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# FROM THE DESK OF THE CEO

**A**s we welcome 2023, let me take this opportunity to wish you and yours a new year marked with happiness and success.

The start of a new year is a good opportunity to look ahead to the events that will shape our work over the next twelve months. As we approach the end of financial year 2022/23, we will continue with the exciting strategic pursuits that have informed strategic decisions announced on our strategic plan 2020 - 2025. This being the third year of the agency's performance towards this strategy, it is important to reflect on our progress to date, so as to better prepare for enhanced performance in the future.

In the last quarter of 2022, the agency achieved several milestones, and these deserve celebration and acknowledgement.

## ANNUAL REPORT PRESENTATION

TIA presented the 2021/2022 annual report in Parliament in November. I am pleased to announce that the report was adopted and received by the Portfolio Committee on Higher Education, Science, and Innovation. The committee expressed appreciation on the performance and good work of the agency. I would like to thank the Board, management and staff of TIA for ensuring the agency delivers on its mandate. We also owe a great gratitude to our stakeholders and partners, including our shareholder, who continue to engage with us constructively on matters pertinent to the agency's work

## DISABILITY AWARENESS MONTH

In November, the country celebrated and observed the National Disability Awareness month under the theme: 'Empowering Persons with Disabilities through resourceful, sustainable and safe environments'. As the country observed this significant month, TIA joined in celebrating the contribution people with disabilities are making in building and transforming society. In line with the White Paper on Science, Technology and Innovation, TIA continuously strives to increase the role of previously disadvantaged individuals, including women, youth and people with disabilities in innovation. Of the technologies commercialised by TIA in the 2021/22 financial year, 20% are by people with disabilities. This is in line with TIA increasing the role of people with disabilities in innovation.

## COLLABORATIVE PARTNERSHIPS

Our Strategic Plan 2020-2025 articulates a long-term vision that seeks to elevate the role of TIA and increase its impact in the NSI through strategic multi-stakeholder innovation programmes in various areas that will respond to national policy priorities. To this end, TIA continues to establish collaborations and partnerships with stakeholders and partners who share TIA's vision.

- TIA partnered and participated at the World Climate Summit – The Investment COP 27 held in Egypt in November.



- TIA and the University of the Free State (UFS) collaborated to host the inaugural Indigenous Knowledge and Bio-Trade Indaba, in Bloemfontein in November. The two-day Indaba hosted various panel discussions on multiple aspects of IKS research and developments in human & plant health.
- TIA signed a Memorandum of Agreement with the Sefako Makgatho University as implementing partner for the SEED Fund.

## SAWUBONA PRODUCT LAUNCH

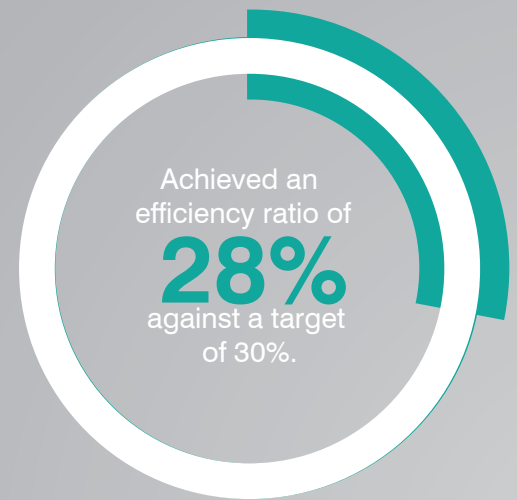
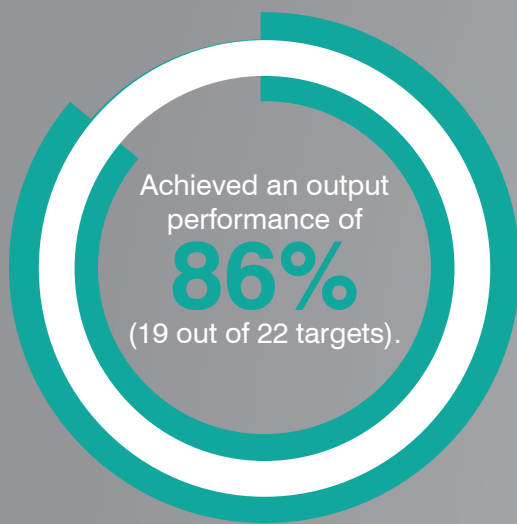
Sawubona Mycelium (Pty) Ltd, TIA investee launched its locally developed fermentation-based skin care products at TIA Bioprocessing Platform in Umbogintwini in October. The company launched two beta-glucan based skin care products, a hydrating serum, and an anti-aging serum, under the brand Blu Beryl. Sawubona Mycelium was supported by TIA in various ways including the facilitation of in-bound technology from Malaysian partners, as well as the acquisition of follow-on funding from the One Bio, a life sciences venture capital company.

We envisage a great future for TIA, and this will only be possible with your continued support, contribution and collaboration. We all have a role to play to take TIA to greater heights and with that create an organisation we can be proud of. With the new hopes and promises that the New Year brings come even more opportunities to work together guided by the need to improve the lives of South Africans through innovation.

I hope you enjoy this edition of the newsletter.

**Patrick Krappie, ACEO**

# ANNUAL REPORT HIGHLIGHTS 2021/22



**480**

Active disbursing projects under management.

Unqualified audit for the **11<sup>th</sup>**

consecutive year, and a clean audit for the second consecutive year.

**14**

New project agreements totaling R102.2m entered into under the Innovation Fund.

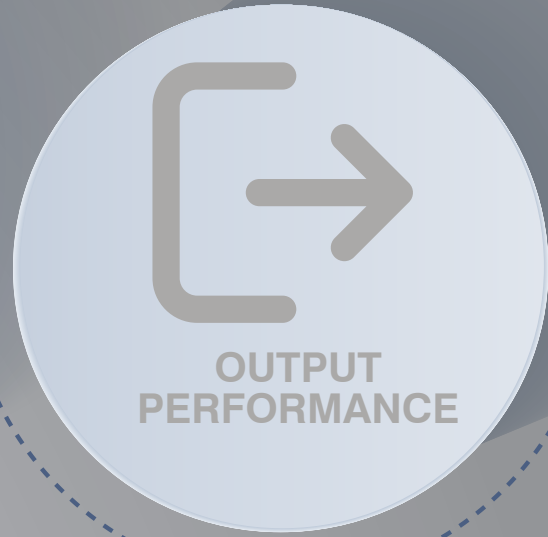
Industry Matching Fund leveraged **R500m**

at the Fund level and R1bn at the project level against R28m of TIA funds, creating 12 companies and 76 jobs.

**3**

New Living Laboratories established in 2021/22 in underserved provinces ahead of schedule.





Indicator	Target	Achievement
Technologies licensed or assigned	9	10
Bio-based technologies developed	15	36
Technologies diffused for inclusive development	9	12
Products launched	22	37
Joint collaborations	15	34
Leveraged funds	R239m	R746.5m
SMMEs and cooperatives supported	3,500	3,167
Postgrad students and post-docs	95	96
Knowledge and innovation products	130	179
Technology Stations supported	18	18
Technology Platforms supported	8	8
Technology Innovation Clusters supported	8	7
New Technology Platforms established	1	1
New technology and innovation support centres established	0	3

Indicator	Five-year target	2020/21 performance	2021/22 performance	Cumulative achievement and target
Technologies commercialised	175	26 against a target of 9	49 against a target of 31	75 against a target of 40
Demonstrated bio-based technologies	75	37 against a target of 9	36 against a target of 12	73 against a target of 21
Bio-based entrepreneurs supported	600	165 against a target of 105	45 against a target of 110	210 against a target of 215
SMMEs supported	15,750	1,990 against a target of 2,390	3,167 against a target of 3,150	5,157 against a target of 5,540

# TIA PART OF THE CONVERSATION AT WORLD CLIMATE SUMMIT

In November, the world leaders and climate change specialists convened in Sharm el-Sheikh, Egypt for the World Climate Summit – The Investment COP 2022. The summit was held from 13 to 14 November 2022 as one of the main parallel and complementary events to the COP 27 of the United Nations Climate Change Conference also held in Egypt in November.

With climate threatening greenhouse gas emissions still on the rise globally, and policies that fall short on delivering sufficient emission reductions to stay within a global warming of 1.5°C, urgent action across societies and sectors worldwide is crucial. World Climate Summit - The Investment COP 2022 links to the ambitions and priorities of the Paris Agreement and the associated Marrakech Partnership while using public-private sector ambition loops to achieve the policies, innovations and investments required in the real economy to reach 2030 transition targets and a net-zero world by 2050.

As a sponsor, TIA participated in the World Climate Summit to position the agency as a formidable force in the innovation discourse about the Just Energy Transition. This followed the unveiling of the South African government's Just Energy Transition Investment Plan (JET-IP)



by President Cyril Ramaphosa. The JET-IP will require an investment of US\$ 99 billion (R1.5 trillion) over the next five years.

The Board Chairperson led the TIA delegation through Thought Leadership by participating as a speaker under the topic "Africa on the Front Line – Towards a Resilient Future: Outlook on Africa's 2030 Commitments and Resilient Future Pathways."

TIA is in the process of developing a strategic high-impact innovation programme that will serve to mobilise local stakeholders such as the research community, business, and innovators to conceptualise and develop targeted high-impact innovative technologies to advance South Africa's transition to

renewable energies and thus contribute to the JET. Initiatives in this regard include a planned joint Call for Proposals by a consortium of local investors including ANZA Capital, Pa Mela and the Development Bank of Southern Africa (DBSA).

The summit presented an opportunity for TIA to continue its engagement with the international community to leverage further funding and investment for TIA supported innovations. To this end, the agency leveraged the event to showcase its portfolio of investments that address energy challenges and the effects of climate change on food security, and other socio economic imperatives.





# TIA AND UFS HOST INAUGURAL IKS BIO-TRADE INDABA



**T**IA collaborated with the University of the Free State to host the inaugural Indigenous Knowledge and Bio-Trade Indaba, in Bloemfontein from 24 - 25 November. Exploring various aspects of Indigenous Knowledge Systems (IKS), the Indaba provided an ideal platform for various stakeholders to network and share knowledge on current developments in indigenous knowledge research and product development, biodiversity, conservation, innovation, and commercialisation of the IK-based researched products.

South Africa is the 3rd most Bio-diverse country in the world, with many of its biological resources existing within rural landscapes of the country. These biological resources have been used for years within traditional knowledge systems to build and strengthen the body, nourish, and rejuvenate the skin and heal ailments. Most of the knowledge of these indigenous resources lies with elderly members of rural communities.

The IKS Indaba was championed by the university's African Medicines Innovation and Technology Development Platform (AMITD) which is funded by TIA. AMITD was established to stimulate economic growth by providing science-based solutions and developing technologies that would utilise indigenous knowledge and South African biodiversity to produce high-quality African traditional medicine based proprietary products, focusing on priority diseases. AMITD is a national leader in research, development, and formulation research on traditional medicines. The Platform has a strong history in IKS research, community collaboration and participation initiatives as well as partnerships with industry on herbal medicines.

TIA funded AMITD to ensure that the products of promising indigenous knowledge innovations are safe, effective and of a

consistently high quality. The platform also seeks to address generations of market failure in bringing IK into the mainstream of commercialisation and equitable benefit sharing.

The two-day Indaba hosted various panel discussions on multiple aspects of IKS research and developments in human & plant health. Among these were discussions on cannabis research to mitigate cancer multidrug resistance, phytoconstituents for the treatment of diabetes, natural product-based colon regulator, the development of cannabis and other medicinal plants in wound healing and developing hydrogels as well as the development of IK-based herbal pesticides.

Discussions also focused on new developments in the indigenous health infusions industry, developments in medicines regulations and IK-based clinical trials in South Africa as well as African medicines research internationalisation. International panellists included Prof Minke Tang (Beijing University of Chinese Medicine), Dr Samuel Obakiro

(HoD, Department of Pharmacology Busitema University Uganda), and Dr Kofi Donkor (Centre for Plant Medicine Research Mampong Ghana) all of whom shared experiences on IKS related research in their respective countries.

IKS health research conducted at AMITD aims to address national research priorities, community research needs and aspirations to respond to industry research questions and challenges. In addition, AMITD seeks to develop products, intellectual property (IP) and commercialisation opportunities for IK based products.

"Research must have societal impact and needs to have a positive impact on the quality of people's lives. We conduct responsive research that seeks to address old, new and neglected current pandemics as well as new and re-emerging pandemics," said Prof Motlalepula Matsabisa, Director of Pharmacology in the Department of Pharmacology at the UFS

Prof Matsabisa has a keen interest in the pharmacology of traditional medicines. His work focuses on how to develop new drugs and medicines based on the knowledge available. He asserts that this can be done without comprising on good, all-inclusive science on ATM. He wants to see more national, continental, and international collaboration so that the dream of making ATM internationally recognised and a global force can be realised.

Elevation of IKS' profile can no longer be delayed

The Indaba occurs at a time when the elevation of IKS can no longer be delayed. TIA acknowledges the rich, largely untapped source of knowledge within communities, yet to be fully exploited for economic and social benefit of particularly the underserved regions of the country.

"Sectoral support priorities in agriculture, manufacturing, health innovations, and allied, cannot be overlooked, and neither can the various masterplans created to support industrial sectors. This thought leadership has a direct bearing on what we are doing here, engaging in dialogue to shape our future, and seek ways to collaborate and build



long-lasting partnerships in the space of IKS. These partnerships not only serve South African societies, but the African continent as a whole," said Dr Vuyisile Phehane, Executive: Bio-Economy at TIA.

The Indaba was a success, opening much needed dialogue and engagement on the role of IK based knowledge in research and commercialisation. Going forward, the Indaba will be a vital platform to enhance the role of IKS in inclusive development and transformation.





## TIA HEADLINE SPONSOR FOR THE SA INNOVATION SUMMIT

**T**IA partnered and was headline sponsor for the SA Innovation Summit (SAIS) held in Cape Town in September. The largest start up event in Africa, SAIS provides various platforms for developing and showcasing African innovation and thought leadership to support start-ups and inspire sustained economic growth across Africa. The 15<sup>th</sup> annual SA Innovation Summit was themed *"In this age of technology anything can go viral"*.





"It was an honour for TIA to be a headline sponsor for the 15<sup>th</sup> SA Innovation Summit 2022. The partnership with SAIS is in line with agency's vision to be a world class leading innovation agency that supports and stimulates technology innovation to improve the quality of life for all South Africans. Collaborations and partnerships are vital to TIA delivering on its mandate and strategic role as an active funder, connector, facilitator, and enabler," says Mr Patrick Krappie, Acting CEO of TIA.



Thought Leadership and speaking roles for the TIA delegation included, plenary, panel discussions and judging. Ms Matsi Modise and Mr Patrick Krappie addressed the opening and closing plenaries while Mr Brian Mphahlele,

Mr Vusi Skosana and Mr Thabang Mpye participated in panel discussions. Dr Anitha Ramsuran and Ms Tshembani Khupane also participated as judges in pitching sessions and the Inventors Garage at the Summit.

The partnership and sponsorship of the SAIS was a good opportunity for nine TIA investees to exhibit their innovations and interact with other founders and innovators, potential investors and funders.





# SAWUBONA MYCELIUM LAUNCHES **BETA-GLUCAN** BASED SKIN CARE PRODUCTS



**S**awubona Mycelium (Pty) Ltd launched its locally-developed fermentation-based skin care products at TIA's Bioprocessing Platform in Umbogintwini, Durban in October.

Sawubona Mycelium (Pty) Ltd, led by its CEO, Ms Busi Moloji, is a biotechnology company operating a fermentation-based platform that manufactures bio-based ingredients and extracts derived from mushroom mycelium for application in the cosmetic, pharmaceutical, as well as the food and beverage industries. It is the first South African company to develop a fermentation technology to produce beta-glucans using micro-organisms, for the cosmetics industry.

The company launched two beta-glucan based skin care products, a hydrating serum, and an anti-aging serum, under the brand Blu Beryl™, that have been tested dermatologically and confirmed to be suitable for use in skincare formulations. The technology deployed in the production of these prototypes was developed at the TIA Bioprocessing Platform through financial support from TIA and the Department of Science and Innovation's SIIP program.

The use of beta-glucans is growing and gaining interest worldwide. Beta-glucans (or  $\beta$ -glucans) are polysaccharides mainly found in the cell walls of yeast, bacteria, fungi, cereals, and oats and have long been used as supplements for medicinal purposes to support the immune system, lower cholesterol, fight heart disease, control hay fever and more. They are also known to boost skin health when consumed or applied topically, and can accelerate healing, soothe the skin, reduce inflammation and help transform the skin.

"Sawubona Mycelium, a majority black owned biotechnology start-up, has won several accolades in various innovation competitions. This is testament to the quality of science and the potential for commercialisation through the work TIA does to fund and support innovation start-ups and SMMEs. In the case of Sawubona Mycelium, the support from TIA included the facilitation in-bound technology from Malaysian partners, as well as the acquisition of follow-on funding from One Bio, a life sciences venture capital company. It is envisaged that this will support Sawubona Mycelium to break into the lucrative pharmaceutical and nutraceutical

markets as this is directly linked to the ideals of the Bio-economy Strategy of South Africa", said Dr Vuyisile Phehane, Executive Bioeconomy at TIA.

Speaking at the launch, a visibly elated Ms Busi Moloji, CEO of Sawubona Mycelium, detailed the journey the SMME has traversed from 2018 to the launch of their product offering.

"We are delighted to have reached this milestone in our innovation journey. We have had tremendous support from various partners in the innovation space particularly from TIA and the DSI, in commercialising our products,

Through this journey we have also imparted important skills to young graduates who are part of our technical team. We have permanently employed two of them and one has ventured out to start their own business," said Ms Moloji.

The products are available on order from the @bluberyl\_skincare Instagram page and from the Sawubona Mycelium website [www.sawubonamycelium.com](http://www.sawubonamycelium.com)





# TIA AT THE AFRICARENA GRAND SUMMIT



**T**IA was the Gold sponsor for the sixth annual AfricArena Grand Summit that took place in November 2022 at The Old Biscuit Mill in Cape Town. The AfricArena Summit is an annual tech conference that showcases Africa's best startups and innovators to an audience of local and international investors looking for the most promising tech start-ups. The Summit is part of a series of tech events in Africa, hosted in four regional ecosystems within the African continent sourcing the best start-ups for the Ecosystem and Tour Challenges sponsored by Saint Gobain, French Tech and local partners. These culminate in the grand finale that takes place in Cape Town annually.

The mission of the AfricArena Summit is to connect founders with investors and

corporates in a founder-focus series of events, bridge African tech ecosystems and promote their opportunities, create an impact-driven investor community, and attract entrepreneurs and investors in Africa. Since inception in 2017, AfricArena has been a platform dedicated to supporting the creation of market access and investment opportunities for its ever-increasing community of founders, angels, corporates, and VC investors.

This year's event attracted 42 start-ups, 300 in person attendees and 5000 virtual attendees. The Grand Summit was preceded by 2 events, the Founders Bootcamp and the VC Unconference weekend.

TIA participated throughout the programme in the form of keynote speakers, thought leadership and

participation on panel discussions. Ms Modise, was the keynote speaker at the welcome address setting the scene and highlighting why it is important for TIA to partner in this significant event.

Building Bridges of Innovation between Africa and the world was the topic of the panel that Ms Ndhlovu participated in. This explored various ways in which South African tech start-ups and innovators can be supported and enabled to venture into international markets and opportunities.

Mr Vusi Skosana represented TIA in the Ecosystem Support Organisation (ESO) Pitch Challenge where support organisations pitched to start-ups as the best option for growth.

In its role as a connector, TIA aims to catalyse partnerships between SMMEs, industries, universities, and science councils to develop an enabled environment supporting sector specific innovations for global competitiveness. To further support funded start-ups and SMME's TIA provides platforms where these innovators can connect and network with funders and investors. Three TIA supported investees exhibited and participated at the Summit, namely, Monwabisi Luthuli of iGen, Thoriso Rangata of KTO Digital and Nokuthula Manana of Amara Technologies. Besides exhibiting, the innovators also participated in the Founder's Bootcamp at the Summit.

The participation of TIA in the AfricArena Grand Summit is another way that TIA is supporting the development of enterprises through supporting innovative start-ups.





# DSI AND TIA HAND OVER STATE OF THE ART DRONE TECHNOLOGY TO LOCAL ENTERPRISE



The DSI and TIA handed over drone capability to Zamisa Holdings, a KwaZulu-Natal-based SMME. The handover ceremony was held during the 8th CSIR Biennial Conference which was an apt platform to demonstrate the technology to various stakeholders within the National System of Innovation.

The Spatial Monitoring Project, initiated by the DSI and the TIA, is a multi-year pilot project which aims to support the KwaZulu-Natal Department of Human Settlements (KZN DHS) with the surveillance of urban expansion and land occupation using unmanned aircraft. As part of this initiative, DSI and TIA handed over a drone to Zamisa Holdings, a KwaZulu-Natal-based small business.

The project was conceptualised and implemented by the CSIR to demonstrate state-of-the-art drone technology with the potential to achieve some of the government's broad development objectives in the context of the fourth industrial revolution.

TIA is the project managing agent for the initiative as part of the Innovation for Inclusive Development's Sustainable Human Settlements Portfolio. Funded by the DSI, the project is managed and facilitated by TIA to fulfil the strategic objectives

of Programme 5. These include Socio-economic Innovation Partnerships of the DSI is to gather knowledge, evidence and learning to inform and influence government development policies, technology choices and the way innovative technology can be used towards the creation of sustainable human settlements.

The project's objectives were to establish a viable and fully inclusive small, medium and micro enterprise partnership model



to provide aerial services to departments with similar (urban) requirements, as well as applicable aviation policy recommendations.

The project resulted in the acquisition of a suitable, commercial-grade, remotely piloted aircraft system (RPAS); the identification and recruitment of a suitable local enterprise, Zamisa Holdings; the preparation of a business case for Zamisa; and four new licensed remote pilots. The pilots are two unemployed students, recruited by Zamisa, and two are nominated KZN DHS staff members.

The efficient transformation of the rich data acquisitions by the RPAS over several prioritised target areas in KZN produced valuable spatial information and enabled management reporting. In addition, a draft Policy Brief for the KZN DHS: "Applying Unmanned Aircraft in Surveillance Applications" was produced, and this included a set of practical policy guidelines aimed at protecting the unmanned aircraft against accidental destruction.

The success of this pilot would see a wider use of science and innovation to achieve government's broad development objectives which include improved urban planning and decision making and better informed policy recommendations to monitor human settlements projects and illegal activities.



# SUPPORTING INNOVATIONS FOR PEOPLE WITH DISABILITIES

In November, the country celebrated and observed the National Disability Awareness month under the theme, "Empowering persons with disabilities through resourceful, sustainable and safe environments". As the country observed this significant month, TIA joined in celebrating the contribution people with disabilities are making in building and transforming society. In line with The White Paper on

Science, Technology and Innovation, TIA continuously strives to increase the role of previously disadvantaged individuals, including women, youth and people with disabilities in innovation.

We believe all South Africans play an important role in improving the quality of life for South Africans and making our economy globally competitive. Of the

technologies commercialised by TIA in the 2021/22 financial year, 20% are by people with disabilities. This is in line with TIA increasing the role of people with disabilities in innovation. The agency embarked on marketing campaign shining spot on innovators with disabilities supported by TIA.



**Jared McIntyre**

**Project: Rugby Wheelchair**

The aim of this project is to locally manufacture wheelchairs for persons to use during rugby matches. The cost and availability of these wheelchair necessitates its import from Europe and thus hinders the growth and development of this sport in South Africa.



**Siphiwe Zuma**

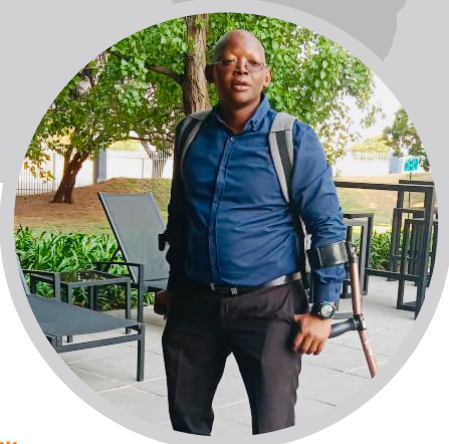
**Project: Retractable Wheelchair Umbrella**

The innovation is a retractable umbrella that can be retrofitted to a wheelchair for protecting a wheelchair user from the rain or harmful UV rays. The umbrella contains a mechanism that allows the wheelchair user to pull a strap and open the umbrella, adjust its height to the user's preference and close and retract the umbrella back into the wheelchair.



**Schalke van der Merwe Project: Suitable Wheelchair**

The sustainable wheelchair is a reliable solution to improve mobility of persons with disability in rural areas. It incorporates a clip-on hand cycle/free wheel to help with mobility and reliability of wheelchairs for long-distance traveling. The aim of this project is to manufacture various sizes of the Sustainable Wheelchair and Free Wheel.



**Lubabalo Mbeki**

**Project: Kwela Mobility**

Khwela Mobility is a digitally integrated transport solution accessible via web and mobile application from dispatching transport resources for persons with disabilities. Lubabalo Mbeki innovated the Kwela Mobility to provide wide range of vehicles adapted to accommodate all types of disabilities and limitations. The service easily available to persons with disabilities and responsive to bookings and requests at competitively priced rates.



**Jabu Blose**

**Project: Virecom**

Virecom provides video remote interpreting (VRI), face to face on-site sign language interpreting, written-text-to-sign language translation and training on sign language and Deaf culture. At the touch of a button, users can access Virecom high definition VRI, real-time text and voice simultaneously. The hearing and Deaf participants are in the same location and the interpreter is located remotely in different location.



# SAB FOUNDATION AWARDS R18 MILLION TO 29 OF SOUTH AFRICA'S SOCIAL INNOVATORS



The SAB Foundation, in partnership with the TIA hosted its 12<sup>th</sup> annual Social Innovation and 7<sup>th</sup> annual Disability Empowerment Awards in which R18 million in grant funding and business development support was awarded to 29 deserving social innovators. The theme for this year's awards was "renewal, revival and resilience, honouring the tenacity and sheer will of South African entrepreneurs".

This year the awards which included a new category in partnership with the South African Breweries (SAB) was established specifically to target innovators, institutions, students, researchers and social enterprises with innovative ideas or prototypes that empower women in at-risk communities.

"Our awards took inspiration from the South African Fire Lily, a tough plant that defies the elements by producing its beautiful salmon to scarlet blooms just nine days after the destructive effects of a fire. It is a symbol of renewal and of hope. Today we celebrate these amazing social innovators for their endurance and we want to see them flourish into bigger and better enterprises that will stimulate local socio-economic activities beyond their current areas of operation. said Bridgit Evans, SAB Foundation Executive Director.

"To date we have invested over R73 million in funding and business development support, to help 143 social innovators. Each innovator focuses on solving a social problem in the sectors such as housing, healthcare, education, social services, disability, energy, water and sanitation, community safety and security, agriculture, recycling, and financial inclusion, and we look forward to working with this year's cohort. This year, we are also extremely grateful to TIA for believing in our work and making their own contribution to this year's winners" concluded Evans.

In this partnership, TIA and SAB Foundation have co-invested in a Social Innovation Fund, the Social Innovation and Disability Empowerment Awards and a University Seed Fund. The co-investment is geared towards accelerating impact and leveraging public-private sector collaboration in the innovation value chain.

Liz Moynihan, founder of Kotonki and Sibongile Mongadi, from Uku'hamba Prosthetics and Orthotics were the overall winners of the Social Innovation and Disability Empowerment Awards with Kotonki getting top prize in the Social Innovation category and Uku'hamba Prosthetics and Orthotics winning first prize in the Disability Empowerment Awards Category. Both innovations received R1.3 million each in grant funding and business development support.

Joint second place in the Disability Empowerment Awards Category went to Louine Griessel from Breede Valley APD Business Units and Chelsea Williamson from iSchool Africa. Both innovations were

awarded R750 000 in prize money.

Breede Valley APD Business Units provides a platform for vulnerable persons with disabilities to develop their full vocational potential and iSchool Africa empowers deaf youth with digital skills.

"We congratulate all the finalists and winners of the SAB Foundation Awards. We are also proud to see that three projects previously supported by TIA are among the finalists. Through this partnership TIA is committed to expanding innovation

related activities in underserved regions as well as to promote social entrepreneurship development in South Africa in line with our mandate," said Ms Tshembani Khupane, Acting Head: Strategic Partnerships and Business Development for TIA.

In the Social Innovation Awards Category, iKhaya Lekhaya was awarded second place with grant funding of R800 000 and From Waste to Value walked away with third place and R700 000 in grant funding. iKhaya Lekhaya is a co-financing model that enables employers to directly assist employees in improving their living conditions by providing fire and flood-retardant shelters.

From Waste to Value on the other hand, they collect disposed cooking oil from local food establishments and transform it into sustainably packaged and affordable soap bars. Izipho Zokuphila Tracking, founded by Simphiwe Ntuli and Siyabonga Mgadi, walked away as the overall winners, taking home the top prize of R500 000 in funding.

"We are so inspired by the innovations we have seen and applaud these brilliant problem solvers. We support social innovation and it has been a privilege for us to collaborate with the SAB Foundation on the SAB SHARP awards category, said Zoleka Lisa, Vice President of Corporate Affairs from SAB.

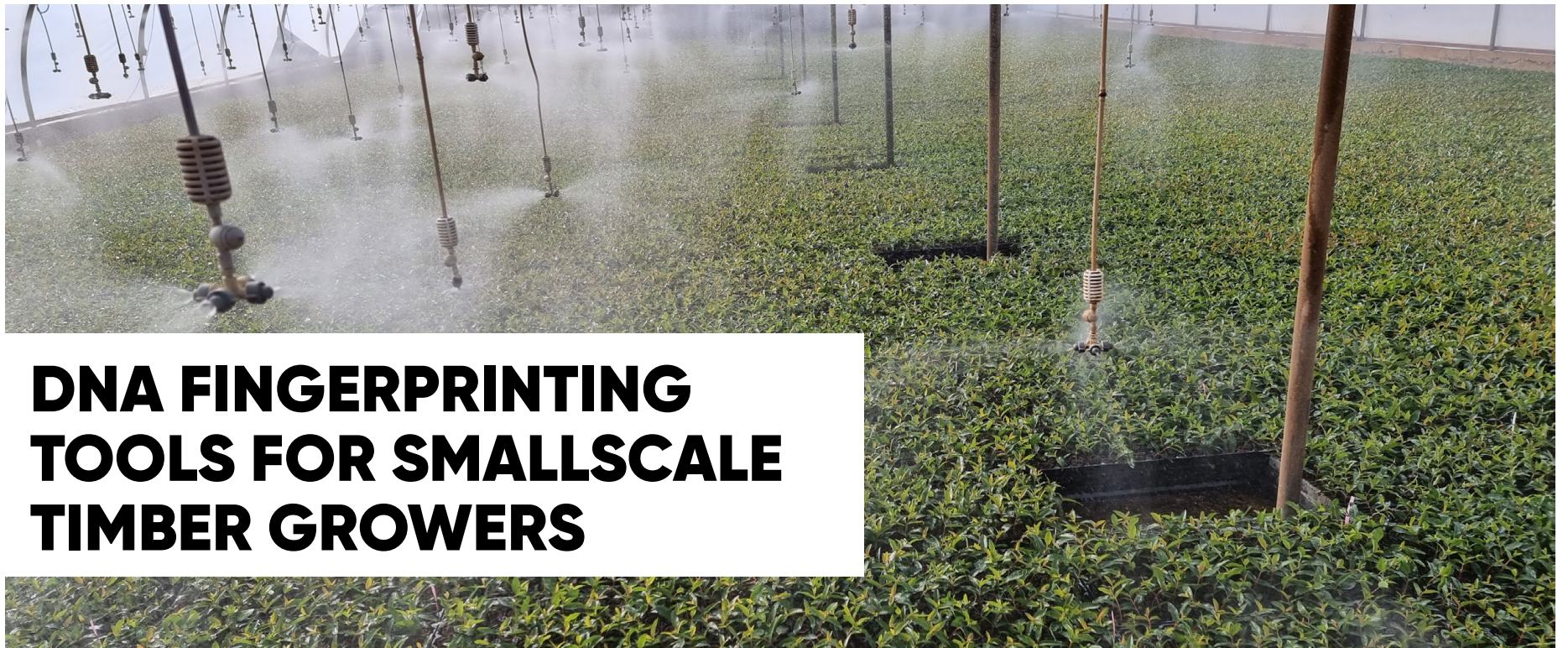
Three TIA Alumni projects were finalists at the Awards. Fire Killa Extinguishers, Mind Blown Game and Addressdox each received an award of R300 000 as finalists. TIA would like to congratulate all three for the progression they have made in their respective innovations.

To learn more about the Social Innovation and Disability Empowerment Awards visit

<https://sabfoundation.co.za/social-innovation-awards>







## DNA FINGERPRINTING TOOLS FOR SMALLSCALE TIMBER GROWERS

The DNA Fingerprinting for Small Growers (DFSG) Initiative is an intervention of the Forest Molecular Genetics (FMG) Programme in the Forestry and Agricultural Biotechnology Institute (FABI) at the University of Pretoria. The initiative is by TIA in partnership with the DSI as part of Programme 1 of the Forest Bioeconomy Innovation Cluster which is intended to make the technology services of FMG available to small scale timber growers. One of these services is DNA fingerprinting.

In line with the Cluster Model adopted by TIA and the DSI, the Forestry Molecular Genetics Programme FMGP is a well-established industry-government venture focused on the genetic control of growth, wood formation and pest and disease resistance in South Africa's forestry plantations. It aims to enhance tree growth and health while simultaneously improving properties for timber, pulp, paper, and biomaterials production. Since its inception, the FMGP has uniquely combined rapidly evolving genomic science and biotechnology with direct commercial application.

The initiative will enable small-scale growers to use the technology to ensure that the correct genotypes are being planted on their land and determine the identity of any trees exhibiting disease or other stress symptoms.

In August 2022, the Industrial Biotech team attended the launch of this initiative at Institute for Commercial Forestry Research (ICFR), in Pietermaritzburg. Present at the launch were representatives of various organisations that form part of the FMG Programme.

The meeting was followed by site visits to Sunshine Seedlings and two small growers in the Matimatolo rural area. These site visits provided an opportunity to gain a first-hand understanding of some of the challenges that nurseries and small growers experience.

Fingerprinting for Small Growers Initiative will contribute to the development of more resilient plantations for small-scale timber growers in South Africa. Rapid climate change including

more extreme weather events and associated pest and disease outbreaks are some of the main threats to the productivity of small-scale plantations. Developing and matching the correct genotypes to the diverse and variable environments where most small growers are situated is key to promoting sustainability of the small grower sector.

The initiative's vision is to extend the benefits of DNA-based molecular technologies to support the sustainability of small-scale timber growers in the South African Forestry Sector. A key driver within the Forestry Bioeconomy Strategy is the mainstreaming and empowerment of small-scale growers (SSTGs) in the Forestry Sector, most of whom can benefit from current technological advances that allow more accurate genetic resource management, propagation and deployment of planting stock to improve productivity and reduce the risk of crop failure.

Private nurseries servicing small-scale growers can benefit from DNA fingerprinting, not only to perform quality control at various stages of the propagation process, but also to ensure that the correct material was provided to the nursery to propagate. In addition to already developed Eucalyptus and pine DNA fingerprinting tools, the FMG Programme has partnered with NCT Forestry Co-operative (NCT) and the ICFR to develop a DNA fingerprinting marker panel for Acacia (wattle) species that can be used in

nurseries and by small growers.

To date, the uptake of DNA marker technologies has been slow, mainly due to the cost and a lack of awareness of the availability and benefits of the technology. The DSFG Initiative will address this by lowering the cost to make the technology more accessible and through partnering with key stakeholders to reach out to nurseries and small growers.

In general, DNA-based technologies can be daunting to those who are not exposed on a regular basis. As such, the DSFG initiative will partner with co-operatives such as NCT and organisations like FSA who already have networks in place, to ensure that the information is communicated in a way that is inclusive to all stakeholders. The FMG Programme has received dedicated funding for this initiative through TIA and this will allow nurseries to benefit from a 50% subsidy and small-scale farmers an 80% subsidy towards the cost of DNA fingerprinting.

The FMGP is managed by the Industrial Biotechnology Unit of TIA. The Industrial Biotechnology sub-programme contributes to the promotion of the green economy by focusing its efforts on addressing national priorities and gaps in the biomanufacturing value chain, contributing to the development and commercialisation of cleaner technologies that promote environmental sustainability.





# AGRI 5 COMMODITIES EXPO

The AGRI 5 Commodities Workshop & Expo (Agri 5) held in East London in September presented a good opportunity for TIA to engage with small holder and emerging farmers and showcase supported initiatives under the Agriculture Bioeconomy Innovation Partnership Programme (ABIPP), in line with the objectives of technology diffusion.

The Bio-economy strategy of South Africa identifies agriculture as a crucial element of the bio-economy. The agricultural industry currently has the highest economic impact. With relatively little capital infrastructure required, it remains a key opportunity for poverty alleviation, job creation, economic development and household food security in South Africa, on the African continent and abroad.

The main audience for the Agri 5 is co-operatives, small scale and emerging farmers and these are the target audience for the initiatives of ABBIP. TIA was able to engage with potential beneficiaries and end-users of the innovations and technologies developed through ABBIP.

In its ninth year, the Agri 5 is the ideal platform for organisations to facilitate the development of African farmers, in order to increase their meaningful participation in the agricultural sector within poultry, livestock, dairy, crop and piggery commodities. Agri 5 also creates awareness for farmers on how their produce can be turned into a secondary commodity to create further markets and ensure business growth.

Agri 5 seeks to promote opportunities and to give assistance to farmers so that they can transform their primary produce into agro processing and access further markets. This objective of the Agri 5 gave opportunity for TIA to showcase some of the agroprocessing initiatives that have been undertaken. Two of these were at the event and exhibited.

To demonstrate some of the gains made through ABBIP two projects were invited to exhibit with TIA at the event.

Ukhanyo Farmer Development benefitted from ABBIP through the Strategic Innovation Partnership for Grains and Oilseeds. Ukhanyo assists to commercialise small-scale and subsistence rural farmers through technical assistance, mentorship, skills development and subsidisation of input costs. Collaborating with TIA, under ABIPP, Ukhanyo offers training on Nixtimalisation, a process of preparing maize in an alkaline solution followed by washing and grinding



to produce a dough from which a variety of products can be made. The programme addresses the challenges of safe storage of maize through a developed post-harvest technology transfer programme, and the process of Nixtamalization.

## Honeybush Project

TIA partnered with the Agricultural Research Council (ARC) to support the development and commercialisation of Honeybush Tea. The partnership involves research, human capital development and innovation support. The honeybush programme aims to supply ARC genetic bred seed of three species to the industry; to supply at least 200 000 quality seedlings to farmers. The programme established 2 ha community-based plantations to increase processed

tea through a more efficient processing create jobs in rural areas for successful honey bush production.

Mr Sibusiso Manana, Head of Agriculture at TIA also addressed the audience on various opportunities presented by TIA through ABBIP for emerging and small-scale farmers.

The success of this engagement would be measured by an increase in the number of technologies diffused to farmers who would benefit most from them. Increased food safety and security, the creation and the acquisition of critical agro processing skills would be the demonstrable results of TIA supporting the state to improve the lives of South Africans.





# TIA SIGNS MOA WITH SEFAKO MAKGATHO UNIVERSITY



**A**vital element to the success of TIA's strategy to deliver on its mandate is continuous engagement with various stakeholders in the NSI, industry and the public sector. Through collaborations and partnerships, TIA is committed to increasing the agency's strategic positioning and brand awareness in the NSI and the wider market. This, we do through establishing mutually beneficial partnerships with key stakeholders such as Higher Education Institutions (HEI) to support the development and commercialisation of intellectual property they generate.

In October, a delegation from TIA visited Sefako Makgatho University (SMU) as part of the HEI engagement to discuss possible areas of collaboration.

The visit started with engagements with researchers and activation on the campus ground interacting with the university community and culminated in the signing of the Memorandum of Agreement (MoA). The signing of MoA means that SMU becomes a TIA's Seed Fund implementing partner. The University is expected to ensure that the funding received through the Seed Fund will be used solely for the execution of SEED

Fund approved projects. SMU undertook to put in place governance measures to ensure that the agreed deliverables are met while conforming to the Seed Fund Investment Framework Rules.

The Vice Chancellor, Prof Mbatia expressed his appreciation to TIA for having identified SMU as a Seed Fund implementing partner as this augured well with the plans of the University moving forward. "One of the things we want to build as a university is to create an ecosystem that will bring research and innovation labs where students can become part and parcel of it so that the teaching and learning itself is informed by the research and innovation that is happening at the university. SMU has a fairly good number of capable academics and researchers who will ensure that the collaboration will yield the kinds of output that TIA would be interested in funding. The issues about intellectual property rights, patents and entrepreneurs are embedded in the SMU's 2021 – 2022 strategic plan that was developed three years ago," said Prof Mbatia.

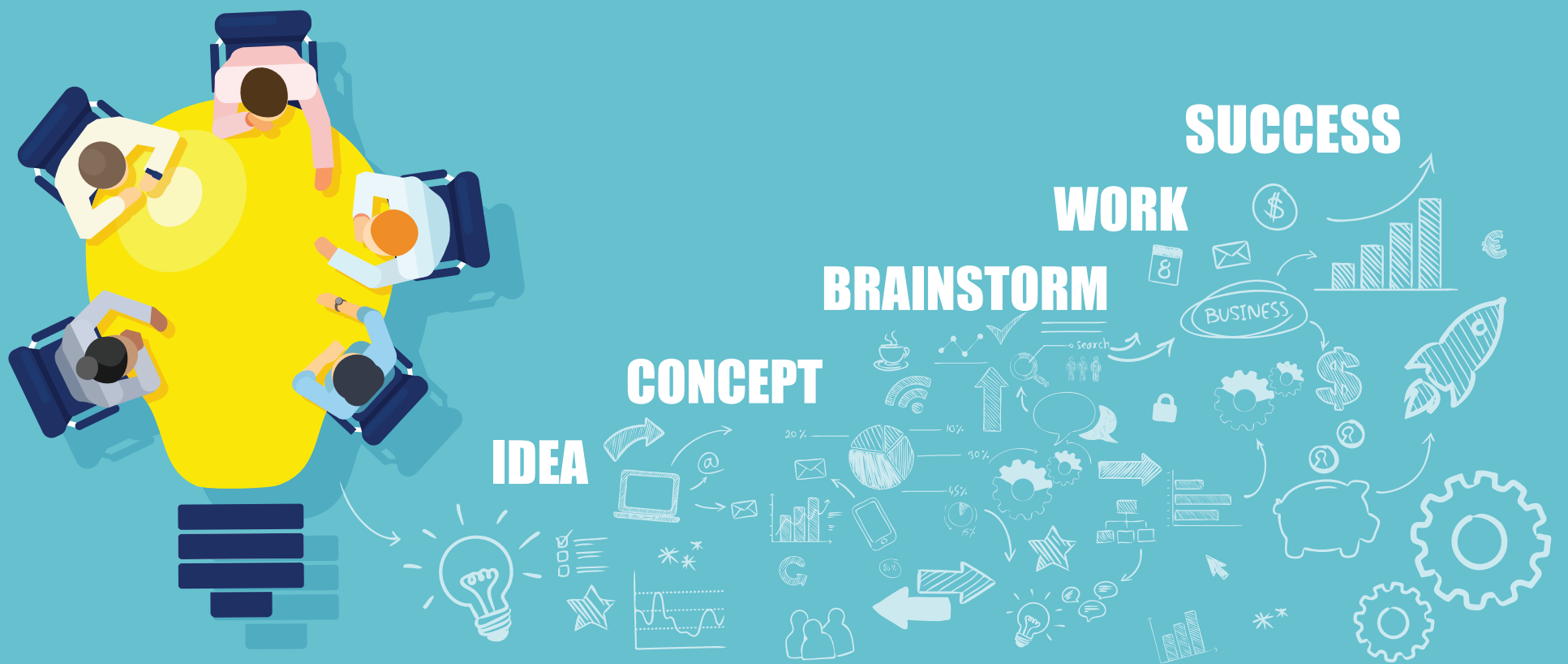
TIA ACEO, Mr Patrick Krappie highlighted that the health challenges facing South Africa, such as infectious diseases, are well known and that the poor bear the brunt of these. "TIA funds innovators who can develop solutions and we rely on institutions like SMU to help us realise these objectives. From my perspective, I think SMU has a big responsibility to lead what I call, distribution of the health innovation capability in the country and make sure health innovation happens anywhere. Looking at the work that the university has already done, it is clear that there is commitment from SMU to elevate initiatives in innovation," he concluded.

SMU launched its Technology Transfer Office (TTO) in July 2022. With a TTO in place, the university is well positioned to pursue its research and innovation initiatives to the point of commercialisation. TIA is delighted to partner with SMU on this development. The university's research areas are mainly health focussed though not confined to health sciences. These include areas such as, infectious diseases, women and child health and non-communicable diseases. Synergies between TIA and SMU in these areas have the potential to be a feeder to the pipeline of TIA's health portfolio.

To affirm the role of TIA as an active funder, connector, facilitator, and enabler, it is important that opportunities for further engagement are identified and explored with SMU. It is in institutions such as SMU that innovations that will change the course of South African lives can be found and elevated.







# TIA SUPPORTS UKZN POSTGRADUATE RESEARCH AND INNOVATION SYMPOSIUM

TIA had the privilege of sponsoring and participating in the Postgraduate Research and Innovation Symposium (PRIS) hosted by the University of KwaZulu Natal (UKZN) at the beginning of December 2022. PRIS is a flagship event of the university's College of Agriculture, Engineering and Science (CAES).

CAES is recognised internationally as a centre of excellence in research, innovation, teaching, and community outreach. The College has five Schools, including, Agricultural, Earth & Environmental Sciences, Chemistry & Physics, Engineering, Life Sciences and Mathematics, Statistics & Computer Science.

The sponsorship is of strategic significance to TIA, particularly in the light of the Higher Education Institution Engagement Programme that TIA has activated in the past few months.

Universities and other Higher Education Institutions (HEIs) are key stakeholders to TIA. The research produced at these institutions generates IP that can be commercialised with the support of TIA.

Mr Vusi Skosana, Acting Executive: Innovation Enabling, delivered a message of support at the start of the two-day symposium. In






his address he encouraged the students and researchers and congratulated the winners of the contest. He pointed out that such collaborations help to strengthen relations between TIA and HEI's and create a pipeline and future innovation initiatives. The sponsorship from TIA offered five R15 000 prizes for first place in oral presentations.

In the section on Industry Presentations TIA was represented by Dr Anitha Ramsuran. She presented about various support instruments that are available to students and researchers within TIA. The presentation was well received by the university community. In her presentation, Dr Ramsuran elaborated on the Grassroots Innovation Programme (GIP) and the Technology Acquisition and Deployment Fund. The UKZN participants found these interesting as they present opportunities for students and post grads who are not part of a formal research group to benefit from these programmes.

Throughout the two-day programme, postgraduate students delivered oral and flash presentations of their research findings giving members of both the university and the public an opportunity to learn more about the College and its research endeavours. The College awards the best presenters according

to the scientific content, its applicability and impact on non-scientists.

**The presenters who were awarded the TIA cash prizes were:**

-  Kwame Shamurariwa - Agricultural, Earth & Environmental Sciences
-  Amy Rouillard - Chemistry & Physics,
-  Yuri Ramruthan - Engineering,
-  Nqobile Matsomane - Life Sciences and -
-  Victor Uzor - Mathematics, Statistics & Computer Science.

Beyond the sponsorship and event participation, three TIA staff served as judges for the various papers and presentations. The judging team from TIA included Research Scientists from the Bioprocessing Platform, Ms Nolwazi Nduli and Ms Ziningi Myeni. They were joined by Dr Tozamide Rubuluza, Portfolio Manager Energy. The judges were taken through a training and induction programme in preparation for the task at hand, and they generously gave of their time to ensure that the post graduate students' work was equitably judged.

TIA congratulates the winners and hope to see more research and innovation initiatives from the HEIs.





## Our Vision

To be a leading technology innovation agency that stimulates and supports technological innovation to improve the quality of life for all South Africans



## Our Mission

To facilitate the translation of South Africa's knowledge resource into sustainable socio-economic opportunities.

# Our Values



## Teamwork

Together we can do more. Fostering teamwork creates a TIA work culture that values collaboration and co-operation.



## Integrity

We strive to do what we said we would, when we said we would do it.



## Professionalism

We apply the most appropriate skills, competencies, experience and knowledge of best practices cohesively in conducting our work.



## Transparency

We engage in inclusive open communication, and hold each other accountable for our performance and conduct.



## Excellence

We will be accountable to all stakeholders to deliver exceptionally high standards of work and performance.



## Innovation

We foster a culture where we continually nurture and implement new ideas from our staff and stakeholders that enhance how we do things and deliver services.