



## DISCOVERING A FUTURE IN SCIENCE ENGINEERING TECHNOLOGY AND MATHEMATICS (STEM)

The Botswana International University of Science and Technology (BIUST) continues to stimulate interest in Science, Engineering and Technology. On the 14th of February 2022, BIUST hosted about 90 prospective students from various high schools around Botswana. The purpose of this visitation of high school students was to accord aspiring undergraduate students' first-hand interaction of the University facilities and

give them insights into programmes offered, culture and student life. This initiative will aid students to consider BIUST as a University of choice. The visit was conducted under the theme, "Converting raw materials into sustainable and high-performance products".

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*Merry Christmas*



## EDITOR'S NOTE



So, we come to the end of another year, and 2022 has been eventful enough, dominated with so many exciting activities and research. Festive season is a time to unwind, have fun and get enough rest to be fresh for the upcoming year.

This edition brings brief highlights of some of the major activities that the University held throughout the year.

Our profound gratitude goes to all the BIUST staff, students, and our esteemed suppliers who without them, this publication wouldn't have been a success. Le kamoso betsho.

May your Christmas sparkle with moments of love, laughter and goodwill. And may the year ahead be full of contentment and joy. Have a Merry Christmas

# SOUTH AFRICAN CUT COUNCIL CHAIR VISITS

The BIUST Vice Chancellor, Professor Otlogetswe Totolo expressed delight when welcoming a delegate of Central University of Technology (CUT) that was led by the Council Chairman, Mr Matthew Rantso and the Acting Vice Chancellor, Professor Alfred Ngowi.

This visitation was timely as it will strengthen the bond of friendship between the two institutions. In 2019 BIUST signed a Memorandum of Understanding (MOU) with CUT.

## THE BOTSWANA'S HONORARY CONSUL GRACES THE BIUST CAMPUS

On the 10th of February 2022, Botswana's Honorary Consul based in California, United States of America, Mr Charles Frankel accompanied by Botswana International University of Science and Technology Chancellor Former President of the Republic of Botswana, Dr Festus Mogae paid a courtesy visit to BIUST. The intent of the visitation was for the two dignitaries to appreciate the diverse projects the University is currently engaged in.

## BIUST, CIPA SYMBIOTIC UNION FOCUS ON ECONOMIC TRANSFORMATION

The Companies and Intellectual Property Authority (CIPA) joined a host of key industry players that partnered with the Botswana International University of Science and Technology (BIUST) through a Memorandum of Understanding, which advances the latter's endeavour to lead the national economic transformation from mineral-based to a knowledge-based economy.

The union between the duo was a natural occurrence as CIPA has a mandate to protect intellectual property rights in Botswana while BIUST is a public research institution with a mandate to generate knowledge that could facilitate the economic transformation of our country through academic investigations.

## DIAMOND INDUSTRY PIONEER HB ANTWERP SIGNS LONG-TERM MOU WITH BOTSWANA INTERNATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY (BIUST)

Antwerp, Belgium and Palapye, Botswana: HB Antwerp, the entrepreneurial natural diamond start-up, has signed a five-year Memorandum of Understanding (MoU) with the Botswana International University of Science and Technology (BIUST) to establish a new partnership aimed at fostering the next generation of talent in Botswana, where HB Antwerp works with the local diamond industry.

Together HB Antwerp and the University, will organise traineeships for Botswana youth, offer scholarships for promising local talent, drive innovative projects backed by digital supply chains, and create job opportunities in the diamond sector to help the economy of Botswana to transform into a modern technology-driven enterprise.



## BIUST OFFICIALLY INAUGURATE STATISTICAL SERVICES UNIT (SSU)

On the 22nd of March 2022, Botswana International University of Science and Technology through the

Faculty of Science, Department of Mathematics, and Statistical Sciences launched the Statistics Service Unit (SSU). The virtual event was held under the theme "Statistical Collaboration for a Knowledge-Based Economy and Sustainable Development." SSU is a consulting unit within the Department of Mathematics and Statistical Sciences, Faculty of Sciences. It aims to create a BIUST statistical analysis and data science capacity by providing advice and technical services within the University and beyond. The initiative is available to the BIUST community, the general public, and organizations.

## BIUST, SANSA FORGE RELATIONSHIP

The Botswana International University of Science & Technology (BIUST) forges relations with relevant entities locally and internationally in a quest to drive the country's developments. In its endeavor, BIUST has partnered with the South African National Space Agency (SANSA) to locate a weather station/observatory in BIUST. SANSA aims to promote the use of space and strengthen cooperation in space-related activities while fostering research in space science, advancing scientific engineering through developing human capital, and supporting industrial development in space technologies.

## BIUST, MOPAGPA AGREEMENT AIMS AT POVERTY ERADICATION

Botswana International University of Science and Technology (BIUST), and the Ministry of Presidential Affairs, Governance and Public Administration (MOP-AGPA) signed a Memorandum of Understanding at an event held at the BIUST Campus.

Assistant Minister of Tertiary Education, Research, Science and Technology (MOTE), Honourable Mr Aubrey Lesaso, expressed delight that his ministry was joining hands with MOPAGPA through BIUST. The tripartite partnership aims to facilitate and advance the spirit of Government in creating an enabling environment for Botswana to thrive and succeed in their efforts to make a decent living for themselves.

## BIUST EQUIPS ENTREPRENEURS WITH TECHNICAL EXPERTISE

The University through the Centre for Business Management, Entrepreneurship and General Education (CBMEGE) virtually hosted the 3-day Innovation & Entrepreneurship Bootcamp. Over 30 participants graced the event. The three-day virtual bootcamp hosted panelists who deliberated on several topics that were tailor made to equip attendees with soft skills that will give entrepreneurs a competitive edge in the business world.

The bootcamp was held under the theme, 'Service Sector Sustainability: Navigating Contemporary Challenges'. Within the list of the objectives, the main aim was to offer entrepreneurs industry secrets such

as lessons on how to do business in China, given that China has a thriving lucrative market. The University saw it fit to provide the participants with knowledge on some cultural aspects of China and information that would help them do business with ease.





## **THE GERMAN DELEGATES BIUST CAMPUS**

On the 27th of April 2022, a German delegation comprising of experts from diverse industries graced the BIUST campus. The sole intent of the visitation was to appreciate the institution's learning environment sphere and present possible services that their various companies & organisations can bring to BIUST.

The exciting expedition, however, commenced with an adventurous campus exploration. The university treated the honourable guests to appreciation of the diverse types of equipment found within the Mechanical Engineering Laboratory, Electrical Engineering Laboratory and Physics Laboratory.

## **BIUST MENTORSHIP PROGRAMME IN COLLABORATION WITH NORTH CAROLINA STATE UNIVERSITY, USA DEVELOPS ON-LINE APPLICATION FOR STEM MENTORSHIP AT SWANENG HILL SCHOOL.**

North Carolina State University 's Department of STEM Education formed a partnership with BIUST as Botswana continues to struggle in its effort to create a strong pipeline of STEM professional population. This is being done through a collaborative research project between Botswana and North Carolina State University 's Department of STEM Education and is a part of the U.S. Department of Defense's State Partnership Program. The North Carolina State University 's Department of STEM Education was part of the delegation that came to Botswana in 2019 from July 13 to 20th and the visit, among other things, resulted in forming a growing research collaboration meant to

inform the submission of a grant proposal to the National Science Foundation's ADVANCE solicitation.

# FLORIDA'S PROFESSOR LAKHDAR BOUKERROU CAMPUS VISIT CENTRED ON AMPLIFICATION OF EDUCATION SYSTEM.

"A Country's development revolves around continuous amplification of its education system & the feasibility of a knowledge-based economy is dependent on equipping employable graduates", said Florida International University, Director, International programs & Global Initiatives, Professor Lakhdar Boukerrou during his honorary visit to the BIUST Campus.

In accordance, the renowned BIUST Vice Chancellor, Professor Otlogetswe Totolo giving welcome remarks delineated that BIUST is a research-intensive institution, that thrives to produce innovative graduates hence visitations such as these are paramount to achieving its core existence.

The absolute intent of this appearance was for the duo to prospect & discuss possible partnership; focusing

on areas such as, student internships, research & opportunities and offering of double degree programmes.



## **BIUST SATELLITE EVENT:** *Shaping Tomorrow's Future*

The BIUST Satellite event to celebrate the 2022 National Science Week commenced with an activation at Kediretse grounds, Palapye where BIUST hosted a two day event held under the sub-theme "STEM, advancing life for sustainable development."

Morupule Coal Mine Plant Manager Ms Botlhe Mokgethi who was a guest speaker at the event highlighted that the National Science Week initiative precipitated from the Southern African Development Community (SADC) initiative wherein SADC Science and Technology Ministers in 2008 resolved that SADC should commemorate science, technology and innovation at-least a week annually. The BIUST Satellite event focused on Astronomy and Mining sectors with the aim to promote public awareness, appreciation and understanding of Science, Engineering, Technology and Innovations nationally, stimulate interest in STEM subjects at primary and secondary school levels, and exposed the public to scientific and technological advances.

## **BIUST, BOFINET MEET FOR A COLLABORATIVE DEAL**

Botswana Internationally University of Science and Technology (BIUST), together with Botswana Fibre Networks (BoFiNeT), organized a special meeting to discuss some of the important points pertaining to areas of Information Communications and Technology (ICT). The meeting was held on the 19th May at BIUST.

BoFiNet team brought forth the Digital Delta project and its benefits, which is currently ongoing. The construction for the data center commenced in March 2021 and expected to be completed by July 2022. The data center is a 1000 square meters facility within the Botswana Digital and Innovation Hub (BDIH) in Gaborone.



Invitation

# BASIS LAUNCH



8 JULY  
2022

0900hrs  
1100hrs



RSVP

Mr. Donah Lekwati | Email: lekwati@biust.ac.bw | Tel: 73474773

The University is officially launching

# BASIS

BIUST ACADEMIC STUDENT INFORMATION SYSTEM

*Channels to view the launch...*

## BASIS LAUNCH

The University has introduced a user-friendly automated online system. The BIUST Academic Student Information System (BASIS) is aimed at resolving the current partially manual operated system.

The strategic multi-million-pula project is a priority to

the University with modules ranging from academic model, student recruitment, selection, admissions, registration, assessment, timetable, room bookings, marks handling, accommodation, and self-service portals.

The project will benefit the BIUST community by automating the manual processes in academic services, improving service delivery, and ensuring the accuracy of data.



## BIUST CELEBRATES STEM

The Botswana International University of Science and Technology in collaboration with and the Ministry of Communications Knowledge and Technology and other key stakeholders celebrated the year 2022 National Science Week (NSW) from 23rd to 26th

August in Masunga village. Held under the theme “STEM – Advancing Life for Sustainable Development,” the four day event was aimed at promoting awareness, appreciation and understanding of Science, Engineering and Technology (STEM).

The event was also graced by Masunga residents who came in large numbers to witness the auspicious occasion in which the University launched its very own talented amateur craftsman Mr. Batshani Sekoto's revamped motor vehicle prototype. The vehicle was handed to BIUST's Department of Mechanical, Energy & Industrial Engineering in 2020. “Our intention was not to make the car differ from the original concept. All we did was to add value from what he had from engineers to a scientific point of view,” said the BIUST Vice Chancellor Professor Otlogetswe Totolo during the launch.

# BIUST PARTNERS WITH EUROPLANET

The Botswana International University of Science and Technology (BIUST) is proudly one of the only two (2) partners in Africa, in the Europlanet Project 2024, a large research project funded by the European Union (EU) through the Horizon 2020 programme led by the University of Kent in the United Kingdom.

Fulvio Franchi, Professor at the Earth and Environmental Science Department of BIUST, who is also local coordinator for Europlanet, says the project has

50 partners, of which BIUST is one of the only two in Africa. Professor Franchi says their role in this project is to organize fieldwork activities for scientists from all over the world interested in visiting Makgadikgadi pans for research purposes.

The partnership with Europlanet means that students at BIUST can pursue careers in planetary science in partnership with leading scientists across the world

## THE NEW BIUST STUDENT LAPA TO STRIKE BOTH RECREATION AND INCOME GENERATION MARK

One of the projects that University prides itself with is the LAPA project which is a collaborative effort between the BIUST management and Student Representative Council. The two parties were urged work show commitment and dedication to the success of this project which was envisaged to generate third stream income.

Giving an overview of the project, Acting Deputy Vice Chancellor Finance and administration Mr. Davis Tele explained that the project was instigated by the university management and student representative council with a view to set up an outdoor multi-use student facility or a recreational spot for learners. Funded in December 2021, he explained that the Student Representative Council designed the structure of the student LAPA, the simplicity of this building “stands to accommodate diverse events that will be hosted here.”



## BIUST EMBRACES CULTURAL DIVERSITY

The University endeavours to promote community, national, regional, and international development through the transfer of knowledge, skill, and expertise, harmonized by the positive enhancement of social and cultural norms within the University. As an international University, BIUST is committed to promoting globalisation amongst its community and its stakeholders. On this very notion the university recently celebrated culture day. The annual event stands to provide an inclusive atmosphere as well as deepen the understanding of diverse cultures that co-exist within the Institution.



# BIUST GEMS MENTORSHIP WORKSHOP PROMPT FOR A LIMITLESS MINDSET APPROACH



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## BIUST INDUCTS COHORT OF FRESHMEN



campus, an initiative aimed at making students acquainted with the culture and norms of the institution. The freshmen induction introduced students to life at the university, the academic procedures, various platforms, and opportunities that will be made available during their time in the university.

On August 9th, 2022, the University hosted an orientation to officially welcome the freshmen to its

## BIUST HOSTS BQA

A group of Auditors from Botswana Qualifications Authority (BQA) were hosted by BIUST from September 6th to September 8th 2022. The aim of the visit was for the group to carry out the university's first institutional audit since its accreditation in 2018. This institutional audit was carried out in accordance with the BQA Regulations for Registration and Accreditation (2016) and its Quality Assurance Standards of 2017.

BQA official Ms B Pego took the opportune time to part shared on the objective of the BQA visit, explaining that the sole purpose of the meeting was to familiarise themselves on how the audit would be conducted and what was expected of the University personnel. She explained that the scope of the exercise was to monitor how BIUST was performing against standards it had set for itself.



## Hokkaido University Experts Visits BIUST

A team of scientists from Hokkaido University paid a visit to BIUST. The objective of this visitation is to coordinate a proposed regional project called ZA. ZINAMBO, which seeks to address the environmental pollution specifically metal pollution.

This initiative covers four countries in the Sub-Saharan Africa, namely Botswana, Namibia, Zambia, and Zimbabwe.

The concept which is referred to as the ZA.ZINAMBO Project, is about environmental pollution in particular metal pollution related to mining activities. The final goal of the project is for the stakeholders in each collaborative country to be able to monitor, identify, measure and solve environmental metal pollution problems



# BIUST RELEASED INDUSTRY READY GRADUATES



The University hosted its seventh (7) graduation ceremony where 298 graduands; 225 Undergraduates and 72 Postgraduates from various academic disciplines were conferred from different academic

disciplines. When giving his welcome address the Vice Chancellor, Professor Otlogetswe Totolo alluded that Economic transformation and innovation have become a buzzword across the globe and governments, organisations and academia and civil societies see this as an answer to major societal challenges. He noted that has embraced innovative entrepreneurship as part of its core mandate. He implored the class of 2022 graduates to acute the sense of BIUST; that is to be at the vanguard of research, innovation and human development.

## BIUST KICK STARTS AFRICA - JAPAN COLLABORATIVE RESEARCH

The project titled “Sustainable well-being through rapid detection, remediation, and stakeholder awareness of contaminants in environments impacted by mining activities is a collaboration between BIUST (Botswana), University of Johannesburg (South Africa) and Shibaura Institute of Technology, Kagoshima University, Kyoto University from Japan.

This project’s aim is to provide heavy metal-free water and food to communities impacted by mining activities in Botswana. Integrated research activities will bring social outcomes in the form of heavy metals (HMs) distribution maps in soil, water and their content in microplastics. HMs remediation technique will create economic benefits as well as ensure safety of food produced in mining.

To contribute to national and international scientific and technological development, the project that aims to provide heavy metal-free water and food to communities impacted by mining activities in Botswana, today the AJ Core researchers are in Selebi Phikwe to meet with different stakeholders to roll out the intention of the project.



## BIUST DONATES TO PALAPYE PRIMARY HOSPITAL

In a bid to activate the mood towards the University's 10th Anniversary celebration, the Botswana International University of Science & Technology (BIUST) through the Centre for Business, Management, Entrepreneurship and General Education donated hampers to maternity and paediatric wards at the Palapye Primary Hospital.

This warm gesture is an affirmation of BIUST's pledge on impacting on the community it exists in and strengthening its outreach engagement with stakeholders.





## DR DIKOLOTI VISITED BIUST

In its advancement to commercialise its research ideas and create skilled workforce, the University strategically partners with industry stakeholders.

The Vice Chancellor, Professor Otlogetswe Totolo and the Executive Management hosted the Honourable Minister of Health and Wellness, Dr Edwin Dikoloti and his team.

The aim of this visitation was to kickstart a partnership with the Ministry of Health focusing on the health aspects of deploying radiation technologies.

The elated Minister highlighted that there are several stakeholders who will be keen to be a part of this collaboration as it is of paramount importance to the nation. He noted that consistency is key and emphasized the need for his Ministry to embark on this project.

The Vice Chancellor noted that as a university they are intent in what they do. He alluded that through these partnerships they hope to change the lives. The duo will collaborate on areas of:

- Human Capacity building in Radiography and Health Physics;
- The production of PET radioisotopes and radiopharmaceuticals in Botswana.

## AKITA UNIVERSITY VISITS BIUST

In its effort to fortify its objective of knowledge transfer, BIUST hosted ten Akita University students and two

lecturers for a study tour. This initiative aims at giving the Akita students an opportunity to appreciate the Mining Industry first-hand.

The University has strategically partnered with the Japanese University through a Memorandum of Agreement in 2019. The duo agreed into collaborating in the following areas:

- To exchange Faculty, researchers, and administrative staff
- To exchange students
- To conduct joint research
- To hold lectures and organize symposiums
- To exchange academic information and materials



## BIUST KICK STARTS AFRICA - JAPAN COLLABORATIVE RESEARCH IN SELIBE PHIKWE

The project titled “Sustainable well-being through rapid detection, remediation, and stakeholder awareness of contaminants in environments impacted by mining activities is a collaboration between BIUST (Botswana), University of Johannesburg (South Africa) and Shibaura Institute of Technology, Kagoshima University, Kyoto University from Japan.

The collaborators held consultative stakeholder meetings with Selibe Phikwe residents as the project aims contribute to national and international scientific and technological development, the project that aims to provide heavy metal-free water and food to communities impacted by mining activities in Botswana (Selibe Phikwe).

# THE HIGHLY ANTICIPATED BOTSAT-1 SATELLITE COMMISSIONED



The Botswana International University of Science & Technology (BIUST) recently commissioned the first Botswana Satellite Ground Station (BOTSAT-1). The event which was officially commissioned by His Excel-

lency Dr. Mokgweetsi E.K. Masisi attracted captains of industries to witness the historic event in BIUST campus on the 29th November 2022

BIUST continues to be on the vanguard in transforming the country's economy from a resource-based economy to a knowledge-based economy through impacting knowledge and expertise. BotSat-1 is a multi-disciplinary and cross-sectoral project which spans almost all academic fields hence being fundamental for the continuity of such collaboration, career progress, sharing knowledge and ideas from research to experimentation and market.

## BIUST HOSTED 21ST EDITION SAUSSA GAMES 2022

The Botswana International University of Science and Technology (BIUST) through the Botswana International University of Science & Technology Staff Sports and Recreation Association (BIUSTSSRA) hosted the 21st Southern African Universities Staff Sports Association (SAUSSA) Games billed from 4th to 9th December 2022 in BIUST Campus.

The event which was held under the theme: "Promoting Wellness, Unity and Diversity through Sports" attracted more than 1, 500 participants from 19 (nineteen) local and international universities (Botswana, South Africa, Malawi, Lesotho, Eswatini, Zimbabwe and Zambia).

SAUSSA is an inter-university staff sports association in Southern Africa, established to promote social cohesion, sports and recreation and to create mutual friendship and professional relations among member universities.

The week-long event, full of festivities brought together member universities to foster sports and recreation through track and fields and cultural diversity as per the thrilling cultural night event. This year's games

saw the members live its mandate of promoting social cohesion, to create mutual friendship, as well as forging community engagement with stakeholders that the University exists within as BIUST donated an ablution block to Palapye Swallows grounds.

