

Technovation

$$\text{Disruptive Innovation} = \sum_{t=1}^n \frac{d}{dt} f(D, I, T, C)$$

D = Disruptive I = Innovation T = Transfer C = Commercialisation

The Innovation Entrepreneurial



HIT embraces new Higher Education policy.

HI-Tech Development Valley takes off

Minister emphasises Heritage-based innovations

Our Destiny

**To be the stimulant of scholarship
in innovation.**

Our Cause

**To cultivate commitment towards
technopreneurial leadership.**

Our Calling

**To commercialise technology through
professionalism rooted in integrity.**

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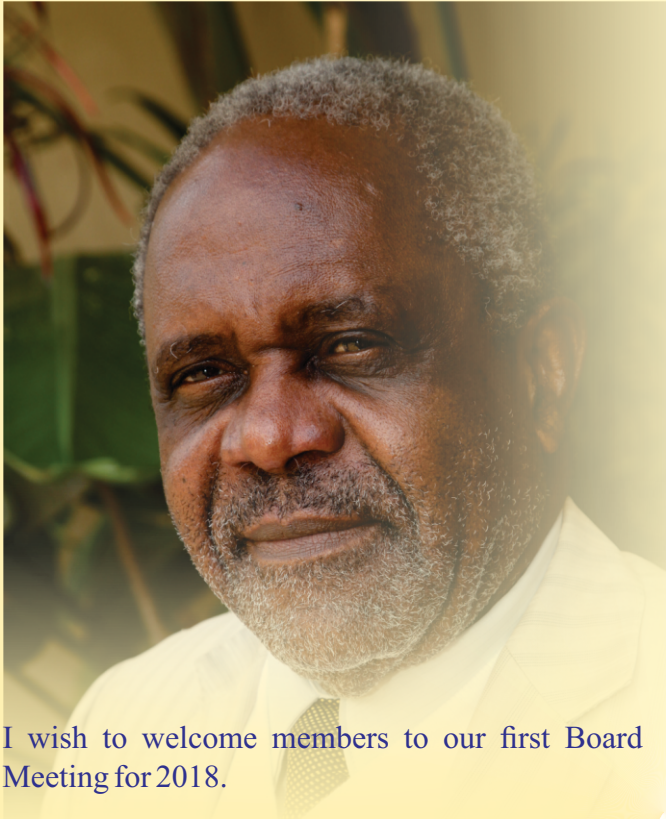
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Board Chairman charges HIT family to rally behind Government



I wish to welcome members to our first Board Meeting for 2018.

My exhortation to the Board, Management, staff and students is that we all rally behind the Government's call to adopt the, "Programmatic Approach" to doing things in all our endeavours. I reiterate His Excellency, the President Cde Emmerson Dambudzo Mnangangwa's expectation when he addressed Vice Chancellors and Chairpersons of University Councils on 9 January 2018 at the Harare International Conference Centre, I quote, "Institutions of higher learning should work as an integral part of the country's economy and should harness the knowledge and skills of graduands through Science, Technology, Research and Development for economic growth".

The government expectation calls upon each and everyone of us to play our respective roles and ensure that the University delivers on its mandate. My appeal to Management is that they should take advantage of the willingness on industry's part, to partner institutions of higher learning for purposes of delivering on the Academic Transformation Agenda as outlined by Government.

The Vice Chancellor briefed me and highlighted a number of projects that the University has targeted as part of the "100-Day Deliverables" as well as those that are meant to have an impact on the economy as a whole. I wish to commend him and his team for such efforts.

Our expectation as the Board is that the University:-

- Embraces and implements the Programmatic Approach,- it is no longer "business as usual," to service delivery.
- Contributes meaningfully to the Higher Education Transformation Agenda.
- Responds to the Government's call for the University to play an impactful role in the various policy formulation platforms at national level.
- Registers growth in student numbers and infrastructural development.
- Registers tangible results in its technology, incubation, development, transfer and commercialisation effort.

Lastly I would like to commend our parent Ministry of Higher and Tertiary Education, Science and Technology Development for brokering the student Tuition Loan Scheme with a number of financial institutions. This should see a significant reduction in student indebtedness to the University. It is our hope that the concerns pertaining to the tuition loan scheme raised by the students will be looked into with the view to finding a lasting solution to this challenge.

Let 2018 be a year when our University makes waves and leaves footprints on the technological landscape of this country.

Thank you

A handwritten signature in black ink, appearing to read 'Dr G. Mandishona'.

Dr G. Mandishona
Chairman

NATIONAL FOCUS

The background of the page is a light blue gradient. A dark blue triangle is positioned on the left side, pointing towards the center. The text "NATIONAL FOCUS" is written in a bold, white, sans-serif font, centered horizontally across the middle of the page. The triangle's hypotenuse is a diagonal line that separates the dark blue area from the light blue area.

A portrait of President Emmerson Mnangagwa of Zimbabwe, wearing a dark suit, a red tie, and several medals on his chest. He is seated in a red leather chair. The background is a soft-focus indoor setting.

HIT embraces new Higher Education policy.

Following his swearing in and inauguration as the President of the Republic of Zimbabwe on Friday, 24 November 2017 in Harare, His Excellency, President Emmerson Mnangagwa unveiled a new dispensation where he called on all citizens to work together in rebuilding the nation. He also laid out his vision for the country to move towards a new trajectory of growing the economy.

The President met with Vice Chancellors and Deans of all local universities, Principals, Directors and heads of departments of higher education institutions on Tuesday 9 January 2018 to ascertain the institutions' contributions towards economic growth through research and teaching.

In his address, President Mnangagwa said institutions of higher learning should work as an integral part of the country's economy as the education system is the pillar for national development. President Mnangagwa added that institutions of higher learning should harness the knowledge and skills of their graduands for economic growth.

“We look upon the institutions of higher learning to lead in research and development to support the agriculture sector and industry through the adoption of water harvesting technologies and farming methods as well as other innovations in order to retain the country's breadbasket status and

boost productivity which will in turn boost our economy,” said President Mnangagwa.

The President also urged captains of industry to partner Government in the academic transformative agenda as they are the immediate beneficiaries of a skilled workforce. “With the unity of purpose and team spirit, we can achieve far beyond. This will improve service delivery in both public and private entities. It's high time we adopt the new direction that my government has taken to revive the economy and bring about a better Zimbabwe,” said President Mnangagwa.

He urged universities to produce graduates with skills which are required by the local industry emphasizing that these institutions must ensure that the knowledge gained by students is used for development.

Prior to this meeting, the Permanent Secretary for Higher and Tertiary Education, Science and Technology Development, Dr. Desire Sibanda had also directed local universities to have a competitive research system which researches for Government and industry to ensure an increase in the country's Gross Domestic Product. “The country must leverage on its human resource base and educational institutions to process raw materials into finished products. We want the

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Dr Sibanda added that there should be research in mining, agriculture, industry and health to mention just a few. “The current position is that five of our major exports are all unprocessed raw materials. We want to call upon universities to research and increase our manufacturing of products,” he said.

The Ministry of Higher and Tertiary Education, Science and Technology Development has established innovation hubs at the National University of Science and Technology, Midlands State University, University of Zimbabwe, Harare Institute of Technology, Zimbabwe National Defence University and Chinhoyi University of Technology as highlighted in its 100-day Plan of Action.



Minister sets policy direction, commits to supporting HIT mandate

On his inaugural visit to HIT, Minister of Higher and Tertiary Education, Science and Technology Development, Professor Amon Murwira said HIT is an embodiment of STEM and pledged to support the work of the University in STEM programmes by fully supporting the establishment of a Technopark.

"We will support the innovation hubs, and the translation of knowledge into goods and services- but we want to see products," he quipped. We will support infrastructural development programmes through the Build –Operate –Transfer model; as well as student funding for University fees," he added.

The Minister's visit was to give HIT the broad national vision following the inauguration of His Excellency, President Emmerson Mnangagwa, and to state his expectations; acquaint himself with the work of the Institute as well as to facilitate the exchange of ideas pertaining to the development of the nation. "The new dispensation provided a unique opportunity for Zimbabweans to recommit to the founding values of happiness, equality, freedom, hard work and patriotism which are the bedrock of Zimbabwe's fundamental values,- fought for during the war of liberation," he said.

Professor Murwira emphasized the need for a programmatic approach to research, based on our culture, heritage and innovation. "Our research culture should be based on what we have. Our heritage found in minerals such as platinum, diamond, gold and our agricultural land should inform our research. "Relevant and contextual research is likely to attract funding; as opposed to research that is divorced from a nations' realities. If

research is not programmed, it is not supportable and applied research is very important and central in feeding into national needs and aspirations," he said.

He challenged HIT to develop a systematic industrialisation programme, which would lead to economic growth, giving examples of research outcomes which had revolutionised agricultural productivity and minerals exploration respectively; such as the mapping of Zimbabwe's five geographical regions in the early sixties; and the discovery and categorization of the Great Dyke.

Professor Murwira also said that we must defend the economy of this country through knowledge. "The purpose of this university is to fight ignorance and poverty. The nation needs to promote the values of productivity and hard work, and to ensure that our systems in the higher education sector work for the benefit of national development. We need that consciousness - of upholding our national values through our national institutions. And merit and reason must reign supreme in those institutions," he said.

In positioning itself to the new dispensation and Governments' initiative to support the establishment of Innovation Hubs, the Harare Institute of Technology is progressing well in the set up and construction of its state of the art Technopark which was initiated in 2007 through the PSIP programme. The establishment of a Technopark is one of the objects within the HIT Act and responds to the Institute's mandate: to develop incubate, transfer and commercialise technology for rapid national industrialisation.



... calls for Heritage-based innovations



Minister of Higher and Tertiary Education, Science and Technology Development, Professor Amon Murwira has called on educational institutions to focus on heritage- based innovation in solving the country's problems. Speaking at the Great Dyke Career Fair held at Gresham grounds in Zvishavane on 23 March 2018, Prof. Murwira said education should play a transformative role in uplifting and empowering the people.

"We want a Zimbabwe that's proud and which uses knowledge for the gain of its people. I am looking forward to a new generation of Zimbabweans who will take this country to prosperity. Let's learn and learn. We are the masters of our own future," said the Minister.

Professor Murwira added that the Ministry was being given the platform to address issues of economic growth and development through education. "We therefore want an education that works, and we need to pull ourselves out of the poverty mentality because we are rich. We want knowledge that is transformative and if that knowledge cannot be translated to goods and

services, then it is irrelevant," he added. "We have granite which built the Great Zimbabwe, we have the platinum group of minerals, and therefore our development must come from what we have. Our education must be rooted in the resources that we have, and the fundamental question that should occupy us is what is our comparative advantage as Zimbabwe?

Professor Murwira also urged students to make informed career choices.

Over 2000 high school students were gathered at Gresham school grounds, Mandava for the fair, representing over twenty schools

At the same event, the Zvishavane community applauded HIT Alumni Zariro Manzungu for installing the town's first traffic lights. Manzungu graduated in 2012 with a degree in Electronic Engineering from HIT and is currently engaged with Ya FM, a Zvishavane based community radio station as the Chief Engineer. He said he started working on his robotics project during his part two studies at HIT.





Harare
Institute of
Technology

success through innovation

TECHNOVATION EXPO

Date: Friday 14 September 2018

Venue: Harare Institute of Technology

Time: 9am- 4pm

**Science Engineering Technology Exhibitions
Displays, Tours, Career Guidance**

Admission is Free!

For more information contact: prmanager@hit.ac.zw
or communications@hit.ac.zw

Cell: +26373 3 774 262, +26371 6 388 588

Telephone: 04-741422-36

CAMPUS DEVELOPMENT



HIT Developing new Masterplan

The Harare Institute of Technology is developing into a diverse and complex University that specialises in the teaching and training of Science, Engineering, Technology, Technopreneurship, Business and Management Sciences, Professional and Collaborative programmes including technical pedagogy.

Given the demands brought about by this development and transformation, the Institute is set to improve and expand the existing facilities in order to develop the campus in a way that supports its larger aspirations of developing a sustainable campus community, creating distinctive architecture, open spaces, and setting standards for others to emulate. HIT is planning the physical development and expansion of its campus with strategic initiatives through a long range Master Plan, which provides the framework for facilities that support excellence in education, research and innovation; including service delivery.

The HIT Master Plan was presented by Mr J. Dzimwasha of Dzimwasha Architects to the Institutes' Campus Development Committee meeting held on 7 March 2018. The Meeting was presided by the Campus Development Committee Chairperson Eng. F. Mavhiya-Mabhiza, and was attended by HIT Board members and Senior Management. The meeting was convened to discuss the HIT Master Plan Design concept with the architectural consultant.

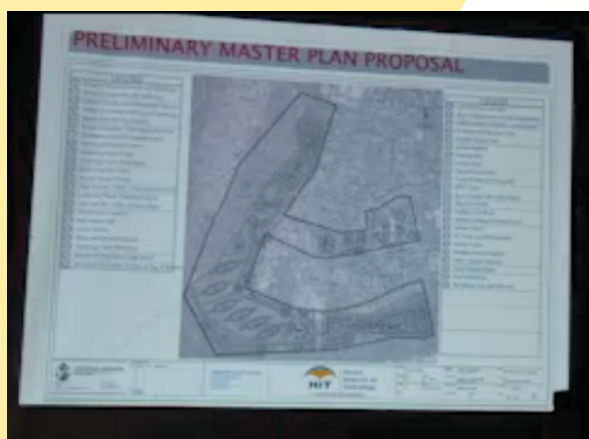
Presenting the Master Plan Design Concept at the meeting, Mr J. Dzimwasha highlighted that the plan includes architectural designs of the Institute's

six Schools, Research and Skills Development centres as well as the Support units such as the library, students' hostels and staff accommodation. "We are already carrying out topographical surveys on the land, soil investigations and environmental impact assessments and a wetlands report to determine what kind of soils we intend to build on, taking into consideration the kind of structures to be built and areas that should be left unbuilt for purposes of maintaining the ecosystem. We also need to make maximum use of the available land as we are trying to develop and maintain the wetlands which comprise the larger part of the land available by coming up with futuristic building designs to match an environment of advanced technology," he said.

Eng. Mavhiya-Mabhiza called for regular meetings and interactions with the architect, J. Dzimwasha and Galaxy consulting Engineers for further interaction as well the production of timelines with regards to project implementation.

Vice Chancellor Eng. Q.C Kanhukamwe also advised the meeting that some business and infrastructural development organisations are already approaching the University to discuss and explore opportunities for partnerships in funding and building some of the infrastructure on the Master Plan. The University will also utilise its strategic collaborations to expand opportunities for acquisition of facilities and equipment

The HIT Master Plan involves the construction of facilities using environmentally responsible design and practices which enhance the educational environment.



Harare Institute of Technology

about 4 months ago · 🌐

CAMPUS DEVELOPMENT

A Campus Development Committee Meeting was held today in the Institute Board Chambers and was attended by some HIT Board Members and Senior Management Staff.

The meeting discussed the HIT Master Plan design with the consultant J Dzimwasha Architect.

HIT-Transilvania ties strengthened



Following the signing of a Memorandum of Understanding between the Harare Institute of Technology and the Transilvania University of Brasov of Romania on 7 June 2017, the latter invited HIT on a reciprocal visit, whose main objective was to identify the next steps to further develop cooperation between the two universities. The signing of the Memorandum, and the subsequent visit to Romania by the HIT team was promoted and facilitated by His Excellency, Dr Silviu Barbu, Minister Plenipotentiary of Romania to Zimbabwe.

The HIT delegation comprised of Dr G. Mandishona: HIT Board Chairman, Eng. Q.C Kanhukamwe: HIT Vice Chancellor, Eng. Mr P

Muredzi: HIT Dean, School of Industrial Sciences and Technology, Mr T Mutema: HIT Director - Communications and International Relations, and Ms A. M. Adriano: Deputy Director, Higher Education Programmes, Ministry of Higher and Tertiary Education, Science and Technology Development, visited Brasov from 9-14 October 2017.

The visits' agenda included discussions with relevant staff from Transilvania University of Brasov, visits to faculties, the Research and Development Institute as well as the teaching and practical work infrastructure. Departments visited included Mathematics, Informatics, Food and Tourism, Wood Processing, Product Design and

Environment Faculty, Renewable Energy laboratory and the Mechanical Engineering faculty, among others.

Discussions with Transilvania University were centred on collaborative research, the initiation of a staff development programme through doctoral studies for HIT staff in the areas of Technological Engineering and Industrial Management, Materials Science and Engineering, Mathematics and Informatics, Electrical Engineering and Computer Applications, Food and Tourism and Mechanical Engineering. The potentiality of collaborative doctoral studies in the fields of electronics and computers. Patent development and the facilitation of access to Romanian companies were also deliberated. The HIT delegation also took the opportunity to learn and observe Transilvania University partnerships with industry and how such relationships were nurtured, and their manifestation into University programmes and activities.

Key observations from the visit to Transilvania University of Brasov are that the University is consolidating itself as a key national and international institution for generation, transfer and advancement of knowledge. The University is also integrating itself into the European higher education and research arena. The HIT team observed that all its faculties have well developed and modern laboratories and workshops for their students, covering undergraduate and postgraduate programmes, - endowed with high tech equipment, updated IT infrastructure and specific softwares for the various academic disciplines. Transilvania University has direct cooperation with various companies that are co-investing in well-equipped high-end teaching laboratories, thus resulting in the deployment of facilities that ensure specialized training and development of highly qualified human capital.

The Transilvania University Research agenda is driven by its Institute of Research, - housed in an ultra-modern centre with 30 defined research priorities which are interdisciplinary in nature. During interactions with the University, the HIT team noted the deep connectedness of the Romanian culture, identity and heritage into everyday life and in the conduct of business; and the effortless articulation of this heritage by their hosts.

Opportunities for cooperation were also recognised in technology transfer and commercialisation in the areas of production of mechanised agricultural equipment for small holder famers, renewable energy, material sciences and technology, aerospace engineering, electronics and computer applications, railway and road construction technologies.

The HIT delegation was greatly inspired by the visit and is forging ahead with the implementation of the agreement between the two universities; with the backing of the Romanian Embassy in Zimbabwe, the Ministry of Higher and Tertiary Education, Science and Technology Development and the Institute Board.

Transilvania University of Braşov, is a public institution of higher education, established over 50 years ago, with the mission to provide and develop resources and instruments for high quality teaching and scientific research.

Romania played a significant role during Zimbabwe's liberation struggle by offering training to freedom fighters in the technical fields. It continued to offer the same technical assistance up until 1989 when a new regime took over from the Communist Party. It is against this background that the new Administration in Bucharest is desirous of reviving the once vibrant ties.



HIT establishes Design Thinking Lab

The Harare Institute of Technology has established an Innovation and Design Thinking Laboratory, (IDTL) to provide a critical space for innovation and creativity.

The project is being funded by the United Nations Development Programme in Harare.

In an interview, Pro Vice Chancellor of the Harare Institute of Technology, Dr Maxwell Chanakira said the concept of design thinking is meant to promote and enhance thought processes which can lead to faster development for our nation and the region.

“The Innovation and Design Thinking Laboratory is a place where we provide space. In this space, participants are free to think and dream of things they want to do in solving problems and challenges they face in their different communities. This place will spark and enhance the innovation capacity of

our students, and a multiplicity of target groups from companies, government departments and non-governmental organisations,” he said. The IDTL will take participants through processes of thinking, innovation, empathy, and will inculcate the processes of critical and independent thought, - which ultimately lead to development.

Dr Chanakira said the IDTL is the first of its kind to be established in the region, and plans are underway to make the IDTL a Centre of Excellence in innovation and entrepreneurship in Africa.

Dr Chanakira revealed that the first training in the IDTL will be made up of University Directors of Information and Communication Technologies. Facilitators of the programme will be from all over the world- Asia, Africa and experts from HIT would also be engaged to train students on innovation and leadership.

HIT establishes Technology Transfer, Commercialisation and Licensing Centre

The Technology Transfer, Commercialisation and Licensing Centre (TTCLC) is a newly established entity responsible for the management of the Institute's Research, Development and Innovation outputs. The Centre is responsible for technology transfer in terms of commercialisation of inventions and discoveries, tech-licensing and business ventures including joint venture partnerships and venture capital. TTCLC is the hub for venture mentoring services and establishment of a cross functional technopreneurship forum. The main role of the TTCLC is to manage the University's Intellectual Property and Innovation Policy. This role includes advising on the synthesis and extraction of registerable IP from staff and student projects.

The TTCLC was established on 1 February 2018 and is currently carrying out an awareness exercise throughout the University on its services.

The TTCLC is currently finalizing the alignment of Policy Formulation documents which are required for the protection of the Institute's Intellectual Property such as Non-Disclosure Agreement (HIT-NDA) for both staff members and students, Royalties Sharing Agreement (HIT-RSA), Invention Disclosure (HIT-ID) and the Institute's Student Project Copyright Agreement (HIT-SPCA). The review of the HIT-IP Policy is expected to be completed by the end of the Second Quarter. The purpose of the review is to enable the referencing of the policy with the supporting agreement forms that are currently being developed. The alignment of the aforementioned

policies with the IP Policy will enable the ease of establishing Business Startups, Licensing and Management of research outputs.

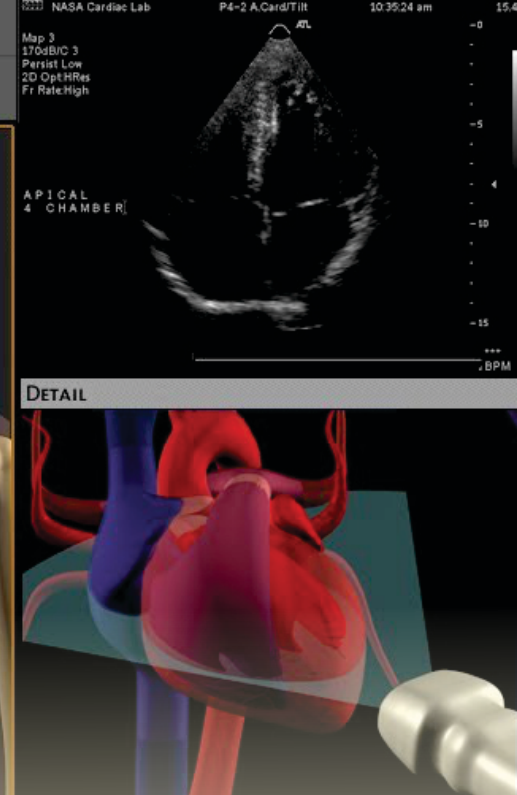
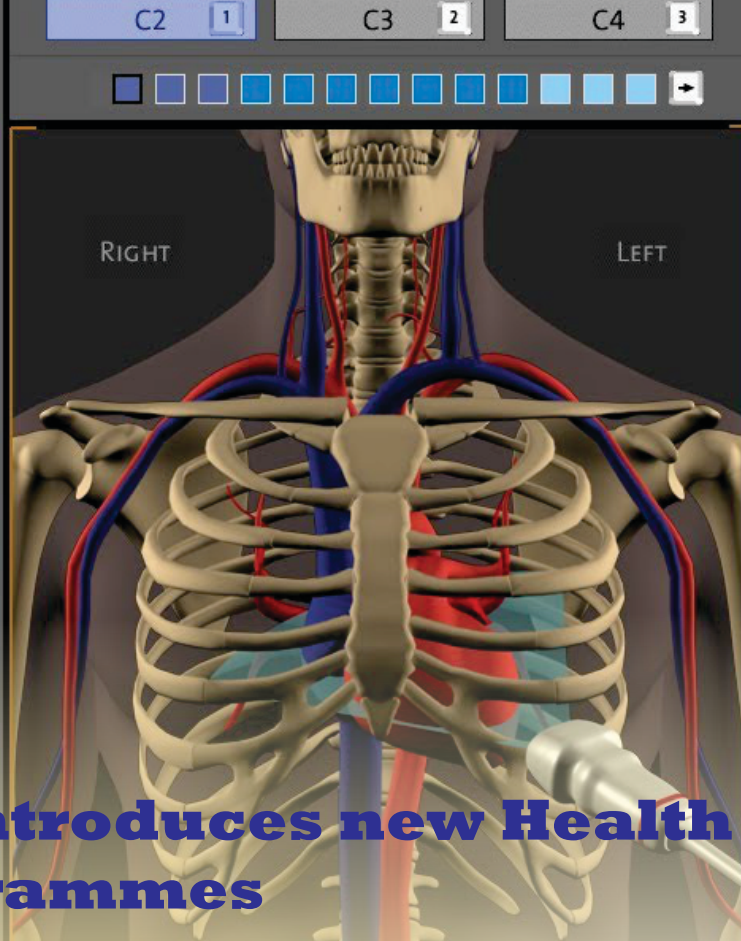
The TTCLC was responsible for the coordination of the Institute's 100 Day Projects. A total of 23 projects were carried out by different Schools and Centres of Excellence with seven flagship projects being reported on weekly basis to the Ministry. These include the Forensic Laboratory, Billing System for Local Authorities, Transformer Project, Innovation and Digital Thinking Laboratory, Production of Refractories, Production of Continuous Power Supply Units for TelOne and Beneficiation of Lithium to Lithium Carbonate.

As from 1 February 2018, the Centre has filed three research outputs. The majority of the Patents will be filed as from 1 July after our student projects have been submitted. The target is to file at least 25 projects and generate almost 15 licenses for the projects. Some of the projects will be patentable but not commercialisable, therefore, the number of licenses might be less than the patents.



HIT Start-up companies

IFT 2	EXPERIMENT SYNOPSIS
IFT 3	BRAIN GYM
IFT 4	ADVANCED DIAGNOSTIC ULTRASOUND OPERATIONS
IFT 5	REMOTE GUIDANCE TERMINOLOGY
IFT 6	ANATOMY
IFT 7	SCANNING
	CARDIAC
	THORACIC
	CARDIAC & THORACIC DEMOS
IFT 8	ULTRASOUND EXERCISES
IFT 9	CONCLUSIONS
IFT 10	BLOOPERS



HIT introduces new Health Sciences programmes

The Harare Institute of Technology in collaboration with Parirenyatwa Group of Hospitals is introducing new health sciences programmes at the undergraduate and post graduate level beginning August 2018.

The Harare School of Radiography, an affiliate of the Harare Institute of Technology is currently enrolling students for studies in the Undergraduate Bachelor of Science Honours Degree in Radiography, Postgraduate Diploma in Medical Dosimetry and the Postgraduate Diploma in Medical Ultrasound.

The Undergraduate Bachelor of Science Honours Degree in Radiography programme is designed to give broad knowledge of Therapeutic and Imaging Sciences in Radiography. It will also provide students with the skills and knowledge to help diagnose and treat illness by producing and interpreting medical images. It emphasizes on equipping students with advanced knowledge in the different fields of Diagnostic Radiography which include Computed Tomography, Magnetic Resonance Imaging, Nuclear Medicine, Ultrasound scanning, General X-rays and Special procedures.

In therapeutic radiography students will be equipped with advanced knowledge in

computerized planning, mould room techniques, radio-isotope imaging and treatment (nuclear medicine), general radiotherapy treatment as well as current advanced treatment modalities in Radiotherapy. There is also an emphasis on equipping students with research competencies in the field of radiography.

Graduates of the Bachelor of Science Honours Degree in Radiography programme will have career paths as Diagnostic Radiographer, Therapeutic Radiographer, Industrial Radiographer, Medical Dosimetrist, Radiation Protection Officer, Ultra Sonographer and Research Scientist.

The Post-Graduate Diploma in Medical Dosimetry is intended to provide a mechanism for radiation therapists to demonstrate knowledge and competence in the field of Dosimetry, to promote standards of excellence within this clinical area, and to identify those who have met a nationally recognized standard in the practice of Dosimetry. This gives a broad knowledge of radiotherapy planning physics and radiobiology, advanced imaging in radiotherapy, clinical anatomy for radiotherapy planning, dose calculation algorithms, advanced radiotherapy equipment and clinical techniques including Intensity modulated Radiotherapy, Volumetric arc therapy, Image

guided radiotherapy, Stereotactic radiotherapy, Tomotherapy, 4D treatment, Particle therapy and quality assurance in radiotherapy. Graduates of the Postgraduate Diploma in Medical Dosimetry programme will have career paths as medical Dosimetrists, Quality Assurance radiographers, Research Scientists in radiotherapy planning.

The Postgraduate Diploma in Medical Ultrasound programme gives broad knowledge of medical imaging in the following areas: Obstetrics and Gynecology, Abdominal Ultrasound, Musculoskeletal, Vascular studies, Small parts, Pediatric ultrasound, F.A.S.T (Focused Assessment Sonography in Trauma) ultrasound techniques and an introduction to Echocardiography. There is also emphasis on equipping all students with research competencies in the field of medical ultrasound. Medical ultrasound is a diagnostic imaging technique based on the application of ultrasound. It is used to see internal body structures such as tendons, muscles, joints, blood vessels and internal organs. Its aim is often to find a source of a disease or to exclude any pathology. This programme will provide would be students with the high quality training they need to become practicing sonographers within their workplace.

Graduates of the Postgraduate Diploma in Medical Ultrasound programme are destined for careers such as Ultra-sonographers and or specialist in different areas of medicine such as Urology, Ultrasound and Applications specialists. Dean of the School of Industrial Sciences and Technology Eng. P. Muredzi said that these are full time programmes and teaching is interspaced with

field work and internship. "As is our traditional way of teaching and learning, the programmes have substantial components of laboratory and clinical field work to be undertaken at Parirenyatwa group of hospitals were our affiliate – the School of Radiography is domiciled," said Eng. Muredzi.

Dean Muredzi added that these programmes are part of the HIT Strategic Plan – Designing the Future and their introduction is premised on the realisation by HIT that it must play a leading role in availing human resources that will invigorate rapid national industrialisation to capacitate the nation with skilled and competent experts in the fields of health sciences.

"It is envisaged that each class will have at least 35 students in order to maintain and ensure a viable and sustainable good tutor to students. Academics who are experts within the fields, active clinicians and researchers will be teaching these programmes. The School of Radiography already has qualified and competent staff who will be complimented by staff from HIT's department of Pharmaceutical Technology. Our curriculum concentrates on evidence based teaching and is directly influenced by the research happening within the departments which informs radiography, dosimetry and ultrasound policies and practices.

We have long standing and close links with related departments at Parirenyatwa, Chitungwiza, and Harare hospitals, the radiography, dosimetry and ultrasound profession, and industry; all of this offers a challenging yet supportive environment in which to study," said Dean Muredzi.





Harare
Institute of
Technology

success through innovation

VICE CHANCELLOR'S INNOVATION AND SCHOLARSHIP FUND ANNUAL GOLF TOURNAMENT (4th Edition)

Date: Thursday 9 August 2018

Venue: Chapman Golf Club

First Tee off: 11:00am

Format: Four Ball Better Ball Stableford

**Participating fee: \$50 per person
\$200 per team (includes halfway
meal and cocktail snacks)**

For more information contact: prmanager@hit.ac.zw or communications@hit.ac.zw

Cell: +26373 3 774 262, +26371 6 388 588

Telephone: 04-741422-36

ACHIEVEMENTS

The background of the page is a solid dark blue. A large, light blue triangle is positioned in the lower half of the page, pointing upwards. The triangle's base is at the bottom edge, and its apex is located near the center of the page, just below the word 'ACHIEVEMENTS'. The triangle's color transitions from a very light blue at its base to a slightly darker shade at its apex, creating a gradient effect. The word 'ACHIEVEMENTS' is written in a bold, white, sans-serif font, centered horizontally across the upper portion of the page.

Computer Science lecturer scoops two awards at Indian Varsity



HIT Computer Science Lecturer and Staff Development Fellow, Mr. Chrispen Mafirabadza was awarded a Gold and Silver Medal at the ITM University Convocation Ceremony held on Friday 18 November 2017 at ITM University Gwalior, in India.

Mafirabadza scooped the Gold Medal (Topper) in the M.Tech Computer Science and Engineering programme and a Silver Medal for second Best Researcher Award (Student Category). Dr. Pallavi Khatri, the Head of the Computer Science and Engineering Department received the awards on his behalf.

Mr. Mafirabadza studied for an M.Tech Computer Science and Engineering degree at ITM University Gwalior, from September 2014 to September 2016

under the HIT Staff Development Fellowship Programme.

Mafirabadza's success follows on the achievements of several HIT staff development fellows who distinguished themselves academically at foreign universities. Among them is Tatenda Madzokere with a first class pass in the M.Tech degree in Nanotechnology from SRM University (India), (2016), Walter Mambodza, Robert Shoniwa.

In the past five years, the University has been on an aggressive staff development programme to equip lecturers with the requisite academic competencies and skills sets to drive the institutional mandate and set new frontiers in knowledge generation and research.

Congratulations, Makorokoto, Amhlope!!!!



HIT BOOST ENACTUS scoops second prize at 2018 boost fellowship leadership conference

The HIT Boost Enactus team was awarded second prize at the 2018 Boost Enactus Fellowship Leadership Conference held from 25-27 January at Batanai Gardens in Harare.

The team devised a new mobile application system, Infra-fix mobile that allows users to identify facilities in need of repair and maintenance. The application then classifies them into critical and non-critical infrastructure; depending on their state.

The case study focused on Sustainable Development Goal 9 which emphasises building resilient infrastructure, promoting inclusive and sustainable industrialisation and fostering innovation. The students were tasked to formulate the best strategy to avoid decay of infrastructure and prove the sustainability of the strategy.

The Boost Enactus Fellowship Leadership Conference was aimed at training students to create community development projects that improve people's livelihoods and to also develop students into becoming more effective, value-driven future business leaders. It was equipped team executive committee members with the necessary skills required in executing their duties and

responsibilities in the implementation of Enactus projects.

All university teams were paired to promote team spirit and were assigned case studies to research and apply what was being taught. The HIT team was paired with the Africa University

Invited speakers from the business world gave presentations focused on team administration and operations, project ideation and formulation, innovation and technology management, community research and development (monitoring and evaluation), United Nations Sustainable Development Goals implementation in Zimbabwe, community engagement and participatory approaches, presentation skills, financial management, business canvas model for social enterprises, team dynamics and team building.

Commenting on this achievement, the Coordinator Mr. Joshua Simuka from the Technopreneurship Development Centre (TDC) said the department is very excited about the teams' achievement, as it has demonstrated creativity, innovation and a technopreneurial culture; clear evidence of the thorough training our students are receiving.

HIT Journal of Biotechnology

CALL FOR PAPERS

An International Peer Reviewed Journal of Biotechnology

About the Journal

The Harare Institute of Technology (HIT) Journal of Biotechnology is a bi-annual, print, peer-reviewed journal that publishes high quality original research papers, short communications, case studies and review articles on biotechnology and related issues. The journal focuses on all aspects of traditional and modern biotechnology with the objective of contributing to solutions which address global challenges.

Subject Coverage

The journal covers the following areas of Biotechnology:

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3. Industrial
4. Agricultural
5. Environmental
6. Commercialisation and marketing of Biotechnology derived products and services
7. Innovation in Biotechnology

Important Dates

Deadline for submission of manuscripts for the first issue: 27 July 2018

Notification to authors: 31 August 2018

Journal publication: 28 September 2018

Submit your manuscripts to biotech@hit.ac.zw with a copy to pchiunzi@hit.ac.zw
For author instructions, editorial policies, publication ethics and HIT Copyright Form, please visit the HIT website at www.hit.ac.zw.



Tigere excels at International Conference

HIT Staff Development Fellow in India, Mr Godfrey Tigere won the Best Paper Award at the SRM University Second International Conference on Advanced Mechanical Engineering (ICAME) 2018, held from 22-24 March 2018 in Chennai, India.

Mr Tigere presented a paper entitled 'Comparative study of different coolants in End Milling of OHNS using Minimum Quantity Lubrication technique' in the Machining category.

A total of 246 papers were presented at the Second International Conference on Advanced Mechanical Engineering (ICAME) 2018 on 15 disciplines. Mr Tigere is studying for an M.Tech Computer Integrated Manufacturing degree at SRM University.

The Second International Conference on Advanced

Mechanical Engineering (ICAME) 2018 focused on a range of issues related to applied mechanics, bioengineering, computer aided engineering and information technology processing, design and analysis, energy systems.

The purpose of the conference is to bring together the multi - disciplinary community of engineers, scientists, and academics to discuss recent trends and future developments in Mechanical Engineering. Presentations at the Second International Conference on Advanced Mechanical Engineering (ICAME) 2018 covered topics such as applied mechanics, computational mechanics, finite element analysis, dynamics of structures and systems, elasticity, plasticity, experimental mechanics, fluid mechanics, fracture and failure mechanics, instability in solids and structures and composite mechanics.



HIT students shine at inaugural Telone competitions



Twelve students from the Electronic Engineering department participated in a competition on the design and implementation of Uninterrupted Power Supply (UPS) devices for TelOne ASDL and GPON modems, with the winners walking away with a USD 2000 prize.

The trio of Lesley Paradza, Kudakwashe Kagoro and Henry Chireshe emerged winners after their UPS prototype device was declared the best project with 1041 points. The panel of judges was comprised of engineers, innovation and business development analysts from HIT and Telone.

As from June 2017, the students were required to design a reliable, usable and alternative energy powered Uninterrupted Power Supply (UPS) device for a modem with a minimum autonomy of not less than 5 hours. This programme covered issues of technology development, innovation, technopreneurship, import substitution and

empowerment.

The competitions were held on 12 December 2017 at HIT, and each group was required to make a 10 minute oral presentation describing and selling their device; with another 10 minute demonstration of its functionality and properties.

In his introductory remarks, the Chairman of the Electronic Engineering department, Eng. Charles Kanyunga said the programme was spearheaded and funded by TelOne in an effort to provide solutions to power supply problems currently affecting the telecommunications sector in Zimbabwe.

Telone Innovations Executive, Eng. Mnembi commended HIT for the great work towards technology development and innovations, adding that TelOne appreciates and values the collaboration. "We want to do a lot more together

and we promise to continue working together, as well as seeking new ways and projects which improve our services to the nation and which make our country better. We intend to come back with more challenging projects for the students, as well increase the number of HIT students for the TelOne internship programme," he said.

Speaking at the same occasion, Dean in the School of Engineering and Technology Eng. Perkins Muredzi also commended the collaboration between HIT and TelOne saying the competition was fulfilling and exciting. "I therefore would like to express HIT's gratitude and appreciation for the sponsorship given that Telone, HIT staff and students are involved in this project. Our students are exhibiting great innovations in coming with technologies that are beneficial to our country," he said.

Dean Muredzi added that the project demonstrates the operationalisation of the research and development thrust of the HIT and TelOne Memorandum of Understanding, signed on 9 April 2017. "Several projects are lined up and we looking forward to conducting more beneficial research and development projects that will lead to intellectual property outputs which are beneficial to both parties. At the core of collaboration is

innovation and technology optimisation and excellence in technological work that benefits the entire Zimbabwean populace," said Eng. Muredzi. The event was graced by Vice Chancellor, Eng. Q.C Kanhukamwe, Pro-Vice Chancellor Dr. M. Chanakira, HIT and TelOne Senior Management, as well as HIT staff and students.

The Harare Institute of Technology entered into a Memorandum of Understanding with telecommunications company, Tel One on 9 April 2017. The MoU is centred on collaboration on information and communication technology (ICT) related innovations, research and commercialisation activities. The purpose of the MOU is to establish a framework for innovative collaboration between TelOne and HIT through the development and commercialisation of technology relevant to TelOne as an Information and Communication Technology operator, furthering the provision of relevant real world industry experience for students, building-up of integrated solution ecosystem which addresses business needs, furthering the science involved in ICT telecommunications as well as furthering Corporate Social Responsibility through mentorship of the next generation of technopreneurs.



TelOne
Bringing You Together



Tendai Gukuta appointed SANbio student ambassador for Zimbabwe

Tendai Gukuta, a third year HIT student studying for a Bachelor of Technology Honours Degree in Biotechnology has been appointed the Southern Africa Network for Biosciences (SANBio) Student Ambassador for Zimbabwe.

Gukuta is currently on attachment at the Tobacco Research Board and was appointed the new SANBio Student Ambassador for Zimbabwe on 26 February in Pretoria at the SANBio Annual event where she also attended a summer school from 25-26 February 2018.

“I am pleased to be appointed the Southern Africa Network for Biosciences (SANBio) Student Ambassador for Zimbabwe. I have since started working with the National Biotechnology Authority who are the Zimbabwe Partners with SANBio and we have come up with various programmes and competitions to promote students in biosciences, health and nutrition. I will work very hard to spread the message of biological sciences and to be a good ambassador for Zimbabwe and HIT. I would like to thank HIT for building me up as a biotechnology student and an outstanding

individual,” said Tendai.

In his congratulatory message, HIT Vice Chancellor Eng. Q.C Kanhukamwe said, “Let me take this opportunity on behalf of the HIT Board, Senior Management, the members of staff and students and on my own behalf to congratulate you on this great achievement and appointment as SANBio student Ambassador for Zimbabwe. We wish you the very best during your tenure and are confident that you will discharge your role in a dignified and professional manner,” he said.

Southern African Network of Biosciences, SANBio, is an African Union-New Partnership for Africa's Development (AU/NEPAD) collaborative research, development and innovation platform aimed at addressing Southern Africa's challenges in health and nutrition. Membership within the SANBio network provides opportunities for research and development through collaborative networking. It also aligns stakeholders to streams of funding opportunities through various grant opportunities.

Gukuta becomes the second HIT student from the Department of Biotechnology to be appointed to this national post.



Vice Chancellor honoured at Megafest 2017 National Business awards

The Harare Institute of Technology Vice Chancellor Eng. Q.C Kanhukamwe was awarded the Vice Chancellor of the year runners up prize at the MegaFest 2017 National Business Awards with Africa University Vice Chancellor Professor Munashe Furusa scooping the ultimate prize.

The Megafest 2017 National Business Awards were held at the Rainbow Hotel in Harare on held on 28 March 2018 under the theme 'Disruptive Business Thinking'. This prestigious award is a milestone achievement for both Vice Chancellor Eng. Kanhukamwe and the Institute as this accolade has carved his name and that of the Institute in the history of ZIMBABWE books among the movers and shakers of our time.

Megafest recognise individual captains of industries, corporates and Zimbabwe's most influential dealmakers, owners, investors,

executives, senior corporate managers, general managers, Chief Executive Officers and other functional executives for their excellence.

The awards are held annually as a way of developing and promoting professional business acumen at all business levels. Several well-known business people, managers and corporates in Zimbabwe have been recipients of the Awards.

Vice Chancellor Eng. Quinton Kanhukamwe was installed as the First Vice Chancellor of the Harare Institute of Technology on the occasion of the Fifth Graduation Ceremony on 23 October 2014 at the University campus in Belvedere, Harare.

On his installation as the HIT First Vice Chancellor, he pledged his commitment to transforming the Harare Institute of Technology into a vibrant, energetic, and responsive University to both the needs of government and the country.

CONFERENCES & SYMPOSIA

HIT hosts first edition of Women in Technology event

The first edition of the Women in Technology Event (WITECH 2018) was successfully held at HIT on 8 March 2018 under the theme "Women in Technology: Working towards Progress for All", as part of the commemorations to mark the International Women's Day.

The event was facilitated by the Technology Transfer, Commercialisation & Licensing Centre (TTCLC), in conjunction with the Department of Industrial & Manufacturing Engineering (IME), and was aimed at reflecting on the progress made by women in technology, advocating increased participation and retention of women and girls in technology based areas, such as Science, Technology, ICT, Engineering and Mathematics (STIEM). The event also sought to provide career guidance to high school students; career propositions to professionals wishing to develop themselves in the STIEM fields, - while also contributing to the promotion of the HIT brand.

Several organisations partnered in the event, such as the Forum for African Women in Education (FAWEZI), Techwomen Zimbabwe, African Women in Science & Engineering (AWSE), Zimbabwe Institution of Engineers (ZIE), Women in Engineering, Michelle Boit Mentorship (Kenya), GEMProjects Network (Southern Africa), and Talbless Automation, amongst others. Over 200 delegates comprised of high school students from across Harare attended the event and were addressed and inspired by more than 15 speakers. Other participants were engineering and technology students from various local higher education and tertiary institutions, engineering

professionals from government ministries, law firms, industry and commerce, local startups, technology hubs, NGOs, companies and professional bodies.

Speakers at the event emphasised the need to equip young women in school and professionals with critical STIEM skills in areas such as leadership, sustainable technology innovation, mentorship, intellectual property, digital skills and design thinking, among others.

In his opening remarks, Eng. P. Muredzi, Dean of the School of Industrial Sciences & Technology and the School of Engineering & Technology spoke on the undisputed need for gender diversity in technology, and indicated that there were reports of the presence of few women leaders in technology. "The Harare Institute of Technology envisages that event participants will explore new business opportunities that underscore how technology is powering change. The University no longer expends much energy on galvanizing women to take up technology positions, that we have successfully done,- but we now consider the need for women to tackle technology related challenges in their research and development work and we now await outputs and breakthroughs," he said. The Dean recommended the need for mentorship programmes and networking opportunities, flexible working hours to aid a good work-life-balance and more opportunities for personal development of young women.

Dr. C. Bogezi, a molecular microbiologist, gave a presentation on the opportunities for women and



men in the technology sector and she highlighted the urgent need for leadership and greater involvement in local research that would put Zimbabwe on the international academic map.

Ms. R. Mlambo, a patent specialist with Muvungi & Mugadza law firm also spoke on the need for mentorship, technology and protecting project/product ideas as well as how male and female innovators and entrepreneurs can balance their family roles, whilst developing innovations and protecting their technologies and inventions.

Eng. M. Pawandiwa, an experienced structural engineer affiliated to the Zimbabwe Institution of Engineers – Women in Engineering division talked about advancing women in technology. She focused her presentation on how female engineers/technologists can develop in their fields and build a business model canvas. Ms. L. Nyamadzawo, representing the Dean for the School of Business and Management Sciences, gave an informative presentation on financial literacy. She made recommendations on how to increase financial literacy, through setting smart goals, tracking spending habits, starting a savings habit and using credit wisely.

Mr. T. Nhokovedzo, founder of Afrodigital Skills Training and an international digital marketing consultant and trainer presented on digital skills for the technocrat. He gave an in depth talk on how a technocrat can develop and grow a brand, highlighting the importance of digital marketing in boosting the performance of a technology based business, whilst inspiring innovative collaboration. Eng. J. K. Mutisi, Chief Executive Officer of Hansole Investment and current Chairperson of the Zimbabwe Information & Communication Technologies Division, gave an insightful presentation on how to succeed in a technology

business and how to approach sustainable technology innovation in the twenty-first century. He gave encouragement on choosing a technology based career, highlighting on the opportunities to be discovered in making such a choice.

Ms. Prudence Kadebu, a software engineer and Chairperson of the Software Engineering department at HIT gave an inspiring presentation on leadership at work. She spoke on hard work, discipline, and concluded her talk by giving a framework on how to achieve great leadership.

Eng. Farai Mavhiya-Bhiza, Chairperson of the Engineering Council of Zimbabwe, and member of the Institute Board, highlighted the importance of professional registration for career progression and the need to safeguard the integrity of STIEM professions. She spoke of how registration with professional engineering bodies like the Zimbabwe Institution of Engineers (ZIE) and the Engineers Council of Zimbabwe (ECZ) can help both male and female engineering practitioners become engineers, who can manage all the multidisciplinary tasks required in the sector. She also spoke on the role of professional bodies in creating credibility and integrity, as well as enhancing the mentoring process for women engineers.

Eng. L. Mudzingwa, a metallurgical engineer at HIT, spoke on technology in our daily lives. Her talk gave an insightful analysis on the role of technology and highlighted the various innovations accomplished with technology. She urged all women to work and push themselves towards greatness in their fields.

HIT second year students also gave some presentations and these were R. Muvungi and R. Nyamindi who are both second year students in



Industrial and Manufacturing Engineering. Their presentations dwelt on design thinking for students, highlighting the achievements of women in design and product development, as well as the importance of both women and men in the area of technology. Other engaging presentations were done by D. Mangunda from Industrial & Manufacturing Engineering and T. Muchengadava from Polymer Technology & Engineering.

Ms. M. Sanyanga, an engineering student from Chinhoyi University of Technology was the last to speak and she delivered an engaging and heartfelt presentation on the challenges an aspiring technocrat faces at school, giving recommendations on how to overcome those challenges.

During the event, the Acting Director of the Technology Transfer, Commercialisation & Licensing Centre, Eng. T. Garikayi announced the Girls Engineering Essay Competition. The competition concept was developed by Dr. Nyamapfene of the University College of London (UCL) in collaboration with IME and WITECH event coordinator Eng. L. Masiyazi. The

competition, is scheduled to run up to June 2018 and seeks to foster engineering problem identification and solving skills in Ordinary level and Advanced level high school girls in Harare. The competition will be facilitated by HIT, through the TTCLC, in partnership with UCL.

Commenting on the event, Eng. Garikayi said that the WITECH event surpassed expectations. "The career guidance and recommendations given by the speakers focused on enhancing capacity and drive of women and girls to be key change agents and contributors to innovations and initiatives in technology based fields and business ventures. Further recommendations, came from the participants to work towards future events and activities that involve hands-on interactive activities and to maintain the trend of events which are inclusive of both girls and boys," he said.

Eng. Garikayi urged the participation of all stakeholders in working towards a STIEM inspired future, as he applauded the critical role of women and girls in technology development and innovation.



HIT participates in Biochemistry and Molecular Biology International symposium

The department of Pharmaceutical Technology participated at a two-day Biochemistry and Molecular Biology International Symposium held from 14-15 November 2017 at a local hotel in Harare, under the theme “Applications of Biochemistry in Everyday Life.”

Ms. Winnet Chipato from the department of Pharmaceutical Technology and two recent graduates, Mr Lewis Mutevera and Ms Rumbidzai Mberi presented papers on the potential applications of ethnobotany in health and disease; while another presentation explored the potential use of mushroom (*Pleurotus ostreatus*), peanuts (*Arachis hypogaea*) and sorghum (*Sorghum vulgare*) in a nutraceutical formulation for the treatment and prevention of pellagra. Pellagra arises from the lack of Vitamin B3 (niacin), and is one of the most prevalent malnutrition diseases affecting children in developing countries.

The second presentation was a preliminary study investigating the use of the fig, *Ficus capensis* in the treatment of peptic ulcer disease. Most current anti-ulcer drugs have numerous adverse effects including thrombocytopenia, nephrotoxicity and hepatotoxicity; hence the need for alternative medicines. The ethanolic leaf extract of *Ficus capensis* exhibited significant ulcer healing activity in a rat model. The preliminary phytochemical

screening indicated the presence of alkaloids, glycosides, saponins, tannins and flavonoids. This could be the future for a safer and more effective regimen of peptic ulcer disease.

The symposium was organised by the Biochemistry and Molecular Biology Society of Zimbabwe (BMBSZ), to which HIT is an affiliate, and was hosted in conjunction with the Federation of African Societies of Biochemistry and Molecular Biology (FASBMB).

Other participants were drawn from Morocco, Nigeria, Botswana, South Africa, the United Kingdom,- the Zimbabwe Academy of Sciences (ZAS), the African Institute of Biomedical Science and Technology (AiBST), Allergy and Immunology Clinic, Chinhoyi University of Technology (CUT), Midlands State University (MSU), Harare Polytechnic, the Scientific and Industrial Research and Development Centre (SIRDC) and the University of Zimbabwe (UZ).

Professor Iqbal Parker, from the University of Cape Town gave an insight into his current work in the molecular biology and genetics of oesophageal cancer; while Professor Khalid Fares from Cadi Ayyad University-Marrakech, Morocco, spoke on the need to recycle organic waste for sustainable agriculture.



HIT partners Homelink in 2nd Women Entrepreneurship Training

The Women Entrepreneurship Development Training (WEDT) programme was conducted by Homelink Finance Services, in partnership with the Harare Institute of Technology's Technopreneurship Development Centre (TDC) in Gwanda from 19-23 March 2018 in Gwanda under the theme 'Entrepreneurship Mindset For Sustainable Businesses'.

Over 100 women from Gwanda and the surrounding areas were trained and awarded entrepreneurship certificates after completing the one-week entrepreneurship training programme. The initiative is designed to help women start business and build their capacity as future business leaders.

In her opening remarks, Reserve Bank of Zimbabwe Deputy Governor, Dr Jesimeni Chipika said the Homelink and Harare Institute of Technology's Women Entrepreneurship Development Training (WEDT) programme is critical in capacitating women entrepreneurs in the country. "I am convinced that women entrepreneurs can drive economic growth. It is therefore imperative for stakeholders including Government, civil society and capacity building organisations to consolidate their efforts to improve women's opportunities and outcomes in global value chains and this is what this workshop

is about," she said.

The Deputy Governor also commended the two institutions for working together in conducting this programme that will empower women, equipping them for the development of the country.

Homelink Financial Services Sales Manager, Ms Sibusisiwe Mashoko, said WEDT was being extended countrywide to capacitate women entrepreneurs in the fight against poverty and enhancing economic growth. "Investments in women are now widely recognized as crucial to achieving sustainable development. Economic analysts say low levels of education and training, poor health and nutritional status and limited access to resources not only adversely affect women's quality of life, but limits productivity and hinder economic efficiency and growth," she said. Mashoko added that the Women Entrepreneurship Development Training (WEDT) programme will soon be rolled out to every province and district in the country targeting women with a strong desire to venture into business.

HIT Pro-Vice Chancellor Dr Maxwell Chanakira said the weeklong workshop was driven by the need for economic growth through women. "Women are the cornerstone of African economic development and strengthening women's role in



finance and business management is one of the keys to boosting economic growth. Many women own small and medium business but fail to access financial institutions or are unable to receive financial services on adequate terms to meet their needs", he said.

After the completion of the Women Entrepreneurship Development Training (WEDT) programme, participants are expected to submit viable business project proposals, which will be funded by Homelink and RBZ.

Most of the participants paid tribute to HIT and Homelink for facilitating the workshop, which covered a range of topics such as basic management, pitching a successful business proposal, marketing, finance and business communications. Ms Evelyn Rugava, a young woman entrepreneur said this initiative came at the right time and is teaching women how to manage

their small scale businesses especially when it comes to financial management. "In future we will be able to manage our finances properly, which will keep our businesses running," she said.

Ms Gugulethu Mnkandla, a University graduate said the programme gave her skills to create employment for others. "Through the training I have acquired and the funding I hope to receive, I aim aiming to open up a business and employ other graduates," she said.

Another participant Ms Zanele Nyathi said the programme was a timely intervention for women. "It was very educative and important such that women in Gwanda who attended the workshop benefitted a lot."

The Gwanda programme follows the success of the first WEDT workshop held at HIT in September 2017.







ICONIA Highlights Importance of Industrial Automation in Development

The International Conference on Industrial Automation (IConIA) organised by the Industrial and Manufacturing Engineering department from 25-26 October, highlighted the importance of industrial automation in national development.

The conference was held under the theme, 'Consolidating Synergies between Research and Manufacturing for Industrial Development,' and was held under the following subthemes: process system technologies, industrial automation technologies, production technologies and energy technologies.

Emergent issues arising from the conference were on how innovation and process automation can impact positively on the revitalisation of industry; the development of agricultural solutions for developing countries; creation of optimized machineshops; rapid prototyping and nano-manufacturing with a focus on the feasibility and application of these technologies in manufacturing environments; and the development of renewable energy designs.

Vice Chancellor of the Harare Institute of Technology, Eng. Q.C. Kanhukamwe said the conference underscores the need for innovative Research and Development talent, and the use of

industrial automation technology to solve challenging real-world problems. He added that the conference aims to harness practical and innovative research work, anchored on emerging technologies that can be implemented in the Zimbabwean manufacturing industries for sustainability and industrial transformation. The conference, he said was an important opportunity for constructive discussions, sharing of knowledge and entrepreneurial skills between renowned researchers, scientist, scholars, business people and policy makers.

Guest of Honour at the event,- Deputy Director in the Ministry of Industry and Commerce, Mr Bernard Manatsa commended the conference organisers for taking on board the country's economic blueprint, ZIMASSET; especially the clusters relating to growing the economy and value addition and beneficiation, and the resuscitation of the manufacturing sector.

"The theme of this conference resonates well with the objectives of the country's economic Blueprint; the Zimbabwe Agenda for Sustainable Socio-Economic Transformation (ZIMASSET), especially those relating to empowering the society and growing the economy through value addition

to our resources and resuscitation of our manufacturing sector.

He indicated that Government was implementing several policies, strategies, and initiatives to improve competitiveness through industrial upgrade, innovation and automation. He mentioned progressive policies such as the Industrial Development Policy (currently under review), the Science, Technology, Engineering and Mathematics (STEM) initiative; The Southern African Development Community's (SADC) industrialization Strategy and Roadmap (2015-2063) and African Union Agenda 2063 on the strategic role of STEM in the industrialisation and modernisation of Africa.

"The initiatives are aimed at achieving manufacturing sector growth through advanced manufacturing technologies and innovations as drivers of the Zimbabwean economy," he said.

Mr Manatsa also highlighted that industrial automation is the key to economic growth and development. He added that engineers and technologists are strategically tasked to come up with research and relevant skills that are required to drive automation in both industry and commerce. He also added that there was need to move away from the dependency on the import of technologies created by other nations, which had led to the country's reliance on archaic machinery.

He added that it remained important for the country to embrace new technologies, new curriculum and new thinking, in order to remain globally competitive. Mr Manatsa commended the University for inculcating innovation and creativity.

"It is heartening that the spirit of innovation is thriving among our universities. I am impressed by the putting together of this conference and it is encouraging to see the collaboration amongst institutions. This is a rich platform for keeping up with industrial development. Such research collaborations with industry have often led firms into new technologies and applications," he said.

In his keynote address, entitled, "Putting the creativity back into engineering education," UK based engineering academic, Dr Abel Nyamapfene called for the embrace of a multi –disciplinary approach to engineering, and the need to change the mode of instruction and delivery for engineering students. Dr Nyamapfene emphasized the need for a new skills set in engineering students, and that Universities have the central role of inculcating these skills important for the 21st century development. Such skills included critical thinking, complex problem solving, creativity, people management, cognitive flexibility and emotional intelligence among others.

Chairperson of the Engineering Council of Zimbabwe, Eng. Farai Mavhiya –Bhiza, who is also a member of the Institute Board at HIT called for closer collaboration in the implementation of research. She highlighted the pre-eminent role of engineering in the development of mankind and the need to adhere to engineering standards, in safeguarding the integrity of the profession.

Chief Executive Officer of the Zimbabwe Energy Regulatory Authority and Institute Board Deputy Chairperson, Dr. Eng. Gloria Magombo pushed for the embrace of renewable energy technologies to ease demand on electricity and alleviate shortages in the sector.



Zim Nanotechnology researchers present cutting - Edge papers at International conference

A team of Zimbabwean nanotechnology researchers led by Mr Tatenda Madzokere, a lecturer from the Department of Chemical and Process Systems Engineering attended and presented cutting-edge research papers at the 9th International Conference of the African Materials Research Society (AMRS) 2017 in Gaborone, Botswana from 11-14 December 2017.

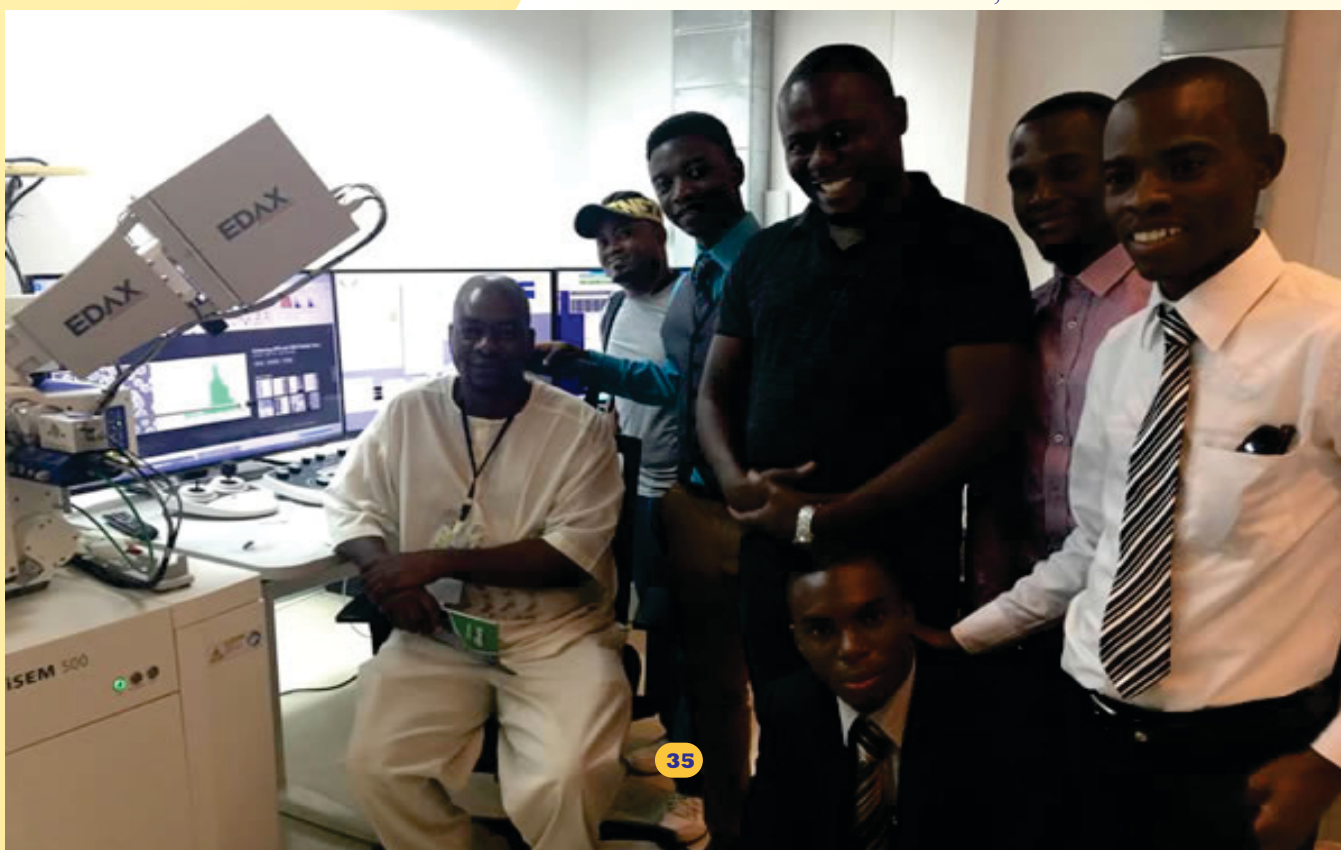
Nine students and three lecturers from HIT, where among the twenty-five Nanotechnology researchers from Zimbabwe who made their mark at the conference, whose main purpose was to stimulate nanoscience and nanotechnology research amongst young researchers.

Undergraduate students from Zimbabwe amazed most delegates with their articulate presentations in their research work. Zimbabwe was the only country with undergraduate students who showcased their research work. All research papers presented will be published in the High Impact Factor Journal, MRS Advances, published jointly by the Materials Research Society and Cambridge University Press.

The conference kicked off with a two day preconference workshop held at the Botswana Institute for Innovation and Research (BITRI), and a four day main conference at the Gaborone International Conference Centre. The conference was graced by a Nobel Laureate, Prof. Jean-Marie Lehn who was the Plenary Speaker. The preconference workshop provided delegates with an opportunity of hands-on exposure to backbone equipment such as Scanning Electron Microscopy, Energy Dispersive Spectroscopy, Powder X-ray Diffractometer, Electrospinning Unit (Nanospider) required for effective nanotechnology research.

The conference was held under the theme: "Addressing Africa's Challenges through Nanomaterials Development," and was aimed at creating a platform for collaboration to promote research efforts focused on manipulating materials at the nanoscale in order to:

- value to Africa's abundant natural resources;
- solve Africa's problems through materials science research by developing superior nanoscale materials;



- and to create an innovative environment through a fundamental understanding of nanoscience/nanotechnology.

The international conference was attended by more than 550 delegates from 65 countries across the globe, and provided an opportunity for faculties and students to network with experts in nanotech research. Amongst the delegates were academics, industrialists, policymakers and students.

His Honour, the Vice President of the Republic of Botswana Mr. Mokgweetsi Masisi officially opened the conference.

The keynote speakers included Professor Jean-Marie Lehn, a Chemistry Nobel Prize winner, (1987) who presented on "Dynamic Materials towards Functional Adaptive". Other keynote speakers and Plenary Session speakers included Donald Cram and Charles J. Pedersen, the founding BITRI Chief Executive Officer and current Executive Director of the African Academy of Sciences Governing Council, Professor Nelson Torto, and other acclaimed scientists such as Prof Paul S. Weiss, Prof Sossina Haile, as well as Prof Tobin J. Marks and who chaired various plenary discussions under different sub-themes.

The conference ran some parallel sessions under various topics that include Materials for Health,

Materials for Water, Materials for Agriculture/Environment, Materials for Energy, Materials for Mining/Construction, Nanoscience/Nanotechnology, Materials for Education/Networking and Computational Materials Science. These topics reflect both the needs of the global research community such as energy and health, as well as the needs that are specific to Africa.

Madzokere explained that Nanotechnology is an emerging technology and has the potential to transform every sector of the Zimbabwean economy if fully embraced. He added that it can benefit many areas such as mineral processing, agriculture, water treatment, defence and security, manufacturing, among others. "This technology presents a huge opportunity for value addition of the country's raw material into finished goods. However, there is need for the nation to set up a fully-fledged National Nanotechnology Centre, if the country is to benefit from this emerging technology", he said.

Madzokere also expressed his gratitude to the Ministry of Higher and Tertiary Education, Science and Technology Development, the Botswana Institute for Technology and Innovation (BITRI) and Southern and Eastern Africa Network of Analytical Chemists (SEANAC) for their support.

Nanotechnology

HIT Presenters at the African Materials Research Society Conference (AMRS2017)

Botswana Topics

Surname	Name	Department	Abstract Topic
Madzokere	Tatenda C	CPSE (Lecturer)	Adsorptive Recovery of Auro-Dicyanide Anions from Aqueous Solutions using Activated Carbon-Magnesium Oxide (C-MgO) Nanocomposite as Adsorbent
Mahofa	Eubert. P	CPSE (Lecturer)	Catalytic soot oxidation using ceria and copper nanocomposites
Matowa	Patrick	SPT (Lecturer)	Formulation and in vitro studies of doxorubicin encapsulated in nanolipids extracted from Zingiber officinale
Kudakwashe	Penyai T.	CPSE (Student)	Extraction of Nano Silica from Corn cobs: Waste to Value Addition Approach
Mushambi	Munyaradzi	CPSE (Student)	Extraction of Nano Silica from Corn cobs: Waste to Value Addition Approach
Madzorera	Heavens	SPT (Student)	Formulation and in vitro studies of doxorubicin encapsulated in nanolipids extracted from Zingiber officinale
Ambasi	Wenbary	CPSE (Student)	Synthesis of a Nanocomposite Liner Material for Mineral Processing Size Reduction Equipment
Murombo	Levison T	CPSE (Student)	Synthesis of a Chitosan Nano Polymeric Slow Releasing Fertilizer: A Novel Approach of Improving Agricultural Productivity
Ndlovu	Samuel	CPSE (Student)	Novel Scheme for the Production of Nanosilica from Non-returnable Beverage Bottles: An Environmental Pollution Control Perspective
Mutonhori	Delight	CPSE (Student)	Design of a process to produce 428L/day of silver nanoparticle infused antimicrobial paint
Madhigi	Darios	CPSE (Student)	Treatment of 50 00l/day of textile effluent using nano-membrane filtration
Tarambiwa	Nyasha	SPT (Student)	Microencapsulation of advanced glycation end products inhibitors extracted from nanosized extracts of Dichrostachys cinerea for preventing diabetic complications.



Pharmacy department hosts Inaugural professional skills competition

The inaugural Professionals Skills Competition to rate pharmacy students' aptitudinal skills was held at the Harare Institute of Technology, under the auspices of the Zimbabwe Pharmaceutical Students Association (ZPSA) on 13 November 2017.

The competition had three categories: clinical skills, patient counselling and compounding. The clinical skills competition was aimed at generating interest amongst pharmacy students in the field of clinical pharmacy, testing their knowledge on pharmacology, therapeutics, physiology and pathology. The test is also aimed at encouraging students to explore clinical pharmacy as a career path. The patient counselling category was aimed at equipping students with patient counselling skills, and improving their confidence and eloquency in speech. The compounding category challenged students to determine the best method to compound the formulation and preparation of finished products.

The competition provided students with opportunities available in various fields of

pharmaceutical technology. An introductory workshop was held with experts from the pharmaceutical industry. Managing Director of Pharmanova, Mr D. Moyo, addressed students on compounding skills; while Ms M. Rozna of Kenlink Pharmacies conducted a presentation on patient counselling skills. Mrs M. Penduka, a Lecturer from the UZ School of Pharmacy presented on clinical skills, while Mr L. Bhunu, Pharmacist in Charge at Public Service Medical Aid Society (PSMAS) talked about entrepreneurship and pharmacy. Professor Maponga, former Director of the UZ School of Pharmacy and Clinical trials explored the opportunities available in Clinical Pharmacy while a representative from Varichem also discussed opportunities available in the manufacturing sector.

The event was organised by the Zimbabwe Pharmacy Students Association and was attended by students from Harare Institute of Technology, University of Zimbabwe and the Harare Polytechnic.

Symposium spotlights green energy

A Renewable Energy Symposium was held in Harare on 19 October at the ZESA Training Centre in Belvedere, Harare. The event was hosted by the Zimbabwe Energy Council (ZEC), in conjunction with Friedrich Ebert Stiftung (FES) and the Harare Institute of Technology.

The symposium was held during the Clean Energy Week which was running from 18-20 October, under the theme 'Lobbying for a green economy and converting waste into energy'.

The Renewable Energy Symposium provided a platform for students in tertiary institutions to interact with the energy consultants and experts. The participants were addressed by Eng. H Chingosho, an energy analyst with HIVOS, Mr. Hopewell Gumbo of Friedrich Ebert Stiftung (FES), Dr Anthony Phiri (EMRECC, HIT), Eng. S. Mhlanga from Soltran, Mr K. Zvarevashe (HIT), Miss R. Mushove (UZ) and Mr Moyo from the Ministry of Water and Climate Change.

Selected participants, as well as young professionals were given the opportunity to present papers on various topics on clean energy. Amongst the twelve papers presented, 10 HIT students

including two HIT alumni received recognition. Comfort Mhlanga (CPSE Alumni 2016), Tanaka Sadza (CPSE Alumni 2017) and Tatenda Nyadzayo from the CPSE department were named as the best three presenters by a panel of judges.

Acting Director for EMRECC, Dr Anthony Phiri said government's policy on clean energy requires every sector of Zimbabwe's economy to seriously start taking steps towards greening its activities.

“The ZIMASSET blue print also articulates the need for sustainable development and has a number of components which require our attention. Sustainable Development calls for a deeper reflection on utilizing resources available in the country and elsewhere in a conscientious way. This symposium recognized the importance of involving young professionals in making a contribution to the sustainable development agenda and mitigating the scourge of climate change by greening the energy sector,” he said.

The symposium is an annual event, and highlights issues of renewable energy and the energy efficiency industry in Zimbabwe.



The following HIT students and alumni presented the following papers at the Symposium:

	PARTICIPANT	TOPIC	DEPARTMENT
1	COMFORT MHLANGA	Design of a plant that produces 17tpd fuel oil from scrap tyres	CPSE ALUMNI 2016
2	TANAKA SADZA	Production of coal briquettes from coal fines and waste plastics as binder	CPSE ALUMNI 2017
3	MARGARET ENOS	Waste to Energy in mitigating potential hazards due to poor waste disposal.	CPSE YEAR 3
4	TAKUDZWA MAFANDIZVO	Utilisation of waste cooking oil produced by fast food outlets in the production of Green Diesel by the Transesterification process.	CPSE YEAR 4
5	BLESSING MPALA	Potential for investment in Waste to Energy with Pomona as a case study	PSE YEAR 3
6	FARLON MUGUMIRA	Waste to Energy: A New Dimension in Generating Electricity in Harare.	CPSE YEAR 4
7	TATENDA NYADZAYO	Design of a process that Produces 10TPD of Biofuel (Ethanol) from Cellulosic Municipal Solid Waste	CPSE YEAR 3
8	TINEMI HONDO	Design of a hybrid CPTL plant that produces diesel from co processing coal with municipal solid plastic waste and waste oil as a liquefaction solvent and red mud as a catalyst	CPSE YEAR 4
9	PATIENCE CHIUTSI	Conversion of sewage sludge to bioethanol	CPSE YEAR 4
10	PIOL PETER MANYUON	Microalgae biofixation technology for biodiesel production, mitigation of greenhouse gas emissions	CPSE YEAR 3

Defence University visits institute

A delegation from the Zimbabwe National Defence University academic and administration departments visited the University campus to familiarise with the Institute's administration and academic operations.

In his introductory remarks, leader of the delegation, Group Captain J. Maletе said the purpose of their visit was to learn about the University's administration and academic operations. "As you are aware, we are in the process of establishing the Zimbabwe National Defence University. We are here to learn about the academic and operations of other local universities," he said.

HIT Registrar, Mrs Mary Samupindi explained the University's main administrative and academic operations and processes; while Mr. J.L. Maenzanise led the group on a tour of the University Library. Mrs. M. Chahuruva also apprised the group of the Institute's Information Communications Technologies department operations and services.

In their concluding remarks, the delegation expressed their appreciation for the learning experience, - highlighting the University's tangible and unique contribution to national development.



Front office staff attend refresher course

University frontline staff attended a half day refresher course this month, coordinated by the Human Resources department. The workshop covered topics such as Customer Service, Effective Communication, Grooming and Etiquette, Teambuilding, among others.

Speaking at the event, University Registrar, Mrs Mary Samupindi said the training had come in at an opportune moment and at the start of the year to reinvigorate and remind staff of the important role they play in their various work stations.

"The workshop is being held to remind us and to prod us on some of the things we may have forgotten. I would like to thank the department for organising this course, which comes hard on the

heels of the exhortation by His Excellency, the President of the Republic of Zimbabwe, Cde E.D. Mnangagwa. It's no longer business as usual, and we must earn our month, our week our year. So holding this important workshop at this opportune time helps us to fine tune our professional skills and serve our customers to the best of our ability," she said.

Front Office staff from the Registry department, Security and Canteen Services attended the workshop. Acting Deputy Registrar for Human Resources and Administration, Mrs Nzwisisayi Dewah, Director of ICTs, Mrs Miriam Chahuruva, Public Relations and Marketing Manager, Mrs Sharai Muonwa were also in attendance.



HIT research responsive to national needs, challenges and aspirations

In his address at the Institute's Eighth graduation Ceremony held at the University campus on 6 October 2017, Vice Chancellor Eng. Q.C Kanhukamwe said HIT is making inroads towards its goal of conducting research which is responsive to national needs, challenges and aspirations.

"Our main focus areas in research, development and innovation are the promotion of our indigenous knowledge systems, value addition of natural resources, herbal medicines research, development of software application packages across various sectors of our economy, energy generation models, renewable energy and agricultural engineering and technology. Our research output has also been characterised by production of relevant outputs such as intellectual property," he said.

"HIT research efforts have been guided by the need to maintain relevance and context as we strive to provide solutions to national challenges through intellectual enterprise. Our research has also been largely hinged on the need to apply the new knowledge sciences such as nanotechnology, biotechnology into research," said Vice Chancellor Kanhukamwe.

To date, and counting on the gains since 2015, the Institute has registered the following success and milestones in our research efforts:

Recovery of Gold from Tailings/Waste Dumps using Activated Carbon Magnesium Oxide (C-MgO) Nanocomposite as Adsorbent

The project reprocesses tailings or gold mine waste dumps to extract gold; an exercise which has become an attractive proposition for mining houses worldwide because of the availability of gold which was not easily recovered using old technologies. This technology exploits the novel properties of nanostructured materials in enhancing gold extraction from gold mine tailings; and presents a huge potential for the application of nanotechnology in value addition and beneficiation of gold mine waste; and also in the recovery of the precious metal from virgin or run off mine.

Value Addition of Graphite to Nanostructured High Value Carbon Materials

The technology adds value to a critical worldwide raw material, graphite which is mined locally by the Zimbabwe-German Graphite Mine trading as Lynx Mine. Graphite is a unique all carbon based-material in that it has properties of both a metal and a non-metal and has been classified as a critical raw material. This technology project embraces Nanotechnology in making high value graphite derived multifunctional nanostructured products for applications in lithium-ion batteries, water treatment, fuel cells, support for metallic catalysts, super-capacitors, desalination, corrosion protection, radioactive clean-up, biosensors, biomedical applications, solar panels and electronics ranging from smartphones to laptops.

Production of Hydrogen from Waste Lubricating Oil

The research produced a technology for the production of hydrogen from waste lubricating oil using the steam reforming process and has the ability to reduce shortage of ammonia based fertilizer in Zimbabwe.

The main challenges being faced by fertilizer companies is mainly attributable to the use of the expensive and energy consuming water electrolysis technology for the production of hydrogen hence the need to develop an alternative cost effective process to produce hydrogen. This will reduce cost of ammonia-based fertilizer and result in improved availability of the product on the market. This will wean off the country's dependency on imports, while reducing the country's negative balance of payment.

Transformers project

The University has now produced distributor transformers that are currently undergoing tests. Positive results are expected and thereafter

commercialisation will be pursued once the tests are successful.

Technology Centre

Research efforts in the Institute's Technology Centre Department have focused on producing agricultural machinery and farm implements that contribute to import substitution and value addition in the agricultural sector. Some of the machinery and implements produced include: a Tractor-drawn Hay Baler, a huge Maize Sheller, a Stock Feed Palletizer and a Twig Thrasher.

Hay Baler

For the baling of hay which facilitates easy storage and movement of hay from one region to another during dry periods. A functional prototype has been developed at a costs of \$12 000, that is capable of baling at least a 1000 bales of 15 kg bales per day. This is drawn by a minimum of 45-horse power tractor. Supporting machinery to the hay baler notably the hay cutter and hay thrasher is now at design stage.

Maize Sheller

This tractor drawn piece of equipment with a production cost of \$4500 is capable of performing multiple functions that include de-husking, shelling, winnowing, and automatic maize grading.

Hay Miller

This diesel powered hay miller or chipper is used to chip different hay types to small particles of at most 20mm length in preparation for the pelletizing process.

Hay Pelletizer

This 350 kg per hour equipment is capable of converting the chipped hay particles, together with any nutritional enriching additives such as chipped orange peels for vitamin C, molasses for enriched sugars, spent grains (maseke) residues from beer processing for enriched carbohydrates and mineral additives into pellets for livestock feeding.

Solar Dryers

Continued research in the ergonomics of this drying equipment for drying fruits and vegetables has resulted in the development of collapsible units in response to market feedback and transport logistics constraints. This has seen increased demand of the dryers from across the country. This year five districts namely: Gutu, Nyanga, Mutasa, Chimanimani and Murehwa have been recipients of the dryers. The Ministry of Women, Gender and Community Development and the Ministry of Youth development and employment Creation were beneficiaries of these driers. Project beneficiaries were trained on how to use and maintain them.



HIT hosts Zimbabwe Universities' ICT Directors workshop

A workshop for Zimbabwe Universities' Information Communications Technologies Services' Directors was held at the Harare institute of Technology to explore issues of customer needs and strategise on programmes which leverage on internal skills and partnerships.

The three day workshop ran from 26 - 28 February 2018, and was organized by the Zimbabwe Research and Education Network (ZIMREN).

Key presenters at the workshop included Chris Rohrer from Ubuntu Alliance network, Val Theron from the Association of South African Universities' Directors of Information Communications Technologies Services, and Robert Shoniwa, Chairperson of the HIT Information Security and Assurance Department.

HIT Director of Information and Communications Technologies Services, Mrs Miriam Chahuruva said the workshop discussed key issues facing universities such as capacity building, bandwidth provision by service providers, infrastructure and financing, applications, disaster recovery, cybersecurity, education technology needs, financing and payments.

In his address at the workshop, HIT Vice Chancellor Eng. Q.C Kanhukakamwe highlighted that information communication technologies are an integral component of research and development, playing a major role in binding all activities in all the facets of universities. "Our ICT Directors play a very important role in our institutions and without their interventions we cannot achieve our goals as universities," he said.



HIT participates at Freda Rebecca CSR programme

As part of its outreach efforts, the Communications and International Relations department attended a Career Fair organised by ASA Resource Group, (Freda Rebecca Gold Mine and Trojan Mine). The event was held on Wednesday 21 March, and was attended by over 20 exhibitors from the higher and tertiary education sector, as well as industry and commerce.

Over 500 students from 22 schools within Mashonaland Central province attended the career fair with a view to get information on university programmes, entry requirements and career prospects.



ZIMPAPERS career guidance Expo

The Harare Institute of Technology participated in the Zimbabwe Newspapers Group Inaugural Career's Expo on Friday 26 January at the Harare International Conference Centre.

The expo was held to provide a platform for high school students to receive information on degree options and to explore career opportunities.

The departments of Industrial and Manufacturing Engineering, Computer Science, Information Security and Assurance and Communications and International Relations attended the event.



I.T. Students tour Zimbabwe Centre for High Performance Computing (ZCHPC)

Students and staff from the School of Information Sciences and Technology toured the High Performance Computing Centre (ZHPC) at the University of Zimbabwe on 3 November 2017 to explore the facility and assess its efficacy in the development of complex algorithms; as well as to seek access to the facility in preparation for their Capstone Design Projects.

The Zimbabwe High Performance Computing Project provides key solutions in solving contemporary problems such as climate change, food security, poverty, disease, energy and human capital development,- through advanced research. The Centre is also currently in the process of connecting all state universities and academia for advanced research in various scientific, engineering and technological areas.

It was commissioned on 6 February 2015, under the

e-Governance cluster of the national development policy - ZIMASSET.

High Performance Computing generally refers to a practice of aggregating computing power in an approach that delivers much higher performance than one could attain out of a typical desktop computer or workstation to solve complex problems in science, engineering, weather forecasting, simulations, or any field of concern. The technology is implemented in multidisciplinary areas such as information technology, information security, computer sciences, financial modelling, biosciences, geographical data, oil and gas industry modelling, electronic design automation, climate modelling, media and entertainment. The most common users of HPC systems are scientific researchers, engineers and academic institutions.



Hi-Tech development valley takes off

In positioning itself to Government's initiative to support the establishment of Innovation Hubs, the Harare Institute of Technology has initiated the first phase of the implementation of one of its key performance areas derived from the Strategic Plan Vision 2020, which is to set up a Hi-Tech Development Valley.

The Hi-Tech Development Valley manages and exploits the university's Research, Development and Innovation Outputs for commercial value. The establishment of a Science Park is one of the objects within the HIT Act and responds to the Institute's mandate: to develop incubate, transfer and commercialise technology for rapid national industrialisation.

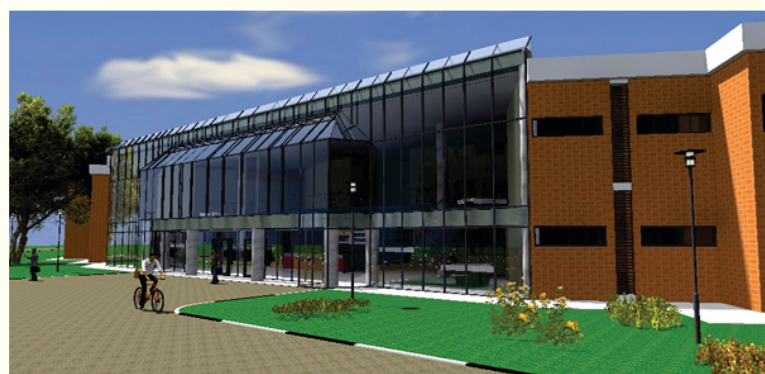
The Park will link the university research, development and innovation outputs with industry and commerce as well as creating start-ups and spinoffs. It will also work to establish partnerships, supporting emerging local companies seeking to develop and export diverse technology based products, services and intellectual property. The Science Park will also promote and encourage active collaboration between the private and public-sector technology development initiatives, attracting international technology focused companies and research organisations to locate their operations to Zimbabwe.

Other than promoting commercialisation of research and development in association with local research centres and universities, the Park shall also promote, create and maintain international and national strategic links, providing modern common-use economic infrastructure for economic growth and diversity.

It is also envisaged that the Park will enable the translation of knowledge output of the University into tangible products and processes to drive industry and commerce for greater national development. Apart from providing a platform for targeted applied research for university staff and students through internship and work-related engagements with other established technology parks resulting in impactful improvement of the Zimbabwean industry and commerce, the Park will also stimulate job creation through enterprise creation, fostering Foreign Direct Investment (FDI).

An Acting Director has already been appointed to manage the University's Research, Development and Innovation outputs. He will be responsible for negotiating the Institute's technology licensing, transfer and commercialization initiatives. His other duties and responsibilities include consolidating Technology Licensing, Transfer and Commercialization Framework, implementing the Framework for the interface between industry and academia as well as the University Intellectual Property (IP) Policy.

The Director shall also lead the production and nurturing of high value business linkages and partnerships with public and private sector organizations with a view to increasing the Institute's contribution towards industrialisation and modernization through Intellectual Property commercialisation. He is also serving as an educational resource on Intellectual Property and commercialization matters for the University community whilst also promoting University industry consultancy services.



HIT celebrates 8th Graduation ceremony

418 graduates were capped at the Institute's 8th Graduation Ceremony on Friday 6 October 2017.

The students were drawn from the Schools of Engineering and Technology, Industrial Sciences and Technology, Information Science and Technology and Business and Management Sciences.

In his address, HIT Vice Chancellor Engineer Quinton Kanhukamwe said the university continued to contribute positively to the country's economic growth through developing, incubating, transferring and commercialising technology for rapid industrialisation. "HIT has made major inroads towards its goal of conducting research, which is responsive to the country's national needs, challenges and aspirations. Research from across the schools resonated with and responded well to the nation's development blueprint, ZIMASSET," said Eng. Kanhukamwe.

He added that the university's innovations focused on the promotion of indigenous knowledge systems, value addition of natural resources, herbal medicines research, development of software applications and agricultural engineering and technology, among other areas. Some of the

projects undertaken by HIT students included recovery of gold from waste dumps, value addition to graphite and production of hydrogen from waste lubricating oil.

"The university has also produced distributor electric transformers, which are undergoing tests. We expect positive results and are eager to commercially use them once the tests are successful," he said. The university is also producing agricultural machinery and farm implements like a tractor drawn hay baler; a maize sheller and a stock feed pelletisers; which were on display at the graduation ceremony.

Eng. Kanhukamwe also told the gathering that HIT has signed partnerships agreements with local companies such as TelOne and Commercial Bank of Zimbabwe in areas of research, innovation and development. "HIT has also signed a Memorandum of Understanding with Transilvania University of Brasov in Romania and similar agreements were entered into with universities in India and South Korea.



Security supervisors' symposium hailed

The Harare Institute of Technology held a Security Supervisor training symposium from 24 to 26 January 2018, at the University campus.

The symposium aimed to impart critical leadership skills to security supervisors within the higher and tertiary education sector, and other allied organisations, and was held under the theme: "Leadership-A Tool for Effective Campus Security Services." Dr Moses Abnory, Director for the Legal, Consular and General Services, from the University of Cape Coast in Ghana served as the Guest Speaker and moderator at the event.

Speaking in the aftermath of the programme, Harare Institute of Technology Chief Security Officer, Mr Emmanuel Nyandoro said the event had surpassed initial expectations.

"The turnout was good, as we had over seventy participants, from various institutions of higher and tertiary learning descending on HIT for this event. I am also glad that this programme managed to successfully market the HIT brand. Our main goals were to equip security supervisors with critical skills in areas such as leadership, public relations and communications, case management, risk

management, handling emergencies, among others.

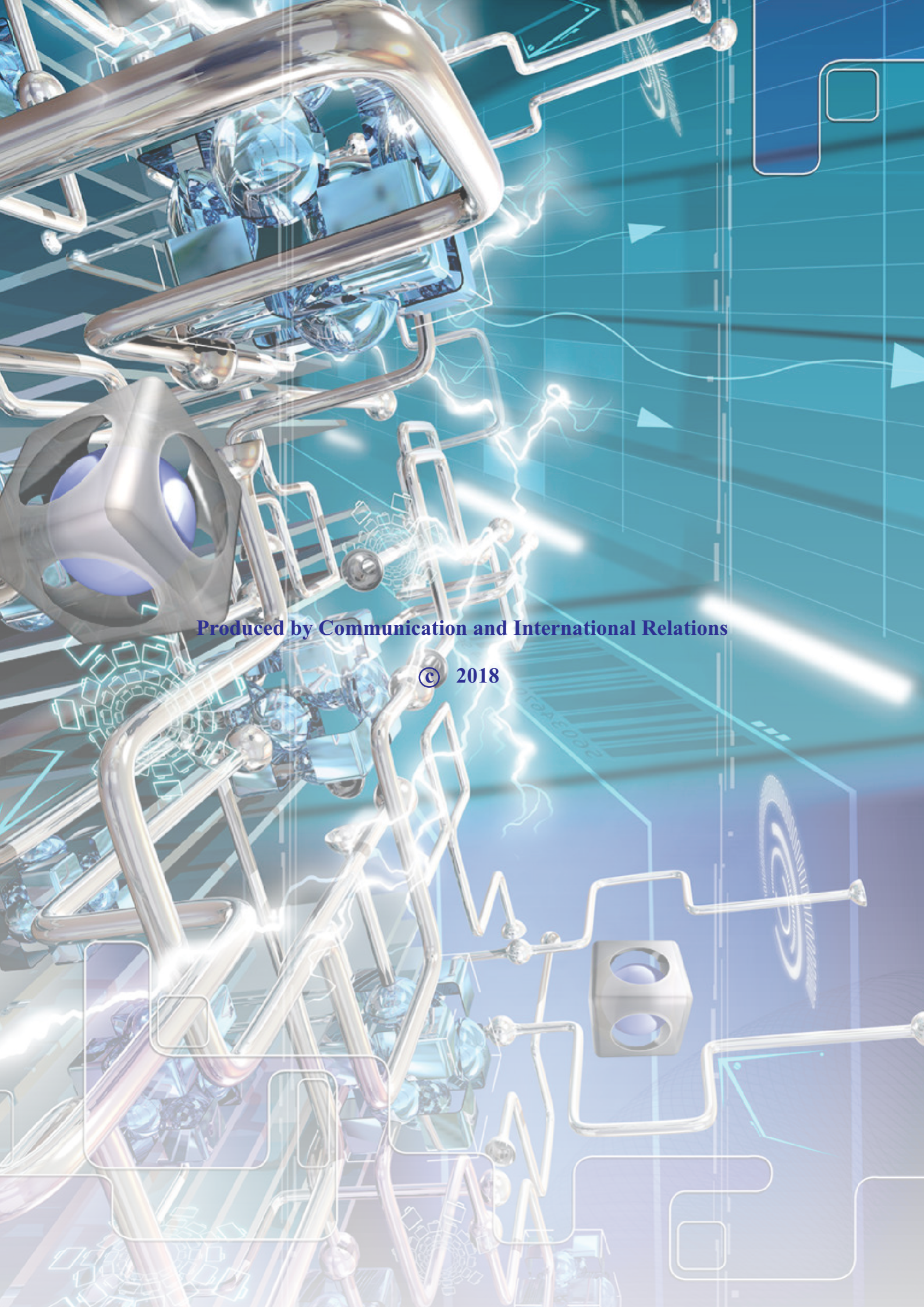
'He added that an emergent theme from the symposium was the need for security departments to be more capacitated, -to assist them in delivering their mandate of protecting life and property.

At the same event, Mr Nyandoro was voted as the inaugural Chairman of the Universities and Colleges Association of Security Officers, (UCASO.) "The vote was unanimous," he said and I believe it was because of the trailblazing role that we played in organizing this historic symposium which brought to the fore pertinent issues in security management in our sector.

The objectives of UCASO, among others will be to professionalise the security industry and provide a platform for officers to deliberate on issues affecting the industry.

Vice Chancellor of the Harare Institute of Technology, Eng.Q.C. Kanhukamwe officiated at the closing ceremony of the symposium, and in his remarks, commended the critical role of security services in organisations.





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