

2nd School on Manganese Ferroalloy Production – Chairman’s report

The 2nd School on the Production of Manganese Ferroalloys was hosted on June 27th and 28th, 2016 by SAIMM at MINTEK. Being a school, the event focussed on the transfer of existing knowledge, as opposed to the dissemination of new knowledge, expected from a conference i.e. the International Ferro-Alloys Congress (INFACON) series.

As with the 1st School on the Production of Manganese Ferroalloys, hosted by SAIMM in 2012, the main presenter at the 2nd School was Prof Merete Tangstad from the Norwegian University of Science and Technology (NTNU). Prof Tangstad addressed the fundamental aspects of manganese ferroalloy production. To bring in other perspectives, the program included presentations by Dr Eli Ringdalen (SINTEF in Norway) as well as a number of South Africans: Ferdus le Roux (Metalloys), Nico Denner (GEMECS), and a number of MINTEK employees – Dr Quinn Reynolds, Dr Desh Chetty, Chris Hockaday, Aphelele Sithole, Neani Rambuda, Itumeleng Thabodi, and Wesley Banda. The event was attended by 70 delegates (see Figure 1), compared to the 83 that attended the 1st School, which was quite an achievement in the economic climate prevailing at the time.

The event was opened with a poem by the Persian poet, Jelaluddin Rumi (translated by Coleman Barks). In *The Elephant*, Rumi illustrates how differences in perspectives lead to differences in descriptions when individuals experience an elephant in the dark (see Figure 2). Rumi concludes with the statement that, by bringing the elephant to the light collaboratively, the perspectives of all participants on the animal will be broadened. The poem provided a metaphor for the school: Apart from including a larger number of presenters in the program, to share their different perspectives on manganese ferroalloy production, the two-day event concluded with a workshop. The title of the workshop was *Develop a research agenda to increase the local beneficiation of manganese ore* and the aim was to shed light on the elephant in the room: A significant increase in the export of South African manganese ore for export overseas.

South Africa has the largest land-based deposit of manganese ore which has been beneficiated locally since the 1940’s. Since 2005, the production of sale-able manganese ores increased significantly – from 5 million tons in 2005 to 17 million tons in 2014 – but the bulk of ore was exported (evaluating sales data, provided by the Mineral Economics and Strategy Division at MINTEK). The ratio of ore sales into the local market to ore sales to the export market, was 1:1 before 2005, and increased to a ratio of 1:7 in 2014. Having available the technology, the resources and the knowledge, the export of manganese ore for beneficiation overseas was challenged and workshop participants (Figure 3) encouraged to propose potential solutions to the problem. Workshop participants generated 95 research ideas, covering aspects to support existing technology and to be addressed by step-change technologies. The workshop was facilitated by Wouter Bam from Stellenbosch University. To disseminate the information a paper, summarising the results of the workshop and including

a review of literature available on the research ideas raised, will be submitted to the Journal of SAIMM for consideration in the near future.

The organising committee would like to thank the following sponsors of the 2nd School on Manganese Ferroalloy Production:

1. The administrators of the INFACON 2004 fund
2. The National Research Foundation (NRF) for the Knowledge, Interchange & Collaboration (KIC) grant #104423
3. ELKEM Ferroveld

SAIMM looks forward to hosting the 3rd School on Manganese Ferroalloy Production in 2020.

Joalet D. Steenkamp (Ph.D)

Chairman of the organising committee



Figure 1: Delegates at the 2nd School on Production of Manganese Ferroalloys, hosted at MINTEK (photograph by Thabiso Ntloko).

Photographs of elephants taken at Hartbeespoortdam Elephant Sanctuary, May 2nd 2016
© Joalet Steenkamp

The Elephant

Some Hindus have an elephant to show.
No one here has ever seen an elephant.
They bring it at night to a dark room.

One by one, we go in the dark and come out
saying how we experience the animal.
One of us happens to touch the trunk.
A water-pipe kind of creature.

Another, the ear. A strong, always moving
back and forth, fan-animal. Another, the leg.
I find it still, like a column on a temple.

Another touches the curved back.
A leathery throne. Another, the cleverest,
feels the tusk. A rounded sword made of porcelain.
He is proud of his description.

Each of us touches one place
and understands the whole in that way.
The palm and the fingers feeling in the dark
are how the senses explore the reality of the elephant.

If each of us held a candle there,
and if we went in together, we could see it.

- Poem by Rumi, translated by Coleman Barks

Figure 2: The Elephant, a poem by the Persian Poet, Jelaluddin Rumi (1207 –1273), together with photographs of details of African elephants, set the scene for the 2nd School on Production of Manganese Ferroalloys (photographs by Joalet Steenkamp).



Figure 3: Workshop participants at the 2nd School on Production of Manganese Ferroalloys (photographs by Thabiso Ntloko and Joalet Steenkamp).