



18th INTERNATIONAL FOUNDRYMEN CONFERENCE

**Coexistence of material science and sustainable
technology in economic growth**

Sisak, May 15th-17th, 2019

University of Zagreb
Faculty of Metallurgy
Sisak, Croatia

University of Ljubljana
Faculty of Natural Sciences and
Engineering
Ljubljana, Slovenia

University North
Koprivnica, Croatia

Technical University of Košice
Faculty of Materials, Metallurgy and
Recycling
Košice, Slovakia

ELKEM ASA
Oslo, Norway



Sveučilište
Sjever

 Faculty of Materials,
Metallurgy and Recycling



organize

18th INTERNATIONAL FOUNDRYMEN CONFERENCE

with motto

**Coexistence of material science and sustainable
technology in economic growth**

PROGRAMME

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WEDNESDAY / May 15th, 2019	
18:00 – 20:00	REGISTRATION OF PARTICIPANTS
20:00 –	WELCOME COCKTAIL

THURSDAY / May 16th, 2019 Conference Hall Siscia I	
08:00 – 09:00	REGISTRATION OF PARTICIPANTS
09:00 – 09:30	OPENING OF THE CONFERENCE Zdenka Zovko Brodarac, Gordana Gojsević Marić, Primož Mrvar, Maroš Halama, Vlado Tropša
SPECIAL PLENARY AND INVITED LECTURES SECTION Moderators: Zdenka Zovko Brodarac, Gordana Gojsević Marić, Primož Mrvar	
09:30 – 10:00	<u>JULIAN RIPOSAN</u> , MIHAI CHISAMERA, STELIAN STAN, MIHAIL FIRICAN GRAPHITE DEGENERATION IN THE SURFACE LAYER OF Mg-TREATED IRON CASTINGS – INFLUENCING FACTORS AND PRACTICAL SOLUTIONS
10:00 – 10:20	<u>HASAN AVDUŠINOVIĆ</u> , ALMAIDA GIGOVIĆ-GEKIĆ, ŠEHZUDIN DERVIŠIĆ DECOMPOSITION OF AUSTENITE IN AUSTEMPERED DUCTILE IRON SAMPLES ON ELEVATED TEMPERATURES
10:20 – 10:40	<u>ZDENKO TONKOVIĆ</u> , KARLO SELEŠ, ANTE JURČEVIĆ, JURICA SORIĆ CRACK PROPAGATION PREDICTION IN HETEROGENEOUS MICROSTRUCTURE OF NODULAR CAST IRON
INVITED LECTURES SECTION Moderators: Ladislav Lukáč, Mitja Petrič, Iulian Riposan	
10:40 – 11:00	<u>SAM RAMRATTAN</u> NEW TESTS FOR CHEMICALLY BONDED FOUNDRY SANDS
11:00 – 11:20	<u>JOŽEF MEDVED</u> , STANISLAV KORES, NATALIJA DOLIĆ, MAJA VONČINA INTERACTION BETWEEN MOLTEN ALUMINIUM AND HOT-WORKING TOOL STEEL



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11:20 – 11:40	<u>PRIMOŽ MRVAR</u>, SEBASTJAN KASTELIC, GREGA GORŠE, BRANKO BAUER, MITJA PETRIČ POSSIBILITIES FOR PROVIDING OF UNIDIRECTIONAL SOLIDIFICATION OF COMPLEX CASTINGS IN THE TECHNOLOGY OF HIGH-PRESSURE DIE-CASTING
11:40 – 12:00	<u>VARUŽAN KEVORKIJAN</u>, TOMAŽ ŠUSTAR, IRENA LESJAK, MARKO DEGIAMPIETRO, JANEZ LANGUS PROGRESS IN ON-LINE OPTICAL EMISSION SPECTROMETRY (OES) DATA-DRIVEN INSPECTION OF INCLUSIONS IN ALUMINIUM ALLOYS
12:00 – 12:30	COFFEE BREAK
ORAL LECTURES SECTION Moderators: Ladislav Lazić, Ivica Kladarić, Ivana Ivanić	
12:30 – 12:50	<u>LJERKA SLOKAR BENIĆ</u>, IVAN JANDRLIĆ, STOJA REŠKOVIĆ EFFECT OF SUBSEQUENT HEATING ON THE MICROSTRUCTURE AND MECHANICAL PROPERTIES OF Nb MICROALLOYED STEEL
12:50 – 13:10	<u>IVAN JANDRLIĆ</u>, STOJA REŠKOVIĆ, LADISLAV LAZIĆ, TIN BRLIĆ, DUŠAN ČURČIJA APPROPRIATE MATHEMATICAL MODEL FOR STRESS CALCULATION BASED ON THE MEASURED VALUES OF DEFORMATION AND TEMPERATURE CHANGES
13:10 – 13:30	<u>TAMARA ALEKSANDROV FABIJANIĆ</u>, MLADEN FRANZ, STOJA REŠKOVIĆ DETERMINATION OF MECHANICAL PROPERTIES OF NIOBIUM MICRO-ALLOYED STEEL USING INSTRUMENTED INDENTATION TEST
13:30 – 14:00	ROUND TABLE PRESENTATION OF CROATIAN FOUNDRY ASSOCIATION (CFA) Moderators: Milorad Vasilić, Branislav Branković
14:00 – 16:00	CONFERENCE LUNCH (Conference Hall Siscia II)



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INVITED LECTURES & ORAL PRESENTATION SECTION

Moderators: Mirko Gojić, Milena Premović, Ivan Jandrić

16:00 – 16:20	BOŽO SMOLJAN, DARIO ILJIĆ, SUNČANA SMOKVINA HANZA PREDICTION OF WORKING STRESS OF QUENCHED AND TEMPERED STEEL AND CAST STEEL SPECIMEN
16:20 – 16:40	JAKOV BALETA, DAMIJAN CERINSKI, FENGSHENG QI, FANG WANG, JIN WANG, XUEBIN WANG THE INFLUENCE OF WATER MIST INJECTION ON THE FILM COOLING PROCESS OF CASTED TURBINE BLADES
16:40 – 17:00	IVICA KLADARIĆ, STJEPAN GOLUBIĆ, SLAVICA KLADARIĆ THE IMPACT OF APPLYING PVD COATINGS ON SURFACE ROUGHNESS OF QUENCHED AND TEMPERED STEELS
17:00 – 17:20	DIPAK GHOSH COMPARISON OF MOLDING SAND TECHNOLOGY BETWEEN ALPHASET (APNB) AND FURAN (FNB)
17:20 – 17:50	COFFEE BREAK

INVITED LECTURES & ORAL PRESENTATION SECTION

Moderators: Varužan Kevorkijan, Ilhan Bušatlić, Ladislav Vrsalović

17:50 – 18:10	BLAŽ LESKOVAR, BOŠTJAN MARKOLI, IZTOK NAGLIČ COOLING RATE ASSESSMENT DURING NONEQUILIBRIUM SOLIDIFICATION OF COMPLEX Al–Mn–BASED ALLOYS
18:10 – 18:30	MILENA PREMOVIĆ, DUŠKO MINIĆ, DRAGAN MANASIJEVIĆ, ALEKSANDAR DJORDJEVIĆ THERMODYNAMIC DESCRIPTION OF THE TERNARY Ge–Sn–Ag, In, Zn
18:30 – 18:50	DRAGAN MANASIJEVIĆ, DUŠKO MINIĆ, LJUBIŠA BALANOVIĆ, MILENA PREMOVIĆ, MILAN GORGIEVSKI MICROSTRUCTURE AND SOLIDIFICATION BEHAVIOR OF THE Ga–Ge–Sb TERNARY ALLOYS
18:50 – 19:10	MAROŠ HALAMA, KAROL KOVAL, ANDREJ PETRIK CORROSION MONITORING OF METAL RELEASE INTO ENVIRONMENT





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THURSDAY / May 16th, 2019 Conference Hall Siscia II	
21:00 –	CONFERENCE GALA DINNER

FRIDAY / May 17th, 2019	
08:30 – 14:00	WORK VISIT:  ŠESTAN-BUSCH Ltd, Prelog, Croatia  TEHNIX Ltd, Donji Kraljevec, Croatia
14:00 – 14:30	CONFERENCE CLOSING
14:30 – 16:00	CONFERENCE LUNCH

SPONSOR EXHIBITION		
09:00 – 19:00	THURSDAY / May 16th, 2019	Banquet Hall (ground floor)



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POSTER SECTION

Exhibition Hall next to the Conference Hall

THURSDAY, May 16th, 2019: 12:00 – 12:30 // 17:20 – 17:50

Moderators: Martina Lovrenić-Jugović, Dragan Manasijević

Authors should be available for presentation and individual talk on

SANDRA BRAJČINOVIĆ, ANITA BEGIĆ HADŽIPAŠIĆ, JOŽEF MEDVED, STJEPAN KOŽUH

INFLUENCE OF MEDIUM ON CORROSION AND MICROSTRUCTURAL PROPERTIES OF HTCS-130 TOOL STEEL FOR HOT WORK

NATALIJA DOLIĆ, IVANA BUNJAN, FRANJO KOZINA

CORRELATION OF MECHANICAL AND MICROSTRUCTURAL PROPERTIES IN AS-CAST CONDITION OF EN AW-5083 ALUMINIUM ALLOY USING STATISTICAL ANALYSIS

STANISŁAW GIL, WOJCIECH BIALIK, BOLESŁAW MACHULEC, SŁAWOMIR KOZŁOWSKI

MODERNIZATION OF THE LADLE TO IMPROVE FERROALLOY REFINING CONDITIONS

SENKA GUDIĆ, BLANKA RAKULIĆ, LADISLAV VRSALOVIĆ, MILAN BIZJAK, IVANA IVANIĆ, STJEPAN KOŽUH, MIRKO GOJIĆ

INFLUENCE OF Mn ON THE CORROSION BEHAVIOR OF CuAlMn ALLOY IN NaCl SOLUTION

IVANA IVANIĆ, STJEPAN KOŽUH, NIKOLINA PAVIČIĆ, DIJANA ČUBELA, OMER BEGANOVIĆ, BORUT KOSEC, MIRKO GOJIĆ

MICROSTRUCTURAL ANALYSIS OF COLD DRAWN CuAlMn SHAPE MEMORY ALLOY WIRE

IGOR JAJČINOVIĆ, IVAN BRNARDIĆ, STJEPAN KOŽUH, KRISTINA TOLIĆ

THE IMPACT OF MULTIWALL CARBON NANOTUBES ON THE PHOTOCATALYTIC PROPERTIES OF IMOBILIZED TiO₂

FRANJO KOZINA, ZDENKA ZOVKO BRODARAC, DALIBOR DROBNJAK, IVAN JUKIĆ

INVESTIGATION OF IRON CONTAINING INTERMETALLICS IN AISi12 ALLOY WITH w (Mn/Fe) = 0.99

STJEPAN KOŽUH, KATARINA PAVIČIĆ, IVANA IVANIĆ, MILAN BIZJAK, MIRKO GOJIĆ

THE EFFECT OF ANNEALING TIME ON MICROSTRUCTURE AND IMPACT ENERGY OF STAINLESS STEEL AISI 316L



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LADISLAV LUKÁČ, JÁN KIZEK, AUGUSTÍN VARGA, LADISLAV LAZIĆ, RÓBERT DZURŇÁK

SELECTED PARAMETERS THAT INFLUENCE EMISSION FORMATION DURING ALUMINUM MELTING

IVANA MANASIJEVIĆ, LJUBIŠA BALANOVIĆ, TAMARA HOLJEVAC GRGURIĆ, EMI GOVORČIN BAJSIĆ

INVESTIGATION OF THERMAL PROPERTIES OF THE Ga-In AND Ga-Sn EUTECTIC ALLOYS

IVANA MIHALIC POKOPEC, INES MANCE, DAVOR CESAREC, BRANKO BAUER

PERMANENT MOULD CASTING OF ALUMINIUM ALLOY FORK

VESNA OCELIĆ BULATOVIĆ, DAJANA KUČIĆ, ANTONIO IVANČIĆ, LUCIJA KEFURT

EFFECT OF UV IRRADIATION ON THERMAL AND MECHANICAL PROPERTIES OF MATERIALS

TAHIR SOFILIĆ, IVAN BRNARDIĆ, UNA SOFILIĆ-ŠIMIĆ, LAILA GUMHALTER-MALIĆ

WASTE OIL MANAGEMENT IN CROATIA FOR THE PERIOD 2007 – 2016

PAUL SPONSEL, IRENA ŽMAK, MILAN VUKŠIĆ

THE CHARACTERISTICS AND ENVIRONMENTAL ASPECTS OF MAGNESIUM THIXOMOLDING VERSUS DIE CASTING PROCESS

UROŠ STAMENKOVIĆ, SVETLANA IVANOV, IVANA MARKOVIĆ, VESNA GREKULOVIĆ, JASMINA PETROVIĆ, MILICA BOŠKOVIĆ

THE EFFECT OF THE AGING PROCESS ON THE DIFFERENT PROPERTIES OF THE EN AW-6082 ALUMINUM ALLOY

SANJA ŠOLIĆ, BOJAN PODGORNIK, ZDRAVKO SCHAUPERL, MATJAŽ GODEC, BRANKO BAUER, VLADO TROPŠA

INFLUENCE OF DEEP CRYOGENIC TREATMENT ON THE MECHANICAL PROPERTIES OF ADI AUSTEMPERED AT THE LOWER AUSFERRITIC RANGE

LADISLAV VRŠALOVIĆ, IVANA IVANIĆ, STJEPAN KOŽUH, BORUT KOSEC, MILAN BIZJAK, SENKA GUDIĆ, MIRKO GOJIĆ

CORROSION BEHAVIOR OF CuAlMn and CuAlMnNi alloy in 0.9% NaCl SOLUTION



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STUDENT SECTION / Banquet Hall (1st floor)

THURSDAY, May 16th, 2019: 16:00 – 18:00

Moderators: Natalija Dolić, Stjepan Kožuh

Evaluation committee: Ljerka Slokar Benić, Hasan Avdušinović, Maja Vončina, Ljubiša Balanović, Branko Bauer





16:00 – 16:15	<u>IVANA GAVRANOVIĆ, ZENKA ZOVKO BRODARAC, FRANJO KOZINA, TOMISLAV RUPČIĆ</u> INFLUENCE OF SOLIDIFICATION CONDITIONS AND WALL THICKNESS ON THE DEVELOPMENT OF PRIMARY α -Al IN AlSi7Mg ALLOY
16:15 – 16:30	<u>JURAJ GODINIĆ, SANJA ŠOLIĆ</u> PRODUCTION AND CHARACTERIZATION OF NODULAR CAST IRON GRADE EN GJS 400-15
16:30 – 16:45	<u>ANA-MARIJA HIRŠ, NATALIJA DOLIĆ</u> ALTERNATIVE METHODS OF ALUMINIUM PRODUCTION
16:45 – 17:00	<u>ANDRAŽ JUG, IVAN ANŽEL</u> COMPARISON OF CASTED AND RAPIDLY SOLIDIFIED MICROSTRUCTURE OF Ag-2La ALLOY
17:00 – 17:15	<u>BLANKA KRČELIĆ, ANITA BEGIĆ HADŽIŠAIĆ</u> STRESS CORROSION CRACKING OF METALS AND METAL ALLOYS AS PHENOMENON OCCURS IN FOUNDRY
17:15– 17:30	<u>LEA LOKAS, VESNA ALAR</u> ELECTROCHEMICAL PROPERTIES OF AA5083 AND AA6060 ALLOYS IN SEAWATER
17:30 – 17:45	<u>FILIP SKENDER, TIN BRLIĆ, STOJA REŠKOVIĆ</u> INFLUENCE OF STRETCHING RATE ON THE BEGINNING OF COLD DEFORMATION IN NIOBIUM MICROALLOYED STEEL
17:45– 18:00	<u>PATRIK TARANDEK, STOJA REŠKOVIĆ, TIHANA PERKOVIĆ OBUĆINA, SAŠA KOSTIĆ, TIN BRLIĆ</u> COLD DRAWING OF STEEL TUBES



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