Wits-SRK link boosts rock engineering skills

17 March 2015 – Illovo, Johannesburg: Collaboration between Wits University's School of Mining Engineering and consulting engineers SRK Consulting is nurturing scarce rock engineering expertise, benefiting the mining and other sectors in Africa and beyond.

For the past decade, SRK has partnered with Wits through providing financial support for selected students in the Wits School of Mining Engineering's postgraduate rock engineering research programme, as well as internship opportunities within the firm.

'The bursary programme has allowed some of our top students to specialize in rock engineering, which is a key discipline for mining but which for various reasons attracts relatively little postgraduate interest among graduates,' said Professor Cuthbert Musingwini, Head of the School.

The scheme was initiated by Professor Dick Stacey, then Centennial Professor of Rock Engineering at Wits, who approached a number of companies and organizations in the mining sector to seek their help in dealing with numerous requests from bright but under-resourced students wanting to undertake MSc studies.

'I was delighted when SRK took up this challenge, and also offered to take in some of the students as interns,' said Professor Stacey, who spent 25 years of his career working at SRK and is today Professor Emeritus at the Wits School of Mining Engineering. 'Internships are hugely valuable for postgraduate students, giving them real-life work experience and practical mentoring while leaving space for them to complete their studies.'

Standing: Philani Mpunzi Rock Engineer SRK Consulting (SA), Prince Mulenga Student Intern SRK Consulting (SA), William Joughin Principal Geotechnical Engineer and Partner SRK Consulting (SA), Prof Emeritus Dick Stacey of the Wits School of Mining Engineering
Seated: Joseph Mbenza Muaka, Rock Engineer SRK Consulting (SA) and Prof Cuthbert Musingwini, Head of the Wits School of Mining Engineering

SRK partner and principal consultant William Joughin has been integrally involved with the bursary students who have internships at the firm.

'This partnership helps us identify the best MSc students to assist us with many of our projects,' said Joughin, 'and it is heartening to see how they develop their skills during their time with us.'

He said that ten students had gone through the bursary-intern route at SRK, while another six SRK employees have completed – or are busy with – an MSc at the Wits School of Mining Engineering. Two more have been employed after they earned their MSc degrees.

Highlighting the quality of the candidates who have benefitted from the scheme, Joughin said: 'Three of the previous students have received medals from the Southern African Institute of Mining and Metallurgy (SAIMM) for papers based on their MSc project work carried out at SRK. Some have also received awards from the South African National Institute of Rock Engineering (SANIRE) for top marks in the Chamber of Mines Rock Mechanics certificate.'

Mining engineer Joseph Mbenza Muaka worked on mining operations and at Mintek before completing his MSc at Wits – with support from another bursary provider, Coaltech – while working as an intern at SRK. He recently presented a paper at the Southern Hemisphere International Rock Mechanics Symposium (SHIRMS) on numerical modelling.

SRK's status as a leading consulting firm with strong roots in technical excellence also allows interns to be exposed to cutting-edge investigations. Intern Prince Mulenga, currently busy with his MSc at Wits, will be involved in a project funded by the Safety in Mines Research Advisory Committee (SIMRAC) at the Mine Health and Safety Council – also an important partner of the Wits School of Mining Engineering.

The internship system has allowed some of the MSc graduates to progress within SRK and to become mentors to the newer interns. Philani Mpunzi, who completed his studies in 2011 under Professor Stacey, is now a specialist 3D modeller for SRK and helps interns to make the most of their time while optimizing their contribution. Mpunzi and another SRK/Wits student, Tazibana Moyo, co-authored a paper on their MSc research at the SHIRMS conference.

Robert Armstrong geologist and associate partner SRK Consulting (SA)

'Having worked in Zimbabwe's mining sector for six years as a production supervisor and mine planning engineer, I appreciate being able to share my experience while contributing to the development of young rock engineers,' said Mpunzi.

While SRK does not have capacity to absorb all its interns, there is considerable opportunity to progress through the ranks. One of the first interns, Robert Armstrong, joined SRK as a research student in 2001 and a full-time engineer in 2005; last year, he was promoted to associate partner.

'Perhaps one of the most valuable aspects of studying and doing research while engaged by SRK is the ability to get relatively easy access to highly experienced experts in fields like rock engineering,' said Armstrong.

Another positive element of the Wits-SRK partnership is the role played by SRK's rock engineering experts in the postgraduate courses themselves, according to Professor Stacey.

'At least seven of SRK's best technical minds have contributed to our MSc courses as guest lecturers,' he said. 'There has also been considerable time invested by SRK experts Peter Terbrugge and William Joughin as external examiners for these courses.'

Professor Musingwini said the partnership indicates the way forward for the mining sector in South Africa and beyond our borders; it has already contributed well-qualified rock engineers to companies outside SRK and to countries across Africa and abroad.

'It is vital that academia, industry, and the public sector work closer together if we are to successfully overcome the skills challenge that mining faces and invite other consulting companies to partner with us in other areas of specialization on models similar to the Wits-SRK link,' he said.

S. Braham