



# SAIMM Pyrometallurgy International Conference 2026

*Foundations of Competitiveness and Sustainability*

Preliminary Programme (version 1)

CSIR International Convention Centre, Pretoria, South Africa 25–28  
May 2026

## Pyrometallurgy Symposium

*Pyrometallurgy in SA Under Pressure: What Next?*

Headline Event on Tuesday 26 May

### Plenary Speakers

**S. Swanepoel** ZA Samancor Chrome  
**R. J. Hundermark** ZA Valterra Platinum

### Keynote Speakers

**E. Ringdalen** NO Centre for Risk Analysis  
**C. Hattingh** ZA SINTEF

**J. H. Zietsman** ZA  
Ex Mente Technologies

**W.J.vdM. Steyn** ZA UP  
**M. Guo** BE KU Leuven

**R. T. Jones** ZA Consulting African Rainbow Minerals  
**P. H. F. Boucher** ZA Pyro

**I.-H. Jung** KR  
SNU

## Furnace Tapping Symposium

*Tapped In — The Future of Sustainable Furnace Tapping*

Headline Event on Wednesday 27 May

### Plenary Speaker

**L. R. Nelson** ZA  
Independent Consultant

### Keynote Speakers

**M. Tangstad** NO  
CA  
NTNU  
**J. D. Steenkamp**  
Independent Consultant

**J. E. Olsen** NO  
SINTEF

## Refractory Materials Symposium

*Quo Vadis, Refractories?*

Headline Event on Thursday 28 May

### Plenary Speaker

**D. M. Brazier** ZA  
RM Solution

### Keynote Speakers

**A. Malfliet** BE KU Leuven  
**S. C. Louw** ZA METIX

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## Day 1 — Tuesday 26 May — “Confronting Pressure and Finding Answers”

Time	Track A: Ferrochrome & PGMs	Track B: Energy, Operations & Emissions	Track C: Science, Digital & Valorisation
08:30–08:35	Safety Briefing		
08:35–08:40	Welcome & Opening — Dr Johan Zietsman — Chairman, Conference and Pyrometallurgy Symposium		
08:40–08:55	G.R. Lane — SAIMM Presidential Address		
08:55–09:40	<b>S. Swanepoel</b> (Samancor Chrome, ZA) <b>PLENARY</b> <b>Ferrochrome’s Future in South Africa: Decline, Disruption, or Renewal?</b>		
	<b>Real Pressure in Ferrochrome</b>	<b>SA Energy and Competitiveness</b>	<b>Insights from Modelling</b>
09:40–10:00	<b>N. Bester</b> (FAPA, ZA) TBC	<b>V. Bayoglu</b> (Menar, ZA) The future of coal in South Africa's power generation s...	<b>S. C. Louw</b> (Stellenbosch Univers..., ZA) Empirical modelling of arc length in relation to the el...
10:00–10:20	<b>B. Hlatshwayo</b> (Glencore, ZA) Chrome ore everywhere but not a single ton to smelt: Ho...	<b>E. Matinde</b> (Mintek, ZA) Unlocking a competitive pyrometallurgy industry in Sout...	<b>A. Kotze</b> (Inspyro, BE) Modelling of zinc reduction with hydrogen

<b>10:20–10:50</b>	<i>Morning Tea</i>		
	<b>Ferrochrome Technology and Science into the Future</b>	<b>Economic Challenge and Operational Excellence</b>	<b>Digital Foundations — Theory, Experiment, and AI</b>
<b>10:50–11:25</b>	<b>E. Ringdalen</b> (SINTEF, NO) <b>KEYNOTE</b> How will technology advances affect the production of F...	<b>C. Hattingh</b> (Centre for Risk Anal..., ZA) <b>KEYNOTE</b> Pulse of the Nation: The Economic Reality	<b>J. H. Zietsman</b> (Ex Mente Technologie..., ZA) <b>KEYNOTE</b> Digital Solutions for Competitive and Sustainable Pyrom...
<b>11:25–11:45</b>	<b>P. Pienaar</b> (Intocast South Afric..., ZA) Extension of ferrochrome furnace lifetime — Technical d...	<b>D. B. Grant</b> (Samancor Chrome, ZA) A method of determining and optimising the capacity of ...	<b>N. J. Sweeten</b> (Hatch Africa Pty Ltd, ZA) Advances in Pyrometallurgical Piloting
<b>11:45–12:05</b>	<b>E. Mousa</b> († Swerim AB, Aronsto..., SE) Industrial Validation and Process Modeling of Biocarbon...	<b>H. Kotze</b> (Tronox, ZA)> KPI trees - a structured method to break down blind tar...	<b>W. A. Roos</b> (Ex Mente Technologie..., ZA) Coupling Thermochemistry and Multiphysics Models for Si...
<b>12:05–12:25</b>	<b>T. Ntloko</b> (Mintek, ZA) Phase equilibria in multicomponent ferrochrome slags	<b>C. Strong</b> (Hatch, CA) Fundamental Principles of Electric Furnace Start-ups: T...	<b>M. Zhu</b> (Ex Mente Technologie..., ZA) Beyond the Numbers: Material Properties Insights as the...
<b>12:20–13:20</b>	<i>Lunch</i>		
<b>13:20–14:05</b>	<b>R. J. Hundermark</b> (Valterra Platinum, ZA) <b>PLENARY</b> <b>Technology evolution in the Southern African Ni-Cu-PGM smelting indust...</b>		
	<b>Converting Pressure to PGM Value</b>	<b>Urban Ores and Furnace Dust</b>	<b>From Waste to Valuable Metal</b>
<b>14:05–14:25</b>	<b>M. van der Merwe</b> (Northam Platinum Lim..., ZA) Safe and efficient PGM smelting operations in a high-ch...	<b>A. Filzwieser</b> (Mettop GmbH, AT) Process Optimization of a PCB Smelting Process via impr...	<b>G. Tranell</b> (NTNU, NO) Production of critical metals from waste streams
<b>14:25–14:45</b>	<b>M. Sitefane</b> (Hatch, ZA) Optimising Specific Energy Consumption in a PGM Smelting...	<b>E. Lehtilä</b> (Kopar Oy, FI) Mechanical conveying and crushing of waste heat boiler ...	<b>K. E. Zitha</b> (University of Johann..., ZA) Recovery of zinc and germanium from copper slag
<b>14:50–15:10</b>	<i>Afternoon Tea</i>		
	<b>PGM Matte Smelting — A Deep Dive</b>	<b>Off-Gas, Emissions and Waste: From Problem to Opportunity</b>	<b>Plant Lifecycle: From Taphole to Rehabilitation</b>
<b>15:10–15:30</b>	<b>D. Coetzee</b> (Valterra Platinum, ZA) Advancements at the Valterra Platinum Converter Plant	<b>J. Bezuidenhout</b> (Hatch, ZA) Smelter Off-Gas Systems: Evolving Practices, Design Str...	<b>G. F. Marx</b> (Tnova Pyromet, ZA) Development of a blister copper taphole for flash furna...
<b>15:30–15:50</b>	<b>L. S. Maphalala</b> (University of Pretor..., ZA) Coalescence of sulfides under simulated PGM smelter con...	<b>T. Post</b> (About Air Pollution, ZA) Cost-Effective Emission Control Strategies for a Changi...	<b>C. Coetzee</b> (Palabora, ZA) Demolition Techniques Applied to the Palabora Mining Co...
<b>15:50–16:10</b>	<b>G. S. Kambewa</b> (Valterra Platinum, U..., ZA)	<b>C. Frandsen</b> (Topsoe, DK) Competitive and Sustainable SO2 Abatement with the WSA ...	<b>R. Van Rensburg</b> (Palabora, ZA) Three-stage Approach in Rehabilitation Work of the Smel...
<b>Time</b>	<b>Track A: Ferrochrome &amp; PGMs</b>	<b>Track B: Energy, Operations &amp; Emissions</b>	<b>Track C: Science, Digital &amp; Valorisation</b>
	PGM Furnace Continuous Hearth Growth — A Computational ...		
<b>16:10–16:30</b>	<b>M. Mabunda</b> (University of Pretor..., ZA) Alternative reductants for a slag cleaning furnace		<b>T. P. M. van Kaam</b> (NTNU, NO) Fluidized Bed Reactor Tests of Oxidized Senegalese Ilme...
<b>18:00–21:00</b>	<b>Conference Braai — CSIR Deck Area</b>		

## Day 2 — Wednesday 27 May — “Blasting an Ancient Craft Into the Future”

Time	Track A: Furnace Tapping	Track B: Ironmaking and Steelmaking	Track C: Ferroalloys & Silicon
08:30–08:35	Safety Briefing		
08:35–08:40	Welcome — Dr Izak Cameron — Chairman, Furnace Tapping Symposium		
08:40–09:25	<b>L. R. Nelson</b> (Independent Consulta..., ZA) <b>PLENARY Tap-holes — Key to Performance 2026 Update</b>		
	<b>Tapping Fundamentals &amp; Modelling</b>	<b>Ironmaking Reimagined</b>	<b>The Ferroalloy Industry: Where To From Here?</b>
09:25–09:45	<b>S. J. Baumgartner</b> (NTNU, NO) Informing Slag Management Policy through Modeling: A Mu...	<b>Y. Shen</b> (University of New So..., AU) Accelerating Green Ironmaking: Emerging R&D Methods, Pr...	<b>W. J. V. D. M. Steyn</b> (UP, ZA) <b>KEYNOTE</b> Power, Purpose, and Possibility
09:45–10:05	<b>Q. G. Reynolds</b> (Mintek, ZA) Thermal dependence of material properties in furnace ta...	<b>E. L. J. Kleynhans</b> (Metix (Pty) Ltd, SMS..., ZA) Advancing Sustainable Ironmaking: Design and TRL Develo...	
10:20–10:50	Morning Tea		
	<b>Tapping Technology: Innovation &amp; Safety</b>	<b>Steel Chemistry: Hydrogen, Carbon and Slag</b>	<b>Ferroalloys: The SA Story and New Frontiers</b>
10:50–11:25	<b>M. Tangstad</b> (NTNU, NO) <b>KEYNOTE</b> Slag in Si- and Mn-ferroalloy furnaces	<b>M. Guo</b> (KU Leuven, BE) <b>KEYNOTE</b> Slag engineering for steel slags stabilization	<b>R. T. Jones</b> (Pyro Consulting, ZA) <b>KEYNOTE</b> A brief history of South African smelting
11:25–11:45	<b>G. de Villiers</b> (Tenova Pyromet, ZA) Innovative Solutions for Slag Tapping Control and Safet...	<b>S. S. Mkhize</b> (University of Pretor..., ZA) Swelling and lump iron ore breakage in hydrogen gas red...	<b>K. Sutherland</b> (Transalloys, ZA) Foundations of Competitiveness and Sustainability in Mn...
11:45–12:05	<b>D. Rotthoff</b> (Tapping Measuring Te..., DE) Tapfloor Safety with Automation Solutions	<b>R. B. Kgotho</b> Gasification of coke in a hydrogenenriched blast furna...	<b>J. Safarian</b> (NTNU, NO) Combined hydrogen and aluminothermic reduction of Mn or...
12:05–12:25	<b>J. Maharaj</b> (Valterra Platinum, ZA) Technical Application of Process Safety in Smelting: A ...	<b>M. Estabrooks</b> (Hatch Ltd., CA) Analysis of Carbon Emission Reduction Opportunities in ...	<b>P. H. F. Boucher</b> (African Rainbow Mine..., ZA) SmeltDirect: Unlocking the efficient smelting of carbon...
12:25–13:20	Lunch		
	<b>Tapping: Forged Resilience &amp; Equipment</b>	<b>From Vision to Furnace: DRI in Practice</b>	<b>Ferroalloy Processing: From Arc Furnace to Hydrogen</b>
13:20–13:55	<b>J. D. Steenkamp</b> (Independent Consulta..., CA) <b>KEYNOTE</b> Forged Resilience	<b>P. H. F. Boucher</b> (African Rainbow Mine..., ZA) <b>KEYNOTE</b> Competitive production of green steel and ferroalloys w...	<b>R. Greyling</b> (GLPS, ZA) Large-scale dual-electrode dc arc furnace technology fo...
13:55–14:15	<b>E. J. Grant</b> (Dango and Dienenthal..., ZA) Basic Operating Principles of Furnace Tapping Equipment	<b>U. Hall</b> (Metix (Pty) Ltd, SMS..., ZA) METDPA™: A Dynamic Simulator for a DRI OBF Process to a...	<b>M. S. Ernst</b> (NTNU, NO) Hydrogen reduction of iron- and manganese-oxides in fer...
14:15–14:35	<b>M. Tangstad</b> (NTNU, NO) Decarbonizing Silicon Production: SiO Formation and Hyd...	<b>T. Ndwandwe</b> (Metix (Pty) Ltd, SMS..., ZA) Pilot and bench scale test work for comparative carburi...	<b>M. Mampuru</b> (Mintek, ZA) Hydrogen pre-reduction of different manganese ores in a...

<b>14:35–14:55</b>	<b>M. Ross</b> (Hatch Ltd., ZA) The transition to Air Granulation and Opportunities for...	<b>R. K. Dantu</b> (Metix (Pty) Ltd, SMS..., ZA) Impact of EAF Slag Composition Variability on the Slag ...	<b>T. L. Schanche</b> (SINTEF, NO) Devolatilization of charcoal and interaction of volatil...
<b>14:50–15:10</b>	<i>Afternoon Tea</i>		
	<b>Tapping: Taphole Materials &amp; Design</b>	<b>Steelmaking — The Final Pieces</b>	<b>Alloys and Ores: Unlocking What Remains</b>
<b>15:10–15:50</b>	<b>J. E. Olsen</b> (SINTEF, NO) <b>KEYNOTE</b> Is understanding drainage through a tap hole a trip dow...	<b>B. Yari</b> (Hatch Ltd., CA) Graphite Electrode Manufacturing and Its Impact on Elec...	<b>M. Tangstad</b> (NTNU, NO) Dissolution of SiO <sub>2</sub> in SiO <sub>2</sub> -CaOAl <sub>2</sub> O <sub>3</sub> slags
<b>15:50–16:10</b>		<b>E. E. Kemp</b> (University of Pretor..., ZA)	<b>B. Makuza</b> (University of Toront..., CA) Seeding Approach for Resource-

<b>Time</b>	<b>Track A: Furnace Tapping</b>	<b>Track B: Ironmaking and Steelmaking</b>	<b>Track C: Ferroalloys &amp; Silicon</b>
		Reduction and carburisation of iron ore pellets using m...	Efficient FeNi Growth and...
<b>16:05–16:25</b>	<b>P. Brito</b> (Elkem Carbon Solutio..., NO) Novel PAH-Free Carbon-Based Taphole Material for Ferroa...		<b>X. Li</b> (Hatch Ltd., CA) Unlocking Nickel from Nickeliferous Pyrrhotite Tailings...
<b>16:25–16:45</b>	<b>J. Krog</b> Transition from Tar/Resin-Bonded to Synthetic Binder Ta...		<b>D. A. Barrett</b> (Stellenbosch Univers..., ZA) Upgrading of low-grade manganese ores by hydrogen-rich ...
<b>17:00–21:00</b>	<b>Game Drive &amp; Bush Braai — Dinokeng Game Reserve</b>		

# Day 3 — Thursday 28 May — “Strengthening Foundations, Brick by Brick”

Time	Track A: Refractories	Track B: PGMs & Ferrochrome	Track C: Equipment, Vanadium & Students
08:30–08:35	Safety Briefing		
08:35–08:40	Welcome — TBC — Chairperson, Refractory Materials Symposium		
08:40–09:25	<b>D. M. Brazier</b> (RM Solution, ZA) <b>PLENARY</b> <b>Quo Vadis – Refractory Management in Peirce Smith Converters</b>		
	<b>Refractory Fundamentals: Characterisation &amp; Testing</b>	<b>PGM Converter Technology: Integrity, Design and Recovery</b>	<b>Furnace Containment and Cooling Innovation</b>
09:25–09:45	<b>A. T. Shonhiwa</b> (Cermalab CC, ZA) Testing of refractory materials. An overview of how it ...	<b>C. Sikiotis</b> (Hatch, ZA) Optimising Furnace Integrity through Fluxing — A PGM Ca...	<b>M. DeGorter</b> (Hatch, ZA) Advantages of Rectangular Furnaces for Containment
09:45–10:05	<b>M. B. Berger</b> (ZA) Understanding the quality of refractories	<b>A. Nyembwe</b> (University of Witwat..., ZA) Smelting of dead-roasted sulfide concentrate into a Ni/...	<b>S. de Beer</b> (Metix (Pty) Limited, ZA) A Novel Cooling Liquid for Pyrometallurgical Applicatio...
10:05–10:25	<b>D. van Garsel</b> (Almatis GmbH, DE) ECO Tab® - a new alumina aggregate for steel ladle lini...	<b>S. Hughes</b> (Metso South Africa (...), ZA) Metso’s Development of the Peirce Smith Converter	<b>A. Filzwieser</b> (Mettop GmbH, AT) ILTEC: Safe, Water-Free Pyrometallurgical Furnace Cooli...
10:25–10:50	Morning Tea		
	<b>Understanding &amp; Engineering Freeze Linings</b>	<b>PGM Smelter Management: OffGas, Reliability and Safety</b>	<b>Vanadium: From Thermodynamics to Operation</b>
10:50–11:25	<b>A. Malfliet</b> (KU Leuven, BE) <b>KEYNOTE</b> Understanding freeze linings	<b>J. P. van Dyk</b> (ECSA, ZA) Integrated design of a converter off-gas system	<b>I.-H. Jung</b> (SNU, KR) <b>KEYNOTE</b> Development of thermodynamic database for V oxide conta...
11:25–12:00	<b>S. C. Louw</b> (METIX, ZA) <b>KEYNOTE</b> Design of containment system for DRI smelting furnace	<b>A. Irvine</b> A case study of risk-based prioritisation of spare part...	<b>G. Mulder</b> (Hatch, ZA) Advances in vanadium processing
12:00–12:20	<b>H. Liu</b> (The School of Metall..., CN) Inhibition of hexavalent chromium in refractory castabl...	<b>M. Ndlovu</b> (Valterra Platinum, ZA) Developing Process Safety Management (PSM) Key Performa...	<b>L. Otto</b> (Metix (Pty) Ltd, SMS..., ZA) Reduction of vanadium titanomagnetite (VTM) using hydro...
12:20–13:20	Lunch		
	<b>Refractory Technology: Lining Management &amp; Containment</b>	<b>Ferrochrome: From Furnace Control to Green Reduction</b>	<b>Student Session: The Next Generation</b>
13:20–13:40	<b>N. Koerbler</b> (RHI Magnesita GmbH, AT) A comparative study of different refractory concepts in...	<b>Q. G. Reynolds</b> (Mintek, ZA) Impact of feed mixture control on arc behaviour in DC a...	<b>M. Bhebhe</b> (University of Pretor..., ZA) <b>STUDENT</b> Physicochemical Phenomena Occurring During PGM Smelting...
13:40–14:00	<b>A. Shonhiwa</b> (Cermalab CC, ZA) Composition of refractory materials. An overview of bul...	<b>S. P. du Preez</b> (HySA Infrastructure..., ZA) Co-reduction of chromite using hydrogen and silicon car...	<b>A. H. Wicaksono</b> (University of Oulu, FI) <b>STUDENT</b> Effect of Pellet Size on The Reduction Behaviour of Chr...
14:00–14:20	<b>C. Coetzee</b> (Intocast South Afric..., ZA) Ferroalloys furnace lining management - guideline for o...	<b>D. Coertzen</b> (HySA Infrastructure..., ZA) Influence of oxidative sintering on the hydrogen reduct...	<b>I. C. Kohithetse</b> (Clean Technology and..., ZA) <b>STUDENT</b> Kinetic modelling and simulation of hydrogen reduction ...
14:20–14:40	<b>H. Joubert</b> (Tenova Pyromet, ZA) Tenova's Composite CopperGraphite Cooler Design for En...	<b>M. Khama</b> (Mintek, ZA) Reduced order model for isothermal pre-reduction of chr...	<b>L. Meistad</b> (NTNU, NO) <b>STUDENT</b> Production of Si alloy by aluminothermic reduction with...
14:40–15:10	Afternoon Tea		

	<b>Sustainability in Ferroalloy Production</b>	—	<b>Student Session (continued)</b>
<b>15:10–15:30</b>	<b>S. J. Baumgartner</b> (NTNU, no) LCA as a tool for assessing the environmental impact of...		<b>M. K. Windfeldt</b> (NTNU, no) <b>STUDENT</b> Predicting flue gas conditions from bio-based Si produc...
<b>15:30–15:50</b>			<b>E. Muchefa</b> (University of Johann..., za) <b>STUDENT</b> Microwave Calcination of Lithium Bearing-Materials: Pro...
<b>Time</b>	<b>Track A: Refractories</b>	<b>Track B: PGMs &amp; Ferrochrome</b>	<b>Track C: Equipment, Vanadium &amp; Students</b>
<b>15:50–16:10</b>			<b>N. Palamutcu</b> (NTNU, no) <b>STUDENT</b> Investigating Pore Structure Development of Biocarbon S...
<b>16:15–17:00</b>	<b>Closing Session</b>		

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*Programme subject to change*