



It is with great pleasure that we once again present the annual conference of the Advanced Metals Initiative (AMI). The AMI was established jointly by the Department of Science and Technology (DST) and the science councils, namely, Mintek, NECSA and the CSIR and has received generous funding from the DST since 2003. The principal objective of the AMI is to increase local industrialization through a research and development led initiative. In essence the AMI focuses on the downstream beneficiation of local resources and aims to achieve this through the development of materials, applications and technologies that enable the formation of new industries, enhance the competitiveness of existing industries or localise the production of existing advanced and critical products. The AMI is split into four networks, each focused on specific local resources. We have the Precious Metals Development Network (PMDN) active in platinum group metals and gold, the Light Metals Development Network (LMDN) looking at aluminium and titanium, the Ferrous Metals Development Network (FMDN) considering iron and alloying base metals, and the Nuclear Metals Development Network (NMDN) advancing zirconium, hafnium and tantalum processes and products.

A critical aspect of an initiative like the AMI is the development of the highly skilled human capital ultimately required to implement, maintain and drive the envisioned industries that could result from the programme. Here the AMI has made a significant contribution by the support and graduation of over 140 postgraduates (PhD and MSc levels) at universities across South Africa in projects and programmes that are specifically aligned with the aims of each network. Each year several of the currently enrolled students are afforded the opportunity to present their work in the specifically set aside Student Day of the annual conference. Several of these excellent papers will also be included in the issue of the SAIMM *Journal* issue dedicated to the conference.

It is Mintek's honour this year to host the AMI Precious Metals 2017 conference, covering topics specific to the PMDN in the areas of chemistry, catalysts and materials as they relate to potential downstream value addition of our local precious metals. An exciting development this year is that we have partnered with the SAIMM Platinum 2017 conference. Thus in one venue and in parallel sessions we have an event that will cover the entire value chain of platinum group metals from new developments in exploration and mining to advanced materials and applications of the metals. It is hoped that delegates at the conference will use the occasion to explore the full event and gain insight into the extensive activities undertaken in South Africa and recognise the opportunity for industrial growth.

The Organising Committee takes this opportunity to welcome delegates to the conference and to thank authors and reviewers for their contributions. We also thank Camielah Jardine and her team at SAIMM for their excellent organisation of the conference. In addition we thank Llanley Simpson and Wilna du Plessis from the DST for their guidance and for generous funding of this conference and the AMI programme.

G. Patrick

Chairperson of the Organizing Committee