Hyun Yeo, Jae-Hoon Lee, Yong-Ki Cho - *Heat Treatment Technology R&BD Group, Korea Institute of Industrial Technology, Seohaean-ro, Siheung-si, Gyeonggi-do, R.O.Korea*
Masahiro Okumiya - *Toyota Technological Institute, Nagoya, Japan*

Properties of the quenchants measured with LIŠČIĆ/QRC and ISO 9950 or ASTM D6200 probes
B. Matijević - *University of Zagreb, Faculty of Mechanical Engineering and Naval Architecture, Zagreb, Croatia*

NOTE ON THE PROGRAM:
Possible changes in the program will be announced during the Congress