

# CEDAI



COLLEGE OF ENGINEERING, DESIGN, ART & TECHNOLOGY

Vol. 3 Issue No. 2

## New Deputy Principal takes office

On the morning of May 24th 2013, the handover ceremony of the office of the Deputy Principal, CEDAT was held at the CEDAT New Boardroom and presided over by Ag. Principal, Dr. Barnabas Nawangwe.

This ceremony saw the handover of office from the out-going Deputy Principal, Dr. Mackay Okure, to the in-coming Deputy Principal, Dr. Henry Alinaitwe.

Dr. Barnabas Nawangwe, in his opening remarks thanked Dr. Okure for the great work done for CEDAT especially during the two years of transition from a Faculty system to a College system.

"It was a crucial inception period. As Deputy Principal, Dr. Okure was responsible for undergraduate and postgraduate programmes as well as research. This was a heavy portifolio that required hard work," the Principal said.

As such CEDAT was able to set up all the committees under the



Dr Mackay Okure (R) hands over to Dr. Henry Alinaitwe

collegiate system and they are functioning well. Dr. Nawangwe also thanked Dr. Okure for coordinating major programs like SIDA and NOMA. He attributed the success of the College so far, to Dr. Okure's hard work, diligence and professionalism.

Dr. Okure thanked the staff of the college for the good working

relationship and friendliness he enjoyed during his tenure and urged staff to give his successor, Dr. Henry Alinaitwe the cooperation, esteem and counsel that he had been given while in office.

Dr. Okure congratulated Dr. Alinaitwe upon being appointed Deputy Principal of CEDAT and handed over to him the tools of office which included, the laws governing the College, The stamp of the office, The symbol of service to the University with: the Makerere University Logo, Motto, Vision, Mission and Core Values. He also gave Dr. Alinaitwe and Dr. Barnabas Nawangwe each a copy of the Hand-over report.

Dr. Alinaitwe thanked Dr. Okure for grooming him and for the many insights. He also thanked the Principal the outgoing Deputy Principal and all staff of CEDAT for putting their trust in him and for giving him the opportunity to serve. He pleaded to continue service the CEDAT community.



#### **INSIDE**

PHDs & PROMOTIONS: We look at the people that have recently been promoted and those that defended their PhDs



NAUGHTY CHAIR PROJECT: We look at the collaborative project that students of Art-Design from MTSIFA and Architecture were engaged in



RESEARCH DISSEMINATION: Advances in the Development of Technology for Production of Porcelain Ceramics in Uganda



### Dr Nawangwe in DVC race

The University shortlisted two candidates for the post of Deputy Vice Chancellor (Finance and Administration).

Dr. Barnabas Nawangwe, Acting Principal CEDAT and Dr. Anthony Mugisha, the Dean, School of Veterinary Medicine and Animal Resources in the College of Veterinary Medicine, Animal Resources and Bio-Security.

The two candidates made their presentation of business plans on Tuesday June 11, 2013 in the main hall at the Main Building.

Dr Nawamgwe's vision for Makerere includes:

- •A well-motivated, skilful, resourceful and vibrant staff
- •A satisfied and focussed student community
- •A modern research-led and innovative institution
- •Africa's centre of academic excellence
- •Dynamic research and knowledge transfer partnerships
- •The point of first call for Policy Formulation and Advice
- •Technologically advanced infrastructure
- •A Gender mainstreamed institution
- •A University with a National and International Identity in the time of Globalization.

The Deputy Vice-Chancellor (Finance and Administration), assists the Vice Chancellor in the performance of his or her functions and in that regard shall oversee the finances and administration

of the University and be responsible for the Planning and Development of the university.

Key duties of the vice chancellor include effective management and mobilisation of funds of the University, proper budgeting planning, and development of the implementation university, of investment policies and programmes and overseeing Human Resource Management functions.

He also handles security and procurement matters, and is also expected to perform other functions as may be delegated to him by the Vice-Chancellor or assigned by the University Council.



Dr Nawangwe delivers his presentation to the university community





ABOVE: The Vice Chancellor and other members of staff listen to the presentation.

LEFT: Members of the Search Committee



### **Israel Ambassador visits CEDAT**

April 24, 2013

The College on April 24 hosted the Israel Ambassador to East Africa, H.E. Gil Haskel. He was received by the Principal, Dr Barnabas Nawange, the Deputy VC (F&A) Prof. Tickodri, the Head of Electrical and Computer Engineering, Dr Julius Butime and members of the communication office. The Ambassador was accompanied by officials from the Public Relations Office including the Senior Public Relations Officer, Ms Namisango Ritah.

The Ambassador's visit is a follow up on the MoU that Makerere

University signed with Bar ilan university Israel three weeks ago. H.E. Gil Haskel reaffirmed his country's commitment to working with staff of Makereke University in areas of research. He said researchers in Israel would be happy to share their expertise and experience with Makerere researchers as well as learn from them.

During his short visit to CEDAT, Amb Gil Haskel toured the Kiira EV before proceeding to the School of Food Science and technology.

Prior to visitng CEDAT, H.E Haskel paid a courtesy visit on the Vice Chancellor of the University, Prof. John Ddumba-SSentamu.







### The Achievers!!



Dr. Lillian Namuganyi, was promoted to the rank of Lecturer while Mr Micheal Lubwama, Mr Arthur Asiimwe, Mr Cosmas Mwikirize and Mr Hillary Kasedde were promoted to the rank of Assistant Lecturer. Congratulations to all.

"Just remember, once you're over the hill you begin to pick up speed.

-Arthur Schopenhauer

### PhD defence

Abraham J. B. Muwanguzi successfully defended his Doctoral Thesis entitled "Investigating the Parameters that influence the behaviour of Natural Iron Ores during the Iron Production Process" in Sweden. His defence was witnessed by his supervisor Prof. Joseph Byaruhanga, Dr Mackay Okure among others.

CEDAT congratulated you upon successfully completing your doctoral studies!



Africa Junior, a graduate research at CRTT explains to the Vice President of Tanzania, Dr Mohammed Galib Bilal how the Kayoola works on May 22, 2013.

### CRTT takes part in Science and Technology Exhibition in Dar es Salaam

The Centre for Research in Transportation Technologies (CRTT) represented Makerere University at the 8th Higher Education, Science and Technology Exhibition in Dar es Salaam, Tanzania. The group exhibited a model of the KAYOOLA BUS.

The Kayoola will be the first Ugandan-made electric bus. It is the first clean-technology interception of public space mobility, using Lithium ion batteries as the main power source, thus ensuring that air and noise pollution within the City are curbed. It also has solar panels on the roof that harvest solar energy used to charge the batteries thus extending their range. The development of this technology provides unrivalled opportunities for high technical employment especially for the youth who are the core

technical developers. The exhibition was opened by the Vice President of the Republic of Tanzania, Dr. Mohammed Galib Bilal on May 21, 2013. Also present was the Minister of Education and Vocational Training Hon. Dr. Shukuru Kawambwa.

In his welcome remarks Dr Mohammed Galib Bilal welcomed participating universities and institutions especially the foreign universities. He noted that such exhibitions are aimed at linking universities with the industry and potential investors. He called on universities to follow the theme of the exhibition in an effort to churn out graduates with the right skills.

He challenged universities to show that they can contribute to technology development in Africa. In the same breath, he called on universities to conduct research which will solve societal problems. He called on participating institutions to strengthen relations for symbiotic development.

After the opening ceremony, the Vice President toured the various exhibition stalls. His first stop was the Makerere University stall where he was told about the Kiira EV and the Kayoola which the centre is developing/making.

He commended the CRTT/ Makerere team for undertaking research in green transport, saying that this is the best way to reduce green gas emissions in the world.

After the Vice President's departure, the Makerere stall received people ranging from students, parents and researchers. Majority of the people that visited the Makerere University stall were students interested in joining the University for Studies.

The exhibition lasted 3 days.

# Research Dissemination: Production of Porcelain Insulators from Ceramics materials in Uganda

At a workshop held on June 6, 2013 at Makerere University College of Engineering, Design, Art and Technology (CEDAT), Mechanical Engineering, Dr. Yasin Naku Ziraba of the Innovative Systems and Cluster Program challenged researchers to always utilize research finding to benefit the country. He was speaking at a research dissemination workshop for Dr Peter Olupot, who was sharing his research findings on the "Development of an appropriate technology for production of electric porcelain insulators from ceramic minerals in Uganda". He advised researchers to ensure that the research they carry out involves the final end users for whom ideas are designed, in what he called Cluster Team Action.

Dr Peter Olupot's research paper presented results of experimental work done on samples of porcelain insulators made from locally sourced minerals in Uganda and compared the properties of these samples to international standards for insulation materials. The presentation was a result of the post doctoral research work supported by the European consortium of the Volkswagen Foundation, the Nuffield Foundation and the Calouste Gulbenkian Foundation established under the joint initiative on "Research and Training Fellowships for Junior African Researchers in the Engineering Sciences".

Insulators are used in electrical equipment to support and separate electrical conductors without allowing current through themselves. The term insulator is also used more specifically to refer to insulating supports used to attach electric power distribution or transmission lines to utility poles and transmission towers. In his study, Dr. Olupot formulated a porcelain composition from kaolin and feldspar both sourced from Mutaka deposit in Bushenyi, Sand from Lido beach and ball clay from Mukono. The materials were carefully prepared to appropriate levels of fineness and purity before mixing them in precise ratios. Formed porcelains were eventually glazed and sintered at different rates. According to the standards cited, the properties obtained of the samples were appropriate to qualify them for low voltage insulation application on power distribution networks.

Mr Rubalema Joseph, a representative of Uganda Industrial Research Institute (UIRI), who is also

Director Product
Development
I a m e n t e d



*Dr Olupot delivers his presentation* 

the pitfalls which hinders their transformation of knowledge and ideas into products. He said, "... difficulties in accessing raw materials, high costs of machinery, newness of technology innovations, limited funding among others delay the transformation of research findings into final goods. He highlighted the level of support provided by UIRI in nurturing (Incubating) start-up enterprises in ceramics.

Speaking at the same workshop, the Commissioner of the Geological Mines Department (GSMD), Eng. Grace Matovu, acknowledged Dr. Olupot for his endeavour in bringing to the limelight resources even those not known to the general public to profitable use. Engineer Matovu cited industrial minerals such as Feldspar, Kaolin, Quartz, Glass Sand and Clay. Arguing that if the academia showed Ugandans how these resources can be utilised, this could solve the problem of unemployment.





### When tutors overcome professional barriers

Drawing together lessons learnt from an exemplary collaborative Art-Design and Architecture project theme: "The Naughty Chair"

What happens when Artists and Designers collaborate with Architects? The Naughty Chair was a pilot design Time Project that brought together tutors and students from the Margaret Trowell School of Industrial and Fine Arts (MTSIFA) and the School of the Built Environment (SBE) on April 4, 2013 at the College of Engineering, Design, Art and Technology (CEDAT) to share knowledge and experiences.

The Project Time was a one (1) week's design assignment carried out within a trans-disciplinary collaborative approach where students of Art and Design from MTSIFA and SBE (Architecture) worked on the same project each producing their own design concept of a chair that would be perceived as Naughty.

#### Innovative thinking

The initiators of the collaboration Esther Ndagire Kavuma and Raymond Nsereko both tutors from MTSIFA together with the authors of the Naughty chair project Dr. Assumpta Musana-Nnaggenda and Dr. Lilian Namuganyi also tutors of Architecture, sought to open up dialogue on defining the combined role Artists, Designers and Architects can play within the design of the built environment.

The project represents ways in which collaborations between design professionals (Artists, Designers, Architects and Engineers) can lead to innovative answers to challenges of sustainably designing the built environment.

The collaboration sought to explore the following questions:

1. Which roles can Art-Design and Architecture



play in designing the built environment?

2. How can collaborations between design professionals be encouraged and thus be made more sustainable?

Although the project was ultimately a success, the collaboration highlighted that non-artists dismiss design that does not hold on to their traditional approaches of assessment. "While non-artists are sometimes guilty of seeking shortcuts, the arts community is also at fault for not reaching out to them, http://cornellsun.com/section/artsd/content/2012/09/04/art-artist-sake.

Initially the collaboration created a sense of discomfort, as both teams from MTSIFA and SBE worked within different design approaches. By the end of the presentations, a consensus emerged that the immediacy of the methodology was highly beneficial; reawakening students sense of creativity, and generally making the thought process more interesting and authentic.

The results of the collaboration project were extremely



positive, with tutors and students agreeing that they had experienced change in both their mindset and working practices.

The students of architecture excelled in their ability to research, communicate

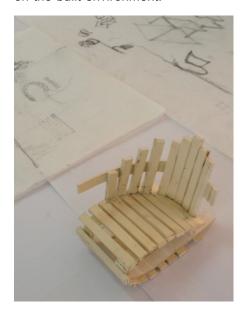


ideas and intentions to a range of end-users, and deliver clear thought processes and documentation of the Naughty Chair project, bringing about the artist-designers' realisation that an architect's approach to design practice involves a carefully planned dissemination of thought process and concept (thinking more in hierarchies).

Experience

There was also great appreciation of the artist-designers' ability to initiate and engage with architects in a meaningful way, this was also emphasised by Dr. Stephen Mukiibi, the Chair of the Department of Architecture and Physical Planning who noted that "the Department was looking forward to more collaborations of this type, and that such collaborations should have come much earlier.

The tutors from SBE revealed that the experience had a fundamental impact on the design approach of the architecture students, following the awareness that they were not exploiting the potentials of artistic sensibility/design to add value to their projects. They noted that artist-designers can enhance the quality and value of architectural and engineering projects in ways that can have a fundamentally positive effect on the built environment.



Due to their artistic background, the art and design students' approach felt less inhibited as they were able come up with unlikely concepts, either because they did not know, 'the rules' (carefully planned dissemination of ideas and concepts) or chose to ignore them. Although this was viewed as a challenge for the art and design students involved, it was greatly valued for bringing a different sense of design purpose to the debate.

However it was emphasised by all tutors that, carefully planned dissemination of ideas and concepts played an important role in establishing respect for artist-designers if they were expected to contribute with artistic sensibility in a manner parallel to other design professionals.

The art and design students' success in this project was partly attributable to their ability to express ideas in a variety of media, medium proved to be more innovative.

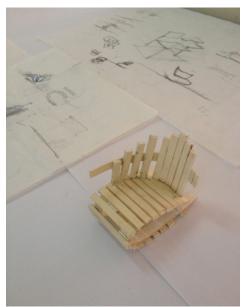
#### A fun experience

The collaboration appeared to have a positive effect on the students. particular architecture the students, some of whom spoke of the collaboration as having 'put the fun back in design' by freeing up the potential of projects, and introducing new ideas and techniques. Collaborations between design professionals can process benefits and derive much from openmindedness, curiosity, even humour http://www.science20. com.

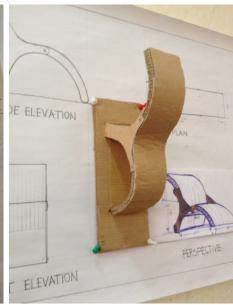
#### Trust and respect

A sense of mutual trust and respect developed as collaborators acknowledged each other's unique skills — the collaboration was a challenge to the scientists and artists: to grow mature, to overcome the barriers of misunderstanding that separate us, http://www.science20.com.

CEDAT tutors/professionals currently operate in separate





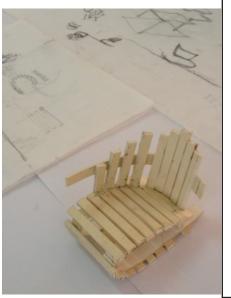


### The Naughty Chair

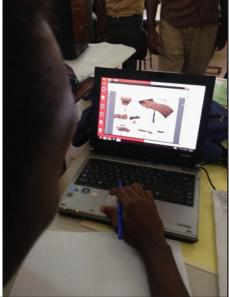
spheres. But research has shown that if they "break down the walls of disciplinary silos" and come together as a team the design professionals and students can benefit from each other.

Design professionals must gain inspiration from Bauhaus movement, which brought art, technology and craftsmanship together to create modern architecture that takes on new meaning - an architecture whose every trait (engineering) and design feature unleashes the wellbeing of the users in a sustainable manner in an ever-growing model of the world.









### CEDAT staff credited for designing Shs 50,000 note

# Shs50,000 is third most beautiful in the world

Story from Daily Monitor of June 23, 2013

Uganda's Shs50,000 note has been named among the nine most beautiful currences in the world.

According to the International Bank Note Society (IBNS) ratings, the note's distinctly rich and well-design features, make it the third most beautiful currency in the world.

"Uganda's 50,000-shilling note is a finely worked piece of currency with design features such as the watermark of the head of a crested crane, an outline of a map of Uganda (highlighting the equator), the profile of man wearing Karimojong head dress, patterns based on indigenous basket work and, at the far right on the back, the Independence Monument..." reads the IBNS statement.

The statement also took notice of beautifully wrought silver-back mountain gorillas on the back of the note that scooped the 2012 banknote of the year award.

The IBNS is a nonprofit educational organization that has been around for over half a century. Its objectives are to promote, stimulate and advance the study, collection and dissemination of information related to paper money.

The award emanates from a competitive process that involves different countries from the four continents, ranged from Europe, Asia, Africa and the Middle East to North, South and Central America.

#### Other winners

Other winners include the "Bank Note of the Year" winners Kazakhstan, Bermuda, Samoa Scotland, Comoros, Faeroe Islands and Canada.





Since its establishment in 1966, the Bank of Uganda has changed currencies seven times but none has ever been globally rated so highly like the Shs50,000 crisp notes issued in 2010 alongside other denominations.

According to the Bank of Uganda website, the latest currencies issued in 2010, among them the 50,000 shilling notes are smaller, more beautiful and rich in features capturing Uganda's natural endowments and cultural heritage.

However, the only danger with the beautiful bank notes is that it can be damaged or mutilated by poor handling and/or storage.

The Bank of Uganda encourages users of currency to keep it well so as to lengthen its lifecycle.

The latest family of currency was issued in May 2010 with the following notes: 50,000, 20,000, 10,000, 5000, 2000 and 1000.

The coins have not changed from

the 1987 issue coins.

The 1987 issue has undergone a series of upgrading, in an effort to crack down counterfeits and ease transactions.

Bank notes are made from special paper with unique tactility. They are enriched with security features that can be seen by the naked eye can be seen using an ultrasound lamp.

#### The Designing team

Among those involved in designing the new banknotes are artist Raymond Nsereko, Uganda Peoples Defence Forces MP Gen Elly Tumwine, Mr Patrick Sserunjogi, Mr Emmanuel Mutungi, Mr Joseph Ssematimba and Dr George Kyeyune (Dean, Faculty of Industrial and Fine Art). Gen Tumwine told the Sunday Monitor in an interview that it took one year of research which included travelling around the country to design the notes. He said they also took time to study other currencies.

### Profiling: Ifee Francis Xavier and Banga Simon

**Educative Art** 

Ifee Francis Xavier and Banga Simon are experienced artists.

They have mastered the field of Painting and Illustrations made for creating consciousness on various issues based on community awareness.

They produce art work using watercolors, acrylics, egg temperas and powder colors. They are artists of independent visual character and with numerous styles of expression.

"Our world is a place where provoking statements of realities and experiences are recorded, interpreted and visually translated on paper, canvas, boards, or watercolor papers with the intention of eliciting discourse from the viewers," Mr Ifee says.

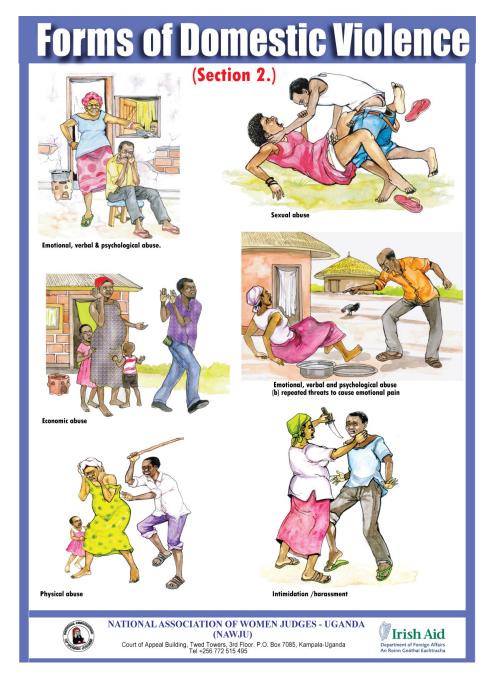
Apart from production of sceneries of various subject matters, the artists are also specialists in Portrait Making.

"We have done several illustrations for text books, brochures; book covers, handbooks, training manuals, flip-charts, billboards, murals and stamps for Uganda Post Limited and other organizations," Mr Ifee says.

"Our mission is to create art to educate and communicate about societal issues and inspire young artists to do the same."

Their unique combination of the above mentioned abilities enabled them to produce visual images for Information, Education and Communication (IEC) materials to raise awareness about the domestic violence Act. 2010.

On the two posters, the Domestic Violent Act, 2010 is interpreted in form of pictures so that the Act can be easily understood by the local people.



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