



OCTOBER 2016

PRESIDENT MUGABE CAPS 347 HIT GRADUANDS



His Excellency, the President of the Republic of Zimbabwe and Chancellor of the Harare Institute of Technology, Cde R.G. Mugabe capping a HIT graduand at the University's Seventh Graduation Ceremony.

His Excellency, the President of the Republic of Zimbabwe and Chancellor of the Harare Institute of Technology, Cde R.G. Mugabe conferred Bachelor of Technology Honours degrees to 347 graduands at the University's Seventh Graduation Ceremony held on Thursday 20 October.

Of the 347 graduands, 119 were from the School of Engineering Technology, 59 from the School of Industrial Sciences and Technology, 112 from the School of Information Sciences and Technology and 57 from the School of Business and Management Sciences. The 347 graduands represent an 8, 4% increase from last year's figure of 320; with female graduands constituting 31, 4% of the graduating class.

In his address, HIT Vice Chancellor, Engineer Quinton Kanhukamwe said the Institute is developing and incubating technopreneurs that are expected to play a vital role in the knowledge economy that Zimbabwe is growing. This, he said, was evident through the robust research and innovation initiatives by students and their excellence at various competitive fora at national, regional and global level. Of note is the Energy Globe National Award presented to HIT student, Clive Nyapokoto for his Vermicompost-Vermi-Aquaponics System project, the success by HIT students at the inaugural Water and Sanitation hackathon where they emerged champions and the recognition of HIT student Kudzai Chasinda at the Google Developer Community Summit in San Francisco among others.

Eng. Kanhukamwe highlighted that the University had successfully filed seven patents, six utility models, four industrial designs and 72 copyrightable application packages. "We believe that critical to the research initiatives of our students and staff, is the need to protect our intellectual property both for the benefit of innovators, the university and the nation," he said.

The Vice Chancellor also added that HIT required business and industrial partners; and other organisations,

both private and public to commercialise innovative technologies.

Eng. Kanhukamwe paid tribute to countries that support the University in research, technology and human capital development that include India, Turkey, Iran, China and Korea.

The Vice Chancellor applauded President Mugabe for introducing the Psycho-motor Ministry which he said was important in skills development and technopreneurial proficiency required to drive reverse engineering and design elements in polytechnics. He added that HIT is also working with various ministries towards national development.

While calling for increased funding for the University's infrastructure, Eng Kanhukamwe acknowledged the financial support from the parent Ministry of Higher and Tertiary Education, Science and Technology Development which was utilised for the up-scaling and commercialisation of some of the infrastructural projects, the acquisition of machinery and laboratory equipment.

Some of the graduands interviewed expressed their commitment to use and consolidate the innovation and technopreneurial skills they have learnt for national development.

The Minister of Higher and Tertiary Education, Science and Technology Development, Honourable Professor Jonathan Moyo, Deputy Minister Dr Godfrey Gandawa, Minister of State for Harare Metropolitan Province Cde Miriam Chikukwa, Minister of State Security in the President's Office, Cde Kembo Mohadi, HIT Board Chairperson Dr Gibson Mandishona and the Institute Board attended the event. Other dignitaries included Vice Chancellors from other universities; foreign envoys and the corporate sector.

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DRIVE TO RAISE NUMBER OF PUBLICATIONS

From 2017, every academic department must produce at least two journal publications related to their disciplines, the HIT Vice Chancellor Eng. Q.C Kanhukamwe has directed.

Departments are also required to host international conferences, seminars and workshops in order to improve the University's international ranking. Every department is also required to engage in staff and students exchange programmes as the University ups its internationalisation agenda.

NOTICE TO ALL STUDENTS

First Semester Examinations are scheduled to start on Monday 14th November and end on Friday 30th November 2016.

HIT VICE CHANCELLOR HONOURED IN EUROPE

The Harare Institute of Technology and Vice Chancellor Eng. Q.C Kanhukamwe continue to gain international acclamation as the Vice Chancellor was recently awarded the International Socrates Award for "THE MANAGER OF THE YEAR" in the education sphere, while the Institute was awarded "THE BEST ENTERPRISE AWARD."

Vice Chancellor Engineer Q.C Kanhukamwe received "THE MANAGER OF THE YEAR AWARD" at the Europe Business Assembly (EBA) European Awards Night and Forum in Cannes, France on 7 October 2016. The Manager of the Year Award acknowledges and honours individual excellence of high-level executives worldwide.

The "MANAGER OF THE YEAR AWARD" in the higher education sphere is selected based on criteria which include excellent reputation, modern educational programmes, high alumni level, outstanding professional experience, important scientific research and successful management.

The "Best Enterprise Award" in the education sphere is awarded based on a strong position in the national market, organisations' status on international ratings, modern management technologies, high staff qualification, business reputation, successful marketing strategy, positive image in region, investment rating and attractiveness, as well as global competitiveness.

The Harare Institute of Technology and Vice Chancellor Eng. Q.C Kanhukamwe, -the recipients of the Europe Business Assembly (EBA) International Socrates Awards were awarded a 5-year certificate (license) to use the award brand (royalty) for public relations and marketing purposes.

The Europe Business Assembly Manager of the Year and Best Enterprise Award were established in 2000 to present the best regional institutions and their executives in Europe.

A professional research team carefully selects award nominees. Winners are determined through ratings research, which includes media, social network, internet, news and open statistic data analysis and the recommendations of authorities, social organizations, institutions, chambers of commerce, branch associations and unions, educational institutions and the experts survey.

In April 2013, Vice Chancellor Engineer Quinton Kanhukamwe was awarded the International Socrates Award for "THE NAME IN SCIENCE AWARD" in the Science sphere for personal contribution to intellectual development of today's society by the Europe Business Assembly.

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.

'Excellence in Quality and Management Forum European Awards Night' Cannes, France, 7 October 2016

Press release issued by the Socrates Nomination Committee



High-caliber regional public and private sector businesses and institutions from 35 well-performing and rapidly-improving countries and regions worldwide convened in Cannes, France on the 7th of October at the 'Excellence in Quality and Management Forum' under the umbrella of Europe Business Assembly, UK. 100 c-level managers and academia gathered together to share common challenges and best practices, to provide practical dialogue via business development and professional networking between experts, leading regional companies, investors, local executive authorities, etc.

The Forum highlighted effective solutions to issues in excellence and quality management for services and products to satisfy consumers' needs and expectations as well as for business processes improvement and achievement of higher financial results.

Within the framework of 'European Awards Night' ceremony best regional businesses, leading educational and medical institutions with solid professional reputation shared success stories and received the deserved European recognition from international business and professional elite. At the Gala Ceremony Europe Business Assembly was proud to present **Harare Institute of Technology** as a leading educational institution. **Harare Institute of Technology** was awarded with the Best Enterprise Award for the strong position in the national market and in international ratings, successful implementation of modern management technologies, high staff qualification and efficient marketing strategy.

Mr. Quinton Kanhukamwe, Vice Chancellor of Harare Institute of Technology, was honoured as the Manager of the Year.

The Best Enterprise Award project was established in 2000 to present leading regional companies to European business pools. Award nominees are carefully selected by the international expert council.

Europe Business Assembly hopes for further successful development and rapid growth of the **Harare Institute of Technology** in the future.

On the 7th of October, 2016 the glorious Cannes hosted European Awards Night. The forum was dedicated to success of the members and partners of Europe Business Assembly, the world bespoke international community of business leaders and academia. It has become a cool annual tradition to define and promote regional private and public sector, approved workable strategies and practises in management, leadership, international collaboration. The forum consisted of the presentation panel and European Awards Night.

During the 'Success Stories' Session such key topics were represented as 'Excellence in innovation and technology'; 'Effective management and marketing mechanisms and tools'; 'Key factors of quality and management achievements'; 'HR role in company success'. World-famous Socrates Award nominees from 37 countries spoke up for their brands and business development solutions.

During the gala procedures of the European Awards Night the best regional businesses and institutions from all over the world received the highly deserved recognition for the outstanding achievements in international relations, research and social projects. The celebrity ceremony was held in the solemn atmosphere of the Intercontinental Carlton hotel, famous for the fashionable and elite gatherings.

The Organizing Committee cordially congratulates the Socrates awardees and welcomes all attendees to enjoy further benefits of being the impact part of the Europe Business Assembly international community.



HIT STAFF DEVELOPMENT PROGRAMME GATHERS MOMENTUM

Over 20 staff development fellows from HIT recently left Zimbabwe to pursue doctoral studies at various universities in India.

The staff development exercise is part of HIT's strategy to strengthen its human intellectual base as it gears towards the introduction of post graduate programmes in the not so distant future.

The staff development fellows are embarking on doctoral studies in various technology and engineering disciplines such as electronic engineering, biotechnology, electronic commerce, computer science, chemical and process systems engineering and pharmacy.

Their areas of study include control and automation, biomedical engineering, solar energy, power electronics, nanotechnology, genetic engineering, computer science and engineering, big data analytics, computer and communication engineering, information technology-networking, bioinformatics, big data, Internet of things, quality assurance and regulatory affairs, pharmaceutical chemistry,

pharmaceutical analysis and pharmacology, among others.

The doctoral studies are on a split-site sandwich mode. This enables the fellows to stay connected to national challenges and to conduct research that is relevant to the Zimbabwean context as guided by the national agenda (ZIMASSET).

The move is also in line with recent pronouncements by the Government of Zimbabwe, through the Ministry of Higher and Tertiary Education, Science and Technology Development requiring all lecturers at State universities to upgrade their academic qualifications to doctoral degrees as Government moves to improve the quality of learning at tertiary institutions.

As the Harare Institute of Technology continues on its trajectory to offer technological and engineering solutions for economic transformation through rapid industrialisation, it continues to aggressively develop its human capital. To date, a total of sixty-eight (68) staff members have attained M.Tech degrees with Indian universities,

whilst over 20 staff development fellows are still enrolled for the M.Tech degree programmes in India.

One of the major priorities of Harare Institute of Technology is the development of adequate human resource capacity with an optimum mix of capabilities to generate and apply research based on the needs of society and to cultivate and nurture a culture of research in all sections of the society.

The post graduate programmes to be offered at HIT will be geared towards the production of an industrial technologist equipped with greater depth and proficiency in his/her area of study, in industrial research and design skills as well as technopreneurial skills and competencies in industrial management. Pedagogical skills will be imparted to those being developed for lecturing posts in Higher and Tertiary Education Institutions.

TECHNOLOGY CENTRE COMMISSIONS GEAR HOBBER

The Technology Centre has commissioned a 14 tonne Gear Hobber for the production and processing of spur gears or cylindrical straight gears, synchronous pulleys, spline gear shafts, helical gears, worm gears and sprocket wheels in batch or single production for use in the mining, petroleum, plastics, steel, food processing, agricultural, automotive industries and power plants.

The Computer Numerically Controlled Gear Hobbing Machine was sourced from China and was installed by staff in the Technology Centre. Rigging services were outsourced from a local company.

The Gear Hobber can process gears with down milling and up milling method in both axial and radial way using the Siemens CNC System that enables the machine to process crown gears and small taper gears. It can also heighten or lengthen the machine tool.

The Gear Hobber Machine is also capable of cutting gears and gear shafts at smaller diameters, but the large modules and double-open bush-embracing structure is adopted for the rear column of this machine, which enables it to cut large gear shafts. An

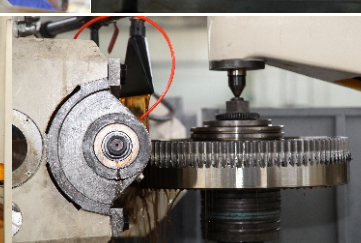
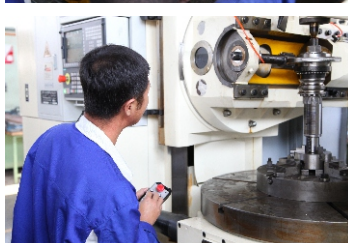
indexing device for single tooth can also be designed and set on this machine to automatically mill gears and using disc-type milling cutters or finger-type milling cutters for circular gears.

The need for technical training, research and production activities by HIT staff and students led to the acquisition of this equipment by the Institute. Industry is also set to benefit through the utilisation of this machine for worn-out gear replacement during maintenance activities. Industry can also use this machine for gear link related machine improvements.

The Gear Hobber machine is now operational and production orders are now being taken for production release. Students and other stakeholders will start benefitting from training and research activities by the start of 2017.

Enquiries and job orders are directed to the Director of the Technology Centre,

Eng. N. Chirinda on 04 741 434 Ext 2222-3, 0774 449 134. Email: nchirinda@hit.ac.zw, tc@hit.ac.zw or visit www.hit.ac.zw for more details.



CLIVE NYAPOKOTO'S VERMI-AQUAPONICS SYSTEM GOES COMMERCIAL



Clive and his Shift Organic Technologies team building and setting up structures to implement the VA System project at a much larger scale in his Svosve communal lands in Wedza.

Clive Nyapokoto's Vermiculture-Aquaponics project which won the Energy Global Award in South Africa and also scooped the first prize at the Zimbabwe ICT Innovation Fund showcase organised by the Postal and Telecommunications Regulatory Authority of Zimbabwe (POTRAZ) is now at the commercialisation stage.

Clive and his Shift Organic Technologies team are already setting up and building structures to implement the project at a much larger scale in his Svosve communal lands in Wedza. The Vermiculture-Aquaponics system is a tried and tested agricultural innovation that has yielded tangible results after successfully growing and yielding cucumbers, tomatoes, fish, honeybees and other diversified plants.

The VA System is a combination of Aquaponics technologies and use of organic waste integrated together through cutting edge technology which enables a continuous recycling of nutrients to support smart farming.

This is a smart integrated organic farming system. It combines small livestock, vermiculture, aquaponics (Farming of vegetables using fish waste) and ICT. It utilises animal waste in the growing of vegetables in a soilless farming system using artificial plant beds which can either be

containers, trenches with quarry or raft, PVC pipes or vermin-sheet mulch beds.

The system is already yielding cucumbers without using the traditional fertilizers and fertile soils

The whole concept is based on increasing efficiency and productivity in organic farming by taking advantage of old and new technologies. Vermiculture (Worm Farming) is used as a waste management technique of all household kitchen and office biodegradable waste that include paper, sadza, and vegetable cutoffs among others. The worms are used as chicken and fish feed dried or fresh.

ICTs are used to remotely monitor, control and manage various variable parameters within the system which include temperature, ph, feeding rates, moisture, flow rates, water level, leaks, plant and animal health, oxygen, light and humidity. The information is sent in real time over the Internet to any social media platform or a customised application that the user can also send commands to the system i.e. feed fish, start/stop water pumps.

"The Shift Organic Technologies team have made some strides in implementing the VA System project at a commercial level with higher

expectations of yielding bigger harvests in fish farming and horticulture", said Clive.

The VA System can be remotely monitored no matter where you are as long as you have internet you can manage your garden and very little is put to waste as poultry waste is used as feed for fish and worms while the worms are also used as fish feed as well as chicken feed. They are also dried for later use. It also has multiple outputs as the organic fertilisers, pest repellants, fish, crop produce, poultry increases revenue base. The system is also resourceful in terms of water as only about 10% of water is used. It also uses less energy and space because it uses gravity and less electrical energy providing four times as much on an equivalent space. The VA system can be done on any environment considered not suitable for farming even indoor or roof top farming. There is no digging and no weeding. It also reduces environmental pollution as paper is composted and many other biodegradable waste.

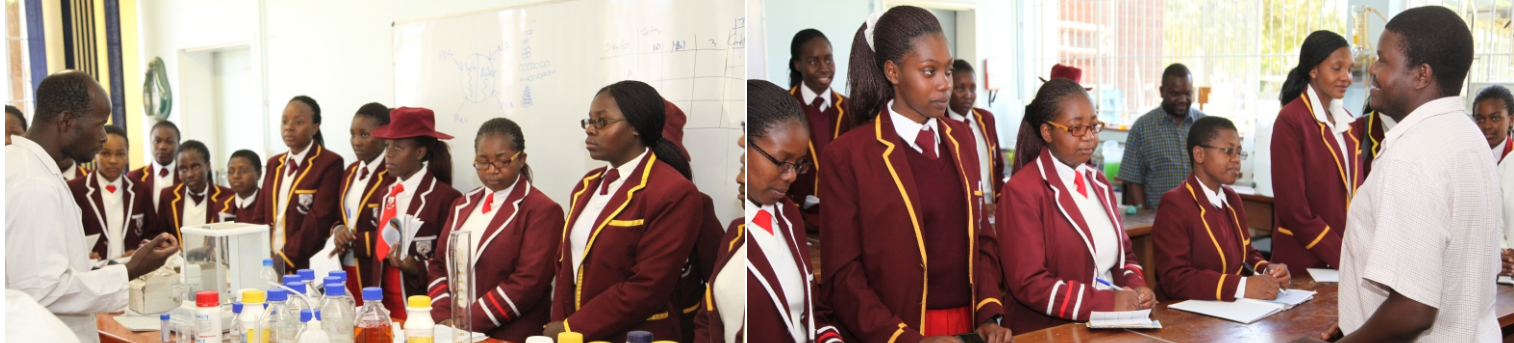
Other initiatives by Shift Organic Technologies include smart beehive remote monitoring system for honey production in the beehive including security alerts.

Technomag



Clive recently attended the ITU Telecom World 2016 in Bangkok, Thailand, from 14 to 17 November 2016. The ITU Telecom World 2016 was attended by participants from public and private sectors across the ICT industry, including SMEs from around the world.

ST DAVID'S GIRLS HIGH SCHOOL (BONDA) VISITS HIT



St David's Girls High School (Bonda) Ordinary and Advanced level (STEM) students during a visit at HIT.

HEALTH CLUB HOLDS STUDENTS HEALTH AND WELLNESS EXPO

The Institute's Students' Health Club, under the auspices of the Students Affairs Division recently held a Health and Wellness Expo from 13 to 14 October under the theme: "Delivering Health to the People, Bringing Life to Everyone Around Us".

The Club partnered CIMAS Medical Aid Society, Cancer Association of Zimbabwe, National Blood Transfusion Services (NBTS), University of Zimbabwe and HIT SAYWHAT Club. Various services were on offer at the expo, which include: breast cancer screening, blood donations, BP checks weight control (BMI calculations), blood glucose tests and healthy lifestyle counselling.

The Health and Wellness Expo is held to conscientise the HIT community on the importance of personal health and wellness as a preventive strategy against non-communicable diseases.

HIT Nursing Sister, Mrs J. Mashoko said the Expo was generally a success, and plans were in place for an even bigger event in 2017.

"We also intend to intensify our Health and Wellness campaigns so that staff involvement and participation increases. Students also need to be motivated to continue participating and strategies are in place to achieve these objectives," she said.

The Health Club is a group of about 30 students on campus who work with the Health Centre in health information and education campaigns.



HIT Health Club members and other students during the Health and Wellness Expo 2016.

HIT SEVENTH GRADUATION CEREMONY IN PICTURES

