

The background of the slide is a warm, orange-toned photograph of a modern interior space. In the foreground, there are several rows of bright orange chairs. In the middle ground, a person is sitting at a table, reading a book. The background features large windows and a clean, minimalist design.

South African Symposium on Metal Casting Technology Cape Town 3-4 November 2014



South African Symposium on Metal Casting Technology (SASMCT)

3 - 4 November 2014

Dear Symposium Participant

We welcome you to participate in the first South African Symposium on Metal Casting Technology (SASMCT) on 3 - 4 November 2014 at the Cape Peninsula University of Technology, Cape Town.

SASMCT is jointly organised by the Metal Casting Technology Station (MCTS) at the University of Johannesburg and the Foundry Technology Programme at Cape Peninsula University of Technology. The symposium is supported by the South African Institute of Foundrymen (SAIF) and the Department of Science and Technology (DST) through their Technology Localisation Plan aimed at developing human capital and R&D capabilities towards an innovative and competitive SA foundry industry. SASMCT is aimed at providing a platform for South African researchers to showcase their latest developments in a wide range of topics related to Metal Casting.

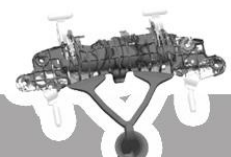
Most importantly, the Symposium aims to bring together currently dispersed researchers from all over the country working in areas of common interest, build networks for critical mass and foster collaboration. These are necessary for the South African foundry industry to realise high technology - high value opportunities, such as those linked to the infrastructure expansion programmes and the growing demand for technology in key economic sectors. Whilst platforms for networking and presentations around these topics have been established, such as the SA Metal Casting Conference, it is equally important to develop platforms for dissemination of research and technology in related areas.



science
& technology
Department:
Science and Technology
REPUBLIC OF SOUTH AFRICA



South African Institute of Foundrymen



Monday, 3 November

8:30 Registration
9:00 Welcome Address
Dr N Mahomed: Dean: Faculty of Engineering Cape Peninsula University of Technology
Mr. J Davies: CEO: South African Institute of Foundrymen

FUTURE TRENDS IN METAL CASTING

Chair: Dr K Nyembwe

09:15 KEYNOTE ADDRESS:
Future trends of the worldwide foundry market
Prof. Dr.-Ing. G Wolf
Technical University Freiberg, Germany

10:00 Towards better combination of wear resistance and impact toughness of Cr-Mo white iron
A Nofal, R Reda, K Ibrahim, A Hamid Hussien
Central Metallurgical R&D Institute, Egypt

10:20 Influence of solution heat treatment on CMSX-4 Ni base superalloy single crystal castings
E Rzyankina, M Pytel, N Mahomed, P Rokicki, A Nowotnik
Cape Peninsula University of Technology

10:40 Determination of maximum thickness of ductile iron that can be fully austempered to aus-ferrite
L Libunyu, SW Bhero
University of Johannesburg

11:00 REFRESHMENTS

MODELING AND SIMULATION

Chair: Dr N Mahomed

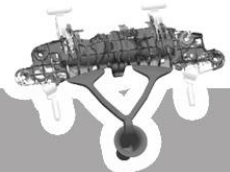
11:20 Optimisation of the methodology of sample preparation for duplex structure thermal barrier coatings
S. Kotowski, A. Nowotnik, G. Mrówka-Nowotnik, M. Du Plessis
Rzeszów University of Technology

11:40 Sensitivity analysis of EB-PVD thermal barrier coating for aerospace applications
M Du Plessis, S Kotowski, A Nowotnik, G Mrowka-Nowotnik, J Sieniawski
Cape Peninsula University of Technology

12:00 Numerical optimization of electron beam physical vapor deposition (EB-PVD) coatings for arbitrary shaped surfaces
M Mahfoudhi, N Mahomed
Cape Peninsula University of Technology

12:40 Experimental and numerical investigation of heat treatment of Al-Si-Cu alloys
LH Cupido, N Mahomed, K Zak
Cape Peninsula University of Technology

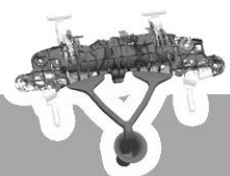
13:00 LUNCH



MODELING AND SIMULATION

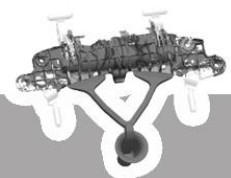
Chair: Prof A Nofal

- 14:00 Numerical optimization of gating system and inlet valve casting made of titanium alloy
J Fourie, J Lelito, N Mahomed
Cape Peninsula University of Technology
- 14:20 Challenges Encountered in Production of Quality Bronze Alloy Bearings in Under-Resourced Small Scale Casting Facilities in Zambia – A Preliminary Assessment
C.V. Lungu, A.E. Paterson
University of the Witwatersrand
- 14:40 Knowledge management in foundries
J Ronda
Cape Peninsula University of Technology
- 18:30 GALA DINNER @ GRANGER BAY



Tuesday, 4 November

08:30	Registration	11:25	Characteristics of waste foundry sands
	CAST ALLOY DEVELOPMENT		
	Chair: Dr S Bhero		
09:00	KEYNOTE ADDRESS: Production and application of high silicon ductile iron	11:45	JK Nyembwe , EM Makhata, T Madzivhandila, DK Nyembwe University of Johannesburg
	Dr. -Ing. C Dommaschk Technical University Freiberg, Germany		Regeneration of waste foundry sands
09:45	Ductile iron rolls for the steel rolling industry	12:05	D Oyombo , L Mathabela, KJ Nyembwe, A Mulaba-Bafubiandi University of Johannesburg
	A Nofal Central Metallurgical R&D Institute, Egypt		Soda ash activation of a new South African calcium bentonite for foundry applications
10:05	The improvement of the wear resistance of Hadfield manganese steel casting using vanadium as a macro alloy	12:30	F Banganayi , DK Nyembwe, S Bhero University of Johannesburg
	CS Mahlami , X Pan University of Johannesburg		Industrial high temperature micro-porous insulation products
10:25	Measurement of electric energy consumption through energy efficiency in AD steel foundry	12:50	T Wiese Ceramic and Alloy Specialists (Pty) Ltd
	Z Rasmeni , X Pan University of Johannesburg		LUNCH
10:45	REFRESHMENTS		
	CASTING PROCESSES		
	Chair: A El Mohamadi		
11:05	Improvement of sintering behavior with new sand additions on an alkaline phenolic reclaimed sand	13:50	Using value streaming to improve productivity and reduce lead time in South African jobbing foundries
	F Banganayi , D Oyombo, N Mufamadi University of Johannesburg	14:10	K Mageza , C Banganayi University of Johannesburg
			Creating a platform for innovative learning and development of visionary leaders in the foundry industry
			A El Mohamadi , M.Hadebe



Vaal University of Technology,
National Foundry Technology
Network

14:30 National simulation network

R Bean

Vaal University of Technology

14:50 Advanced manufacturing for
foundries

D de Beer

North West University

15:10 END OF SYMPOSIUM -
REFRESHMENTS

