

Journal Comment

As part of its commitment to supporting young professionals entering the mining and metallurgical industries, the SAIMM holds a Student Colloquium every year. The ten papers in this edition of the *Journal* are based on presentations made at that event by students and recent graduates in mining engineering, metallurgy, and minerals processing. The opportunity to present their final year research projects is restricted to those students from each institution achieving the best results for this subject, and the papers presented here have been further selected following scrutiny by a panel of senior professionals, acting as judges at the Colloquium.

This year there is an emphasis on coal, with four of the six mining papers based on vacation work at coal mines, while two of the four mineral processing papers deal with the utilization of coal fines. However, the research topics reflected in these papers are of less concern than the overall quality. Four and five years ago the number of learners entering the degree programmes represented by these papers showed a marked increase, which means that competition to have a paper published in this edition of the *Journal* is intense. Even if a particular topic is only of marginal interest to the reader, I would recommend that you read the abstract and glance through the paper to appreciate the high quality of the work of these young professionals.

Of course there is another and more disturbing side to the rising number of graduates. This comes at a time of great difficulty for the global mining industry, and nowhere more so than in Southern Africa. After decades of undersupply, we are now seeing graduates struggling to find employment. Even more surprising is that some of the best graduates, having received mining industry bursaries throughout their undergraduate studies, are being cut loose on graduation to find a job anywhere they can. The education they have received and the skills they have learnt generally equip them not only for their narrow specialization, but for a place in the workforce, often far from the mining industry. Once gone they are unlikely to return.

This raises the questions of whether the South African mining industry has a future, what sort of future will it be, and what sort of professionals will it require in order to be successful. This once great industry is at a low ebb as it struggles to come to terms with the forces imposed on it by the past decade or so, not least of which is the present slump in commodity

prices. This was an industry, particularly the gold sector, that relied on brawn and where physical effort delivered the product. To remain competitive in the 21st century, mining and mineral processing has already changed significantly and will continue to do so. To achieve further gains in competitiveness, to continue the path to zero harm and to achieve the overall goals of sustainability, it will be brains and not brawn that will make the difference. It is all too easy to regard young graduates, at the start of their working lives, as a cost rather than an asset. While it is well understood that many graduates are unsuitable for a career within the narrow confines of 'production', the success of minerals industry companies is increasingly dependent on the 'service departments', where technical skills are in short supply.

Instead of employing young graduates only in production posts, while constantly bemoaning the low pass rates in industry certificates of competence, it could prove hugely beneficial for industry to broaden its vision of how to employ mining engineers and mineral processing graduates. Mine planning, rock engineering, mine ventilation, research and development, plant optimization, project management, and mechanization are some of the specialities that have a huge impact on the future of a company. While universities are seen by industry as a source of graduates with a broad-based education in their discipline, they also have a significant role to play in developing specialists through postgraduate qualifications. With a limited market for these courses some rationalization between universities is required, and this is where institutions such as the SAIMM and the other professional associations can help facilitate discussions.

We all know that mining is a cyclic business and also that 'the darkest hour is just before dawn'. The high standard of papers in this edition of the *Journal*, coupled with the fact that these students have applied their minds to solving practical problems, gives a clear indication of the raw talent available to our industry. Our industry must now have the foresight to develop this talent in order to ensure we are well positioned to take advantage of the next upturn in the commodities cycle.

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