SAIMM ypc

YOUNG PROFESSIONALS COUNCIL

# YIMM

## Youth in Mining & Metallurgy

JULY 2021 | ISSUE #3

# *Youth in Mining & Metallurgy*

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## ABOUT YIMM EMAG

Started with the vision to give the insight of students perceptions and views of the state of the industry and how they see themselves fitting into the industry.


The photographs on the cover are used with the kind permission of the Minerals Council South Africa and Simone Naicker

# Chairperson's address

I welcome you all to this edition of the YIMM, and to my last address as Chairperson for this term. This message comes at a time when the world is trying to come to grips with the 'new normal' that has been forced upon us by the COVID-19 pandemic. It's a normal that is new and uncomfortable, but to which we must learn to adapt. It's a normal that we would rather not deal with, but we must innovate around it and conquer. A normal that we all hope will go away very soon, yet one we should be prepared to live with, possibly for a long time to come.

My parting message to you comes also at a time when our beloved land is gripped tight in the vice of violence and fear; a time of looting and vandalism on a scale not witnessed before. It is a time of unrest and uncertainty. It shows indeed a dark side to human nature which we hope is not fully definitive of us as citizens and as young people.

Yet during this time, as the YPC we have kept our focus and adapted to the new way of life, in various ways. We have done so by taking all activities online. We held webinars, ran Talk Tuesdays functions, and conducted workshops. We kept the flame of hope alive, even when it seemed impossible to do so – because we realized that this hope today will be sustenance and fuel for some youth someday, somewhere, tomorrow. They will say then, We can do it, too' because they saw us do it now.

I refuse to allow the missteps that we may occasionally make now in dark times to fully define who are, and what we can be in the future. Instead, I consider them as 'school fees' for us, and lesson books for those who will follow. I say so because I sincerely believe in bridging the gap from generation to generation by sharing the wisdom of the elderly with the passion of the youthful. Between us we can only be assured of success for all and a bright and innovative future for the profession.

As I end my term, and pass the baton to my competent colleague, I wish to exit with thanks showered on the team. Thank you to all took time to participate in these activities. I call upon every Young Professional to rise up and take a stand in support of the YPC and SAIMM plans and activities. Together let us mould the Institute we are proud of – this is for us, and should be made by us.

I thank you.

**Shepherd Manjengwa**
*YPC Chairperson*

# From the Editor's Desk

If there is one thing everyone can agree on, it is that we are experiencing a paradigm shift in the way we interact with others and the way we think. Concerning thinking, one does not have to look far to see how the young professional can no longer conform to the old playbook regarding career trajectories and the general way of doing things. Focusing on the mining and metallurgy industry, one has to adapt to the changes concomitant with the 4th Industrial Revolution (4IR), the unprecedented consequences of a lengthy and global SARS-CoV-2 pandemic, consider the interplay of mineral resource depletion, the need to transit to renewable energy (considering the importance of the same in future industrial scenarios), pollution problems, and adjusting to the tenets of a circular economy, among a plethora of other considerations.

Simply put, it takes a lot to strategically position oneself for success in the present day. Needed is a new set of lenses to view opportunities concomitant with these problems and exploit them. In this edition of the YIMM magazine we present a few opinion pieces that illustrate how young professionals across Southern Africa have responded resiliently and innovatively to the challenges around them, and advice from seasoned professionals on how the incoming cohort can excel in mining and metallurgy.

The Editorial team aims to develop content that speaks to the needs of young professionals and those who work closely with them with increasing frequency. A cornucopia of themes is lined up for forthcoming editions of the YIMM magazine,to which organizations and individuals are encouraged to contribute.

Happy reading and stay safe!

**Sancho Nyoni**


## Youth in Mining and Metallurgy e-Magazine

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The views expressed in this e-magazine are not necessarily those of the authors, contributors, or SAIMM-YPC.

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# YPC Newsletter Comment


The SAIMM YPC plays different roles in the mining and minerals sector and value is added through different activities:

- The role in schools –career guidance, mathematics, science, tutoring life skills, *etc.*
- The role in universities – from the selection processes to the alignment in getting the degree and its uses in industry
- The role of business – best practice, training programmes, mentoring programmes, and development
- Influencing other bodies such as the ECSA, DMR, AMMSA for the benefit of all young professionals.

Due to the COVID-19 pandemic in 2020 and the ensuing lockdown, the YPC introduced three online themed series:

Series 1: #YPCTalkTuesdays with the aim to improve public speaking skills and build confidence in young professional

Series 2: Interviews with industry leaders, allowing members to learn from the unique experiences and knowledge of industry leaders

Series 3: Knowledge sharing workshops to allow members to learn about the latest technology and developments in the mining and minerals industry from a subject matter expert.

These events were open to members and non-members and the feedback from the sessions indicated that participants found value in them.

Online events will continue to be prominent continuing into 2021 with the option of having hybrid events where members can elect to attend physically or online. Some challenges with online events have included finding a perfect time slot that will allow the majority of participants to attend from the comfort of their homes, but a benefit is that members can have access to the session recordings.

Members can get involved in the YPC by engaging with the posts on social media, attending events, and contributing to the events as speakers by contacting Camielah Jardine (Camielah@saimm.co.za). In addition, there are three working groups in the YPC, namely Career Guidance, Enterprise, and Education. As a member when involved in a working group, the general responsibilities include:

- Strategizing
- Project planning and management
- Evaluation and monitoring the impact of the projects
- Feedback on projects
- Fundraising
- Advocacy support
- Contacts and networking – locally, nationally, and internationally.

Looking into 2021, we have exciting online and hybrid events coming that will allow members to stay up to date with new developments in the mining and minerals sector, and we hope our members continue to receive great value from the SAIMM YPC.

**Wesley Kondwani Banda**



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# Hydrochar: Also known as synthetic coal – a saving grace for waste material

Hydrothermal carbonization (also known as wet torrefaction) is one of the thermochemical pretreatment methods that can be used for the conversion of any organic material. Hydrothermal carbonization, in lay terms, involves the use of water at high temperatures to turn an organic material into a carbon-based residue.

The method is particularly suited to wet feedstocks. According to Reza *et al.* (2014), HTC was first carried out in 1913. It is reported to have been developed by Friedrich Bergius in the early decades of the twentieth century (Danso-Boateng, 2015). Hydrochar can go by many names, depending on the method used to produce it and the people conducting the research study on it. Reza *et al*. (2014) called it called biochar, while Danso-Boateng, (2015) referred to it as biocoal, and Kambo and Dutta (2015) named it HTC char. It is a coal-like substance consisting mainly of a carbonaceous solid hydrochar with improved physical and chemical properties compared to raw biomass (Hoekman *et al*., 2017; Wang *et al*., 2018).

Hydrothermal carbonization is carried out at high temperatures and pressures in a pressure vessel, and the process can be a batch or continuous one. HTC has been used to upgrade biomass types such as municipal solid waste, sewage sludge, swine manure, and many others, thus presenting a green alternative for this waste-filled world.

The uses of hydrochar are as varied as those of coal, and as I'd like to say: 'As coal now is, hydrochar may one day be'. The product is very versatile and can be used in many applications, including direct combustion or energy storage equipment, as activated carbon, medical applications, catalysis, and many other areas.

## ABOUT THE AUTHOR

Lizah Setsepu is an MSc candidate in the Clean Coal Technology Group at the University of the Witwatersrand. Her research field is biomass previously used in AMD (acid mine drainage) remediation sites and includes two aspects. The first is on deploying a scientific method known as DOE (design of experiments) to investigate the combined effect of process variables on the quality of the hydrochar produced. The second part looks into blending the hydrochar with discard coal fines to produce a pelletized solid fuel (termed biocoal) be used in existing PF or CFB boilers. She blends her creative and scientific sides with her passion for sharing knowledge, whether at a scientific conference, through journal papers, at a social gathering, or any platform she finds. She has a YouTube channel called That Nerdy Liza on which seeks to share her work and love of science with the world. She is a BWIS (Black Women In Science) 2019 fellow, a mentor and mentee of FBA (Faculty of Best Advisory), and a budding Social Tech-preneur, and loves to run too.

**Lizah Setsepu**

# Young professional engaging in the field

*'I still cannot believe it happened'*

Maeko Motlokoane is a research intern in the mining and metallurgical field. She completed her Bachelor of Metallurgical Engineering at the University of Pretoria in 2019 and is currently enrolled in an Honours programme in Metallurgical Engineering at the University of Pretoria. She was given the opportunity to participate in the IOM3 Young Person's Lecture competition in 2020, and here tells us about her experience.

One day I am struggling to finish up this presentation – to the point of almost quitting, next thing they announce that I am the 3rd place winner of the IOM3 Young Person's Lecture Competition.

When my mentor and supervisor, Kondwani Banda, first told me about the competition, I figured I would enter in 2021 considering the abstract submission deadline was 11 days away and all I had was an incomplete literature review I had been working on for my Honours course. However, after hearing young professionals speak about 'raising your hand' (Refentse Molehe), 'adding value' (Simone Naicker), 'speaking up, standing out and letting them know who you are' (Kondwani Banda), and winning the battle with my internal resistance, I submitted the abstract. It was accepted and now the real challenge started.

How was I going to make the topic of hydrogen storage in carbide-derived carbons (CDCs) interesting, captivating, and entertaining enough for people to want to listen? These questions coupled with self-doubt led to me putting the presentation off till the very last moments.

In hindsight, there was a bright side; I had a title – Future-proofing hydrogen energy storage with carbide-derived carbons (CDCs), feedback on my literature review (Viability of the use of titanium carbide carbide-derived carbon (TiC-CDC) for hydrogen energy storage) from Professor Roelf Sandenbergh (University of Pretoria), a chat with Dr Sonwabo Bambalaza (Mintek) about hydrogen adsorption, and a mentor who had previously won this competition to guide me all the way through. So I took up the challenge, for real this time.

**'The move to more innovative ideas would mean that there is a greater opportunity for young professionals...'**

I compiled the presentation, and before I knew it there I was on 29 September 2020 giving a presentation on my thoughts – thoughts based on only a literature study and no experimental work – on how CDCs can be beneficial for hydrogen storage for the IOM3 Young Person's Lecture Competition. On a platform where Master's and PhD candidates were also sharing their knowledge and experiences, I came in joint third place. An outcome I never expected because I definitely did not consider myself as being of this standard.

The experience reminded me of the beauty of 'shooting your shot', knowledge transfer, and finally the power of mentorship.

**Maeko Motlokoane**

Changes are part of our everyday life; they cannot be avoided. Change in the industry may come with its costs, arguments, misunderstandings, confusion; however, a well-implemented change creates an opportunity for growth and improvement.

# Technology in Mining

Mining and metals is a very complex industry, and one that is facing an interesting future, with growing demand along with severe challenges. Mining and metals is traditionally a labour-intensive industry, economics-driven, and constitutes a major source of essential materials for development as all business, industry, and human progress depends on mines. The need for mineral commodities has grown throughout history, forcing the exploitation of lower grade, deeper, and more remotely located mineral deposits. Since the beginning of mining, technology has played a very important role in finding satisfactory tools and methods to efficiently extract and process mineral resources. Advanced automation and digital technology, commonly referred to as Industrial Revolution 4.0, is playing an ever-increasing role in this matter.

Technology has brought changes across all areas of our society - not only do we increasingly use it and even rely on it in our personal lives - we also find our workplaces digitally evolving with more and more processes now being undertaken using technology. As a result, technological production becomes crucial for the development of our society, where programming is the most indispensable mean for Industrial Revolution 4.0. Computer programming is thus exceptionally important for our future as a global society. Likewise, along the mine value chain, without computer programming we would not be able to use mining software packages that enable a more effective management of mineral resources and mining operations and the eradication of wasteful practices. Programming is therefore the core means to tackle a host of mining optimization problems encountered along the value chain. There will be a need of a workforce that is capable of building, programming, and developing digital solutions to renovate Minerals Industry 4.0. Without doubt, the future job market will be looking for graduates and professionals with an open mind to explore the unknown future possibilities. Therefore, the major transformation we all need is developing our skills in order to adapt to this ever-changing technology.

Contemporary challenges faced in the mining industry include mining deeper and lower grade deposits, mining in remote locations, market price volatility, rising operating and energy costs, safety issues, environmental concerns, the need for sustainability, and gaps in the mine value chain. A global solution to these challenges tends towards centralized operations that bring together equipment systems and workers in a well-organized interacting-system where all talk the same language, information is available timeously for all users, and optimal solutions are implemented conjointly. Mining is a dynamic industry that needs to evolve at the pace of technology. Minerals Industry 4.0 comprises many emerging technologies, including data analytics, artificial neural network, automation and robotics, and digital mining systems, to name a few.

A mining engineer with computer programming skills will not only be more competitive in the job market, but also be able to understand what is happening when using any digital solution and software and thus be more creative and innovative to reshape the mining operation. While computer programming is extremely important today, it may be even more impactful in the future. Minerals Industry 4.0 technology will dramatically transform processes, operations, assets, and people, providing secure solutions for challenges faced across the mining industry. This will ensure a safer workplace, smarter operations, and a productive mining industry.

**Pathy Musema Muke**

*University of the Witwatersrand and Institut Supérieur des Techniques Appliquées, Kinshasa, DRC*

Pathy Musema Muke holds a BSc (Honours) degree in Mining Engineering from the University of Lubumbashi, Democratic Republic of Congo (DRC) and is completing an MSc Eng. (Mining) from the University of the Witwatersrand, Johannesburg, South Africa. He is a Junior Lecturer at Institut Supérieur des Techniques Appliquées (ISTA-Kolwezi), DRC. He is a member of the National Order of Civil Engineers of Congo (ONICIV). His research interests are in mine production scheduling and optimization, and applied operations research.

# My experience through COVID-19

The year 2020 was promising and it was supposed to be everyone's year. It did not take long for all of this to change when in March 2020 COVID-19 struck the SADC region, just a few days before the prestigious YPC Conference.

However, COVID-19 had its own plans for the year and we were all supposed to follow suit. I will be talking about my experience through COVID-19, especially concerning my work. I am in academia, a junior lecturer in mining engineering.

The most impactful experience was the fear. Everyone carried it with them, and it was contagious, just like the virus itself. What will happen next? Will I be next? Is this the end of the world? How do I do my work, do I have to go back to work? Parents were concerned about sending our students back to us to resume work as normal. I think this was an important stage to get through in order to be functional in any aspect through the pandemic. Personally, I got through this by keeping to the facts and not listening to all the theories. Talking to others, especially close friends and family, always helped in keeping me sane. To top it up, I think the government did a great job by creating a platform where they could nform the public about COVID-19 related issues.

After the lockdown regulations were relaxed and we were able to resume work at the university. With the students not being allowed to return to campus, I had to find ways to deliver the course content to them. It was tough at the beginning, considering the complexity of the engineering courses. I had to go all-out and find existing technologies for online teaching. It was a wake-up call to the academic world – that we needed to embrace the fourth industrial revolution, and had to take that step sooner than we anticipated. I think this was a benefit of the COVID-19 pandemic. With new technologies to be used and the increased workload on both the teaching staff and students, completing the course successfully was an achievement that should not be underestimted.

I think the biggest lesson we learned from the COVID-19 pandemic is that life changes at any given time and we should be ready to make the necessary adjustments. We need to keep moving to respond to whatever the situation is. We need to learn how to conquer fear and not let others sweep us along with their own fears. Know whether the information you are reacting to is accurate. Avoid discussions that might confuse you. Once you deal with the initial fear of something, you can move forward.

When change is necessary, just know that you are not the first to go through it. There are thousands or more cases of such transformation. You need to look out for these and prepare yourself for change. With the online delivery mode, I had to read several articles on how to be best utilize existing technology and get the best result. I had to ensure that the chosen approach was working for the students. My colleagues at work were of great help in supporting me. I found that whatever I may have missed, or if there was anything that I had tried unsuccessfully, someone was there to support me. My advice is to not be afraid of asking for help, and to be ready to provide help if it is required from you.

We all know about the negative experiences of the pandemic. I did not discuss these here, but that does not make them less of an experience. It was a tough time for everyone in both a social and economic sense. We thank the Almighty in protecting us through this tough period. My key message is that change is inevitable, we need to adapt to it at any cost. Do not let fear stop you from working – find a way past it and move forward. Terrible things can conceal a silver lining. Instead of being worried about the bad, look for the good. It will help you navigate through life.

**Himeezembi Hengari**
*Namibia*

# A conversation with Frik Fourie: Head of New Mining Technology at Anglo American

## Short Bio:

**Q1. What initially attracted you to the field of mining, and more specifically new mining technology?**

Mining is very dynamic, but it stood still compared to other industries for too long and therefore it is exciting to find new ways of doing work with better safety, productivity, and profitability.

**Q2. What would you say got you to where you are now, and what one bit of advice would you give to young professionals aspiring to be like you?**

'*Vasbyt' (persistence)* and a lot of hard work. Mining is a tough business and if it's not your passion to make a difference in this world do not start.

**Q3. What would you say is the essential continuous professional development that you deem necessary to help young professionals attain their career aspirations?**

Young professionals must learn to be patient in the beginning and learn as much as they can from the great operators in the field, and not chase promotion at all cost, otherwise they will be under-equipped when they need to manage the business later in their careers.

**Q4. How does the New Mining Technology (NMT) function at Amplats seek to encourage continuous development of local original equipment manufacturers (OEMs)?**

I think local is good and that we do not have to stand back for an OEM in the world today. Unfortunately, we lack design engineers with a passion to make a difference, although we have the best people in the world.

**Q5. How do you ensure successful acceptance, adoption, and implementation of NMT within the mining industry?**

You include production guys that will use the technology as part of the process and modifications. Change management is critical to get them on board – and when they are on, it just works.

**Q6. What steps are taken at Amplats to avoid duplication of new technological developments that might already be taking place in other mining houses?**

We partake in the biggest forums where the technologies are discussed monthly. My personal experience is that there aren't a lot of companies that has the vision to develop new technologies – they expect the OEMs to do that for them.

**Q7. How do you handle stakeholder engagement with unions/employees that perceive such technologies as having the potential to reduce employment?**

We engage with them upfront – but I must correct you. New technology is not there to reduce job levels. If we do not change, we will become obsolete. So, it is a question of new jobs or no jobs. New technologies create new jobs, but also better paid jobs and safer jobs. Creating and sustaining a clean environment, that is what we stand for.

**Q8. Do you think the mining engineering studies undertaken at universities and colleges are relevant to the mining industry gearing towards 4IR?**

I think the universities can do a lot more in the technology space. They ask us for a lot of information with regular engagements and I feel it should be the opposite.

**Q9. What measures are taken to ensure to some extent, that there is re-skilling and skills ransfer for those workers removed from the dangerous working areas?**

Anglo does an enormous amount of training and change management to ensure that the workforce is up to date, but also retools the employees for the future of work in the workplace.

# SAIMM goes online to prevent 'social distancing' from knowledge

*'No time to rehearse no time for debate, we had to make the new normal work for us'*

When a national lockdown was announced on 23 March 2020, a shockwave went through the country and industries had to react quickly to remain relevant. This was true for the SAIMM events as well and the Institute wanted to ensure that it could still offer a service to the industry. We had a Q&A session with Camielah Jardine, who has been coordinating the online events hosted by SAIMM. She has a background in marketing and communication with 15 years' experience in the events industry. Camielah joined the SAIMM in 2014, with a specific focus on event management. She was drawn to the true knowledge-sharing aspect of the SAIMM, along with the industry experts available to provide quality events, truly building and contributing to the industry. She sat down with the YPC and shared her insights with us.

Q. How have the lockdown and restrictions on public gatherings affected SAIMM events?

*A.* The SAIMM has been deliberating the idea of going digital and online for a few years. It has always been on our agenda as another way of getting more global participation and offering a more flexible solution. Well … COVID-19 put this topic at the top of our agenda, and we made this a reality within a space of a month. The impact on our events calendar from April to date has been huge. We postponed 70% of our events to 2021 and introduced them as hybrid events. We managed to turn some events into online events during the months of May through to December. The online conferences allowed us to reach a global audience.

Q. A lot of SAIMM events have been converted to online webinars. How easy was it to convert these to an online platform?

*A.* We converted about 20% of our events to be online. We were extremely unsure of the response and whether people would buy into the new way of doing things as there was no time to test the waters. We needed to ensure that there was a benefit for delegates and therefore CPD allocation for all our online events was a priority for us. It was also vital that we kept the quality that we offer our delegates at contact events, so speaker selection and topic choice was very important.

**Online events** come with many challenges and equally as many rewards. Time zone considerations, disengagement of delegates, cost considerations, full-day conferences being cut to half-day events over a few days. Finding the platform that works for our audience, as many people have restrictions, and at the start of the COVID-19 pandemic everyone was still trying to figure things out. So, everyone was learning together (which made things a little easier). We managed to attract over 3000 delegates to our online events, 40% of which were international.

It has been a huge learning curve for the SAIMM and we would not have been able to pull it off without of dedicated volunteer committee members and leaders in the industry who contributed greatly to the success of our free webinars and online conferences.

Q. When the pandemic and lockdown have passed and conferences can resume safely, do you think they will be conducted in person or would the online platform be preferred?

*A.* I do believe that we will always maintain the online element in all our events. It has proven to be cost-effective for people to attend, it is a flexible option, we can reach a global audience, and speakers and keynote presenters can choose to present online and save travelling costs. The online component opens a lot more opportunities for the industry. We have planned all our

2021 events as hybrid events and discussions with presenters have indicated that people would much rather present and attend in person than online. Events with both a contact element and an online element allow for streaming both ways. We have investigated a few platforms and options and have found a solution that works for the SAIMM and the industry. We are social creatures, so I do believe that as soon as we can safely return to hosting contact events delegates would prefer the contact, the networking, and physically being in the company of peers for a cocktail and a schmooze

**Camielah's view** on the online events and the rapid changes during the lockdown is that everything that was once discussed as a concept will become the new normal. Technology will evolve to provide more support to the events industry, and social interaction will be quick and more impactful. Snippets of things, getting the most out of activities, saving time, saving money, increasing productivity … the list is endless, and this pandemic has shown us that it is all possible. There can be no turning back.

Q. The SAIMM has hosted a series of free online webinars since the start of lockdown. What was the idea/inspiration behind this and how successful has it been?

*A.* The lockdown pushed us to rapidly make decisions that would ensure the relevance of the SAIMM and enable us to continue to provide industry with knowledge through our Technical Programme. We were very aware that people would not be able to pay for events from their own pockets as everyone was (and still is) affected by the pandemic. Companies were trying to stay afloat, so paying for training or for staff to attend events was the last thing to be considered. People still needed to engage and feel like they are a part of what was happening in the industry. We offered technical webinars as well as a few soft skills and motivational sessions which allowed people a platform to engage and share their views.

Q. What new opportunities have been created for younger professionals with these online events?

*A.* Young professionals discovered opportunities to engage with their peers in the industry using various online platforms. Social media has become a very important tool in engaging with young professionals. More young people are engaging with and talking to us. The YPC put together several successful event series. The events started off slowly but have certainly captivated an audience that will certainly grow in the future. Overall, there has been more interaction and engagement. It is very exciting to see members from the YPC growing and taking the lead in these exciting initiatives.

**Camielah Jardine**
*Head of Conferencing, SAIMM*

'Being affiliated with a professional body informs one of the required international standards in the industry'

SAIMM ONLINE CONFERENCE

YOUNG PROFESSIONALS COUNCIL

# 5TH YOUNG PROFESSIONALS CONFERENCE

## A SHOWCASE OF EMERGING RESEARCH AND INNOVATION IN THE MINERALS INDUSTRY

## 21-22 SEPTEMBER 2021

**2 CPD POINTS**

Innovation and research into mining technology is necessary to position Africa as a world leader in minerals production and beneficiation. The Young Professionals Council is pleased to host a unique, two-day conference that will showcase a broad range of emerging research and innovation from young professionals in the metals and minerals industry. Presentations will focus on new technology, tools and techniques relevant to exploiting Africa's mineral resources safely, competitively and sustainably.

## OBJECTIVES

- a broad range of topics covering the entire mining value-chain will give a quick sense of developments in the field of mining and metallurgy
- a large body of research at Masters, PhD and Post-doctoral level will give insights into emerging themes and advances in the minerals and metals knowledge-areas
- a focus on innovative practices, technological applications and case-studies from mining operations and research institutions will give the practicing professional an opportunity to learn about new tools and techniques relevant to their work
- a gathering of diverse professionals within the metals and minerals community will give delegates an opportunity to obtain exposure, build reputations, further their careers and network with peers and leaders in the African Minerals Industry

## WHO SHOULD ATTEND

This conference should be of value to all professionals across the entire minerals industry value chain, including:

- All metallurgical fields
- Exploration
- Geology
- Geotechnical engineering
- Leadership/management/government/ community
- Mining
- Occupational Hygiene and SHE practitioners
- ICT experts
- Mechanical, electrical/electronic engineers
- Mineralogy

## EXHIBITION/SPONSORSHIP

Sponsorship opportunities are available. Companies wishing to sponsor or exhibit should contact the Conference Co-ordinator.

## FOR FURTHER INFORMATION, CONTACT:

Gugu Charlie,
Conference Co-ordinator

E-mail: gugu@saimm.co.za
Tel: +27 11 834-1273/7
Web: www.saimm.co.za

Please continue to submit your abstracts and check www.saimm.co.za regularly for updates.

SAIMM ONLINE

COLLOQUIUM

# 17TH ANNUAL STUDENT COLLOQUIUM

## 11 NOVEMBER 2021

The Southern African Institute of Mining and Metallurgy has been organizing and presenting the annual Student Colloquium since 2002, to afford the best final-year mining and metallurgical students an opportunity to present their final year projects to an audience of mining and metallurgical industry experts.

These students are our future young professionals and will be fundamentally affected by how the industry operates. We have to support and assist our future young professionals! As Nelson Mandela observed: 'Education is the most powerful weapon which you can use to change the world'.

The SAIMM cordially invites our experts in the field to meet the fine calibre of young professionals who are about to embark on their careers in industry. There are 11 mining and 11 metallurgical presentations planned for the event, to be held at Johannesburg on 11 November 2021 . The top five in each discipline will have the opportunity to be published in the prestigious SAIMM Journal in April 2022. The presentations selected will be required to be submitted in the form of draft papers before 12 October 2021.

Our strategy is: To contribute to the nurturing of prosperous and empowered young professionals.

## SUPPORTED BY

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YPC Young Professionals Council

SAIMM The Southern African Institute of Mining and Metallurgy

# YPC members' thoughts on 2020/2021

Mental health wellbeing is an aspect that we need to prioritise in our career development, as it eventually starts to affect how you perform and interact with people in the workplace. Lockdown was a good wake up call, which meant both financially and mentally challenging times. It also meant learning a new way of life, growing stronger and resilient.

**W.K. Banda**

Never pass on an opportunity to learn something new. Approach people with this mindset and every encounter will be valuable.

**P.J.A. Bezuidenhout**

Through improving our daily decision making, we can achieve great things. The smallest of decisions compound into bigger ones and eventually determine the course of your career.

**S.J. Naicker**

It is important to adapt during difficult times and to use them to strengthen you, rather than to be broken by them.

**U. Hall**

The idea of something being perfect is an illusion. The idea of perfection can really hold us back from achievements. If you are always waiting to reach perfection you will never be happy. In all things in your professional career always do three things: choose, commit, act.

**G. Dabula**

Change is a constant law of nature and therefore, the apt management of change is key for any survival and success, be it on an individual level or otherwise as drawn from the Nokia Corporation and Apple Inc. parallel business stories.

**T. Chikomo**

We're in the early stages of a thinking revolution, every industry is being disrupted albeit we should look at this as a positive catalyst for change and welcome the new future.

**T. Mahomedy**

You might not do anything that this generation will recognise. Stay the course and be deliberate with your gift. Allow your good works to live long after your mortal being. The true purpose of life is to live forever, anything else is meaningless no matter what anyone says. No person contributes to normality and stays the same, contributors must accept being labelled abnormal. They must be abnormal because abnormality becomes the new normal for another generation. Just contribute and let the future generations look at your work and say 'there lived a visionary'..

**A.S. Nhleko**

Life is too unpredictable, so make the most of the opportunities you have.

**M.A. Mello**

Be a 'matter'. Constantly occupy space and seek wisdom.

**D. Rachidi**

Networks are just as important as academic competency. A good professional is not only one who is well versed with most subjects in their field but one who also can anticipate challenges and knows where or from whom to find answers.

**S.N. Nyoni**

# YPC Portfolios

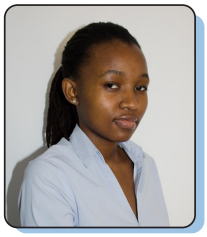
For more information about the Portfolio's contact Kea: kea@saimm.co.za

## Advocacy, Strategic Partnerships, Funding

Kondwani Banda

Connie Chijara

Cynthia Malatji



Adelaide Moganedi

Vision Musapingura

Sihe Nhleko

## Marketing, TPC, Publications

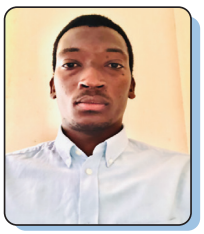
Antony Mello

Rj Coetzee

Unali Hall

Simone Naicker

Sancho Nyoni



Dineo Rachidi

## Membership

Adrian Chinhava

Tinashe Chikomo

Himeezembi Hengari

Katlego Kekana

Rodric Kemane

Graham Marsden

# UNIVERSITY STUDENT BODIES

The SAIMM YOUNG PROFESSIONALS COUNCIL (YPC) Career and Leadership Conference is aimed at enhancing students' leadership skills and to provide them with an opportunity to interact with various stakeholders. The conference fulfils a need for students to acquire additional soft skills that will serve them well in their future career paths. These student bodies organise the conference on a rotational basis.

| | | |
|---|---|---|
| UNISA | UNISA | **UNISA Mining Society (UMS)** With this: The SAIMM YPC collaborates with the following student bodies in organising the annual Career and Leadership Conference which is aimed at enhancing students' leadership skills and to provide them with an opportunity to interact with various stakeholders. Although the conference was not held in 2020 due to the COVID-19 pandemic, it is anticipated that the conference will be held in 2021. I also attach the information for the inside front cover. There may be changes from the committee. |
| UP | MYNBOU TUKS MINING | **The Tuks Mining Society (TMS)** is a student led society and the sub-house of mining department; which forms part of Engineering Built-Environment and Information Technology (EBIT). It is under the supervision of the mining department and aims not only at enhancing students social and leadership skills, but also creates a platform for students to network with other students, lecturers, alumni members and industry professionals. It was founded in the 1990's with the initial purpose of addressing the social needs of its members. |
| | Metallurgical Engineering | The **Metallurgical Sub-house** is a student organisation of the Department of Material Science and Metallurgical Engineering at the University of Pretoria. The main objectives of the Sub-House are to serve as a communication link between students in the Department of Materials Science and Metallurgical Engineering and the staff members, to assist in organizing academic, social and other events for the department and to assist in marketing Metallurgical Engineering as a career and a study field. |
| WITS | SCHOOL OF CHEMICAL AND METALLURGICAL ENGINEERING | The **CHMT (Chemical and Metallurgy) School Council** is an extension and operates under the governance of the SRC. We are here to voice out our students' concerns, interests and suggestions. |
| | SCHOOL OF MINING ENGINEERING | The **Mining Engineering Student Council (MESC)** is committed to exemplary student leadership in defining competent Mining Engineer that the Wits School of Mining Engineering is producing for the mining industry and the country at large. To this end, it aims to encourage academic excellence and promote equality of opportunity through effective, accountable and transparent student leadership. |
| | S.M.E.S | The **Student in Mining Engineering Society (SMES)** is a student body recognised by Wits University with the main objective to represent and address the social needs of its members (mainly consisting of Wits Mining Engineering Students). It is concerned with linking students to the school, alumni and the industry through different events. |
| UJ | MINING FORUM | We, the **School of Mines** students **at the University of Johannesburg**, drawn from various cultural, religious, social, economic and political backgrounds, conscious of the historic disparities within the South African mining industry in general; and committed to the building and sustenance of a non-racial, non-sexist and democratic institution. |
| | Metallurgical Engineering Student Organisation MESO EXTRACT AND CAST YOUR FUTURE | **Metallurgical Engineering Student Organisation (MESO)** is an organisation concerned with the holistic development of its constituents. Academic excellence combined with social development is a goal that is to be reached. MESO seeks to create an environment that will allow for an improved relationship between students and the Metallurgical department. Our aim is also to build a bridge between students and the institution (University of Johannesburg) and industry. |
| | UJ 2016 WOMEN IN MINING | **Women in Mining** of the University of Johannesburg is a constituency of female students in mining related courses (namely; Mining Engineering, Mineral Surveying and Metallurgical Engineering). We are the flowers of our nation, springing from different roots of cultures, religion and race. In unity, we stand through our diversity with the main aim to empower each other. |