News@HIT

Harare Institute of Technology
success through innovation

May 2018 Newsletter

HIT BEST IN BLOCKCHAIN TECHNOLOGY

Mr Jacob Mutisi
Head of ZICT

The Zimbabwe Information and Communication Technology Division (ZICT) of the Zimbabwe Institution of Engineers has endorsed HIT as having some of the best brains when it comes to Block Chain Technology that is used to develop cryptocurrency, urging the Reserve Bank of Zimbabwe to consult with information technology experts from the University.

In its response to the recent ban on the use of cryptocurrencies in Zimbabwe by the Reserve Bank of Zimbabwe, the Zimbabwe Information and Communication Technology Division (ZICT) and other information technology experts called on the Central Bank to regulate cryptocurrencies rather than banning them outright, - calling on the Reserve Bank to engage ICT professionals who can clearly explain the benefits of cryptocurrency.

A cryptocurrency is a digital or virtual currency that is not issued by any central bank authority, rendering it theoretically immune to government interference or manipulation. The first cryptocurrency to capture public imagination was Bitcoin. Bitcoin's success has spawned a number of competing cryptocurrencies, such as Litecoin, Namecoin, PPCoin and Bitmari in Zimbabwe.

According to the circular signed by the RBZ Registrar of Banking Institutions Norman Mataruka, the Central Bank asked all local financial institutions to desist from cryptocurrency transactions for fear of possible problems from the unregulated trading. The directive was shared in a circular on virtual currencies distributed to all financial institutions to to protect the public and safeguard the integrity, safety, and soundness of the country's financial system. This means banks are prohibited from investing or trading in cryptocurrency, offering cryptocurrency exchanges, creating platforms for cryptocurrency trading and from advising customers on investing or trading in cryptocurrencies. Depositors are also banned from using credit cards to buy cryptocurrency. The central bank said cryptocurrencies were not legal tender in Zimbabwe and is worried that they may be used in illegal activities such as money laundering or supporting terrorism.

The ban in the use of cryptocurrencies came after the Minister of Finance and Economic Planning, Hon. Patrick Chinamasa announced that Zimbabwe's economy was now 96 percent cashless. Under this regime, EcoCash, OneMoney, TeleCash, Zipit, bank cards, credit cards, debit cards or Internet have become more and more prevalent and have taken the place of cash transactions.

ZICT said cryptocurrency is an extremely enthusiastic idea that the RBZ does not seem to understand. "RBZ should be in the forefront of these new technology currencies. As ICT professionals, we would like to remind RBZ that cryptocurrency is here to stay and the best we can do is to introduce our very own Zimbabwe cryptocurrency," said Mr Jacob Mutisi, head of ZICT.

In Zimbabwe, there are a number of businesses that have emerged in this space over the past few years that include the local cryptocurrency exchanges such as Golix as well as outfits that have been using cryptocurrencies to facilitate remittances such as Bitmari. These business have been affected by the RBZ directive.

In an article published in the Herald of Monday 11 September 2017, Mr Thabiso Mpofu, a lecturer in the Computer Science Department at HIT, suggested that cryptocurrencies can be considered as an option to solve Zimbabwe's liquidity challenges and our underfunded nostro accounts, as payments outside Zimbabwe have been an issue with companies such as

to page 5...

Contents

INNOVATION

LEADERSHIP

INTEGRITY

COMMITMENT

PROFESSIONALISM

HIT LAUNCHES NEW TRAINING PROGRAMMES IN EMERGING TECHNOLOGIES & CYBER SECURITY

Eng. P. Muredzi
Dean - School of Engineering & Technology

The department of Chemical Processes and Systems Engineering (CPSE) and Information Security and Assurance, working in collaboration with the Technology Centre, are launching new short course training programmes.

The training programmes are being offered to enable continuous professional development of target groups within industry and commerce. Nanotechnology has emerged as one of the leading fields of science, engineering and technology; with tremendous potential to transform Zimbabwean industries. Applications of nanotechnology are expected to impact essentially every technological sector, and in due course transform the socio-economic environment of the world at large.

The department of Chemical Processes and Systems Engineering (CPSE) will hold two courses: "Fundamentals of Nanoscience and Nanotechnology" and " Nanotechnology."

Fundamentals of Nanoscience and Nanotechnology is two-day intensive short course that starts from the 7 - 8 June 2018. It covers an introduction to Nanoscience and Nanotechnology, Synthesis and Characterization of Nanomaterials, Applications of Nanotechnology and Laboratory based practical work. This course will offer participants the opportunity to gain knowledge and understanding of materials and their properties at the atomic and nanometer scales, including an understanding of the intimate relationship between the scale and the properties of materials as well as current applications and cutting-edge technologies within nanoscience and nanotechnology. It will also offer practical skills in synthesis and characterization of nanostructured materials.

The three-day short course on Nanotechnology is slated for 13 – 15 June 2018, targeting academics and industrialists. It brings together relevant knowledge from the disciplines of basic sciences; - giving a vital understanding of the integrated multidisciplinary nature of nanoscience and nanotechnology for generation of novel and high value nano-enabled products. Participants are set to gain practical skills in synthesis and characterization of nanostructured materials. They will also get an appreciation of potential applications of nanotechnology in process and product improvements. This course is also set to promote and strengthen research and innovation in nanotechnology within universities, research institutions and industry, as well as enhancing local and international collaboration among stakeholders involved in nanotechnology activities

The two short courses will be conducted by a qualified and experienced Nanotechnologist and the mode of teaching involves lectures,presentations and oral practical engagements, combined with online computer interactions, laboratory practicals and special fieldwork.
Commenting on the launch of these training programmes, Eng. Perkins Muredzi, Dean of the School of Industrial Sciences and Technology said the University has realised the need for industrialists, professionals and tertiary students to have an understanding of the emerging discipline of nanoscience and nanotechnology in current key applications of medicine, environment, food, energy and ICTs. "It has also been observed that there is currently a challenge to provide school teachers and educators with a lasting tool they can use for their teaching to integrate nanoscience and nanotechnology concepts in their activities. Besides the fundamentals the programmes will endeavour to illustrate new methods and materials, as well as explain and discuss the theory, applications and scientific experimentations on nanosciences and nanotechnologies," he said.

Eng. Muredzi added that nanotechnology has become the leading frontier of science and is now deeply embedded in our contemporary living. Such developments, he said warranted meaningful and conscientious training and instruction on this emerging science. "There is a need to train educationalists on the subject of nanoscience and nanotechnology as the country gears to embrace Industrial Revolution 4.0, and to enrich the Zimbabwean educational system with innovative tools, methods and instruments to develop the new skills and understandings which are required to deliver responsible innovation," he said.

The Department of Information Security and Assurance is also launching new intensive, hands-on continuous professional development training workshops to interested corporate organizations, entrepreneurs and professionals in the ICT sector who are seeking professional advancement in computer forensics and incident response. The courses on offer include:

- Pre-incident preparation and creating a response toolkit
- Forensic Duplication and Evidence Handling
- Investigating Windows Systems
- Investigating Linux Systems and Hacker Tools
- Data Recovery Tools and Techniques.

Training will be held at the new HIT Digital Forensics Lab and conducted by a team of experts in cybersecurity.

The training sessions are scheduled for weekend, evening and block release and onsite sessions can be offered on request. The first session is scheduled to start from 5-8 June, second session from 2-13 July, third from 10-21 September, while the last session will begin from 3-14 December 2018.

EXAMS BEGIN

Final examinations for the Second Semester of the 2017/18 academic year began in earnest on Monday 21 May, with students expressing confidence and hope in succeeding. The exams will end on Monday 4 June.

HIT 200 AND 400 CAPESTONE DESIGN PROJECTS PRESENTATIONS

HIT part two and final year students from across all the departments presented their HIT 200 and 400 Capestone Design projects two weeks before sitting for their second semester examinations.

Most of the Capestone Design Projects are scientific and entrepreneurship ideas, premised on creativity, ingenuity and resourcefulness, speaking to the problems being faced by our local industry and commerce, offering relevant, usable and practical solutions that can transform and advance peoples' lives and economic development.

The Capestone Design Projects are research and development that speak to the nation's aspirations to modernise our agriculture, mining, manufacturing and processing industry, tourism, health, business and education sectors among others.

ZIMCHE INSPECTS PREPAREDNESS FOR NEW M.TECH DEGREE PROGRAMMES

Part of the ZIMCHE delegation and HIT Staff inspecting some of the facilities and teaching materials for the new Mtech degree programmes.

A ZIMCHE delegation, led by Dr Hilton Chikuya, Principal Director for Academic and Institutions Audits visited the University on 14 May to inspect the teaching and learning facilities, as well as to verify the physical preparedness of the Institute to launch the new M.Tech degree programmes.

The delegation also inspected the lecture rooms, workshops, laboratories and other facilities. Dr Chikuya said their visit was part of ZIMCHE's mandate to ensure that quality degree programmes are offered by local Universities.

Following the inspection, Dr Chikuya applauded the University for its state of preparedness to offer unique and cutting-edge M.Tech degree programmes, saying his team recommends the start of the new programmes. He however urged the University to set its bar high.

The new M.Tech degrees programmes to be introduced are Machine Design, Materials Engineering, Cloud Computing, Computer Science, Information Technology and Software Engineering.

HIT TO HOST INTERNATIONAL CONFERENCE ON RENEWABLE ENERGY TECHNOLOGIES

From 24-27 September 2018, the Department of Chemical and Process Systems Engineering (CPSE), in collaboration with the Environmental Management, Renewable Energy and Climate Change Centre (EMRECC) will host the International Conference on Current Trends in Renewable Energy Technologies (ICCTR – 2018) under the theme "Sustaining Energy Technologies for All (SEFTA).

The conference will focus on both scientific innovations and technovations for sustainable and renewable energy solutions aimed at socio-economic development. The conference targets researchers and academics from Zimbabwe, the SADC region, and the globe; as well as policy makers, captains of industry, non-governmental organisations and students.

For more details on the conference and to register, visit
http://www.icctr.co.zw

HIT ACADEMIC TO ATTEND TECHWOMEN MENTORSHIP PROGRAMME

Ms Prudence Kadebu
Chairperson: Software Engineering

Chairperson and lecturer of the Department of Software Engineering, Ms Prudence Kadebu is set to attend a five-week TechWomen mentorship and exchange program in the San Francisco Bay Area, Silicon Valley and Washington DC, in the United States from 23 September to 29 October 2018.

As a TechWomen Emerging Leader, Ms Kadebu and her other peers from Africa, Central and South Asia and the Middle East are joining a strong network of women who are committed to advancing their careers and pursuing their dreams while paving the way for those who follow.

The TechWomen programmme is a professional opportunity as it challenges participants to think big and view their participation in TechWomen as a lifelong commitment to making an impact locally and across the globe.

"We hope that your time in the United States energizes and invigorates you professionally, while inspiring you to create new initiatives, mentor women and girls in your home country and become a change agent in your community. We are also looking forward to welcoming you to the United States this fall for a five-week mentorship and exchange program in the San Francisco Bay Area and Silicon Valley, concluding in Washington, DC. Congratulations on your selection once again! We look forward to meeting you in September," wrote Ms Jillian Scott, leader of TechWomen

Commenting on her invitation to TechWomen mentorship and exchange programme, Ms Kadebu said it is a great honour to be selected for such a prestigious mentorship program. "It is a 'dream come true' for me. I feel very excited and am already looking forward to this life changing opportunity to learn, explore and share experiences. This is a great platform for me to not only represent Harare Institute of Technology but also the African continent," she said.

Ms Kadebu added that she has been able to mentor many young minds before but this will bring greater opportunities for her to impact more on young people who look up to her as a role model.

"Going to Silicon Valley means I get to see first-hand how the Software industry over there thrives and learn the processes that have brought their success stories and how we can also boost our own software industry. I also would like to understand how beneficial partnerships are forged between industry and academia and how knowledge flows between the two for economic growth. I am very confident this will be an enjoyable journey for me. I urge all young people out there to adopt a goal-oriented approach to life and never give up until they achieve each and every one of their set targets," she said.

HIT BEST IN BLOCKCHAIN TECHNOLOGY

...from page 1

Mr Thabiso Mpofu
Lecturer - Computer Science

Beforward which accepts payments in Bitcoins. "As everything goes digital in this information age, the future looks bright for these digital currencies. However it should be noted that cryptocurrencies have no regulatory authority as the model is decentralised therefore making it risky," he wrote.

Commenting on the recent developments regarding the ban of cryptocurrencies and subsequent reprieve by the High Court of Zimbabwe which provisionally set aside the ban on 24 May 2018, Mr Mpofu said the cryptocurrency has been allowed some space adding that regulation of cryptocurrency exchanges should be adopted. These regulations should be in terms of the safeguarding and custody of customer funds. The Central bank should not adopt a "fear of the unknown" approach. There is need to explore the possibilities enshrined within cryptocurrencies, especially looking at the approach that the United States Internal Revenue Service has adopted that treats cryptocurrencies as property. Gains which come from the sale or exchange of cryptocurrencies are treated as capital gains and taxed accordingly. This approach will consequently contribute a lot to the fiscus," he said.

VISIT BY THE GERMAN AMBASSADOR TO ZIMBABWE

Federal Republic of Germany Ambassador to the Republic of Zimbabwe, His Excellency Dr Thorsten Hutter (right) and Mr David M. Mbae, (left) a representative of the Konrad Adenauer Stiftung in Zimbabwe during the visit.

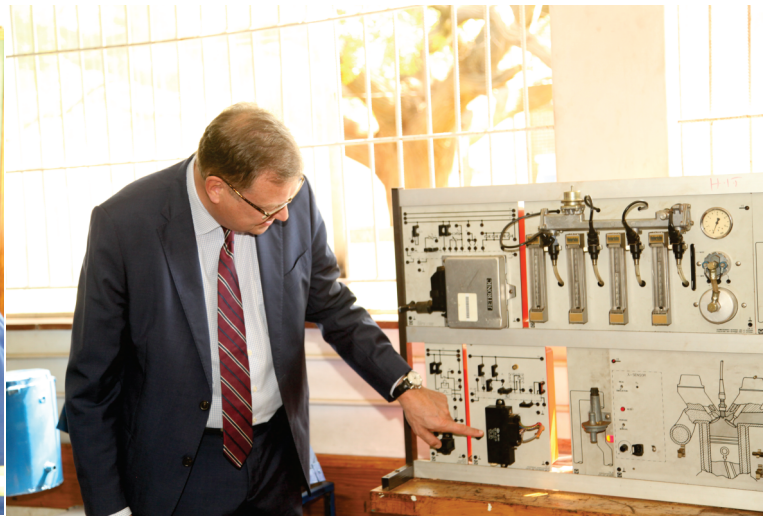
The Federal Republic of Germany Ambassador to the Republic of Zimbabwe, His Excellency Dr Thorsten Hutter visited the Harare Institute of Technology on a fact finding mission and to discuss possible collaborations between the University and German tertiary, engineering and technology institutions and organisations.

Ambassador Dr T. Hutter was accompanied by Mr David M. Mbae a representative of the Konrad Adenauer Stiftung in Zimbabwe. The two had fruitful discussions with the Vice Chancellor Eng. Q.C Kanhukamwe and some members of the HIT Senior Management team, before taking a tour of the Institute's laboratories and engineering workshops.

Speaking during the meeting, Ambassador Dr Hutter said he was happy to learn how the University operates and see firsthand its premises and operations. "I am very grateful that the Republic of Germany has been involved in the founding of this Institute. It would be very good if you can start engaging with some Germany technical universities as the beginning of a new chapter on cooperation between HIT and our institutions, focusing on collaborations in research and development activities, academic and student exchanges, equipment needs, linkages with industry and commerce, intellectual property and patents registration," he said.

Mr D. Mbae, of Konrad Adenauer Stiftung in Zimbabwe said the foundation is mainly interested in establishing close cooperation with HIT's Environmental Management, Renewable Energy and Climate Change (EMRECC) Research Centre. "We are interested supporting EMRECC's environmental programmes and projects such as capacity building and training workshops on climate change issues as well as funding research and development activities that can benefit the country as a whole," he said.

Vice Chancellor Eng. Q.C Kanhukamwe said there is hope that HIT can establish some Memoranda of Understandings (MoUs) with some engineering and technical universities in Germany. "The Institute can benefit from their experience as well as capacity building, including collaborative research and development activities," he said.



HIT SIGNS MoU WITH ELEVATE TRUST

The Harare Institute of Technology has signed a Memorandum of Understanding with Elevate Trust concerning cooperation in engineering and technology research.

The prime objectives of the MoU are to collaborate in the research and development of technologies aimed at enhancing the capabilities of the Scietech Incubator under Elevate Trust, to co-operate and tap into researched technologies that may be available for commercialisation and to identify and carry out joint research projects for the benefit of both parties.

Elevate Trust will provide the necessary facilitation and co-ordination between the parties to enable HIT students' and staff's participation in the programme, and to access its production facilities. It will also avail the necessary materials required to carry out the various projects.

HIT will provide engineering skills for evaluating the projects currently under ET ScieTechInc, identify technological gaps in ET ScieTechInc processes; proffering solutions that will enhance reliability and efficiency. It will also provide supervisory staff who will participate in the programme, as well identify third parties as co-operating partners that may form synergies for identified projects.

HIT Registrar Mrs. Mary Samupindi signed the MoU on behalf of the University while, Ms. Sicelo Dube signed for Elevate Trust.

Elevate Trust is a youth leadership and development Trust which seeks to create youth leadership programmes, facilitate youth development in innovation, entrepreneurship and career development under the universal theme 'Science Pays'.

Ms. Sicelo Dube
Elevate Trust

SRM UNIVERSITY VISITS HIT

Dr S.J Awin Sayiram, the SRM University (Chennai, India) Chief of Strategy and Operations and Vice Chancellor Eng. Q.C Kanhukamwe.

Dr S.J Awin Sayiram, the SRM University (Chennai, India) Chief of Strategy and Operations paid a courtesy visit to HIT on 11 May 2018.

Dr Sayiram met with the Vice Chancellor Eng. Q.C Kanhukamwe and Senior Management and held discussions on the two institutions' collaborative work, as well as new developments at SRM University. He also gave an update of new M. Tech degree programmes being introduced by SRM University this year.

HIT has sent several staff development fellows for M.Tech degree studies at the SRM University and their exposure at this institution is set to revolutionise Zimbabwe's tertiary education.

Some members of the HIT Senior Management Staff during the meeting.