**PROGRAMME** / PROGRAM

**62th IFC Portoroz 2021** / 62. IFC Portorož 2022

**Wednesday / Sreda, 14.09.2022**

**16:30 – 19:30 Registration of participants at the Conference reception desk** / Prijava udeležencev na recepciji konference

**17:30 Bus transfer from Hotel Slovenija to Piran** / Avtobusni prevoz od hotela Slovenija do Pirana

**18:00 Reception in the garden of the Cultural Center Georgios - in the church of St. Jurij with a welcome address by the representative of the County of the Municipality of Piran** / Sprejem na vrtu Kulturnega centra Georgios - v cerkvi sv. Jurija s pozdravnim nagovorom predstavnika županstva Občine Piran

**Thursday / Četrtek 15.09.2022**

**Hall / Hala: Cristoforo Colombo**

**7:30 – further / dalje Registration of participants at the Conference reception desk**

**9:30 – 9:45** MIRJAM JAN–BLAŽIČ,

 President, *Slovenian Foundrymen Society*

 **The Opening Address**

**Thursday / Četrtek 15.09.2022**

**PLENARY LECTURES / PLENARNI PREDAVATELJI,** **Hall / Hall: Cristoforo Colombo**

**9:45 – 10:15** R. DEIKE, University Duisburg-Essen (DE): **The special importance of metals in circular economy** / Posebna pomembnost kovin v

 krožnem gospodarstvu

10:15 – 10:45 Peter Schumacher 1,2, Ernst Neunteufl1, 1Österreichisches Gießerei-Institut, Leoben (AT): **ÖsterreichInnovative processing routes for defect free shape castings with decreased CO2 footprint** /

**10:45 – 11:15** A. KRIŽMAN1, P. MRVAR2, M. JAN-BLAŽIĆ3, 1University of Ljubljana, 2University of Maribor, 3Slovenian Foundrymen Society (SI): **A research university - base for the global challenges and progress of the Slovenian foundry industry** / Raziskovalna univerza - osnova za globalne izzive in napredek slovenske livarske industrije

**11:15 – 11:45 Break / Pavza**

**11:45 – 12:25** K. WEISS1, P. STOLFIG2, C.SCHENDERA3, 1RWP Gesellschaft beratender Ingenieure für Berechnung und rechnergestützte Simulation m.b.H., 2Stolfig Leichtbau Kompetenzzentrum GmbH, 3EFM Europäische Forschungsgemeinschaft Magnesium e.V (DE): **Gravity casting with applied pressure** / Gravitacijsko litje z uporabo tlaka

**12:15** **– 12:45** L. KNIEWALLNER1, S. WIESNER2, D. FOKIN3, 1Rusal Marketing GmbH (CH), 2Aluminium Rheinfelden Alloys GmbH (DE), 3Institute of Light Materials and Technologies, Moskau (RU): **Development of foundry alloys – challenge between performance and sustainability /** Razvoj livarskih zlitin – izziv med lastnostmi in trajnostjo

**12:45 – 13:15** A. KEIDIES1, 1BDGuss (DE): **New Perspectives for the Casting**

**Industry** / Nove perspektive za livarsko industrijo

**13:15 – 15:15 Lunch break / Kosilo**

**15:15 – 15:45** M. WEBER1, 1MAGMA Gießereitechnologie GmbH (DE): **The Digital**

**Foundry Process – MAGMA and Industry 4.0** /Digitalni livarski proces - MAGMA in industrija 4.0

**15:45 – 16:15** I.A. BACANU1, M. KLÄS1, 1HA Group (DE): **The benefits of foundries by using the platform offered by the ha centre of competence** / Ugodnosti livarn pri uporabi platforme ponujene s strani ha kompetenčnega centra

**16:15 – 16:30 Break / Pavza**

**16:30 – 17:00** C. BLEICHER1, C. PITTEL1, K. LIPP1, 1Fraunhofer Institute for Structural Durability and System Reliability LBF (DE): **Considering the fatigue strength based on the local microstructure for the production of efficient gears made of nodular cast iron** / Upoštevanje trajne dinamične trdnosti iz vidika lokalne mikrostrukture za proizvodnjo učinkovitih prestav iz sive litine s kroglastim grafitom

**17:00 – 17:30** D. MOLNAR, University of Miskolc (HR): **Reverse engineering of artefacts** / Obratni inženiring artefaktov

**Thursday evening / Četrtkov večer, 15.09.2022**

**19:30 Foundrymen night on the coastline / Noč livarjev na obali**

**Friday 16.09.2022**

**Section A / Sekcija A, Hall / Hala: Vasco da Gamma**

**Cast iron and casting Technology / Litoželezo in livarska tehnologija**

**9:00 – 9:20** G. GEIER1, D. HOWE1, 1Siempelkamp Giesserei GmbH (DE)**: Digitalisation in the Foundry Industry – From Concept to Real Life Application /** Digitalizacija v livarski industriji – od koncepta do realne aplikacije

**9:20 – 9:40**  P. MRVAR1, 1University of Ljubljana (SI): **Defect analysis of castings made of CGI and SGI due to thermo-mechanical and erosion effect of liquid Al-alloy** / Analiza poškodb na ulitkih iz CGI in SGI zaradi temo-mehanskega in erozijskega delovanja tekoče Al zlitine

**9:40 – 10:00** M. MANAPURAM1, 1North Eastern Regional Institute of Science and Technology (IN): **Recasting the casting operations vis a vis casting input-output supply chain management** / Preoblikovanje operacij litja z upoštevanjem vhodno-izhodnega upravljanja dobavne verige

**10:00 – 10.15 Break / Pavza**

**10:15 – 10:35** Z. ZOVKO BRODARAC1, 1A. MAHMUTOVIĆ, 1S. ZELJKO, 1L. ZELJKO, 1University of Zagreb (HR): **Efficiency of Numerical simulation in optimization of casting production** / Uspešnost numeričnih simulacij pri optimizaciji proizvodnje ulitkov

**10:35 – 10:55**  C. NIELSEN1, 1DISA Industries A/S (DK): **Harnessing data to manage**

**and improve the casting process** / Izkoriščanje podatkov za upravljanje in izboljšanje livarskega procesa

**10:55 – 11:15** B. BAUER1, K. JURKOVIĆ1, S. KASTELIC2, P. MRVAR2, 1University of Zagreb (HR), 2University of Ljubljana (SI): **Simulation study on the centrifugal casting of stainless steel tube based on Procast** / Simulacijska študija centrifugalnega litja cevi iz nerjavnega jekal s pomočjo programa ProCast

**11:15 – 11:30 Break / Pavza**

**11:30 – 11:50** K.VAN NIEKERK1,2, 1Lauds Foundry equipment Gmbh (DE), 2Siapro d.o.o. (SI): **Solution for cold box unused sand; primary and secondary reclamation** / Rešitve za neuporabljeno cold box peščeno mešanico; primarna in sekundarna regeneracija

**11:50 – 12:10** J. POKLIČ1,2, A. NAGODE1, P. MRVAR1, A. TEKAVČIČ2, M. PETRIČ2

1University of Ljubljana (SI), 2Kovis Livarna d.o.o. (SI): **Comparison of**

**impact and fracture toughness of ductile iron and ferritic steel** / Primerjava udarne in lomne žilavosti sive litine s kroglastim grafitom in feritnega jekla

**12:10 – 12:30** L. LAZIĆ1, M. LOVRENIĆ-JUGOVIĆ1, M. BOROŠIĆ2, 1University of Zagreb, 2ABS Sisak d.o.o. (HR): **Determining the ratio of the metal components of the charge at the cupola furnace** / Določitev razmerja kovinskih komponent vložka pri kupolni peči

**12:30 – 12:45 Break / Pavza**

**12:45 – 13:05** K. DELIJIĆ1, M. FILIPOVIĆ2, V. MANOJLOVIĆ2, D. RADONJIĆ1, 1University of Montenegro (MNE), 2University of Belgrade (SRB): **Corrosion behavior of high-chromium white cast iron grinding balls produced with al5ti1b inoculants** / Korozijske lastnosti mlevnih krogel iz bele litine z visoko vsebnostjo kroma izdelane s al5ti1b cepivom

**13:05 – 13:25** J. BRENCE1, S. KASTELIC2, A. MAHMUTOVIĆ2, P. MRVAR, Livarna 1Titan d.o.o., 2TC Livarstvo d.o.o. (SI): **The use of numerical calculation of casting process for optimization of casting-feeding system of isolation cap casting** / Uporaba izračuna livarskih procesov za optimizacijo ulivno-napajalnega sistema ulitka kape izolatorja

**13:25 – 13:45** S. KASTELIC1,3, M. GRAH2, J. SELJAK2, D. KOGOJ2, A. MAHMUTOVIĆ3, P. MRVAR1, 1University of Ljubljana (SI), 2ETA d.o.o. Cerkno (SI), 3TC Livarstvo d.o.o. (SI): **Numerical calculation calibration for optimization of foundry technology of a heat plate** / Umerjanje numeričnega izračuna za optimizacijo procesa litja grelne plošče

**14:00** **Conclusion of the Conference with lunch / Zaključek konference s kosilom**

**Friday, 16.09.2022**

**Section B / Sekcija B, Hall / Hala: Cristoforo Colombo**

**Non-ferrous alloys / Neželezne zlitine**

**9:00 – 9:20** R. RUDOLF1,2, P. MAJERIČ1,2, V. LAZIĆ3, 1University of Maribor, 2Zlatarna Celje d.o.o. (SI), 3University of Belgrade (SRB): **Development of new dental alloy based on gold and germanium** /Razvoj nove dentalne zlitine na osnovi zlata in germanija

**9:20 – 9:40** F. ŽABERL1, 1FANUC Adria d.o.o. J. BABIČ2, 2Nopromat d.o.o. (SI): **The use of FANUC industrial robots at casting and processing of castings with examples from practice** / Uporaba industrijskih robotov FANUC v livarstvu in obdelavi ulitkov s primeri iz prakse

**9:40 – 10:00**  A. STONE1, 1MAXImolding! Technology GmbH (DE): **Multiple vertical semisolid metal mold injectors with simultaneous and effective semisolid melt delivery for large surface area parts - new giga press for light alloys structural parts** / Vertikalne šobe za hkratno in efektivno dovajanje delno strjene taline v kovinska orodja – nov giga press za strukturne elemente iz lahkih zlitin

**10:00 – 10:15 Break / Pavza**

**10 :15 – 10 :35** V.KOLDA1, Z. KUZMA1, 1Mecas ESI s.r.o. (CZ): **How to make Casting Simulation Result much accurate and useful** / Kako narediti rezultat računalniških simulacij točen in uporaben

**10:35 – 10:55** M. VONČINA1, K. RUDOLF1, J. MEDVED1, 1University of Ljubljana (SI): **Effect of specific surface and portion of recycled aluminium on quality of AlSi10Mg(Fe) alloy** / Vpliv specifične površine in deleža recikliranega aluminija na kakovost zlitine

**10:55 – 11:15** N. JERŠIN1, 1LTH Castings d.o.o. (SI): **Automated stocking of melting furnace** / Avtomatizirano zalaganje talilnih peči

**11:15 – 11:30 Break / Pavza**

**11:30 – 11:50**  G. Zippel1, 1Piller Entgrattechnik GmbH (DE): **Using high pressure technology - deburring and cleaning in die casting industry** / Uporaba tlačne tehnologije – raziglevanje in čiščenje pri litju v trajne forme

**11:50 – 12:10** V. KRUTIŠ1, R. ŠTĚPÁN1, **1**Brno University of Technology (CZ): **Optimization of 3d printed models produced by the fdm method for investment casting technology** / Optimizacija z FDM metodo 3D natisnjenih modelov za tehnologijo precizijskega litja

**12:10 – 12:30** M. PETRIČ1, M. VONČINA1, T. BALAŠKO1, S. KASTELIC1, M. ŽBONTAR1, P. MRVAR1, 1University of Ljubljana (SI): **Influence of Li addition to AlSi7Mg cast alloy** / Vpliv dodatka Li livarski zlitini AlSi7Mg

**14:00 Conclusion of the Conference with Lunch / Zaključek konference**

**s kosilom**

**Friday, 16.09.2022**

**Section C / Sekcija C, Hall / Hala: Roald Amundsen / Robert Scott**

**Secondary equipment and technolgies for foundry / Sekundarna oprema in tehnologije za livarstvo**

**9:00 – 9:20**  C. MÜLLER1, 1 Laempe Mössner Sinto GmbH (DE):

**9:20 – 9:40**  C. PITTEL1, C. BLEICHER1, H. KAUFMANN1, 1Fraunhofer Institute for Structural Durability and System Reliability LBF (DE): **Assessment of local component strength based on the virtual limiting sample considering the fatigue strength influenced by casting imperfections** / Ocena lokalne trdnosti komponent na osnovi virtualnega mejnega vzorca iz vidika trajne dinamične trdnosti glede na nepopolnosti ulitka

**9:40 – 10:00**  M. PESCI1, 1HA ITALIA S.p.A. (IT): **Preventing graphite degeneration with fluorine-free chemex feeders** / Preprečitev degeneracijo grafita z uporabo chemex napajalnikov brez fluora

**10:00 – 10:15 Break / Pavza**

**10:15 – 10:35**  M. BERBIĆ1, P. HOFER-HAUSER1, G. SCHINDELBACHER1, P. SCHUMACHER1, 1Österreichisches Gießerei-Institut (AT): **The increased benefit of topology optimization due to 3D sand printing**

**10:35 – 10:55**  L. HAŠKA1, J. ANDREJEWSKI2, 1JUNKER Industrial Equipment s.r.o. (CZ), 2OTTO-JUNKER GmbH (DE): **JUPITERLine and JUPITER BoxLine - standardized modular induction melting furnaces** / JUPITERLine and JUPITER BoxLine – standardizirane modularne indukcijske talilne peči

**10:55 – 11:15**  C. COSSALTER1, 1Lianco Technologies Ltd (GB): **Finishing of castings immediately after the Covid outbreak** / Dodelava ulitkov takoj po izbruhu Covida

**11:15 – 11:30 Break / Pavza**

**11:30 – 11:50** M. MENCEJ1, 1Carl Zeiss d.o.o. (SI): **Time effective analysis of technical purity by a microscope** / Časovno učinkovita analiza tehnične čistosti z mikroskopom

**11:50 – 12:10**  K. GOLDA1, 1Cold Jet bvba (BE): **Sustainable and intelligent dry ice cleaning for the foundry industry** / Trajnostno in inteligentno čiščenje s suhim ledom v livarski industriji

**12:10 – 12:30** JANDRLIĆ1, F. KOZINA1, T. BRLIĆ1, L. MRKOBRADA1 1University of Zagreb (HR): **Changes in structure and properties of copper wire during the production and** **processing** / Spremembe strukture in lastnosti bakrove žice med proizvodno in predelavo

**14:00 Conclusion of the Conference with Lunch / Zaključek konference s kosilom**

**Poster presentations / Plakatne predstavitve**

**2**. M. MATEJKA1, M. BRŮNA1, A. SLÁDEK1, I. VAŠKO, 1University of Zilina, 2IGV technológie s.r.o. (SK): **Internal homogeneity** **evaluation of AlSi7Mg0.3Cu0.5 alloy with addition of Zr, Ti and Sr** / Ocena notranje homogenosti zlitine AlSi7Mg0.3Cu0.5 z dodatkom Zr, Ti in Sr

**3.** S. SURESH KUMAR1, M. MANAPURAM1, 1North Eastern Regional Institute of Science and Technology (IN): **Study on hybrid electric light motor vehicle sub-systems for indian automobile industry** / Študija podsistemov za hibridna, lahka motorna vozila za indijsko avtomobilsko industrijo

4. H. FRANSSON1, 1NovaCast Systems AB (SE): **Minimazing C02 emissions without losing product quality** / Zmanjšanje CO2 emisij brez zmanjšanja kakovosti izdelkov