

TECHNOVATION

Magazine



HIT @10: Celebrating Innovation, Championing Technopreneurship

Eng. Q.C Kanhukamwe Installed Inaugural HIT Vice Chancellor



HIT TEN POINT PLAN



RIE - SET WEEK 2014 Best Exhibitor's Award

Military Applauds HIT

Capestone Design Projects



HIT Files First Patent

HIT joins ACM & IEEE



ALUMNI PROFILES

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This Magazine is published by the Communications
and International Relations Office of the
Harare Institute of Technology
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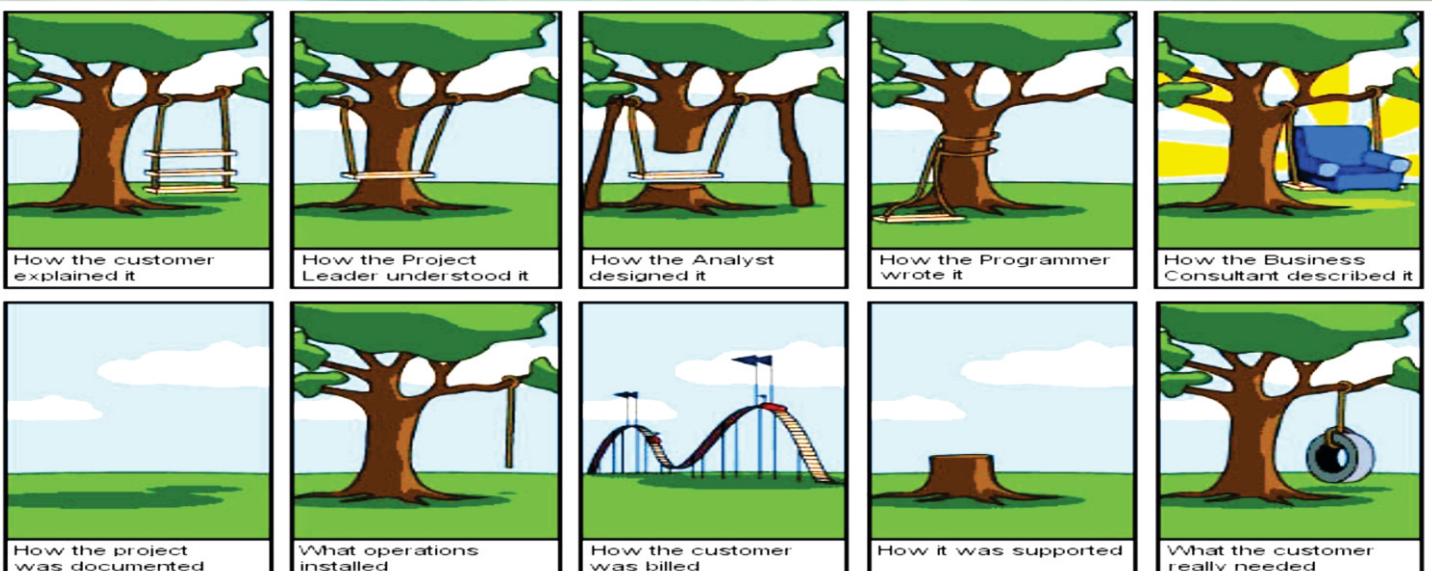
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Engineer Quinton C. Kanhukamwe
HIT Vice Chancellor

It gives me great pleasure to welcome you to the inaugural edition of the Technovator magazine. This publication highlights our work, achievements and successes in the past year; while recalling the HIT mandate which is to facilitate the development, incubation, transfer of technology; and commercialisation for rapid national industrialisation.

It stands to reason that over the years, the Harare Institute of Technology has had a tremendous impact on the higher and tertiary education landscape in Zimbabwe. The year 2014 has been a year of exponential growth; - with the Institute extending its influence through partnering with like-minded institutions as we seek to fulfil our mandate.

We have taken on the responsibility to fully exploit opportunities for institutional advancement by positioning ourselves as the front runner in the development of science and technology; - while exhibiting the demonstrable capacity to pioneer innovations in engineering and technology.

During 2014, the Institute implemented various progressive policies meant to advance the interests of the University. Policies on staff development, infrastructural growth, improving student quality of life, among others, served to strengthen the work of the University.

This publication is indeed a celebration of all our activities and achievements we continuously seek

to guard our position within the community of universities in Zimbabwe.

The publication is a call to action, a call to merge innovation and technology and it is our sincere hope that you will be inspired by its contents.

Best wishes,

Engineer Quinton C. Kanhukamwe

Vice Chancellor

WHAT IS TECHNOVATION?

Technical Innovation. This means developing new ideas, products, services, and processes which exploit technology. It may be driven by a new technology (How can we use this?) or by needs (What technology might we apply to improve this?).

At its best, technovation creates valuable products and services no one has yet asked for or creates

"disruptive" change (major leaps in the way things are done).

Two examples:

When A. G. Bell invented the telephone he took it to Western Union (who already owned a network of wires). They turned him down, explaining their

operators could key dots and dashes faster than they could talk so this "telephone" technovation was pointless.

A century later, no one asked for a phone that was smart. But Apple created one anyway. Again, creating a disruptive change.



Mr Tinashe Mutema

HIT Director of Communications and International Relations

We welcome you to the inaugural edition of the Technovator magazine, produced by the Communications and International Relations Department.

This publication represents our work in terms of the advancement of the institutional mandate and is inspired by the work of our students and staff at HIT in nurturing innovation, technopreneurship and creativity.

The Harare Institute of Technology continues to become the University of choice in Zimbabwe and beyond. This is not by accident, but rather, is the culmination of years of dedication, service and commitment to its values and ideals, as well as the espousal of the intricate mandate which seeks to develop, incubate, transfer and commercialise technology for rapid industrialisation.

2014 has been an exciting year. The University continues to grow from strength to strength and the most important milestone was the appointment of the Institute's first Vice Chancellor, Engineer Quinton C. Kanhukamwe by His Excellency and Chancellor of all State Universities, the President of the Republic of Zimbabwe, Cde Robert Gabriel Mugabe. This appointment is largely an affirmation of the outstanding leadership of Engineer Quinton Kanhukamwe and his invaluable contribution to the development of HIT.

On the student frontier, the Institute made its own history through the election of the first female Student Representative Council President.

This magazine brings you fresh insights into the execution of the institution's mandate. Through this publication, we hope to share with you the Harare Institute of Technology story in a bid to create understanding and good will with you, - our valued stakeholders.

As we come to the close of 2014, we remain grateful to you for your unwavering faith and support for the Harare Institute of Technology. 2015 will bring in our 10th Anniversary celebrations;- which will provide us with the opportunity to celebrate and reflect on our achievements and challenges over the past ten years, as we look into the future. Join us for the next edition as we give a full expose of "HIT@10: Celebrating Innovation - Championing Technopreneurship."

Happy Reading!

Tinashe Mutema

**Ide
Innov
Technov
Elev
Celebrate**



Scientists investigate that which already is; Engineers create that which has never been.

"Engineers like to solve problems. If there are no problems handily available, they will create their own problems."

"A scientist studies what is, an engineer studies what never was."

"The engineer's first problem in any design situation is to discover what the problem really is."

Old software engineers never die, they just reboot.

Old software engineers never die. They just log out.

There are only 10 kinds of people in this world: those who know binary and those who don't.

<http://www.engineering-humour.com/engineering-jokes-oneliners.htm/>

EMPLOYEE BENEFITS CONSULTING



Marsh & McLennan Companies is the premier global professional services firm, providing advice and solutions in risk, strategy and human capital. Colleagues around the world help clients identify, plan for and respond to critical business issues and risks. People risks are a key priority for employers and we create innovative, tailored employee benefits programmes to address these risks.

Our benefits organisation provides clients with a single source for managing the costs, people risks and complexities of employee benefits. The network is a combination of Mercer and Marsh local offices around the world, plus country correspondents who have been selected based on specific criteria. Our benefits experts, located in 135 countries and servicing clients in more than 150 countries, are deeply knowledgeable about their local markets. Through our locally established businesses, we have a unique platform which allows us to serve clients with global consistency and locally unique solutions.

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Due to the complexity of healthcare markets, a specialised knowledge of the environment is required in order to identify and reduce health risks within the organisation. Our

local and global experience means that our clients are confident that we are well positioned to assist employers strategically in creating a healthier working environment for employees.

Healthcare consulting services include:

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 - Subsidy policy reviews.
 - Full interface with the medical scheme on behalf of the employer.
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 - Annual revisions.
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- Health Insurance into Africa
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- Expatriate Cover
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Mercer Marsh Benefits aim to build a successful retirement fund and group risk programme by using a diverse range of proven local and international strategies which assist in enhancing benefits and minimizing risk.

We perform the consulting function to a number of self-administered retirement funds-an area where we have had particular success in unlocking additional value for employers and their members.

Our holistic approach ensures efficient and effective solutions, and aims to provide Employer Groups, and their Trustees or Management Boards, with expert and objective advice in a transparent and understandable manner.

Services offered include:

- Pension administration services.
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- Advice and interpretation on legislative changes specific to retirement fund and group risk arrangements.
- Assistance with market comparisons for benefits and pricing.
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- Administrative training to ensure that the responsibilities of the employer are fulfilled effectively.
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- Cross-border solutions.

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- A truly worldwide network with local benefits experts in 135 countries who facilitate business in more than 150 countries.
- More than 75 years of Mercer and Marsh experience working together.
- 17,500 benefits professionals worldwide – 6,400 benefits colleagues and more than 11,000 human capital, retirement, and outsourcing colleagues.
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- More than R633 billion in benefits premium placed annually.



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The Harare Institute of Technology (HIT) was granted university status in 2005 with the promulgation of the Harare Institute of Technology Act {Chapter 25:26}. The Harare Institute of Technology is the hub of technology development and delivery of quality technology programmes. It is Zimbabwe's most energetic and responsive institute, offering unparalleled educational opportunities for those seeking highest quality undergraduate, postgraduate and continuous professional development studies. It is at the forefront of growing Zimbabwe's industrial base and natural resources beneficiation.

HIT has been mandated to oversee the development, incubation, transfer and commercialisation of technology. Since its inception in 2005, the Harare Institute of Technology brand continues to witness phenomenal growth through the carefully orchestrated execution of the HIT mandate. Over the years, the University has maintained its lead position in the community of Universities through clarity of purpose and futuristic planning.

At its inception, the Harare Institute of Technology purposefully crafted curriculum which would speak to the institutional mandate. The concept of Capstone Design Projects; a unique aspect of HIT, was infused into the Curriculum to provide students with room to prove their proficiency in translating scientific concepts into tangible outputs. The capstone design projects are informed by the philosophical precepts of innovation, technopreneurship and creativity and hold the potential for commercialisation.

Through the packaging and delivery of unique programmes, such as Electronic Commerce, Financial Engineering, Software Engineering, Chemical and Process Systems Engineering, Polymer Technology and Engineering and Information Security and Assurance, the Harare Institute of Technology continues to break new ground through the provision of context-based programmes which are crucial to rapid national industrialisation.

Schools & Departments

The Institute has four Schools with the following departments:

School of Engineering and Technology

- ◆ Industrial and Manufacturing Engineering
- ◆ Electronic Engineering
- ◆ Chemical and Process Systems Engineering
- ◆ Materials Technology & Engineering
- ◆ Polymer Technology & Engineering

School of Industrial Sciences and Technology

- ◆ Food Processing Technology
- ◆ Biotechnology
- ◆ Pharmaceutical Technology

School of Information Science and Technology

- ◆ Computer Science
- ◆ Information Security & Assurance
- ◆ Information Technology
- ◆ Software Engineering

School of Business and Management Sciences

- ◆ Financial Engineering
- ◆ Electronic Commerce
- ◆ Forensic Auditing & Accounting

Centres of Excellence

To give impetus to the execution of the HIT mandate, the Institute has the following Centres of Excellence:

Technology Centre (TC)

The TC pulls together all workshops and laboratories at HIT and promotes (the development of) production and manufacturing activities across the Institute's academic departments in an inter and multidisciplinary manner. The centre provides a wider platform for students to turn their Capstone Design Projects into tangible prototypes. It also bridges the gap between industry and academic activities by offering training and product development opportunities as well as offering machining services of scarce components

Technopreneurship Development Centre (TDC)

Technopreneurship Development Centre (TDC) is one of Harare Institute of Technology's strategic units which is driven by the philosophy that technopreneurs can be created and developed with appropriate business technopreneurial skills, attitudes and motivation. Through its courses, the TDC inculcates technopreneurial values amongst HIT students in order to develop knowledgeable and technological entrepreneurs. It also enhances the capabilities of new and existing entrepreneurs through technopreneurial development programmes.

Technology Education Centre (TEC)

This centre focuses on the pedagogy of Science, Engineering and Technology; equipping staff and students with research skills.

Environment Management, Renewable Energy and Climate Change Research Centre (EMRECCRC)

The centre focuses on research, teaching in sustainable development. The main thrust is environment management, energy efficiency and climate change adaptation strategies. The centre was established to provide technopreneurial solutions and adaption strategies to unpredictable climate change, environmental pollution and energy resource dwindling challenges facing Zimbabwe and the world at large.





MINISTRY OF HIGHER AND TERTIARY EDUCATION, SCIENCE AND TECHNOLOGY DEVELOPMENT



HIT VICE CHANCELLOR APPOINTMENT

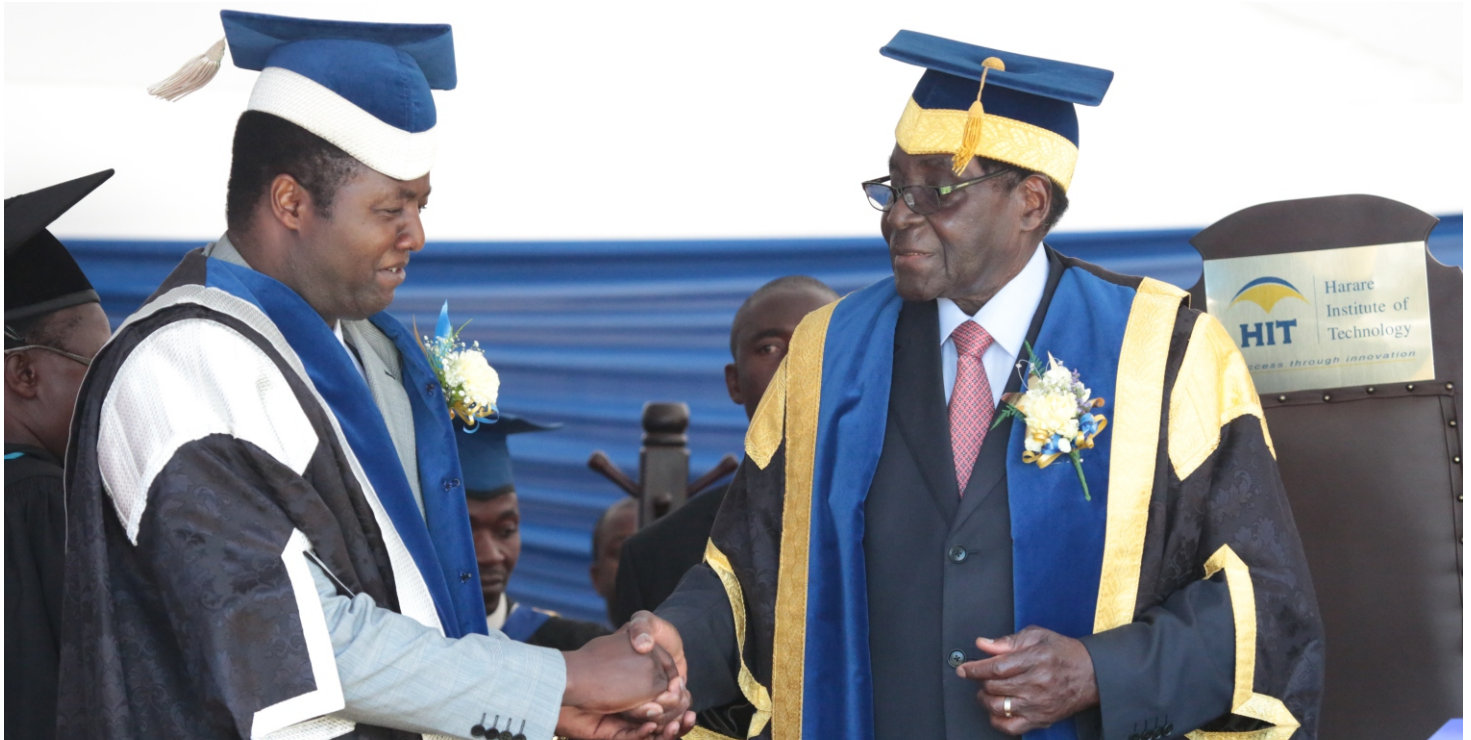
The Minister of Higher and Tertiary Education, Science and Technology Development, Dr. Olivia Muchena, Deputy Minister Dr. Godfrey Gandawa and the Permanent Secretary, Dr. Washington Mbizvo congratulate Engineer Quinton Kanhukamwe on his appointment as the inaugural Vice Chancellor of the Harare Institute of Technology by His Excellency and Chancellor, the President of the Republic of Zimbabwe, Cde R.G Mugabe.

Engineer Kanhukamwe has proven beyond any reasonable doubt that he has the credentials and commitment to take HIT to a level where it plays a significant role in the national development through promoting the development, incubation, transfer and commercialisation of technology as well as the development of a high level technical human capital.

He demonstrated visionary and strong leadership skills when in 2003, the Permanent Secretary for Higher and Tertiary Education, Dr. Washington Mbizvo, appointed him Chairman of the Transformation Committee of the Harare Institute of Technology, which came up with the roadmap for developing HIT into a fully-fledged world-class university. The subsequent promulgation of the HIT Act (Chapter 25:26) in 2005 was in part the outcome of that Committee's work.

As a result of his exceptional organizational and management Eng. Kanhukamwe managed to set up university structures creating four Schools offering 15 ZIMCHE accredited Bachelor of Technology Honours degree programmes and centres that bolster the HIT Mandate.

INSTALLATION OF THE INAUGURAL VICE CHANCELLOR



The President of the Republic of Zimbabwe and Chancellor of all State Universities, His Excellency Cde Robert Mugabe, congratulating Engineer Quinton Kanhukamwe soon after installing him as the First Vice Chancellor of the Harare Institute of Technology.

Harare Institute of Technology Vice Chancellor, Engineer Quinton Kanhukamwe has pledged his commitment to lead the Harare Institute of Technology and propel it to greater heights in the quest to live and achieve the Institutional mandate as articulated by Government.

The President of the Republic of Zimbabwe and Chancellor of all State Universities, His Excellency Cde Robert Mugabe installed Engineer Quinton Kanhukamwe as the First Vice Chancellor of the Harare Institute of Technology on Thursday 23 October 2014 at the University campus in Belvedere, Harare.

The event was attended by Government Officials, Diplomats, the corporate world, friends, partners and supporters of the Institute. The event was punctuated with powerful and original serenades from the Harare Institute of Technology Choir.

In his acceptance speech as the First Vice Chancellor of the Harare Institute of Technology, Engineer Kanhukamwe unveiled the ten key objectives which would inform key policy decisions during his tenure. The ten objectives outline issues of strategic importance to the continued success and development of the Harare Institute of Technology such as the greater impetus to research and research output, the introduction of post – graduate programmes, the promotion of scholarship and infrastructural development, among others.

Engineer Kanhukamwe accepted the installation with great humility, expressing that it was indeed a privilege and honour for him to be accepting the position of inaugural Vice Chancellor of the Harare Institute of Technology from His Excellency and

Chancellor. He also conveyed his appreciation to His Excellency for the trust bestowed upon him.

Engineer Kanhukamwe paid tribute to the leadership of the Minister of Higher and Tertiary Education, Science and Technology Development, Dr Olivia Muchena for her guidance, and to the leadership and clarity of vision displayed by the Permanent Secretary in the Ministry, Dr Washington Mbizvo as he directed and supported the HIT Transformation Committee which Engineer Kanhukamwe chaired from 2003 to 2008. The Committee was charged with formulating a roadmap for developing HIT into a fully-fledged university. The promulgation of the HIT Act [Chapter 25:26] in 2005 was in part the outcome of the work of the Transformation Committee under his leadership.

The Vice Chancellor also recognised the HIT Board Chairperson, Dr Gibson Mandishona and the entire Institute Board for their sterling support, the HIT Management, Students and Staff for their unwavering support to his leadership and to Academics from sister Universities for their collegiality.

The Vice Chancellor also paid a special tribute to his family;- his parents for instilling positive values of hard work, integrity, love and abidance to Christianity, and his wife, Mrs Rumbidzai Kanhukamwe and daughter Dadiso, for their support.

Vice Chancellor of the Great Zimbabwe University, Professor Rungano Zvobgo in a speech punctuated by wit and humour described Engineer Kanhukamwe as the “man of the moment,” whose vision for HIT dovetails into the national development agenda, ZIM-ASSET.

Professor Rungano Zvobgo said being a Vice Chancellor is a rare feat, and Engineer Kanhukamwe had the onerous task of ensuring the continued relevance of the Harare Institute of Technology programmes to the HIT mandate, as enshrined in the HIT Act and to the needs of industry.

Vice Chancellor of the National University of Science and Technology, Professor Lindela Ndhlovu expressed confidence in Engineer Kanhukamwe's leadership.

Members of the student body also expressed their solidarity at Engineer Kanhukamwe's Installation Ceremony. President of the Student Representative Council at the Harare Institute of Technology, Tinotenda Gwati said Engineer Kanhukamwe had motivated and inspired the HIT students to excellence, inculcating them with a spirit of innovation and technopreneurship. She added that the Vice Chancellor was attentive to the needs of students and he had been a steadfast leader since the inception of the Harare Institute of Technology.

Chairperson of the Harare Institute of Technology Staff Association, Mr Jack Urombo highlighted Engineer Kanhukamwe's concern for staff welfare and wished the newly installed Vice Chancellor a successful tenure.

Engineer Quinton Kanhukamwe becomes the first Vice Chancellor of the Harare Institute of Technology.

HIT TEN POINT PLAN

- ◆ *Consolidate the Innovation and Technopreneurship signature.*
- ◆ *Introduce post graduate programmes to respond to the technological skills gap in the nation.*
- ◆ *Consolidate institutional research focus and to foster inter disciplinary centres- thus allowing us to respond quickly to new, emerging initiatives by creating a critical mass and positioning the University as the cutting edge of innovation, enhancing the commercialisation of research and development outputs, intellectual property generation as well as profiting from research and development outputs.*
- ◆ *Promote scholarship ie, promoting TVET and CBET centred curriculum, and raise publications in Science, Engineering and Technology journals.*
- ◆ *Consolidate capacity building initiatives already underway by increasing DTech and MTech staff development opportunities, as well as identifying and hiring staff in areas of strategic priority.*
- ◆ *Enhance effectiveness and efficiency of the Institute in all its units through ICTS deployment.*
- ◆ *Promote infrastructure Development through Public Private Partnerships - construction of infrastructure in support of research, innovation and teaching.*
- ◆ *Secure financial stability for HIT – through IP commercialisation.*
- ◆ *Grow a national and global profile through the escalation of partnerships.*
- ◆ *Commit to the National Development Agenda - Zim Asset.*

PROFILE OF ENGINEER QUINTON CHAMUNORWA KANHUKAMWE



Engineer Quinton C. Kanhukamwe
HIT Vice Chancellor

Engineer Quinton C. Kanhukamwe is the Vice Chancellor of the Harare Institute of Technology.

His role is to provide strategic leadership, deploy executive-level managerial, administrative and financial management skills, promote research, guide budgetary processes, network at executive level locally and internationally as well as rallying staff towards the realization of the Harare Institute of Technology mandate as set in section 4:1 of the Harare Institute of Technology Act [Chapter 25:26] which are:

- a) The advancement of knowledge;
- b) The development, incubation, transfer and commercialisation of technology;
- c) Development of high level technical manpower;
- d) The establishment of production centres linked to departments and development of a Science Park

- e) The production of technical lecturers;
- f) To offer education programmes focusing on design, production, and maintenance technology with an entrepreneurial and innovative thrust for continued relevance to industry and all other sectors of Zimbabwe's economy
- g) Deliver useful, innovative, timely and cost effective research outcomes characterised by excellence;
- h) The nurturing of intellectual, aesthetic, social gender sensitivity and moral growth of the students and staff of the Institute
- i) The nurturing of the spirit of patriotism

Engineer Quinton Kanhukamwe has well over 40 publications in refereed journals. His career began in 1991 when he was appointed lecturer at the Bulawayo Polytechnic. In 1992, he moved on and was part of the

founding team of academics at the National University of Science and Technology. In subsequent years, he proved his mettle, leading to his appointment in 1999 as Chairman of the Industrial Technology Department and subsequently Dean of the Faculty of Industrial Technology. He also served as Director Designate of the NUST Technopark. During this time he also taught at Postgraduate level at NUST and UZ.

In 2003 he was appointed Chairman of the Transformation Committee of the Harare Institute of Technology by the Permanent Secretary for Higher and Tertiary Education, Dr Washington Mbizvo, which came up with the roadmap for developing HIT into a fully-fledged university. The promulgation of the HIT Act [Chapter 25:26] in 2005 was in part the outcome of the work of the Transformation Committee under his leadership.

From 2005 to 2008, Eng. Kanhukamwe operated as Pro-Vice Chancellor of HIT. He was then mandated to lead HIT as the Acting Vice Chancellor in 2008, a position which he held until this appointment. During this time Engineer Kanhukamwe managed to set up university structures creating four Schools offering 15 ZIMCHE accredited Bachelor of Technology Honours degree programmes and four Centres that bolster the HIT mandate.

For his sterling contribution to the development of science and technology in Zimbabwe, Eng. Kanhukamwe has received more than 10 local and regional awards. He has signed more than 21 collaborative agreements with renowned universities and technology related institutions worldwide that have become the platform for curriculum development, staff development, technology transfer and quality assurance.

Currently pursuing a D.Tech with the University of Tehran; Eng. Kanhukamwe holds an MSc in Engineering and is a member of the following professional bodies; Institute of Industrial Engineers (MIIE-USA), Institute of Cast Metals Engineers (MICME-UK), Professional Engineer- Engineering Council of Zimbabwe (MZwIE, Pr (ECZ)). He is currently pursuing a Doctor of Technology degree with the University of Teheran.

Eng. Kanhukamwe is a board member of the Engineering Council of Zimbabwe, a member of World Technopolis Association (WTA), Southern Africa Regional Universities Association (SARUA), Association of African Universities (AAU), Oxford Club of Rectors, Zimbabwe Institution of Engineers, a Senator with the Junior Chamber International JCI, and a proponent of the innovation and technopreneurship philosophy and practice.

Eng. Kanhukamwe's research interests are in Technology Management, Modern Manufacturing, Techniques, Systems and Processes, Materials Management Systems, Optimisation of Cleaner Production in Manufacturing Industries, Maintenance Management as well as Properties of Manufacturing Materials.

Engineer Kanhukamwe was born on 20 September 1964, and can speak Shona, Ndebele, English and Russian.

He is married to Rumbidzai and they are blessed with a daughter, Dadiso.



Harare
Institute of
Technology

success through innovation

CONGRATULATORY MESSAGE



Engineer Quinton C. Kanhukamwe

The Harare Institute of Technology Board Chairman Dr G Mandishona, the entire Institute Board, Senior Management, Staff and Students congratulate Engineer Quinton C. Kanhukamwe on his appointment as the inaugural Vice Chancellor of the Harare Institute of Technology.

As the Vice Chancellor, Eng. Kanhukamwe has been charged with contributing to the rapid industrialization of Zimbabwe through promoting the development, incubation, transfer and commercialisation of technology, development of highly skilled technical human capital; the establishment of production centres linked to academic departments and the development of a Science Park; offering education programmes focusing on design, production and maintenance technology with a technopreneurial and innovative thrust for continued relevance to industry and all other sectors of Zimbabwe's economy amongst other Key Performance Areas.

With well over 40 publications in refereed journals, Eng. Kanhukamwe's career began in 1991 when he was appointed lecturer at the Bulawayo Polytechnic. In 1992, he moved on and was part of the founding team of academics at the National University of Science and Technology. In the subsequent years, he proved his mettle leading to his appointment in 1999 as Chairman Industrial Technology Department and subsequently Dean of the Faculty of Industrial Technology. He also served as Director Designate of the NUST Technopark.

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Eng. Kanhukamwe holds a Msc in Engineering and is a member of the following professional bodies; MIIE-USA, MICME-UK, MZWIE, Pr (ECZ). He is currently studying towards a Doctor of Technology with Tehran University of Iran.

Eng. Kanhukamwe is a board member of the Engineering Council of Zimbabwe, a Senator with the Junior Chamber International JCI, a member of World Technopolis Association (WTA), Southern Africa Regional Universities Association (SARUA), Association of African Universities (AAU), Oxford Club of Rectors, Zimbabwe Institution of Engineers and a proponent of the innovation and technopreneurship philosophy and practice. He is married to Rumbidzai and they are blessed with a daughter, Dadiso.

MAKOROKOTO, AMHLOPE!!

CONGRATULATORY MESSAGE - ITM UNIVERSITY, INDIA



PROF. YOGESH UPADHYAY
VICE CHANCELLOR

"CELEBRATING DREAMS"

October 27, 2014

Dear

Prof. Kanhukamwe

Greetings!

We would like to extend our Heartiest Congratulations to you for being officially appointed as the First founding Vice Chancellor of the Harare Institute of Technology. Indeed your commitment and efforts towards education development and transfer of growth of industry and commerce is unparalleled. Your extraordinary commitment towards education has played a major role in the planning, development and commercialization of technology in your country.

Your Exceptional dedication towards education has helped to establish University structures creating four schools offering 15 ZIMCHE accredited Bachelor of technology Honours degree programmes and centres.

We also thank His Excellency and the Chancellor, the President of Republic of Zimbabwe, Cde R.G Mugabe for bestowing the post of Vice Chancellor on you.

We congratulate you once again on the remarkable achievement and hope that this relationship carves the young and enthusiastic minds of both the countries and equip them with their destined purpose.

Yours Sincerely,

(Prof. Yogesh Upadhyay)

To,

Eng Quinton C Kanhukamwe
Vice Chancellor,
Harare Institute of Technology
Harare, Zimbabwe.

CONGRATULATORY MESSAGE - GREAT ZIMBABWE UNIVERSITY



CONGRATULATIONS, MAKOROKOTO, AMHLOPE



Great Zimbabwe University Chairman of Council, Mr. S.J. Chihambakwe, Council, Management, Senate, Staff and Students congratulate Engineer Quinton C. Kanhukamwe on his appointment as the substantive Vice Chancellor of the Harare Institute of Technology.

Great Zimbabwe University applauds Engineer Kanhukamwe for his astute leadership and for turning the Harare Institute of Technology into the hub of technology development in Zimbabwe and bringing substantive innovations and solutions to the teaching of Science and Technology in Zimbabwe. We wish him more years of academic excellence in his career.

HIT CELEBRATES 10TH ANNIVERSARY



Mr Perkins Muredzi
Chairperson: 10th Anniversary Celebrations Organising Committee

The Harare Institute of Technology will host its 10th Anniversary celebrations this year, (2015); commemorating the establishment of the Institute in 2005 by the Government of Zimbabwe through the HIT Act, Chapter [25:26].

The celebrations will be held under the theme: "HIT @10: Celebrating Innovation, Championing Technopreneurship."

An organising committee for the celebrations is

already in place, chaired by the Dean in the School of Industrial Sciences and Technology, Mr Perkins Muredzi.

The celebrations will be held under various banners and celebratory activities which seek to recall and celebrate the history, heritage, traditions, mandate and future of the Harare Institute of Technology.

Mr Muredzi revealed that the scope of the anniversary celebrations was diverse covering

symposia, conferences, public lecture series, workshops, Olympiads or competitions and technology exhibitions..

He added that over the past 10 years, the Harare Institute of Technology has grown into one of the region's finest training grounds for future engineers and a wellspring of leading edge technology.

"The Institute has seen dramatic increases not only in its size and scope of degree offerings, but also in the quality and impact of its educational and research programmes. In just a decade, it has risen to become a national leader in experiential engineering education, technology development, technopreneurship, technical pedagogy and in research fields as diverse as financial engineering, pharmaceutical technology and information security." This, he said, has resulted in record levels of student applications, research funding and philanthropic support.

Muredzi highlighted that the Celebrations' emphasis on HIT as a Model of a world class Institute of Technology will showcase HIT's commitment to excellence, access, and unmatched dedication to higher education.

"Participation and enthusiasm from the entire community will ensure success," he concluded.

HIT Director of Communications and International Relations, Mr Tinashe Mutema revealed that the commemorations serve as an opportune moment to once again tell the HIT story and reinforce the HIT brand to a multiplicity of stakeholders.



ENGINEER SPEAK

<http://www.engineering-humour.com/engineering-jokes-oneliners.htm/>

What is said	What it means
A number of different approaches are being tried.	We don't know where we're going, but we're moving.
Developed after years of intensive research.	It was discovered by accident.
The entire concept is unworkable.	The only guy who understood the thing just quit.
Test results were extremely gratifying.	it works and, boy, are we surprised!

STAFF DEVELOPMENT PROGRAMME SCORES SUCCESS

Twenty seven staff development fellows from the Harare Institute of Technology have returned home following the successful completion of their study programmes at two Universities in India.

The fellows were based at the Delhi Technological University and Jawaharlal Nehru Technological University where they undertook Master of Technology degree programmes ranging from Software Engineering, Microwave and Optical Communication, Thermal Engineering, Information Technology, Computer Science and Engineering, Nano Technology, Neural Networks, Chemical Engineering, Real Time Systems, among others. The fellows were derived from various departments within the Institute, such as Software Engineering, Electronic Engineering, Industrial and Manufacturing Engineering, Information Technology, Chemical Process and Systems Engineering, Computer Sciences and Bio technology.

Kumbirai Nyachionjeka, who successfully completed a Master of Technology degree in Microwave and Optical Communication, said the two year programme was intensive and highly

forges a lot of strategic alliances with Industry. Students are exposed to the world of work through internships and mentorship programmes and it is quite possible for a student to secure employment prior to graduation, through demonstrable display of strong aptitudinal skills and technical competencies. Nyachionjeka also added that the University also received heavy funding from the Indian government, which became an enabler for the acquisition of teaching and learning equipment as well as research.

Vice Chancellor of the Harare Institute of Technology, Engineer Quinton Kanhukamwe revealed that the exchange programmes were beneficial in getting staff to appreciate the proficiency and competency schedules in curriculum offered by institutions with a similar mandate to HIT, adding that this was crucial in achieving the institutional mandate, - resultantly leading to industrialisation.

Another returned staff development fellow, Prudence Kadebu came back home with a Master of Technology degree in Software Engineering. Kadebu is currently a lecturer in the Software Engineering Department and was based at the

“I realised that there are boundless opportunities for women in Software Engineering, which is a new and emerging area. Being in India made me realise that there are no barriers. The girls in India are extremely intelligent and present stiff competition for their male counterparts. What I learnt is that you need to be focused, and work towards achieving your set goals,” she said.

Kadebu's area of research interest is big data and she hopes to proceed to doctoral studies in the near future.

Innocent Mapanga also from the Software Engineering Department attained a Master of Technology degree in Computer Science, from the Delhi Technological University.

“Being in India gave me the opportunity to interact with world class professors with demonstrated experience and exposure. They taught me the value of relevant research which adds value to humanity as a whole.” On the social front, Mapanga learnt the value of strong family ties.

“I would like to register my appreciation to the HIT leadership for this opportunity. You can only think and envision to the extent to which you have been



Kumbirai Nyachionjeka, a Lecturer in the Electronic Engineering Department, completed a Master of Technology degree in Microwave and Optical Communication at the Delhi Technological University.



Prudence Kadebu, a Lecturer in the Software Engineering Department, completed her Masters of Technology degree in Software Engineering at Delhi Technological University.



Innocent Mapanga, a Lecturer in the Software Engineering Department also attained a Masters of Technology degree in Computer Science at Delhi Technological University.

competitive.

“India has one of the best information technology infrastructures in the world and in as much as they are an emerging economy, they are developing at an exponential rate,” he said. Nyachionjeka added that he was grateful to the HIT leadership for the opportunity and felt empowered by the graduate programme he undertook. “I hope to impart the invaluable knowledge, exposure and experience to students and colleagues,” he said.

Nyachionjeka revealed that the curriculum at the Delhi Technological University was heavily practical -oriented and students underwent vigorous practical sessions. “The huge emphasis on practicums is also important because the University

Delhi Technological University.

“Being in India was a mixed bag. It was a good experience, a learning experience and generally what I appreciated about my time in India is the fact that they are able to create an atmosphere which drives you to high levels of excellence.”

“The strong practical aspect of the learning experience and the robust alliances that the University has with industry were impressive,” says Kadebu. “Strategic relationships bring in projects and this helps students with internships and placements when they graduate.”

Kadebu was the only female in her cohort of seven HIT staff development fellows who attended the University.

exposed and thus exposure becomes our limit. Being in India was an opportunity for me to get exposed to different world views and perspectives which will enrich my experiences from now on.” Mapanga added that there was a strong similarity between the HIT mandate and the DTU mandate in their approach. “DTU is patenting products and they have a strong undertaking on student and staff research initiatives with tangible outputs. They also have a strong inclination to the concept of private -public partnerships.”

The Harare Institute of Technology has purposively undertaken a well-orchestrated staff development programme, aimed at strengthening the human resource complement at the institution.

RUSSIAN EDUCATIONAL EXPERIENCE ENLIGHTENS PhD STUDENT



Trevor Nyasha Mutusva
Lecturer : Mathematics

As Trevor Nyasha Mutusva awaits his results for the PhD in Mathematics from the People's Friendship University of Russia, he has returned back home to continue contributing to the teaching and research efforts at the Harare Institute of Technology.

He joined HIT in 2008 as a Lecturer in the Mathematics department, following his attainment of an MSc in Industrial Mathematics from the National University of Science and Technology.

In 2010, Mutusva was awarded a scholarship by the Government of Zimbabwe through the then Ministry of Higher and Tertiary Education.

"I've always wanted to be an academic," says Mutusva.

"The first year in Russia was difficult because I had to learn a new language. It was challenging at first, but after the first year, it went on well.

On the academic side, Mutusva says he gained a lot of insights from the Russian education system which emphasises a thorough approach to pedagogics at doctoral level. "I underwent some hours doing teaching practice which was graded. It was very beneficial to me as it was a way in which I could practice using the Russian scientific language."

Mutusva also points to the academic rigour present for both undergraduate and graduate students; - with Masters students taking at least 11 courses in one semester.

The Russian system, he said, uses both the oral and written examination system; something which Mutusva admired.

"Students from all disciplines do courses on philosophy and I admired this very much as this helps to widen the individual's world view and creates a strong sense of identity," he said.

Mutusva's research was in the area of Topology – a branch of the field of geometry.

"You can use topology in various scenarios such as mathematical modelling which can be useful in forecasting disease infection rates for health epidemics. This information can be useful in enabling policy makers to adequately prepare for future crises.

Mutusva is grateful for the opportunity which enabled him to interact and create networks with other students from diverse backgrounds, adding that the University has student representation from across 85 countries.

"Through these interactions, you can make connections with other people and this can be useful in advancing our research interests."

When he earns his PhD, Mutusva hopes to continue teaching and engaging in research and to enrol for a post-doctoral fellowship.

HIT STAFF DEVELOPMENT PROGRAMME SCORES SUCCESS

Vice Chancellor of the Harare Institute of Technology, Engineer Quinton Kanhukamwe at his installation as the First Vice Chancellor of the Harare Institute of Technology, revealed a ten point plan which prominently features the issue of staff development as a necessary prerequisite for the continued and sustained development of the institution. Point 2 highlights the need to introduce post graduate

programmes to respond to the technological skills gap in the nation, and Point 5 highlights the consolidation and capacity building initiatives already underway by increasing DTech and MTech staff development opportunities, as well as identifying and hiring staff in areas of strategic priority.



A group of HIT Staff Development Fellows posing for a photograph with HIT Senior Management staff and a representative from the Indian consulate in Harare.

HIT LAUNCHES POLYMER TECHNOLOGY & ENGINEERING DEGREE



Dr A. Nzeru

Acting Chairperson
Department of Polymer Technology and Engineering,

In fulfilment of its mandate, the Harare Institute of Technology recently launched a unique, ZIMCHE accredited Bachelor of Technology (Honours) degree in Polymer Technology and Engineering. The programme is the first of its kind to be offered in Zimbabwe.

Acting Chairperson in the department of Polymer Technology and Engineering, Dr Arnold Nzeru said the B. Tech. degree in Polymer Technology and Engineering was introduced to meet the institutional mandate and to respond to the human resource needs of the country. He added that the introduction of the programme was the culmination of an extensive consultative process with the polymer industry, government, academia and other key stakeholders.

The programme is unique and designed to provide optimal education and training in polymer technology and engineering. The programme also places great emphasis on the applications of science, technology and engineering; merging theory with practice to produce highly skilled graduates.

In explaining the role and importance of polymers, Dr Nzeru said polymers are organic macro molecular materials, both synthetic and natural that include plastics, rubbers, fibres, coatings and adhesives.

"Polymers are extraordinary materials that pervade our daily lives with a wide range of applications that far exceed that of any other class of material available to man today." He added that among the many applications, polymers find use in consumer goods, health and medicine, packaging, automotive, agriculture, construction and aerospace industries.

A lecturer in the department of Polymer Technology and Engineering at HIT, Mr Innocent Chikurunhe explained that the most topical issues in polymer science and technology were of sustainability. "New areas in the discipline include the crucial aspects and further exploration on how we can use natural polymers, which are bio-degradable, while also

taking into consideration the need for sustainability. Another aspect crucial to the discipline of polymers is the issue of recycling, which promotes sustainability and reduces pollution. In waste management, the area of polymer science also gains prominence as we are looking into ways of implementing the 4 Rs in waste management; reduce, reuse, recycle and recover which promotes environmental management", he said.

Chikurunhe also added that polymer technology was also moving into the area of embracing new technologies such as nanotechnology.

Programme content

Highlights include: Organic Chemistry, Analytical Polymer Chemistry, Polymer Rheology, Polymer Materials and Processing, Polymer Testing Methods, Polymer Composites and Blends, Specialty Polymers, Adhesives and Surface Coatings, Chemical Kinetics and Chemical Reactors, Polymer Recycling & Environmental Protection, Process and Product Design, Industrial Instrumentation and Control, Process Modelling, Simulation and Optimisation, Mould and Die Design, Tool and Die Manufacture, Engineering Design, Workshop Technology, Computer Aided Design/ Manufacture (CAD/ CAM), and Technopreneurship.

Career Prospects

Graduates of the programme will have career paths as Polymer Technologists/Engineers, Process Engineers, Product Development Engineers/Managers, Materials Engineers, Production Managers, Project Managers, Technical Managers, Quality Assurance Managers and Entrepreneurs in various sectors of the economy. These include the rubber industry, shoe manufacturing, agricultural sector where the discipline has utility in the production of irrigation pipes, plastic sheeting for green houses among others. Pharmaceutical packaging and the food packaging industry are other areas of possible graduate placement.

Pioneering Lecturers in the Department

The following are the staff members who pioneered the launch of the programme:

Dr A. Nzeru - Chairperson

B. Tech (Hons) Applied Chemistry and Chemical Technology, (1989) University of Zimbabwe, MSc Polymer Chemistry, (1994) University of the Witwatersrand, South Africa, PhD Polymer Science, (2000) University of Lancaster, UK.

Mr I. Chikurunhe

HND Plastics Technology Harare Polytechnic, MSc Polymer Science and Engineering, (2007) London Metropolitan University, UK.

Professor L. Tichagwa

BSc (Hons) Chemical and Polymer Technology London Southbank, UK, MSc Chemistry (Polymer Synthesis) University of Waterloo, Canada, PhD Polymer Science University of Stellenbosch, South Africa.

Dr N. Chaukura

BSc (Honours) Chemistry, (1994) University of Zimbabwe, MSc Analytical Chemistry (1998) University of Zimbabwe, MA Educational Studies, (2008), University of Sheffield, UK, PhD, Materials Science (2011), University of Manchester, UK.

Staff Development Fellows:

T. Ziyambi

BSc Chemical Technology Midlands State University
Current studies: M.Tech Delhi Technological University, India.

T. Muzata

B.Tech (Hons) Chemical and Process Systems Engineering, Harare Institute of Technology
Current studies: M. Tech, Delhi Technological University, India.



Professor L. Tichagwa



Mr I. Chikurunhe



Dr N. Chaukura

HIT JOINS OXFORD CLUB OF RECTORS



HIT Vice Chancellor Eng. Q.C. Kanhukamwe following proceedings at the Oxford Summit of Leaders 'Science and Education'.

The Harare Institute of Technology through its Vice Chancellor, Engineer Quinton Kanhukamwe was on 18 December 2013 admitted into the Oxford Club of Rectors (CRE), a prestigious grouping of university presidents and vice chancellors based in the UK.

In their communique to the Vice Chancellor, the Oxford based institution's Director General Professor John Netting, Club of Rectors of Europe Academic Council and its President Professor Wil Goodheer expressed their deep respect for HIT's consistent efforts towards developing national science and education system, which conforms to:

- Academic development: accessibility of education, level of research activity, participation in conferences,
- Quality of resources and infrastructure, conformity of specialties to the requirements of the market, transparency of work, security of students, competitiveness of graduates, and
- Reputation: level of presence in mass media and press appraisal, number of publications in scientific journals, effectiveness of university website, references in national/international search engines, logotype/brand awareness, promptness in response and service, corporate-style support, the ratio of positive and negative reviews, and membership in international associations.

The Admission ceremony was conducted during the Oxford Summit of Leaders 'Science and Education' – an annual forum of investors, academics, university presidents and rectors from around the world in the United Kingdom (UK)

The summit, focused on the following topics: new trends in higher education, the popularization of modern educational programmes and methods, the presentation of scientific advances and emerging innovative solutions, and the extending of international cooperation in scientific and educational spheres.

CRE is a non-governmental public organization dedicated to furthering communication and the exchange of ideas between rectors, deans and senior academics throughout the world. Throughout the year, members of the CRE gather at events facilitated by Europe Business Assembly (EBA) to share their experiences, and to discuss new ways of managing and progressing their institutions.

Benefits

- The opportunity to take part in the annual scientific 'Euro Education' conference at the Oxford Summit of Leaders, with the right to deliver a speech and make a presentation. HIT may also run its own conferences at the premises under the auspices of the CRE.
- The opportunity to deliver a public lecture to the students of Oxford University.
- The publication of scientific articles or information in the Socrates Almanac Science and Education: Oxford Look' (published under the auspices of CRE Oxford, UK.) It is an annual publication containing the most interesting scientific researches, advanced training techniques, and promising innovative solutions and financing schemes. The almanac also contains global university rankings, a list of innovative projects and programmes in education, current scientific and popular articles, biographical and journalistic essays about renowned scientists.
- The Socrates Almanac is presented and distributed within the framework of the conferences held in Oxford, London, Valletta, Vienna, Moscow, Kiev, and Montreux, among other cities. This publication is also presented to the library collections of parliaments and ministries, major universities, embassies, and trade missions of Europe Business Assembly (EBA) participating countries.
- The possibility of taking part in the international

scientific exchange and cooperation programmes of the CRE.

- A quota for internship training, including participation in the Oxford Education Centre training workshops, a scheme originated by the Club members and in accordance with the model of Oxford Business College.
- Participation in the online CRE Leaders Network, which aims at providing members of the Club and the wider European community with information on your university/company with an active link to your personal website; trainings, workshops, exhibitions and conferences held by the members of the Club;
- Opportunities for students to obtain their postgraduate education with the university members of the Club;
- Opportunities for lecturers to publish scientific works and guidelines in the scientific and methodical collections published by other members of the Club;
- Internship opportunities for international students;
- Access to summer university courses organized by members of the CRE, European universities and scientific associations;
- Access to other CRE university lecturers, who could be invited to deliver lectures in your own university.
- Assistance for CRE university members in improving the language skills of their students.
- Participation in the annual international competition 'Excellence and Innovation in Education' for Education:
 - Excellence and innovation
 - Best lecturer
 - Best scientist
 - Best student
 - Best innovative project
 - Best educational textbook
 - Best university library
 - Best academic website
 - Best university motto
 - Best campus
- The possibility for the university to be included in the CRE 'Best Regional University' rankings, where the results are posted on the official website of the CRE and in the annual edition of the Socrates Almanac.
- The right to nominate candidates for honorary titles and awards of the CRE: 'The Name in Science' Award and the 'Best University' Award, which bestows the Rector with the title 'Manager of the Year' (the nomination for top manager in the 'Educational sphere').
- The opportunity to post some information about your educational institution on the CRE webpage..www.summitofleaders.co.uk) with a link to your educational institution's official website.

HARARE INSTITUTE OF TECHNOLOGY STAFF JOIN ACM AND IEEE

In its broader policy of internationalisation, HIT staff members joined the Association of Computing Machinery (ACM) and Institute of Electrical and Electronic Engineers (IEEE). These associations provide some of the benchmarks HIT uses in developing curriculum which have earned HIT international recognition and awards.



The Association of Computing Machinery, (ACM) is a US-based body founded in 1947. ACM is widely recognized as the premier membership organization for computing professionals, delivering resources that advance computing as a science and a profession; enable professional development; and promote policies and research that benefit society.

ACM hosts the computing industry's leading Digital Library, and serves its global members and the computing profession with journals and magazines, conferences, workshops, electronic forums, and learning centre.

HIT members of staff and students automatically fall into the various membership grades listed as follows:

Membership grades

In addition to student and regular members, ACM has several advanced membership grades to recognize those with multiple years of membership and "demonstrated performance that sets them apart from their peers".

Fellows

The ACM Fellows Programme was established by Council of the Association for Computing Machinery in 1993 "to recognize and honour outstanding ACM members for their achievements in computer science and information technology and for their significant contributions to the mission of the ACM."

In 2006, the Association for Computing Machinery (ACM) began recognizing two additional membership grades, one which was called Distinguished Members. Distinguished Members (Distinguished Engineers, Distinguished Scientists, and Distinguished Educators) have at least 15 years of profession experience and 5 years of continuous ACM membership and who "have made a significant impact on the computing field".



IEEE serves as a major publisher of scientific journals and organizer of conferences, workshops, and symposia. It is also a leading standards development organization for the development of industrial standards (having developed over 900 active industry technical standards) in a broad range of disciplines, including electric power and energy, biomedical

technology and healthcare, information technology, information assurance, telecommunications, consumer electronics, transportation, aerospace, and nanotechnology. IEEE develops and participates in educational activities such as accreditation of electrical engineering programmes in institutes of higher learning.

IEEE's Constitution defines the purposes of the organization as "scientific and educational, directed toward the advancement of the theory and practice of Electrical, Electronics, Communications and Computer Engineering, as well as Computer Science, the allied branches of engineering and the related arts and sciences." The IEEE is the world's largest professional association dedicated to advancing technological innovation and excellence for the benefit of humanity. IEEE and its members inspire a global community through its highly cited publications, conferences, technology standards, and professional and educational activities.

IEEE has:

- more than 425,000 members in more than 160 countries, more than 50 percent of whom are from outside the United States;
- more than 1116,000 Student members;
- 333 Sections in 10 geographic regions worldwide;
- 2,195 Chapters that unite local members with similar technical interests;
- 2,354 student branches at colleges and universities;
- 800 student branch chapters of IEEE technical societies;



I'm still waiting for the day that I will actually use



$$\begin{aligned}
 17. \quad & \frac{\partial^2 u}{\partial x^2} + \frac{\partial^2 u}{\partial x \partial y} + \frac{\partial^2 u}{\partial y^2} = 0 \\
 19. \quad & \frac{\partial^2 u}{\partial x^2} + 6 \frac{\partial^2 u}{\partial x \partial y} + 9 \frac{\partial^2 u}{\partial y^2} = 0 \\
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 23. \quad & \frac{\partial^2 u}{\partial x^2} + 2 \frac{\partial^2 u}{\partial x \partial y} + \frac{\partial^2 u}{\partial y^2} + \frac{\partial u}{\partial x} - 6 \frac{\partial u}{\partial y} = 0 \\
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 18. \quad & 3 \frac{\partial^2 u}{\partial x^2} + 5 \frac{\partial^2 u}{\partial x \partial y} + \frac{\partial^2 u}{\partial y^2} = 0 \\
 20. \quad & \frac{\partial^2 u}{\partial x^2} - \frac{\partial^2 u}{\partial x \partial y} - 3 \frac{\partial^2 u}{\partial y^2} = 0 \\
 22. \quad & \frac{\partial^2 u}{\partial x \partial y} - \frac{\partial^2 u}{\partial y^2} + 2 \frac{\partial u}{\partial x} = 0 \\
 26. \quad & k \frac{\partial^2 u}{\partial x^2} = \frac{\partial u}{\partial t}, \quad k > 0
 \end{aligned}$$

in real life

CHIEF SECRETARY TO THE PRESIDENT & CABINET VISITS HIT, UNVEILS(GEEPP)

The Chief Secretary to the President and Cabinet launched the Government's Graduate Entrepreneurial and Employment Promotion Programme (GEEPP) at the Harare Institute of Technology in May 2013. The programme seeks to provide jobs and create equal economic opportunities using local resources and institutions.

An Inter-Ministerial Committee, chaired by the Office of the President and Cabinet will spearhead the programme. The Committee is comprised of the Ministries of Youth Development, Indigenisation and Empowerment; Agriculture, Mechanisation and Irrigation Development; Education, Sports, Art and Culture; Higher and Tertiary Education; Small and Medium Enterprises and Cooperative Development; Industry and Commerce; Mines and Mining Development and Women Affairs, Gender and Community Development.

Speaking at the event, Dr Sibanda described the launch as a milestone in the development of a programme whose conception was a direct response to concerns raised by President Mugabe over unprecedented levels of unemployment among the youth, especially graduates from local tertiary institutions.

GEEPP is practical in implementation, as it seeks to empower the people using local resources and institutions.

GEEPP will complement the Youth Development Fund and Community Share Ownership Trusts, as youths will access resources from the two programmes.

"This high-level initiative seeks to complement already existing youth development programmes by focusing attention on addressing graduate youth employment," said Dr Sibanda.

He added that the programme would be implemented through equipping unemployed graduates with appropriate entrepreneurial skills and providing on-the-job skills capacity building through attachments to selected public institutions and private sector companies. Beneficiaries would be provided with material and financial resources to develop entrepreneurial skills and start self-reliant projects within a revolving funding arrangement.

Speaking at the official launch of GEEPP, Permanent Secretary in the Ministry of Higher and Tertiary Education, Dr. Washington Mbizvo said that his team in the ministry believes that through this programme, they will be able to extend an olive branch to thousands of families who will be able to make their lives more comfortable.

The Harare Institute of Technology Acting Vice Chancellor, Engineer Quinton Kanhukamwe said they had embraced the programme and were committed to its success.

"We are very passionate and responsive to our ecosystem. HIT fully acknowledges the role that it should play in contributing to the development as well as the rapid industrialisation of this country.



The Chief Secretary to the President and Cabinet Dr. Misheck Sibanda (Third from left) and his delegation being shown some of the technological projects and products at HIT just before launching GEEPP.

The Institute has committed some of its resources to make this beginning a success and we are confident of supplying more of these kits that are being manufactured here to all the pioneering graduates in all the provinces that have been chosen to embark on this programme", he said.

Dr Sibanda highlighted that the programme would result in institutionalising the accelerated absorption of graduates from National Youth Vocational Training Centres into tertiary institutions such as polytechnics and agriculture training colleges.

This would be done through facilitating entry at appropriate levels as a way of raising the graduates' levels of competency and facilitating the placement of unemployed graduates in foreign friendly countries under government-to-government arrangements.

"It is also hoped that in the long-term, institutions of higher learning will be challenged and motivated to review their curricula in order to produce readily employable graduates, that is, if they have not already started doing so," Dr Sibanda said.

"These institutions should also prioritise conducting regular tracer studies to establish where their graduates are and what they are engaged in."

Dr Sibanda said GEEPP will cover all the country's provinces and districts when it becomes fully fledged. He said specific strategies and potentially viable projects had been identified by sector and beneficiaries were being selected and would be funded principally by lead line ministries.

Dr Sibanda said some of the identified areas of graduate entrepreneurial and employment promotion programmes were agro-based projects such as potato production, horticulture, livestock and cattle fattening and projects in appropriate provinces and ecological regions.

Farm engineering support services such as servicing and maintenance of farm machinery and equipment by unemployed graduates and value added agricultural businesses such as processing

potatoes, tomatoes, vegetables, fruits and mancinba as well as production of specialised agricultural equipment such as solar driers, hatcheries and peanut butter making machines would also be part of the programme.

The Institute's Technology Centre is already producing the Solar Driers and Hatcheries, which are part of this programme.

There would be targeted assistance of unemployed youth graduates from the School of Mines and other related specialised mining institutions through mining and value-addition syndications and the opportunity to use communal milling equipment at service centres.

Dr Sibanda said in spite of budgetary constraints that characterise the economy, the programme would go a long way in addressing the problem of unemployment among the youth graduates and inculcating a culture of self-reliance.

"This is the opportune time for youth graduates to be masters of their own destiny and take control of economic development to the high levels of growth that the Zimbabwean economy can attain," he said.

"With utmost commitment from all of us, there is no doubt that this programme will not only empower our unemployed youth graduates as the future leaders for this country, but will provide a viable vehicle for enhancing their employability, the creation of equal economic opportunities and contribute towards poverty eradication in a holistic and integrated manner."

Dr Sibanda invited key sectoral stakeholders to support the programme.

The Chief Secretary to the President and Cabinet Dr. Misheck Sibanda and his delegation also toured the HIT Technology Centre where they were shown the facilities, plant and machinery as well as some of the products being manufactured on campus.

HIT SCOOPS BEST EXHIBITOR'S TROPHY AT RIE-SET WEEK



The HIT Exhibition Team joined by the Vice Chancellor Eng. Q.C. Kanhukamwe holding the RIE-SET WEEK 2014 Best Exhibitors Trophy.

The Harare Institute of Technology won first prize for the best exhibition amongst all local universities at the Research and Intellectual Expo-Science, Engineering and Technology (RIE - SET WEEK 2014) Exhibition held at the University of Zimbabwe Grounds from 3 to 6 September.

The second prize was awarded to Africa University while the National University of Science and Technology (NUST) took third prize.

HIT was exhibiting a variety of innovative technologies ranging from a Solar Drier, Eggs Incubator/Hatchery, food and beverage products, Herbal medicines, perfumes, oils, Bottle Moulds, a Heavy Weight Lifting Robot, an electricity smart metre and rank marshaling system.

This year's edition of RIE-SET, running under the theme: "Engagement, Innovation and Diversity for National Transformation and Development", was the first joint edition of the Research and Intellectual Expo-Science, Engineering and Technology (RIE-SET) Week, - a four-day fair to showcase research activity and output in institutions of higher learning in Zimbabwe.

Director of Communications and International Relations at the Harare Institute of Technology, Tinashe Mutema revealed that the Institute had put up an exhibition which was in line with the overall theme of the event, and more importantly, an exhibition that would effectively communicate the HIT identity and mandate.

"This Expo provides us with the rare opportunity to showcase our research output and inform the public about our unique programmes and activities within our departments", he said. He added that projects such as the rank marshaling system and the electricity smart metre were timely innovations which addressed pertinent

consumer concerns.

Speaking at the Official Opening Ceremony, Vice President of the Republic of Zimbabwe, Honourable Joice Mujuru challenged researchers in higher and tertiary institutions to come up with research outputs which are relevant to national development.

In a speech read on her behalf Vice President Mujuru said modern higher and tertiary education institutions can no longer afford to be ivory towers and must be seen to be relevant in the national development discourse and agenda.

"At the end of the day, we are concerned with the practical purpose of their research", she said.

She added that research applications in the national development agenda should be guided by the Zim-Asset national economic blueprint. Dr Muchena concurred and said higher and tertiary education institutions have an important role to play in coming up with innovations that can help the industry retool, enhance the country's competitiveness and stimulate various forms of productivity.

During the event, Dr Muchena officially launched the first two volumes of a scholarly journal: the Journal of Zimbabwe Studies: Science, Technology and Health and the Journal of Zimbabwe Studies: Arts, Humanities and Education.

Professor Christopher Chetsanga, the Chairman of the RIE-SET Week Organising Committee said that school children, college students, the public and the private sector should take advantage of interacting with scientists at the Expo to understand the latest technologies and systems being developed in universities, colleges and independent research institutions.

The inaugural RIE Expo was held in 2011 and subsequent editions have established a reputation as a focal point for new ideas and new practices in research, learning and technological and socio-economic development.





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TWO HIT STAFF GET RECOGNITION AT SAZ AWARDS



Mr. Charles Kanyunga
Chairperson of the Electronic Engineering Department



Mr. Dinga Njini Moyo
Chairperson of the Food Processing Technology Department

Two Harare Institute of Technology staff members, Mr Dinga Njini Moyo and Mr Charles Kanyunga recently put the institution on the national map when they won awards at commemorations to mark World Standards Day held at the Rainbow Towers Hotel in Harare on 14 October.

The World Standards Day Commemorations were held under the theme, “Levelling the Playing Field.” The day honours the efforts of the thousands of experts who develop voluntary standards within standards development organizations.

The awards to Moyo and Kanyunga were in recognition of “Outstanding Contribution to SAZ National Standardization Work.”

Moyo, Chairperson of the Food Processing Technology Department at HIT serves as the Chairperson of the Technical Committee on Fruits and Vegetables at the Standards Association of Zimbabwe. He is also a member of the Milk and Milk Products Committee.

“I believe this award is recognition of leadership, teamwork and the contribution of my expertise to the Committee which ultimately contributes to the growth and development of regulatory standards in Zimbabwe in the food industry,” said Moyo.

“I have a keen interest in the development of standards because it benefits our students, as they are able to draw from my experiences; and translate and interpret the process and benefits of

standardisation from my wide experiences in the field,” said Moyo.

Commenting on the general standard adherence in Zimbabwe, Mr Moyo said Zimbabwe was doing very well in terms of the adherence to standards, both from a regional and global perspective. “We have very stringent mechanisms in ensuring standards are maintained and we have international benchmarks which guide our work,” he said.

Mr Moyo described the award as an honour.

“It is an honour, a great honour and it is recognition of my participation and role in standards development in Zimbabwe. It is part of my community service efforts and definitely worth the while,” he said. “It was also prestigious for two representatives from the same institution to win awards at this event. We definitely shone at these awards.”

Chairperson of the Electronic Engineering Department at HIT, Charles Kanyunga also received an award for his role in chairing the Technical Committee on Petroleum and Petroleum Products. He is also a Committee Member of Photovoltaic Systems and Installations.

“This award was in recognition of the work that I have put in the Committee for the past two years, and I feel motivated to work even harder. I believe I got this award because of my knowledge, expertise and personal traits,” he said. “As the chair of a technical committee, you have to be well versed in your subject, you need to read a lot of relevant literature and you need to be well versed in your

particular study area.”

“The role of technical committees is to develop and implement standards for products and services. This committee is made up of several stakeholders from the private, public sector and government. My contribution has largely been in the issues of providing leadership and expertise in facilitating, moderating, and ensuring the development of these standards and guidelines according to international best practice,” said Kanyunga.

“Overall, I am quite happy about the work of the Technical Committee because we are able to come up with standards, after taking into consideration the immense input from between 20-30 stakeholders with different views and perspectives. Our job is to ensure that all these views and perspectives are harmonised as we facilitate the production and adoption of a standard for a particular sector.”

Dean in the School of Industrial Sciences and Technology, Mr Perkins Muredzi said he was gratified and upbeat about the awards given to the two gentlemen.

“I heartily congratulate the two academics who excelled and received the awards. Harare Institute of Technology values the issue of standards in all the engineering and technology work that we do and for me, the rewards represent achievement, and to an extent, they show more about who we are as an institution though I must say “an achievement award is not the end goal; but rather, a symbolic confirmation of the School's potential future

HIT GRADUATE WINS FIRST PRIZE AT NATIONAL ENGINEERING STUDENTS AWARDS COMPETITION



Tatenda Nengiwa receiving her winning trophy from Minister of Tourism and Hospitality, Industry, Honourable Engineer Walter Mzembe who was the Guest of Honour at the National Engineering Students Awards competition.

Harare Institute of Technology's graduate, Tatenda Nengiwa from the Department of Chemical and Process Systems Engineering has won the First Prize at the National Engineering Students Competition Awards held at the University of Zimbabwe.

Tatenda beat four other contestants from the University of Zimbabwe, National University of Science and Technology and Chinhoyi University of Technology.

She scooped the Engineer Paul Kodzwa Master Floating Trophy, the Zimbabwe Institute of Engineers' Shield for the Best Female Prize; the Engineer Paul Kodzwa Miniature Trophy after her project on the ***Design of a Plant for Refining 1 Tonne Per Day using Lubricating Oil*** was voted the best by a panel of judges from the Zimbabwe Institute of Engineers.

The University of Zimbabwe came second while the National University of Science and Technology won the third prize.

The project involves the refining of 1 000 TPD of used lubricating oil taken from different automobiles garages such as Total Garage to produce 0.75 TPD refined oil with a plant utilization of 80%. The refining process involves dehydration, solvent extraction, solvent stripping, and thin film evaporation.

The lubricating oil processing conditions and behaviour are examined experimentally for each process step. The refined oil properties are compared to those of virgin and used oils. By agitated thin film evaporation, highly pure lubricant oil with almost zero ash content is obtained using solvent treated oil with an optimum solvent ratio of 4:1 and pressure of 4 mBar. A base oil of 98cP viscosity, -11°C pour point, 180°C flash point and specific gravity of 0.909 was experimentally produced. These values were in line with the specifications range of refined oils.

With the process parameters and optimum conditions available, a detailed design of major equipment for the designed process was done, which included: an agitated thin film evaporator and a plug flow reactor. The process control loops and HAZOP Analysis for the designed equipment together with the overall Pipe and Instrumentation Diagram were carried out as well as the Environmental Impact Assessment. This led to the choice of a plant site in Chitungwiza industrial area and plant layout to minimize environmental damage.

"It was so exciting, I could not believe that I made it," said Nengiwa. "There was very stiff competition as every participant was geared to win, but I think because of hard work and the innovation in our DNA at HIT and God made it possible," she said.

Tatenda said that her project was the most outstanding because of its innovation aspects and its fit with the ZIMASSET agenda through value addition and beneficiation of a waste resource into a valuable resource, as well as creating employment through the establishment of the plant.

"I am now looking for funds for the establishment of the plant and I am looking forward to securing funding from the Ministry of Youth, Indigenisation and Economic Empowerment and any other investor interested in funding the project," she said.

Tatenda also acknowledged the efforts made by the HIT Department of Chemical and Process Systems Engineering, her supervisor Engineer Mercy Manyuchi as well as her family and friends who were very helpful in the preparation of her project and the competitions.

Another HIT graduate Tafadzwa Gijima from the Department of Chemical Processes and Systems Engineering also presented his project on the ***Design of a 1500 tonnes/ Annum Plant for Producing Diesel from Waste (Polyethylene) Plastics*** and was awarded fifth prize.

Commenting on the award, the Chairperson of the HIT Department of Chemical and Process Systems Engineering Eng. Mercy Manyuchi said she was proud of her department's achievement and is looking forward for more support from the Institute and other stakeholders in preparing for the next competitions and funding the student's projects. "Our objective is to keep this trophy at HIT for the next 20 years," she said.

The Zimbabwe Institute of Engineers Final Year Engineering Students Pre-National Competition was held at the Harare Institute of Technology Campus on the 22nd of May 2014 and HIT final year engineering students presented six projects. The two winning projects from the Department of Chemical and Process Systems Engineering by Tatenda Nengiwa and Tafadzwa Gijima proceeded to the national final competitions.

The Minister of Tourism and Hospitality Industry, Honourable Engineer Walter Mzembe was the guest of Honour at the National Engineering Students Awards competition.

Engineers, representatives from mining, commercial and industrial corporate bodies, staff and students from various universities attended the event.

HIT MEGAFEST AWARDS



HIT Vice Chancellor Eng. Q.C. Kanhukamwe receiving the "MEGAFEST AWARD FOR EXCELLENCE FOR THE YEAR 2013",.

In recognition of its growing reputation as a hands-on and practical oriented degree awarding institution, the Harare Institute of Technology has received yet another Award for Excellence for the year 2013 at a Megafest National Business Awards ceremony held at Rainbow Towers in Harare. The award is an acknowledgement of the commendable research work being done by the University that will benefit the Zimbabwean industry and society.

The award was presented to the Institute's Vice Chancellor, Engineer Q.C. Kanhukamwe, who

was accompanied by the HIT Senior Management Team.

In their citation during the awards ceremony, Megafest Holdings noted that Harare Institute of Technology has been doing a number of researches that will transform the Zimbabwean industry and as such they deserve this recognition. Apart from that, the Institute's Technology Centre, a unit set to promote the development of manufacturing activities across academic departments in an inter and multidisciplinary approach, provides a platform for students to turn their capstone design

projects into prototypes collaborating with players in the Mining, Agriculture, Industry and Commercial sectors in solving some of their problems.

Commenting on the award, Eng. Kanhukamwe said he was glad that the community continues noticing and appreciating the important national role HIT is playing: "I am very glad that though we are a very young university we have managed to show and dared to be different. With limited resources we are charting a path that will have a significant national impact. This award is a recognition of the team spirit and efforts of all of us," he said

Megafest is a Bulawayo based company with a Business Council arm that confers awards to excelling corporate bodies and individuals from different sectors of the economy. The council calls for nominations, which are done through its network events biannually. An adjudication panel (apparently of adjudicators that don't know each other) then goes through the submissions to select the winner.

An extensive background research on the company and individuals is then conducted. The final and most important step in its selection process is to research and discern an owner/operator's reputation in the community, based on a factual track record.

Some of the organizations that were also awarded at the ceremony include, CBZ Bank Limited, MBCA Bank, Standard Chartered Bank, NetOne, Zimra, Liquid Telcoms, Avenues Clinic, Zimpapers, Fawcett Security, Mimosa and the Great Zimbabwe University.

HIT BRAND CONTINUES TO SHINE

As the year came to a close, the Harare Institute of Technology was once again recognised for its sterling work and contributions in the higher education sector.

On 10 December 2014, the Institute's Vice Chancellor, Engineer Quinton Kanhukamwe was presented with the **"Africa Leadership Award (Education) for Outstanding Contribution to Education in the Field of Science"**.

The awards ceremony was held in Mauritius and Dean in the School of Industrial Sciences and Technology, Mr Perkins Muredzi and the Director of Communications and International Relations, Mr Tinashe Mutema received the award on his behalf.

On 18 December 2014, the Institute was voted among Zimbabwe's **TOP 20 OUTSTANDING ORGANISATIONS FOR THE YEAR 2014** by Mega fest.

The awards night was held at the Rainbow Towers Hotel in Harare in recognition of the year's top performers in various sectors. The event was held under the theme: *"Fostering Economic Growth through Innovation."*

In his end of year message to Staff, Vice Chancellor Engineer Quinton Kanhukamwe said the awards were a recognition of the work of the Institute, and this would not have been possible without the collective effort of staff.

Over the past year, the Harare Institute of Technology has won various awards in the areas of leadership development, the advancement of science and technology and sound corporate governance.



Dean Padenga (far right) and Mr T. Mutema (second from left) receiving the 2014 Megafest Award.

HIT VICE CHANCELLOR RECEIVES INTERNATIONAL SOCRATES AWARD "THE NAME IN SCIENCE"



Vice Chancellor Engineer Kanhukamwe receiving his International Socrates award at the Summit of Leaders "Europe Business Assembly Achievements 2013"

The Harare Institute of Technology continues to gain international acclamation as its Vice Chancellor Engineer Quinton Kanhukamwe was recently awarded the International Socrates "THE NAME IN SCIENCE AWARD" in the Science sphere for personal contribution to intellectual development of today's society by the Europe Business Assembly.

Engineer Kanhukamwe received "THE NAME IN SCIENCE AWARD" at the Summit of Leaders "Europe Business Assembly (EBA) Achievements 2013" held at the British Institute of Directors under the aegis of the Europe Business School on the 10–12th of April 2013 in London.

The primary aims of this important event were to showcase dynamically developing companies and public institutions that are enrolled in the EBA rating, and also to present awards to outstanding managers, companies and public institutions.

In his acclamation to Engineer Kanhukamwe, the Europe Business Assembly Director General, John W.A. Netting expressed deep respect towards the

Harare Institute of Technology and its Vice Chancellor as well as his entire team, adding that his name is known outside Zimbabwe due to his participation in scientific, educational and social programmes and charity work combined with a successful managerial career.

"We must admit the successful work of your university in professional, scientific and educational directions as well as high of its alumni. These key factors, together with stainless reputation, dynamic growth and sustainable scientific achievements let the Socrates nomination committee to nominate your personality for the international Socrates Prize in the science sphere for maintaining traditional values of virtue, bravery and integrity", said the EBA Director General.

More than 120 participants from all over the world attended the Summit of Leaders "EBA Achievements 2013" conference, representing the spheres of construction and architecture, business administration, medicine, healthcare and education.

The International Socrates Awards were established

by the Europe Business Assembly (EBA Oxford, United Kingdom). The main objectives are to promote leaders and to strengthen international economic, scientific and cultural relations as well as to promoting international integration.

Personalities, politicians as well as public figures, businessmen, scientists and artists are presented with EBA International Awards for their achievements and contributions to today's society.

The summit of Leaders was held in a warm and friendly atmosphere, and gave new impetus to the strengthening of international cooperation in the fields of business, science and culture.

The International Socrates Awards are recorded in the world register of outstanding scientists of the 21st Century with awarding a medal of fame for contribution to the world science. The Award gives the right to use Europe Business Assembly trademark for a period of five years to market the Institute's business and programmes.

This award also recognises the Institute's uniqueness that has brought about a refreshing outlook in terms of its curriculum through the inculcation of technopreneurship and innovation. The award recognises individuals and institutions across Africa who have surpassed several levels of excellence and set an example of being a role model and exemplary leadership as well as the individuals behind these institutions who are building their institutions through leadership, innovation, academic and industry interface as well as a supreme objective of building future leaders.

The Harare Institute of Technology (HIT) Board Chairman Dr G. Mandishona, the entire Institute Board, Management, Staff and students congratulate Acting Vice Chancellor Engineer Quinton Kanhukamwe on being conferred these prestigious awards. Congratulations, Makorokoto, Amhlope!!!

To invent, you need a good imagination and a pile of junk.

- Thomas A. Edison



The Optimist, The Pessimist and The Engineer

The optimist says, "The glass is half full".

The pessimist says, "The glass is half empty".

The engineer says, "The glass is twice as big as it needs to be".

<http://www.engineering-humour.com/engineering-jokes-one-liners.htm/>

HIT WINS INTERNATIONAL AWARD FOR BUSINESS EXCELLENCE, HIGH QUALITY PERFORMANCE AND BEST CUSTOMER SATISFACTION



HIT Vice Chancellor Engineer Quinton Kanhukamwe and HIT Board Chairperson, Dr Gibson Mandishona receiving the Golden Trophy and the Award Certificate at the Otherways Awards Ceremony in Rome, Italy.

The Harare Institute of Technology has once again won an international award for business excellence and high quality performance as well as best customer satisfaction.

The award, given in Rome on June 24, was bestowed on HIT by the Association Otherways Management and Consulting based in Paris, France.

HIT won the 2013 Golden Award for Quality and Business Prestige trophy and a certificate for Total Quality Customer Satisfaction Aptitude Seal for High Quality Performance and Best Customer Satisfaction.

The Vice Chancellor, Eng Quinton Kanhukamwe who received the award at a colourful ceremony in Rome, Italy, attended by renowned business executives from all over the world dedicated it to the entire HIT family.

"I dedicate this award to the entire HIT staff, students and indeed our Institute Board which has been giving us policy direction" said Eng Kanhukamwe.

The award recognises companies that show exceptional performance all over the world. According to Association Otherways Management and Consulting, the criteria for the awards are based on reports carried out periodically by the association's marketing team based in Europe.

The selection criteria are also based on

information, polls and voting. In addition to the voting process, the association also gathers information through consultation with the media (Press, radio and television), consultancy companies, advertising agencies, trade fairs and exhibitions, chambers of commerce, embassies, polls, including the online macro poll, which is analysed by the selection committee.



The Otherways International Award-Acknowledgment programme is a Business-Oriented International Award which focuses on promoting economic relations and establishing new commercial and professional contacts by producing an ideal occasion in an International multi-sector forum. It allows the "Award – Symbol" to act as an indicator resembling high

quality standards, on one hand and a sustainable "Trust Factor" on the other, leading to an unyielding modernized scope of recognition in the global market.

Otherways Management & Consulting Association aims to put in hands the necessary information for enterprises worldwide in order to promote their Management System, Communication and Development. It focuses particularly on the following themes:

The Quality Management, the Durable Development, Management by Objectives and by Projects, the Advices and Control, the Planning, the Marketing, Information Systems and Staff Management. It has equally a goal to defend and co-ordinate the interests of its members, as well as to facilitate the relations and experience exchange.

In the past year, HIT has been the recipient of various awards that include the International Socrates Award "THE NAME IN SCIENCE AWARD" in the Science sphere for personal contribution to intellectual development of today's society by the Europe Business Assembly, Outstanding Leadership and Contribution to Education by the Africa Leadership Awards and the 2012 2nd Runner-up Public Service Manager of the year by the Zimbabwe Institute Of Management.

BEST ENGINEERING FACULTY & VISIONARY LEADERSHIP AWARD

The HIT brand continues to grow as the Institute and its Vice Chancellor received international acclaim and accolades as the 2013 came to a close.

BEST ENGINEERING FACULTY AWARD

The School of Engineering and Technology received an Award for the Best Faculty of Engineering from Asian Education Leadership Awards forum for the hands on engineering and technology curriculum that meets the 21st century industrial demands whilst promoting innovation and entrepreneurship.



VISIONARY LEADERSHIP AWARD

The same forum also awarded the Vice Chancellor a visionary leadership award for demonstrating excellence in academic leadership as the leader of an Institute that has surpassed common standards in engineering curriculum. The two awards were received in Dubai



European Award for Best Practices 2013

HIT also received an Award for Best Practices 2013, run by the European Society for Quality Research (ESQR), which recognizes the outstanding commitment, support and results in quality management strategies organisations. The award was given on 7 December 2013.

The European Awards for Best Practices programmes takes a comprehensive look at the hard work that leaders put into their companies and organizations; it recognizes the efforts of exceptional and talented employers and employees and provides motivation for continuous progress.

The European Society for Quality Research (ESQR). ESQR excels in promoting existing studies and carrying out cutting-edge researches on quality management to demonstrate the economic and social benefits of quality models to organizations. ESQR's research strategy is focused on the efficiency of quality approaches and inventing superior new tools and techniques for their implementation in a wide range of disciplines and sectors. It covers areas such as: customer service strategic product development and performance measurements

Award For Excellence in Academic Leadership

This was awarded to the Institute for demonstrating excellence in academic leadership by the World Confederation of Businesses in Dubai

HIT VICE CHANCELLOR HONOURED: CAREER & LEADERSHIP AWARD



HIT Vice Chancellor Eng Quinton Kanhukamwe, accompanied by his wife Rumbidzai Kanhukamwe being presented with a LASOF Career and Leadership Legacy Award by the Guest of Honour, Dr Hebert Murerwa.

HIT Vice Chancellor Eng. Q. C. Kanhukamwe was amongst several dignitaries in the business and academic sector honoured with a Career and Leadership Award from the Laying Solid Foundation Institute, (Lasof) at a dinner held in Harare in recognition for their sterling work towards positive contribution in building positive legacies in society.

Among those honoured were Zimbabwe Newspapers Chief Executive Mr Justin Mutasa, Great Zimbabwe University Vice Chancellor Professor Rungano Zvobgo, Women's University in Africa Vice Chancellor Dr Hope Sadza,

Zimbabwe Open University Vice Chancellor Dr Primrose Kurasha and Zimbabwe Revenue Authority Commissioner-General Gershom Pasi.

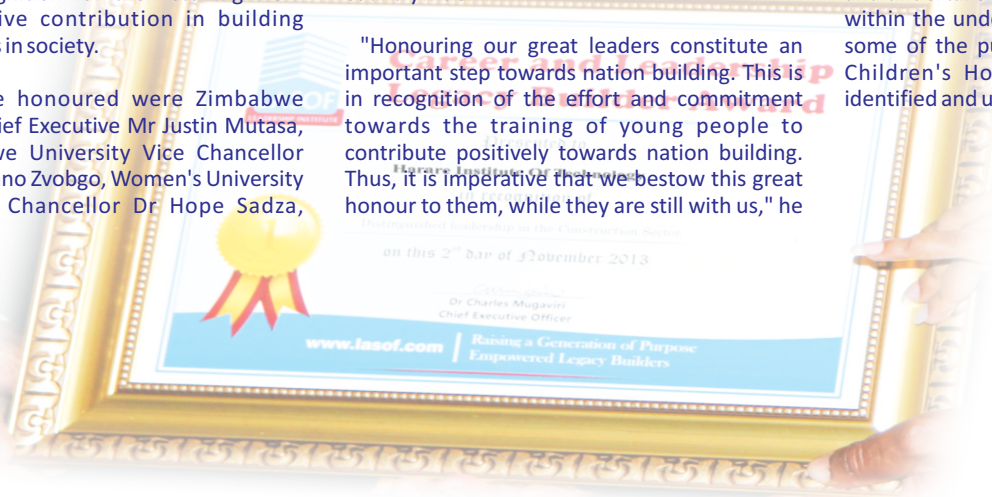
LASOF Chief Executive Dr Charles Mugaviri said they had to date recognised 7 000 leaders countrywide.

"Honouring our great leaders constitute an important step towards nation building. This is in recognition of the effort and commitment towards the training of young people to contribute positively towards nation building. Thus, it is imperative that we bestow this great honour to them, while they are still with us," he

said.

Guest of Honour, former Finance Minister Herbert Murerwa urged honorees to continue working towards raising the next generation.

"I'm humbled to see that Lasof has identified and undertaken to groom societal leaders from within the underprivileged. I take heart to see some of the pupils from the Matthew Rusike Children's Home whom the institute has identified and undertakes to groom," he said.



SEEDING LOCALLY, HARVESTING GLOBALLY!



The HIT Vice Chancellor Eng. Q.C Kanhukamwe receiving an award for outstanding contribution to education in Mauritius during the India-Africa Summit.

The Harare Institute of Technology won international recognition for outstanding leadership and contribution to education, science and technology.

Vice Chancellor Kanhukamwe received the **“Outstanding Leadership and Contribution to Education Award”** on behalf of the University in Mauritius in December 2012 in recognition of his leadership at HIT. This was a result of the Institute’s uniqueness that has brought about a refreshing outlook in terms of its curriculum through the inculcation of technopreneurship and innovation.

The award recognises individuals and institutions across Africa who have surpassed several levels of excellence and set an example of being a role model and exemplary leadership as well as the individuals behind these institutions who are building their institutions through leadership, innovation, academic and industry

interface and a supreme objective of building future leaders.

“It is a first in our country that your university has integrated all its programmes with the Technology Centre and from our appreciation and understanding, it is there to bring about the results from our students’ projects, giving the students the platform to translate theory into tangible things”, said Engineer Kanhukamwe.

The Vice Chancellor attributed this accolade to all the efforts of the entire HIT staff because they are the ones who make the HIT Brand to be appreciated globally. “We all have to be proud of what we are as HIT, and we should continue to live our national mandate”, he said.

“We really have to translate our research and development outcomes into real tangibles that can impact the national industrialisation agenda. It is the output that arises from our intellectual

discourse that is very important. HIT shall influence the direction of our national industrialisation, becoming a major player in technological development. We should all walk tall and proud as we are all partners in our Institute’s Destiny”, said Engineer Kanhukamwe.

Engineer Kanhukamwe added that in the year 2012, there were few challenges that were experienced but he was happy to see that the entire Institute’s staff worked very hard and the Institute registered meaningful success not only nationally but also internationally. “We managed to fulfill our obligations in terms of staff salaries but we would have wanted to put more resources on research and development activities. However, let me hasten to say that we managed to fund all requisitions for all the research projects submitted in 2012”, said the Vice Chancellor.



Harare
Institute of
Technology

success through innovation

International Conference

**Reigniting Technical Vocational Education (TVET)
& Human Capacity Development (HCD) in Africa**

6 - 7 May 2015

Rainbow Towers Hotel

Harare Institute of Technology is pleased to invite papers and proposals for workshop presentations for its first International Conference on Technical Vocational Education and Training (TVET) which will be held during 6-7 May 2015 at the Rainbow Towers Hotel (Harare International Conference Centre) in Zimbabwe. The theme of the conference is *"Reigniting TVET and Human Capacity Development in Africa"*

The objectives of the international conference are:

- To provide an opportunity for Technical Vocational Education and Training and other Human Capacity Development (HCD) practitioners and thought leaders to meet and share ideas towards developing regional TVET and HCD Policies.
- To provide an opportunity for educators, trainers, students and private sector contributors to exhibit and share their works in research, professional practices and learning experiences with TVET and HCD activities at a global platform
- To harness information on TVET from the SADC Region to inform the Global debate on TVET.
- Amalgamate the proceedings into an international publication.

Papers and presentations may address, Technical and Vocational issues including but not limited to the following areas:

1. Issues and challenges of TVET and HCD
2. Leadership development and governance of TVET and HCD
3. TVET training approaches and practices
4. Competence Based Education and Training
5. Curriculum Development in TVET and HCD
6. TVET and HCD in higher education
7. Best practices and approaches to the implementation of TVET and HCD internationally
8. Integration of TVET in the formal education system
9. Policy development and implementation for TVET and HCD
10. Evaluation of TVET and HCD programmes
11. Research in TVET and HCD
12. TVET and HCD as tools for addressing the Global recession
13. Philosophical Foundation for TVET and HCD
14. The relationship between general education and TVET
15. The influence of Mathematics, Science and Information Technology on TVET and HCD
16. Innovations in TVET and HCD

We invite papers on any of the above topics which address leadership, governance, deficiencies, concerns and challenges facing TVET. In addition to the conference proceedings, selected papers will be peer reviewed for publication in the on-line International Journal for Leadership in TVET and Workforce Development and the HIT Journal.

Articles selected for publication must follow the format of the American Publication Association (APA) Manual (Latest edition). The articles should be double spaced, inclusive of tables, figures and reference page(s) but not exceeding twenty five (25) pages. Articles should not be published or submitted for publication elsewhere. An abstract of not more than 200 words, single spaced is required at the beginning of the paper. Accepted articles may not necessarily appear in the next scheduled volume but will appear in a subsequent volume.

All articles should be sent electronically to any of the email addresses listed below. For each article submitted, the author's name address and the title of the article should appear on a separate page to ensure anonymity in the peer review process. The authors are responsible for crediting the sources from which the information was obtained for preparing the articles. Authors will be notified about the status of their paper(s) as soon as the peer review process is completed.

Articles for publications to be submitted no later than 31 January 2015 at:

The Secretariat
Technopreneurship Development Centre
Harare Institute of Technology
Ganges Road, Belvedere, Harare
Zimbabwe
Telephone: +263-4-741422/33
Email: tvetorganiser@hit.ac.zw

For further information, contact
tvetsecretariat@hit.ac.zw
tvetinfor@hit.ac.zw
tvetorganiser@hit.ac.zw

The Innovation & Technopreneurial University

www.hit.ac.zw

ACADEMIC DEVELOPS REVOLUTIONARY TECHNOLOGY FOR SMALL SCALE MINING SECTOR ... RECEIVES GLOBAL RECOGNITION FOR ENGINEERING IN INNOVATION



From Left, Engineer Mutenhabundo and Engineer Masike display the integrated crushing machine prototype

An academic in the Industrial and Manufacturing Engineering Department at the Harare Institute of Technology, Engineer Rujeko Masike, has developed a technology that will boost production in the small to medium scale mining sector in Africa that is a nominee for the Royal Academy of Engineering (UK) Africa Prize for Engineering Innovation. Her project is the invention of an "Integrated 'crushing' machine for sustainable gold mining."

The crushing machine is designed as a very portable machine, which scales down the jaw and roller machines. It is built from locally available materials and this makes it highly affordable. Its portability, size and affordability makes it very suitable to small-scale and medium-sized mining local miners.

Rujeko Masike is the only woman on the list of nominees and her portable crushing machine is an important innovation for the small to medium scale mining sector in Africa which has witnessed

phenomenal growth in the past decade.

Masike was selected from amongst twelve entrepreneurs that are affiliated to African Universities and Research Institutions. The award is Africa's biggest prize for engineering and innovation and covers disciplines such as mechanical, civil, computing, biomedical, oil and gas, mining and electronic engineering.

Together with other participants, Masike is undergoing a six month training and mentorship programme from engineering and business leaders, which is primarily focused on scaling up and commercialising their engineering projects; according to Chair of the Africa Prize judging panel, Malcolm Brinded, CBEFREng.

The Africa Prize for Engineering Innovation was established to highlight the importance of engineering as an enabler of improved quality of life and economic development, and celebrate innovation. The Prize is generously supported by the Shell Centenary Scholarship Fund, Consolidated Contractors Company, ConocoPhillips and the Mo Ibrahim Foundation.

The Harare Institute of Technology is Zimbabwe's sole higher learning Institute given the unique mandate to oversee the development, incubation, transfer and commercialisation of technology for rapid national industrialization.

Since its establishment in 2005, the Harare Institute of Technology brand continues to witness phenomenal growth through the carefully orchestrated execution of the HIT mandate. Based in the country's capital, Harare, the Institute offers highly responsive technology-oriented degree programmes to young men and women from all walks of life.

CAPSTONE DESIGN PROJECTS

The 2013-2014 academic year recorded a marked improvement in the number and quality of research based students' projects of HIT 200, HIT 300 and HIT 400. Prominent among the projects were the HIT 300 Design & Innovation projects which saw the realisation of the following projects which attained first class assessment marks:

Design of a 100 ton per day batch reactor in production of ammonium sulphate from gypsum.

This project served to solve one of the most serious waste management problems at ZIMPHOS concerning the huge stockpiles of byproduct gypsum which is difficult to dispose causing environmental problems to the surroundings, accompanied by long term expenditures for maintenance and monitoring the stockpiles

Design of fluidised bed reactor for treating sulphur dioxide and nitrogen dioxide in thermal power plant flue gas.

Having observed that thermal power stations in the country were releasing sulphur dioxide and nitrogen dioxide into the environment, causing pollution in their environs and noting that existing conventional methods of using dry scrubbing could not effectively remove the specified flue gases, the student was able to design a flue gas desulphurisation and denitrification system with a guaranteed performance criteria.

Production of a semi batch reactor for manufacture of biodegradable plastic (limonene carbonate) by co polymerizing limonene oxide (orange peel) with carbon dioxide.

Having realized the need for coming up with a method for producing bio-degradable plastic for use in making plastics cutlery and utensils used

in the food catering industry, the student was able to design a 75 tonne limonene carbonate (biodegradable plastic) producing, catalytic copolymerization heterogeneous semi batch reactor that copolymerizes limonene oxide extracted from orange peels with carbon dioxide.

Design & Manufacture of a solar powered lawn mower

The student was able to design a machine powered through a 1m x 0.8m solar panel, a frame made from mild steel and two blades connected to a motor of 75kW.

Temperature Regulation System for PDSN9660 Server

The student managed to apply the LM35 as a temperature sensor, LCD, a buzzer and a display, thus coming up with a device that brings minimum downtime to Internet users using

CAPSTONE DESIGN PROJECTS...

wireless internet which uses the Packet Data Serving Node (PDSN) technology. Instead of having the fans in the server room running 24/7 as what is currently prevailing, his device not only displays the temperature, but also introduces a smart fan that is activated when a certain temperature is exceeded and deactivated when the temperature drops below that level.

Automatic irrigation system

An automated irrigation system which detects and maintains the soil moisture at a level desired by the plants. A PIC 16F876A which was programmed in assembly language was the main controller used.

Designing a biodegradable food packaging paper using bagasse

The student was able to produce bio-degradable paper from bagasse and tests done on the paper showed that it was tough, durable and biodegradable, - indicating that it is an environmental friendly product.

Design of a process for extraction of Uapaca kirkiana (Mazhanje) Pulp

The student sought to establish a process to extract *Mazhanje* pulp for the alternative utilization of the readily available indigenous fruit – *Mazhanje*. The pulp has wide application in production of pulp, jam and flavourings.

Formulating gluten –free noodle from sorghum

The project is perceived to give more options to people who cannot digest gluten. In the project, Xanthan Gum was used as binder to offer properties that gluten gives.

Screening of Lactobacilli genera that is responsible for curd formation in naturally fermented milk in rural Zimbabwe

This project was done to screen lactobacilli genera from naturally fermented milk that produces some pleasant flavours, curd firmness and good acidity, serving as a basis in commercialization of traditionally fermented foods in Zimbabwe.

Aquaponics farming system

VAAp produces fish and edible vegetables through an aquaponics farming system. By creating a closed loop system where the only input is fish food in aquaponics, VAAp can produce fish whose waste is then used to fertilise the growth of plants, which in turn purify the water for fish to use again. Using this system, VAAp, is creates an opportunity to provide food products throughout the year. In addition, the food grown using this system is healthier and takes half the amount of time compared to food grown using conventional methods.

Production of water purifying enzymes

This system envisages the production of water

purifying enzymes (ligninolytic enzymes from indigenous oyster mushroom. The laboratory-based process involves the extraction, purification, immobilisation and packaging of enzymes for water purification. Currently, water purification in Zimbabwe is erratic, ineffective and is performed using expensive water purifying chemicals. Water purification using enzymes is eco-friendly and is achieved at a lower cost.

Potato washing and grading machine

The project involved the manufacturing of a potato washing and grading machine among other agro-processing machinery. The machine washes potatoes by use of rotating brushes and grades them into different sizes. The machinery is aimed at the small and medium scale farmers and is priced such that these farmers can afford it. Locally sourced materials will be used for the manufacture of the machine. Washing and grading potatoes will result in the potatoes fetching as much as 20% more on the market.

Female cancer biomonitor mobile application

Cervical cancer is a leading cancer (33%) among Zimbabwean females. More than 80% of Zimbabwean women lack awareness of the fact that they must be screened. Most cancers, including cervical cancer can be treated if people recognised the signs and sought treatment timeously.

The Biomonitor mobile application is developed mainly for female health. It works hand in hand with litmus lined sanitary towels and home pH test kit. A home pH test includes a piece of pH test paper and a colour chart for determining pH level. A pH reading is taken and entered into the Mobile Application as input among the datasets. If there is a deviation from the anticipated or anomalies are observed, the application then alerts the woman of this anomaly.

Energy demand prediction system

Energy is a significant driving force for economic development. With energy in short supply in Zimbabwe, energy efficiency planning needs to be improved. For example, in the event that ZESA purchases more electricity than required, money will be wasted because electricity cannot be stored or saved. ZESA will cut its losses by including the money lost in consumers' tariffs. If less, electricity is purchased ZESA will be forced to perform load shedding and this will inconvenience consumers. Hence, a mechanism was developed where a system can forecast energy demand in different areas.

The system uses artificial neural networks and back propagation as the learning algorithm of the neural network that allows ZESA, based on historical data to predict energy consumption. Measurement of the current energy consumption would serve as the primary input for the methods/models in order to predict future energy consumption. The outcome has attracted ZESA as it

seeks to develop energy policies as well as measures on energy conservation and alternative energy.

An android mobile based payment system which uses quick response (qr) codes

Currently, the only mobile payment system in Zimbabwe is the USSD system which has much vulnerability such as low reliability, lack of memory and susceptibility to hacking. A user-friendly and convenient mobile payment solution is a key ingredient in supporting mobile users in conducting secure and reliable payment transactions using mobile devices. Mobile users are looking mobile solutions to provide rich mobile experience and simple operations for mobile commerce.

The system provides a most cost efficient and secure alternative to current systems. Current systems use SMS and USSD to process payments. These are not cost effective methods of communication. There is also no current method of processing credit payment on a mobile phone without the need for a specialized piece of hardware. The system is broken up into three parts, a visual QR code, Qpay Android application and a payment server. The identification of mobile phone is enclosed in a QR code allowing the built in camera on a mobile phone to scan a card.

Web based market linkage system for smallholder farmers

Smallholder farmers face significant challenges in accessing profitable markets. The smallholder agricultural marketplace is dominated by intermediaries who buy the farmers produce at very low prices and then resale them at higher prices to retailers and consumers. Hence, smallholder farmers are not realising the full benefits of their farming activities as a result of poor market structures that do not address their specific needs.

A web based system has been developed, which provides market linkage system for its clients to access a selected group of potential buyers for their agricultural produce. The project provides an interface for smallholder farmers to market their products using mobile phones or portable devices through a web based application. The system registers farmers and their produce that is ready for the market on the website which links buyers of the produce and facilitates the pricing and eventual payment of the produce. Consequently, smallholder farmers will benefit from a ready market for their produce.

Primary and secondary education management information system

The system provides a web based platform for collection of raw education data from primary and secondary schools to their head offices using fixed or mobile platforms including basic mobile phones. This raw data is analysed at head office and statistics are then disseminated back to the schools.

PHARMACEUTICAL TECHNOLOGY DEPARTMENT COMMERCIALISATION PEDAL



The Harare Institute of Technology (HIT) has begun the commercial production of pharmaceutical drugs using indigenous plants in a development that is likely to substitute expensive imports.

The drugs are expected to hit the market in the first quarter of 2015 after the necessary approvals are obtained from the Medicines Control Authority of Zimbabwe (MCAZ).

An outlet that will retail the products will initially be opened at the Institute's premises.

HIT Pharmaceutical Technology Lecturer Mr Joey Chifamba, whose department is spearheading the project, said the institution will manufacture both prescription and over-the-counter products ranging from cosmetics, dermatological applications and other oral medicines.

He said the programme was inspired by the need to commercialise indigenous knowledge systems through formulating products from locally available and known medicinal plants.

"Our thrust is to equip students with hands-on knowledge on manufacturing and contribute to Zim Asset by value adding on what we already have in Zimbabwe. Most drugs are imported yet we can come up with alternatives," he said.

The project would be driven through partnerships with Industry and the promotion of sustainable development within communities.

Chifamba added that herbal remedies are gradually gaining a significant share on the international market as they are believed to be much safer than other synthetic chemicals.

HIT is also working on a programme to analyse all indigenous herbs in order to develop methods on how best they can be used and packed commercially.

Already, a project is underway where indigenous trees such as baobab, marula, aloe, trichilia (muchichiri) and kigelia African (mubve), which is believed to have anti-skin cancer components, are being used to make herbal soaps, ointments, sanitisers and capsules under the brand name Insti Herbs.

For the products to be approved for the retail market, the Institute is expected to meet World Health Organisation (WHO) standards that are enforced by MCAZ.

These standards include suitable premises and laboratories, registered pharmacists and approved methods and processes in the manufacture of such drugs.

The Zimbabwe pharmaceutical sector is believed to be second in terms of size and development to South Africa in the SADC region. It produces more than 65 percent of the essential drugs list of Zimbabwe.

According to a ZimTrade report that was released by the pharmaceuticals sector in 2012, the local industry contributed about 15 percent to the country's GDP supporting downstream and upstream industries.

The SundayMail/HIT







HIT FILES FIRST PATENT

The Harare Institute of Technology has successfully filed its first patent for the Preparation of Adansonia digitata flavoured Soy milk based yoghurt, with the African Regional Intellectual Property Organisation (ARIPO).

Mr Perkins Muredzi, Dean of the School of Industrial Sciences and Technology, invented the patent filed with application number AP/P/2014/007647 and accorded



Mr Perkins Muredzi,

22/05/14 (priority date) as its filing date.

The patent is now awaiting final processing and publication and will be protected in over 16 countries under the ARIPO protocol and the application has also designated Botswana and Namibia for exclusive protection.

The invention relates to a method of manufacture of Adansonia digitata flavoured Soy milk based yoghurt from soya beans or soybean meal.

According to the Code Alimentarius (FAO / WHO 1977), yoghurt is milk fermented with yoghurt culture i.e.: symbiotic cultures of Lactobacillus delbrueckii subsp. bulgaricus and Streptococcus thermophiles. Soy yoghurt is free of animal protein, is cholesterol and lactose free. Soy yogurt contains less fat than yogurt made with whole cow's milk. This amounts to about 2.7% (the same percentage as soy milk), versus 3.5% in dairy cows milk yogurt.



The raw material for producing soy yoghurt is Soy milk (also called soya milk, soymilk, soybean milk, or soy juice) and is sometimes referred to as soy drink/beverage - a stable emulsion of oil, water, and protein.

In soy yoghurt the main source of protein is not milk, but soy.

Soya beans are less expensive and more abundant than bovine milk, and do not contain cholesterol. Yoghurt is one of the fastest growing cultured dairy products in the Western world.

Soy yoghurt may command a market on the strength of being cholesterol free. Thus the economic incentive exists to develop soy yoghurt, in which soy beans can be used as a major ingredient.



 AFRICAN REGIONAL INTELLECTUAL PROPERTY ORGANIZATION (ARIPO)	
ARIPO Form No. 12 HARARE PROTOCOL NOTIFICATION OF FILING DATE (Rule 14(2); Instruction 36/33) To: CHANAKIRA M Harare Institute of Technology, Ganges Rd, Belvedere, Box BE 277, Harare, ZIMBABWE	For Official Use Received on: _____ Representative's File Reference: _____
I. IN THE MATTER OF IN Application for Grant of a Patent Application No. given by ARIPO Office: AP/P/2014/007647 Application No. given by receiving Office: _____	
II. TITLE Preparation of adansonia digitata flavoured soy milk based yoghurt	
III. APPLICANT(S) Name: HARARE INSTITUTE OF TECHNOLOGY Address: Harare Institute of Technology, Ganges Rd, Belvedere, Box BE 277, Harare, Zimbabwe	
IV. NOTIFICATION We hereby notify you, pursuant to Rule 14(2), that the above-identified application has been accorded 22/05/2014 (date) as its filing date. (This notification is being sent to * * *) Botswana Namibia	
V. SIGNATURE <div style="display: flex; justify-content: space-between;"> <div>  F.A. Dos Santos DIRECTOR GENERAL </div> <div> 16/06/2014 (Date) </div> </div>	
* A notification Form No. 12 shall be sent to the applicant's representative and to the industrial property office of each designated state. ** Please quote the application number given by the ARIPO Office in all subsequent communications concerning this application. *** Indicate all those to whom a notification Form No. 12 is being sent in connection with the above-identified application.	

Nutritional Value of Soy Yoghurt per 100g

Water	89g
Energy	59kcal
Energy	245kj
Protein	4.7g
Fat (Total Lipid)	2.7g
Fatty acids (saturated)	0.5g
Fatty acids (mono - unsaturated)	0.6g
Fatty acids (poly - unsaturated)	1.6g
Carbohydrates	3.2g
Fibre	0.2g
Sodium (Na)	0
Cholesterol	0

Health Benefits

Heart health – Soy yoghurt consumption may lead to decrease in cholesterol levels in the blood

Type 2 Diabetes – Soy yoghurt can help regulate enzymes that affect blood sugar levels for people with type 2 diabetes.

Gastrointestinal benefits-Soy yogurt contains healthy lactobacteria, which can help keep your colon and digestive system healthy and can lower your risk of colon cancer

Menopause Benefits–Soy yoghurt may help to delay or stop the onset of menopause

Bone Health–Soy yoghurt is naturally high in calcium, which can protect your bones and help prevent conditions such as osteoporosis

Lactose intolerance – Soy yoghurt does not contain lactose found in cow's milk and is therefore the best option for people with lactose intolerance

Non Meat Protein – Soy yoghurt contains plant based protein and is therefore the best option for people who do not take animal protein or meat

HIT ESTABLISHES ENVIRONMENTAL CONSULTANCY DIVISION

The Environmental Management, Renewable Energy and Climate Change Research Center (EMRECCRC) was established in 2012 as an autonomous center of the Harare Institute of Technology which focuses on research and teaching in sustainable development. The main focus is environment management, energy efficiency and climate change adaptation strategies. The center was established to provide technopreneurial solutions and adaption strategies to unpredictable climate change, environmental pollution and energy resource dwindling challenges facing Zimbabwe and the world at large

EMRECCRC is responsible for provision of five basic services:

- Research and Development;
- Education and Training;
- Environmental and Technological Consultancy
- Networking
- Community outreach

The principal role of the Center is to integrate departments in research, provision of expertise as well as academic service provision in all academic departments at HIT. The center is the hub of the institution in pioneering sustainable developmental projects. Apart from integrating departments, the center also works in partnership with government, organizations and other institutes of higher learning.

VISION

Designing an environmentally sustainable future.

MISSION

To cultivate commitment towards technopreneurial leadership while commercializing envirotechnology through sustainable development projects.

OUR VALUES

- Environmental integrity
- Socio-economic viability
- Sustainable innovation
- Professional leadership

The center is supported by four units which are:

Environmental Management Unit

The unit has specialists in waste management, environmental rehabilitation, safety and health management, pollution prevention, integrated water resources management, food security, chemical processes, biodiversity and land and air quality management.

Renewable Energy Unit

Research on renewable energy alternatives are done in this unit. Solar Energy projects site assessment will be done to ensure the best land uses. The unit has experts in renewable energy, design of solar power plants and biogas production.

Climate Change and Adaptation Unit

The unit has specialists in meteorology, climate change, climate variability, and coping and adaptation strategies.

HIT Enviro Consultancy

Specialist are drawn from the units to conduct consultancy work on a commercial scale in environmental impact assessment, job safety analysis, life cycle assessments, environmental rehabilitation works, trainings and workshops. This is a commercial unit which generates funds for the university and the Environmental Management, Renewable Energy and Climate Change Research Centre.



Department of Waste Management Engineering and Envirotechnology

The department is preparing to offer a four year Bachelor of Technology Honours degree in Waste Management Engineering and Envirotechnology (WMEE). Waste Management Engineering and Envirotechnology involves the application of basic sustainable scientific principles and processes to identify, assess and solve technical and operational environmental problems. As a multi-disciplinary study field, it also involves environmental-impact assessments, life-cycle analyses, environmental auditing, rehabilitation and pollution-prevention technology. The department plans to offer post graduate studies in the fields of energy efficiency, environmental management and climate change adaptation strategies. Studies at postgraduate master and doctorate levels equip the students with the knowledge and technological skills to solve corporate, national and international societal environmental problems.

EMRECCRC Team

ENRECCRC draws expertise from various HIT university centers and schools headed by Eng. Anthony Phiri – Environmental Assessment Practitioner, who is the (Principal Consultant).

Some of the experts who are part of the division are Mr Perkins Muredzi – Food and Food protection expert, Eng. Mercy Manyuchi – Chemical Processes, Mrs Thamary Sengudzwa – an accomplished Biologist and biotechnologist, and Mr Sunny M. Chikwanha – Environmentalist Technologist.

The team has done various assignments but not limited to the following:

- Organic waste to bio-fertilizer production

(Vermicomposting technology) - the project involves the bioconversion of organic and food waste into vermicomposting which is in solid and liquid form. Currently the small scale infrastructure is operational and there are plans for large scale operations.

- Disposal site EIA Reports review on behalf of Environmental Management Agency – as a specialist in the field of waste management HIT ENVIRO was appointed by EMA to assist in Landfill EIA Reports assessments (e.g. Mimosa Mine Disposals site). HIT ENVIRO was also instrumental in disposals site guide lines generation.
- Production of crude oil from coal (pilot project) - HIT ENVIRO is running a pilot scale crude oil production from coal.
- Waste separation at source projects – HIT ENVIRO also make tailor made waste separation strategies (e.g. Beitbridge landfill site).
- Landfill site (municipal and mine) design – HIT ENVIRO also does tailor made landfill site designs.
- Landfill site EIA Reports – HIT ENVIRO does landfill site prefeasibility, feasibility and environmental impact assessment reports (e.g. Victoria Falls Disposals site, Beitbridge Municipality Landfill site and ZTC landfill site).
- Coal Bed Methane Gas Exploration EIA's
- Housing Development EIA's.

Courses offered by EMRECCRC

EMRECCRC offers a range of course and some of the courses are to customer specifications

- Waste disposal construction technical training
- Disposal site audit course
- Disposal site personnel training
- Emergency plan and training services
- Waste management strategies development
- Environmental management assessment training
- HAZOP training
- SHE training
- Mine waste management (slime dams etc.)



INSTITUTE PLAYING PIVOTAL ROLE IN NATIONAL SECURITY AND DEFENCE



Brigadier General Augustine Chipwere, Zimbabwe Staff College Commandant on a tour of the Institute's Campus accompanied by Vice Chancellor Engineer Q.C Kanhukamwe and some Senior Management Staff.

The Harare Institute of Technology has been applauded for playing an important role in national security and defence by focusing on innovative national technology development, transfer and commercialization in order to create a solid national defence system against external technological threats.

Speaking after a recent tour of the Institute by the Zimbabwe Defence Forces Staff College students for the Joint Command and Staff Course Number 27, Zimbabwe Staff College Commandant, Brigadier General Augustine Chipwere said the issue of technology fits well into the whole mantra of national security and defence. He added that willingness to embrace evolving science-based technologies is an essential element of a successful military, hence the need to keep officers abreast of current research and innovations in technology development.

As part of efforts to broaden knowledge of army officers on the impact of science and technology towards economic development of a country, officers from the Zimbabwe Defence Forces and their allied counterparts from the SADC region toured HIT which is the country's lead institution specialising in technology development, transfer and commercialisation.

"We as the military are no longer concerned about military threats only, but there are also issues that come through the avenues of politics. You can have a country being destabilised either through the political or economic or even cultural avenue as you can have a cultural invasion into a country and you are destroyed," said Brigadier Chipwere.

"There is the aspect of technology which we also emphasise to students and this is where this institution comes in, because as a nation we have to plan on how we safeguard ourselves against technology that is coming from outside the country," he said.

Brigadier Chipwere said some of the technologies which were being brought into the country from outside had a serious and negative impact on national economic development. He added that the HIT was playing a crucial role through their innovative products. "...This innovation creates a defence mechanism because once we are innovative and we create our own technology, we then create a defence wall to support the nation and this is why other nations are as powerful as they are because they are developing their own technologies," he said.

"Therefore, we also need to do some reverse engineering, so that we benefit from what others have developed and we perfect it," he said.

Brigadier Chipwere also emphasized that modern day defence forces needed to take a multi-disciplinary approach so that they play their role and give appropriate advice to ensure the nation's security. "The avenues of threats to a nation have multiplied and it is really becoming a major problem as to how to effectively secure a country against all the threats coming from various angles. Today's interaction will help us to get exposed to research and innovation which is critical in the realisation of national programmes and development and we shall visit other sectors like industry, energy, power generation and mining.

The Vice Chancellor, Engineer Quinton Kanhukamwe said the Institute is ideal for showcasing what the country's tertiary institutions are capable of offering in terms of research and technology.

After a brief of how the institution operates, the officers were taken on a guided tour of various departments including the library, the hydraulics and pneumatics laboratory as well as the pharmaceutical laboratory among other departments.

55 officers drawn from SADC region are attending the Junior Command and Staff Course Number 27.



Zimbabwe Staff College Officers of the SADC Junior Command and Staff Course Number 27 being shown some of the technologies being developed at HIT.

HIT ENTERS INTO MOU WITH CHUNGNAM NATIONAL UNIVERSITY

The Harare Institute of Technology has entered into a Memorandum of Understanding with the Chungnam National University based in Daejeon, South Korea.

The agreement was entered into on 13 November 2014.

The MoU was bound by the mutual "recognition of common interests in developing bi-lateral relations,- convinced that cooperation between the two universities contributes to cultural enrichment, scientific progress and the consolidation of friendship between countries," read the preamble to the MoU.

The agreement will be focused on the areas of student and staff exchange, collaborative research and collaboration in instructional and cultural programmes and the development, incubation, transfer and commercialisation of technology.

The MoU will run for an initial period of five years.

Director of Communications and International Relations at the Harare Institute of Technology, Mr Tinashe Mutema, hailed the signing of the Memorandum of Understanding, stating that it was a positive step towards the consolidation of the HIT brand within the community of

universities across the globe.

"This MoU is an indication of our purposive drive to look for opportunities and expand our horizons to like-minded institutions. We will utilise such agreements to leverage our staff development, student and staff exchange and for the development, incubation, transfer and commercialisation of technology as spelt out in our mandate."

Chungnam National University is recognized as one of the most prestigious five national universities in Korea.



VIT UNIVERSITY OF INDIA DEEPENS COOPERATION WITH HIT



Dr. C Vijayakumar, the Director of International Relations at VIT University presenting a handbook and multimedia materials about his Institute to HIT Acting Vice Chancellor Eng. Q.C Kanhukamwe.

Following the recent enrolment of HIT staff development fellows at the VIT University of Vellore, the Indian institution has upped the tempo and is seeking to strengthen partnership and collaboration with HIT.

Dr C Vijayakumar, the Director of International Relations of VIT University visited HIT to further explore other ways of strengthening the existing international partnership between the two institutions, especially in areas of handling academic programmes and courses; organising seminars, workshops and conferences including the exchange of mutual experiences in teaching, research and industrial practice.

In a meeting with HIT Senior Management, the two parties agreed that joint programmes in Research and Development including exchange of

publications and reports are also set to begin between the two partners.

Teaching staff from VIT University will come to conduct lessons in interdisciplinary areas of specialisation of high relevance to both institutions for varying periods. "In the meantime, we can work out a twinning arrangement where students or staff from HIT can study for the first year here and the other year in India," said Dr C. Vijayakumar.

The partnership has already implemented immediate areas of cooperation, which are capacity building, and the establishment of collaborative programmes at M.Tech/Ph.D/D.Tech level, as there are a number of fellowships students from HIT studying in India.

Dr C. Vijayakumar also emphasized need to start the creation of Centres of Excellence in specialised fields of mutual interest in Science, Engineering,

Technology and Management.

"I am delighted VIT is in partnership with such an institution like HIT which is focusing on development of research, incubating, transferring, and commercialising technology," said Dr. C. Vijayakumar.

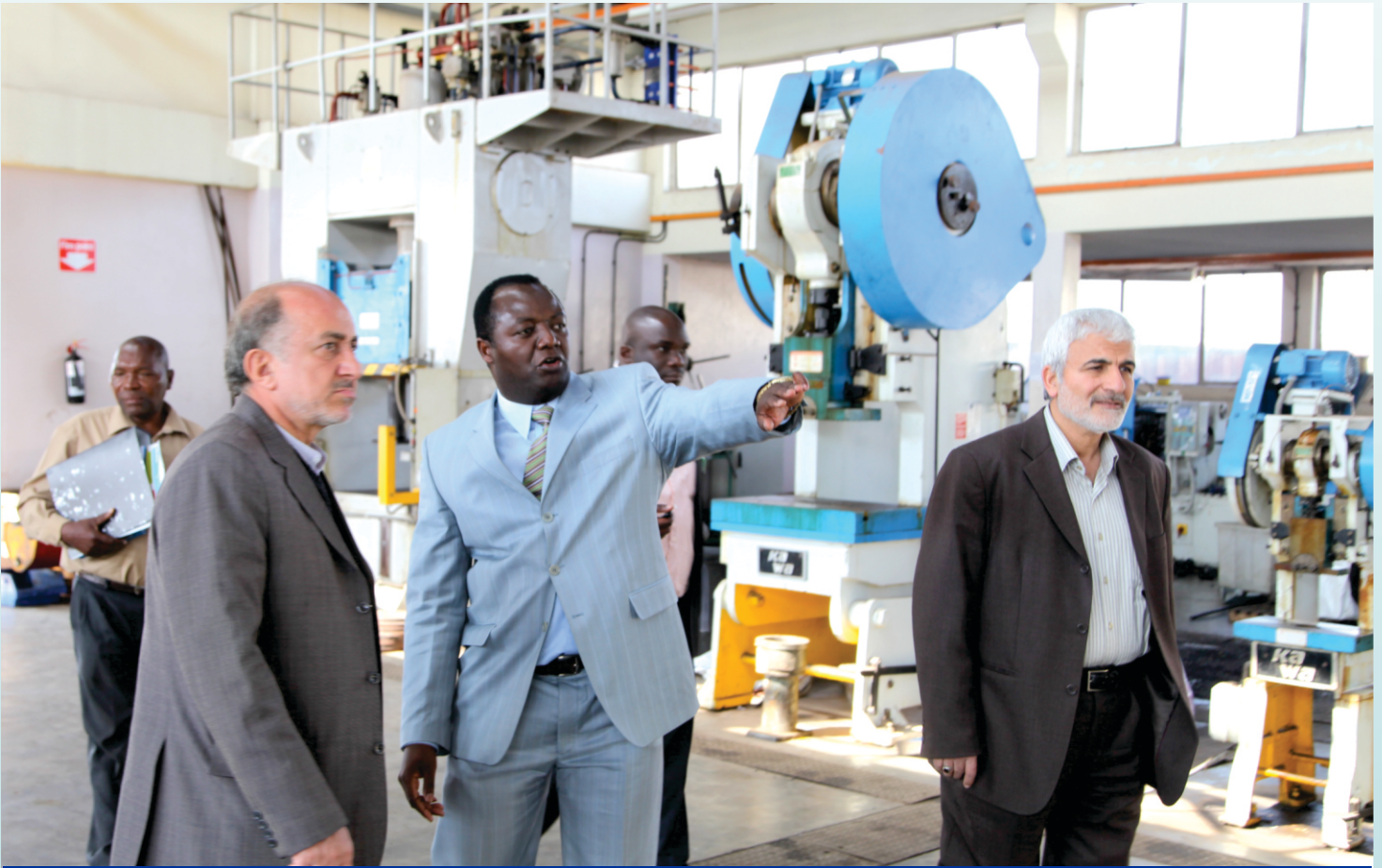
VIT University, commonly called Vellore Institute of Technology or VIT is an Indian University. It was established under Section 3 of the University Grants Commission (UGC) Act, 1956, and was founded in 1984 as a self-financing institution called the Vellore Engineering College. It was conferred University status in 2001. It has campuses both at Vellore and Chennai, Tamil Nadu, India. It has nine schools/faculties and is frequently ranked among the top technology research universities in India.

VIT has consolidated its disciplines into nine "Schools of Study." Research centres are part of the schools, to encourage collaboration amongst the research and coursework areas and to provide opportunity for coursework students to participate in research projects. The University organizes many industrial workshops like Automotive Engineering workshops which was organized by ParaMek Technologies in GraVitas Fest and similar other workshops.

Teaching at VIT is structured around nine schools;

- School of Computer Science & Engineering (SCSE)
- School of Bio Sciences & Technology (SBST)
- School of Information Technology & Engineering (SITE)
- School of Electrical Engineering (SELECT)
- School of Social Sciences & Languages (SSL)
- School of Advanced Sciences (SAS)
- School of Electronics Engineering (SENSE)
- School of Mechanical & Building Sciences (SMBS)
- VIT Business School (VITBS)

NEW IRANIAN AMBASSADOR PLEDGES TO STRENGTHEN COOPERATION



The new Iranian Ambassador to Zimbabwe, His Excellency, Mr Mohamad Aminejad on a tour of the institute's workshops on campus accompanied by Engineer Q.C Kanhukamwe.

The new Iranian Ambassador to Zimbabwe, His Excellency, Mr Mohamad Aminejad has pledged to strengthen cooperation between the Centre for Innovation and Technology Cooperation (CITC), Tehran, and the Harare Institute of Technology.

In his first meeting with the HIT Senior Management, Ambassador Aminejad expressed his eagerness to work very hard to boost the existing brotherly relations between his country and Zimbabwe.

Ambassador Aminejad also added that Iran is undergoing some technological transformations, citing the impetus to produce tangible results in biotechnology, nuclear energy and nanotechnologies.

"I am very happy that you targeted the Centre for Innovation and Technology Cooperation (CITC), Tehran, for cooperation in technology research, transfer and commercialisation," he said.

The Ambassador said he was also impressed with the HIT Strategic Plan – Vision 2015 which was presented by the Vice Chancellor, Engineer Quinton Kanhukamwe, highlighting the Institute's futuristic

ambitions.

Ambassador Aminejad pledged the Islamic Republic of Iran's assistance to the Zimbabwean government, its people and institutions; emphasising close ties and cooperation in order to get more results.

"I am here representing the Islamic Republic of Iran and the Centre for Innovation and Technology Cooperation (CITC), Tehran, and I pledge to help you achieve your goals in development, incubation, transfer and commercialisation of technology as well as the production of human capital for rapid industrialisation. I also hope that our cooperation is going to produce mutual benefits and achieve our goals. We are here to work and help each other and we will work together to find solutions to the problems affecting our people," he said.

The Iranian Ambassador reiterated his willingness to work very hard to strengthen the cooperation between Iran and Zimbabwe in all fields. "The Islamic Republic of Iran can share with you a lot of technologies in many aspects, and I am very optimistic that you are going to be successful in all your research and technological development projects as well as

technology transfer and commercialisation," he said.

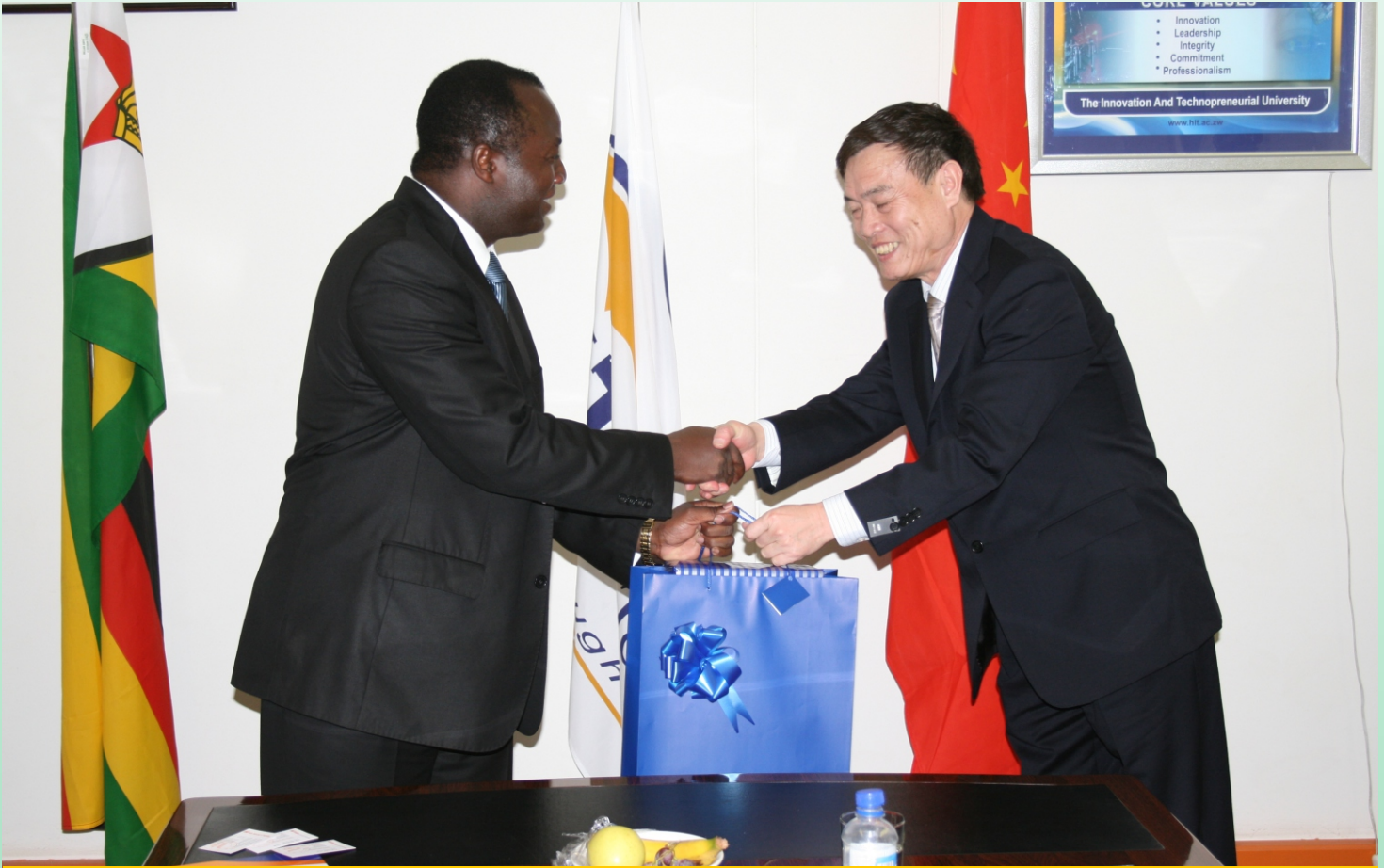
The Ambassador was also taken on a tour of the Institute campus, workshops and laboratories.

In his message to the Ambassador, Engineer Quinton Kanhukamwe commended the tremendous efforts made by the Embassy of the Islamic Republic of Iran in facilitating links between HIT and technology institutions in the Islamic Republic of Iran.

"HIT recognises the outstanding contribution of the Islamic Republic of Iran Ambassador to Zimbabwe, His Excellency, Dr Mohammad Pournajaf in facilitating cooperation between the Harare Institute of Technology and the Centre for Innovation and Technical Cooperation, Office of the Presidency of the Islamic Republic of Iran," said the Vice Chancellor.

Vice Chancellor Kanhukamwe also added that the Harare Institute of Technology greatly appreciates the cordial diplomatic relations between the Government of Zimbabwe and the Islamic Republic of Iran.

MORE INTERNATIONAL PARTNERS COURT HIT



Chancellor of Guiling University, Professor Zhang Peng exchanges a gift with HIT Vice Chancellor Engineer Q.C Kanhukamwe

In a show of confidence in the Harare Institute of Technology brand, international universities and organisations have signed cooperation agreements with the Institute.

A delegation from the Guiling University of Technology from the People's Republic of China recently visited HIT and signed a Memorandum of understanding that promotes and furthers scholarly exchanges through: staff, students, academic materials exchanges, joint research and holding of symposia.

The delegation was led by the Chancellor of the University, Professor. Zhang Peng, and was comprised of Professor Liu Zhansheng, Dean of the Bowen School, Professor Li Zhi, Dean of the College of Arts and Professor. Shi Zhuxin a Senior Administrator. During the signing ceremony, Professor Peng said they had approached HIT because of its curriculum that promotes innovation and technopreneurship and was expressed optimism that fruitful projects could be grown out of the agreement.

HIT also signed another Memorandum of Understanding with Eskisehir Osmangazi

University of Turkey that promotes co-operation in areas of teaching and research, exchange of staff, technology development, transfer, incubation and commercialisation, publications, teaching, supervision and examination of students.

Eskisehir Osmangazi University (ESOGU) is a state university that was initially founded as Medical & Engineering Faculties in 1970. Currently, ESOGU has 5 campuses including 7 faculties which offer 25 different undergraduate and 10 associate degree programs in 3 vocational schools. It has more than 14 000 students and its commitment to the highest standards in teaching and research has led it to become one of the leading universities in the Central Anatolian region of Turkey. HIT was particularly impressed by the university's science park.

Meanwhile, HIT's has also signed yet another milestone agreement with a London based pan African organisation iecoAfrica, which is a business network that provides members with access to qualitative evidence-based research and useful insights into CSR and social investment strategies in Africa, supports sustainable products and services from abroad access to different territories and

markets in Africa and acts as resource and research base for governments who aim to invest in the best clean energy solutions.

IecoAfrica approached and contacted HIT because it carries out research in one of their core areas, which are environment (climate, water sanitation, agriculture, energy and waste), natural capital, health and industry.

The partnership entails iecoAfrica will work closely with HIT staff to identify a group of present and/or past (alumni) top performing academics, who will represent at the highest level the Institute/ iecoAfrica partnership and facilitate research in some or all of the above research areas for the network. The allocated group of researchers will also be capable of conducting consultancy services on behalf of iecoAfrica, but also as representatives from the university.

The MoU will be implemented by HIT Enviro, a division of the Department of Chemical and Process Systems Engineering.

PRESIDENT MUGABE 277 GRADUATES



HIT Chancellor, President Mugabe caps a graduate during the HIT Fifth Graduation Ceremony.

President Mugabe capped 277 graduates at the fifth graduation ceremony of the Harare Institute of Technology that coincided with the installation of Engineer Quinton Kanhukamwe as the first Vice Chancellor.

This is a marked increase compared to last year's figure of 182. Among these were 5 first class degree passes.

The graduates obtained Bachelor of Technology (Honours) degrees after excelling in disciplines that include electronic engineering, industrial and manufacturing engineering, chemical process systems engineering, food processing technology, computer sciences, information, Electronic commerce, and financial engineering.

Of the 277 graduands; 202 were male and 75 female.

In his official address at the graduation ceremony, Vice Chancellor Eng. Quinton Kanhukamwe said the HIT Fifth graduation has marked important milestones as HIT continued to realise its mandate while making a lasting contribution to technology development and innovation in Zimbabwe.

Vice Chancellor Kanhukamwe also said the Institute has embraced the government's ZIMASSET economic blueprint for research on solutions to industry, business and the generality of Zimbabwean people. "The institution was structuring its programmes in line with the country's economic blueprint, ZIMASSET. We have embraced the ZIMASSET blueprint and have come up with tactical plans that are re-energising our focus on technology and engineering designs that seek to address directly the myriad of challenges that are being faced by

the ordinary people, industry, business and various service sectors of our economy. "HIT will soon embark on research projects that will help realise ZIMASSET objectives," he said.

"Our Strategic Plan *"Designing the Future"* boldly states our commitment to the generation of research and development outputs that are commercialisable and responsive to industry and national needs. It will guide us as we build a university with global connections, reach and impact, with a strong thrust in technical pedagogy. Your Excellency and Chancellor, we have embarked on a mission to give the nation the meaning and ability to build futures which for now, we cannot even imagine," said Vice Chancellor Kanhukamwe.

Eng. Kanhukamwe said that from the School of Industrial Sciences & Technology, the Department of Pharmaceutical Technology has made tremendous progress in developing herbs and herbal products and work is now at an advanced stage to commercialise the production of these medicinal products.

"On the other hand our Pharmaceutical Technology Department has demonstrated beyond any shadow of doubt that solutions to our problems are within us.

Through benefiting locally available indigenous medicinal plants such as mungoza, aloe, resurrection tree and baobab, they have produced a wide range of herbal products that can compete with any import on the market. We are now exploring funding mechanisms to establish production lines that promote sustainable exploitation of our resources," said Vice Chancellor Kanhukamwe.

"It gives me great pride Your Excellency and Chancellor to announce that HIT registered its

first patent this year titled Preparation of *adansonia digitata* flavoured soy milk based yoghurt with the African Regional Intellectual Property Organisation (ARIPO). We have also embarked on a massive preregistration process of all our patentable research prototypes. Our thrust at HIT is "Patent or Perish" as we move a gear up into the development, incubation, transfer and commercialization of technology," he said.

Vice Chancellor Eng. Kanhukamwe said the university had made several technological advances and had scooped local and international awards for its achievements. "During 2014, one of our own researchers, Engineer Rujeko Masike, was selected among twelve entrepreneurs that are affiliated to African Universities and Research Institutions as a recipient of the Royal Academy of Engineering (UK) Africa Prize for Engineering Innovation.

The Prize is Africa's biggest prize for engineering and innovation and covers disciplines such as mechanical, civil, computing, biomedical, oil and gas, mining and electronic engineering. As her award-winning project, Engineer Masike designed an integrated crushing machine for sustainable gold mining". The crushing machine is designed as a very portable machine, which scaled down the jaw and roller machines. It is built from locally available materials and this makes it highly affordable. Its portability, size and affordability makes it very suitable to small-scale and medium-sized mining local miners.

"It is our sincere hope that cadetship disbursements improve so we are capacitated to respond to transport deficiencies within the university as well as responding to other operational challenges".

In his congratulatory message to the graduands, Vice Chancellor Kanhukamwe encouraged them to allow innovation, leadership, integrity, commitment and professionalism to be the hallmark in all their endeavours. He urged the students to become the stimulants of technology development, incubation, transfer and commercialisation. The ultimate goal: Zimbabwe's rapid industrialisation.

"May I also take this opportunity to congratulate all graduands for your achievement. You have made it. Your perseverance, hard work, patience and dedication is indeed being recognised today. God bless you all and Makorokoto, Congratulations, Amhlope!" he said.

"In conclusion Your Excellency, at HIT we shall continue to live up to our mandate and contribute positively to the technological success of Zimbabwe and enable it to become a master of its own destiny," said Eng. Kanhukamwe.

EMBRACE HIT BRAND AND UNLEASH YOUR POTENTIAL- VICE CHANCELLOR CHALLENGES FIRST YEAR STUDENTS



HIT Vice Chancellor, Engineer Quinton Kanhukamwe addressing the first year students and taking some time to welcome the students soon after his address.

The Harare Institute of Technology Vice Chancellor, Engineer Quinton Kanhukamwe has challenged the Institute's first year students of the 2014/15 Academic Year to embrace the HIT brand and unleash their potential so that they become the technocrats that will bring the envisioned first world Zimbabwe into reality.

In his official annual address to freshmen, the Vice Chancellor urged the students to be patriotic and to embrace the Institute's core values; - innovation, leadership, integrity, commitment and professionalism, -in providing solutions and alternatives towards the goals of national development. "You are part of a whole national strategy – to bring transformation and rapid industrialization to Zimbabwe, and you will need to ask yourself fundamental questions on how to reach the envisioned goal and the hurdles which you will need to overcome. The Vice Chancellor added that the students should familiarize themselves with the Institute's identity and mandate to enable them to make a cogent contribution to that mandate.

The event was attended by HIT senior management, staff, Departmental Chairpersons and lecturers. The

Institute Choir put up a brilliant performance singing the inspirational HIT song, which speaks to the Institute's unique mandate and identity.

The Vice Chancellor urged the students to be excellent ambassadors of the HIT brand and live up to the expectation of the institution's mandate. "You must continue to raise the HIT brand high and you should make yourselves the most preferred graduates in the industry," he said.

Engineer Kanhukamwe inspired the students to excellence, saying the onus to succeed was on them. "As HIT, we know and believe it is up to us to be the masters of our destiny. We want to empower you to confront all our national challenges and attain excellence. Your coming here will polish you to be the jewel that will bring about this developed first world Zimbabwe that we all envision. You made the right choice," he said.

"Let's transform the nation by walking the talk. We must imbue ourselves with leadership qualities. Everyone of us has got some natural leadership traits and it's about decisive options that you take that will lead you to success.

At HIT, we want to promote and inculcate a

culture of innovation and technopreneurship.

Our curriculum is based on proficiency and centred on competence. We want to develop you to be providers, the developers, incubators with the ability to transfer and commercialise technology," said Engineer Kanhukamwe.

While welcoming the new students, the Vice Chancellor urged them to challenge themselves. "Do what you can, with what you have, wherever you are. All of us have potential. You are not doing more because no one has challenged you. Our lecturers and all our staff here are going to challenge you", he said.

The Vice Chancellor also encouraged the students to have healthy and wholesome relationships which were meaningful and productive.

Close to 500 students enrolled with the Harare Institute of Technology for their first year studies in the 2014/2015 academic year. The students are pursuing various programmes under the Institute's four Schools.



MICROSOFT THUMBS UP HIT



Part of the HIT students and staff who attended the public lecture addressed by the Corporate Vice President of Microsoft Corporation and President for Africa and the Middle East, Ali Faramawy. (Inset)

Corporate Vice President of Microsoft Corporation and President for Africa and the Middle East, Ali Faramawy has paid tribute to the innovative and creative power of the youth, and in particular, HIT students who represent the future of global technological transformation. The Harare Institute of Technology has the largest faculty of Information Sciences in sub-Saharan Africa, according to disciplines.

Speaking at a Public Lecture at the Harare Institute of Technology in September, Faramawy spoke on the power and potential of the youth; an asset to any nation if they are given the platform to excel. "Young people are a blessing to any nation, when they are given opportunities to build, collaborate and innovate," said Faramawy.

In Africa, the youth constitute 65% of the total population, according to the African Union Youth Division.

The Public Lecture, held under the topic – "The Microsoft Strategy" was attended by HIT students and staff and took on an interactive approach with students flooring fundamental questions on the empowerment of African developers, Microsoft versus Open Source Software, the need for software tailor-made for the African market as well as the integration of Microsoft programmes into higher education syllabi.

Faramawy urged young people in universities to do much more in taking up the opportunities presented by technology which has opened up the boundaries of the world, – especially access to the Internet. He added that the exciting thing about technology is that it opens up the boundaries of the world and is the ultimate expression of democracy.

The Microsoft Vice President told the HIT students that there was no limit to possibilities. He

said that it was ironical that Microsoft, which was deemed as the crème de la crème of American capitalism, had an Indian Chief Executive; representing the power of possibilities and the recognition of emerging economic powers, markets and growth opportunities.

Faramawy told the audience that Microsoft Corporation was established by Bill Gates at a tender age, and was founded on three principles: bold ideas, empowering everyone and providing devices and services. "Hard work, smart work and teamwork is what we all have to do. Give it a try, do your best, surround yourself with people who tell you the truth, continue learning, try different things, do your best and we are also going to do our best to get much closer to you as a company", said the Microsoft Vice President.

He also said that there was room to utilise some Microsoft curricula at HIT and other higher education institutions and that supervision or collaboration to enable students to get more resources and support through Microsoft's standard education programme in implementing the Microsoft Corporation's 4Africa strategy was possible.

Faramawy added that success would depend on a closer working relationship within the greater matrix. "I think I know what we have to do as a company, – we have to come much closer to young people in universities around Africa. We need to work on those enablement factors that we spoke about – skills, innovation and affordable accessibility factors. We need to have the ability and the skill to support a lot of people at the same time. We must support the communities and let people support each other, that's community power", he said

"PERSONAL TRANSFORMATION KEY TO ORGANISATIONAL SUCCESS"



Zwelibanzi Ndlovu
Business Strategist

Business Strategist Zwelibanzi Ndlovu held a motivational address at the Harare Institute of Technology on the role of personal transformation as a key to organisational success. The lecture was organised by the Dean of the School of Business and Management Sciences, Mr Willard Gwarimbo and was attended by Senior staff members, academics and students.

Ndlovu bemoaned the lack of an Afro-centric perspective in the field of personal transformation; – an imperative to organisational success. He also stressed the need for individuals to possess guiding principles and values which informed their everyday life and decisions, – as the individual was the most important variable in leading organisational transformation.

HIT EXHIBITS AT THE AIR ZIMBABWE EMPLOYEE WELFARE DAY

The Communications and International Relations Office co-ordinated HIT's participation at the Air Zimbabwe Employee Welfare Fair which was held from 26-27 September 2014 at the Air Zimbabwe Headquarters. Air Zimbabwe Acting Public Relations Manager, Shingai Taruvinga said the fair was held to provide staff with an opportunity to reflect on their health, education, financial status and to also provide staff with exposure to a wide range of services and products, which would inform their decisions.

Director of Communications and International Relations, Tinashe Mutema said the attendance at the event was held to continuously market the Institute and to empower the Air Zimbabwe employees on prospects for career advancement and personal development.

The airline staff were conscientised on HIT's mandate and clients visiting the stand affirmed HIT's lead position in terms of innovation and creativity.



Ms Mashonganyika, Technical Instructor at HIT explains career advancement opportunities to Air Zimbabwe trainees.

DEPARTMENT OF POLYMER TECHNOLOGY AND ENGINEERING HOST NAMACO SECTOR MEETING



Mr. Benson H. Ngwenya, Chairman of the Plastic and Rubber Institute and a Sales Executive for NEMCHEM during the Committee meeting held at HIT.

The Department of Polymer Technology and Engineering at HIT successfully hosted the National Manpower Advisory Council (NAMACO) Sector Committee on Plastics, Rubber, Chemicals and Fertilizers in September at the HIT campus. The meeting was held under the theme, "Value Addition – The Vehicle to Zimbabwe's Economic Prosperity."

The key presentation was made by Mr. Benson H. Ngwenya, a Committee member, Chairman of the Plastic and Rubber Institute and a Sales Executive for NEMCHEM. The presentation was aimed at creating a culture of innovation, value addition and entrepreneurial mind-set

that dovetails in the ZIMASSET blue print. It was acknowledged that value addition is important in any nation's economic prosperity.

The expected outcomes of the presentation was the ability of the students to identify value addition projects for laboratory and commercial benefits; to incorporate value addition to course projects and dissertations and to appreciate and articulate the public, private partnerships concept. Ngwenya highlighted that personal attributes such as resourcefulness, commitment, tenacity and knowledge were important towards realising value addition, as well critical skills in project

planning and management, communication, financial appreciation among others. Factors affecting value addition were also cited in providing the audience with a grounded appreciation to the overall process of value addition.

The event was attended by students and staff from the departments of Polymer Technology and Engineering, Chemical and Process Systems Engineering and Biotechnology.

NATIONAL DEFENCE COLLEGE TRANSFORMATION COMMITTEE VISIT IN PICTURES...11/07/2014



SCHOOL HOSTS PUBLIC LECTURE, DISCUSSES TOPICAL ISSUES ON GLOBALIZATION, MARKET & INTERNATIONAL TRADE



Professor Peter Ndege
Moi University of Kenya

The Harare Institute of Technology's School of Business and Management Sciences in collaboration with the British Council, successfully hosted a Public Lecture addressed by Professor Peter Ndege of Moi University of Kenya.

The topic of the Public Lecture was "Globalisation, Transformation of the Market and Africa's International Trade in the 21st Century". The event was held on Campus and at the Meikles Hotel to accommodate the entire HIT stakeholders, industry and commerce.

Professor Ndege's presentation touched on how globalisation has affected the market and Africa's trade by evaluating Africa's position in international commodity trade.

He argued that globalisation's promises have largely not been achieved in Africa and this situation is likely to persist for a long time to come. This was because the institutions that are concerned with globalisation, trade and the economic fortunes of the world such as the World Trade Organisation (WTO), International Monetary Fund, World Bank and Multinational Corporations are simply engaged in the furtherance of their own economic interests.

"And indeed in the interests of the world's richest and powerful persons, these institutions ensure that the global market and trade operate in an asymmetrical bias based on unequal exchange, meaning African countries cannot trade on an

equal footing. Economic relationships in the concept of globalisation are asymmetrical," he argued.

Professor Ndege also observed that of late many African countries have now turned their focus on trading with the East, increasing their trade with China and this has only heralded 'mixed fortunes'.

Professor Ndege argued that Globalisation is not just a process, but a unique project by developed countries to intensify the integration of the developing countries into a more exploitative capitalist international system that has led to Africa's marginalisation. This has become manifest in the decline of western investment volumes of trade, high levels of economic aid and technological assistance to the region, capital flights and brain drain from the continent.

Nevertheless, Professor Ndege also argues that globalization presents many opportunities for Africa because the continent can now relate easily with the rest of the world more than ever before. "Africa should take full advantage of the opportunities offered by globalisation and minimize the threats," he said.

He added that African countries also need to put more emphasis on agriculture as well as developing a competitive manufacturing sector that is export-oriented. "Regional and continental cooperation must be strengthened, as is happening in the Americas, Caribbean, Europe, and Asia.

Africa should also broaden its membership to the World Bank because currently Africa is not represented and must also improve the deliberations and legal capacities of African representatives there," he said.

Professor Ndege added that there must be a limit on the influence of multinational corporations' involvement in World Trade Organisation matters as well as emphasising the principles of equity, fairness and justice in the practices of the WTO. "The World Trade Organisation must respect trade related aspects of Intellectual Property (IP) as a lot of IPs are being stolen in the very eyes of the WTO," he noted.

"African countries need to convince multinational corporations to take a more proactive approach on issues of social and economic responsibility and use part of the profits they earn to help African countries improve their environments and building schools and hospitals," he said.

"There is also need to engage with the WB and IMF to make them more responsive to Africa's concerns by allowing African countries to engage in greater participation within the WB and the IMF. African countries should also occupy permanent positions in these institutions," he said.

Professor Ndege emphasized that the African business community had an important role to play in creating a better Africa by transforming the situation through engaging in a transition from 'market driven' operations. Instead of being influenced by the market, the businesses must themselves influence the market to 'market driving' by being more visionary, educating customers about their products, using the vast marketing channels to reach out to their clients, creating broad attachment and loyalty with the existing products and being sensitive to customers through value added products.

"We cannot quit globalization it's a reality and we should not create an economic isolation as we should take the advantages and opportunities' availed to us by globalization. Africa should also influence the trends and nature of our relations with the rest of the world. Let's not sit back and let the Western world, IMF, WTO, G8, EU and, WB determine the nature and terms of our relations. We should not be subsidiaries but also establish the terms of our economic relations with them.

"In short, we are involved in a more concerted war, that is my idea of the second Chimurenga. It is an economic Chimurenga!" he concluded.



ZIMCHE VISITS HIT



ZIMCHE Chief Executive Officer Professor Emmanuel Ngara and the ZIMCHE delegation during the visit.

A delegation from the Zimbabwe Higher Education Council (ZIMCHE) led by its Chief Executive Officer, Professor Emmanuel Ngara recently visited HIT for an annual assessment of quality and standards exercise.

The ZIMCHE delegation was following up on the successful implementation of their recommendations on their previous visit last year. Some of the issues comprise of infrastructural developments, teaching and learning facilities, degree programmes on offer and their curriculum.

The Harare Institute of Technology Vice Chancellor, Engineer Quinton Kanhukamwe gave a detailed report on the progress the university has made in implementing the ZIMCHE recommendations in order to improve the

quality of tertiary education being offered by HIT. The Vice Chancellor's report touched on infrastructural development, research development, funding, curriculum development, staff development, business development initiatives, collaborations and partnerships with other international acclaimed universities and organisations, students' affairs and services. He also explained problems being faced by the Institute and the possible solutions to these problems.

The delegation was taken on a tour of the Institute's campus, visiting various departments and assessing progress as per their previous recommendations.

In his speech after the tour, the ZIMCHE Chief Executive Officer, Prof Ngara expressed his gratitude to

the HIT Management for its openness in their presentation; adding that the responses to his questions were very substantive; showing that the ZIMCHE recommendations were taken seriously and evidence was on the ground as highlighted.

"Our team is going to compile a report of its findings that will be submitted to yourselves for comments before it is forwarded to the ZIMCHE Higher Education Quality Assurance Committee which is going to compile the final recommendations," said Prof. Ngara.



ZAMBIAN PARLIAMENTARY DELEGATION VISIT HIT



Honourable Dr. Christopher Kalila, leading the Zambian Parliamentary Portfolio Committee on Education, Science and Technology delegation visiting HIT.

The Zambian Parliamentary Portfolio Committee on Education, Science and Technology visited the Harare Institute of Technology on a fact-finding mission.

Honourable Dr Christopher Kalila, the Chairperson of the Zambian Parliamentary Portfolio Committee on Education, Science and Technology who was leading the delegation said that their visit was a study tour to find out how Zimbabwe is dealing with the issues of education, science and technology. The Committee is responsible for giving oversight on higher education, science and technology to the Zambian government.

"We are very interested to learn how Zimbabwe have been expanding its higher education sector in terms of the infrastructure development, resource mobilization and how its institutions of higher education, science and technology are being funded, and of course any challenges that these

local institutions like HIT are facing," said Hon. Dr Christopher Kalila.

He added that they are very much aware of the important role that education plays and matters of education, science and technology are very critical particularly in Africa where there is a need to develop our continent. "We are very happy to visit an institution like HIT that is solely dedicated to the development of science education and technology," he said.

The Harare Institute of Technology Vice Chancellor, Engineer Quinton Kanhukamwe presented a brief history on the establishment of HIT as a fully-fledged state university, its mandate and what it offers to students and the local industry, its vision, funding as well as its stakeholders and partners.

In his closing remarks Hon. Dr Christopher Kalila said his delegation was very impressed with the HIT model, as it appears to be very practical and focused

towards boosting technology development, and the concomitant technology and skills that are required to create employment and rapid national industrialisation. "We can only commend you and the government of Zimbabwe as well as your management and staff. We have definitely learnt so many things here and we will also present all our findings to our colleagues back in Zambia," he said.

Hon. Dr Kalila added that we can only solve African problems ourselves and therefore we should work out our own models in education, science and technology, as trying other foreign models usually does not work. "Judging by what you are doing here at HIT, it shows that we Africans can solve our own problems," he said.

He urged the Zimbabwean Government, through the Ministry of Higher and Tertiary Education as well as HIT to remain focused.



The Zambian Parliamentary Portfolio Committee on Education, Science and Technology delegation posing for a picture with the HIT Senior Management staff and some government officials.

HIT LAUNCHES WOMEN IN ENGINEERING OPEN DAY



The coordinators of the Women In Engineering Day, Engineer Mercy Manyuchi - Acting Chairperson of the HIT Department of Chemical Process Systems Engineering and Engineer Rujeko Masike of the Department of Industrial and Manufacturing Engineering.

In view of the Harare Institute of Technology's destiny, which is to be the stimulant of scholarship in innovation, the HIT Department of Industrial and Manufacturing Engineering officially launched the Women in Engineering Open Day.

High school students from in and around Harare attended the event that had key speakers from women representatives in the local engineering sector as well as some leadership, entrepreneurship and motivational speakers.

For much of its history, the field of science, engineering and technology has been male dominated yet women make up half of the global workforce. Hence some questions remain unanswered. Is engineering a no-go field for women and why are there few women engineers?

HIT Acting Vice Chancellor Engineer Quinton Kanhukamwe expressed hope that the WOMEN IN ENGINEERING OPEN DAY would open eyes to the unlimited possibilities and potential that one can have in life after choosing a career in engineering.

"I strongly believe that at the end of this day, all of you will have a clear idea of what your future will hold for you and that of generations to come through your hands," said the Vice Chancellor.

He went further to encourage the young people in attendance to take up careers in the field of engineering in order to propel rapid national industrialisation and development as women are the key drivers since they make up more than half of the global population and workforce.

"This Women in Engineering Open Day is a platform that showcases innovative engineering practices and also affords networking with colleagues in business, academia, industry and government. Women engineers can add value to the engineering field in many ways while also effectively working in their traditional roles at their homes," he said.

The Women in Engineering Open Day programme emphasizes the technical aspects of engineering and social opportunities, which exist in engineering as well as taking such opportunities to

become successful managers and entrepreneurs.

Other keynote speakers were Mrs L. Chitemere, an engineer, entrepreneur and lecturer at the University of Zimbabwe whose presentation touched on the promotion of strategic leadership for women in engineering.

Ms L. Masiyazi, a Lecturer in the HIT Department of Industrial and Manufacturing Engineering, gave an in-depth post graduation analysis of female engineering graduates looking at the main obstacles they face as young girls from school up to college and university, the trends that are there regarding the uptake of science, engineering and technology subjects by female students, and how our local female engineering graduates are faring in the engineering industry.

Mr W. Banda from the Zimbabwe Institute of Engineers gave a presentation on the professional development of graduate engineers leading to the professional level, while the Chief Executive Officer of Veritec, Engineer T. Jaya also gave a presentation on the role of the professional engineer in nurturing the next generation.

Mr J. Mungoshi, an entrepreneur, and successful motivational speaker presented on the role of coaching and mentoring in the progressive transformation of the engineering sector with a woman centred approach.

In a speech read on her behalf, the Minister of Women Affairs, Gender and Community Development, Dr Olivia Muchena applauded the Harare Institute of Technology for organizing the Women in Engineering Open Day saying her ministry is greatly honoured to be part of this future changing event. "This is a great day that is aimed not only at consolidating and celebrating achievements made by our country, the Zimbabwe Institute of Engineers, and HIT, but where the future is paved by providing an opportunity for prospective engineers amongst our children to learn that the field of engineering is not an exclusive domain for men", she said.

She also added that what makes this day very important is that we are speaking of engineering and entrepreneurship of our minds to use engineering to

provide solutions to our society's problems and as we do so we are getting into business. This is a call to tertiary institutions to design their curriculum to be in synch with the realities on the ground.

"This day is also a day where our children learn that engineering provides vast opportunities for one to control his/her own destiny and contribute meaningful to the nation", she said.

"I particularly draw joy and comfort in realizing that our tertiary institutions are taking the lead in government's gender mainstreaming efforts on coming up with this day where the girl child gets a chance to know more about the opportunities in the engineering field", said the Minister.

In conclusion, she urged for the increase in the visibility of female engineers, the creation of more networking opportunities, and the removal of gender-specific language for the innovation and promotion of uniquely Zimbabwean female engineers in particular.

Hope Masike, a renowned Mbira musician provided entertainment to the participants.



TREE PLANTING WEEK



In commemoration of the Tree Planting Week, the HIT Vice Chancellor Eng. Q.C Kanhukamwe planted a Red Mahogany tree on Campus. Other Members of staff also planted a variety of indigenous trees around the Institute Campus.

Tree Planting Week is commemorated during the first week of December in Zimbabwe and the Ministry of Environment is spearheading tree planting around the nation. The Ministry aims to plant about 5 million trees at the end of the year 2012.



BOARD HOLDS CORPORATE GOVERNANCE WORKSHOP



Dr Utete-Masango
Board Vice Chairperson

The Institute Board held a two day Corporate Governance Workshop at Pandari Lodges in Harare.

The workshop, was facilitated by Zimbabwe Leadership Forum's lead advocates of corporate governance Canaan Dube and Tsitsi Mutasa.

HIT senior management also attended the meeting.

Board Vice Chairperson Dr Utete-Masango was optimistic that the workshop would equip their team with requisite tools to continue with the impeccable track record of remaining alive to the Institute's mandate as enshrined in the HIT Act. She also gave a thumbs-up to management for coming up with various schools and centres.

In his opening remarks the Vice Chancellor Eng. Q.C Kanhukamwe commended the Board for finding some time off their busy schedules to participate in the programme.

"We will all agree that Corporate Governance issues have taken centre stage in the media; confirming that Governance issues, contrary to popular belief are not such an easy concept to understand", he said.

Eng. Kanhukamwe said he was cognisant of the vast and varied experiences and invaluable wealth of ideas in the leadership team, adding that the workshop was an attempt to enhance the efficiency and effectiveness of the HIT governance system.

"It is our hope that this Workshop will deepen and sharpen our understanding of the nuances of University Governance, Management and Leadership," said Eng. Kanhukamwe.



Institute Board members and HIT senior Management staff attending the corporate governance workshop.

HIT HOSTS TECHNOPRENEURSHIP, LEADERSHIP AND CORPORATE GOVERNANCE SEMINAR



HIT BOOST ENACTUS Team during the Leadership and Corporate Governance Seminar.

The Technopreneurship Development Centre, in collaboration with the HIT BOOST ENACTUS Team held a Leadership and Corporate Governance Seminar in preparation for the Ethics and Transparency competition for all national universities which was held before year end.

Speaking at the event, Chairman of the Technopreneurship Development Centre, Mr Mudamburi emphasized the importance of leadership and corporate governance in business management systems and practices, saying leadership cannot be taught in isolation. “Leadership and corporate governance are complimentary items. If a company does not adhere to good corporate governance practices, there are no two ways about it. Capital will flow elsewhere,” he said

Mr Mudamburi attributed the collapse of most companies in Zimbabwe to poor corporate governance practices. “Corporate governance applies primarily in the running of big companies as well as small companies,” he said.

Ms Tsitsi Mutasa from the Zimbabwe Leadership Forum delivered a presentation on

the role of corporate governance and leadership in building sustainable business enterprises. “Corporate governance involves the need to put up systems and processes to ensure that businesses are run well,” she said.

She defined corporate governance as the mechanism through which boards and directors of companies are able to direct, monitor and supervise the conduct and operations of a business or any organization's management. “Corporate governance ensures that the organisation has appropriate levels of authority, accountability, leadership, stewardship and control,” she said.

Ms Mutasa also added that there is need to have sound leadership that has integrity, accountability, responsibility, and transparency in order to attain good corporate governance in any organisation.

She encouraged students to be guided by good corporate governance practices in their endeavors to create and design the new world.

The BOOST Fellowship, a non-profit making organisation was founded in 2000 through the support of people from Zimbabwe, the UK and

the USA after observing that while most schools and universities across the world generally provide a wide-ranging academic education, many students find themselves inadequately prepared for the opportunities and the challenges of the world beyond the classroom.

BOOST Fellowship often holds ethics and transparency competitions for university students, in partnership with Delta Corporation before the end of each running under the theme “Ethics and Corporate Governance”. The initiative is aimed at promoting ethical behavior in individuals and organisations.



Ms Tsitsi Mutasa
Zimbabwe Leadership Forum

RESEARCH BOARD HOSTS RESEARCH WRITING SEMINAR



Mr Perkins Muredzi, Dean of the School of Industrial Sciences and Technology and Professor Mazuru Gundidza, Chairman of the Department of Pharmaceutical Technology deliver their presentations at the seminar

The Harare Institute of Technology's School of Business and Management Sciences in collaboration with the British Council and the African Centre For Real and Land Economics (ACRELE) hosted a Research Writing Seminar under the theme – “Advancing Cutting Edge Research for World Class Professionals.”

The two-day Seminar, which was held on Campus and at the Meikles Hotel, was attended by local researchers from tertiary institutions, government and non-governmental organisations.

In his keynote address, Dean in the School of Industrial Sciences and Technology at the Harare Institute of Technology, Mr. Perkins Muredzi said he hoped that through the Seminar, academics and other stakeholders would be empowered with the knowledge and skill required in producing a Doctoral research thesis and articles for publication.

“It can be appreciated that the attainment of Doctoral degrees has become a priority at the institutional level for all academic staff, and the time for action has arrived. At the same time, the publication of research articles is critical to the institution and nation in general, because it

is from research that nation-building ideas are generated, incubated and developed into real products which will assist the country to rapidly industrialize and eradicate poverty,” he said

Dr Muredzi expressed his appreciation to the sponsors for their generous support for the event; namely the British Council and ACRELE.

“As HIT, we are mandated to commercialise technology through professionalism rooted in integrity. Having said that, words cannot sufficiently emphasize the importance of this Research Seminar, for it is from research and development that we can achieve this bold vision”, said Dr. Muredzi.

The objectives of the Research Writing Seminar are to impact best practices in the following areas: developing a doctoral research thesis, doctoral thesis proposal writing, chapter development within the research, research in a dynamic world where technology is occupying the centre stage, new techniques in data mining and analysis, overcoming possible challenges and pitfalls in research, as well as research and Publications.

Mr. P. Muredzi, Dean of the School of Industrial Sciences and Technology and Chairman of the

HIT Research Board was also part of the facilitators and his presentations were on Publication of research articles and Data mining trends and research frontiers.

Professor Mazuru Gundidza, Chairman of the Department of Pharmaceutical Technology at the Harare Institute of Technology was the keynote facilitator and he gave a comprehensive presentation on the research process.

The Research Writing Seminar provided a productive discussion amongst participants.



Part of the audience that attended the seminar.



VICE CHANCELLOR'S CLARION CALL FOR COLLECTIVE ACTION



HIT Vice Chancellor Engineer Q.C Kanhukamwe addressing members of staff during the End of Year Luncheon held on Campus.

The Harare Institute of Technology Vice Chancellor, Engineer Quinton Kanhukamwe has urged the Institute staff to uphold unity of purpose and collective action in the discharge of the HIT mandate.

Engineer Kanhukamwe was speaking at the End of Year Luncheon held on Thursday 11 December 2014 at the Institute campus.

Basing his end of year message on scripture, (Proverbs 15 verse 22, Proverbs 20 verse 18 and 1 Corinthians 14 verse 40) the Vice Chancellor said wise counsel and constructive consultations should be the hallmark of all encounters at HIT.

"Without counsel, purposes are disappointed... our destiny will be disappointed and we need to

thrive on continuous engagement. If we fail, the failure is ours- collectively," he said.

The Vice Chancellor said the Institute was chosen to drive Zimbabwe's technological revolution.

"Not everyone was chosen to drive Zimbabwe's technological revolution. But we have been chosen... In our respective schools, departments and we can make that impact if we are determined to and decency and the moral fibre in our actions will get us to that destiny," he said.

The Vice Chancellor added that HIT had remained true to its mandate; not giving in to the temptation of offering programmes which are not within the institutional mandate.

The Vice Chancellor expressed his appreciation to staff for their engagements in various income generation activities such as embarking on short courses, consultancies, project proposals and interaction with various donors which had raised the profile of the Institute.

Engineer Kanhukamwe also pointed to various developments within the year which included the refurbishment of buildings on campus and improvements on landscaping. The Commissioning of the rewinding equipment was also set for the end of the year, adding that the development of the transformers would be a point for income generation for the Institute.

The Vice Chancellor revealed that the year had the acceptance of HIT master plan by the Institute Board.

He congratulated staffs who had made several accomplishments over the past year in their various fields of expertise and he urged all members of staff to continue to break new ground.

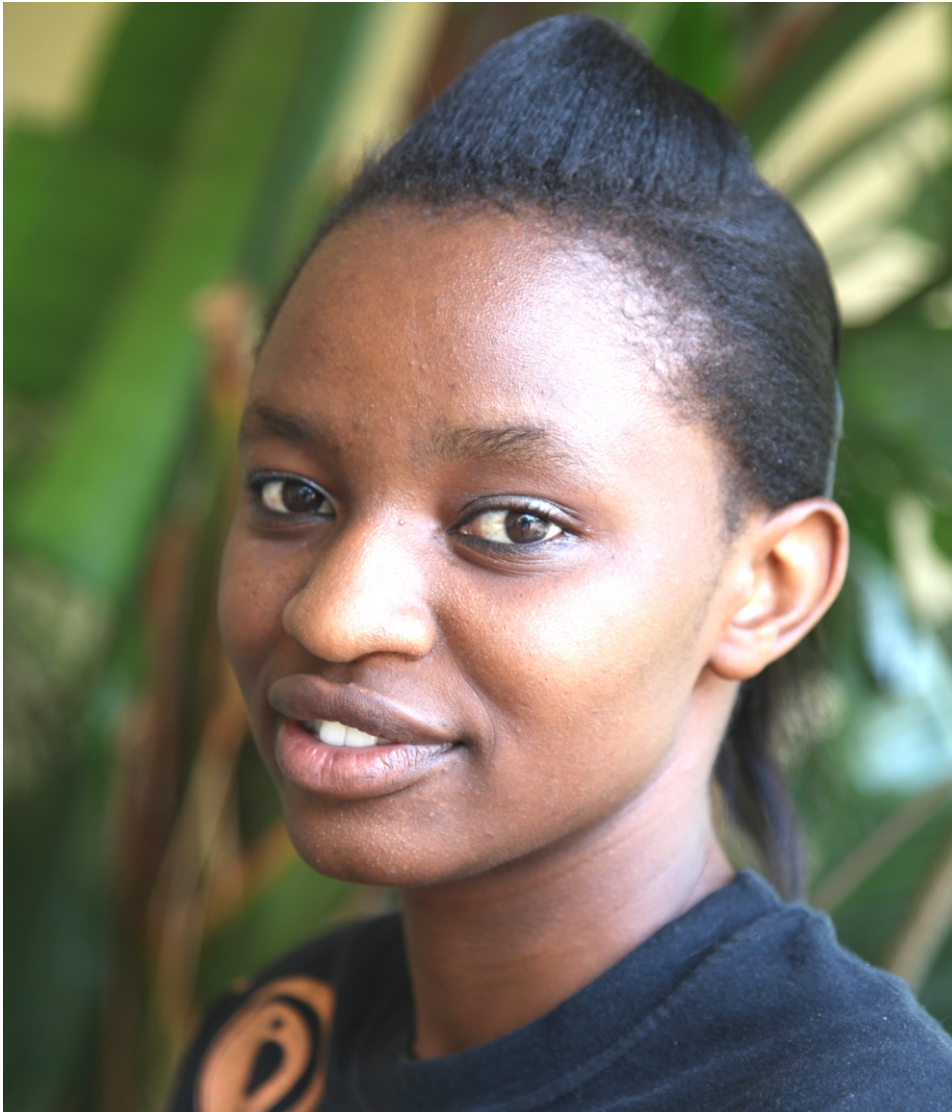
The Vice Chancellor also noted that 2014 marked his installation as the first Vice Chancellor of the Harare Institute of Technology. He mentioned that at his inauguration, he revealed the HIT ten point plan which was derived from the Institute strategic plan to guide the Institute's operations.

In her Vote of Thanks, the University Registrar, Mrs Mary Samupindi expressed gratitude to the Vice Chancellor for his leadership and to the staff for their work, dedication and commitment to the Institute throughout the year, and for their support for the Vice Chancellor's Installation ceremony. She urged staff to embrace the new year with focus and optimism



Mrs. M. Samupindi
HIT Registrar

GWATI MAKES HISTORY - BECOMES FIRST FEMALE SRC PRESIDENT



Tinotenda Gwati
President of the HIT Student Representative Council

In 2014, Tinotenda Gwati became the first female President of the Student Representative Council at the Harare Institute of Technology since its establishment in 2005. Gwati believes she ascended to this new role through believing in herself and 'daring to be different.' In an interview, Gwati believes that the sky is the limit and hopes to become an advocate for female leadership. The Communications and International Relations Department (CIR) speaks to Gwati...

CIR: Tinotenda, congratulations on your success and your recent elevation to the Presidency of the SRC.

TG: Thank you

CIR: How do you feel about winning?

TG: Great! At times I can't believe it. I faced some resistance from the male students and had one of my posters written "no to petticoat government."

CIR: Tell us about yourself

TG: I was born in Harare on 29 January 1992, and I attended Rydings Primary School in Karoi between 1998 and 2001, and then I proceeded to Lochinvar Primary School in Harare from 2001-2004. I then

attended St David's Bonda High School in Nyanga for my high school education. I am the first born in a family of three.

CIR: ...and at HIT?

TG: I am pursuing a B. Tech Honours degree in Electronic Engineering and I am now in my final year.

CIR: When did you decide to get into student leadership?

TG: I have always been a leader, either elected or self-appointed! In first year, I was the Class Representative and later on, I was appointed to the Hostel Committee.

CIR: And when did you decide to join the Student Representative Council?

TG: Well I love challenges. HIT is largely male dominated and girls usually feel they can't make it in student politics. But while I was in part three, I decided to go for the post of SRC President. My friend Arthur Bhocho motivated me and urged me to try. He thought I had good chances of winning.

CIR: What happened next?

TG: I decided to go for it. I was also the first female SRC presidential candidate. We came up with our manifesto which was aimed at enhancing the student quality of life at HIT. We looked into issues of improving student welfare by addressing such challenges as financial hardships being faced by the students, canteen services, student accommodation, medical services and facilities for students.

CIR: What are the guiding principles of your leadership?

TG: We believe in the full representation of the students. We are for the students, by the students and our aim is to accomplish pro-student goals. We also believe in consultation and empowerment of the student body; standing up for what's right. We also hope to bridge the gap between the student population and the administration.

CIR: What are the values that guide you?

TG: My parents taught me the values of hard work, integrity, honesty and these will guide my leadership.

CIR: What have you learnt from your time at HIT?

TG: HIT has taught me that size doesn't matter. You can still stand out and be the best if you set your mind to it. HIT has also taught me to tolerate people from all backgrounds, and all walks of life, because you have to work with the people.

CIR: Your pledge to your constituency...

TG: Creating a better HIT for all students.

CIR: Your pillar of support?

TG: My mom and my friends have been very supportive of my goals. #girls have been on my side! My dad on the other hand believes I am too ambitious!

CIR: What are your future goals?

TG: I want to pursue graduate studies in Bio medical engineering and Governance and Leadership. I want to be a Diplomat.

CIR: How do you rate HIT?

TG: The best Uni in Zim! There is a lot of academic leadership and we are unique because of the HIT 200, 300 and 400 courses. Through these courses, we are able to develop prototypes, through the capstone design projects. Students from other Universities don't know how to make anything. That is the distinct mark of HIT. Secondly, our Student Affairs department is the best! They have been working tirelessly to develop leaders at HIT and they also identify potential leaders and groom them for leadership.

CIR: Any challenges that you see for women in science or female leaders in student politics?

TG: At times, people always think you have a motive behind all that you do. At times you are not taken seriously. As for women in science, there are a lot of opportunities for women in science and for scholarships to further your studies.

CIR: Tinotenda, thank you for your insightful views and good luck in your tenure.

HIT STUDENTS TAKE CENTRE STAGES AT WOMEN IN ICT WORKSHOP



Part of the HIT students who presented ground breaking papers at an event hosted by the Computer Society of Zimbabwe held under the theme: "ZIMASSET: Emerging Entrepreneurs Series: Women in ICT."

Six female students from the Harare Institute of Technology presented ground breaking papers at an event hosted by the Computer Society of Zimbabwe held under the theme: "ZIMASSET: Emerging Entrepreneurs Series: Women in ICT." The event was held at the Meikles Hotel, Harare on 29 July 2014.

The event featured representatives from Zimbabwe's institutions of higher learning and the corporate world. Speakers and entrepreneurs were given an opportunity to showcase their products and speak about the ZIM ASSET blueprint and ways of navigating the road to success.

The female students;- Nyasha Chakanyuka, Simbisanai Nyamakura, Rumbidzai Nyakabau, and Faith Nyakudya from the E-Commerce department; Liliosa Mushonga from the Computer Science department and Cecilia Tengani from the Information Technology Department raised the HIT flag high at this premier event through convincing presentations reflecting a strong grasp of IT concepts and their applicability in everyday life.

Chairman in the E-Commerce department at the Harare Institute of Technology, Mr Tafadzwa Zimucha expressed satisfaction at the student's performance.

"Our students performed exceptionally well at this event. They proved to be real technocrats; capable of designing systems, prototypes and applications customized to address Zimbabwean needs," he said.

Zimucha added that the event provided a platform for female students to showcase to the nation their ability to innovate, incubate and transfer technology that adds value to systems and processes that are currently being implemented in the electronic commerce industry.

"In turn, these students were exposed to the dynamic electronic commerce environment where captains of industry analysed their outputs for possible commercialisation," he said. Zimucha also highlighted that the ability to conceptualise and contextualise the ZIM ASSET policy on beneficiation and value addition was the central element highlighted in the presentation.

According to the Computer Society of Zimbabwe, the salient and silent features of the ZIMASSET blueprint point to ICT as the enabler of all activities with prominence in the development agenda of the nation. Opportunities in the ICT sector can only be realised if innovation and entrepreneurship are present.

Synopsis of Student Presentations

Rumbidzai Taponeswa Nyakabau: e-Tender

This is a tendering system designed to enhance management productivity for both the tenderer and tenderee via a website. It is an automated system which evaluates bids. This e-tendering automates most of the tendering processes: right from preparing the tender specification; advertising; tender aggregation; to the evaluation and placing of the contract. The key derived benefits are the reduction in operational cost and improvement of work efficiencies.

Nyasha Chakanyuka: Real-time Stock

Real time Stock is an effective and efficient stock trading platform that redresses imbalances in knowledge and performance noted in the local trading for the Zimbabwean stock exchange environment. It focuses on emplacement of algorithmic principles on the existing stock exchange trading platform to create a well competitive and modernized stock trading through the manipulation of both technology and new business ideas. It strikes positivism through escalation of trust and loyalty level among stakeholders involved.

HIT STUDENTS PRESENTATIONS @WOMEN IN ICT WORKSHOP...



Part of the HIT students who presented ground breaking papers at an event hosted by the Computer Society of Zimbabwe held under the theme: "ZIMASSET: Emerging Entrepreneurs Series: Women in ICT."

Liliosa Mushonga: Neural Based Demand Prediction System

The system uses neural networks for predictive analysis in the energy sector. Electricity is a significant key driver for economic development, while the accuracy of energy demand forecasts is an important factor leading to the success of efficiency planning. For this reason, energy analysts need a guideline to better choose the most appropriate prediction techniques in order to provide accurate predictions of energy consumption trends. The predictive systems is earmarked to be used by electricity generation and supply companies like the Zimbabwe Electricity Supply Authority (ZESA) to help them develop energy policies as well as measures on energy conservation and alternative energy.

Cecilia Tengani: Paralympic Games

This is an online product that allows for the distributed registration of athletes without the need to visit the game hosting centres. It classifies and categorizes the participating athletes ensuring they are registered correctly. It simplifies the registration eliminates the cost of travel and wrong categorization of the athletes

Faith Ruvimbo Nyakudya: Parental Academic Interactive System

The Parental Academic Interactive System (PAIS) is an online system aimed at facilitating effective interaction and collaboration between teachers and parents of students at primary and high school level. Its ultimate goal is to ensure high academic performance levels amongst students at schools where the system is implemented. This will bring about positive gains and benefits for all parties involved, that is,

the students, the parents, the teachers and the schools/colleges. In addition, due to the benefits it brings about, the system will contribute immensely to an improved pass rate at the schools/colleges where it is implemented.

Simbisanai Ashleigh Nyamakura: SMS Advertising Interface

SMS Advertising Interface enables the business world to access their advertising services such as posting and retrieving adverts online with no time delays, irrespective of geographical location, it also provides important information about new and existing products or services as soon as they become available. This application can either be used to push or pull messages. It reduces the need for subscribers to access the website on a remote desktop or home computer systems to access advertising facilities.



ENACTUS PRESIDENT SCOOPS THE BOOST ENACTUS FELLOW OF THE YEAR AWARD

Vhaina Mazvita Mukamba, the President of HIT ENACTUS raised the flag of the Institute high after being awarded the BOOST Fellow of the Year Prize at the BOOST Fellows Graduation Ceremony 2013.

The award, sponsored by Unilever, is given for exceptional leadership skills, good communication skills, commitment, community service and being an exemplary figure.

The ENACTUS HIT TEAM participated in the 2013 ENACTUS National Competitions coming first in the initial round and qualifying for the finals along with the University of Zimbabwe, National University of Science and Technology and the Midlands State University.

The team was voted for the Most Improved University Award.

The team embarked on community projects that were a symbol of technopreneurship, impacting a large number of people in the Zimbabwean community. The team was made up of Vhaina, Tatenda Mbindi, Keith Baira, Harvey Gumbo, Marvin Ngwenya, Steven Dumbura, Faith Nyakudya, Clive Nyapokoto and Nyasha Mupoperi.



Vhaina Mazvita Mukamba, President of the HIT ENACTUS with her BOOST Fellow of the Year 2013 awards.



WIPO AWARDS E-COMMERCE STUDENTS IP CERTIFICATES



An Electronic Commerce student receiving her certificate after successfully completing the World Intellectual Property Organization's Distance Learning Course.

Over 50 students from the Electronic Commerce Department successfully completed a World Intellectual Property Organization Distance Learning Course which will enable them to apply intellectual property knowledge in electronic commerce systems in Zimbabwe and globally.

The students, who are in their third and fourth years of study respectively, were presented with certificates amid celebration at a ceremony organised by the School of Business and Management Sciences. The event was attended by representatives from the African Regional Intellectual Property Organisation, (ARIPO) and the World Intellectual Property Organisation, (WIPO) and other corporate organisations.

In his opening speech, Washington Chaduka, a third year E-Commerce student congratulated his



Washington Chaduka,
An E-Commerce student

colleagues for managing to acquire certificates that are going to equip them with the relevant skills and techniques that are needed in the industry.

He applauded WIPO for reaching out to university students in African countries to enable them to have an appreciation of intellectual property and how it applies to society. He added that Electronic commerce had ushered in the advent of new technologies, innovations and inventions that need to be protected through intellectual property.

Dean in the School of Industrial Sciences and Technology and Guest of Honour at the event, Dr. Perkins Muredzi, commended the sound relationship and cooperation between ARIPO, WIPO and HIT which was aimed at enhancing the Electronic Commerce curriculum at the Institution.

"This cooperation started in 2009 and involved support from ARIPO and WIPO in the study of IP specialised modules by students enrolled in the E-Commerce degree programme at HIT. The support also involved training of HIT academic staff in IP and its protection", said Dr Muredzi.

Dr Muredzi added that this initiative will enable HIT to provide students with exposure to curriculum being offered globally and preparing HIT graduates for global recognition as E-Commerce consultants. Additionally, graduates would be given skills to enable them to apply IP knowledge in the ever growing global E-Business industry which Zimbabwe and the Southern

African region have embraced.

"It is envisaged that in the near future, the School of Business and Management Sciences will embark on an exercise to localize IP courses currently being offered online by WIPO and provide the courses as part of the Bachelor of Technology (Honours) Electronic Commerce degree programme curriculum," said Dr Muredzi.

Dean Muredzi highlighted the dual importance of IP to E-Commerce and visa versa, and said E-Commerce, more than any other business systems, often involves selling products and services that are based on IP and its licensing. "Music, pictures, photos, software, designs, training modules, and systems can all be traded through E-Commerce, in which case, IP is the main component of values in the transaction. IP is important because the products of value that are traded on the internet must be protected using the technological security systems and IP laws, or else they can be stolen or pirated and whole businesses can be destroyed", he said.

Electronic Commerce based businesses usually hold a great deal of their value in IP; so that the valuation of one's E-commerce business will be affected by whether one has protected his or her IP. Many E-Commerce companies, like other technology companies, have patent portfolios and trademarks that enhance the value of their business.

HIT STUDENT LEADERS TOUR USA, RAISE ZIM FLAG HIGH



Nigel Babvu
Former HIT SRC President

Two Harare Institute of Technology student leaders recently went on a study tour of United States institutions of higher learning funded by the US Department of State's Bureau of Educational and Cultural Affairs.

Participants are drawn from more than 50 000 people participating in U.S. Department of State exchange programmes each year.

The students, HIT SRC President Nigel Babvu and Secretary General, Pride Kufakwedekwe, and four other students from the Midlands State University, Solusi, National University of Science and Technology and the Chinhoyi University of Technology constituted the Zimbabwean delegation. Other participants were drawn from Angola, Mozambique and South Africa to form a delegation of twenty students who were hosted by the University of Nebraska.

The HIT duo note that the trip made them feel great about being Zimbabwean.

"The biggest lesson learnt was to cherish the roots of your country as a first step to its rise. As an individual, you should not only participate in elections and take a back seat. But, one should continuously support the office bearers through attending local meetings in respective communities. A great nation is not only made great by politics, but by responsible citizens. Civic engagement is the least a good citizen can do to make the community better," he said.

The HIT delegation, however noted that it was so disheartening that the Americans do not know much about life outside the US. "This is evidenced by the fact that most of the American population we encountered during the trip thought Africa was a country. Some even think there is no internet in Africa. The American education system has to improve in this respect and educate their entire population about the globe since this is the first step towards a united and peaceful world."

The United States Institutes for Student leaders on Civic Engagement, is an undergraduate level, five-week academic programme that provides students with an overview of how citizens have shaped US history, government, and society both as individuals and groups. The Institute encourages participants and their American peers to come up innovative and practical plans to become engaged with citizens in their own communities. The coursework examines the development of civic engagement in the US and explores topics such as:

- Citizenship and community building
- Grassroots activism, volunteerism, and leadership
- Civil Rights
- Entrepreneurship, economic development, and leadership
- Media and ethics

Nigel's Speech to students at Nebraska University

We stand here not worthy but just, to represent our country, Zimbabwe. We just don't stand alone, but we have the weight of our country on our shoulders. We are proud to be living in this day, to show the true reflection of our country, through our acts, and where the need arises, through speech.

Zimbabwe, which means the great house of stone, symbolized by the Great Zimbabwe ruins, represents our great architectural prowess. Bordered north and south by the mighty Zambezi and Limpopo rivers respectively, Zimbabwe occupies more than 390,757 square kilometers of Central Southern Africa. It boasts of magnificent scenery, abundant mineral wealth and fertile soils, making it one of the jewels of Africa. Having been termed "the vibrant heart of Africa," Zimbabwe is not only a living memory to lost civilizations, but also a journey into scenic wonder. In addition to its mighty rivers, it is also home to the thundering

spectacle of the Victoria Falls. Twice as high and one and a half times as wide as the Niagra Falls.

Our country does not only have a flourishing flora and fauna, it is blessed with brilliant minds. It has a great pool of educated and learned human capital which fears God, and it has been a provider of exceptional human resources to its neighbours and the world. Recent international student counts from Africa show that Zimbabwe has the third largest student population in the United States. We are part of a population which has the highest literacy in Africa, which stands at 97%. The men and women of Zimbabwe cherish the importance of education for it is the only entity which no one can rob from you. Without education, we are worthless and without God, we are nothing.

We really love and admire our heritage. We honour the liberation war and its heroes, as symbolized by the National Heroes Acre. We respect the blood and that was spilt and the unknown soldiers who died trying to liberate our country as symbolised by the Red colour on our flag and the tomb of the unknown soldiers. We hold peace in our hearts and value unity. Togetherness is what makes us move forward and march on for a brighter future. Being a young democracy, we have achieved to attain our social pride and now we are building to retain our place under the sun.

We are glad we learnt all we need to know about civic engagement. The experience cannot be matched with any other. The networks created are of value and our lives and that of Zimbabweans that we will encounter will never be the same. This country is cold and our African blood is not used to this, but the people of Nebraska made it feel warm for us. You made us feel at home away from home. However, I am more excited to have taught the Americans all that I know. Africa was and is still being viewed as a single unit, well yes we are a continent, but it is a group of units, and Zimbabwe is a major unit in the whole set.

After all has been said and done, this trip seems like a small step for man, but in actual fact, it is a giant leap for mankind. A bridge between our nations is being built, and this is only the first stone to be laid to the great connection. Many more of these cultural exchanges will strengthen our relations and will secure our nation's future.



DEAN OF STUDENTS GET INTERNATIONAL EXPOSURE



HIT Dean of Students, Mr. J. Chandaoka (centre) and colleagues from other Zimbabwean Universities

The HIT Dean of Student Affairs, Mr Joshua Chandaoka undertook a learning visit to the United States of America with eight other colleagues from various Zimbabwean Universities.

The delegation visited thirteen Universities in three different States.

According to Mr J. Chandaoka, the most important lesson they learned during their visit was student development. “The template at More House University was very impressive since it involved Zimbabwean students. We also visited historical sites such as the Watergate Complex, White House, Martin Luther King Memorial Centre and the CNN Centre”, he said.

At the CNN Centre, the Zimbabwe Delegation felt very different to celebrate Zimbabwe’s Independence in a foreign land. “We were in the State of Missouri on the 18th of April when we gathered as a group at the CNN Centre to celebrate the independence of Zimbabwe”, said Dean Chandaoka.

The delegation of higher education officials from Zimbabwe also visited University of Missouri–St. Louis to learn more about higher education in the United States of America. Day.

The HIT Dean of Student Affairs also travelled to Malaysia to visit the Universit

Teknologi Malaysia (UTM).

The University is a living testimony of a research institute that can contribute to national growth with over twenty thousand students living on Campus.

Dean Chandaoka also met one of the most experienced professors at UTM, the legendary Prof. Dr. Ahmad Kamal Bin Idris.

UTM has a Student Innovation Centre where students from all faculties come for assistance in relation to any innovation. The Centre has trained technicians and academic engineers whose duty is to assist students to realise their idea.



Mr. J. Chandaoka
HIT Dean of Students



HIT Dean of Students, Mr. J. Chandaoka meet the legendary Prof. Dr. Ahmad Kamal Bin Idris

“We were in the State of Missouri on the 18th of April when we gathered as a group to celebrate the independence of Zimbabwe”

SINGING THE HIT MANDATE: CHOIR RAISES THE HIT BAR



HIT Choir performing during the Fifth Graduation Ceremony.

They sing a distinct fusion of acappella music, blended with some urban grooves and rap. Their voices speak of a deep conviction and portray the vibrancy, boldness, creativity, confidence and hope of youth; a summation of the HIT identity. Coming together as one, the HIT Choir at the Harare Institute of Technology is poised for success as they revel and entertain crowds with their music.

HIT provides an enabling environment for these young voices, to dream and create and they have composed moving songs which speak to HIT. Just as HIT's flagship is innovation and creativity; the same vision and identity flows down to student extra curricula activities as students are inspired to be bold, to be different and speak their own unique and creative story through song.

Dean of Students, Mr Joshua Chandauka confirms that HIT places a high premium on student development and growth.

"We don't control students," says Chandauka. "We help them to grow. We empower them to grow and we create a conducive learning environment so that they can see for themselves, navigate the environment.

We encourage originality and through the HIT choir, we are able to preach our identity, which is contained in our destiny, cause and calling and the University motto, 'success through innovation.'

The HIT choir was established in 2011 and it falls under the Chaplaincy and Ecumenical Services in the Student Affairs Division.

"The Choir is run like a club under the Chaplaincy unit," says Chandauka.

They have a chairperson and they are able to run their own affairs, guided by a constitution.

"Through the choir, we are able to dramatize our day to day issues, recite our successes and failures. All this is done through the abundance mentality, says Chandauka. "This simply means that all that you have is enough.

A member of the HIT Choir, Nigel Maritinyu who put up a sterling performance at the Installation Ceremony of the HIT inaugural Vice Chancellor and the fifth graduation ceremony with his rap lyrics on the song, "We are a family," says the most memorable events during his time with the choir have been the HIT graduations.

"Graduation ceremonies have been great. To be able to perform before the Chancellor, His Excellency President Robert Mugabe, and before the Vice Chancellor and to perform before other great men and women has been good. Those have been some of the most memorable moments of being in the HIT choir.

"I am inspired by life, by God and people and I am a Christian and if you trace my lyrics, there are based on Christian principles," says Nigel.

"Our music is inspirational, it unifies, it motivates and gives hope and encouragement. Our message is an extension of the HIT cause, and we are saying that we hope we can make our contribution to Zimbabwe through the practice of technopreneurship and innovation, being the technocrats that we are."

Nigel is a third year student in the Electronic Engineering department.

"Music comes naturally to me. But I ensure that I balance choir practise and activities with school work.

To me, being in the choir means family, and through the choir, I have come to make a lot of friends, I have found joy, encouragement and most importantly, I am happy that I have been able to be of service to the Institute. I hope that the choir continues to grow and that its popularity on campus will also continue to grow.

The students themselves compose the songs.

"Right now, as we look forward to the hosting of the 10th Anniversary celebrations, we have commissioned students to compose and come up with a commemorative song for these anniversary celebrations," says Chandauka.

Speaking on the composition and logistics concerned with the choir, Chandauka says entry into the University choir is open to every student. These students who make up the HIT Choir go on to be the technical persons coordinating all activities within the choir.

"We like to protect our brand. It goes hand in hand with the dictum, establish yourself through yourself. As an example, the HIT Rugby team is currently the best in Zimbabwe and it is coached by the students themselves," says Chandauka.

Once you are in the choir, you have to maintain discipline and follow the routine and practice sessions. We also want to maintain high academic standards and we do not accept students who fail their courses. Academic standards are crucial; especially for leadership positions.

Chandauka says the origins of the choir can be traced to the Institute's first graduation ceremony, where it was evident that the Institute needed to have its own choir to grace University events. "By the time of the second graduation, we had our own HIT choir, giving a unique and distinct voice, different from our more traditional choirs.

The Dean of Students traces the initiative of the HIT Prayer and HIT Song.

"I composed the HIT Prayer, together with my daughter, Tendai and the HIT song was composed by a former student, Elijah Chakwizira. These two pieces have been inspired by and are an embodiment of the



HIT CHOIR...

HIT identity. They speak of oneness, the concept of the family.

Popular HIT Choir songs include the HIT welcome song which was played at the HIT Installation ceremony and fifth graduation ceremony, "Mauya Comrade."

HIT Alumni and former Choir master, Elijah Chakwizira says passion and God led him to the HIT choir.

"I was in the brass band at Mazowe Boys and later a Choir master at Kwenda Mission," and music is my passion," says Elijah.

We sing contemporary music which is a fusion of urban grooves, rap, hip hop and rhythm and blues. Through this fusion, we become dynamic, unique and different. He also adds that they also sing acapella, using the traditional instruments and vocals.

Elijah composed the HIT song and the popular hit "We are a family song."

"This was inspired by the love and attachment that I feel for this institution," says Elijah.

Other songs in the HIT choir repertoire include Makorokoto, Nhasi Izuva, Mauya ku HIT, Tinokukwazisai, Imi Mose Mauya."

"We are student nurtured, wholly internal and we in future plan to record our original compositions.

"We are family centred, and the administration has been very supportive of us. We are driven by passion to a life of service and what makes us tick is the excitement of doing something new and dynamic everyday.

Our dean, Mr Chandauka gives us strength every day. He loves the choir more than anything and he has all the confidence in us and he has stood by us.

"Some songs bridge our diversity" says Chandauka.

On his experiences with the HIT choir, Chandauka says he is gratified.

"It has been a gratifying experience, and also humbling. Some of these students don't know anything about music, but they always try their best, we have also taken aboard programmes in which we can market the institution to other schools," he said. This is a way in which we can integrate our efforts with our resource bases – which are the schools.

We have our own original compositions from a crop of talented young people, who stick to a

strict regime of attendance at practice sessions.

I see a big future for the choir, as we increase our diversity, and get more instruments, we have no doubt that the choir will scale to even greater heights.

I grew up in the United Methodist Church and was a strong member of the United Methodist Youth Movement. I know the power of ministry, the power of music and I believe that the HIT Choir is a vehicle to preach the gospel of HIT. It can also be a strong marketing tool telling the world what we stand for.

The HIT Director of Communications and International Relations, Mr Tinashe Mutema expressed confidence and hope in the HIT choir.

"They are a representation of the energy, vibrancy, spontaneity of youth and they are excellent brand ambassadors for the Institute. Mutema added that the challenge for the choir was the need to continually re-invent themselves and scale to greater heights.



HILLARY SCOOPS THREE MEDALS @ZUSA GAMES



Hillary Mgazi won gold in shot put and Javelin.

The Harare Institute of Technology students took part in the Annual Zimbabwe Universities Sports Association's Athletics Championships held on 23 March, 2013. HIT athletes participated in the following sport disciplines; Discus, Shot put, Javelin, Triple Jump, 100m, 200m, 400m and relays.

The athletes managed to scoop 2 gold medals, 2 bronze and 2 silver. Hillary Mgazi won gold in shot put and Javelin. Brendon Matanhire got gold in Triple Jump and bronze in Long Jump. Theophilus Chiwuta also got bronze in Shot put.

Hillary Mgazi and Brendon Matanhire proceeded to ZTISU games that were held in Bulawayo from the 20 - 23 June, 2013.

On 13 April 2013, HIT participated in the ZUSA Zonal games in Bindura and the results were as follows:

- Lawn tennis men's team came 3rd. They proceeded to the finals.
- Lawn tennis women's team came 3rd and they proceeded to the finals.
- Net ball team came position 5 out of 5 teams.
- Chess Ladies came position 3 out of 5 teams and proceeded to the finals
- Chess men came position 2 out of 5

teams and proceed to the finals.

- Basketball men came position 4 out of 5 teams
- Basketball women came position 5 out of 5 teams
- Soccer came position 4 out of 5 teams.
- Volleyball men came position 5 out of 5 teams
- Table tennis men came position 3 out of 5 teams and proceed to the finals at the UZ.

The qualifying teams that participated in the finals at the UZ from 3- 5 May did not make it except for the Karate student Lucky Mukondya who got 2 gold medals. He represented HIT at the ZTISU games held in Bulawayo from the 20 - 23 June, 2013.



HIT athletes Brendon Matanhire, Hillary Mgazi, and Theophilus Chiwuta

SHINGAI NYARUGWE - PIONEER GRADUATING CLASS @HIT



Shingai Nyarugwe
PhD candidate

Shingai Nyarugwe's academic prowess has seen her reach the highest echelons of academic achievement.

Currently a PhD candidate at the Wageningen University and Research Centre in the Netherlands, Shingai's excellent academic record began at the Harare Institute of Technology where she was awarded a first class Bachelor of Technology degree in Food Processing Technology. She was awarded the Vice Chancellors prize for the best graduating student, HIT book prize for the best capstone design project and Metropolitan bank prize for the best student in Agribusiness and Investment Analysis

From the Harare Institute of Technology, Shingai went on to pursue her Master's degree in Food Quality Management, at the Wageningen University and Research Centre in the Netherlands and attained a distinction in 2013.

Shingai was inspired to undertake doctoral

studies by her masters' degree supervisor Dr. Ir. Pieterneel Luning.

"She set the ball rolling when she acknowledged my academic competencies after obtaining a distinction (9/10) in my thesis and graduating with a distinction 'met lof' in my MSc in Food Quality Management. "Her faith in me and also the encouragement from colleagues motivated and gave me an impetus to seek further postgraduate studies.

"Those I have met in my career have been impressed by my ability to solve problems, to work in a team, to communicate effectively and to uphold ethics; important values I was taught at HIT.

"In addition, my eagerness to learn, ambition to contribute to science, quest to provide guidance to food processing facilities and to have my knowledge complemented by that of

recognized scientists from different disciplines, strengthened my conviction to pursue my doctorate," says Shingai.

Shingai derives her inspiration from God and quotes Philippians; 4:13, "I can do all things through Christ who strengthens me." She is also inspired by a quote from Israel more Ayivor, "Nothing good stands without the right attitude. You may know how to do it, but if the attitude is negative, all you can say is "I could have done it"

She credits the Harare Institute of Technology for "inculcating a culture of proactiveness and being result-oriented. HIT also imparted leadership skills, the art of diversity evidenced by my ability to work in any given setting from the industry, universities and the private sector."

"Those I have met in my career have been impressed by my ability to solve problems, to work in a team, to communicate effectively and to uphold ethics; important values I was taught at HIT.

Shingai cites some of her achievements as follows:

- Awarded a scholarship for a doctorate after excelling in my MSc in Food Quality Management.
- Selected to present to delegations of representatives (from international food companies); i.e. members of SSAFE (Safe Supply of Affordable Food Everywhere (SSAFE)) on food safety culture in the Netherlands.
- Designed a food safety culture diagnostic tool to identify factors influencing product microbiological safety and quality which is the basis for the PhD I am currently pursuing.
- Produced standard training manuals for hygiene and safety at Qualitech Lab Services.
- Part of the team that steered the ISO 22000:2005 certification at Dairibord Pvt Ltd.

Shingai has had a career in food processing and quality control with organisations such as Dairibord Zimbabwe, Super bake Bakeries, and also served as Associate Supervisor at the Wageningen University.

In conclusion, I have always been an Ambassador for HIT. To all places I have gone and unfortunately left to pursue my studies, they always ask me to assist in recruiting for different positions within their companies and others. I would also like to thank Mr. D.N. Moyo (HIT) for he has continued to encourage me this far.

THABISO MPOFU - HIT LECTURER: CLASS OF 2010



Thabiso Mpofu
Lecturer: HIT Computer Science Department

Another HIT graduate sent on a staff development programme in India, Thabiso Mpofu, is proud of his association with HIT and credits the institution for both his personal and professional growth.

Mpofu graduated with a Bachelor of Technology degree in Computer Science in 2010 from the Harare Institute of Technology, and in 2012 was sent on the staff development programme at the Jawaharlal Nehru Technological University in India. His area of specialization is Mobile Computing, Artificial Intelligence and Electronic Commerce. Mpofu currently has eight publications in international journals focusing on science, engineering and technology.

Mpofu joined HIT as a teaching assistant in 2011. Prior to that, he was a graduate trainee at the Renaissance Merchant Bank in Harare.

While in India, Mpofu highlights that the experience was an eye opener from the social to the academic front.

“India is very developed. You have

IT parks, hi-tech cities which are the ICT hub for the vicinity where you see such IT global giants such as Google, IBM, Microsoft converging.

On his experiences at JNTU, Mpofu says it was very practical oriented.

“We were exposed to professors from all over the world, and there was a strong practical aspect to our programme. I also noticed that departments are autonomous and empowered to make their independent decisions.

Mpofu also adds that the strong practical aspect of the programmes at JNTU is something he would want to implement at HIT.

On what he gained at HIT, Mpofu reiterates that he learnt to have an innovative spirit through the various courses on offer at the HIT.

“Technopreneurship taught me the business aspect of things and the fact that gone are the days when you learn to work for somebody. That spirit of innovation continues to be with me and I am challenged everyday through my research to be innovative and to create products for wealth creation and employment generation.

BERNARD GAMBE - FINANCIAL ENGINEERING: CLASS OF 2011



Bernard Gambe, Branch Manager for UNTU Microfinance

Harare Institute of Technology Alumnus, Bernard Gambe currently serves as the Branch Manager for UNTU Microfinance, Kwekwe Satellite Branch which he launched.

The Kwekwe branch has been voted as the best branch in the first and second quarter of the year 2014 in terms of meeting targets and maintaining a quality portfolio,” says Bernard.

He graduated from the Harare Institute of Technology in 2011 with a Bachelor of Technology degree in Financial Engineering.

UNTU Microfinance Company was established in 2009 and has six branches across the country. The company focuses on financing low income earners through sustainable value by meeting their needs and providing them microfinance services for business, micro-leasing, micro-housing and personal loans.

I decided to join the Harare Institute of Technology in 2007 because of its strong academic brand,” says Bernard.

Bernard became one of the first graduating students in the Financial Engineering programme at HIT, as the programme was

NICHOLAS KAREKWAIVANANE - HIT LECTURER: CLASS OF 2010



Nicholas Karekwaivanane
Lecturer: HIT Department of Information Technology

Twenty nine year old Nicholas Karekwaivanane attained his first degree at the Harare Institute of Technology and Daejeon University, South Korea in 2010. Karekwaivanane graduated with a distinction in the Bachelor of Technology degree in Computer Science and was awarded the Vice Chancellor's prize for the best graduating student with a first class degree

Karekwaivanane once again proved his mettle at the Jawaharlal Nehru Technological University in India where he graduated with a distinction in the Master of Technology degree in Computer Science in 2014. Kare, as he is affectionately known by colleagues, was on a staff development fellowship, under the auspices of the Harare Institute of Technology.

"My excellent academic record is one of my greatest achievements, says Kare. "I am well on my way to establishing myself as a researcher in the area of networking in computer science," he says.

Kare currently serves as a lecturer in the department of Information Technology at HIT. His research interests are in the area of WSN networking and cloud computing. He has three publications to date.

Having received his initial academic grounding at the Harare Institute of Technology, Kare credits HIT for inculcating independent thinking and providing him with room for a definitive and well-grounded academic thrust.

"As a student at HIT I learnt how to think creatively

through the way the courses were delivered that encouraged independent thinking. I became a technopreneur (technology entrepreneur) at HIT and wherever I am I am always looking for opportunities to innovate and come up with new ideas," he says.

Kare shares his experiences in India.

"As always going to learn abroad offers a valuable experience that enables you to leave your comfort zone and think out of the box. The journey to India taught me humility and gave me an experience of another culture; learn how other people do things and being able to get an education at a very good university in India.

Furthermore, Indians have a strong work ethics and culture that runs very deep and I appreciated this work ethic and I was exposed to well established researchers in the field of computer science and this significantly improved my research skills. India is also a great tourist destination," he adds.

In his spare time, Kare mentors both University and high school students and helps them with social and career advice.

"I also take time to visit children's homes at least once a month to spend time with the disadvantaged children and to show them that they have the ability to make their lives better if they focus on their school work."

Kare hopes to pursue doctoral studies and continue contributing to the realisation of the HIT

BERNARD GAMBE - FINANCIAL ENGINEERING: CLASS OF 2011

introduced to address issues of innovation in the financial services sector.

At graduation, he received awards as the best HIT graduating student in Options and Futures Markets from Platinum Asset Management and Alpha Asset Management companies. I managed to get distinctions in Commercial Law, Financial Accounting 1 and 2, Corporate Finance 1, Options and Futures markets, Statistical Methods for Finance, Numerical Methods for Finance, Financial Econometrics, Investments analysis and Portfolio Management. Prior to that, I was also the best Finance Trainee at Holiday INN Mutare in 2010.

Apart from being a first rate student, Bernard also served as a class representative.

Bernard credits the Financial Engineering programme at HIT for giving him strong conceptual skills and competencies needed in the financial services sector.

"The programme helped me to have an understanding of the finance field by undertaking courses such as Financial Accounting, Banking Theory and Practice, Corporate Finance, Treasury

Management, Risk Management, Corporate Governance, Credit Derivatives, Financial Institutions and Markets. Having achieved that, I am now a motivated administrative professional who has become a Branch Manager at UNTU Microfinance and have just recently completed a Frankfurt programme to become a Certified Expert in Microfinance," he says.

"I have 3 years' experience successfully providing administrative support to the operational department in terms of staff management, operations management, strategic planning, business management as well as portfolio management. My marketing background has also helped me in marketing research and feasibility studies for the company," says Bernard.

"Out of all my experiences at HIT, I can say the programme helped me to be someone who has to think outside the box. I have become a keen and innovative quantitative financial analyst with a strong passion to learn, design and implement mathematical, analytical & financial modeling solutions to identify and solve problems in

finance," he says.

Bernard cites Mr Willard Gwarimbo, now Dean in the School of Business and Management Sciences as his inspiration.

"I learned an important lesson from Mr Willard Gwarimbo, who was my lecturer and really became my most important mentor. He told me his secret to success was to: 'look at each day as a new opportunity to do your very best. Set high goals, be honest, never say no, and work with people who share your passion for doing their best.'"

"I've always remembered this advice and try to live it every day. I am very self motivated, determined and honest. I really love what I do and I try to surround myself with people who share similar passions," says Bernard.

"The strength of HIT is based on its ability to provide students with technical skills and opportunities for personal growth. As a research driven institution, it has also helped me to have that initiative spirit, discipline and professional ethics," he concludes.

EXHIBITIONS AND CAREER FAIRS HIT @ZITF, ZAS & RIE - SET WEEK 2014



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