

PROGRAMME / PROGRAM

62nd IFC Portoroz 2022 / 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 pri 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 a circular economy /** Posebna pomembnost kovin v krožnem gospodarstvu
- 10:15 – 10:45** M. BERBIĆ, P. HOFER-HAUSER, G. SCHINDELBACHER, P. SCHUMACHER, Österreichische Gießerei-Institut, (AT): **The increased benefit of topology optimization due to 3-d sand printing /** Večje koristi optimizacije topologije kot posledica 3-d tiskanja peska

- 10:45 – 11:15** A. KRIŽMAN^{1,3}, P. MRVAR^{2,3}, M. JAN-BLAŽIČ³, ¹University of Maribor, ²University of Ljubljana, 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 / Odmor**
- 11:45 – 12:25** K. WEISS¹, P. STOLFIG², C.SCHENDERA³, ¹RWP GmbH, ²Leichtbaukompetenzzentrum Eichelhardt, ³EFM, (DE): **Gravity casting with applied pressure** / Gravitacijsko litje z uporabo tlaka
- 12:25 – 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. KEIDIES, BDGuss (DE): **New Perspectives for the Casting Industry** / Nove perspektive za livarsko industrijo
- 13:15 – 15:15** **Lunch break / Kosilo**
- 15:15 – 15:45** M. WEBER, MAGMA 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. BACANU, M. KLÄS, HA 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 / Odmor**

- 16:30 – 17:00** C. BLEICHER, C. PITTEL, K. LIPP, Fraunhofer 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 (HU): **Reverse engineering of artefacts** / Obratni inženiring artefaktov
- 17:30 – 18:00** I. RIPOSAN, D. ANCA, S. STAN, I. STAN, M. CHISAMERA, University of Bucharest, (RO): **Metal mold solidification of high-Si ductile irons** / Strjevanje sive litine s kroglastim grafitom z visoko vsebnostjo Si v kovinski formi

Thursday evening / Četrtek večer, 15.09.2022

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

Friday / Petek, 16.09.2022

Section A / Sekcija A, Hall / Hala: Vasco da Gama

Cast iron and casting technology / Litoželezo in livarska tehnologija

- 9:00 – 9:20** G. GEIER, D. HOWE, Siempelkamp 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, M. PETRIČ¹, B. BAUER², ¹University of Ljubljana (SI), ²University of Zagreb (HR): **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 termomehanskega in erozijskega delovanja tekoče Al zlitine
- 9:40 – 10:00** M. MANAPURAM, North 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 / Odmor**
- 10:15 – 10:35** Z. ZOVKO BRODARAC¹, A. MAHMUTOVIĆ², S. ZELJKO³, L. ZELJKO¹,
¹University of Zagreb (HR), ²TC Livarstvo d.o.o. (SI), ³Plamen d.o.o.
Požega (HR): **Efficiency of numerical simulation in optimization of
casting production** / Uspešnost numeričnih simulacij pri optimizaciji
proizvodnje ulitkov
- 10:35 – 10:55** C. NIELSEN, DISA 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 jekla s
pomočjo programa ProCast
- 11:15 – 11:30** **Break / Odmor**
- 11:30 – 11:50** K.VAN NIEKERK^{1,2}, ¹Lauds Foundry equipment GmbH (DE), ²Siapro
d.o.o. (SI): **Solution for cold box unused sand; primary and
secondary reclamation** / Rešitev za neuporabljeno cold box peščeno
mešanico; primarna in sekundarna regeneracija
- 11:50 – 12:10** J. POKLIČ^{1,2}, A. NAGODE¹, P. MRVAR¹, A. TEKAVČIČ², M. PETRIČ¹,
¹University of Ljubljana, 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 / Odmor**

- 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 z Al5Ti1B cepivom
- 13:05 – 13:25** J. BRENCIĆ¹, S. KASTELIĆ², A. MAHMUTOVIĆ², P. MRVAR³, ¹Livarna Titan d.o.o., ²TC Livarstvo d.o.o., ³University of Ljubljana, (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. KASTELIĆ^{1,3}, M. GRAH², J. SELJAK², D. KOGOJ², A. MAHMUTOVIĆ³, P. MRVAR¹, ¹University of Ljubljana, ²ETA d.o.o. Cerklje, 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 / Petek, 16.09.2022

Section B / Sekcija B, Hall / Hala: Amerigo Vespucci

Non-ferrous alloys / Neželezne zlitine

- 9:00 – 9:20** R. RUDOLF^{1,2}, P. MAJERIČ^{1,2}, V. LAZIČ³, 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** A. STONE, MAXImolding! 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

- 9:40 – 10:00** M. VONČINA, K. RUDOLF, J. MEDVED, University 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
- 10:00 – 10:15** **Break / Odmor**
- 10:15 – 10:35** V. KRUTIŠ, R. ŠTĚPÁN, 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
- 10:35 – 10:55** N. JERŠIN, LTH Castings d.o.o. (SI): **Automated stocking of melting furnace** / Avtomatizirano zalaganje talilnih peči
- 10:55 – 11:15** G. ZIPPEL, Piller 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
- 11:15 – 11:30** **Break / Odmor**
- 11:30 – 11:50** M. PETRIČ, M. VONČINA, T. BALAŠKO, S. KASTELIC, M. ŽBONTAR, P. MRVAR, University of Ljubljana, (SI): **Influence of Li addition to AlSi7Mg cast alloy** / Vpliv dodatka Li livarski zlitini AlSi7Mg
- 11:50 – 12:10** M. MATEJKA¹, M. BRŮNA¹, A. SLÁDEK¹, I. VAŠKO², ¹University of Zilina, ²IGV technológje 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
- 12:10 – 12:30** S. SURESH KUMAR, M. MANAPURAM, North 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
- 14:00** **Conclusion of the Conference with lunch / Zaključek konference s kosilom**

Friday / Petek, 16.09.2022

Section C / Sekcija C, Hall / Hala: Cristoforo Colombo

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

- 9:00 – 9:20** C. MUELLER, Laempe Mössner Sinto GmbH (DE): **Equipment setup for productivity & quality improvements in the core shop** / Nastavitev opreme za izboljšanje storilnosti in kakovosti v jedrarni
- 9:20 – 9:40** C. PITTEL, C. BLEICHER, H. KAUFMANN, Fraunhofer 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. PESCI, HA ITALIA S.p.A. (IT): **Preventing graphite degeneration with fluorine-free chemex feeders** / Preprečitev degeneracije grafita z uporabo chemex napajalnikov brez fluora
- 10:00 – 10:15** **Break / Odmor**
- 10:15 – 10:35** F. ŽABERL¹, J. BABIČ², ¹FANUC Adria d.o.o., 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
- 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** K. GOLDA, Cold Jet bvba (BE): **Sustainable and intelligent dry ice cleaning for the foundry industry** / Trajnostno in inteligentno čiščenje s suhim ledom v livarski industriji

- 11:15 – 11:30** **Break / Odmor**
- 11:30 – 11:50** M. MENCEJ, Carl 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** C. COSSALTER, Lianco Technologies Ltd (GB): **Finishing of castings immediately after the Covid outbreak** / Dodelava ulitkov takoj po izbruhu Covida
- 12:10 – 12:30** JANDRLIĆ, F. KOZINA, T. BRLIĆ, L. MRKOBRAĐA, University of Zagreb, (HR): **Changes in structure and properties of copper wire during the production and processing** / Spremembe strukture in lastnosti bakrove žice med proizvodnjo in predelavo
- 14:00** **Conclusion of the Conference with Lunch / Zaključek konference s kosilom**

Poster presentations / Plakatne predstavitve

1. H. FRANSSON, M. HAGBYHN, NovaCast Systems AB, (SE): **Minimizing CO₂ emissions without losing product quality** / Zmanjšanje CO₂ emisij brez zmanjšanja kakovosti izdelkov
2. A. ŠUC¹, U. KLANČNIK², M. DROBNE², M. PETRIČ¹, ¹University of Ljubljana, ²Valji d.o.o., (SI): **Effect of element addition in inoculants on the graphite precipitation in centrifugally cast malleable cast iron alloy** / Učinek cepiv z različnimi vsebujočimi elementi na izločanje grafita v centrifugalno liti melirani litini
3. I. VASKOVÁ¹, M. CONEV², P. DELIMANOVÁ¹, ¹Technical University of Košice, ²Nemak Slovakia, (SK): **Some experience with cores made by inorganic binders** / Nekaj izkušenj z jedri, izdelanimi z anorganskimi vezivi