

Infacon XV: International Ferro-Alloys Congress—Programme—Monday 26 February 2018

	Hall A	Hall B	Hall C	Upstairs - Room 11	Upstairs - Room 8
08:00–08:20	01 - Plenary—Rodney Jones Welcome & Safety Announcement, Rodney Jones & Hurman Eric				
08:20–08:35	Address by SAIMM President Selo Ndlovu,				
08:35–09:20	Plenary—Changing nickel and chromium stainless steel markets , Heinz Pariser				
09:20–09:30	Presentation by Platinum Sponsor , Hatch				
09:30–10:30	Plenary—Climate change: threats, realities, and promises , Bob Scholes				
10:30–11:00	MORNING TEA BREAK				
	02 - FeCr Fundamentals - Slag Quinn Reynolds	05 - Mn Direct reduction Merete Tangstad	08 - Freeze linings & Refractories Harmen Oterdoom	11 - Process modelling Johan Zietsman	14 - Pre-treatment, Off-gas, Miscellaneous Nicole Sweeten
11:00–11:25	Fluxing of South African chromite ore with colemanite M.W. Erwee, I.J. Geldenhuys, M.B. Sitefane, and M. Masipa	Mechanism and kinetic modelling of methane-based reduction of Mamatwan manganese ore A. Bhalla and R.H. Eric	Properties of freeze linings formed during the production of manganese ferro-alloys P. O'Shaughnessy	Simulation of the ferrosilicon process using a small-scale laboratory furnace R. Saadie, M. Tangstad, and H. Wegge	Recycling waste particulates to converters by dual-phase injection lancing A.M. Cameron ¹ , D. Guerra ² , K. Vallo, and T. Ikaheimonen
11:25–11:45	Microstructure analysis of the slag of refined ferrochromium obtained using a new reducing agent - aluminium-silicon-chrome S. Baisanov, A. Baisanov, Ye. Shabanov, A. Baisanova, and Ye. Makhambetov	Chemical, microstructural, and phase changes of manganese ores in calcination and pre-reduction by natural gas A. Cheraghi, H. Yoozbashizadeh, and J. Safarian	TEMCO F1 operation on freeze lining 2001-17 S. Pal, and G. Ciezki	Model of the FeSiAl process in the submerged arc furnace B. Machulec, L. Banasik, S. Kozlowski and J. Przegedza	Stiff vacuum extrusion agglomeration in ferro-alloys production A.M. Bizhanov, A.V. Pavlov, and S.A. Bishenov
11:45–12:05	Chromium recovery in an ore-smelting electric furnace O.V. Zayakin and V.I. Zhuchkov	Pre-reduction of a South African manganese ore: more insight on the formation of phases M.K. Kalenga and X. Pan	The workability index of three tap-hole clays J.D. Steenkamp, M. Mnisi, and A. Skjeldestad	Assembling of 3D computer models of T-x-y diagrams on the border of Fe-Ni-Cu(Co)-S quaternary systems V.I. Lutsyk and V.P.Vorob'eva	The impact of reducing filter drag in a ferro-alloy furnace baghouse L. Zandberg, B. de Montard, L. Raath, and L. von Benecke
12:05–12:25	Dissolution and reduction of chromite ore in ferrochromium slags C.S. Kucukkaragoz and R.H. Eric	Physicochemical properties of manganese ores of the Chiatura deposit J.V. Mosia , G.U. Nikolaishvili, M.T. Chumbadze, and I.B. Maisuradze	Monolithic furnace linings for production of ferro-alloys L.H. Lindstad and S. Aursjo	Mathematical Modelling of rotary drier technology for drying coals used in submerged arc furnaces P. Narendra, P.C.Sudhakar and B. Deo	State of the art ore pre-heating with fluid-bed technology and innovative furnace feeding P. Weber
12:25–13:25	LUNCH				
	03 - FeCr Direct reduction 1 Paul Beukes	06 - FeMn / SiMn Operations 1 Ferdus le Roux	09 - Refractories & Furnace integrity Hanlie Kotze	12 - Furnace modelling 1 Gudrun Saevarsdottir	15 - Cr(VI) & Environmental Xolisa Goso
13:25–13:50	Reduction of chromium oxide and ore by methane-containing gas mixtures N.M. Anacleto, I. Solheim, B. Sørensen, E. Ringdalen, and O. Ostrovski	Constructing and commissioning Malaysia's most advanced ferromanganese smelter complex W.D. Moolman and A.A. van Niekerk	Furnace integrity of ferro-alloy furnaces – symbiosis of process, cooling, refractory lining, and furnace design R. Degel, T. Lux, H. Joubert, A. Filzwieser, C. Ruhs, and A. van Niekerk	Simulation based assessment of dust capture J.E. Olsen and B. Panjwani	New insights into Cr(VI) related aspects associated with FeCr production P.G. van Zyl, J.P. Beukes, S.P. du Preez, M.M. Looock-Hattingh, and A.D. Venter
13:50–14:10	Reduction of Kemi chromite with methane M. Leikola, P. Taskinen, and R.H. Eric	Manganese ore pre-reduction using a rotary kiln to manufacture super-low-phosphorus ferromanganese D. Teguri, K. Saito, and Y. Miyauchi	Refractory corrosion mechanisms in ilmenite smelters: new perspectives for future linings W.M. Silva, O. Nedok, A. Spanring, K. Reinharter, and D. Gregurek	Systematic approach for optimal design of tapping fume extraction system in Eramet Norway Sauda (ENS) M. Kadkhodabeigi, K. R. Åbø, I. Klementsén, K. A. Iversen, R. Nordhagen, J. T. Waldemarsen, and B. Rokås	Construction of an effluent treatment plant at a chrome mine in India P. Gokarn and A. Mondal
14:10–14:30	NaOH-assisted direct reduction of Ring of Fire chromite ores, and the associated implications for processing S. Sokhanvaran, D. Paktunc, and A. Barnes	Prospects for the development of technological schemes for refined manganese ferro-alloys production Yu.E. Harlamov, A.A. Koshkin, Lu Li, A.N. Ovcharuk, A.Y. Taran, O.L. Selezhenko, and V.Yu. Harlamov	ILTEC - A revolutionary and safe cooling solution for ferro-alloy furnaces R. Degel, R. Nörthemann, T. Lux, M. Hanel, A. Filzwieser, and A. van Niekerk	Design and sizing of combustion chamber for energy recovery and oxidation of polycyclic aromatic hydrocarbons (PAH) B. Panjwani, B. Wittgens, S. Andersson, B. Ravary, E. Myrhaug, and M. Kadkhodabeigi	Meeting the environmental targets for new ferrochrome processes in China with a sustainable Outotec process T. Haimi and S. Ren
14:30–14:50	Determination of degree of metallization of prereduced chromite with image and Rietveld analysis T. Leino, P. Taskinen, and R.H. Eric		Effect of high alkali content in ferrosilicomanganese smelting slags on slag properties and on the destruction of furnace lining M.M. Gasik, M.I. Gasik, and S.P. Shuvaev	Practical aspects of applying numerical simulation for the refractory design process D.R. Kreuzer, C. Wagner, O. Kuhnke, and G. Unterreiter	
14:50–15:20	AFTERNOON TEA BREAK				
	04 - FeCr Direct reduction 2 Robert Cromarty	07 - Mn Fundamentals - Slag Johan Gous	10 - Slag viscosity Kai Tang	13 - Furnace modelling 2 Jan Erik Olsen	16 - Process modelling & Thermodynamics Markus Erwee
15:20–15:45	The effect of Mg and Al impurities on the carburization of chromite by Ar-CH₄-H₂ gas mixtures V. Canaguier, I-H. Svernum, and L. Kolbeinsen	Reduction rates of MnO and SiO₂ in SiMn slags between 1500 and 1650°C P.P. Kim, T.A. Larssen, and M. Tangstad	Influence of CaF₂ content on viscosity and structure of MnO-BaO-SiO₂-MgO-CaF₂ slags T.S. Kim and J.H. Park	Influence of the power supply on the behaviour of DC plasma arcs – a modelling study Q.G. Reynolds	Evaluating pre-treatment and smelting options with EMSIM to improve production efficiency J.H. Zietsman, A. Steyn, and W. Pretorius
15:45–16:05	Damring formation in chromite pre-reduction rotary kiln – influence of pulverised carbonaceous fuel and ore composition Y. van Staden, J.P. Beukes, P.G. van Zyl, E. Ringdalen, M. Tangstad, E.L.J. Kleynhans, and J.R. Bunt	Reduction rate of MnO from two different manganese ores producing ferromanganese D.M. Ngoy, M. Tangstad, and M. Kalenga	Estimation of viscosity of high-carbon ferromanganese slag, and effect of slag characteristics M.K. Choudhary, A. Kumar, S. Maharana, B. Biswas, A. Shankar, and G.P. Sahu	Effect of electrode shape on the current distribution in submerged arc furnaces for silicon production—A modelling approach Y.A. Tesfahunegn, T. Mangusson, M. Tangstad, and G. Saevarsdottir	Chrome ore mineralogy and the furnace mass and energy balance N.J. Sweeten, S.M.C. Verryn, J. Oberholzer, and J.H. Zietsman
16:05–16:25	A new approach to improve the strength of chromite pellets S.K. Hota, K. Das, A.S. Reddy, and A. Kumar	Silicothermic reduction behaviour of MnO in MnO-SiO₂-MO-CaF₂ (M=Ca or Ba) slags J.H. Heo, T.S. Kim, and J.H. Park	Dissolution kinetics of carbon in Fe-Mn alloys H. Kaffash and M. Tangstad	3D-models of proximity effects in large FeSi and FeMn furnaces E.V. Herland, M. Sparta, and S.A. Halvorsen	Mass and energy balances in furnace design and operation H. Kotzé, O. Demir, and B. Nourse
16:25–16:45				Symmetry of electric operating modes of three-phase electric arc furnaces according to the harmonic spectrum O.L. Bepalov, A.V. Bezugliy, V.K. Solokha, A.V. Nikolenko, M.I. Gasik, A.N. Ovcharuk, V. Iu. Kuvaev, V.A.Patyaka, V.A. Bezugliy, and O.V. Zamkovoy	Thermodynamic evaluations of the Sr-containing Si metals and silicate melts for Si-Sr alloy production K. Tang, L. K. Jakobsson, and K. Hildal

Infacon XV: International Ferro-Alloys Congress — Programme: Tuesday 27 February 2018

	Hall A	Hall B	Hall C	Upstairs - Room 11	Upstairs - Room 8
08:00–08:10	17 - Plenary—Isabel Geldenhuys Welcome & Safety Announcement, Isabel Geldenhuys				
08:10–08:50	Plenary—European waste to product concepts – iron-based alloys from electric arc furnaces B. Friedrich, B.S. Xakalashé, H. Lucas, M. Köneke, and D. Offenthaler				
08:50–08:55	Presentation by Gold Sponsor, Furncor				
08:55–09:40	Plenary—Tariff developments for electricity-intensive industry in South Africa , C.S. Mahony and J.M. Baartman				
09:40–10:10	MORNING TEA BREAK				
	18 - Stainless Steel and the future — Human Eric	21 - Mn Research and Production — Lloyd Nelson	24 - Mn Safety — Hilgard Rademeyer	27 - Silicon 1 — Eli Ringdalen	
10:10–10:35	Will the envisaged stainless steel growth rate rattle the chromium cage, and what can South Africa contribute? N.A. Barcza, L.J. Erasmus, and M.J. Freeman	Working towards an increase in manganese ferro-alloy production in South Africa – a research agenda J.D. Steenkamp, W.G. Bam, E. Ringdalen, M. Mushwana, S.A.C. Hockaday, and N.A. Sithole	A summary of the industrial use of water sprays to suppress fume emissions during the production of FeMn alloys P. Cowx, C.J.L. Els, R.H. Dreyer, S.J.F. Gates, R. Nordhagen, and K.A. Iversen	Basic parameters in operation and design of submerged arc furnaces, with particular reference to production of high-silicon alloys T.E. Magnussen	
10:35–10:55	Continuous production of steel in the electric furnace, and the role of renewable energy J. Kunze, R. König, E. Floch, and H. Oterdoom	The Norwegian Ferroalloy Producers Research Association (FFF) A.N. Wærnes, Aa.Valderhaug, and M. Kadkhodabeigi	How water mist alters the fuming rate and particle agglomeration during ferromanganese casting S.J. Gates, I. Kero, L. Hunsbeth, and G.M. Tranell	Diagnostics of operational excellence in silicon and ferrosilicon plants – an optimization and innovation step towards world-class manufacturing V.D. de Oliveira, L. Biazutti, R.S.Faria, and G. Esteves	
10:55–11:15	A new nickel value chain from laterite to stainless steel - the Outotec ferrochrome nickel process L. Narhi, K. Haavanlammi, S. Horn, P. Palovaara, and T. Kotiranta	Metallurgical and ferro-alloy industry of Ukraine in 2015-2017: from Infacon XIV to Infacon XV S.G. Grishchenko, M.I. Gasik, V.S. Kutsin, P.A. Kravchenko, O.L. Bespalov, S.L. Kudryavtsev, and Y.S. Proydak	Operational experience with a water leakage detection system for a ferromanganese smelter E.D. Fatnes and A.G Lindseth	Development of smelting technology for complex aluminium-silicon-chrome alloys S.O. Baisanov, Ye.Zh. Shabanov, and A.S. Baisanov	
11:15–11:35	Technical study of greenfield ferro-alloys projects world-wide V.D. de Oliveira, J. Brosnan, L. Biazutti, R.S. Faria, and G. Esteves		The effect of water vapour on fume formation in a SiMn alloy system Y. Ma, E. Moosavi-Khoonsari, I. Kero, and G. Tranell		
11:35					ICFA Meeting (by invitation)
11:35–12:40	LUNCH				
	19 - Furnaces 1 — Nic Dawson	22 - SiMn / FeMn Fundamentals — Gabriella Tranell	25 - SiMn / FeMn Operations 1 — Thabo Nzima	28 - Silicon 2 — Sean Gaal	
12:40–13:05	Open-bath AC and DC smelting: A focus on FeCr H.J. Oterdoom, M.N. Köneke, and R. Noerthemann	Energy distribution in HCFEMn and SiMn – energy vs exergy analysis T.A. Larssen, M. Tangstad, and L.T. Kero	Sakura Ferroalloys – Successful start-up and lessons learned M. Visser	The rapid Si-furnace excavation - a unique chance to investigate the interior of a furnace M. Ksiazek, M. Tangstad, and E. Ringdalen	
13:05–13:25	High-carbon ferrochrome smelting in a DC furnace: Smelt the small stuff and stop sintering H.J. Oterdoom and E. Floch	Quantitative mineralogy to address energy consumption in smelting of ores from the Kalahari Manganese Field, South Africa D. Chetty and J. Gutzmer	Optimizing slag basicity in the SiMn production process at Transalloys J.P. Gous	Quality of wood and charcoal from Eucalyptus clones for use in silicon production D.C. Ramos, A.C.O. Carneiro, M. Tangstad, and R. Saadieh	
13:25–13:45	A critical comparison of FeCr and FeMn submerged arc furnace smelting processes: which improvements can be exchanged between technologies? P.M. Cowx and G. Nussbaum	Characteristics of waste slag from Si-Mn alloy smelting, and its potential reutilization G. Ma, L. Shao, Y. Zhong, S. Zeng, Y. Wu, and J. Wu	CLU refining of ferromanganese: HIRA meets modernized Indian steel industry demand with Swedish refining technology H. Kjellstorp, J. Lundström, C. Rick, R. Agrawal, V. Tiwari, and A. Patak	Shock heating of quartz used in silicon and ferrosilicon production K.F. Jusnes, M. Tangstad, and E. Ringdalen	
13:45–14:05	Summary of operating and design parameters for submerged arc furnaces from 7 MVA to 13 MVA capacity A. Gulati and B.K. Mohanty	Study of a SiMn process in a pilot furnace E. Ringdalen and I. Solheim	Evolution of core electric furnace roof technology over the past decade B.N. Belford and A.A. van Niekerk	Potential initiatives for decreasing environmental emissions in silicon and ferrosilicon operations V.D. de Oliveira, R.S. Faria, and P.M. Oliveira	
14:05–14:35	AFTERNOON TEA BREAK				
	20 - Furnaces 2 — Matt Cramer	23 - Mn Fundamentals — Guven Akdogan	26 - SiMn / FeMn Operations 2 — Chris Hockaday	29 - Safety — Quinn Reynolds	30 - Post-tap-hole operations — Joalet Steenkamp
14:35–15:00	The benefits of lifecycle optimization through continuous improvement and a reliability-centred maintenance approach P. Bezuidenhout and S.J. Gounden	Comparative research on the metallurgical properties of high-reactivity reducing agents and nut coke used in ferrosilicon manganese smelting S.G. Grishchenko, D. Chaplygin, A. Ovcharuk, and A. Taran	Design and implementation of a ferromanganese secondary fume extraction system at Eramet Marietta R.H. Dreyer, C.J.L. Els, S.J.F. Gates, P. Calvert, and F.S. Vallera	Electrical hazards associated with the tap-hole area of a silicon SAF S.G. Gaal and J.M. Annelin	Granulation of ferrosilicon by rotary multi-nozzle cup atomizer, and energy recovery from hot vapour Wenchao He, Feifei Pan, Xin Wang, Xuewei Lv, Xueqin Li, and Yu Zhang
15:00–15:20	Restoration of a ferro-alloy plant after a fire and force majeure conditions A. Malazgirt, Y. Kaya, S. Kolyvanov, and S. Savelev	The use of biochar in the reduction of South African manganese ores for the production of ferromanganese M. Makhubele, M. Singo, M. Kalenga, and A.F. Mulaba-Bafubandi	Complex evaluation of metallurgical value of manganese raw materials during preparation and electrothermal production of ferro-alloys V.V. Krivenko, S.G. Grishchenko, A.Y. Taran, V.I. Olshankiy, I.Y. Filippov, Y.E. Harlamov, A.N. Ovcharuk, and V.A. Rozhkov	Predicting the use of respiratory protective equipment in the Norwegian smelter industry Ø. Robertsen, H-C.B. Vangberg, S. Føreland, and M.N. Hegseth	Impact of air granulation on the ferrochrome value chain in metallurgical smelter complexes F. Hannemann, M. Bradfield, M. Mahdi, Lily Lai Chi So, and D. Metcalfe
15:20–15:40	Phosphorus control in ferrochrome production - a different approach S. Maharana, B. Biswas, and A.S. Reddy	Equilibrium between non carbon-saturated Fe-Mn-Si-C alloy and silicate slag at 1500°C A. Bhalla, C.S. Kucukkaragoz, and R.H. Eric		Reasons for not using respiratory protective equipment and suggested measures to optimize use in the Norwegian silicon carbide, ferro- and silicon-alloy industry M.N. Hegseth, Ø. Robertsen, A. Aminoff, H.C. Vangberg, and S. Føreland	Brazilian ferronickel producer improves product with new granulation method K. Beskow, M. Rodriguez, R. Arita, and A. Persson
15:40	CLOSE				
16:30–17:00	Bus to Kirstenbosch leaves from Conference Centre				
17:00–18:30	Social function at Kirstenbosch Botanical Gardens				
18:30	Dinner and entertainment at Moyo's Restaurant in Kirstenbosch Botanical Gardens				

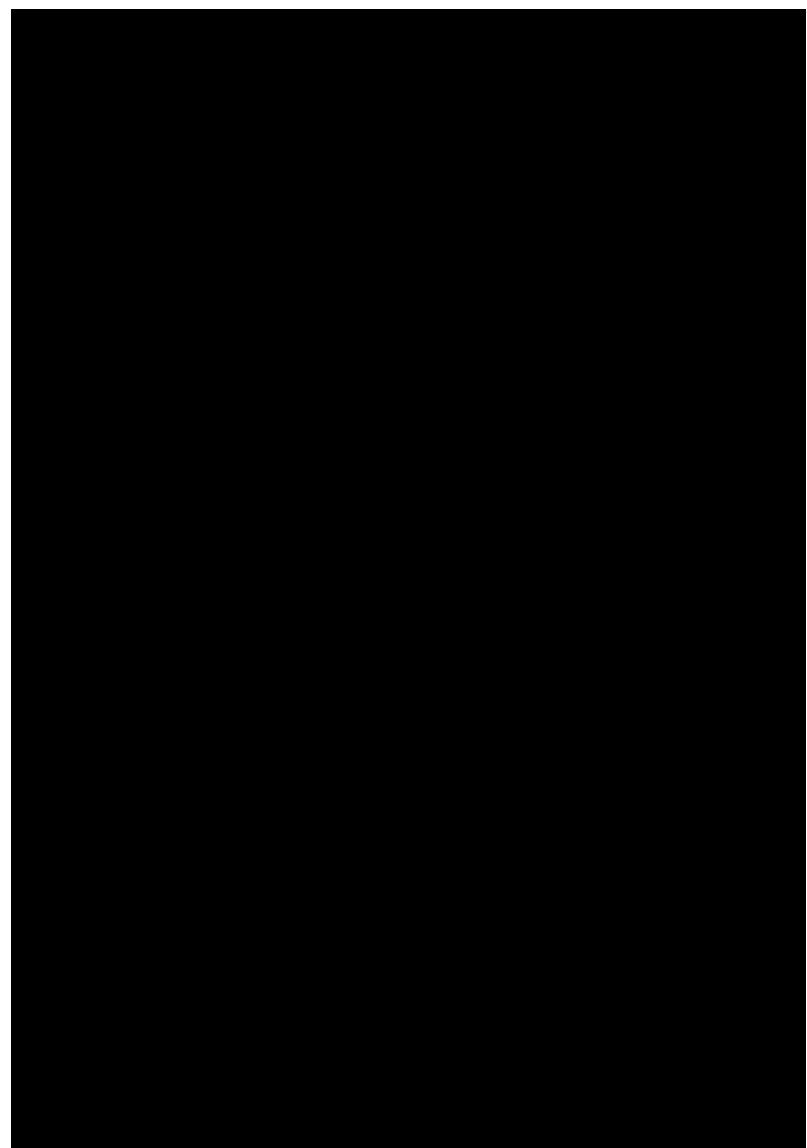
Infacon XV: International Ferro-Alloys Congress—Programme—Wednesday 28 February 2018

	Hall A	Hall B	Hall C	Upstairs - Room 11	Upstairs - Room 8
08:00–08:10	31 - Plenary — Quinn Reynolds Welcome & Safety Announcement, Quinn Reynolds				
08:10–08:50	Plenary—Sustainability and circular economy – why and how for ferro-alloy manufacturing , R.H. Eric				
08:50–08:55	Presentation by Gold Sponsor , Ripasso Energy				
08:55–09:40	Plenary—Paradigm shift to electrolytic production , A. Rauwerdink				
09:40–10:10	MORNING TEA BREAK				
	32 - Mn Fundamentals 1 Joo Hyun Park	35 - Environment, Energy, and Legislation Markus Erwee	38 - Electrodes and Electrical Franciscus Prins	41 - FeNi Operations Nic Barcza	44 -Special interest 1 Benjamin Ravary
10:10–10:35	Refining of silicomanganese alloy by the addition of Si alloy: a case study A. Biswas, G.U. Kapure, and N. Sahu	An update of the EU regulatory developments in industrial emissions, their implementation, and impact on ferro-alloys production in Europe N. Vinck	Considerations regarding electrode metering prior to startup C.J. Hockaday and Y. Ramparsad	Development and improvement of ferronickel technology in Ukraine O.L. Bespalov, A.N. Ovcharuk, K.D. Sokolov, S.M. Ralko, V.K. Solokha, A.V. Danov, S.V. Prohodko, S.A. Melnik, O.V. Zamkovoy, and N.N. Novikov	Silicon carbide formation from coal or charcoal in the silicon / ferrosilicon process S. Jayakumari and M. Tangstad
10:35–10:55	Thermodynamic database of a ferro-alloys system and its application to the refining of ferromanganese alloys Z.M. You, M.K. Paek, and I.-H. Jung	The European Union Emissions Trading Scheme: Overview of the scheme and impact on the ferro-alloys industry I. Ganey	Compensation of submerged arc furnace by capacitors connected in shunt on low-voltage side Z. Li, S. Chu, X. Tao, T. Li, J. Zhang, and X. Bao	Features of SNNC's largest Fe-Ni smelting furnace H.H. Jeoung, J.H. Yoo, J.U. Kwon, K.D. Lee, and J.U. Han	Titanium and silicon-based refractory nanoparticles synthesis in a plasma reactor A.V. Samokhin, D.E. Kirpichev, M.A. Sinaisky, N.V. Alekseev, Yu.V. Tsvetkov, and A.V. Kolesnikov
10:55–11:15	Dephosphorization of manganese-containing oxide melts V.Ya. Dashevskii, A.A. Aleksandrov, V.I. Zhuchkov, A.V. Zhdanov, and L.I. Leontiev	Monetizing CO-rich waste streams with microbial fermentation A.N. Paton, J. Swanepoel, P. Sajbel, and B. Heijstra	An arrangement for accurate measurement of electrode voltages in a submerged arc furnace B.K. Mohanty and M.R. Behera	Extraction of nickel from iron sludge K.E. Ekstrøm, H. Dalaker, M. Wallin, E. Moosavi-Khoonsari, and G. Tranel	Microwave plasma synthesis of spherical Fe / Zn and Fe / Co particles J.H. van Laar, H. Bissett, I.J. van der Walt, J.C. Barry, and P.L. Crouse
11:15–11:35	Reducing dephosphorization in ferro-alloy and stainless steel production Wenhe Wu, Haijuan Wang, and Haiwen Luo	SCORE: Staged Combustion for Energy Recovery in ferro-alloy industries – experimental validation B. Wittgens, B. Panjwani, T. Pettersen, R. Jensen, B. Ravary, and D-O. Hjernes	Optimization of electrode paste composition with the purpose of increasing operational properties of self-baking electrodes V.V. Derkach, V.P. Gnezdilova, and N.V. Kopeikinas	Interfacial reactions between FeTi alloys and liquid steel during the alloying process M. Guo, M.M. Pande, and B. Blanpain	
11:35–12:35	LUNCH				
	33 - Mn Fundamentals 2 Merete Tangstad	36 - Recycling, New processes and methods Johan Basson	39 - Electrodes and Paste 1 Lars Lindstad	42 - FeNi Fundamentals 1 Tom Curr	45 -Special interest 2 Muxing Guo
12:35–13:00	Primary study on medium- and low-carbon ferromanganese production by blowing CO₂-O₂ mixtures in a converter Haijuan Wang, Cheng Li, Bo Song, Shaojun Chu, Jiaquan Zhang, and Jing Li	Some considerations towards the carbon-neutral smelting of manganese alloys P. Cowx, P. Sajbel, K-B. Bjelland, G. Nussbaum, O-J. Marvik, and T. Gjerstad	Impact of electrode sealing on submerged arc ferro-alloy furnace conditions F. Hannemann, R. Hall, S. Haley, T. Kingsley, A. Ebersöhn, and S. de Beer	Carbonylation of nickel and selectively reduced laterite ore Y. Cui, G. Zhang, S. Jahanshahi, and O. Ostrovski	Lead indicators for the stable operation of a submerged arc furnace producing high-carbon ferrochrome K. Das, S.K. Hota, S. Sen, B. Biswas, and A. Kumar
13:00–13:20	Material properties of manganese ferro-alloy products Dongseok Song, Hongsik Lee, Haechang Jo, and Chansoo Park	Industrial pilot for sludge recycling B. Ravary, L. Hunsbedt, D. Haaland, and O-T. Nilsen	Electrode technology comparison for silicon production – a brief overview V.D. de Oliveira, L. Biazutti, R.S.Faria, and G. Esteves	Coal-based reduction of nickel laterite with the condition of high melting point slag system Xueming Lv, Yu Zhang, Lunwei Wang, Xuewei Lv, and Wenchao He	Vanadium recovery from LD slag with calcium leaching and a smelting process P. Palovaara and T. Kotiranta
13:20–13:40	Structural evolutions during cooling of manganese alloys, and cooling rate effects J. Montagnon, C. Gouny, A. Soller, C. Dubois, and P. Miny	Recovery of manganese from sludge through reduction with spent pot lining from the aluminium industry – a modelling study H. Dalaker and K.E. Ekstrøm	PAH-free binders in metallurgical carbon pastes T. Eidet and Ø. Mikkelsen	Reduction process parameters of ore-coal briquettes for ferro-alloys production A.M. Bizhanov, E.A. But, and A.V. Pavlov	Selective oxidation of vanadium-containing hot metal from LD-slag smelting reduction process J. Tikka, M. Lindvall, and S. Pislä
13:40–14:00	The degree of manganese reduction from ores in blast-furnace ferromanganese smelting at JSC 'Satka Iron Smelting Works' A.V. Senin, A.V. Ivanov, and D.L. Zhuravlev	The use of satellite fire radiative power observations to estimate the availabilities (activity patterns) of pyrometallurgical smelters J.P. Beukes, P.G. van Zyl, M. Sofiev, J. Soares, H. Liebenberg-Enslin, N. Shackleton, and A.-M. Sundström	Reducing production loss during a transformer failure – a case study D.C. Theron, D. Pienaar, R. Murray, L. Kadar, and M. Cramer	Influence of several oxides on the melting behaviour of ferronickel slags C. Sagadin, S. Luidold, C. Wagner, and A. Spanring	Carbothermic reduction behaviour of ilmenite ore at high temperatures D.H. Kim, J.H. Heo, H.S. Park, and J.H. Park
14:00–14:30	AFTERNOON TEA BREAK				
	34 - Mn Fundamentals 3 Henk Bouwer	37 - Environmental and Monitoring Aud Waernes	40 - Electrodes and Paste 2 Paul O'Shaughnessy	43 - FeNi Fundamentals 2 Oleg Ostrovski	
14:30–14:55	Ore smelting in high-carbon ferromanganese production: 'It works in practice, but does it work in theory?' T. Coetsee	Measurements of PAH emissions in the ferro-alloy industry H. Gaertner, T.A. Aarhaug, B. Wittgens, J.C. Fjellidal, M. Legård, and G. Tranel	Development of electrode tip position measurement technology for electric furnaces D. Chataway, A. Sadri, M. Cramer, and T. Gerritsen	Distribution of nickel in the slags of electrothermal ferronickel production and technological schemes of its utilization O.V. Bespalov, P.I. Loboda, O.V. Zamkovoy, D.A. Shevchenko, K.D. Sokolov, V.U. Shutov, Iu.S. Mostika, A.N. Ovcharuk, N.N. Novikov, and D.V. Soloha)	
14:55–15:15	Comparing electrical and carbon combustion based energy technologies for the production of high-carbon ferromanganese: A literature review N.A. Sithole, W.G. Bam, and J.D. Steenkamp	In situ spectroscopy in the ferro-alloy industry T.A. Aarhaug, A. Ferber, and H. Gaertner	Tasmanian Electro Metallurgical Company furnace 2 electrode upgrade project M. Whittaker, P. Dennis, and G. Ciezki	Study on reaction mechanism of reducing dephosphorization of Fe-Ni-Si melt by CaO-CaF₂ slag P.X. Chen, G.H. Zhang, and S.J. Chu	
15:15–16:00	46 - Closing Session and Announcement of Venue for Infacon XVI Hurman Eric and Rodney Jones				
16:00	Close				

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#0& \$7.& " +6* 18'4 5+: &'%##&'5 1(\$75:0'55 #0& 6'%'0:9#.
' :2'4+'0%' +06*' /+0+0) '0'4); #0& +0(4#5647%674' 5'%'6145
9' -019 ;174 \$75:0'55 #0& 70&'456#0& 6*#6 ;174
%*#..'0)'5 #4' %*#0)+0) 4#2:&. ; " ' 4'5210& 37%-.; 9+6*
51.76+105 6*#6 #4' 5 / #46'4 / 14' '(((+%'06 #0& +0018#6+8'
" ' &4#9 7210 174 56#((9+6* ' :2'4+'0%' +0 18'4
%17064+'5 61 %*#..'0)' 6* ' 56#675 371 #0& %4' #6' 215+6+8'
%*#0)' (14 174 %.'065 174' / 2.1; ' '5 #0& 6*' %1 / / 70+6+'5
9' 5'48'

56#\$.:5*' & (14 ; '#45 2418:&+0)
174 5'48+% ' 61 6' 5 / '.6'4
+0&7564+'5 #0& (740#%' &'5+)0 *175'5
1(6*' 914.& 740%14 9'.'%1 / '5 ; 174
\$75:0'55 #8:0) / 14' 6*#0
537#4' / '64'5 1(914-5*12 (#%+.6+'5 #..195 75 61 (#\$4%#6'
/ #%'*+0' 9' .& #0& #55' / \$.' %1 / 210'065 / #07(#%674'& \$;
740%14 74 5'48+% ' %18'45 #..6*' 4'374' / '065 (41 / &'5+)
61 +056#..#6+10 9+6* # 37#.#6; / #0#)' / '06
5:56' / %'46+(+'& \$; 6*' 176* (4+%#0 74'#7 1(6#0&5 61
'0574' 64#%' #\$.+6; +0 5722.+0) \$'56 37#.#6; #0& 5'48+% ' 5 #
'#&+0) (740#%' %122'4 %1 / 210'064'2#4'4 #0& 5722.+4 1(0'9
%1 / 210'065 9' %#0 2418:&' \$'56 24%' 126+105 .0-' & 61 \$'56
37#.#6; #0& 5722146

+2#551 0'4); +5 # 9'&+5* %.'#06'%'
%1 / 2#0; (170&'&+0 61 (746* '4 &'8' .12
6*' 6+4.+0) 6'%'*01.1); 5 17656#0&+0) #\$.+6; 61
%108'46 *' #6 '0'4); +061 '.'%64+%+6; *'
%1 / 2#0; 1(('45 &+(('4'06 51.76+105 (14 219'4
)'0'4#6+10 #64' %14& .19 24%'5 %1 / 2#4' & 61
16*'4 %.' / #6' 5 / #46 #0& 5756#:#0#\$. ' #.6'40#6+8'5 +2#551
0'4); 5 6+4.+0) '0)+0' *#5 #0 701((+%'#. 914.& 4' %14& +0
%108'46+0) 51.#4 '0'4); 61 '.'%64+%+6; 9+6* %15' 61 69+% ' 6*' '
'((+%'0%; 1(%1 / 2'6+6+8' 6'%'*01.1)+5 *' %1 / 2#0; +5 +56'&
+0 9'&'0 14&+% #0& #0 #.51 \$' 64#&' & #6 =45'
6766) #46 +0 '4 / #0;



0'241*:&41 / #%' +5 10' 1(6*' 914.& .' #&'45 2418:&+0)
+06')4#6' &'0)+0'4+0) / #07(#%674+0) #0& 56#46 72
5'48+% '5+06*' #4' #1(* ;&4#7. %6#22+0) '37:2 / '06 (14 #.\$56
'441 #..1; #0& 010 ('44175 (740#%'5 9+6* 18'4
57%%'55(7. +056#..#6+105 +0 %17064+'5 41&7%6 4#0)' #.51
+0%.7&'5 &'5+)0:0) #0& / #07(#%674+0) 1(%1 / 2.'6' 5+06'4+0)
/ #%'*+0'5 #0& 8#4+175 010 56#0& '37:2 / '06 \$#5' & 10
%7561 / '45 6'%'*0+%#. 52' %+(%#6+105

" 14' 551%#6'5 0% 5 6*'
+08'0614 #0& .' #&+0) 5722.+4 1(
/ / \$4#0' (+64#6+10 241&7%65 14' +5
.#70%*+0) # \$4#0& 0'9 241&7%6 (14 6*'
'441 #..1; +0&7564; *' 0'9 ?
19 4#) +.6'4 #) / #: + / +<'5 (740#%' '8#%7#6+10 6*417)*
; 174 ' :56+0) 1((#5 5:56' / 5 \$; 4' &7%+0) 4'5:56#0%' 61
#4(19 *+5 \$4' #-6*417)* 6'%'*01.1); 9.. 4' &7%' ; 174 \$#)
*175'5 12'4#6+0) %1565 \$; 4' &7%+0) (#0 '0'4);
%1057 / 26+10

'6+: 6; 6& \$'.10)+0) 61 6*'
4172 +5 # .' #&+0)).1\$#. 2418:&'4 1(
241%'55 2.#065 #0& '0)+0'4+0) 5'48+% '5 (14
6*' 2; 41 / '6#.74)+%#. +0&7564; 52#00:0)
\$16* 6*' ('441 #..1; #0& 010 ('44175
5' %6145 '6+: *#5 &'8'.12' & 52' %#+.5' &
2#6'06' & '37:2 / '06 (14 (740#%'5 #0& +5 (7..;)' #4' & 61
+0%14214#6' 6*+5 '37:2 / '06 +061 .#4)'4 6740-' ; 241, %65

#)0'5+6# +5 6*' 4'57.6 1(6*'
%1 / \$:0#6+10 1(#0& #)0'5+6# 61
(14 / 6*').1\$#. .' #&+0) 5722.+4 1(*+)*
)4#&'4' (4#%614; 241&7%65 5:56' / 5 #0&
5'48+% '5 9*+%* #4' +0&+52'05#\$. (14
+0&7564+#. *) * 6' / 2'4#674' 241%'55'5' :%'&+0) > +0
9+&'4#0)' 1(+0&7564+'5 +0%.7&+0) 56'.' %' / '06 010
('44175 / '6#5 #0&).#55 # / 10) 16*'45

!#68'&6 4172 %105+565 1(
!#68'&6 ' %*01.1); 6&
!#68'&6 '#8; 0&7564+'5 6&
#0& #551%#6' & 2#460'45
!#68'&6 4172 +5 # 914.& .' #&+0) 241&7%'4 1('37:2 / '06 (14
57\$ / '4)' & #4% (740#%'5 74' :2'4+'0%' #0& -019 *19
#5 \$' '0'56#\$.:5' & (41 / 5'48+0) 6*' +0&7564; (14 / 14'
6*#0 5+: &'%#&'5 %1 / 2.'6' 5722.+4 61 6*' ('441 #..1;
+0&7564;

